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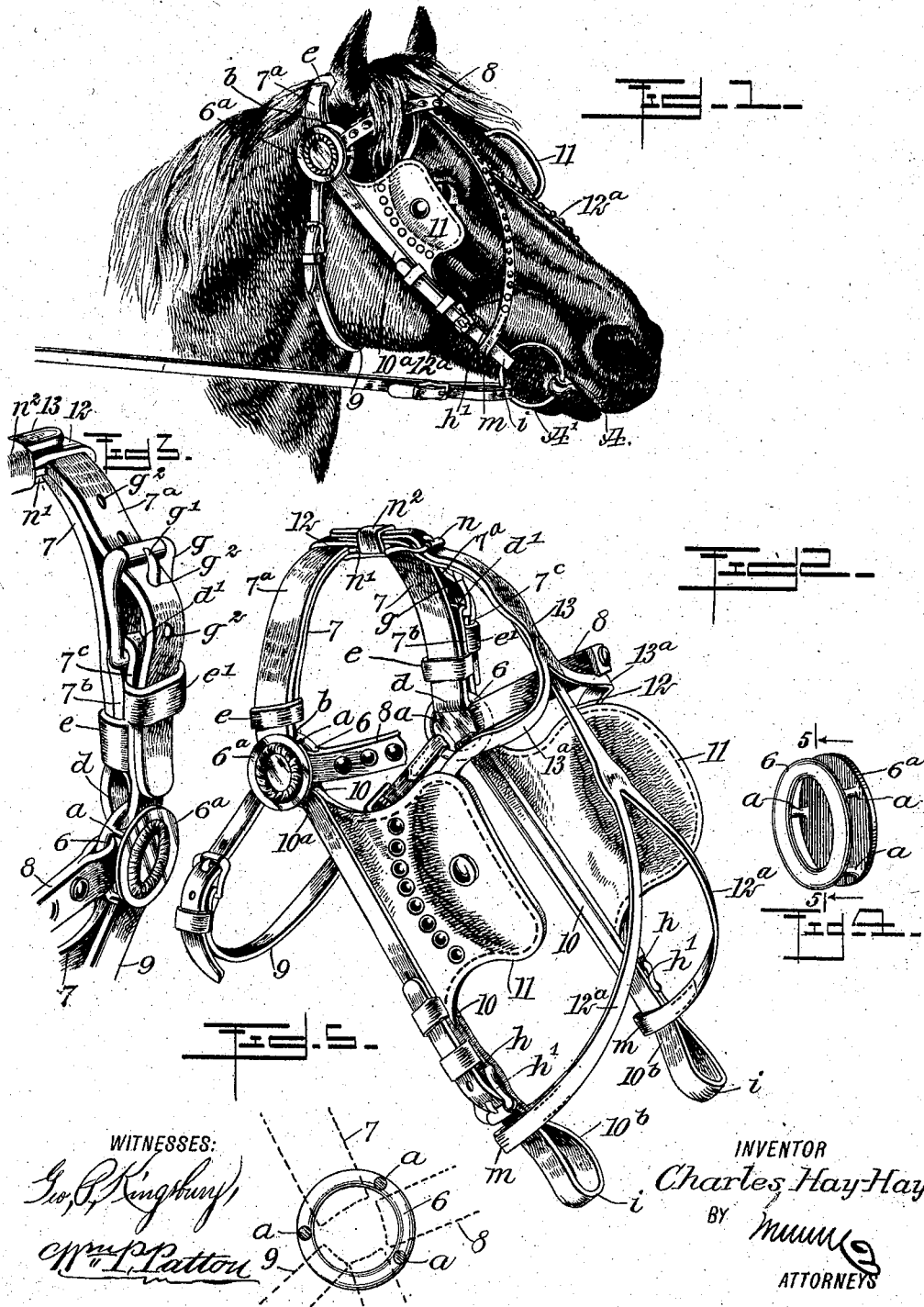
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No. 815,703.

PATENTED MAR. 20, 1906.

C. HAY-HAY,
BRIDLE.

APPLICATION FILED JULY 11, 1905.



WITNESSES:

G. S. Kingbury
Wm. L. Patton

INVENTOR

Charles Hay-Hay

BY

Mumme
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES HAY-HAY, OF RED LODGE, MONTANA.

BRIDLE.

No. 815,703.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed July 11, 1905. Serial No. 269,218.

To all whom it may concern:

Be it known that I, CHARLES HAY-HAY, a citizen of the United States, and a resident of Red Lodge, in the county of Carbon and State of Montana, have invented new and useful Details of Construction for a Bridle, of which the following is a full, clear, and exact description.

The object of this invention is to provide novel details for a driving-bridle to be used for single or double harness which permits an accurate, quick, and convenient adjustment of the crown-straps and cheek-straps of the bridle, so as to give the latter proper length for connection with the bridle-bit without changing the position of the blinders on the crown-strap, if this is correct, or to raise or lower the blinders without altering the length of the cheek-straps, so as to give the blinders proper position, these adjustments enabling the speedy fitting of a bridle having the improvements upon the heads of different animals that may vary somewhat in dimensions.

A further object is to provide a rosette-ring of novel construction that is ornamental and very advantageous for a neat and reliable connection of the crown-straps, brow-band, cheek-straps, and throat-latch straps together at their ends each side of the bridle free to work, and yet separated, so as to avoid crowding upon each other.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the subjoined claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improved bridle mounted upon the head of a horse and showing the relative positions of portions of the bridle thereon. Fig. 2 is an enlarged broken perspective view of the improved bridle detached from the driving-bit. Fig. 3 is an enlarged portion of the normally right side of the bridle, showing novel details and their engagement with each other and with the other parts. Fig. 4 is a detached perspective view of one of a pair of rosette-rings employed that is a novel detail; and Fig. 5 is a partly sectional rear side view of the improved rosette-ring, taken substantially on the line 5 5 in Fig. 4, showing straps connected therewith by dotted lines.

One important cooperating detail of the bridle consists of a rosette-ring 6 6^a, that is employed in duplicate, these similar rings each being constructed as is best shown in Fig. 4, comprising a disk ornamented on the exposed surface and a ring spaced therefrom. The ring portion 6 of the rosette is circular and of suitable diameter to correspond with the other parts of the bridle which are engaged therewith, said ring being spaced from the rosette-disk 6^a, which is the outer or exposed portion of the two-part ring, by means of the intervening rod-like arms *a a*, that are preferably secured by their ends on the ring and disk and disposed at equal distances apart near the periphery of the disk, and as the arms are of an equal length they serve to space apart the two parts 6 6^a parallel with each other.

The crown-piece of the bridle is of novel construction, consisting of a strap of a suitable length and width which is doubled together near its center of length, thus providing two integral members 7 7^a, that in service are mounted upon the rosette-ring 6 at one side of the bridle, the bight *b* of the doubled strap engaging an upper portion of the ring between two of the arms *a*, as is clearly indicated by dotted lines in Fig. 5, and, as shown in Fig. 2, a keeper-slide *e* is mounted upon the doubled portions 7 7^a and adjusted near the bight *b*, thus holding the looped end of the crown-strap closed upon the portion of the ring 6 that it is engaged with.

The normally lower member 7 of the doubled crown-strap or one that has contact with the head of the animal behind the ears is passed from the inner side of the ring 6 on the mating rosette-ring below and then up between the spaced members 6 6^a of the same, forming a bight at *d*, that loosely receives the ring 6. A sufficient length is given to the upwardly-extended portion 7^b of the strap portion 7 to permit it to be folded upon itself at *d'*; thus returning a member 7^c toward the bight *d*, and a keeper-band *e*, that is secured between the lapped portions 7^b 7^c near the lower end of the latter, loosely engages the crown-strap member 7, thus holding the bight *d* closed upon the ring 6 at the normally right side of the bridle, as is clearly shown in Figs. 2 and 3.

In the loop or bight *d'* a buckle *g* is secured loosely, said buckle that heads upwardly having a buckled engagement with the top ply 7^a of the doubled crown-strap 7

7^a, and the pendent end of the latter-named member is held from flapping by a keeper-band *e'*, that is secured between the folded strap members 7^b 7^c near the bight *d*, as is represented in Fig. 3.

It will be seen from the description of the crown-strap that it may be adjusted for length simply by changing the engagement of the tongue *g'* of the buckle *g* with the spaced perforations *g*² in the strap member 7^a, and thus raise or lower the rosette-rings. In the space between the rosette-ring members 6 6^a of the forward portion of the ring 6 for each rosette-ring employed respective ends of a brow-band 8 are looped upon said rings and secured as indicated in the drawings. On rearward portions of the rosette-ring members 6 doubled ends of a two-part throat-latch strap 9 are secured, the free end portions of said two-part strap being furnished with a buckle that by adjustment lengthens or shortens the throat-latch, as usual for this portion of a bridle.

Upon lower portions of the rosette-ring members 6 upper end portions of cheek-straps are secured, the looped ends of the throat-latch strap and of a cheek-strap at each side of the bridle being placed on the section of a respective ring 6 between two arms *a*, that are lowermost in service, said arms serving to hold the ends of these straps from shifting edgewise, thus preserving them in proper relative position. Each cheek-strap is formed of a single strip of leather that is doubled upon itself between the ends thereof, affording a looped upper end on each strap that engages a respective ring 6, as before mentioned, and between the cheek-strap members 10 10^a on each side of the bridle a blinder 11 is secured and projects forwardly. Between the cheek-strap members 10 10^a directly below a respective blinder at each side of the bridle a looped strap *h* is secured, and in its bight a buckle *h'* is hung. The innermost cheek-strap member 10 on each side of the bridle is extended a length that permits it to be double and its free end portion 10^b turned upward above a loop or bight *i* thus formed, the upturned strap members 10^b having spaced perforations therein for an engagement with a respective buckle *h'*, and, as indicated for one loop *i* in Fig. 1, opposite rings *A'* on a bridle-bit *A* are engaged with said loop at each side of the bridle.

A face-strap 12 is employed of the usual form having two members 12^a formed on the lower portion thereof, said members having a loop *m* on the lower end of each one which respectively engage the doubled lower portion of each cheek-strap member 10. The face-strap 12 extends over the forehead of the beast beneath the brow-band 8 and is adjustably secured upon the crown-strap, as will presently be described, thus adapting a pull on driving-reins that connect with the

bit-rings *A'* to be communicated to the face-strap.

A brace-strap 13 for the blinders 11 is a feature of the invention, and, as shown in Fig. 2, the upper portion of said strap is lapped upon the corresponding portion of the face-strap 12 and together therewith is engaged by a buckle *n*, which is held projected forwardly from the crown-strap members 7 7^a by a looped short tab *n'*, having a keeper *n*² thereon which receives the end portion of the brace-strap which projects rearward from the buckle *n*.

It will be obvious that the improved bridle may be readily adjusted to widen or contract in length the crown-strap 7 7^a simply by altering the adjustment of the member 7^a and buckle *g*, and thus exactly fit the crown-piece on the head of an animal. An adjustment of the brace-strap 13 permits the rocking of the blinders inwardly when the strap is shortened, and as the normal set of the blinders is slightly flaring outward it will be seen that they may be readily adjusted as may be necessary to set nearer the eyes of an animal that is skittish in disposition and frightens on sight of strange objects at either side of the beast.

The provision of the rosette-rings each formed of an exteriorly-ornamented disk and a ring held spaced therefrom by arms is very advantageous, as it affords a most reliable means for assembling ends of the crown-strap, brow-band, throat-latch, and brace-straps, avoiding bulky projections, and serving at the same time as an ornamental detail for the bridle. It will also be noted that the provision of the looped adjustable lower strap extensions on the cheek-straps permits a change in length to be given to said straps and a corresponding change in position of the bridle-bit toward or from the blinders 11 without altering the position of the latter with relation to the crown-strap, so that the bridle may be quickly altered to fit upon the heads of animals which vary considerably in size and proportions.

Furthermore, the details of the improved bridle are simple, and their relative connections are neat, shapely, strong, and durable, affording a handsome and excellent bridle at a nominal cost.

Having described my invention, I claim as new and desire to secure by Letters Patent—

In a bridle, the combination with a crown-piece comprising a single strap doubled near its center to form a loop at one end of the two-ply crown-piece, one ply thereof being return-folded near its free end and forming a loop, a buckle in the loop, the free end of the other ply engaging the buckle, rings having disks spaced apart from the faces thereof in the loops, cheek-bands connected with the rings, bridle-bit-ring connections on the lower end of the cheek-bands, a strap having a buckle connected to the center of the crown-piece,

blindens connected to the cheek-bands, a
brace-strap connected with the blindens, a
face-strap connected with the cheek-bands be-
low the blindens, the upper ends of the brace-
5 strap and face-strap engaging the buckle on
the strap connected with the crown-piece.
In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

CHARLES HAY-HAY.

Witnesses:

FRANK McCLEARY,
GEORGE DEEGAN.

F. VYVIAL.
 CURRYCOMB AND BRUSH.
 APPLICATION FILED SEPT. 3, 1915.

1,171,815.

Patented Feb. 15, 1916.
 2 SHEETS—SHEET 1.

Fig. 1.

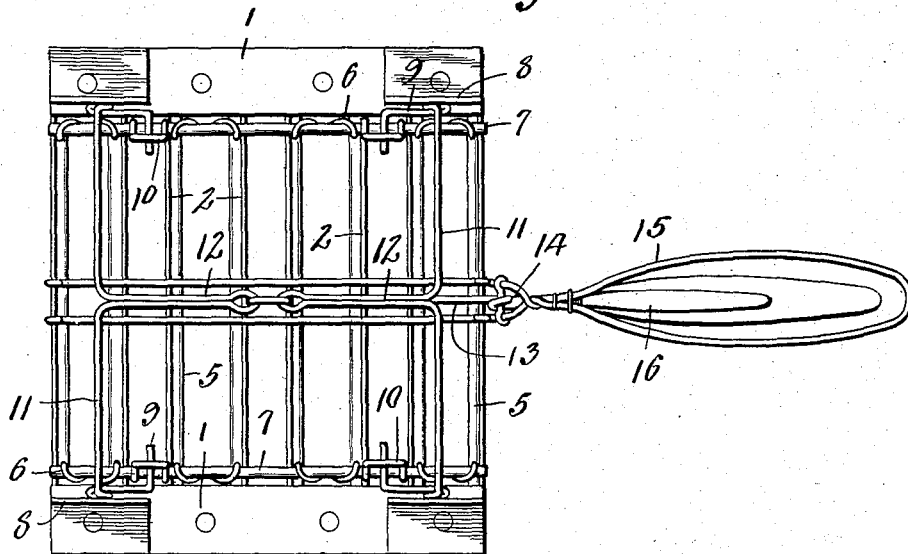
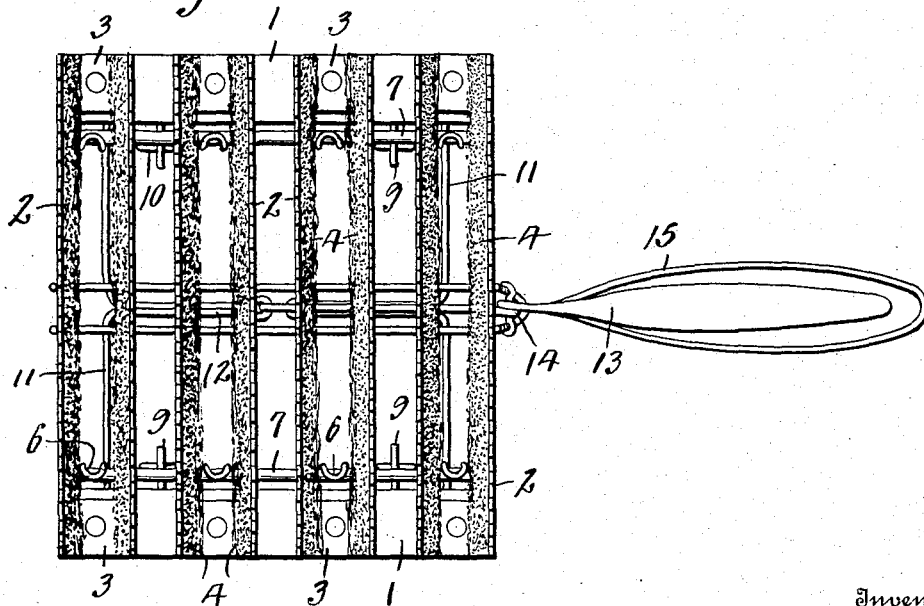


Fig. 2.



Witnesses
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F. VYVIAL,
 CURRYCOMB AND BRUSH.
 APPLICATION FILED SEPT. 3, 1915.

1,171,815.

Patented Feb. 15, 1916.
 2 SHEETS—SHEET 2.

Fig. 3.

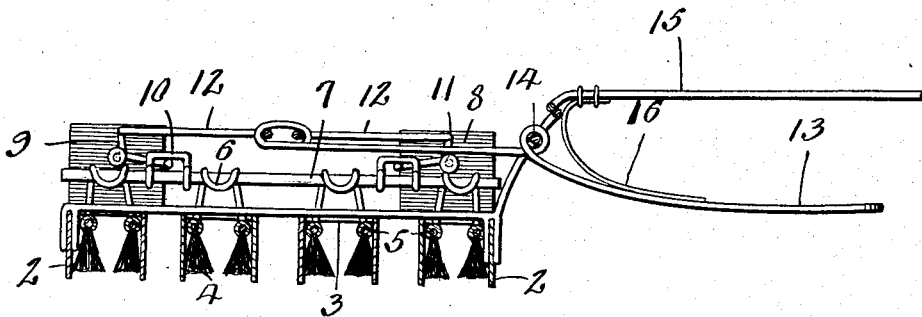


Fig. 4.

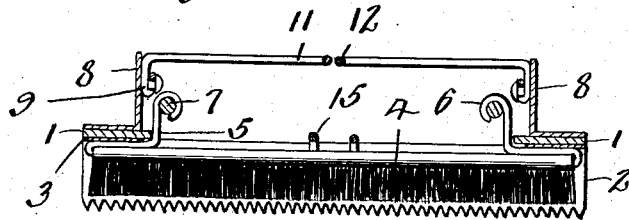
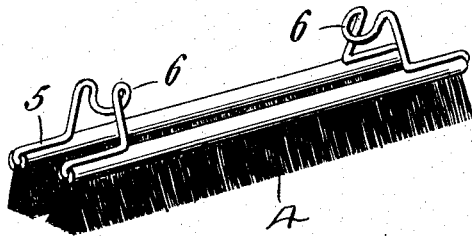


Fig. 4



Witnesses

Edwards Jr.
John J. McCarthy

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F. Vyvial,

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UNITED STATES PATENT OFFICE.

FRANK VYVIAL, OF LOUISE, TEXAS.

CURRYCOMB AND BRUSH.

1,171,815.

Specification of Letters Patent.

Patented Feb. 15, 1916.

Application filed September 3, 1915. Serial No. 48,900.

To all whom it may concern:

Be it known that I, FRANK VYVIAL, a citizen of the United States, residing at Louise, in the county of Wharton and State of Texas, have invented new and useful Improvements in Currycombs and Brushes, of which the following is a specification.

This invention relates to certain novel and useful improvements in combination currycombs and brushes for animals and has particular application to what may be called a self-cleaning currycomb and brush.

In carrying out the present invention, it is my purpose to provide a combination currycomb and brush wherein the brushing and combing elements will be so arranged and correlated that the brushing elements may be projected beyond the combing elements when it is desired to use the device as a brush, and the brushing elements retracted to expose the combing elements when it is desired to use the device as a currycomb, and wherein the brushes may be so manipulated as to rub against the combs with the effect to clean the combs and the brushes so that dirt and other foreign matter may be removed from the combs and brushes.

It is also my purpose to improve and simplify the general construction of devices of the class described and to provide a combination currycomb and brush which may be manufactured and marketed at comparatively small cost and which may be used effectively and conveniently.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claim.

In the accompanying drawings; Figure 1 is a top plan view of a combination currycomb and brush constructed in accordance with the present invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a longitudinal sectional view through the device. Fig. 4 is a cross sectional view therethrough. Fig. 5 is a perspective view of one of the brushes and the holder therefor removed from the device.

Referring now to the drawings in detail, 1, 1 designate supporting strips spaced apart in parallelism, while 2 indicates combs spanning the space between the strips 1, 1 and having the ends thereof secured to the respective strips. These combs 2 are appropriately spaced apart and disposed parallel

with one another. In the present instance, the combs are arranged in pairs and the combs of each pair are connected together through the medium of straps 3 arranged at the ends of the combs and forming the connections between the combs and the strips 1, 1, the straps and strips being riveted together or otherwise appropriately connected. Arranged in juxtaposition to each comb 2 and having one side in contact with the adjacent side of the comb is a brush 4. In the present instance, the brushes 4 between the combs of each pair are connected with a wire holder 5 having the extremities thereof projecting upwardly through the space between the combs and bent upon themselves to form hooks 6. The hooks 6 at each side of the device are mounted upon a rod 7 and these rods 7 are spaced apart in parallelism. Secured to the strips 1, 1 adjacent to the ends thereof respectively and projected outwardly therefrom are lugs 8. Pivoted upon the lugs 8 are arms 9 respectively and the arms 9 on the lugs on each strip project toward each other and are secured to the adjacent portions of the rods 7 through the medium of loose connections 10, while extending across the space between the strips 1, 1 are transverse rods 11, each having the opposite extremities thereof secured to the pivoted ends of corresponding arms 9, and the central portions formed with a lever 12. The levers 12 project toward each other and are pivotally connected with an operating handle 13 fulcrumed between its ends as at 14 to a stationary handle 15 secured to the end combs 2 of the device centrally of such combs and serving as a means whereby the device may be manipulated.

16 designates a spring of any suitable construction interposed between the handles 13 and 15 and acting upon the operating handle 13 to hold the brushes 4 normally inwardly of the combs 2.

In practice, when it is desired to use the device as a currycomb the handle 15 is grasped and the device manipulated in the usual way. To use the device as a brush, the outer end of the handle 13 is swung toward the stationary handle 15 against the action of the spring 16 and in this movement of the operating handle the levers 12 are actuated to swing the rods 11 and arms 9 and so move the rods 7 toward the rear edges of the combs and in this movement of the rods 7, the outer ends of the brushes are projected

beyond the toothed edges of the combs so that the brushes may be rubbed over the animal. When it is desired to clean the combs and the brushes, the handle 13 is swung toward and away from the handle 15 so as to move the brushes alternately outwardly and inwardly, thereby enabling the combs to remove the dirt from the brushes and the brushes to clean the combs.

While I have herein shown and described one preferred form of my invention by way of illustration, I wish it to be understood that I do not limit or confine myself to the precise details of construction herein described and delineated, as modification and variation may be made within the scope of the claim without departing from the spirit of the invention.

I claim:

A combination currycomb and brush comprising a plurality of combs spaced apart in parallelism, brushes arranged alongside of

the combs, said brushes being arranged in pairs and disposed inwardly of the combs, wire holders connecting the brushes of each pair to each other, rods arranged at opposite sides of the device above said combs and brushes and connected to the ends of the wire holders at the respective sides of the device, lugs arranged adjacent to said rods respectively, arms pivoted upon said lugs, connections between said arms and rods, levers and rods interconnecting all of said arms for simultaneous movement, and means connecting said levers for operating the latter to move the brushes outwardly beyond the combs.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK VYVIAL.

Witnesses:

FRANK FAREK,
W. J. KUBALA.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

No. 803,600.

PATENTED NOV. 7, 1905.

J. H. KENDALL.
ANIMAL STOCK.

APPLICATION FILED NOV. 16, 1904.

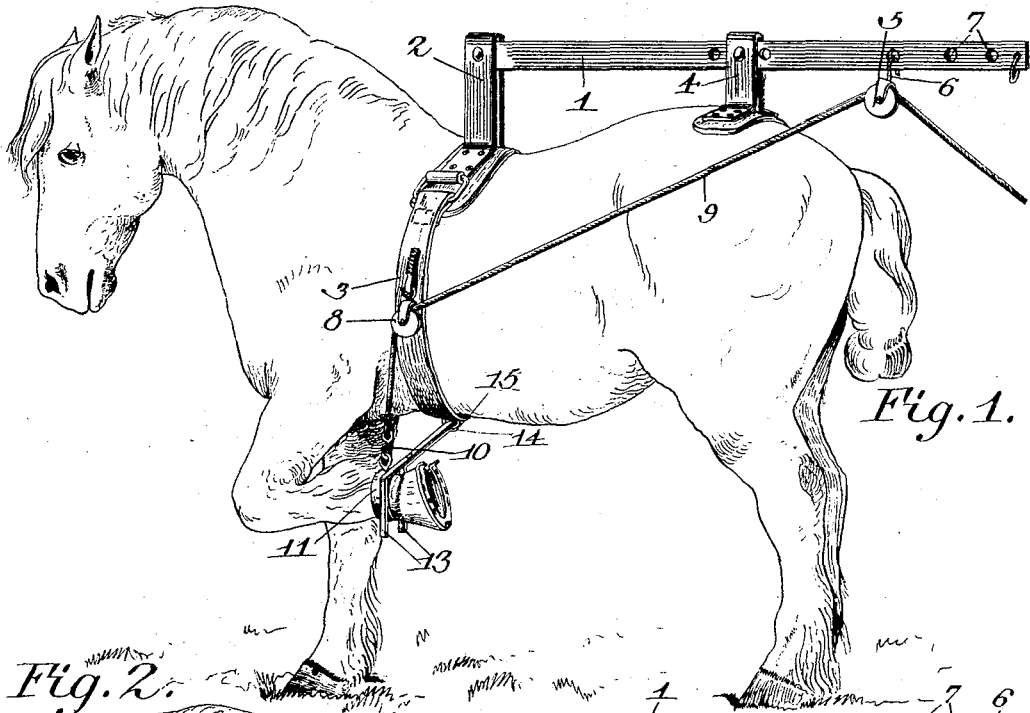


Fig. 2.

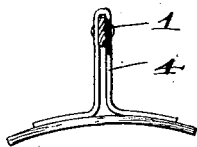
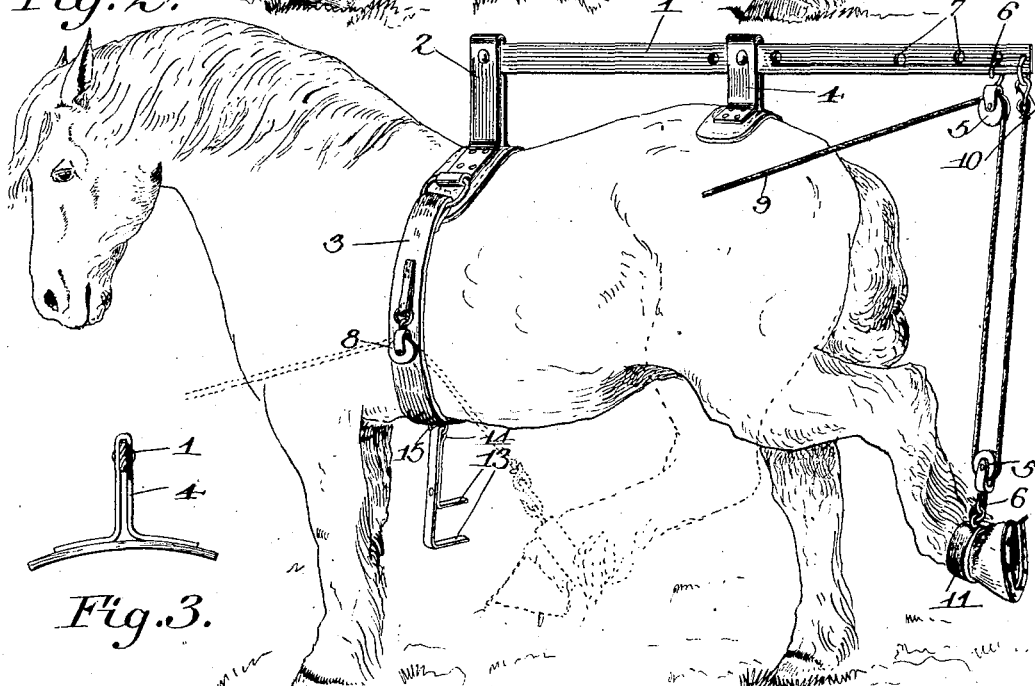


Fig. 3.

Witnesses

E. J. Stewart
J. D. McElaney

John H. Kendall, Inventor.

by *Chas. H. Snowles*

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN H. KENDALL, OF ILLIOPOLIS, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO JOHN WILLIAM D. MAYES AND RICHARD D. DUGAN, OF ILLIOPOLIS, ILLINOIS.

ANIMAL-STOCK.

No. 803,600.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed November 16, 1904. Serial No. 233,021.

To all whom it may concern:

Be it known that I, JOHN H. KENDALL, a citizen of the United States, residing at Illiopolis, in the county of Sangamon and State of Illinois, have invented a new and useful Animal-Stock, of which the following is a specification.

This invention relates to animal-stocks of the class employed by horseshoers to secure the legs of an animal being shod, to prevent the animal from kicking, and to support the hoof in position to be operated upon.

The object of the invention is to provide an improved apparatus of the character named whereby any one of the legs of an animal being shod may be hopped and raised to such position as will facilitate the work of shoeing the animal.

The construction of the apparatus will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in perspective of the apparatus as applied to a horse. Fig. 2 is a perspective view of the apparatus in position upon a horse, illustrating the manner of supporting the hind leg of the horse in elevated position; and Fig. 3 is a detail view showing one of the saddle-frames in elevation and its supporting-bar in vertical section.

The reference-numeral 1 designates a rigid bar, to the front end of which is secured a saddle-frame 2, the latter preferably comprising a single piece of sheet metal bent upon itself, as shown.

3 designates a surcingle or securing-band the ends of which are attached by rings or loops to the opposite sides of the saddle-frame.

4 designates a saddle-frame secured to the bar 1 at about midway of the length of the latter and constructed to rest upon the horse, as illustrated in the drawings.

From the rear end of the bar 1 depend one or more pulleys 5, each of said pulleys being preferably suspended from the bar 1 by means of a hook 6, the end of the bar being formed with a series of openings 7 to permit of the adjustment of the pulleys to different positions upon the bar. The saddle-frame 4 is likewise preferably made adjustable upon the bar 1 to adapt it for use upon horses of different sizes.

A pulley 8 is supported at one side of the

surcingle, and 9 designates a rope adapted to pass over the pulley 8 and from thence around one of the pulleys 5, the front end of said rope being provided with a snap-hook 10 to engage a hopple 11 upon the front foot of the horse. By means of this rope 9 the front foot may be readily supported in the position shown in Fig. 1. When it is desired to raise the hind leg of the horse, a hopple 11 thereon is engaged by a snap-hook on a pulley 5^a, around which the rope 9 passes, and the rear end of the rope 9 is provided with a hook to engage a ring suspended from the bar 1.

To prevent the fore leg of the animal from moving outward against the body of the operator while being shod, I provide a guard device, preferably comprising a single piece of strap metal bent upon itself to form parallel arms 13 and an eye or loop 14, the latter serving as a means for securing the guard to a ring 15, swiveled to the under portion of the surcingle. The arms 13 of the guard are adapted to extend on opposite sides of the animal's foot, as illustrated in Fig. 1, and the manner of attaching the guard to the surcingle permits said guard to be turned upon the swivel and used on either side of the animal.

The forward saddle 2 rests upon the withers and the rear saddle upon the rump of the animal, and the adjustability of the saddle 4 insures the application of the strain or pressure to these parts of the animal.

It will be apparent that an apparatus constructed as above described may be readily operated in the manner illustrated in Figs. 1 and 2 and quickly applied to or removed from the back of the animal.

By attaching the rear end of the rope 9 to the front of a hopple on the hind leg of the horse and passing said rope forward over the pulley 8 the hind leg may be drawn forward in position for clenching the nails of the shoe.

While the construction as shown in the drawings constitutes a practical embodiment of the improvement, it will be understood that the invention is not restricted to the details shown, but includes all such variations and modifications as may fall within the spirit of the invention.

In the drawings the saddles are shown provided with the looped frames 2 and 4, through the upper portions of the loops of which passes the bar 1, thus preventing lateral displace-

ment of the bar while permitting it to be held to each saddle-frame by a single fastening device. The pin or equivalent fastening device for the rear saddle is removable to permit the described adjustment of this saddle, and the slight pivotal or angular movement of the bar in a vertical plane parallel with and guided by the sides of the loops enables the bar to assume a position suiting the relative heights of the withers and rump of the animal to which the stock is applied and also permits the proper and fair seating of each saddle on the desired portion of the animal, whereby when the weight of the hoof is applied no uneasiness will be experienced at the points of contact of the saddles.

Having thus described the invention, what is claimed is—

1. An animal-stock comprising a bar having guides and adapted to be supported above the animal, saddle-frames supporting said bar, a securing-band for one of said frames, and a rope adapted to be attached to one of the legs of the animal, and passed over the guides upon said band and bar.

2. An animal-stock, comprising a bar, a saddle-frame secured to the forward end of said bar, a second saddle-frame secured to the bar at a point about midway of the length of the bar, a rope-guide adjacent to the rear end of the bar, a securing-band for the forward saddle-frame, a rope-guide on said band, and a rope adapted to pass over said guides.

3. An animal-stock comprising a rigid bar adapted to be supported above the back of an animal, a saddle-frame secured to the front portion of said bar, a securing-band therefor, a second saddle-frame supported upon said bar at about midway the length of the bar, a rope-guide adjustably secured upon the rear portion of the bar, a guide on the securing-band of the forward saddle-frame, and a rope passing over said guides and provided at its ends with fastening devices.

4. An animal-stock comprising a rigid bar, saddle-frames depending therefrom, a surcingle for securing the forward one of said saddle-frames upon an animal, means for elevating and supporting the legs of the animal, and a guard pivotally secured upon the surcingle in position to embrace the fore leg of the animal.

5. The combination with a bar, and saddle-

frames depending therefrom, of a surcingle for securing the forward one of said saddle-frames upon an animal, means for elevating and supporting the legs of the animal, and a guard comprising arms adapted to embrace opposite sides of the fore leg of the animal, said guard being movably secured upon the surcingle.

6. The combination with a leg-supporting device, of a band adapted to be secured around the body of an animal, and a guard having a swiveled connection with said band to adapt the guard to be turned to either side of the animal, and provided with arms for engaging one foot of the animal.

7. An animal-stock having spaced front and rear saddles, and hoof-supporting means carried thereby, the saddles being movably mounted to adapt them to the portions of the body of the animal with which they come in contact.

8. An animal-stock having front and rear saddles, a connecting-bar supported thereby, said saddles having yielding connection with the bar to adapt them to the portions of the body of the animal with which they come in contact, and hoof-supporting means carried by the bar.

9. An animal-stock having front and rear saddles one of which is provided with a girth, a connecting-bar on which said saddles are pivotally connected, and hoof-supporting means carried by the bar.

10. An animal-stock having front and rear saddles, and hoof-supporting means including a bar connecting the saddles and pivotally mounted upon one of them.

11. An animal-stock having front and rear saddles, and hoof-supporting means including a bar with which the saddles have pivotal connection.

12. An animal-stock having front and rear saddles, hoof-supporting means including a bar pivotally mounted upon the front saddle, and means for adjustably securing the rear saddle to said bar.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN H. KENDALL.

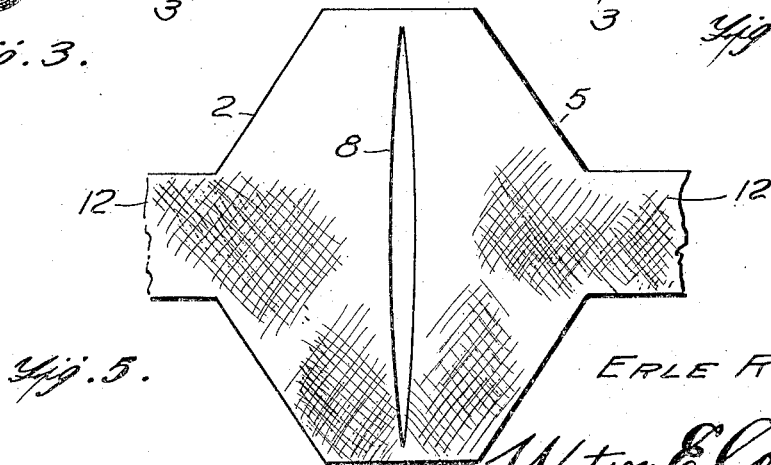
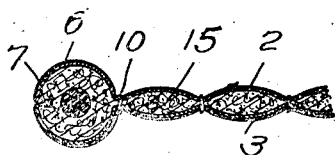
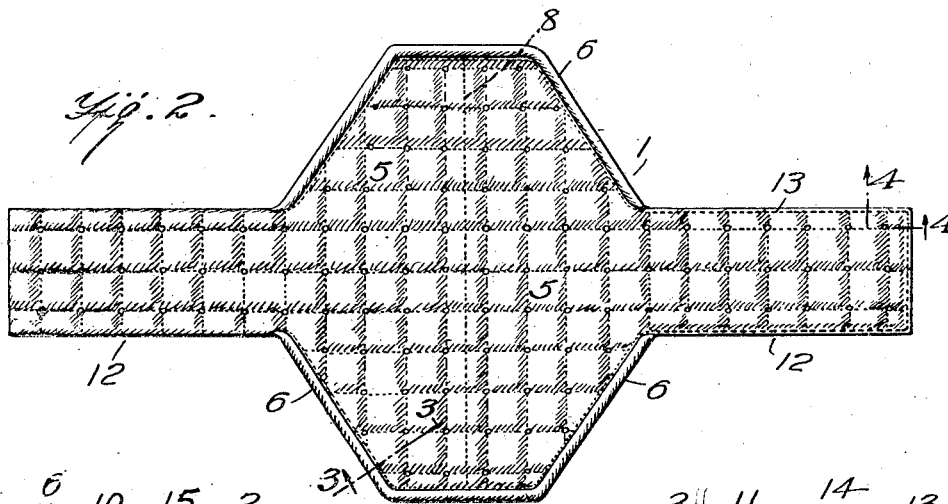
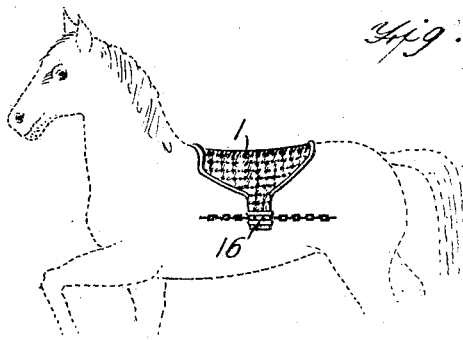
Witnesses:

HARRY E. DICKERSON,
CHARLES MORGAN.

E. READ.
BACK BAND.
APPLICATION FILED MAR. 27, 1920.

1,357,823.

Patented Nov. 2, 1920.



Inventor

ERLE READ,

Watson & Coleman
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UNITED STATES PATENT OFFICE.

ERLE READ, OF TALLULAH, LOUISIANA.

BACK-BAND.

1,357,823.

Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed March 27, 1920. Serial No. 369,271.

To all whom it may concern:

Be it known that I, ERLE READ, a citizen of the United States, residing at Tallulah, in the parish of Madison and State of Louisiana, have invented certain new and useful Improvements in Back-Bands, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved back band for use on various working animals, such as horses, mules and the like and a general and most important object of the invention is to provide a back band having a broad portion engaging the back of the animal, so that the spread of the portion will discharge the weight of the pull more evenly over the back, thereby preventing injuring the back of the animal, which would otherwise be the case in using an ordinary narrow back band now in use.

Another object is to construct the back band of two complementary portions or laminations with an intermediate padding of any suitable material, preferably cotton, felt, hair or the like, and which may be any suitable or convenient shape or contour, preferably as shown, and having contracted side parts to which the back band hooks or fasteners may be attached.

Still another object is the provision of a back band, the broad portions of the complementary parts of which are provided with darts, whereby the broad part of the back band may conform to the curvature of the animal's back so that the weight of the pull may be more evenly distributed.

A further object embodies rolls of medium size upon the forward and rear edges of the broad part of the back band in order to maintain the broad part in shape, preventing the same from turning up and also to withstand a portion of the pull when the back band is applied.

A still further object is the provision of perforations or openings throughout the greater part of the back band so as to prevent the back band from overheating the animal which would otherwise be the case if it were not for the perforations.

An additional object involves an improved back band, the rolls upon the forward and rear edges of which being so arranged and constructed that they can be formed by the edge portions of the opposite parts of the back band.

While the design and construction at present illustrated and set forth is deemed preferable, it is obvious that as a result of a reduction of the invention to a more practical form for commercial purposes, the invention may be susceptible to changes, and the right to these changes is claimed, provided they are comprehended within the scope of what is claimed.

The invention comprises further features and combination of parts, as will be hereinafter set forth, shown in the drawings and claimed.

In the drawings:

Figure 1 is a view of the improved back band constructed in accordance with the invention, showing its application to the back of an animal shown in dotted lines.

Fig. 2 is an enlarged plan view of the back band showing the same removed from the animal,

Fig. 3 is a sectional view on line 3—3 of Fig. 2,

Fig. 4 is a sectional view on line 4—4 of Fig. 2,

Fig. 5 discloses detail views of one of the complementary parts of the back band.

Referring to the drawings, 1 designates the back band as a whole, which comprises opposing complementary parts 2 and 3 of any suitable shape. These parts may be any suitable shape, preferably as shown, therefore they are provided with broad portions 5, which engage over the back of the animal and partly upon the sides of the animal. The edges of these complementary parts are formed into a roll 6 and are stitched as shown at 7. These rolls act to withstand a part of the weight of the pull or the strain which may be exerted upon the back band. In order that the back band may readily conform to the curvature of the animal's back, the opposite complementary parts are provided with darts 8. In other words, the broad portions of the complementary parts are slit by cutting away a piece transversely through the centers, and the severed edges are designed to be stitched together. A filler of any suitable material, preferably cotton, felt, hair or the like 15 is interposed between the two complementary parts, and then the parts are stitched at various locations as indicated at 10, so as to tuft and hold the filler in place. At various locations, as indicated at 11, the back band is provided with a plurality of

perforations, which are stitched around their edges so as to prevent frayed edges.

The back band is provided with side extensions 12 and the opposing parts of these extensions form integral parts of the broad portions of the back band. The edges of the extensions are stitched as shown at 13, and are likewise padded or provided with a filler of hair, felt or the like 14. The extensions are connected to the usual form of back band hooks 16 as shown, to which the usual draft chains may be connected, as shown.

The invention having been set forth, what is claimed as new and useful is:—

1. In a back band for draft animals comprising a pad having a wide central portion so as to insure a widespread engagement

over the surface of the back of the animal, rolled edges on said central portion, side extensions on said central portion, and back band hooks on said side extensions. 20

2. A back band for draft animals comprising a pad having a relatively wide central portion to insure a wide-spread engagement over the surface of the back of the animal, said central portion having perforations and provided with rolled edges, said pad consisting of opposing complementary parts provided with an intermediate filler, side extensions on the central portion, and back band hooks on said side extensions. 25 30

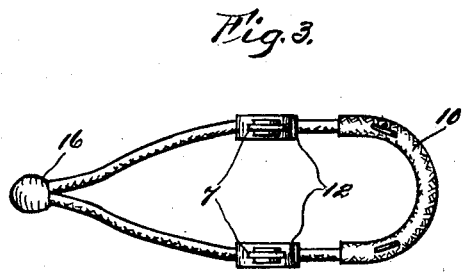
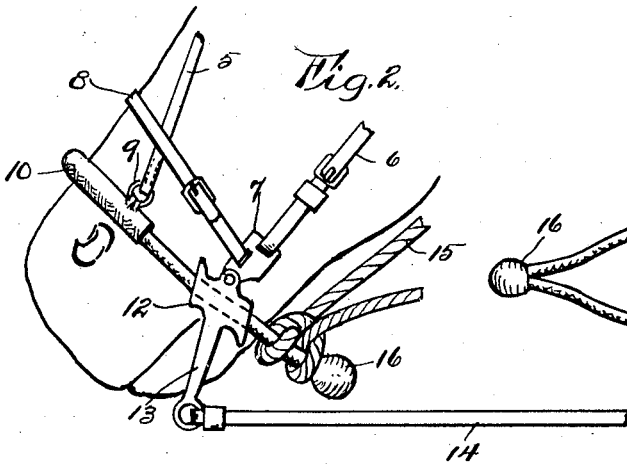
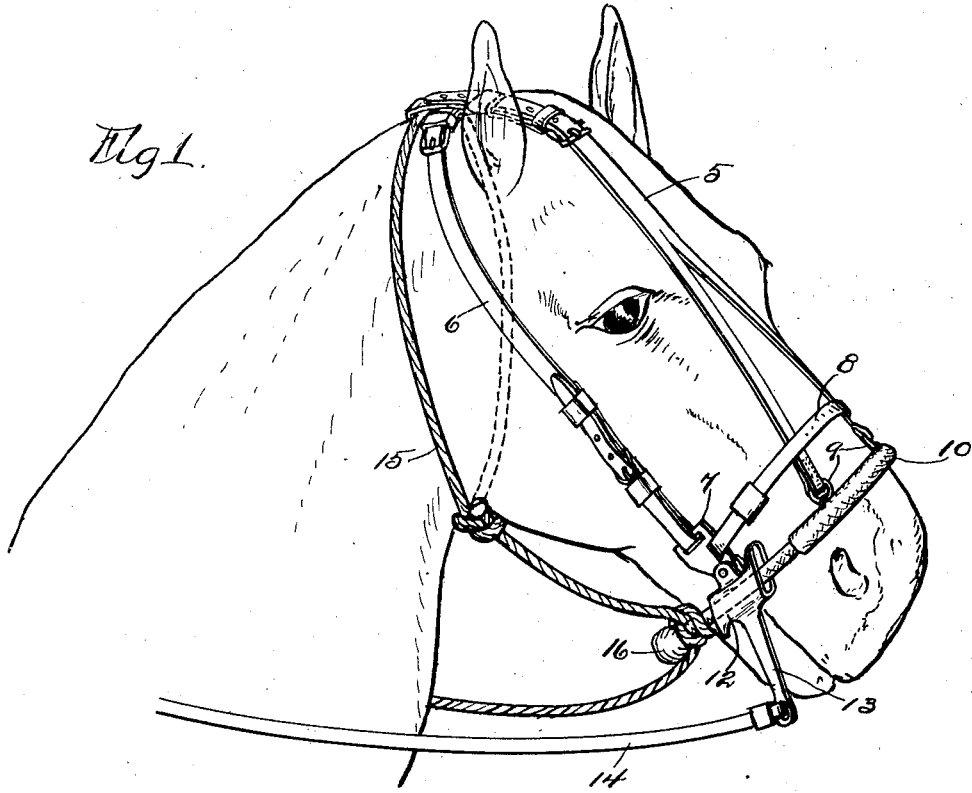
In testimony whereof I hereunto affix my signature.

ERLE READ.

E. P. DE FRANCE.
BITLESS BRIDLE.
APPLICATION FILED OCT. 10, 1919.

1,333,474.

Patented Mar. 9, 1920.



Witness:

R. Hamilton

INVENTOR
E. P. De France,

BY
Charles Casard
ATTORNEY

UNITED STATES PATENT OFFICE.

ELLSWORTH P. DE FRANCE, OF LAKESIDE, NEBRASKA.

BITLESS BRIDLE.

1,333,474.

Specification of Letters Patent.

Patented Mar. 9, 1920.

Application filed October 10, 1919. Serial No. 329,860.

To all whom it may concern:

Be it known that I, ELLSWORTH P. DE FRANCE, a citizen of the United States, and resident of Lakeside, in the county of Sheridan and State of Nebraska, have invented a certain new and useful Improvement in Bitless Bridles, of which the following is a complete specification.

The present invention pertains to harness and aims to provide an improved bridle of the bitless type, which will be of a humane character, while retaining all the properties of checking or restraining the animal.

To this end I have devised a bridle comprising a headstall with nose band and check member slidingly engaging the band and operated to compress the latter tightly about the nostrils of the animal.

It is also sought to provide an improved article of this character, including a nose band of loop form and throat latch adjustably connected thereto and adapted to be conveniently fitted to take up all the slack in said nose band.

The nature of the invention will now be described by reference to the accompanying drawing illustrating one form of construction, after which the novel features will be set forth in the appended claims.

In the drawing—

Figure 1 is a perspective view illustrating the improved bridle in its position for use;

Fig. 2 is a side view of the same, illustrating the lower portion of the bridle; and

Fig. 3 is a plan view of the nose band, with the check members fitted thereon.

Referring to the drawing in detail, this shows the bridle as comprising a headstall, composed of a browband 5, and cheek straps 6, carrying loops 7 at their lower end, said loops being connected by a nosestrap 8. The lower forked ends of the band 5 are provided with loops 9, which support the front of a nose band 10, adapted to be supported low over the nostrils of the animal, as illustrated in Figs. 1 and 2, the side portions of said band being slidingly accommodated within sleeves 12, formed in check members or levers 13, which are pivotally supported by the loops 7. The check levers 13 are of suitable length and adapted for the attachment of checkrein 14. The bridle further

comprises a rope 15, which is suitably noosed to form a throat latch passed slidingly through the loop at the upper end of the browband 5. The nose band 10 is formed with a knot 16 at its rear end, where the rope 15 is looped about said band a sufficient number of times to effect a reasonably snug fit of the noseband when in position for use.

With the construction shown and applied as described, it is apparent that an effective bridle structure is provided in which the check members normally merely slide upon the side portions of the nose band, but when a restraining force is required, the swinging of the check members upon their pivots by pulling on the rein 14, crimps the noseband and obviously compresses the animal's nostrils in such a manner as to effectually curb any unruly tendency. Under all normal circumstances the bridle is comfortable and humane to the animal, while sacrificing none of the essential requirements of a bridle. The article is furthermore conveniently adjustable to fit the animal by virtue of the peculiar form of the noseband having the knot at the rear end to which the throat latch is adjustably attached.

While I have shown and described what I now regard as the preferred form of construction, I desire to reserve the right to make such changes as may fairly fall within the scope of the appended claims.

What I claim is:

1. A bitless bridle comprising a head stall, a throat latch and nose band supported from said head stall, and check levers carried by the head stall and formed with sleeve portions slidingly engaging the side portions of said nose band.

2. A bitless bridle comprising a headstall, a throat latch and nose band supported from said head stall, said nose band having a knotted rear end portion receiving said throat latch in adjustably looped relation for taking up the slack in said nose band, and check levers carried by the head stall and formed with sleeve portions slidingly engaging the side portions of said nose band.

In witness whereof I affix my signature.

ELLSWORTH P. DE FRANCE.

(No Model.)

R. T. PETTUS.
Blank for Saddle Bags.

No. 235,013.

Patented Nov. 30, 1880.

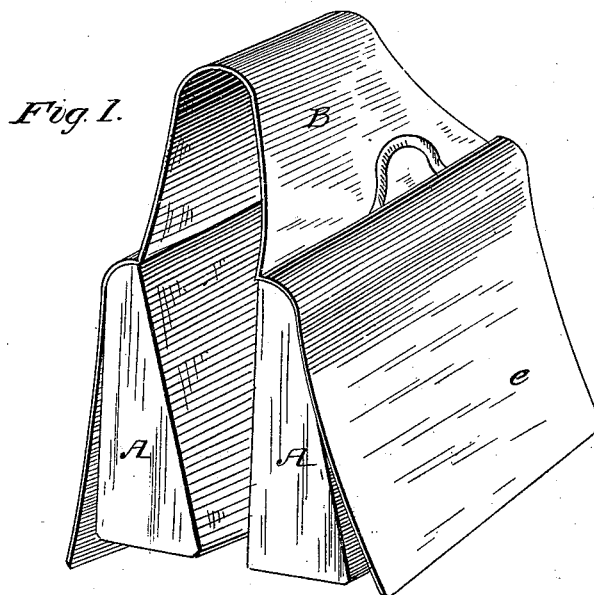
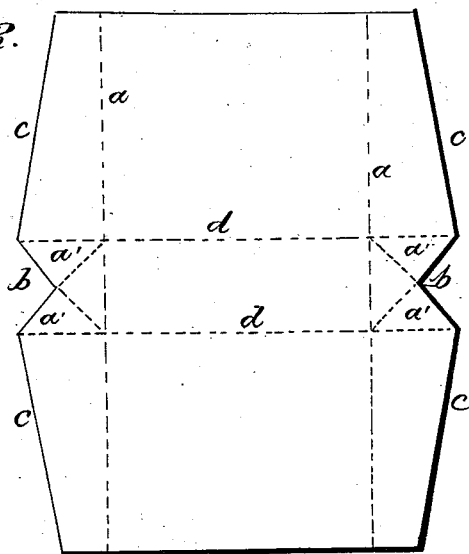


Fig. 2.



Witnesses
Fred. G. Dietrich
Albert G. Krause

Inventor
Richard T. Pettus
by Louis Baggett
Attorney

UNITED STATES PATENT OFFICE.

RICHARD T. PETTUS, OF KINGSTON, KENTUCKY.

BLANK FOR SADDLE-BAGS.

SPECIFICATION forming part of Letters Patent No. 235,013, dated November 30, 1880.

Application filed July 27, 1880. (No model.)

To all whom it may concern :

Be it known that I, RICHARD T. PETTUS, of Kingston, in the county of Madison and State of Kentucky, have invented certain new and useful Improvements in Blanks for Saddle-Bags; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a pair of saddle-bags made from my improved blanks, and Fig. 2 is a plan of the blank.

Similar letters of reference indicate corresponding parts in both the figures.

My invention relates to saddle-bags and kindred articles of manufacture; and it consists in an improved construction of the blank for the same, as hereinafter set forth, and particularly pointed out in the claim.

In the drawings, A A are the bags, with the connecting-piece, handle, or strap B, for carrying the same with the hand or upon or across the pommel of the saddle. The bags are each made out of and in a single piece of leather or other suitable material. The material or blank is first cut in an oblong shape for each bag, which is creased in straight lines longitudinally or in the direction of its length, as at *a*, with the short overlapping side pieces, *a' a'*, cut upon each side of a V-shaped cut, *b*, made or cut about centrally on each side of

its length, somewhat tapering, as at *c c*. This is done upon both sides of the material or blank, as clearly shown. The material or blank is next creased twice, as at *d d*, transversely, one crease being made upon or about in a line with each side of the V-shaped cuts *b* on the sides of the blank. With the blank folded together at the creased points *d d*, which form the bottom of the contemplated bag, valise, satchel, or companion, the tapered flaps or lapping portions *e* form the sides of the intended bag, which are seamed or sewed together, while to each thus completed bag or receptacle a flap, *e*, is applied to buckle or button over the entrance or mouth of the bag as an inclosure therefor. The bags, as before stated, are connected together by a piece, handle, or strap, B, when used for saddle-bags.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The blank for saddle-bags constructed as shown—that is, having V-shaped cuts *b b* midway on each side, tapering ends *c c*, longitudinal creases *a a*, and transverse creases *d d*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

RICHARD TIMOTHY PETTUS.

Witnesses:

THOS. C. WITT,
HUGH BALLARD.

No. 658,894.

Patented Oct. 2, 1900.

T. D. GORDON.

BLANKET.

(Application filed Feb. 1, 1900.)

(No Model.)

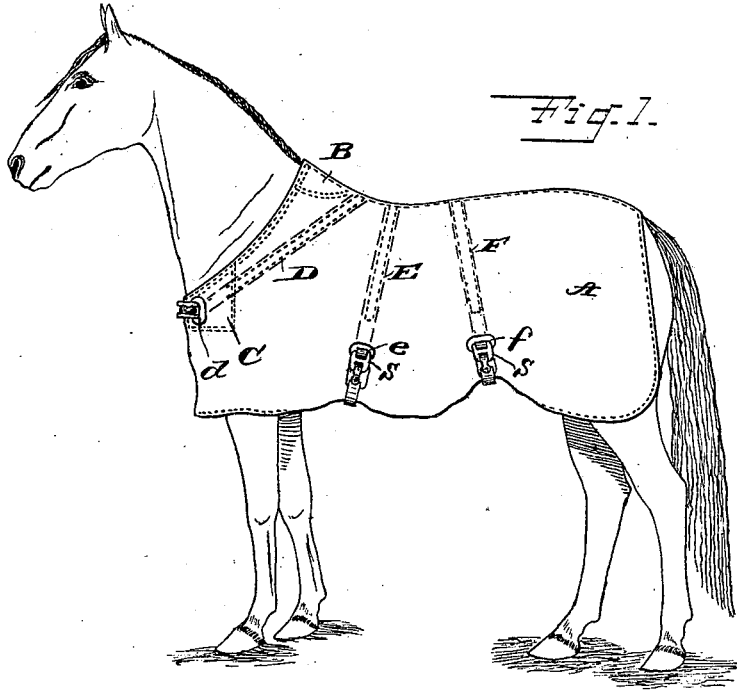


Fig. 1.

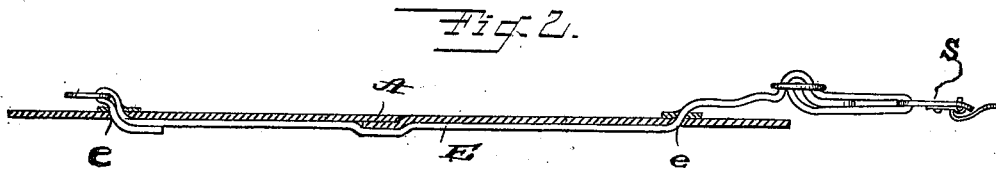


Fig. 2.

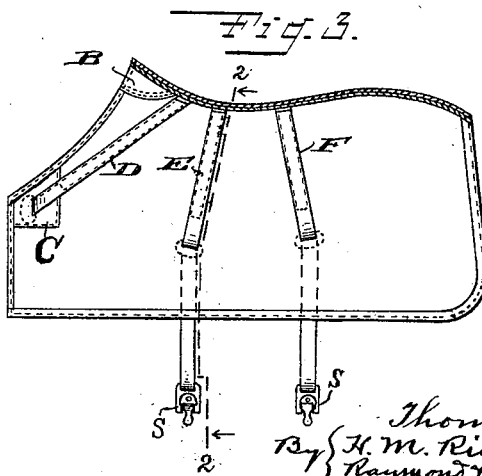


Fig. 3.

WITNESSES

S. P. Richards,
H. E. Lowry.

INVENTOR

Thomas D. Gordon
By *H. M. Richards and*
Raymond & Cusshend,
ATTYS

UNITED STATES PATENT OFFICE.

THOMAS D. GORDON, OF MONMOUTH, ILLINOIS.

BLANKET.

SPECIFICATION forming part of Letters Patent No. 658,894, dated October 2, 1900.

Application filed February 1, 1900. Serial No. 3,612. (No model.)

To all whom it may concern:

Be it known that I, THOMAS D. GORDON, a citizen of the United States, residing at Monmouth, in the county of Warren and State of Illinois, have invented certain new and useful Improvements in Horse-Blankets, of which the following is a specification.

My invention relates to certain new and useful improvements in horse-blankets; and one object is to arrange the fastening-straps on the blanket in such a way that they will not tear the blanket, wear the mane of a horse, or become loosened, so that the blanket can slip off of the horse.

A further object of the invention is to provide a simple arrangement of the fastening-straps for a horse-blanket which act independently of each other and do not prevent the horse from moving freely, while at the same time securing the blanket in its proper position; and further objects of the invention are to secure a blanket on a horse in such a manner that it will be held in place regardless of any rolling, rubbing, or moving of the horse, to arrange the forward fastening-strap so that it will pull bias of the cloth, and thereby avoid tearing the blanket over the horse's shoulder, to secure the fastening-straps to the under side of the blanket, and to avoid tearing the blanket where the straps pass through the openings therein.

With these and other ends in view the invention consists in the peculiar arrangement of parts hereinafter described in detail in connection with the accompanying drawings, in which—

Figure 1 illustrates my improved blanket applied to a horse. Fig. 2 is a sectional view on the line 2 2 of Fig. 3. Fig. 3 is a central sectional view showing the inner side of one-half of the blanket.

Referring to the drawings, in which like letters of reference denote corresponding parts in all of the figures, A designates the blanket, which may be of any suitable material and of any desired size and shape, and it is provided with a reinforce-piece B at its upper front edge where it goes over the horse's neck and other reinforce-pieces C at the front thereof, these reinforces being located at the points where the greatest strain is applied to the blanket.

The blanket is secured in place on a horse

by means of fastening-straps D E F, three of which I have found desirable and have shown same in the drawings. These straps are all fastened by stitching or otherwise to the under side of the blanket in or about the positions indicated in the drawings, and the lower ends of these straps pass through openings *d e f* in the blanket and hang down on the outer side thereof, the holes being located slightly above the lower edges of the blanket, so that when the ends of the strap are connected by the buckles S the edges of the blanket will be bound close to the horse's body. The stitching which fastens the straps to the blanket ends at a short distance above the holes through which the straps pass, so that the straps will not be connected with the blanket for a short distance above the holes. By this means provision is made for allowing the blanket to slip up slightly on the straps without tearing when the horse rolls or rubs the blanket against a wall or floor or otherwise pulls on the blanket, a certain freedom of movement for the lower part of the blanket while the blanket is held rigidly in place on the horse being of special importance. The forward strap D extends from the upper part of the front of the blanket which covers the horse's breast and backward away from the curved neck part of the blanket to an upper point behind the withers of the horse, so that the forward strain on this strap at its lower part will pull straight on the strap, but bias of the cloth, and thereby avoid tearing the blanket over the horse's shoulder and at the same time prevent the strap from wearing the horse's mane. The other two straps E and F are suitably located, so as to dispose the fastening-straps in a manner which will secure the best results.

My improved horse-blanket is constructed in a very simple manner; but the improvements and advantages derived from the peculiar arrangement of parts are many and important, and particularly so in view of the use to which a blanket of this kind is put. It is obvious that any means which will permit freedom of movement of the horse in the blanket without in any way disarranging the blanket or tearing or otherwise injuring the same is a matter of considerable importance, and by the simple means which I have em-

5 ployed I am able to provide a blanket possessing such advantages. By sewing the straps to the under side of the blanket they are made to all intents and purposes an integral part thereof, and whatever strain may be put upon these straps will be distributed throughout the area of the blanket or at least the greater portion thereof. Besides, the straps are so connected with the blanket that

 10 they will not wear the mane or hair of the horse, and the forward strap D is located in a peculiar manner, so that the strain exerted thereon will not tend to tear the blanket or interfere with the free action of the horse's

 15 head. By terminating the stitching above the openings, through which the ends of the straps pass, I provide a blanket which will remain at all times in proper position over the horse's back, while the lower ends thereof

 20 may be rubbed upon the straps without in any way injuring the blanket. This occurs in the ordinary movements of the horse and at times when he is rubbing himself or rolling; but by the arrangement I have described the blanket will remain in its correct

 25 position on the horse notwithstanding any movements which he may make.

30 Having thus fully described my invention, what I claim, I and desire to secure by Letters Patent, is—

35 1. A horse-blanket provided with means for fastening same to the animal, consisting of straps fastened to the under side of the blanket and having their ends passing through openings located away from the edges of the blanket, substantially as described.

2. A horse-blanket provided with means for fastening same to the animal, consisting of straps fastened to the under side of the blanket by stitching, the lower ends of the straps passing through openings in the blanket located away from the edges thereof and the stitching which fastens the straps to the blanket terminating at a distance from the holes, substantially as described.

3. A horse-blanket provided with a fastening-strap D fastened to the under side of the blanket and extending from the front thereof backward away from the front upper edge of the blanket to a point approximately behind that part of the blanket which covers the horse's withers, the ends of said strap D passing through openings located away from the front edges of the blanket substantially as described.

4. A horse-blanket provided with means for fastening same to an animal, consisting of straps stitched to the under side of the blanket for the greater portion of their length and having their ends, some distance below where the stitching stops, passing through openings in the blanket at a distance away from the edges thereof, the forward neck-strap having its upper portion located at a distance behind the forward upper edge of the blanket, substantially as and for the purpose described.

THOMAS D. GORDON.

Witnesses:

W. S. JOHNSON,
F. N. GAY.

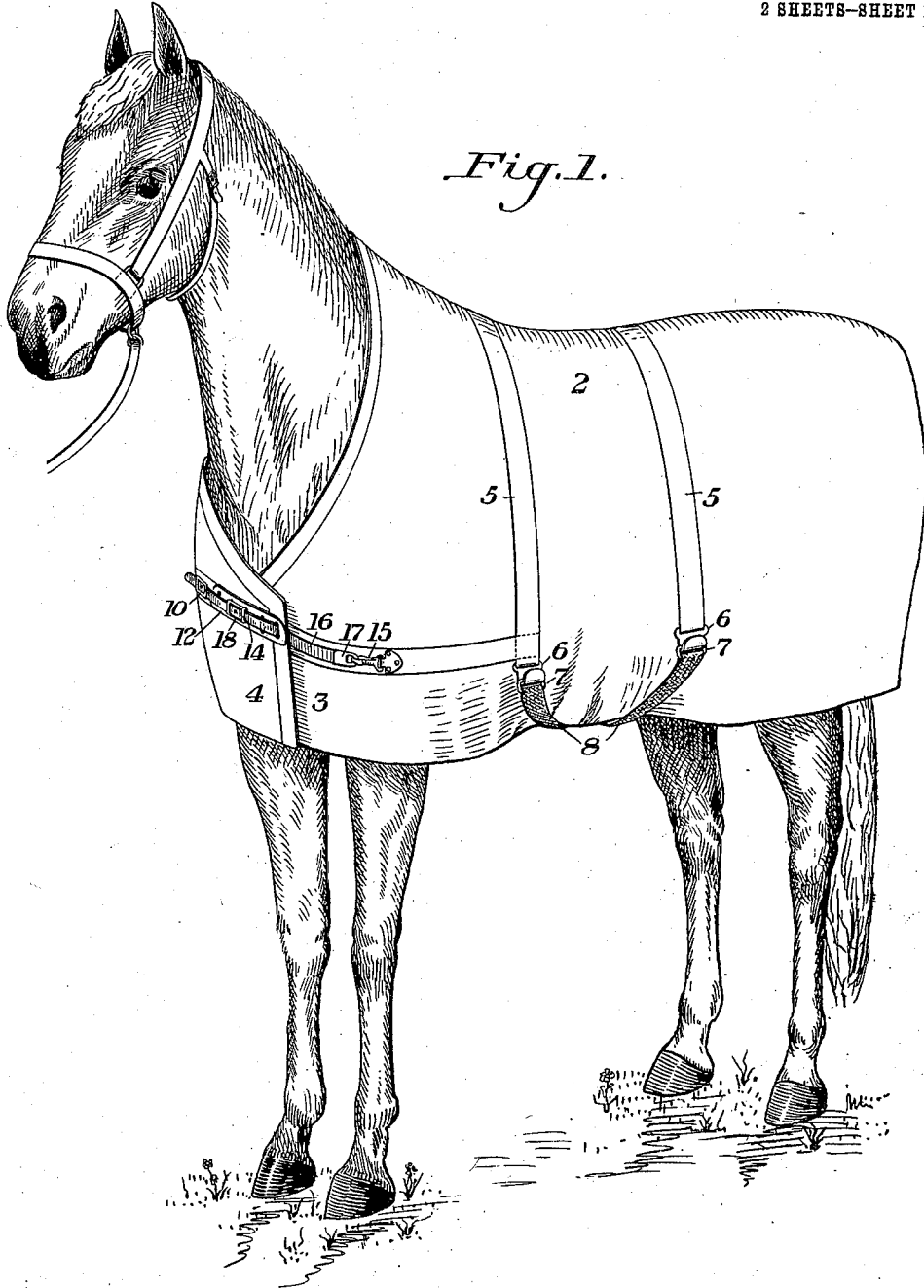
W. A. SCHLEICHER.
BLANKET FASTENER.
APPLICATION FILED AUG. 31, 1911.

1,028,138.

Patented June 4, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

R. A. Balderson
W. J. Harris

INVENTOR

Wm. A. Schleicher
by Robert R. Byrnes & Partners
Attys.

W. A. SCHLEICHER.
 BLANKET FASTENER.
 APPLICATION FILED AUG. 31, 1911.

1,028,138.

Patented June 4, 1912.

2 SHEETS-SHEET 2.

Fig. 2.

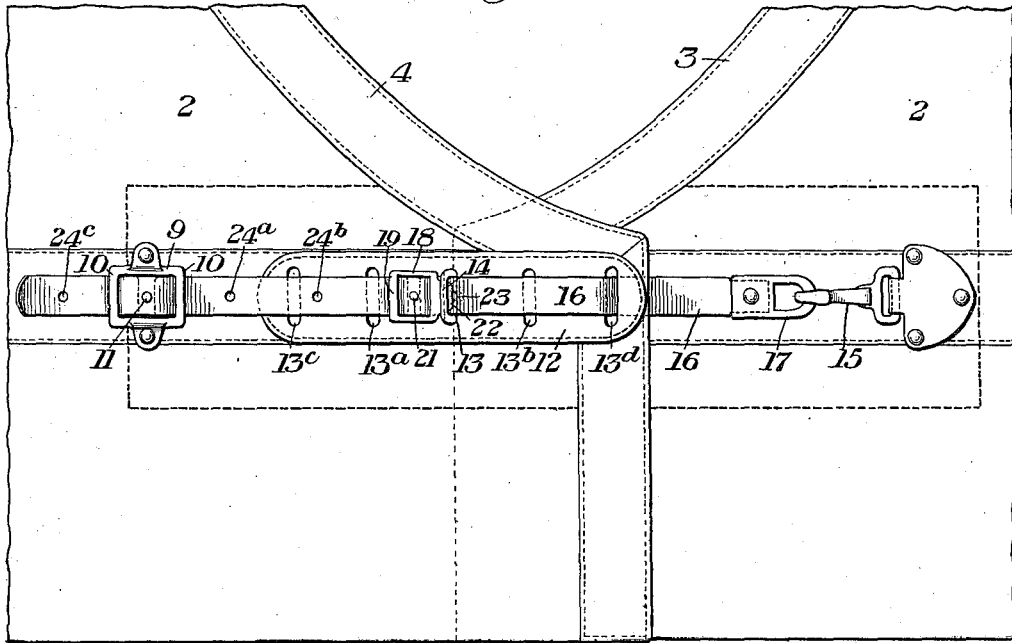
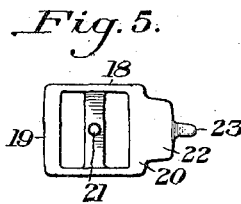
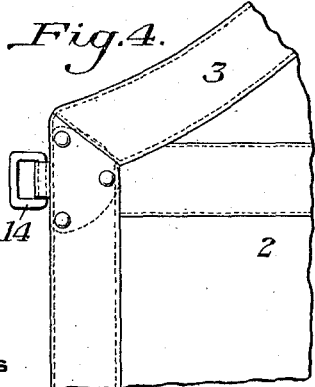
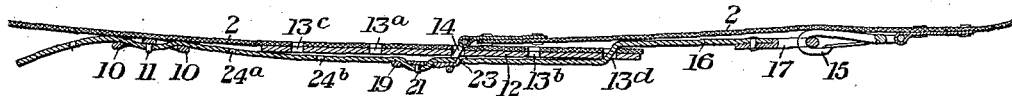


Fig. 3.



WITNESSES

R. A. Balderson
W. Jamariss

INVENTOR

Wm. A. Schleicher
 by *Bohannon, Byrnes & Parnell*,
 Attys.

UNITED STATES PATENT OFFICE.

WILLIAM A. SCHLEICHER, OF CLEVELAND, OHIO.

BLANKET-FASTENER.

1,028,138.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed August 31, 1911. Serial No. 647,056.

To all whom it may concern:

Be it known that I, WILLIAM A. SCHLEICHER, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Improvement in Blanket-Fasteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a blanket, with one form of my improved fastening device connected thereto. Fig. 2 is a view of a portion of a blanket, showing the front flaps secured to each other. Fig. 3 is a horizontal section through the fastening devices shown in Fig. 2. Fig. 4 is a face view of the end of one of the flaps. Fig. 5 is a plan view of the adjustable buckle forming the stop.

My invention relates to blanket fasteners and is designed to provide a device of this character which is cheap, efficient and readily applied.

A further object of my invention is to provide a fastener which can readily be adjusted for securing the blanket to horses of different sizes.

A still further object is to provide a fastener which is interlaced with both of the front flaps of the blanket to keep them together in their overlapped position.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that various changes may be made in the details of construction and general arrangements of the parts, without departing from the spirit and scope of my invention as defined in the appended claims.

Referring to the accompanying drawings, the numeral 2 designates the blanket, which is provided with the front flaps 3 and 4 arranged to overlap each other across the chest of a horse, as shown in Fig. 1.

The blanket 2 is provided with the reinforcing strips of webbing 5 across the central portion, which are provided with hooks 6 at their ends for receiving the loops 7 on the girth straps 8.

Connected to the flap 4 of the blanket 2 is a stud buckle 9 having loops 10, and a stud 11. Secured to the end of this same flap and in line with the buckle 9 is a reinforcing strip 12, and 13, 13^a, 13^b, 13^c and 13^d are orifices through the reinforcing strip 12,

and the flap 4 of the blanket. Connected to the end of the flap 3 is a loop 14 which is arranged to pass through one of the openings 13, and connected to the flap 3 in back of the loop 14 is a snap hook or other securing device 15.

16 is the securing strap having a loop 17 connected at one end which is arranged to engage the snap hook 15 to secure the parts together. Connected to the strap 16 is a stud buckle 18 having loops 19 and 20 under which the strap passes, and a stud 21 passing out through an opening in the strap. The loop 20 of this buckle is provided with a rearward extension 22 having a rearwardly and outwardly extending projection 23 which is also arranged to pass inwardly through an opening through the strap 16.

If the device is to be applied with the same adjustment as that shown in the drawings, the blanket is first thrown on the horse and the loop 14 on the flap 3 is passed through the central opening 13. The loop 17 and strap 16 are then passed through the loop 14 and the opening 13^a, and the loop 17 is connected to the snap hook 15. The loop 20 and extension 22 forming a stop for the loop 14 on the flap 3.

If it is desired to adjust the fastener so as to pass the loop 14 through the opening 13^a to overlap the flaps to a greater extent for adjusting the blanket for a horse having a smaller neck, the projection 11 of the buckle 9 is passed through the opening 24^a in the strap 16, to bring said buckle back of the opening 13^a. The loop 14 is then passed through the opening 13^a, and the strap is passed through the loop 14 and interlaced with any or all of the openings 13, 13^b or 13^d, as may be desired.

If desired the strap may be laced through any or all of the openings through the flap 4 in front and in back of the opening through which the loop 14 passes.

The device can also be adjusted to pass the loop 14 through openings 13^b or 13^c, by adjusting the strap 16 so that the projection 11 on the buckle 9 passes through the openings 24^b or 24^c, respectively. These last adjustments will bring the buckle 18 adjacent to the openings 13^b and 13^c respectively, to form a stop for the loop 14.

It will readily be understood that the strap can be permanently secured to the flap 4, and the stop buckle or loop 18 can be adjusted along the strap to bring it to the

proper position with relation to the holes through said flap.

The advantages of my invention result from the provision of a blanket fastener having a loop on one of the flaps arranged to pass through one of a series of openings through the other flap, together with a strap arranged to interlace with the openings through the one flap and the loop on the other flap which is passed through one of said openings. A further advantage results from the provision of a buckle or loop on the strap to form a stop for the loop on the one flap passing through one of the openings in the other flap, together with means for adjusting the position of said stop buckle with relation to the openings.

I claim:—

1. A blanket fastening device comprising a loop on one of the flaps, the other flap having a plurality of openings, the loop on the first flap being adapted to pass through either of said openings, a strap arranged to pass through the loop after it has been passed through one of the openings, a stop

on the strap for the loop, means for adjusting the position of the stop, and means for securing the strap to both flaps; substantially as described.

2. A blanket fastening device comprising a loop on one of the flaps, the other flap having a plurality of openings, the loop on the first flap being adapted to pass through either of said openings, a buckle on the second flap, a strap adjustably connected at one end to said buckle, means for connecting the other end of said strap to the second flap, said strap being arranged to be interlaced between its ends with the loop extending through one of the openings and another of said openings, and a stop on the strap for the loop on the first flap; substantially as described.

In testimony whereof, I have hereunto set my hand.

WILLIAM A. SCHLEICHER.

Witnesses:

ALFRED J. VATERS,
WM. H. HOUSMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

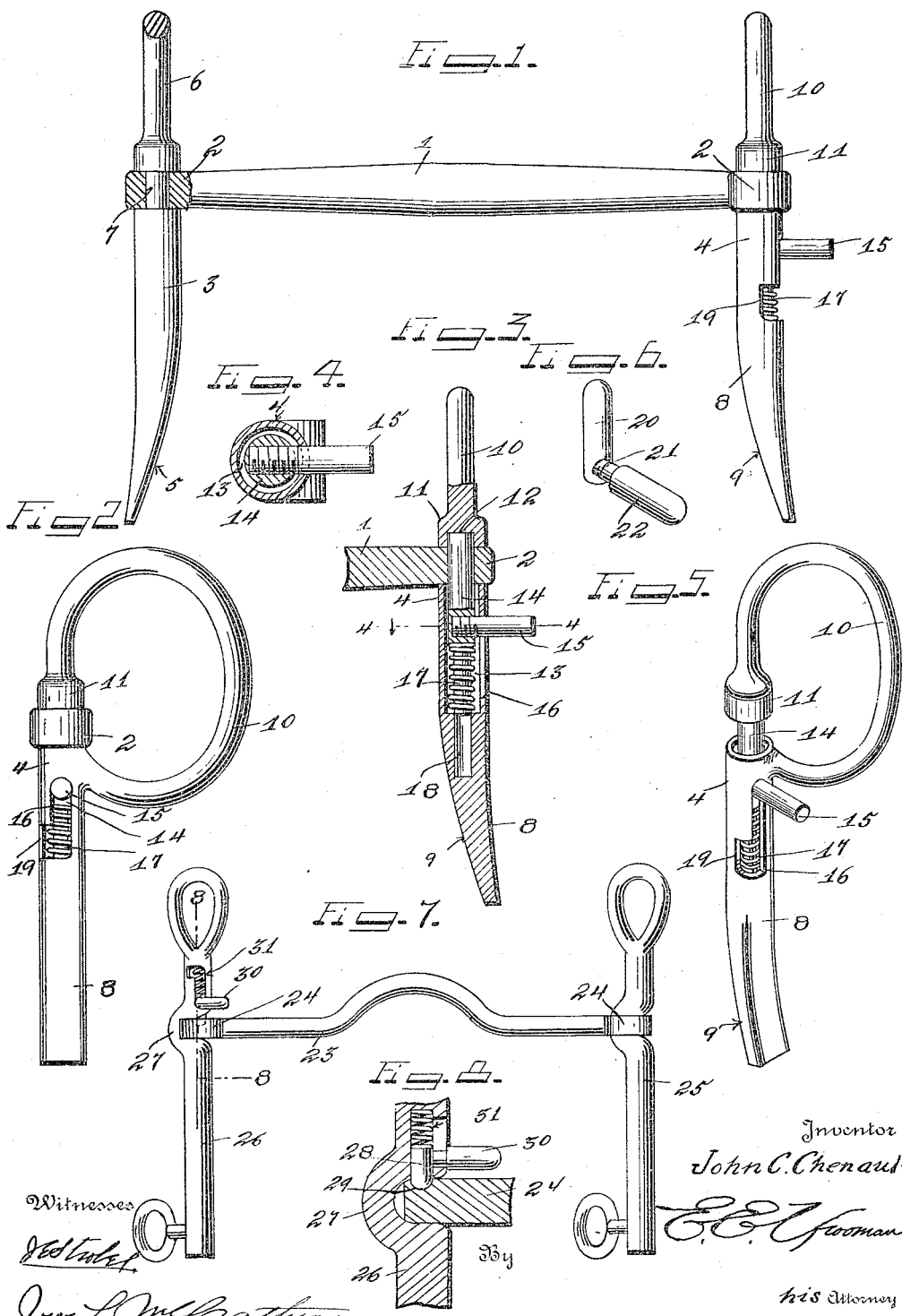
J. C. CHENAULT.

BRIDLE BIT.

APPLICATION FILED NOV. 13, 1913.

1,124,108.

Patented Jan. 5, 1915.



Witnesses
J. C. Chenault
W. L. McCallahan

Inventor
John C. Chenault
E. J. Johnson
his Attorney

UNITED STATES PATENT OFFICE.

JOHN C. CHENAULT, OF RICHMOND, KENTUCKY.

BRIDLE-BIT.

1,124,108.

Specification of Letters Patent.

Patented Jan. 5, 1915.

Application filed November 13, 1913. Serial No. 800,825.

To all whom it may concern:

Be it known that I, JOHN C. CHENAULT, a citizen of the United States of America, residing at Richmond, in the county of Madison and State of Kentucky, have invented certain new and useful Improvements in Bridle-Bits, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an improved bridle bit and has for its object the production of a simple and efficient bit that may be easily placed in position in the horse's mouth without the necessity of forcing the horse's jaws apart.

It often happens that a horse objects to having the bit put into its mouth, and either will not separate its teeth or hold its head at a sufficient height to permit a bridle bit to be placed in position in the horse's mouth.

With the present device one side of the bit may be removed and the bit may then be inserted in the horse's mouth without the necessity of forcing the jaws apart.

With the above and other objects in view this invention consists of certain novel combinations, constructions, and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawing:—Figure 1 is a front view of the bit. Fig. 2 is a side elevation of the bit. Fig. 3 is a vertical section of one end of the bit. Fig. 4 is a section taken on the line 4—4, of Fig. 3, looking in the direction of the arrow. Fig. 5 is a detail perspective of one of the loops of the bit. Fig. 6 is a detail perspective of a modified form of the sliding plunger used in connection with the bit. Fig. 7 is a perspective view of a riding bit. Fig. 8 is a section taken on line 8—8, of Fig. 7.

By referring to the drawings it will be seen that 1 designates the bite of the bit which is provided with apertured end portions 2 as is illustrated more clearly in section in Fig. 3.

Jaws 3 and 4 are connected to the apertured ends 2 of the bite 1, and the jaw 3 comprises a downwardly extending finger being slightly curved outwardly at its lower end as indicated at 5 in Fig. 1. The upper end of the jaw 3 is provided with an eye 6, which eye is connected to one of the aper-

tured ends 2 of the bite 1 by means of a pin 7 passing therethrough, which pin is formed integral or is welded to the eye 6.

The jaw 4 which is carried by the opposite apertured end 2 of the bite 1 comprises a downwardly extending finger 8, which is provided with an outwardly curved inner face 9, and this finger 8 carries at its upper end a loop portion 10, which terminates in a downwardly extending finger 11, which finger 11 is provided with a socket 12 formed in the lower face thereof. The finger 8 is provided with a vertically extending socket 13 in which is slidably mounted the plunger pin 14. This plunger pin 14 is adapted to pass up through one of the apertured ends 2 of the bite 1 and fit in the pocket 12 formed in the downwardly extending end 11 of the eye 10 for firmly holding the bite 1 in engagement with the jaw 4. The plunger pin 14 is provided with a laterally extending finger engaging pin 15, and this pin 15 works in a vertically extending slot 16 formed in the jaw 4. The pin 14 is also provided with a downwardly extending portion 17, which downwardly extending portion 17 works in a slot 18 formed in the jaw 4 as is clearly illustrated in Fig. 3.

From the foregoing description it will be seen that the pin 14 may be readily withdrawn from engagement with one of the apertured ends 2 of the bite 1 by moving this pin 14 downwardly within the pocket 13. The slot 16 is provided with a laterally extending pocket 19 in which the laterally extending pin 15 may be thrown for the purpose of holding the pin 14 in a retracted position when inserting the apertured end 2 between the upper end of the jaw 4 and the lower end of the depending finger 11.

In Fig. 6 there is shown an embodiment of the pin which may be substituted for the pin 14, wherein this pin is provided with a vertically extending body 20 having a threaded stub shaft 21 secured thereto, and upon the stub shaft is mounted a handle 22.

In Figs. 7 and 8 there is shown a means for attaching the present invention to a riding bit wherein the bite 23 is provided with a plurality of apertured ends 24 similar to the bite 1. This bite 23 carries a per-

manently secured jaw 25 and a detachable jaw 26.

The detachable jaw 26 is provided with an off-set portion 27 adapted to fit over one of the apertured ends 24 of the bite 23, and a vertical sliding plunger 28 is mounted within a pocket 29 formed in the jaw 26.

A laterally extending finger 30 is carried by the pin 29 and works in a bayonet slot 31 for drawing the plunger 28 out of engagement with one of the apertured ends 24 of the bite 23. The laterally extending pin 30 may be operated in the slot 31 so as to hold the plunger pin 28 in a retracted position and out of engagement with the bite 23.

It, of course, should be understood that in inserting the device both illustrated in Figs. 1 and 7 the removable jaws 4 and 26 may be detached from the bite so as to allow the bite to be passed transversely through the horse's mouth whereupon the jaws may be attached to the free end of the bite for the purpose of holding the bite in the horse's mouth.

From the foregoing description it will be seen that a very simple and efficient mechanism has been produced for facilitating the attachment of the bit to a horse's mouth, and it should be borne in mind that the present invention is especially convenient when it is desired to feed a horse and is not desired to remove the bridle from the horse's head.

It, of course, should be understood that the invention may be modified in its detail mechanical construction without departing from the spirit of the invention, and that the bit may be provided with either one removable jaw or two removable jaws and still be within the scope of the present invention. It further should be understood that the jaws may be ornamented in any desired manner.

Having thus described the invention what is claimed as new, is:—

1. A bit comprising a bite provided at one end with a head having an opening therein, a ring at one end of said bite provided with a head having a socket formed therein, said socket registering with said opening formed in said hollow head, an arm extending from said ring and provided with a longitudinally extending socket registering with the opening in said head, a pin slidably mounted in said socket of said arm, said arm provided with a socket registering with said socket formed in said arm; a stem extending from said pin and provided with a reduced neck portion traveling in said slot, and a spring positioned in said socket and engaging said pin for yieldably holding said pin in a normal position whereby the pin may extend through said opening in said head of said bite and into the socket formed in said ring.

2. A bit comprising a bite, a jaw carried thereby, said bite provided with an apertured end, said jaw provided with means for receiving the apertured end of said bite, said jaw also provided with a vertically extending pocket formed therein, a spring pressed plunger working in said pocket and arranged to pass through the apertured end of said bite for holding said jaw in engagement with said bite, and a laterally extending pin threaded into said spring pressed plunger, said jaw provided with a bayonet slot, said pin working in said bayonet slot for facilitating the operation of said spring pressed plunger.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN C. CHENAULT.

Witnesses:

LUCY WILLIAMS,
LUCY W. DOTY.

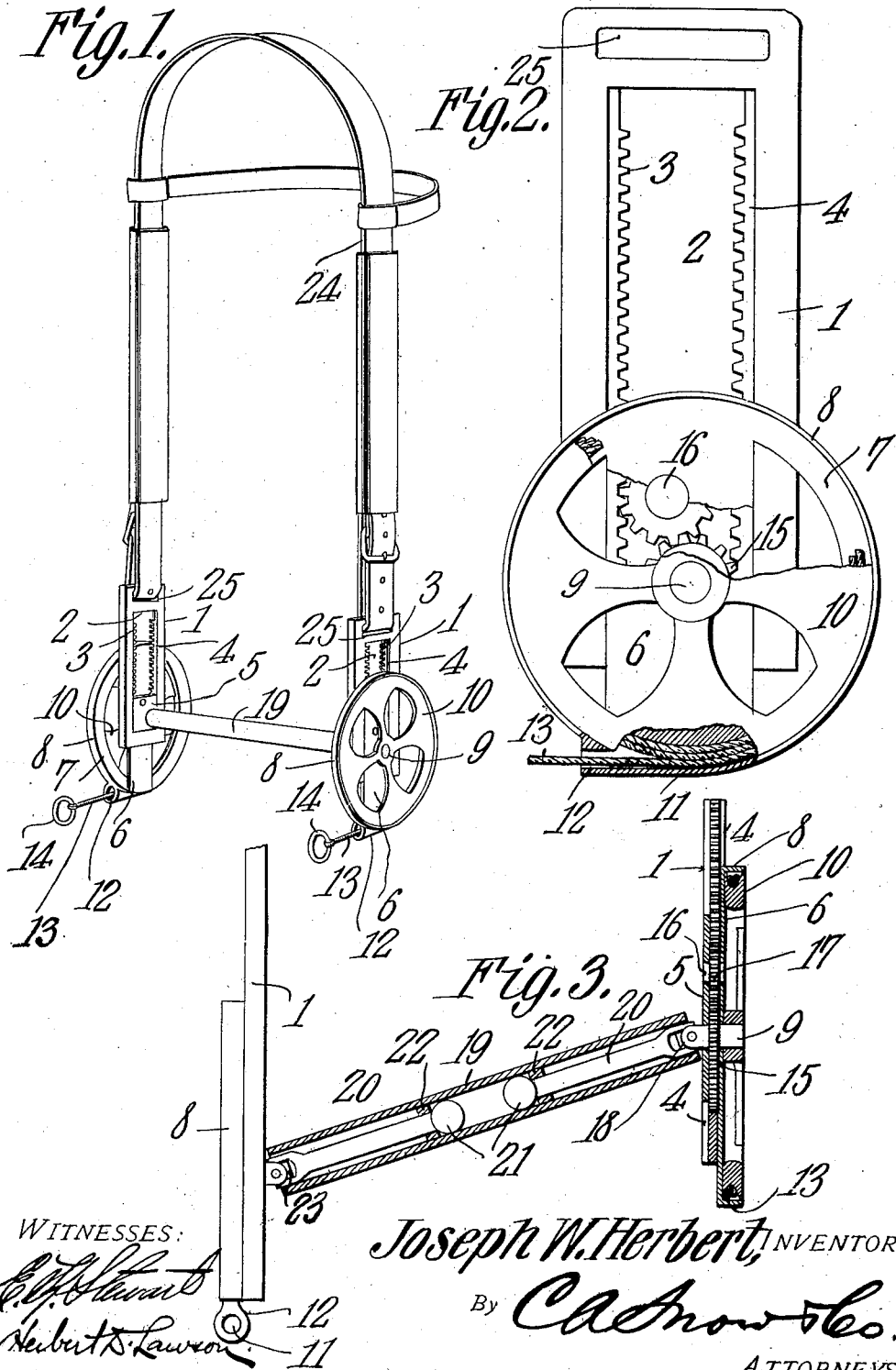
No. 891,419.

PATENTED JUNE 23, 1908.

J. W. HERBERT.
BRIDLE BIT.

APPLICATION FILED AUG. 9, 1907.

2 SHEETS—SHEET 1.



WITNESSES:
E. J. Stewart
Herbert S. Lawson

Joseph W. Herbert, INVENTOR.
 By *Chas. Snow & Co.*
 ATTORNEYS

No. 891,419.

PATENTED JUNE 23, 1908.

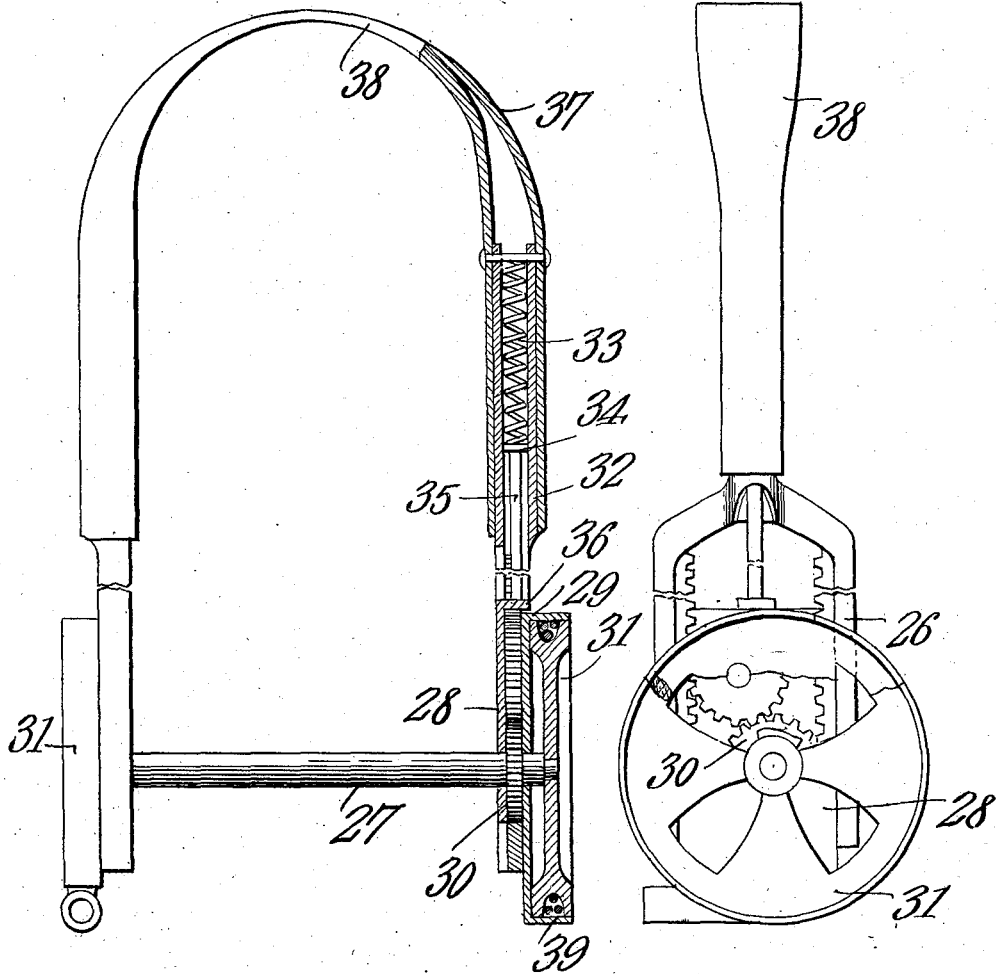
J. W. HERBERT.
BRIDLE BIT.

APPLICATION FILED AUG. 9, 1907.

2 SHEETS—SHEET 2.

Fig. 4.

Fig. 5.



Joseph W. Herbert,
Inventor

Witnesses

E. J. Stewart
Arthur D. Lawson

By

Chas. H. Snow
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH WALTER HERBERT, OF LOS GATOS, CALIFORNIA.

BRIDLE-BIT.

No. 891,419.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed August 9, 1907. Serial No. 387,841.

To all whom it may concern:

Be it known that I, JOSEPH WALTER HERBERT, a citizen of the United States, residing at Los Gatos, in the county of Santa Clara and State of California, have invented a new and useful Bridle-Bit, of which the following is a specification.

This invention relates to bridle bits and is more particularly designed for use upon fractious animals.

The object of the invention is to provide a bit which is mounted in a novel manner so that the power exerted thereon by the driver can be greatly multiplied so as to force the bar of the bit back into the mouth of the animal and overcome any resistance offered by it.

A still further object is to provide cheek plates to which the bar of the bit is movably connected.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a perspective view of the bit; Fig. 2 is an enlarged side elevation of the bit, a portion of the actuating wheel and its casing being shown in section; Fig. 3 is a section through the bar and one of the cheek plates of the bit, the other cheek plate being shown in elevation and the bar being illustrated in a diagonal position. Fig. 4 is a view partly in elevation and partly in section of a modified form of bit, portions thereof being broken away. Fig. 5 is a side elevation of the parts shown in Fig. 4, the parts thereof being broken away.

Referring to the figures by characters of reference, 1 designates a cheek plate formed with an elongated rectangular opening 2 the longitudinal walls of which are provided with inwardly extending teeth constituting racks 3. Rabbets 4 are formed in opposite faces of the cheek plate and along the longitudinal walls of opening 2 and constitute guide-ways. Within the inner guide-way thus produced is mounted a slide 5 while another slide 6 is mounted in the outer guide-way and is formed with an integral ring-like casing 7 provided with an annular flange 8. A short shaft 9 is journaled within the two slides 6 and 5 and is concentric with the casing 7 and secured to this shaft and revolubly

mounted within the casing is a grooved wheel 10. An outlet opening 11 is formed in the flange 8 and a guide tube 12 extends therefrom. Projecting loosely through this tube is a heavy cord or thong 13 one end of which is secured within the groove of wheel 10 and when the parts are in their normal positions there are preferably two or three wraps of the cord or thong within the groove of wheel 10. A ring or other suitable device is connected to the outer end of the flexible strip 13 as indicated at 14 so that the reins can be readily connected thereto. A gear 15 is secured to shaft 9 and between the slides 5 and 6 and meshes with one of the racks 3. A small shaft 16 is journaled in the slides 5 and 6 and carries a gear 17 which meshes with the other rack 3. One end of shaft 9 projects beyond the slide 5 as shown at 18.

It is of course to be understood that two cheek plates such as hereinbefore described are employed, each being provided with the same mechanism, one of them, however, being arranged oppositely to the other. Interposed between these cheek plates is a bar comprising a tubular member 19 in which are slidably mounted oppositely extending rods 20 the outward movement of which may be limited in any suitable manner as by means of heads 21 located at the inner ends of the rod and designed to bear against guides 22 located within the member 19. The outer ends of the rods are connected by universal joints 23 with the projecting portions 18 of shafts 9. When the bar 19 is in its normal position, to wit, perpendicular to the cheek plates 1, the inner ends 18 project entirely into the tubular member 19 and the ends of said member rest close to the slides 5. The bridle, which has been indicated at 24, is designed to be fastened to the upper ends of the cheek plates, said plates being preferably provided at both ends with slots 25 to receive the straps.

It is thought that the operation of this bit will be fully understood from the foregoing description when read in connection with the accompanying drawings. When the cords or thongs 13 are pulled outward the two wheels 10 are caused to rotate and, as the gear 15 moves therewith the same will be caused to travel along the rack 3. Said gear will also rotate gear 17 and cause it to travel along the other rack. The power exerted by the driver is thus greatly multiplied and the bar of the bit is drawn longitudinally of

the cheek plates with such force that it will be impossible for the animal to resist it. Should one of the flexible devices 13 be drawn harder than the other the telescopic and jointed connections between the operating mechanism and the bar are such as to permit a tilting movement as indicated in Fig. 3.

Instead of constructing the device with the bar pivotally connected to the cheek plates as shown in Figs. 1, 2 and 3, said bar may rotate with the cheek plates as shown in Figs. 4 and 5. By referring to said figures it will be noted that the cheek plates 2 are similar in construction to those heretofore described with the exception that the bar 27 extends through slides 28 and casings 29, the gears 30 being keyed or otherwise secured to the bar and the wheels 31 being also secured thereto. The cheek plates have tubular extensions 32 in which are secured coiled springs 33 and these springs press downward on head 34 formed at the upper ends of push rods 35. These rods bear downward on ears 36 extending from the slides 28 and serve to hold gears 30 at the lower ends of the cheek plates. Instead of connecting the cheek plates by means of straps as shown in Fig. 1 a tube 37 preferably of leather is secured upon the tubular extensions 32 and is flattened at its central portion as indicated at 38. With this construction the bar 27 will not move upward until after a sufficient pull has been exerted upon the wheels 31 to overcome the resistance of springs 33. Where the bit is to be used with an animal hard to control very light springs are preferably used so that the bit bar 27 will move upward as soon as the strips 39 are pulled. With gentle horses stronger springs 33 are preferably employed so that the bar 27 will not move upward unless the strips 39 are given a hard pull by the rider or driver.

It will be seen that a bit such as described is very simple, durable, and efficient and will be found of great utility in curbing tempered animals. While it is especially designed for saddle horses it can also be used effectively upon horses harnessed to vehicles.

What is claimed is:

1. In a bridle bit the combination with cheek plates and a bar interposed therebetween; of revoluble devices supported by each cheek plate and connected to the bar, means engaging said devices for rotating them, and means operated by said devices for shifting the bar and devices longitudinally of the cheek plates.

2. In a bridle bit the combination with cheek plates and a bar interposed therebetween; of a wheel supported by each cheek plate, a flexible actuating device normally

wound thereon, a connection between the bar and each wheel, and means operated by the wheels for shifting the wheels and bar longitudinally of the cheek plates.

3. In a bridle bit the combination with cheek plates and a bar interposed therebetween; of a casing upon each plate, a wheel rotatably mounted in each casing, flexible means normally wound upon each wheel for actuating it, means operated by the wheels for shifting the wheels longitudinally of the cheek plates, and a connection between the bar and wheels.

4. In a bridle bit the combination with cheek plates, slides mounted thereon, and a bar interposed between and movable with the slides; of a revoluble element upon one of the slides, means for actuating the same, and means operated by said element for shifting the slides upon the cheek plates.

5. In a bridle bit the combination with cheek plates, a rack within each plate, and a bar interposed between the plates; of slides mounted upon the plates, gears carried thereby and meshing with the racks, a connection between the bar and the slides, and means for rotating the gear.

6. In a bridle bit the combination with cheek plates, and a rack upon each plate; of a slidable element upon each plate, a gear movable therewith and meshing with the rack, a bar movable with the slides, and means for rotating the gear.

7. In a bridle bit the combination with cheek plates, and racks thereon; of a slidable element upon each plate, meshing gears movable with each element, said gears meshing with separate racks, a bar movable with the slidable elements, and means for rotating the gears.

8. In a bridle bit the combination with cheek plates, and racks thereon; of slides upon each cheek plate, meshing gears interposed between the slides of each plate, said gears meshing with separate racks, a bar movable with the slides, a wheel revolubly mounted upon each cheek plate and movable with one of the gears, and flexible actuating means normally wrapped about the wheel.

9. In a bridle bit the combination with cheek plates and a bar interposed therebetween; of revoluble means for shifting the bar longitudinally of the cheek plates, and yieldable means for resisting said movement of the bar.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOSEPH WALTER HERBERT.

Witnesses:

F. M. TIBBEY,

F. N. CRAFT.

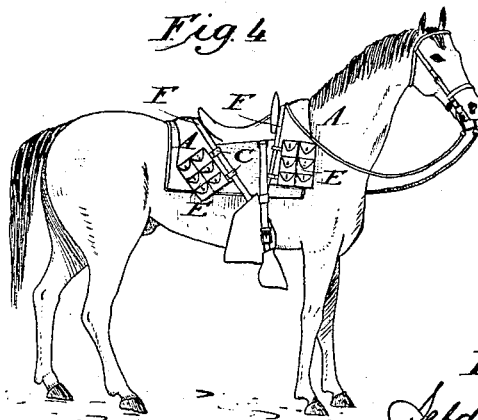
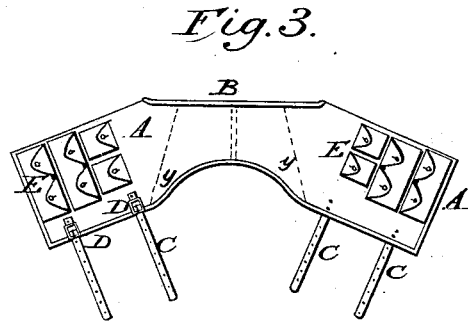
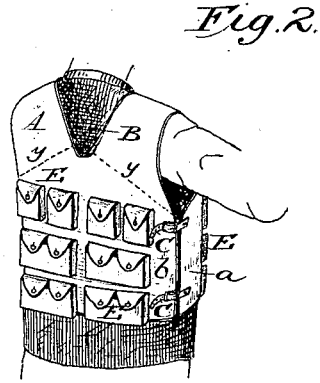
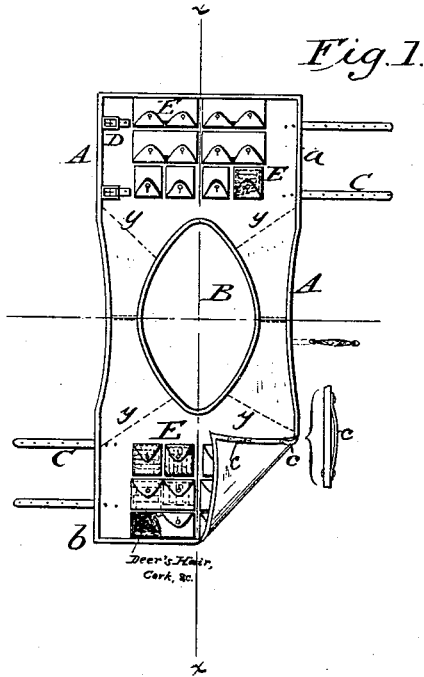
(No Model.)

S. A. DAY.

CARTRIDGE CARRYING JACKET.

No. 262,577.

Patented Aug. 15, 1882.



Attest
Sidney P. Hollingsworth
Walter J. Dodge

Inventor:
Selden A. Day,
by Dodge & Son,
Attys.

UNITED STATES PATENT OFFICE.

SELDEN A. DAY, OF BOWLING GREEN, OHIO.

CARTRIDGE-CARRYING JACKET.

SPECIFICATION forming part of Letters Patent No. 262,577, dated August 15, 1882.

Application filed February 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, SELDEN A. DAY, of Bowling Green, in the county of Wood and State of Ohio, have invented certain Improvements in Cartridge-Carriers, of which the following is a specification.

My invention consists in a reversible cartridge-carrying jacket of peculiar construction adapted to be worn upon the body, or folded and applied after the manner of saddle-bags to a saddle in case of mounted men, and also designed to be used in some cases as a life-preserver.

In the accompanying drawings, Figure 1 represents a face view of my improved jacket unbuckled and laid out flat to show its form and construction; Fig. 2, a view of the same as it appears in ordinary use; Fig. 3, a view showing the jacket folded for hanging upon a saddle; and Fig. 4, a view showing it applied to a saddle.

The object of my invention is to enable soldiers and sportsmen to carry a supply of ammunition sufficient to render available all the advantages due to the rapid firing of modern fire-arms, and to so distribute the weight of the ammunition that it shall not inconvenience or annoy the soldier or the sportsman carrying it. It is also desirable to adapt the jacket to convenient use on horseback and to relieve the user entirely of its weight when mounted.

With these ends in view I construct my improved jacket, as shown in the drawings, in which A represents the body of the jacket, of substantially rectangular form when straightened out, with an oblong central opening, B, to permit it to be passed over the head of the wearer, and provided on its opposite edges, respectively, with straps C and buckles D, by which the front half, *a*, and back half, *b*, may be united at the sides and below the arms of the wearer, as indicated in Fig. 2. A seam at the union of the two halves or sections gives the proper curvature or form to fit the shoulders, the meeting edges being cut in a curved or sloping form for that purpose, as indicated. Both sections *a* and *b* are provided with pockets E, which are grouped on opposite sides of a line, *x*, running longitudinally through the middle of the jacket, as shown in Fig. 1. It will be seen that

with the pockets thus arranged the jacket or vest may be folded either longitudinally or transversely through its middle. When used as a jacket it is folded transversely, as indicated in Fig. 2, hanging upon the shoulders and down the front and back of the wearer. When the pockets of that side which is at the time in front become exhausted the jacket is reversed, and the side which had previously been at the back is brought to the front—a change involving very little trouble or delay and affording a second supply equal to the entire quantity usually carried by other jackets. When it is desired to hang the jacket upon or over a saddle it is folded lengthwise through the middle and hung as shown in Fig. 4, either in front or in rear of the seat, the straps C being buckled around the V-straps F to retain the garment or article in position. When thus arranged, it will be seen, the pockets are within easy reach of the rider. It will also be seen that by reversing it side for side all the pockets may be drawn from successively.

Buttons or clasps may obviously be substituted for the straps and buckles, though the latter are preferred.

In some cases the pockets may be filled with cork, packages of deer's hair, or other light water-repellent material, and the jacket thus made to serve as a life-preserver—a possible use that will be appreciated by sportsmen and others.

In order to render the jacket more buoyant and to protect the shoulders against the gun both in carrying and in firing the same, the portion forming the shoulder of the jacket, or that portion included between the lines *y y*, is padded with deer's hair or analogous water-repellent material.

The jacket may be made of various materials, though water-repellent canvas, light leather, or a combination of the two is preferred.

The pockets are preferably stitched to the front of the garment and made of convenient form and dimensions to contain the cartridges either in a vertical or a horizontal position, in packages or in the detachable magazines now used with certain fire-arms. They will usually be made of leather, and may be either stiff or flexible, as desired.

It will be seen that, if desired, other forms of cartridge pockets or holders may be applied to the jacket.

5 Loops *c* are provided, through which the straps are passed when the garment is folded, as in Fig. 3.

10 I am aware that a reversible vest having cartridge-pockets both on the front and back has before been used, and this I do not broadly claim.

I am aware that a life-preserver made in the form of a jacket has been padded with buoyant material, and this I do not claim. I am not, however, aware that a jacket furnished with pockets adapted to receive cartridges has also been padded with buoyant material, whereby it is adapted to serve as a life-preserver and to overcome the sinking effect of the cartridges.

20 Having thus described my invention, what I claim is—

1. The herein-described cartridge-jacket, consisting of the front and back sections, *a b*, provided with pockets *E*, united at the shoulders and separable at the sides below the arms, substantially as described and shown.

25 2. A reversible cartridge-jacket consisting of the sections *a b*, provided with pockets *E*

and united by shoulder-pieces, but separable at the sides, as explained, whereby it is adapted to be straightened out to the full length of the two sections and folded longitudinally through the middle, as and for the purpose set forth. 30

3. A cartridge-jacket separable at the sides below the arm-openings, substantially as shown and described, and having pockets *E*, grouped on opposite sides of a line passing longitudinally through the middle, whereby the jacket is adapted to be folded to hang upon a saddle, as explained. 40

4. The herein-described jacket, provided with pockets *E*, adapted to receive cartridges, and padded with buoyant material, whereby it is adapted to serve both as a cartridge-carrier and a life-preserver. 45

5. The jacket *A*, separable beneath the arms at each side, provided with pockets *E*, and furnished with straps and buckles *C D*, applied at the sides, as shown, whereby they are adapted to hold the garment in place either upon the body or upon the saddle, as explained. 50

SELDEN A. DAY.

Witnesses:

HUGH SIEBERG,
GEO. R. LESLIE.

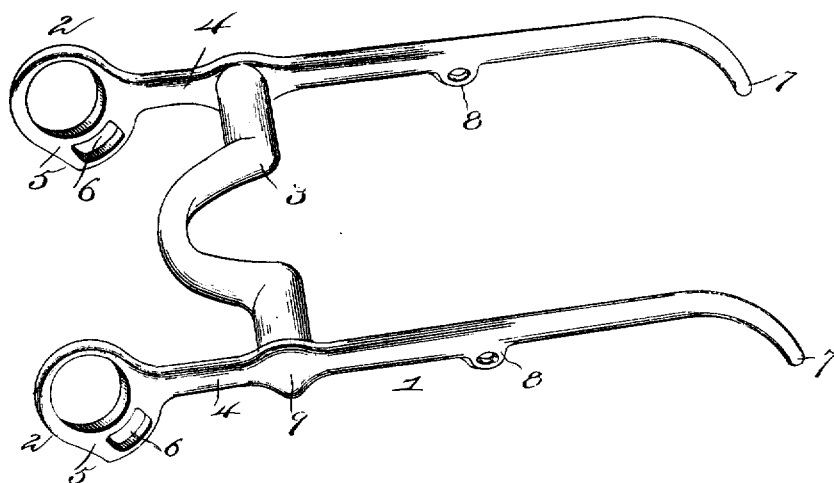
DESIGN.

No. 31,306.

Patented Aug. 1, 1899.

A. A. CALLIS.
BRIDLE BIT.

(Application filed July 8, 1899.)



Witnesses
L. Wiser
J. H. Riley

Arthur A. Callis, Inventor
 By his Attorneys,
C. Snow & Co.

UNITED STATES PATENT OFFICE.

ARTHUR A. CALLIS, OF WOODLAWN, MISSOURI.

DESIGN FOR A BRIDLE-BIT.

SPECIFICATION forming part of Design No. 31,306, dated August 1, 1899.

Application filed July 8, 1899. Serial No. 723,246. Term of patent 14 years.

To all whom it may concern:

Be it known that I, ARTHUR A. CALLIS, a citizen of the United States, residing at Woodlawn, in the county of Monroe and State of Missouri, have invented and produced a new and original Design for a Bridle-Bit, of which the following is a specification.

The invention relates to a new and original design for bridle-bits.

10 The essential feature of the design resides in a bridle-bit provided at the ends of its cheek-pieces adjacent to the mouthpiece with rings and having segmental lobes thereat with curved slots or openings, and a minor
15 feature of the design resides in the arrangement of the circular eyes between the mouthpiece and the other end of the cheek-pieces.

20 The figure of the drawing is a perspective view of a bridle-bit, showing my new and original design.

25 1 designates a bridle-bit provided at the ends 2 of its cheek-pieces adjacent to the mouthpiece 3 with circular eyes or rings, and these cheek-pieces 4 are provided at one side of the circular loops or rings 2 with segmental

lobes 5, having curved openings 6. The segmental lobes 5 are arranged contiguous to one of the longitudinal edges of each of the cheek-pieces. The cheek-pieces 4 are provided at their other ends with eyes 7, and they have 30 at points between the eyes 7 and the mouthpiece circular eyes 8, located at the same edge of the cheek-pieces as the segmental lobes. The cheek-pieces are provided at the ends of the mouthpiece with pointed projections 9, extending from the edges of the said cheek-pieces 35 and located between the segmental lobes and the circular eyes and arranged at the same edge of the cheek-pieces.

What is claimed is—

40 The design for a bridle-bit herein shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ARTHUR A. CALLIS.

Witnesses:

J. L. WOODS,
E. J. SLATER.

D30-146

EX

D7451

OR

D 26,832

DESIGN.

J. HIRSCH.
HORSE BOOT.

No. 26,832.

Patented Mar. 30, 1897.

Fig. 2.

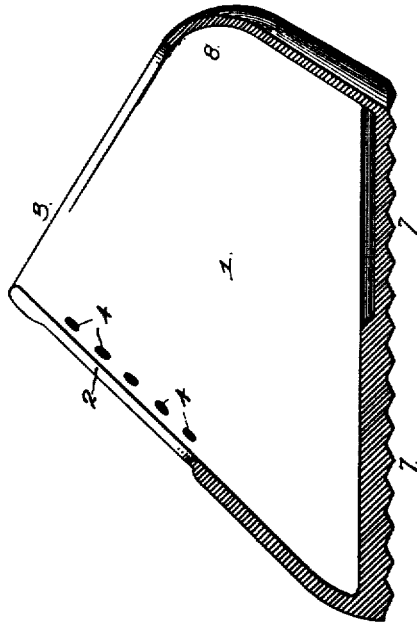
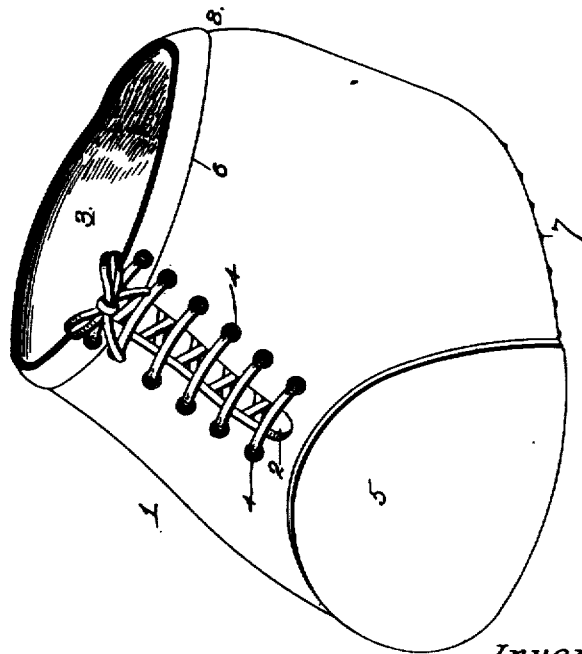


Fig. 1.



Witnesses:

F. G. Fischer
W. H. Hooper

Inventor:

Joseph Hirsch
By H. J. H. H. H. H.
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH HIRSCH, OF KANSAS CITY, MISSOURI.

DESIGN FOR A HORSE-BOOT.

SPECIFICATION forming part of Design No. 26,832, dated March 30, 1897.

Application filed December 21, 1896. Serial No. 616,549. Term of patent 14 years.

To all whom it may concern:

Be it known that I, JOSEPH HIRSCH, of Kansas City, Jackson county, Missouri, have invented and produced a new and original
5 Design for Horse-Boots, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

Figure 1 is a perspective view of a horse-boot
10 of my design. Fig. 2 is a vertical longitudinal section, these two figures being deemed necessary to illustrate the boot clearly.

The leading feature of my design consists in a horse-boot of substantially the same form
15 as a horse's hoof and having a rounded figure falling within its contour at its upper end, a slit-like figure connected to the rounded figure at the front of the boot and extending downwardly, and a series of rounded figures
20 at each side of said slit-like figure.

In the said figures, 1 designates the shoe, and 2 an elongated or slit-like figure in its upper front portion, said slit-like figure merging at its upper end into the rounded figure
25 3 at and falling entirely within the contour of the upper end or portion of the shoe when viewed from above. At each side of said elongated or slit-like figure appears a series of small circular figures 4, and beneath the

same appears a figure approximately segmental in form, said figure being numbered 5.

The upper margin of the boot is paralleled by a line 6, which terminates at opposite sides of the elongated or slit-like figure 2.

The bottom of the boot when viewed from
35 the side or below is of irregular outline or configuration, being somewhat similar in appearance to the toothed edge of a saw, as at 7.

The rear portion of the boot slopes upwardly and rearwardly, and then curves upwardly and forwardly to its upper edge, as at
40 8. The upper margin slopes upwardly and forwardly to the upper edge of the front portion of the boot, and said front portion slopes downwardly to the front end of the bottom
45 6, thus giving the boot in side view, both internally and externally, the general appearance of the hoof of a horse or mule.

What I claim as new is—

The design for a horse-boot, substantially
50 as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH HIRSCH.

Witnesses:

G. Y. THORPE,
M. R. REMLEY.

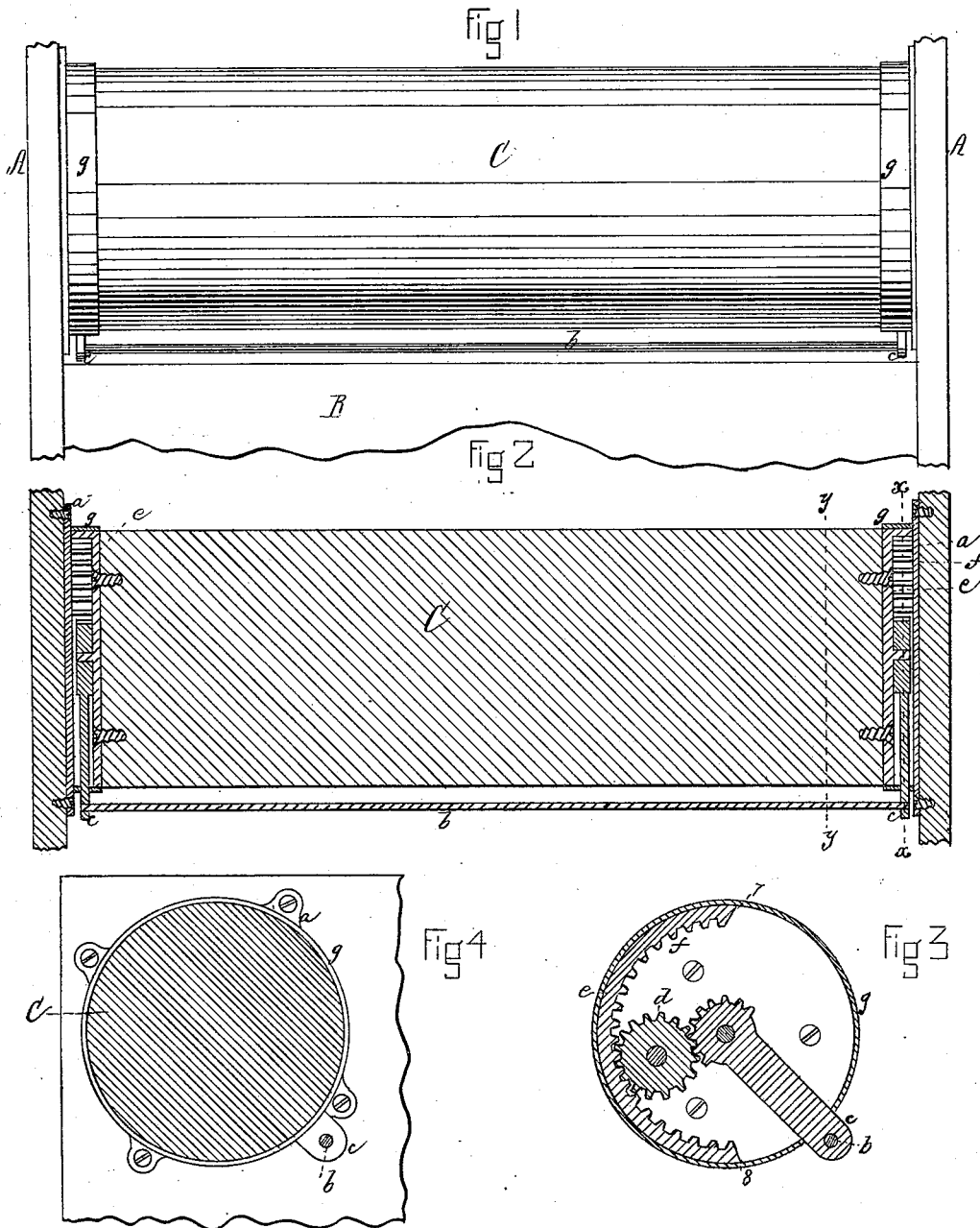
(No Model.)

J. H. ELLIS.

DEVICE FOR PREVENTING HORSES FROM CRIBBING.

No. 275,370.

Patented Apr. 10, 1883.



WITNESSES
H. S. McLean
W. J. Cambridge

INVENTOR
John H. Ellis

UNITED STATES PATENT OFFICE.

JOHN H. ELLIS, OF BOSTON, MASSACHUSETTS.

DEVICE FOR PREVENTING HORSES FROM CRIBBING.

SPECIFICATION forming part of Letters Patent No. 275,370, dated April 10, 1883.

Application filed August 13, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ELLIS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Device for Preventing Horses from Cribbing, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an elevation of my improved device applied to a stall. Fig. 2 is a longitudinal section through the same. Fig. 3 is a section on the line *x x* of Fig. 1. Fig. 4 is a section on the line *y y* of Fig. 1.

My invention has for its object to prevent horses from crib-biting; and it consists in a roll provided with a rod operated by mechanism to be hereinafter described and claimed.

In the said drawings, A represents the sides of a stall, and B the manger. Immediately above the front edge of the manger B is a long wooden roll, C, which revolves in bearings in plates *a*, secured to the sides A of the stall when the animal's teeth are applied thereto. *b* is a long rod of metal, which is secured at each end to arms *c*, projecting out a short distance from the roll C, these arms being hung on the journals of the roll. The lower or inner ends of these arms *c* are provided with gear-teeth which mesh with the teeth of gears *d*, which revolve on studs projecting from the plates *a*. *e* are annular rings of metal, which are secured firmly to each end of

the roll C. Each of these rings *e* is provided with gear-teeth *f*, which extend half-way round their interior periphery and engage with the intermediate gears, *d*. The periphery of the rings *e* are cut away from 7 to 8 to allow the arms *c* to project outside the roll C. The joints at the intersection of the plates *a* and rings *e* are covered with loose metal bands or ferrules *g* for the purpose of preventing any dirt or feed from getting in between the joints and preventing the free and easy working of the gears, these bands being also provided with slots just large enough for the arms *c* to project through.

The operation of my invention is as follows: When a horse lays violently hold of the wooden roll C with his teeth and curbs his neck the roll C will revolve, and at the same time, through the connections described, the rod *b* is brought up with a quick motion and strikes the horse under the chin, which causes him to let go the roll, when it will immediately return to the position seen in Fig. 3, ready to be again brought into use.

What I claim as my invention is as follows:

The combination, with the roll C, of the rod *b*, arms *c*, gears *d*, and annular rings having gear-teeth *f*, and the plates *a*, secured to the sides of the stall, all constructed to operate substantially as described.

JOHN H. ELLIS.

In presence of—

JAMES A. ELLIS,
WM. E. QUIMBY.

No. 662,745.

Patented Nov. 27, 1900.

A. & C. THOMPSON.

DEVICE FOR PREVENTING HORSES FROM CRIBBING.

(Application filed Apr. 12, 1900.)

(No Model.)

Fig. 1

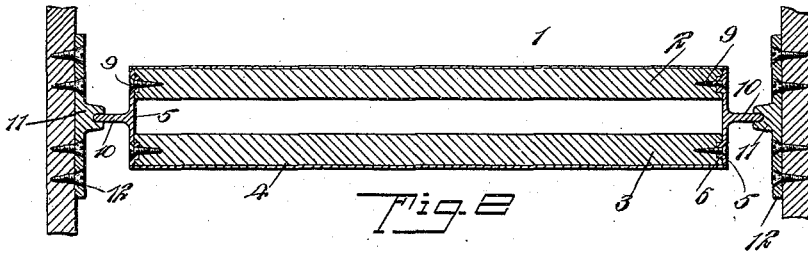
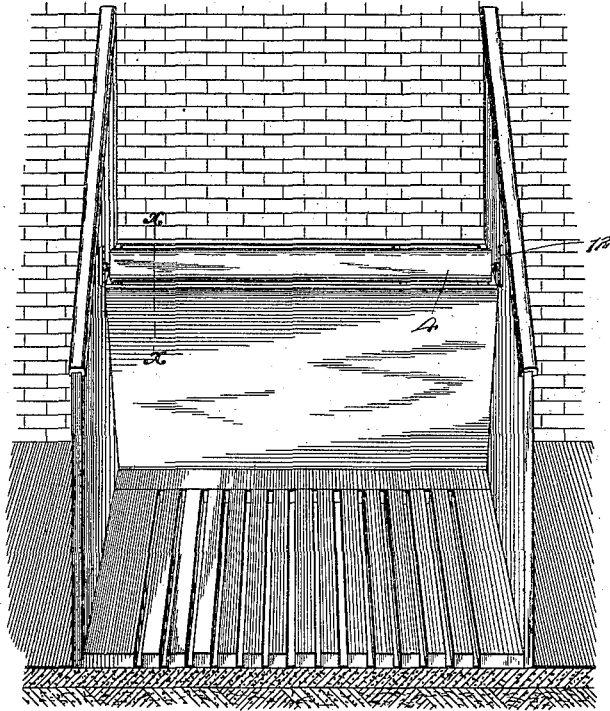


Fig. 2

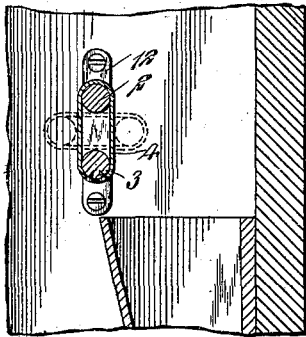


Fig. 3

Fig. 4

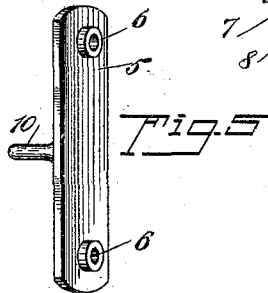
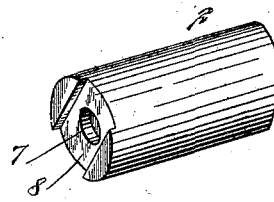


Fig. 5

WITNESSES:

J. H. Boply
C. R. Ferguson

INVENTORS.
 Alfred Thompson.
 Carl Thompson.

BY *M. M. M.*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

ALFRED THOMPSON AND CARL THOMPSON, OF FORT RANSOM, NORTH DAKOTA.

DEVICE FOR PREVENTING HORSES FROM CRIBBING.

SPECIFICATION forming part of Letters Patent No. 662,745, dated November 27, 1900.

Application filed April 12, 1900. Serial No. 12,544. (No model.)

To all whom it may concern:

Be it known that we, ALFRED THOMPSON and CARL THOMPSON, citizens of the United States, and residents of Fort Ransom, in the county of Ransom and State of North Dakota, have invented a new and Improved Device for Preventing Horses from Cribbing, of which the following is a full, clear, and exact description.

This invention relates to improvements in devices for preventing cribbing of horses; and the object is to provide a manger attachment so constructed that it cannot be readily grasped and held by the teeth of a horse, that is at all times free to rotate, and in which there is no danger of clogging by feed or the like.

We will describe a device to prevent horses from cribbing embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a stall and manger, showing an attachment embodying our invention. Fig. 2 is a longitudinal section of the device. Fig. 3 is a cross-section of the device on the line $x x$ of Fig. 1. Fig. 4 is a perspective view of a portion of one of the supporting bars employed, and Fig. 5 is a perspective view of a bearing-plate employed.

The device comprises a rotary part 1, which is preferably made oval in cross-section, or substantially so. As here shown, it consists of two rods or bars 2 3, spaced apart, and around these rods or bars is placed a casing 4, of suitable metal. The rods or bars are connected at their ends to bearing-plates 5, the said bearing-plates 5 being provided at their inner sides with projections 6 for engaging in recesses 7, formed in the ends of the bars, and to prevent any possible rotation of the bars relatively to the plates the bars are provided with channels 8 at the ends to receive the plates. The bars may be secured to the plates by any suitable means. We have, however, here shown screws 9 for this purpose. On the plates 5 are lugs 10, which have bearings in bosses 11 on plates 12, secured to

the side walls of the stall in such position as to support the rotary part slightly above the front board of the manger, as indicated in Fig. 1. Cylindrical devices for this purpose have heretofore been employed; but they are objectionable because they are readily grasped and held by the teeth of a horse. In the present device should a horse bite upon the rotary part it will be immediately turned or rotated, thus causing the horse to release his hold, and we have found in practice that it is an absolute preventive against cribbing, while in time it will effect a perfect cure of the habit.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A device to prevent horses from cribbing, comprising a rotary part arranged above and extending along the front board of a manger, the said rotary part being substantially oval in cross-section, substantially as specified.

2. A device for preventing cribbing of horses, consisting of a rotary part, comprising two bars spaced apart, plates to which the ends of said bars are connected, a metal sheathing extended over the bars, bearing-lugs on the plates, and sockets or bearings for receiving said lugs, substantially as specified.

3. A device for preventing cribbing of horses, comprising two bars spaced apart and having recesses and channels at their ends, bearing-plates having lugs on the inner sides to engage in the recesses formed in the ends of the bars while the plates are seated in the channels, bearing-lugs on the outer sides of said plates, and plates adapted to be attached to the sides of a stall and to receive the bearing-lugs on the first-named plates, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALFRED THOMPSON.
CARL THOMPSON.

Witnesses:

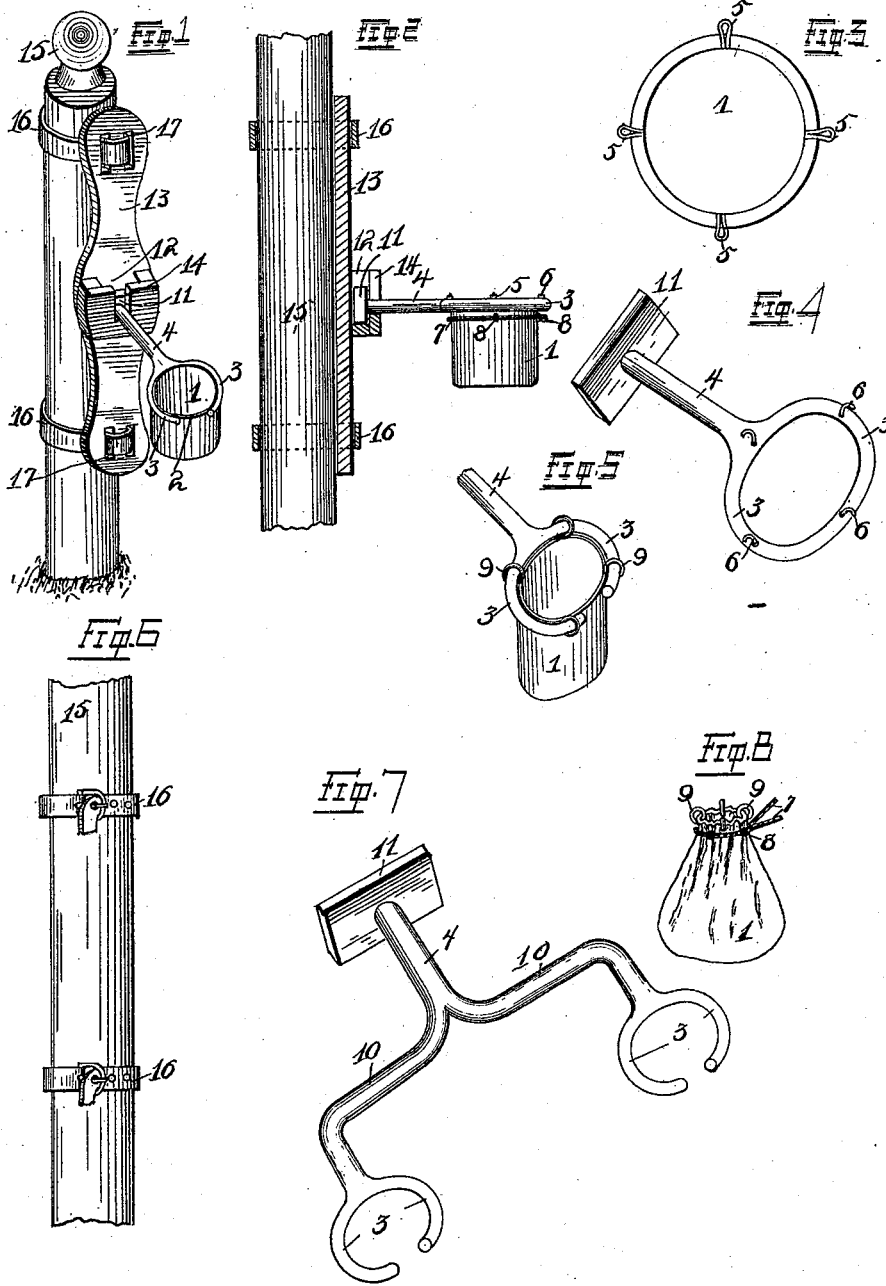
ALFRED ANDERSON,
J. T. PETERSON.

(No Model.)

D. N. STOCK.
FEED BAG SUPPORT.

No. 488,851.

Patented Dec. 27, 1892.



Witnesses
Alfred A. Eichen
Clara B. Wise.

Inventor
Denis M. Stock
By *W. H. H. H.* Attorneys
Higdon Higdon Hengau

UNITED STATES PATENT OFFICE.

DENIS N. STOCK, OF ST. LOUIS, MISSOURI.

FEED-BAG SUPPORT.

SPECIFICATION forming part of Letters Patent No. 488,851, dated December 27, 1892.

Application filed May 19, 1892. Serial No. 433,568. (No model.)

To all whom it may concern:

Be it known that I, DENIS N. STOCK, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Feed-Bags and Means for Supporting the Same while in Use, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to portable "feed bags or boxes," and consists in the novel construction, combination, and arrangement of parts as hereinafter specified in the claims.

In the drawings: Figure 1 is a perspective view of my complete invention applied to a stationary post. Fig. 2 is a sectional side elevation of the same, with parts broken away, and showing a modified form of supporting arm and feed receptacle. Fig. 3 is a top plan view of a feed receptacle, detached. Fig. 4 is a perspective view of the supporting arm shown in Fig. 2. Fig. 5 is a perspective view showing the supporting arm illustrated in Fig. 1 and a modified form of means of attaching the feed receptacle thereto. Fig. 6 is a side elevation of a post, with its ends broken away, and showing attaching-straps in position thereon. Fig. 7 is a perspective view of a modified form of supporting arm, and Fig. 8 is a perspective view of a canvas feed-bag.

The object of my invention is to provide an improved feed receptacle and a portable attachment therefor, which, when not in use may be folded into compact form and stored in small space and which, when in use, may be attached to any convenient stationary support and be quickly adjusted for feeding an animal.

1 indicates the feed receptacle, which may be made of any suitable material, such as wood, sheet metal, or canvas, and which is provided at its upper edge with suitable device adapted to engage with a detachable supporting arm in the manner now to be described.

In Fig. 1 I have shown the receptacle 1 provided with an annular supporting rim or ring 2, which is mounted adjacent the upper end of the receptacle so as to project upon the exterior thereof, and support the receptacle by resting upon the curved arms 3, 3 of the main

supporting arm 4. The curved arms 3 may have their outer free ends separated as shown in Fig. 1, or they may be united so as to form a complete circle, as shown in Figs. 2 and 4.

In Figs. 2, 3 and 4 I have illustrated a modification of the manner of securing the receptacle to the curved arms 3, in which the feed receptacle is provided with a series of radially arranged loops 5, made of cord, leather or the like and secured to the upper end of the receptacle, and which are adapted to engage a series of outwardly projecting hooks 6 radially arranged upon the upper surface of the curved arms 3 in proper relative position. In Fig. 2 I show the feed-bag supported by these hooks and loops.

7 indicates an ordinary draw-string, or a leather strap, passed through suitable eyes or loops 8, located upon the exterior of said receptacle, and the purpose of which string or strap is to close the mouth of the feed-bag or receptacle, when so desired.

In Fig. 5 I show a still further modification, in which the feed receptacle is provided with a series of small rings or eyes 9, which are adapted to be slipped upon the curved arms 3, and so support the said receptacle pendant from said arms, and readily removable therefrom.

In Fig. 7 I have illustrated a modified form of main supporting arm for use with two feed receptacles, in feeding two animals simultaneously, in which 4 indicates the main arm and 10 indicates lateral branches or extensions thereof, which are located at an angle to said main arm and have their outer ends bent forward and carrying the two pairs of curved arms 3, 3 in the same plane, but separated a suitable distance from each other. The rear or inner end of the main arm 4 is adapted to be detachably secured at a suitable height from the ground, in order to permit feeding of the animals from the receptacle. This I prefer to accomplish by providing said rear end with a head or enlargement 11 of angular form and by locating said head within a gravity-socket 12 formed upon or secured to a portable vertical support 13. (See Figs. 1 and 2). The socket 12 is constructed with an open upper end for insertion of the enlargement 11, with a closed lower end and closed oppo-

site sides, and with a slot in its front wall said slot being indicated by the numeral 14. The portable support 13 is preferably made of wood or some other light material, and the socket 12 is applied thereto intermediate of the ends of said vertical support, so that the main arm 4 will be supported at a right angle to the portable support adjacent the front face thereof. The rear face of said support 13 is constructed to be detachably secured to any stationary object, such as a post 15, or a tree, and this may be done in various manners, for instance as I have here shown, by means of suitable buckled straps of leather or other material, or by means of ropes, cords or chains. I prefer to secure the straps, which I designate by the numeral 16 permanently to the said portable support, one at each end thereof, by passing said straps through apertures 17 formed in the support adjacent each end thereof, so that said straps will pass around or encircle a portion of the support at each end, and draw it tightly into contact with the stationary object.

The operation is as follows: The entire device is supposed to normally lie in a compact bundle, stored away in some portion of the wagon-bed or carriage body, and when it is desired to feed an animal the driver simply stops at some point on the road, whether in city or country, with the horse's head adjacent some stationary object, such as a post or tree; he then causes the straps 16 to encircle the post or tree, buckles them in position, as shown in Figs. 1 and 5, so that the portable support 13 will become fixed in a vertical position, with the open end of the socket 12 upward; he then places the head 11 of the main arm 4 into the socket 12 so that said arm will project outwardly through the slot 14, and the said arm will be supported in position at a right angle to said support. The operator should of course see that the arm 4 is located at the proper height to permit access of the horse to the feed receptacle carried thereby.

In the construction shown in Figs. 2, 3 and 4, the feed receptacle is applied to the curved arms 3 by being passed upward in the space between said arms, or by being passed down-

ward therein, and the loops 5 are made to engage the hooks 6.

In the construction shown in Fig. 5, the feed bag is affixed to the arms 3 by passing the rings 9 over said arms.

In a two-horse supporting device shown in Fig. 7, the operation is substantially the same as that above described, with the exception that a feed receptacle is secured to each of the pairs of the curved arms.

From the above it will be seen that I have provided an improved feed-bag and means for supporting the same, by the use of which a team of two horses, or a single horse, may be fed while standing in harness, hitched to the vehicle without the aid of any other support than that carried by the vehicle.

The device above described is simple in operation, effective in use and low in cost.

I do not desire to limit myself to the exact form of portable support which I here show, as it is evident changes may be made in this respect, without departing from the scope of my invention.

What I claim is:

1. A nose bag support comprising a portable supporting board or plate 13, means for detachably securing said support to a fixed object, a socket 12 having a slot 14 in its front wall and mounted upon or secured to the front face of said support, a main supporting arm 4 having an enlargement 11 at one end constructed to detachably engage said socket in the portable support, and having at its opposite end arms 3 to support a feed receptacle, substantially as and for the purpose specified.

2. In a bag support, the combination, with a board or plate adapted to carry a supporting arm, and provided at each end with two parallel slots 17, of securing straps passed through said slots and embracing the portion of the board or plate between said slots; substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DENIS N. STOCK.

Witnesses:

ALFRED A. EICKS,
ED. SOUGAN.

(No Model.)

D. A. JONES.
FOOT HOOK FOR HORSES.

No. 544,540.

Patented Aug. 13, 1895.

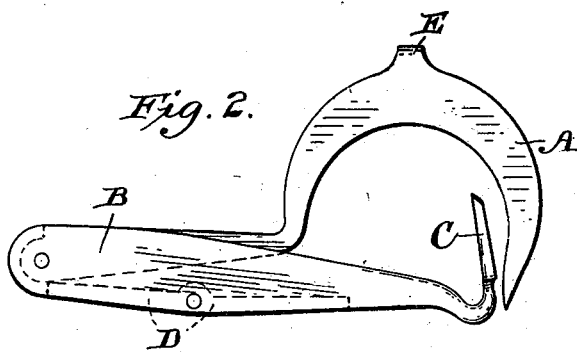
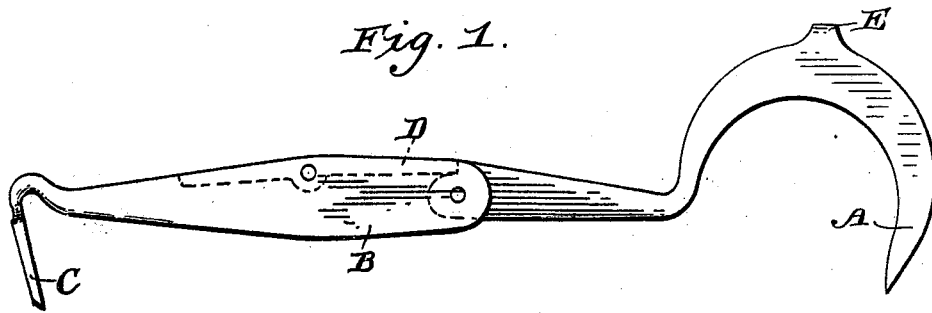
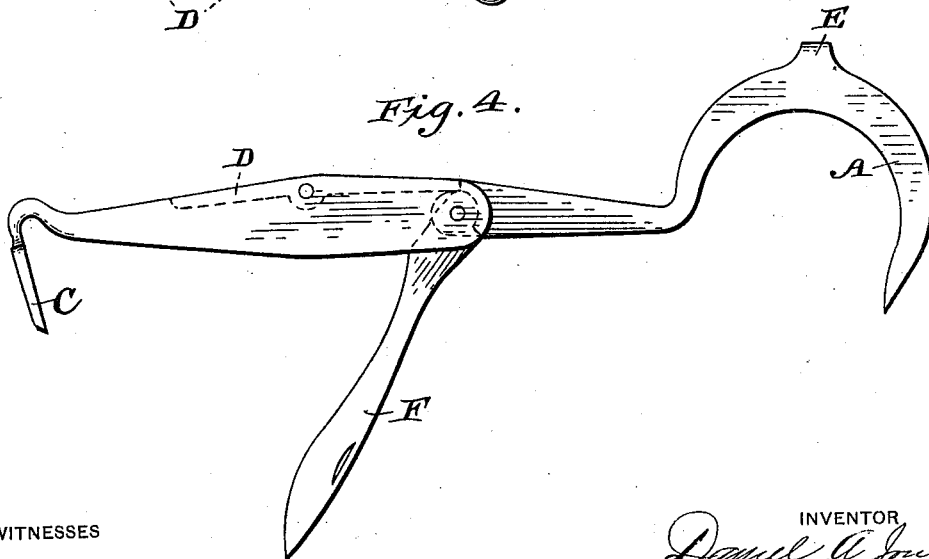


Fig. 3.



WITNESSES

A. Leverance.
W. Henry Muzzy.

INVENTOR

Daniel A. Jones
by his attorney
Wm. Howard Lawrence

UNITED STATES PATENT OFFICE.

DANIEL A. JONES, OF OSHKOSH, WISCONSIN.

FOOT-HOOK FOR HORSES.

SPECIFICATION forming part of Letters Patent No. 544,540, dated August 13, 1895.

Application filed May 15, 1895. Serial No. 549,413. (No model.)

To all whom it may concern:

Be it known that I, DANIEL A. JONES, a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Foot-Hooks for Horses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in implements for cleaning horses' feet and hoofs; and it consists, essentially, in a foot-hook, a handle for the same provided with a closing-spring for said hook, and a small hoe for cleaning dirt from the outside of the hoof as well as around the frog, the whole capable of being closed into convenient form for carrying in the pocket.

It also consists of certain other novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of the implement open. Fig. 2 is a side view of the same closed. Fig. 3 is a detail end elevation of the hoe, and Fig. 4 is a modification of the device provided with a veterinary knife-blade closing alongside of the hook.

Similar letters refer to similar parts in each view.

A is the pivoted hook, and B the handle, provided with a back-spring D that bears against the end of said hook to retain the same open or closed.

C is a hoe at the end of the handle.

E is a screw-driver to be used when the implement is closed, and F, Fig. 4, is a veterinary knife-blade to adapt my invention for use of veterinary surgeons. The blade F is also engaged by the spring D to keep said blade in either an open or closed position.

The hoe C may be made of any width desired, and is especially adapted for cleaning the bottom of the hoof and also the outside of the hoof.

The hook A is pointed and is used to clean around the frog and in the corners and edges around the shoe.

My implement can be used rapidly, is convenient and durable, and when closed can be easily carried in the pocket.

My invention provides four combined implements—viz., a hook for cleaning the bottom of the foot, a hoe to clean the outside and inside of the hoof, a screw-driver for general use, and a knife for veterinary use.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A combined tool for cleaning horses' feet consisting of a handle, a hook pivotally mounted in said handle at one end, a back spring in said handle to retain the hook open or closed, and a hoe at the free end of the handle, substantially as described.

2. A combined tool consisting of a handle, a hook pivotally connected with said handle at one end, a back spring to retain the hook open or closed, a hoe at the free end of the handle, and a projection upon the outer periphery of the hook to form a screw-driver for use when the tool is closed; substantially as described.

3. A combined tool consisting of a handle, a cutting blade and a hook pivotally connected to said handle at one end, a back spring holding both the hook and the blade in position, and a hoe at the free end of the handle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL A. JONES.

Witnesses:

FRANK BARNHART,
HENRY HENKEL.

No. 750,199.

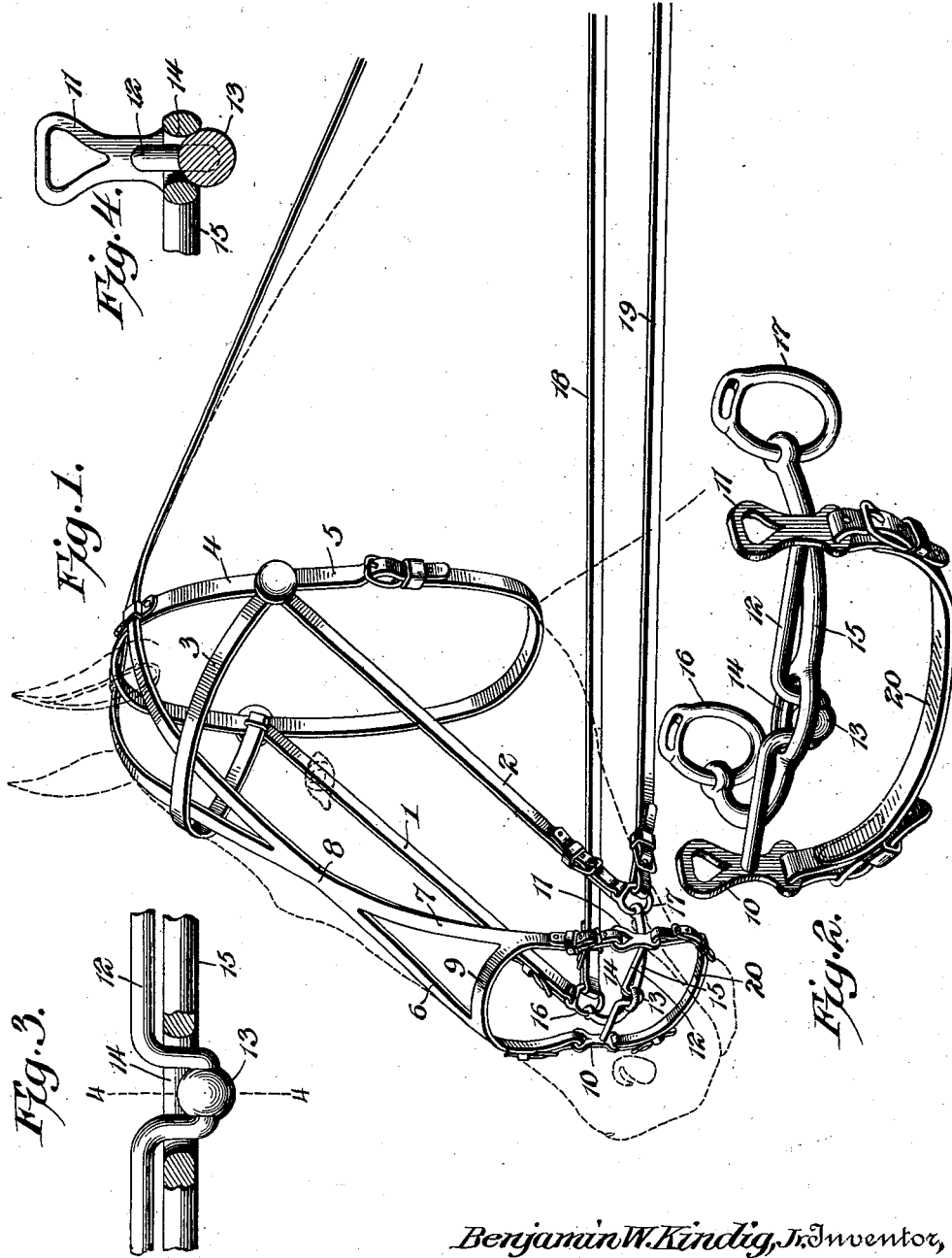
PATENTED JAN. 19, 1904.

B. W. KINDIG, JR.

BIT.

APPLICATION FILED SEPT. 30, 1902.

NO MODEL.



Benjamin W. Kindig, Jr. Inventor,

By

E. J. Siggis.

Attorney

Witnesses
Howard W. Orr.
Louis J. Julihn

UNITED STATES PATENT OFFICE.

BENJAMIN W. KINDIG, JR., OF YORK, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO THOMAS I. WELSH, OF YORK, PENNSYLVANIA.

BIT.

SPECIFICATION forming part of Letters Patent No. 750,199, dated January 19, 1904.

Application filed September 30, 1902. Serial No. 125,401. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN W. KINDIG, Jr., a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented a new and useful Bit, of which the following is a specification.

This invention relates to a combination-bit designed for connection to both the overdraw and the lines or reins.

The object of the invention is to produce a bridle-bit which while insuring the complete control of the horse will prevent injury to the mouth by eliminating the strain which is usually exerted against the cheeks of the animal and which ordinarily effects the injury of the animal by forcing the muscles of the mouth against the teeth.

A subordinate object is to bring the strain directly on the horse's jaw and to so organize the parts of the bit that the animal will be unable to take the bit in its teeth, and thus become unmanageable.

In the accompanying drawings, Figure 1 is a perspective view of a bridle equipped with my combination-bit, the outlines of the horse's head being indicated in dotted lines. Fig. 2 is a detail perspective view of the bit detached. Fig. 3 is a detail view, partly in section, illustrating the ball-and-socket joint connecting the two bits or members of the combination-bit; and Fig. 4 is a detail sectional view on the line 4-4 of Fig. 3.

Like numerals are employed to designate corresponding parts throughout the views.

The bridle may be of any desired construction, provided it embodies an overdraw; but it preferably consists, as usual, of the cheek-straps 1 and 2 and the head-band 3, secured by rosettes to the crown-piece 4 and the throat-latch 5. The front ends of the face-pieces 6 and 7 of the overdraw 8 are preferably connected by the nose-band 9 and are buckled or otherwise attached to the terminal loop-plates 10 and 11 of what I shall term an "overdraw-bit" 12. At the center of the bit 12 is formed a ball 13, which by bending those portions of the bit at the opposite sides of the ball is deflected laterally or dropped in order to facilitate its engagement with an elongated slot 14,

constituting a socket formed at the middle of a curved and preferably semicircular line-bit 15. By reference more particularly to Figs. 2, 3, and 4 of the drawings it will be observed that the overdraw-bit 12 is disposed in a plane above the line-bit 15 and that the ball 13 of the bit 12 is disposed at the under side of the line-bit and is of sufficient dimensions to prevent its withdrawal through the slot or socket 14. This relation of the parts insures the permanent connection of the two bits, but permits more or less independent movement thereof, since the width of the socket 14 in the line-bit is sufficient to permit more or less play of those portions of the bit 12 which extend through the slot or socket to the ball therebelow. It may be said, therefore, that the overdraw-bit and the line-bit have a flexible medial connection by means of a ball-and-socket joint. The purpose of this connection will appear more clearly hereinafter. At the opposite ends of the line-bit 15 are secured, in the usual manner, the line-rings 16 and 17, to which are attached the front ends of the lines 18 and 19 and the lower ends of the cheek-straps 1 and 2. It has been stated that one of the objects of the invention is to bring the pull from the lines upon the central portion of the animal's jaw and to prevent the line-bit from being drawn back against the ends of the horse's mouth with such force as usually effects the mutilation of the mouth by forcing the cheeks of the animal against its teeth. It is for this reason that I connect the line-bit 15 to the overdraw-bit 12, and as an additional precaution I provide a jaw-strap 20, passed under the lower jaw of the horse and buckled or otherwise secured to the lower ends of the loop-plates 10 and 11 of the overdraw-bit.

It will now be observed that when the overdraw and the jaw-strap are properly adjusted the horse's mouth will be held closed and the overdraw-bit will be held securely at a point sufficiently in advance of the cheeks to prevent the line-bit from mutilating the ends of the horse's mouth and to bring the strain or pull directly upon the jaw of the animal. The connection of both ends of the nose and jaw

straps to the overdraw-bit and the connection of said bit to the line-bit compels the movement of both jaws in unison, and since the two bits are flexibly connected and are in contact with the upper and lower teeth of the animal it is absolutely impossible for the horse to become unmanageable by taking the bit in its teeth in a manner well understood, while at the same time complete control of the animal is maintained and injury to the mouth prevented.

It is thought that from the foregoing the construction, arrangement, and mode of manipulation of my novel bit will be clearly understood; but while the construction and arrangement of the parts illustrated and described is thought at this time to be preferable I wish to be distinctly understood as reserving the right to effect such changes, modifications, and variations as may fall properly within the scope of the protection prayed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A combination-bit, comprising a substantially semicircular line-bit and a straight overdraw-bit resting thereon and having medial connection therewith to present the ends of the line-bit substantially in line with, and the overdraw-bit across, the horse's mouth.

2. A combination-bit, comprising a substantially semicircular line-bit and a straight overdraw-bit resting upon and flexibly connected at its middle to the middle of the line-bit, whereby in use the lower jaw of the animal will contact with the line-bit at points in rear of the overdraw-bit to prevent the horse from securely clamping the combined bit between his teeth.

3. A combination-bit, comprising a substantially semicircular line-bit and a straight overdraw-bit connected thereto, said overdraw-bit having terminal loop-bars disposed in a direction transverse to the horse's mouth, and the ends of said line-bit being extended rearwardly substantially in line with the horse's mouth and having means for the attachment of the lines.

4. The combination with a substantially semicircular line-bit having its ends extended rearwardly substantially in line with the

horse's mouth, of a straight overdraw-bit located over the line-bit, said bits being connected at their middle portions for limited movement, and a jaw-strap connected to the opposite ends of the overdraw-bit and passed under the jaw of the animal to hold the connected bits securely in place.

5. The combination with a substantially semicircular line-bit having its ends extended rearwardly substantially in line with the horse's mouth for the attachment of the lines, of a straight overdraw-bit flexibly connected at its middle with the middle of the line-bit, loop-bars located at the opposite ends of the overdraw-bit and disposed substantially transverse to the horse's mouth, a jaw-strap connected at its opposite ends to the lower ends of the loop-bars, and an overdraw connected to the upper ends of said loop-bars.

6. A combination-bit, comprising a curved line-bit formed midway of its ends with an opening, and a straight overdraw-bit having its middle portion bent out of the plane of the bit and passed into the opening in the line-bit, said middle portion of the overdraw-bit being provided with a ball of greater diameter than the width of the opening in the line-bit.

7. A combination-bit comprising a curved line-bit and a straight overdraw-bit resting thereon and having flexible connection therewith to present the ends of the line-bit rearwardly toward the end of, and the overdraw-bit across, the horse's mouth.

8. A combination-bit comprising a curved line-bit and a straight overdraw-bit having flexible connection therewith, whereby in use the lower jaw of the animal will contact with the line-bit at points in rear of the overdraw-bit to prevent the horse from securely clamping the combined bit between his teeth, and nose and jaw straps both connected to the overdraw-bit to hold the latter in fixed position while the line-bit is moved in the horse's mouth by the manipulation of the lines.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BENJAMIN W. KINDIG, JR.

Witnesses:

NOAH C. MAY,
JOHN C. DEETER.

No. 809,276.

PATENTED JAN. 9, 1906.

E. M. AULTON.
HARNESS LINING AND PAD AND THE LIKE.
APPLICATION FILED DEC. 7, 1903.

4 SHEETS--SHEET 1.

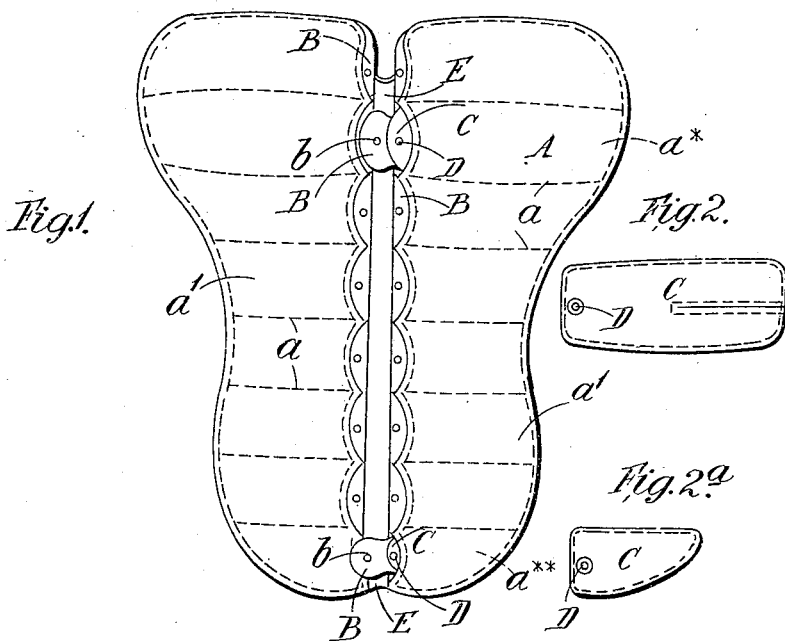


Fig. 3.

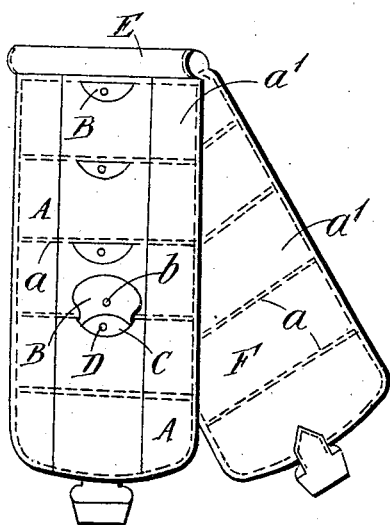
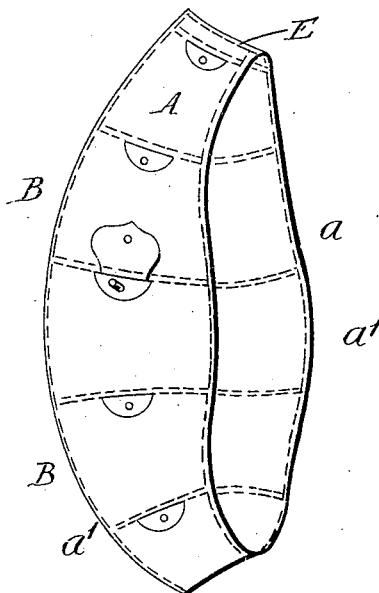


Fig. 4.



Witnesses.
Frederic M. Goodwin
Robt. Hunter

Inventor, Emma Margaret Ault
by Her Attorney
Ray Shind

E. M. AULTON,
HARNESS LINING AND PAD AND THE LIKE.

APPLICATION FILED DEC. 7, 1903.

4 SHEETS—SHEET 2.

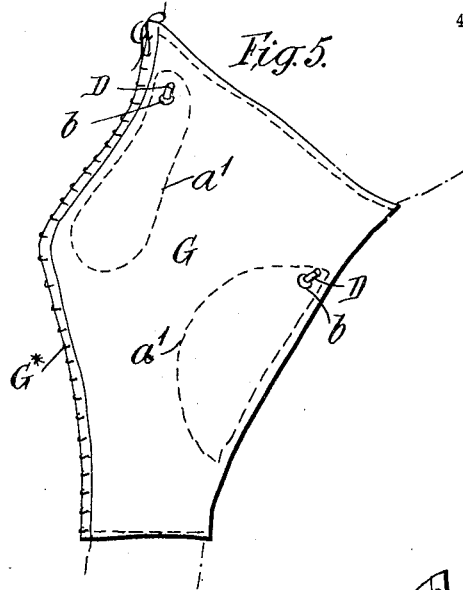


Fig. 5.

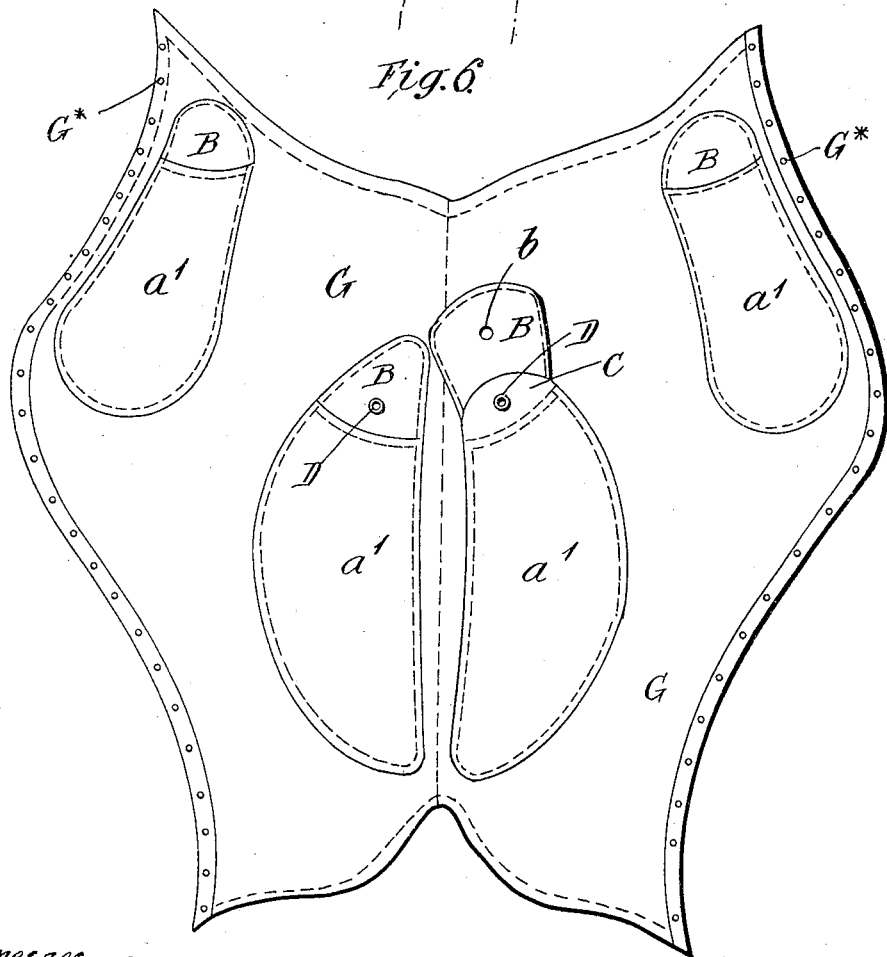


Fig. 6.

Witnesses.
Frey M. Goodwin.
Robt. Hunter

Inventor, Emma Margaret Aulton
by Her Attorney
Benj. King

E. M. AULTON.
HARNESS LINING AND PAD AND THE LIKE.

APPLICATION FILED DEC. 7, 1903.

4 SHEETS—SHEET 3.

Fig. 7.

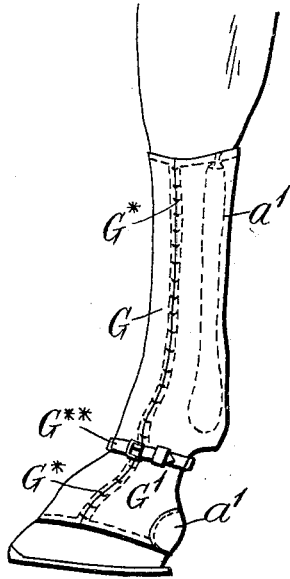


Fig. 8.

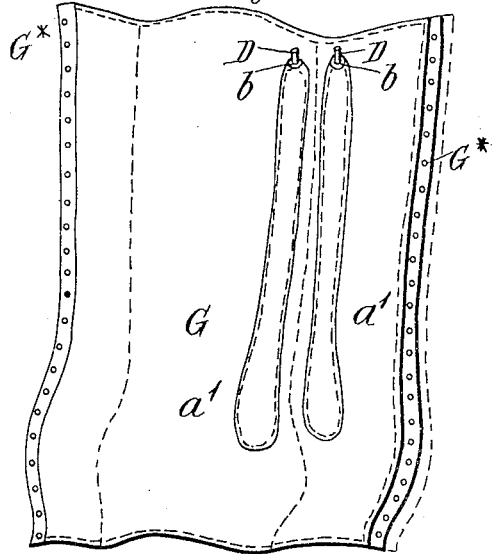


Fig. 9.

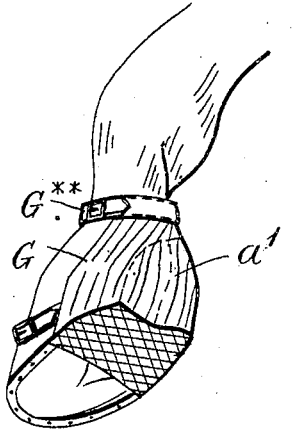
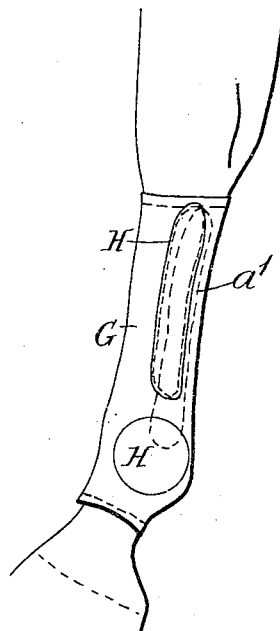


Fig. 10.



Witnesses.
J. M. Goober
Robt. Hunter

Inventor Emma Margaret Aulton
by Her Attorney

E. M. AULTON.
HARNESS LINING AND PAD AND THE LIKE.

APPLICATION FILED DEC. 7, 1903.

Fig. 11.

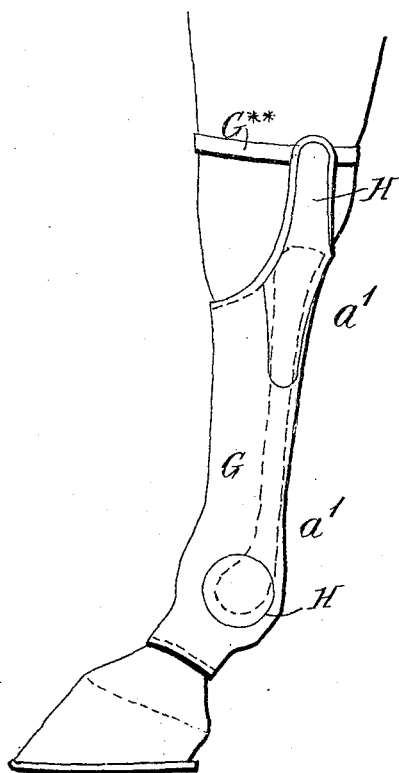


Fig. 12.

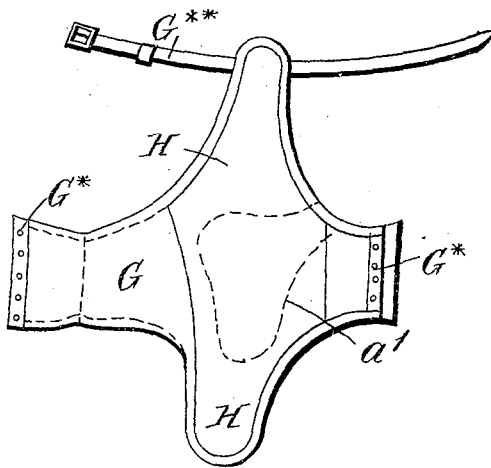
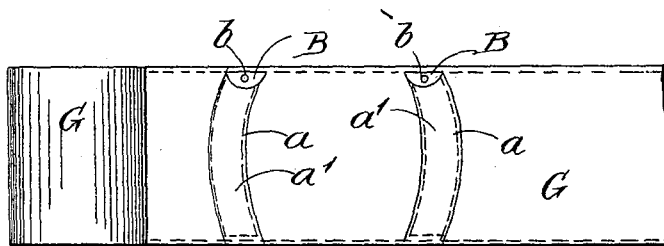


Fig. 13.



Witnesses
F. M. Goshorn
R. H. Goshorn

Inventor Emma Margaret Aulton
by her Attorney
Wm. G. King

UNITED STATES PATENT OFFICE.

EMMA MARGARET AULTON, OF BUSHBURY, NEAR WOLVERHAMPTON,
ENGLAND.

HARNESS LINING AND PAD AND THE LIKE.

No. 809,276.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed December 7, 1903. Serial No. 184,166.

To all whom it may concern:

Be it known that I, EMMA MARGARET AULTON, a subject of the King of Great Britain and Ireland, residing at "Showell" Bushbury, near Wolverhampton, county of Stafford, England, have invented certain new and useful Improvements in Harness Linings and Pads and the Like, of which the following is a specification.

This invention relates to improvements in inflated cushions and the like for surgical appliances, and more especially to harness and saddlery linings and pads and the like, and is hereinafter set forth and illustrated with reference to the latter articles, the construction of the other above-mentioned articles being similar.

Now the object of my said invention is, first, to provide pneumatic linings to saddles and collars and false collars, numnahs, and pads for the purpose of preventing saddle and collar galls in horses and to enable horses which have been so injured to be worked, without further injury arising, much sooner than they could be worked with any existing form of harness or the like; secondly, to provide hock caps and boots for applying pressure to sprains and to remove such growths as wind-galls, thorough-pins, bog-spavins, capped hocks, curbs, and the like; thirdly, to provide boots to protect and support joints, tendons, and sinews, and the like in racing, jumping, polo, and the like, and, further, for protecting joints from cutting and striking and preventing speedy cutting, overreaches, capped elbows, and, still further, for sprains and weakness in ankles and other joints of human beings.

In carrying my invention into practice all such articles, whether made of rubber, canvas, leather, or other material as shall be considered suitable, are provided with compartments into which are introduced separate detachable rubber bladders capable of being inflated, deflated, and removed at will, so as to produce, as the case may be, pressure on a particular spot or to remove both pressure and friction from a sore or the like.

To inflate or deflate the bladders, the same are each provided with a valve made of rubber, no metal entering into the construction thereof.

In order that my invention may be readily understood, reference is to be had to the fur-

ther following description and accompanying sheets of drawings, in which—

Figure 1 illustrates a saddle-numnah laid flat with my invention applied thereto. Figs. 2, 2^a illustrate forms of inflatable bladders. Fig. 3 illustrates a harness-pad, and Fig. 4 a false collar. Fig. 5 illustrates a hock-cap for applying pressure to thorough-pin and bog-spavin and retaining dressings in place, and Fig. 6 a view illustrating the cap in Fig. 5 unlaced and laid flat. Fig. 7 illustrates my improved combined tendon and overreach boot for protecting and strengthening tendons, sinews, and joints in racing, polo, and the like, also for sprains in the leg and to reduce wind-galls; Fig. 8, a view of the tendon-boot laid flat, showing the arrangement of the bladders. Fig. 9 illustrates a heel-cap for wearing in the stable to prevent capped elbows; Fig. 10, a combined tendon and striking boot; Fig. 11, a combined speedy-cut, tendon, and striking boot; Fig. 12, a detachable speedy-cut boot. Fig. 13 illustrates a surgical (human) bandage.

Like letters of reference indicate corresponding parts in the several figures.

Referring first to Figs. 1 to 4, the saddle-numnahs, false collars, and the like are made of canvas, leather, or other suitable material A, provided with a lining of linen, serge, or basil leather F, stitched or otherwise fastened to the edges of the numnah, collar, or the like. Transversely and at intervals in the numnah or collar, according to the anatomy of the animal, the lining is secured at *a* by stitching or otherwise, thereby forming a series of compartments *a'*, anatomically constructed and adapted to receive rubber bladders C, made of various sizes and shapes, according to the anatomical position which they are to occupy. Figs. 2 and 2^a illustrate two forms of the bladders, that in Fig. 2 fitting in pocket *a*^x, Fig. 1, and that in Fig. 2^a fitting the pocket *a*^x, Fig. 1, and completely filling the same when inflated. The bladder having been inserted in a deflated form into its respective compartment, its valve-tube D is then drawn through the hole *b* in the flap B and the flap pushed down into the compartment, thereby retaining the bladder in position. The bladder is now inflated (through the valve-tube D) by any suitable means. E represents the center or gullet of the numnah and the like made in the lining F. Numnahs, saddle-pads, and false collars as above constructed are for

use under ordinary saddles and harness from which the ordinary padding, wool, hair, or the like has been removed and are fastened in by a series of buckles, straps, and studs; but
 5 when pneumatic linings constructed in a similar manner to that above described are used they are attached, by means of pockets, straps, and studs, directly into the trees of saddles or frames of the collars as a permanent padding
 10 without the intervention of other lining.

By the use of pads or linings, numnahs, collars, and the like as above constructed the following advantages over all other pneumatic articles of a like nature are attained—viz.,
 15 that they are divided into anatomically-constructed compartments, each capable of being inflated or deflated and removable at will, thereby enabling, first, the size and thickness of the lining at any given spot to be controlled; second, all pressure and friction to be removed from any part; third, reduction to a minimum of all ordinary friction, which is absorbed by the pneumatic nature of the lining; fourth, an arrangement whereby the air
 20 has no chance of moving to the part under least pressure, and so letting the frame onto the horse; fifth, in case of a puncture of one or more bladders the remaining ones will hold the saddle or collar off the horse and prevent its rubbing; sixth, a reduction in weight, and, seventh, the construction of a reliable sanitary lining or article which can be washed, disinfected, and replaced or repaired at small outlay of trouble or cost.

35 Referring now to Figs. 5 and 6, the caps G are made of rubber molded to shape shown in Fig. 6 and provided with eyelets G* for lacing to the limb. *a' a'* represent the compartments arranged and fashioned according to the anatomical position which they are to occupy, solutioned onto the body G for the reception of the bladders C, the same being kept in position by the flaps B, as in the previous cases. D is the valve-nozzle, which can
 40 be kept inside the compartment or drawn through the hole *b* to the outside, as required.

Hock-caps as above described present the following advantages, viz: First, they are more pliable, adaptable, and better fitting
 50 than the existing canvas ones; second, are suitable for keeping dressings in place and retaining heat and moisture from such dressings, fomentations, and the like; third, the pressure from the inflated bladders is more capable of being controlled and kept in place
 55 than any spring arrangement; fourth, can be used for supporting sprains and weak hocks, and, fifth, impossible to be kicked off.

60 Referring now to Figs. 7 to 12, which represent various forms of boots, G is the boot, of rubber molded to form and provided with the bladder-compartments *a'*, anatomically fashioned and arranged, the method of inflating and retaining the bladders in position being the same as that hereinbefore described

and shown, and G* the eyeletting for lacing to the limb.

In Figs. 7, 11, and 12 in addition to the lacing G* straps G^{xx} are provided to assist in keeping the boot in position. In Fig. 7, 70 which represents a combined tendon and overreach boot, G is the tendon-boot, and G' the overreach-boot, and *a'* the pneumatic compartments.

A racing and polo boot constructed in accordance with my invention presents the great advantage over the present rubber racing-boot and bandages, inasmuch as the inflated compartments down the tendons allow of pressure and support being applied to prevent breakdowns and sprains and is more readily applied than a bandage. 80

The boots illustrated in Figs. 10 and 11 are for the purpose of protecting joints and splints from striking, H being an extra thickness of rubber, interlined with canvas, leather, or zinc, over the parts liable to be struck by the shoe. 85

Fig. 9 represents a cap (an article hitherto which has not been made) for covering the heels when in the stables and is designed to prevent capped elbows. In this figure, G represents the cap composed of rubber molded to form, provided with the pneumatic compartments *a'*, as in the previous cases, and G^{xx} the straps for retaining the cap in position. 90 95

The various caps, boots, and leggings above described are molded or shaped to fit the joint or limb they are intended for and are fixed thereon by lacing, straps, and buckles, as may be desired, the detachable bladders being inflated to the requisite size and firmness by any suitable means. 100

Although I have only described and illustrated my invention in connection with horses, yet it is readily understood that I may apply the same and in a similar manner to articles for human use—such as beds, pillows, and surgical appliances. 105 110

Beds, pillows, and the like when constructed according to my invention may be described as mainly intended for medical and surgical purposes, being of different shapes, according to the whole or part of the body or limb they are designed to support. The principle of my invention being applied to them—namely, the separate compartments fitted with detachable, inflatable, and deflatable bladders—in order that support may be given to a body or limb, while the bladder under a special part— notably, a wound or sore—can be deflated in order to remove all pressure and friction from such a part, or in the case of a broken limb to so regulate the thickness of the cushion or pillow as to rest the limb in a perfectly horizontal and comfortable position. 115 120 125

In surgical appliances other than the boots and caps for reducing thorough-pin, bog-spavin, and windgall, and the like in horses 130

I apply the same principle and method of construction—for instance, to trusses, bandages, knee-caps, and ankle-boots for sprains and the like in human beings.

5 Fig. 13 represents a bandage for applying pressure or removing pressure on or from a particular spot—for instance, when used as a vaccination-shield—G being the bandage, provided with compartments *a*, into which bladders are introduced, as already described in the aforesaid cases. As the other articles are also made after the same or similar manner, further description of the same is unnecessary.

15 As each of the compartments are anatomically constructed, each will have a distinct configuration, and therefore it will be seen that each bladder must fit its particular compartment, as the configuration of each bladder conforms to the configuration of the compartment to which it is applied.

20 The advantages of articles for medical and surgical uses made after my invention are, first, that they can be more readily adapted and regulated than ordinary existing pneumatic articles of a similar nature; second, that as the covers into which the bladders are introduced can be made of linen, woolen, or other suitable material they can be readily washed, disinfected, and rendered sanitary; 25 third, that any particular part being injured or worn can be mended or replaced without

loss of the whole article, thereby reducing trouble and expense.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is— 35

1. A body, compartments formed on the body, said compartments having one end open, flaps for closing the open ends of the compartments said flaps having apertures, bladders insertible in the compartments and flexible tubes carried by the bladders, said tubes passing through the apertures of the flaps to confine the bladders within the compartments and to hold the flaps in closed position. 40 45

2. A body, compartments formed on the body, said compartments having one end open, flaps for closing the open ends of the compartments, said flaps having apertures, bladders insertible in the compartments, flexible tubes carried by the bladders, said tubes passing through the apertures of the flaps to thereby confine the bladders within the compartments and to hold the flaps in their closed positions, and means for holding the body in applied position. 50 55

In testimony whereof I have affixed my signature in presence of two witnesses.

EMMA MARGARET AULTON.

Witnesses:

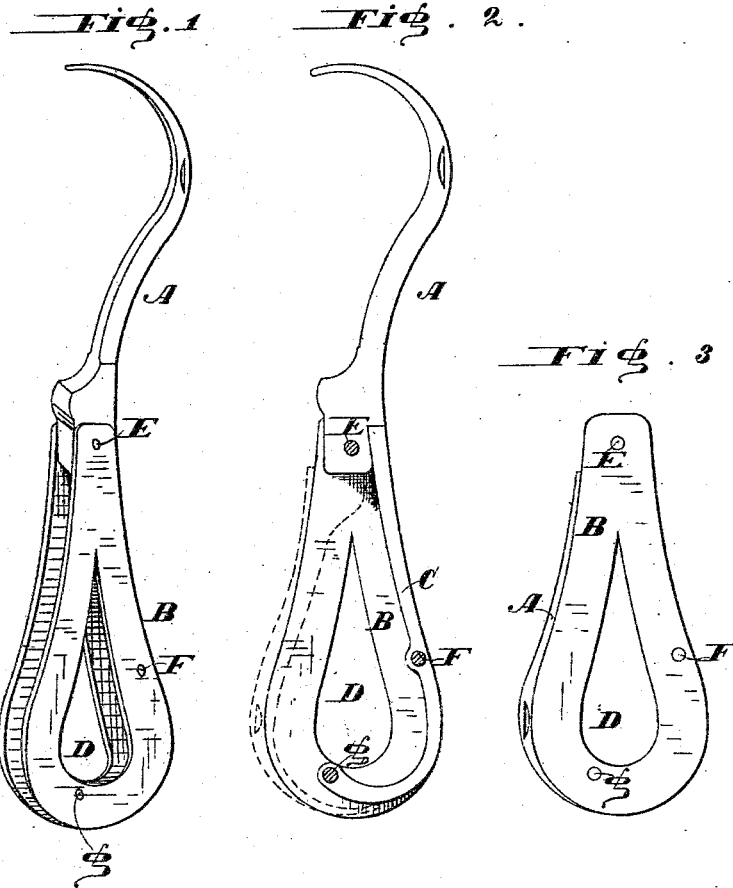
ALAN BERTRAM HANBURY-SPARROW,
MARTIN ALDERWICK.

(No Model.)

E. O. DAVIS.
HOOF CLEANER.

No. 274,570.

Patented Mar. 27, 1883.



Witnesses:
A. M. Tanner
b. J. Belt

Inventor.
Edward O. Davis
By Paines Ladd,
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD O. DAVIS, OF YOUNGSTOWN, OHIO.

HOOF-CLEANER.

SPECIFICATION forming part of Letters Patent No. 274,570, dated March 27, 1883.

Application filed August 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD O. DAVIS, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Hoof-Cleaners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in implements for cleaning and removing stones, dirt, and gravel from horses' hoofs; and the object of my improvement is to provide a hoof-cleaner that can be conveniently carried in the pocket, and which shall still be strong enough and have a hook long enough for effective use in removing clay, fine gravel, and other matter lodged between the hoof and shoe. I attain this result by constructing the hook or hoof-cleaner in the manner illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of the hook open. Fig. 2 is a side elevation of the same with one side of the handle removed, and Fig. 3 is a view of the implement closed.

The hook-blade A is made with a long, thin, curved hook, of the shape clearly shown by drawings as being best adapted for reaching far under the shoe, and is hinged, like the blade of a jack-knife, to a handle formed of the side plates, B, and spring C. The side pieces, B, are made of thin plates cut spatulate, with the curve of the bottom edges conforming to

the curve of the hook, and the top part tapering down to the width of the base of the hook at the hinge. The centers of the side plates of the handle are cut out, so as to leave a marginal strip of substantially uniform width, sufficient to cover the spring and the hook when closed. It will thus be seen that the center of the handle has an opening, D, clear through. The sides and spring are held together by the pivot-rivet E and rivets F and G, and the latter rivet, retaining the lower end of the spring, is set in near the edge of the opening D, and the spring is curved in from the outside edges of the side plates at the back of the handle to the rivet G, so as to leave a claw-shaped space outside of the spring at the bottom of the handle, in which the point of the hook fits when shut, as shown by dotted lines in Fig. 2.

I am aware that hooks have been heretofore made hinged to a handle; but by the construction above described a hook can be made light enough to be conveniently carried in the pocket and of a sufficient size and curvature to be a serviceable instrument.

What I claim as new, and desire to secure by Letters Patent, is—

The hoof-cleaner herein described, consisting of the hook A, and the handle formed of the spatulate side plates, B, having the open centers D, and the spring C, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD O. DAVIS.

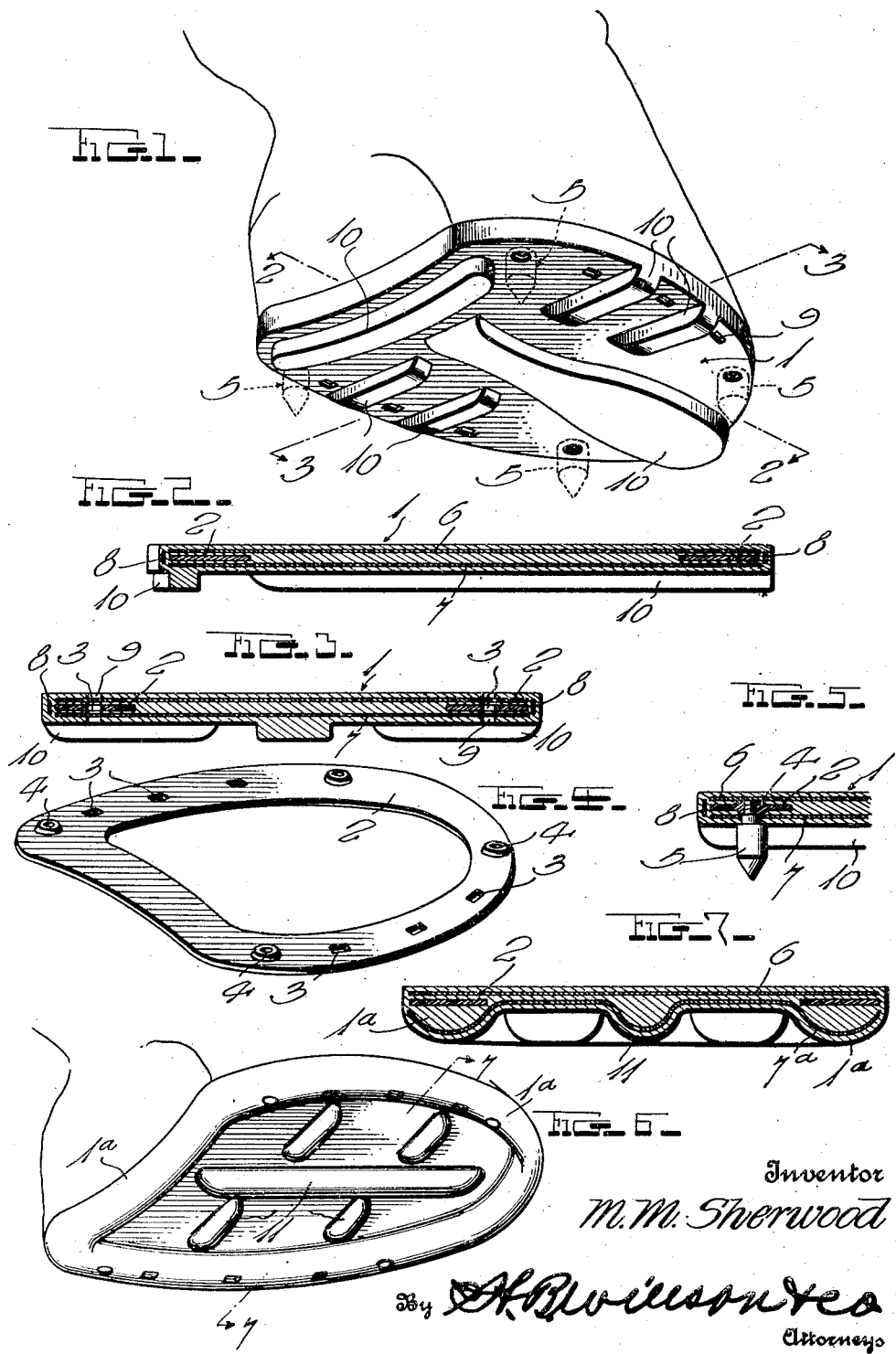
Witnesses:

VOLNEY W. CORIN,
EARNEST A. JONES.

M. M. SHERWOOD.
HOOF PAD.
APPLICATION FILED DEC. 23, 1919.

1,357,909.

Patented Nov. 2, 1920.



Inventor
M. M. Sherwood

By *A. B. Williams & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

MATTHEW M. SHERWOOD, OF SCRANTON, PENNSYLVANIA.

HOOF-PAD.

1,357,909.

Specification of Letters Patent.

Patented Nov. 2, 1920.

Application filed December 23, 1919. Serial No. 346,899.

To all whom it may concern:

Be it known that I, MATTHEW M. SHERWOOD, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Hoof-Pads; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in hoof-pads, and more especially to horses' hoof-pads.

The principal object of the invention is to provide a pad of the above-mentioned type which is extremely simple in construction, very light in weight, a great deal more durable than similar devices known to me, and one which is inexpensive to both the manufacturer and the purchaser.

Another object of the invention is to provide a pad for horses' hoofs which is composed of a rubber body, which is in turn provided on its tread surface with anti-slipping ribs, fabric sheets being embedded in the rubber body, and one of them having depressed portions embedded in the anti-slipping ribs to reinforce these portions of the pad.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of the specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a perspective view of a pad constructed in accordance with my invention;

Fig. 2 is a longitudinal section through the pad on the plane of the line 2—2 of Fig. 1;

Fig. 3 is a transverse section on the plane of the line 3—3 of Fig. 1;

Fig. 4 is a perspective view of the metal nail-anchoring plate of the pad;

Fig. 5 is a detail view of a portion of a pad, showing the same equipped with a detachable calk;

Fig. 6 is an inverted perspective view of a slightly modified form of my invention; and

Fig. 7 is a transverse section on the plane of the line 7—7 of Fig. 6.

In the drawings, wherein for the purpose

of illustration a preferred form of my invention is shown, the numeral 1 indicates a thin, substantially flat rubber pad or body member which is of a size to cover the entire bottom of the horse's hoof. Embedded in the rubber body is a substantially light metal shoe or nail-anchoring plate 2. Member 2 as shown, is an ordinary type of shoe, and it is substantially ring-like in formation, it being embedded in the pad adjacent the peripheral portion thereof. As is usual, this shoe 2 is provided with nail-holes 3, and it is further provided at spaced intervals with threaded bosses 4 which serve to receive detachable calks 5 which will be employed with the pad on icy paths of travel. Also embedded in the body between the upper and lower sides thereof are two layers of fabric 6 and 7, the layer 6 being disposed above the metal plate 2 and the layer 7 being disposed below it. As is obvious, the purpose of this construction is to reinforce the structure and increase the wearing quality of the pad. In order to further reinforce this structure, I desire to employ a third piece of fabric 8 which is in the form of a strip and which extends entirely around the rubber body 1 adjacent its edge. I desire to call attention to the fact that each of the layers 6 and 7, which will preferably be of canvas, is of substantially the same area as the shoe, so as to permit each layer to be extended over the entire area of the shoe and across the space circumscribed thereby. This construction will provide a hoof pad which will be extremely light, yet one that will give good wearing service. The pad will be secured to the horse's hoof in the usual manner, and in order to permit this method of attachment to be carried out, I provide the body 1 with a plurality of nail-holes 9 which are disposed in alinement with the holes 3 in the shoe 2. If desired, the shoe may be provided on its bottom or tread portion with anti-slipping ribs 10, which may be of any suitable design or construction, being here shown as projections which are integral with the body 1 and are positioned between the nail-holes 3 and 9 so as not to interfere with the attachment of the shoe to the horse's hoof.

In Figs. 6 and 7 I have shown a slight modification of my invention. By reference to these figures it will be seen that I slightly reduce the weight of the shoe by decreasing

the amount of rubber employed. In this construction, the same type of shoe 2 is employed. The rubber part of this construction is in the form of a substantially semi-circular rib 1^a which is formed by thickening the rubber at this point. In order to provide sufficient bearing surface for the horse, I will also thicken the rubber at various other points to form any desired number of bearing-ribs 11. The size and number of the ribs 11 will be governed entirely by the weight desired. For instance, if a light shoe is desired, there will be only a few ribs and they will be very small in size, and vice versa. However, the ribs will have to be sufficient in number and size to form a proper tread surface for the horse. In the form of the invention under consideration it will be seen that instead of embedding the fabric sheets in the rubber in the manner shown in Figs. 1 to 5, I provide the lowermost layer 7^a with depressed portions which are embedded in the ribs 1^a and 11, thus serving to reinforce these particular portions which are subjected to great wear. The type of pad shown in Figs. 6 and 7 not only reduces the weight, but it also provides anti-slipping means for the pad.

A pad of the foregoing construction will be found extremely useful when used on race horses, which type of horses will require extremely light pads which have tread portions which will give them the proper bearing, and thus prevent twisting of their ankles as now frequently occurs because of the improper types of shoes now used. My pad is designed to overcome the above mentioned circumstances and the anti-slipping projections which are employed are so arranged that they will give a horse the proper bearing and the weight will be so light that it will not interfere with the horse's speed. Of course, by slightly changing the construction and making the pad lighter or heavier as the case may be, the pad will be equally well adapted for various other types of horses than those above mentioned.

In forming my pad I first embed the shoe 2 and canvas layers 6 and 7 in raw rubber, whereupon all of the parts may be placed in a steam-vat and vulcanized together to form a unitary, strong and durable structure.

From the foregoing description, taken in connection with the accompanying drawings, the advantages and uses of my pad

are thought to be obvious, and further description is deemed unnecessary.

It is to be understood that the form of my invention herein shown and described is to be taken as a preferred form of the same, and that various minor changes in the shape, size, and arrangement of parts may be resorted to within the scope of the subjoined claims, without departure from the spirit of the invention.

I claim:

1. A horse's hoof-pad comprising a thin substantially flat apertured rubber body of a size to cover the entire bottom of a horse's hoof, an apertured ring-like plate embedded in the peripheral portion of said body intermediate the upper and lower faces of the latter, the apertures of the body and plate being in vertical alinement to permit passage of attaching nails therethrough, said plate being also provided with screw-threaded bosses, a layer of fabric embedded in the body between the upper face thereof and the plate, a second layer of fabric embedded in the body between the plate and bottom face of the body, said layers of fabric being of the same area as the body, the latter having its tread surface provided with anti-slipping projections, and detachable calks including screw-threaded shanks to be fitted in said bosses.

2. A horse's hoof-pad comprising a thin substantially flat apertured rubber body of a size to cover the entire bottom of a horse's hoof, an apertured ring-like plate embedded in the peripheral portion of said body intermediate the upper and lower faces of the latter, the apertures of the body and plate being in vertical alinement to permit passage of attaching nails therethrough, said plate being also provided with screw-threaded bosses, a layer of fabric embedded in the body between the upper face thereof and the plate, a second layer of fabric embedded in the body between the plate and bottom face of the body, said layers of fabric being of the same area as the body, the latter having its lower side provided with thickened portions forming anti-slipping ribs, the lowermost sheet of fabric having depressed portions embedded in said ribs to reinforce them.

In testimony whereof I have hereunto set my hand.

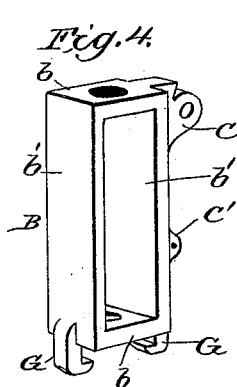
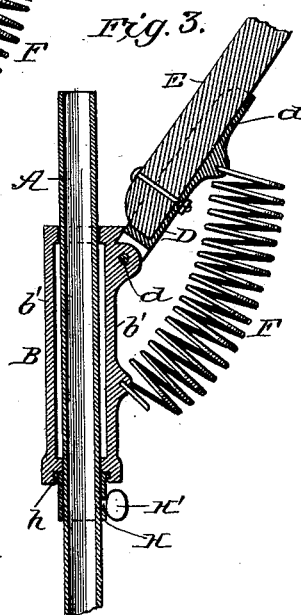
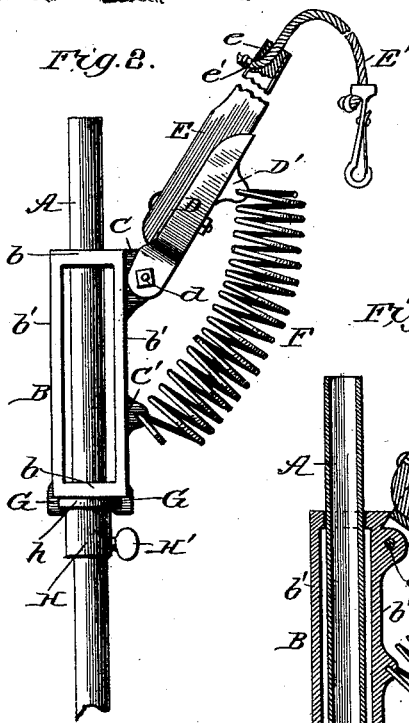
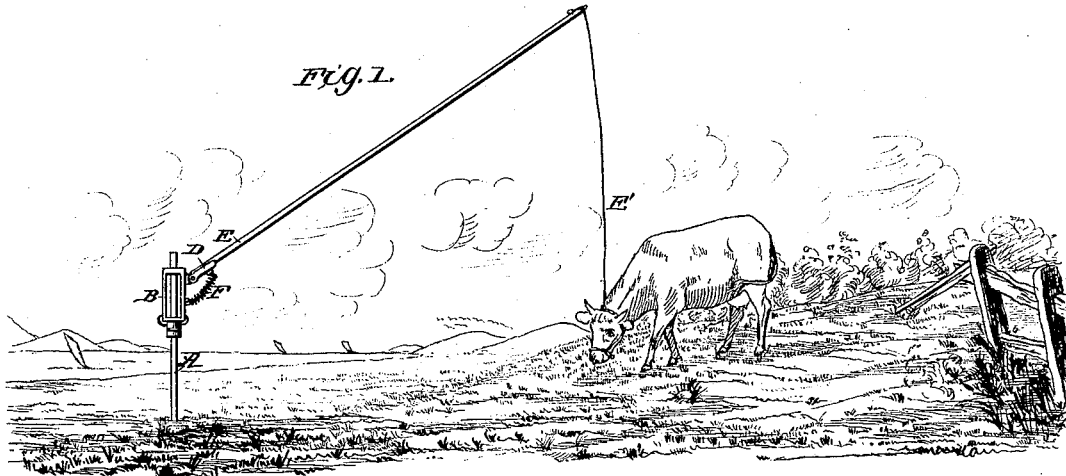
MATTHEW M. SHERWOOD.

(No Model.)

B. E. SERGEANT.
TETHER.

No. 422,642.

Patented Mar. 4, 1890.



WITNESSES:

John A. Ryan
P. B. Surpin.

INVENTOR
Benjamin E. Sergeant.
BY *Wm. L.*

ATTORNEY

UNITED STATES PATENT OFFICE.

BENJAMIN E. SERGEANT, OF GREENSBOROUGH, NORTH CAROLINA.

TETHER.

SPECIFICATION forming part of Letters Patent No. 422,642, dated March 4, 1890.

Application filed June 8, 1889. Serial No. 313,590. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN E. SERGEANT, of Greensborough, in the county of Guilford and State of North Carolina, have invented a new and useful Improvement in Tethers, of which the following is a specification.

My invention is an improvement in tethers, and has for an object, together with other improvements, to provide a novel combination and arrangement of parts, whereby the coil-spring will operate with a double tension to hold the tethering-pole elevated—that is to say, with a tension resulting from the tendency of such spring to retain its normal straight axial position and that to resume its normal expanded condition.

The invention has for further objects certain other improvements; and it consists in the improved constructions and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the drawings, Figure 1 shows the invention as in use. Fig. 2 is a side elevation of a part of same, parts being broken away and others shown in section. Fig. 3 is a longitudinal section of a part of the tether, and Fig. 4 is a detail view of the bracket.

The stake A may be of suitable length, and is preferably made tubular or of gas-pipe, as shown, such construction enabling the stake to be made sufficiently large in diameter to prevent its being easily drawn over by strain on the tether-pole, and at the same time providing for such stake to be light and of the necessary strength. Such construction of the stake also permits a stake to be of the desired cross-sectional size and to be made of less metal, and consequently cheaper than if it were solid.

The bracket B is made in the shape of a rectangular frame, having base and top plates *b b*, perforated to fit on the stake A, and suitable side plates *b' b'*, one of which has lugs C and C', arranged one above the other and perforated, as shown. The upper lug C is to facilitate the hinging or pivoting to the bracket of the arm D, which, as shown, is hinged or pivoted at *d* to the bracket, preferably through the aid of lug C, and extends upward and outward from said bracket, and is grooved at *d'* to form a seat for the tether-pole E, which is secured to said arm, as shown.

On its under side the arm D has a perforated lug D', preferably in a common vertical plane with the lug C'. 55

The spring F is arranged to bear between the arm D and the bracket and is arranged and adapted when compressed by the depression of said arm to be deflected laterally out of its straight axial line, so that the said spring operates with a double tension to support the arm and its attached pole. This tension results from the tendency of the spring to resume its straight axial position and also its tendency to resume its normal expanded condition, so that, as will be seen, a quick ready action of the spring is secured. In connecting the spring with the bracket B and arm D it is preferred to insert the free ends of its wire or rod through the perforated lugs C' D', and in reverse directions—that is to say, in one lug from the right and in the other from the left—so that when the ends are so placed, as shown, there is no danger of their becoming accidentally detached, for the reason that the movement of the spring to detach one of the ends is resisted by the coils of the spring at the opposite end preventing the said end from moving farther through the opposite lug, as will be understood from the drawings. 60 65 70 75 80

At one end, usually the lower, as shown, the bracket has jaws G, which embrace a rib or flange *h* on a sleeve H, which is fitted to and movable longitudinally on the stake and is secured in any suitable adjustment by a clamping-screw H'. By this construction the bracket may be secured in any suitable vertical adjustment on the stake. 85

The pole E is secured at its inner end to the arm, and the cord or rope E' is secured at one end to the outer end of the said pole. This connection is preferably effected by forming an opening *e*, extending longitudinally from the outer end of the pole E a short distance and opening out laterally at *e'*, and inserting the rope through such opening and knotting it at its end. 90 95

Having thus described my invention, what I claim as new is— 100

1. The bracket having a perforated lug and the arm hinged or pivoted at one end to the bracket and having a perforated lug, combined with the coil-spring having the wire or

rod forming such spring inserted at one end through the perforated lug of the bracket and at its opposite end through the perforated lug of the arm, and in reverse directions—that is to say, in one lug from the right and the other from the left—substantially as set forth.

2. The combination of the bracket having a lug C', the arm hinged to said bracket above the lug and having a lug D', and the coil-spring having the free ends of the wire or rod forming it inserted through said lugs in reverse directions, and the said spring being arranged to be deflected out of its straight axial position when compressed longitudinally, substantially as set forth.

3. The improved tether herein described, comprising the bracket having vertical openings for the stake and provided with jaws G, the sleeve H, having a rib or flange h for engagement by the jaws G, a clamping-screw

whereby to secure the sleeve at any suitable point on the stake, the arm pivoted or hinged at one end to the bracket, and the spring bearing between said arm and bracket, substantially as set forth.

4. The improved tether herein described, consisting of the bracket having lug C' and jaws G, the sleeve having a rib or flange for engagement by said jaws and provided with a clamping-screw whereby it may be secured in any suitable position on the stake, the arm hinged to the bracket and having a lug D', and the coil-spring having the free ends of its wire or rod inserted in opposite directions through lugs C' and D', all substantially as and for the purposes set forth.

BENJAMIN E. SERGEANT.

Witnesses:

A. H. ALDERMAN,
W. E. ALLEN.

(No Model.)

C. J. CANAN.

HORSE BLANKET.

No. 301,211.

Patented July 1, 1884.

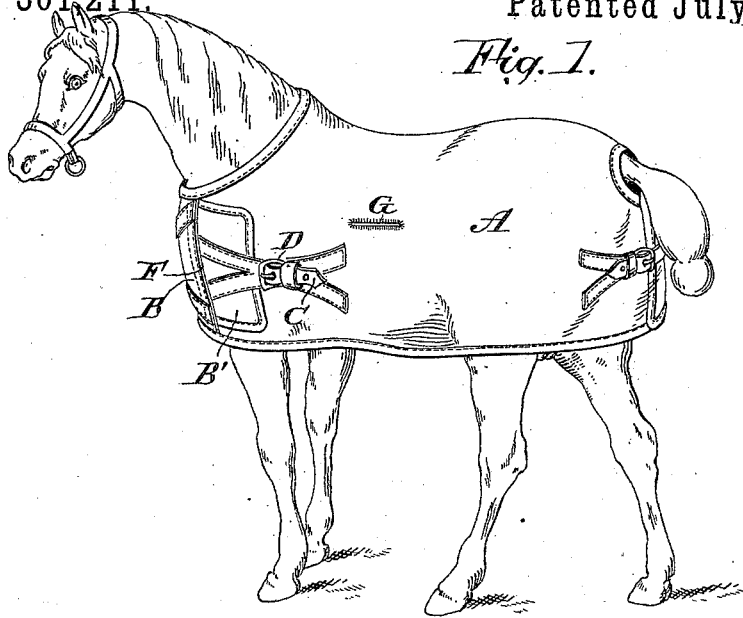
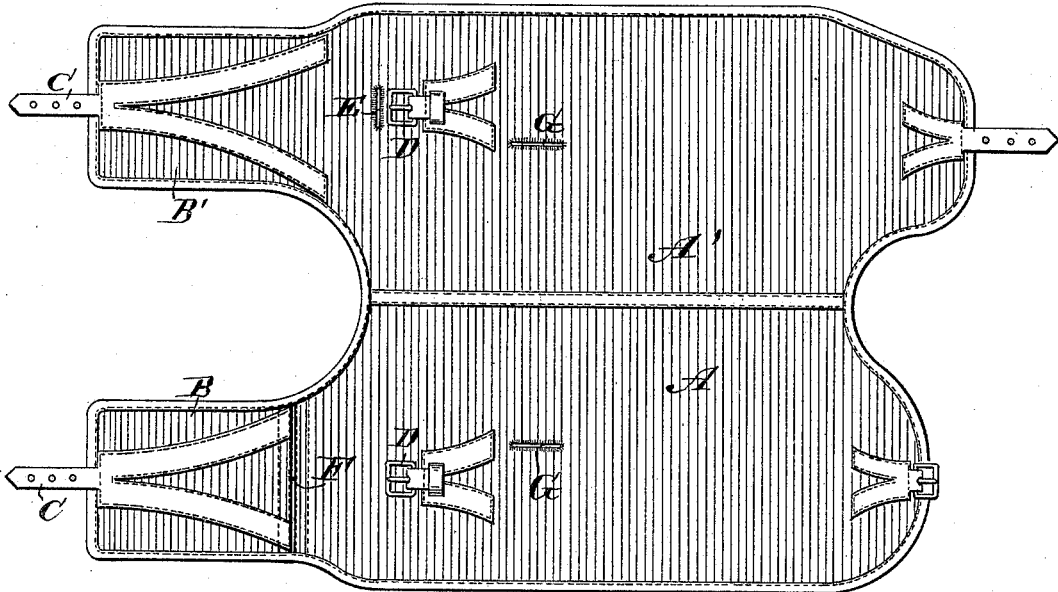


Fig. 2.



WITNESSES:
W. H. Meyer
L. Sedgwick

INVENTOR:
C. J. Canan
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CLARENCE J. CANAN, OF OMAHA, NEBRASKA.

HORSE-BLANKET.

SPECIFICATION forming part of Letters Patent No. 301,211, dated July 1, 1884.

Application filed January 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE J. CANAN, of Omaha, in the county of Douglas and State of Nebraska, have invented a new and Improved Horse-Blanket, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved horse-blanket, which is so constructed that a double layer of material covers the horse's breast.

The invention consists in a double-breasted horse-blanket which has two flaps at the front end, which flaps are both folded over the horse's breast, and are held in place by means of straps and buckles. One of the flaps is provided with a transverse slot, through which the other flap can be passed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of my improved horse-blanket, showing the manner in which it is held on the horse. Fig. 2 is a view of the blanket, showing it spread.

The blanket is formed of two halves or sections, A and A', one for each half of the horse's back, which sections are united along the back or are made in one piece. Each section is provided at the front with a side tongue or flap, B and B', respectively, which tongues are adapted to be folded over the horse's breast. On the outer surface of each flap a strap, C, is secured in such a manner that it projects from the free edge of the tongue, and on each section of the blanket or buckle D is secured a short distance back of the inner end of the flap, as shown. A short slot, E, is cut in one section in front of the buckle D, and the flap of the other section is provided with a slot, F, extending nearly across its entire width at the inner end. Each side of the blanket is provided with a slot, G, for the surcingle, and at the rear ends of the section a buckle and strap or other devices may be provided for uniting the rear ends of the blanket over the horse's hind legs. The slot F can be made in the right or left flap and the slot E must be formed in the opposite section or half of the blanket.

The blanket is held on the animal in the following manner: The left-hand flap, B', is passed over the breast of the animal and

through the slot F in the right-hand flap, B, and the strap C of the left-hand flap is held in the buckle D on the right-hand half of the blanket. The right-hand flap, B, is folded over the left-hand flap, B', and its strap C is held in the buckle D on the left-hand half of the blanket; or the right-hand flap, B, can be folded over the horse's breast, and then the strap C of the flap B is passed through the slot E in the left-hand half of the blanket, and is held in the buckle D on the left-hand half of the blanket. The left-hand flap, B', is then folded over the right-hand flap, B, and its strap is held in the right-hand buckle, D. In all cases both flaps will cover the breast of the animal, which is thus well protected.

In place of buckles and straps, buttons and button-holes can be used.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The horse-blanket having at its front end two flaps, one passing through the other, to oppositely lap the sides of the blanket, and having fastenings to connect them to said sides, substantially as and for the purpose set forth.

2. A horse-blanket provided with two flaps at its front end, each flap having a projecting strap at its free end, and one flap having a transverse slot through which the other flap can be passed, substantially as herein shown and described.

3. A horse-blanket provided with two flaps at its front end, each flap having a strap at its free end, and one flap having a transverse slot through which the other flap can be passed, and that part of the blanket from which the latter flap projects being provided with a slot through which the strap of the other flap can be passed, substantially as herein shown and described.

4. The combination, with a horse-blanket having two flaps, B B', at its front end, of the straps C, secured on the same, and the buckles D, secured on the sides of the blanket, substantially as herein shown and described.

CLARENCE J. CANAN.

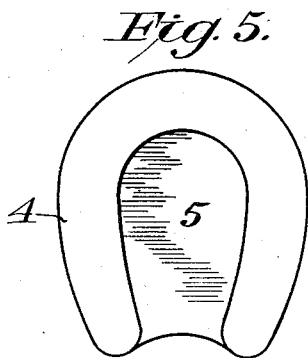
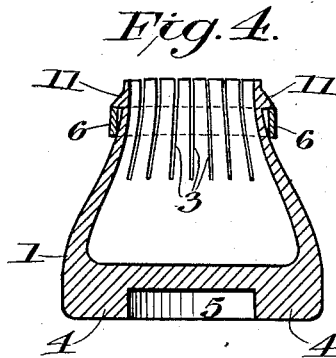
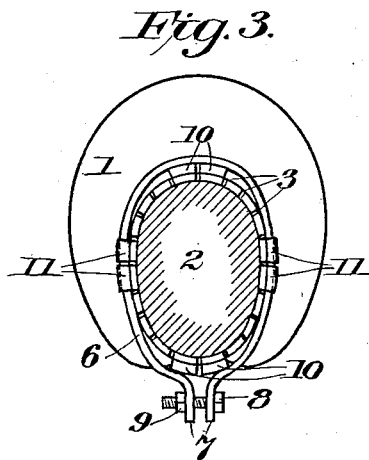
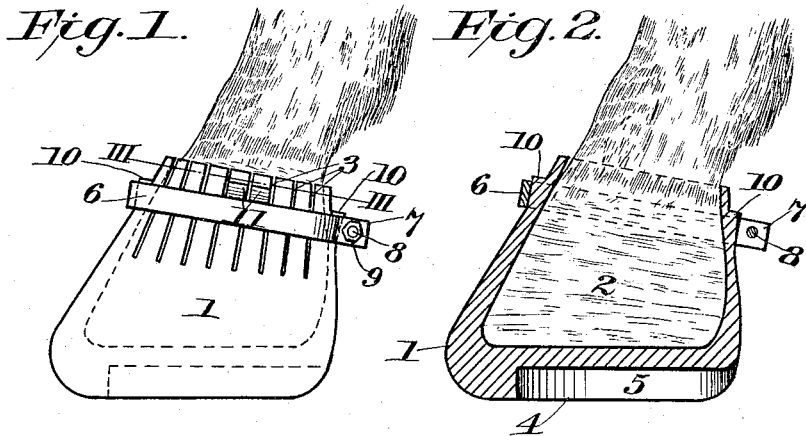
Witnesses:

C. K. COLEMAN,
W. L. WASSMANN,
JOHN J. HELLER.

R. SAXTON.
 HORSE BOOT.
 APPLICATION FILED AUG. 24, 1916.

1,218,901.

Patented Mar. 13, 1917.



Inventor
 Robert Saxton,
 By Frederick V. Winters
 Attorney

UNITED STATES PATENT OFFICE.

ROBERT SAXTON, OF BROOKLYN, NEW YORK.

HORSE-BOOT.

1,218,901.

Specification of Letters Patent.

Patented Mar. 13, 1917.

Application filed August 24, 1916. Serial No. 116,704.

To all whom it may concern:

Be it known that I, ROBERT SAXTON, a subject of the King of Great Britain, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Horse-Boots, of which the following is a full, clear, and exact specification.

This invention relates to boots for horses, and has for its object to provide an improved covering for horses' feet which will cushion the tread, reduce the clatter, and which may be easily and securely fastened in place. A special object is to provide improved means to prevent the clamping band, which secures the boot on the hoof, from becoming displaced in use. Other objects will appear as the description proceeds.

The invention will be first hereinafter described in connection with the accompanying drawing which constitutes part of this specification and then more specifically defined at the end of the description.

In the accompanying drawings, wherein similar reference characters are used to designate corresponding parts throughout the several views:

Figure 1 is a side elevation of a boot made substantially in accordance with this invention, the same being shown applied to the hoof of a horse.

Fig. 2 is a longitudinal vertical section through the boot, also shown on the horse's hoof.

Fig. 3 is a section on the line III—III of Fig. 1.

Fig. 4 is a transverse vertical section of the boot, and

Fig. 5 is an under plan view of the boot.

The boot 1 may be made of any suitable sound-deadening material and is shaped to inclose the hoof 2. A series of vertical slits 3 are formed in the restricted upper portion of the boot to allow for the same being drawn over the hoof. The bottom of the boot has formed thereon a downwardly projecting horse-shoe-shaped portion 4 within which there is a cavity 5.

The reduced upper portion of the boot is clamped about the top of the hoof by a band 6 preferably made of metal with outwardly turned ends 7 connected by a bolt 8 fitted with a nut 9. To properly position the band 6 around the upper portion of the boot, a pair of lugs 10 are formed integral

with the latter, one of said lugs being located at the front and the other at the rear of the boot. The outer faces of these lugs are substantially parallel, being mounted at acute angles to the converging sides of the boot, thus providing a firm seat for the band so that there is no danger of the latter being displaced while it is being tightened up or drawn in forcibly around the boot. To further insure the retention of the band in proper position on the lugs 10 when the boot is in use, downwardly facing projecting lugs 11 are formed integral with the boot at opposite sides thereof, said lugs 11 having abrupt shoulders engaging the upper edge of the band 6.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. The combination, with a boot for horses, having upwardly converging sides to fit around a hoof, of a clamping band mounted around the upper portion of said boot, and lugs on the boot having their outer faces arranged at acute angles to adjacent portions of the sides to fit the inner face of the band for the purpose specified.

2. The combination, with a boot for horses, having upwardly converging sides to fit around a hoof, of a clamping band mounted around the upper portion of said boot, and lugs on the front and rear portions of said sides, said lugs having their outer faces substantially parallel to fit the inner face of the band for the purpose specified.

3. The combination, with a boot for horses, of a clamping band mounted around said boot, spaced lugs carried by the boot and having their outer faces fitting the inner face of the band, and other spaced lugs arranged on a higher level and between the first lugs and also carried by the boot for holding the band down on said first lugs.

4. The combination, with a boot for horses, of a clamping band mounted around said boot, lugs on the front and rear portions of the boot and having their outer faces fitting the inner face of the band, and other lugs on the sides of the boot for engaging the upper edges of the band to hold the same down on the first lugs.

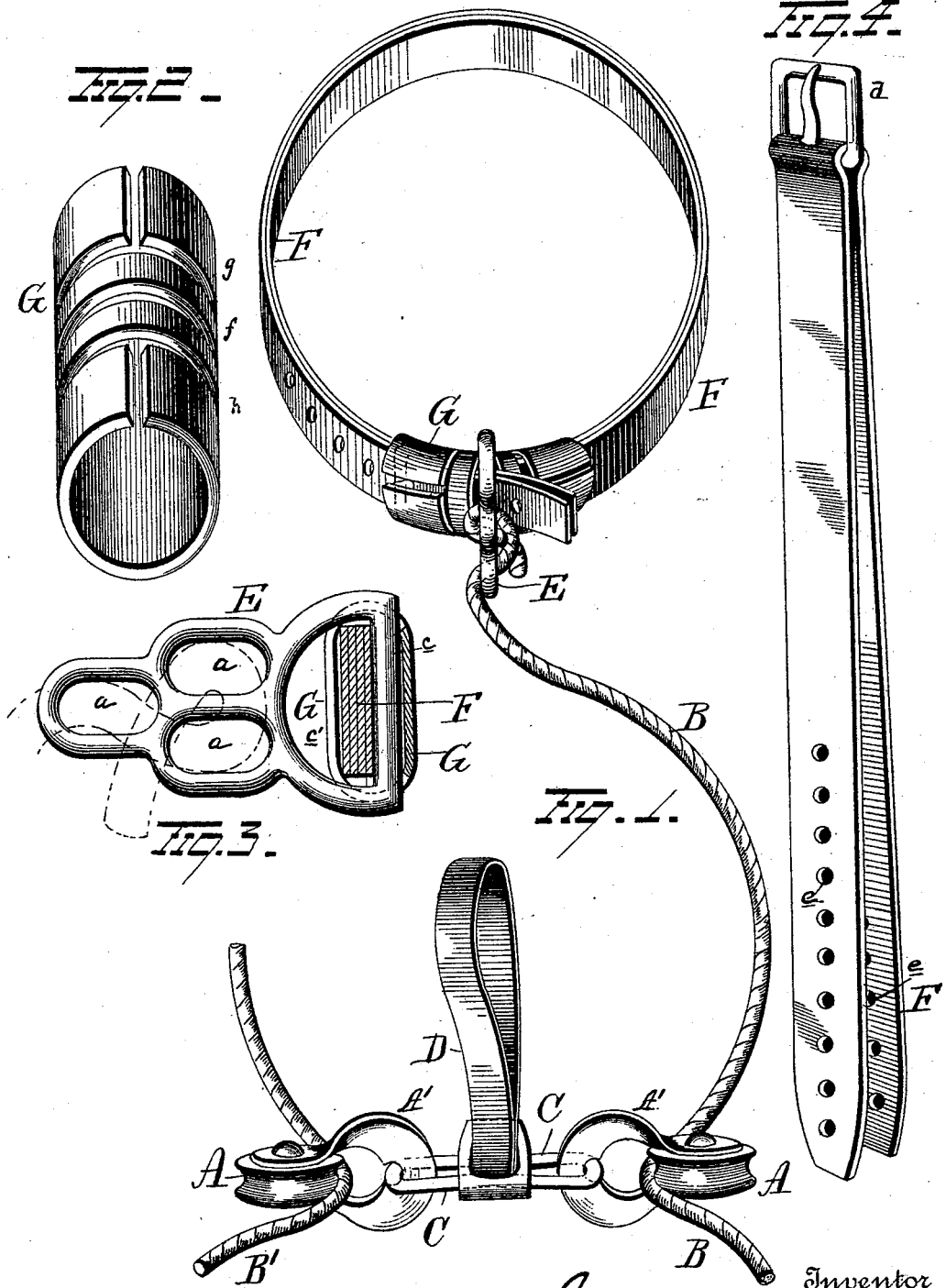
In testimony whereof I have signed my name to this specification.

ROBERT SAXTON.

G. W. KITTERMAN.
HORSE BREAKER OR HOBBLE.

No. 497,326.

Patented May 16, 1893.



Witnesses
E. Nottingham
G. F. Downing

Inventor
George W. Kitterman
 By *H. A. Seymour*
 Attorney

(No Model.)

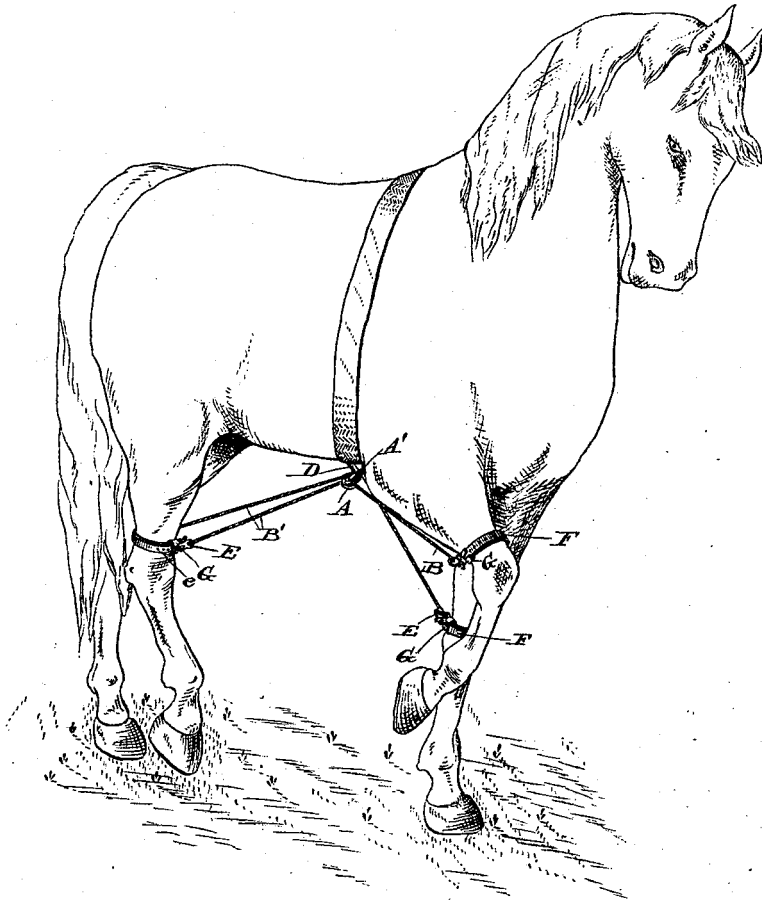
2 Sheets—Sheet 2.

G. W. KITTERMAN.
HORSE BREAKER OR HOBBLE.

No. 497,326.

Patented May 16, 1893.

Fig. 5



Witnesses:

J. P. Coleman
G. F. Downing.

Inventor
G. W. Kitterman
by W. A. Seymour
his Atty.

UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON KITTERMAN, OF PERU, ILLINOIS.

HORSE BREAKER OR HOBBLE.

SPECIFICATION forming part of Letters Patent No. 497,326, dated May 16, 1893.

Application filed January 20, 1892. Serial No. 418,717. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON KITTERMAN, a citizen of the United States, residing in the city of Peru, in the county of Lasalle and State of Illinois, have invented a new and useful Horse Breaker or Hobble, of which the following is a specification.

My invention relates to an improvement in horse breakers or hobbles, its object being to produce devices constructed in such manner that by their application a horse can be cured of vicious habits.

A further object is to produce simple and efficient devices whereby a horse can be kept under the constant control of an operator.

A further object is to provide devices constructed in such manner that a horse can be kept from moving during a surgical operation.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view illustrating my invention. Figs. 2, 3 and 4 are detail views. Fig. 5 is a view illustrating a horse having my improvements applied thereto.

A A represent two pulleys, supported by frames A'. The frames A' are provided with notches a for the reception of a link C, whereby the two pulley frames A' A' are connected together. A leather strap D is adapted to be supported by the surcingle or other part of the harness of a horse. Ropes B B pass over the pulleys A A and at their ends are passed through eyes or loops a of a buckle E, in the manner shown in Figs. 1 and 3, thus securing said buckles to the ends of the ropes. The larger end of the buckle is made with a cross bar c whereby a large loop c' is produced. A strap F is doubled upon itself and perforated at a point between its ends for the reception of the tongue of a buckle d. The strap F is also provided in its ends with aligned perforations e whereby said strap may be buckled about the leg of a horse, said strap also passing through the loop c' of the buckle or fastener E. A combined pad or cushion and loop G encircle the strap F where it is buckled together in order to prevent injury to the leg of the horse. This pad or cushion

is preferably composed of a section of rubber pipe provided at points between its ends with slots f, g h, and from the slots g, h to the ends of the tube, slots i are made. The tubular pad or cushion thus constructed is made to encircle the strap F where the latter is buckled together, the slots permitting it to assume the curvature of the strap and the central slot f serving for the accommodation of the buckle or fastener E.

The device thus constructed is adapted to be suspended from the surcingle encircling the horse as above alluded to. The straps F will be fastened above the knees and hocks of the front and hind legs respectively of a horse, and the lengths of the two ropes B so adjusted as to be quite tight with the horse standing in its natural position. Thus attached to a horse the device operates as an absolute prevention of kicking, striking or running away, at the same time allowing the horse to walk, trot or pace. As the horse moves its feet the ropes B are kept properly adjusted by their corresponding movement over the pulleys A. The device so arranged and applied to the animal also operates as a hobble and can be safely applied to horses and colts in the pasture or stable, as it prevents kicking, jumping or rearing, and is without danger to the animal by reason of the shape of the pulleys A and the leather suspension loop or strap D. With the above arrangement of the device, by passing the ropes B over the pulleys A running the ropes lengthwise of the horse the right hand rope on the right legs and the left hand ropes of the left legs, the pulleys adjust themselves crosswise on the horse swinging around on the strap D; the horse finding it impossible to adopt any gait other than a pace.

To use the device in surgical operations, the straps F will be fastened just above the feet of the horse and in place of two short straps B, B', light ropes about forty feet long will be employed and passed through the buckle E, and up over one of the pulleys, then back and forth from the horse's feet to the pulleys until the four feet are connected with the pulleys by means of the rope. By a gentle draft on the rope by the operator the horse finds itself forced to stand still, or, if the operator chooses by more draft on the end of the rope, the horse's feet can be gradually

drawn under his body and he be gently thrown to the ground.

In order to break a kicking horse the straps carried by the rope B will be applied to the hind legs of the horse, and the rope B' (being extended) will be passed through the loops or eyes attached to the bit and used as lines.

The device can be used in curing runaway horses or in breaking a colt, by applying the straps F carried by the rope B as above explained, tying the extended rope B' to the surcingle, passing it through a loop of the buckle E at one front foot, then up over its pulley A then through eye of buckle E at the other front foot and up through an eye on the surcingle. By now pulling upon the extended rope B' the horse will be made to come to the ground, resting on his front knees.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for breaking animals, the combination with a link and a strap connected at one end to said link and at the other end adapted to be attached to the harness of the animal, of a pulley frame loosely attached to each end of said link, pulleys mounted in said pulley frames, ropes passing over said pulleys and straps at the ends of said ropes constructed and arranged to be applied to the legs of the animal, substantially as set forth.

2. In a device for breaking animals the combination with a link, a strap for suspending said link from the harness of an animal, and a pulley at each end of said link, of a rope passing over each pulley, buckles attached to said ropes, straps adapted to encircle the legs of a horse and pass through said buckles, and a tubular pad encircling said strap where its ends are connected together, substantially as set forth.

3. In a device for breaking animals, the combination with a strap adapted to encircle the leg of an animal and be connected together at its ends, of a tubular pad encircling said strap where its ends are connected together, said strap being provided with slots whereby to cause it to conform to the shape of the strap, substantially as set forth.

4. In a device for breaking animals, the combination with a strap adapted to encircle the leg of an animal, and be fastened together at its ends, of a tubular slotted pad encircling said strap where its ends are connected together, a buckle adapted to receive said strap and enter one of the slots in the tubular pad, and a rope attached to said buckle, substantially as set forth.

GEORGE WASHINGTON KITTERMAN.

Witnesses:

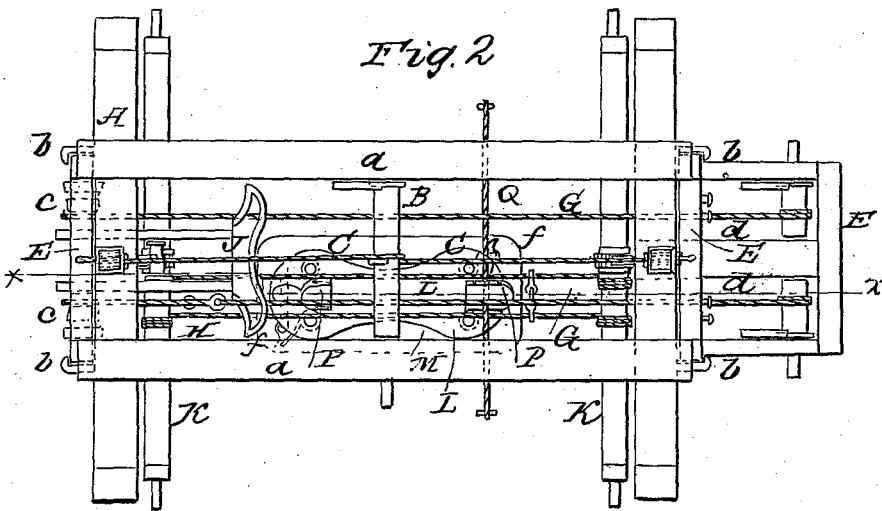
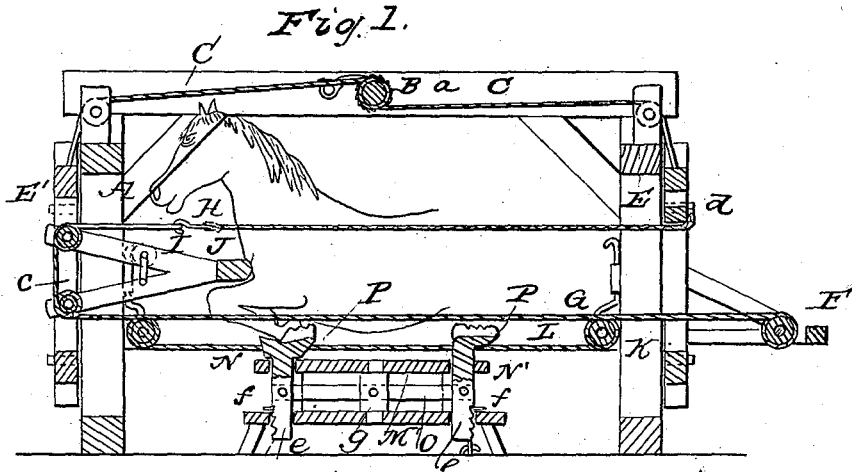
CHRISTOPHER HOSCHRIT,
JOSEPH KOBEMANN.

W. G. HUGHES.

Horse Cage.

No. 44,095.

Patented Sept. 6, 1864.



WITNESSES
C. L. Tapliff
Henry Harris

INVENTOR
W. G. Hughes
By *Munn & Co*
Attys

UNITED STATES PATENT OFFICE.

WILLIAM G. HUGHES, OF MERRIAM, INDIANA.

HORSE-CAGE.

Specification forming part of Letters Patent No. 44,095, dated September 6, 1864.

To all whom it may concern :

Be it known that I, WILLIAM G. HUGHES, of Merriam, in the county of Noble and State of Indiana, have invented a new and Improved Horse-Cage; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention relates to a new and improved device for confining, while being shod, horses and other animals.

The object of the invention is to obtain a device for the purpose specified, which will be simple in construction, easily manipulated, and which will put the horse, even if vicious, under the complete control of the shoer or operator.

A represents a framing, which may be composed of two upright end pieces connected at their upper parts by horizontal parallel bars *a a*, between which, at about their centers, there is fitted a windlass, B, to which two ropes, C C, are attached, said ropes passing over pulleys D D on the ends of the framing, and having their ends connected to vertically-sliding frames or sashes E E', which are fitted between suitable guides, *b*, at the ends of the framing A. By turning the windlass B the sashes E E' may be raised or lowered to any desired height. In the sash E there is placed a windlass, F, which may have two ropes, G G, attached to it, said ropes extending horizontally and longitudinally through the framing A and passing around pulleys *c* in the sash E', and thence back through the framing to the sash E, where they are secured to the upper part of the latter, as shown at *d*. Each rope G passes over two pulleys, *c*—one above the other—and said pulleys are made of conical form and grooved circumferentially to receive the ropes, two or more grooves being made in each pulley, so that the ropes may be fitted on different parts of the peripheries thereof, to increase or diminish the distance between their upper and lower parts, as may

be desired. One of the ropes G is divided and has its ends connected by a hook, H. In the sash E' there is placed a small windlass, I, and to said sash there is also attached a horizontal curved bar, J, which projects within the framing and is designed for the breast of the animal to bear against. It may be termed a "breast-bar."

K K are two windlasses placed at the inner sides of the ends of the framing A, and having the ends of two ropes, L L, attached to it. These ropes L L are below the lower parts of the ropes G G.

M represents a stand, which is placed within the framing A, and is provided with two adjustable uprights, N N', one near each end. These uprights are each provided with a rack, *e*, with which pawls *f* engage, and the two uprights are connected by a lever, O, having its fulcrum at *g*. By this arrangement it will be seen that when one upright is forced down the other will be shoved up. Each upright has a socket, P, at its upper end.

The device is used as follows: The horse has a halter placed on it, the halter-rope being attached to the windlass, one of the ropes G having been previously unhooked to admit the horse into the framing. By turning the windlass I the halter-rope is wound up and the breast of the horse brought in contact with the bar J, the latter preventing the horse from moving forward, while the halter will prevent him from moving backward. The rope G which was unhooked is then adjusted in position, and both ropes G G stretched by turning the windlass F, the horse being between the two ropes G, which are raised or lowered to suit the height of the horse by turning the windlass B, and adjusted at a greater or less distance apart by placing them properly on the pulleys *c*, the upper parts of the ropes G being just below the back of the horse and the lower parts just above the belly. (See Fig. 1, in which a portion of the horse is shown in red outline.) The horse being thus secured by the halter, breast-bar, and ropes, as above described, one foot is laid in the socket P of the upright N', which socket is curved rather more downward at its outer end, to afford better facility for clinching the nails, the latter being then clinched. If the horse does not feel disposed to keep his foot in the socket, it may be retained therein by means of

a rope, Q, the ends of which are attached to the base on which the framing rests, said rope passing over the foot of the horse and made to press snugly thereon by forcing up the upright on which the foot rests. The rope Q at the same time will keep the stand M snugly secured to the base of the framing.

The ropes L L of the windlass K K are used in shoeing horses which are disposed to kick, the foot of the horse being secured to said ropes by means of straps arranged in any proper way.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The ropes G G, windlass F, adjustable

sashes E E', halter-windlass I, and breast-bar J, all combined and applied to a framing, A, substantially as and for the purpose herein set forth.

2. The stand M, provided with the adjustable uprights N N', having foot-sockets P at their upper ends, in combination with the ropes G G, windlass F, sashes E E', and either with or without the ropes L L and windlasses K K, substantially as and for the purposes specified.

WM. G. HUGHES.

Witnesses:

JAMES CUNNINGHAM,
ORIN BOGGS.

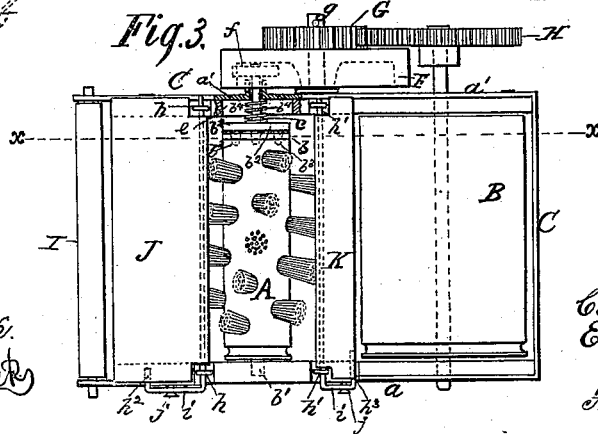
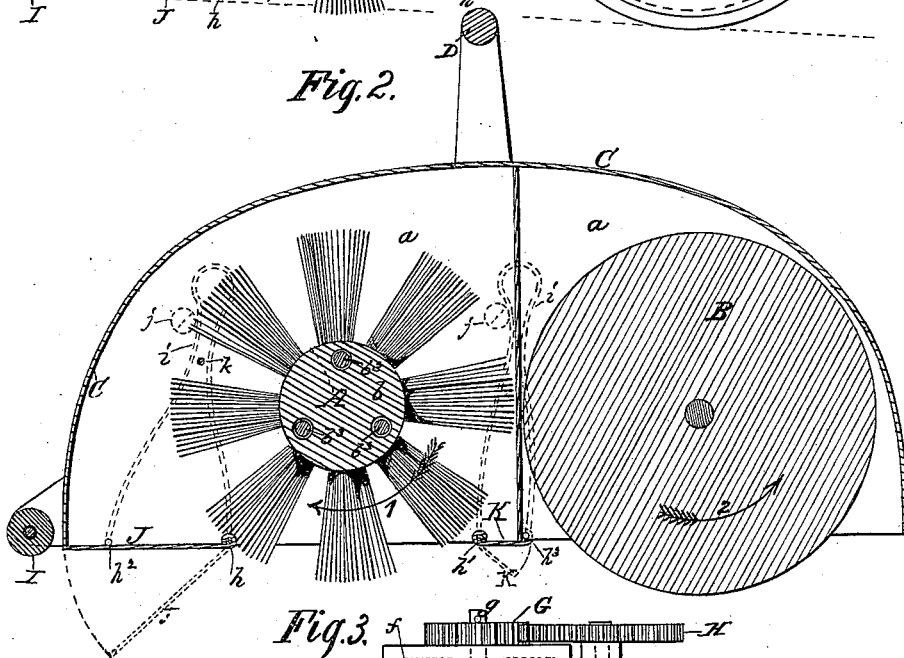
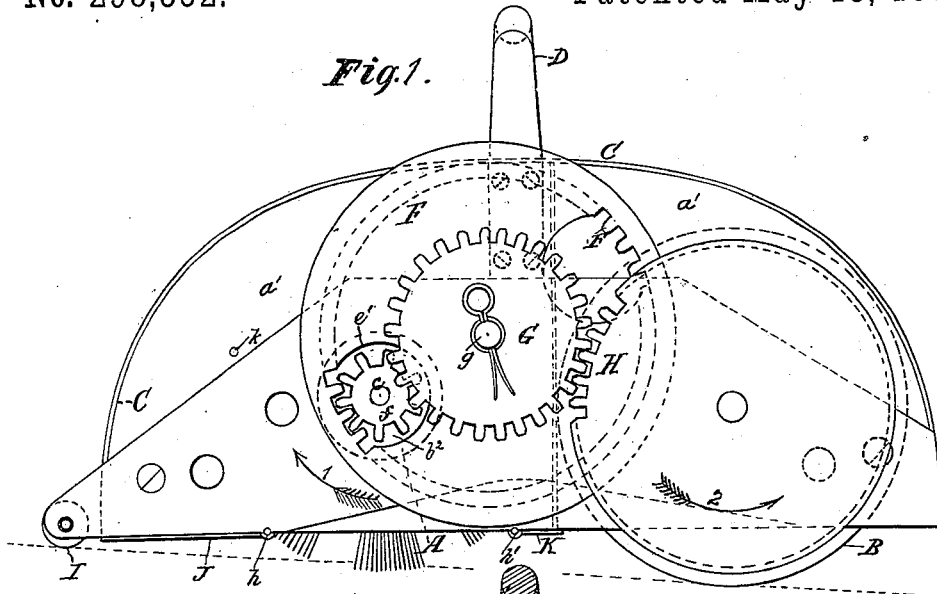
(No Model.)

2 Sheets—Sheet 1.

C. S. & E. A. CONDE.
HORSE CLEANING MACHINE.

No. 298,352.

Patented May 13, 1884.



Witnesses:

B. C. Fenwick.
Robt. L. Fenwick

Inventor:
Cornelius S. Conde
Edwin A. Conde
by his Atty.
Fenwick & Lawrence

C. S. & E. A. CONDE.
HORSE CLEANING MACHINE.

No. 298,352.

Patented May 13, 1884.

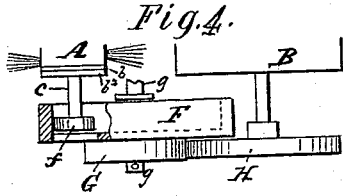


Fig. 4.

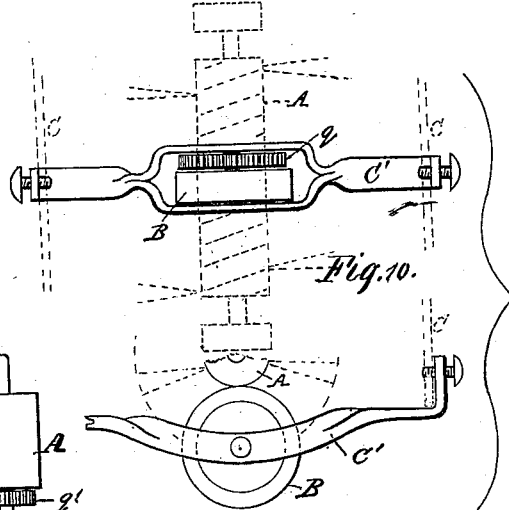


Fig. 10.

Fig. 9.

Fig. 5.

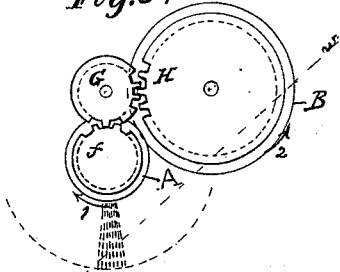


Fig. 11.

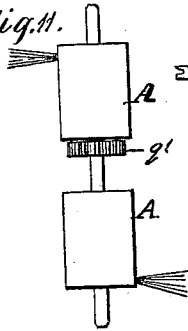


Fig. 6.

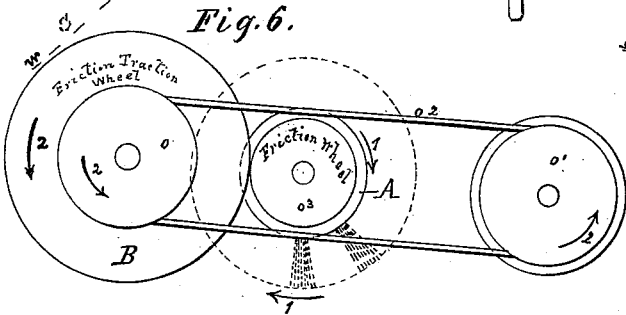


Fig. 7.

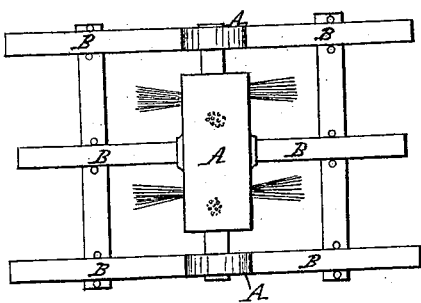
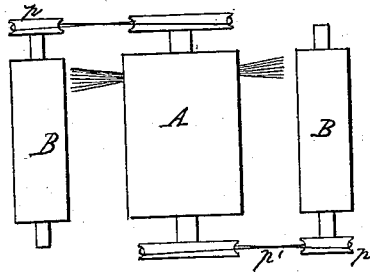


Fig. 8.



Witnesses:

B. Fenwick.
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Inventor:

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UNITED STATES PATENT OFFICE.

CORNELIUS S. CONDE AND EDWIN A. CONDE, OF BATAVIA, ILLINOIS.

HORSE-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 298,352, dated May 13, 1884.

Application filed April 7, 1883. (No model.)

To all whom it may concern:

Be it known that we, CORNELIUS S. CONDE and EDWIN A. CONDE, citizens of the United States, residing at Batavia, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Machines for Cleaning Horses and other Animals, of which the following is a specification.

Our invention relates to an improved rotary animal brushing, combing, or cleaning machine provided with a handle by which it can be moved over the horse's body and limbs, and with a revolving brush or comb applied within a case, and with gearing traction rollers or wheels set in action by contact with the body and limbs of the horse, and with dust-chambers and discharge plates or valves, and with a height-regulating roller and coupling contrivance by which the brush can be withdrawn and another substituted for it or the same one replaced in a very ready and convenient manner.

Our invention is designed to facilitate the operation and lessen the labor of grooming horses and other animals, and with it about four times the work performed in a given time with ordinary grooming implements can be effected, and this in a better manner and with very slight labor of the operator.

In the accompanying drawings our device is represented as provided with a brush formed of bristles; but in practice any other material adapted for forming the brush or revolving comb may be employed--as, for instance, hard rubber, whalebone, splints of wood, metal, and the like.

Figure 1 is a side elevation of the improved revolving horse-cleaner as ready for use upon a horse or other animal. Fig. 2 is a vertical longitudinal section of the same, and Fig. 3 is an inverted plan view and partial section of the same. Fig. 4 is a modification of the gearing, whereby all of the same is made to operate by friction. Either pair of the gear-wheels may be toothed or plain-surfaced. Fig. 5 is another modification of the gearing shown in Fig. 1, whereby three externally-toothed gears are employed instead of the internally-toothed wheel and three spur-gears. The dotted line *w w* illustrates base of frame C. Fig. 6 is another modification of the gearing, show-

ing also a modification of the traction device, which by rolling upon the horse's body sets the brush or comb in motion. In this view two fast pulleys, *o o'*, and a belt, *o''*, passed around them, are shown, and the friction traction-wheel B bears against a friction-wheel, *o''*, of the brush-cylinder. Fig. 7 is another modification showing the brush revolved by traction friction-wheels B, applied loosely upon shafts arranged in rear and in front of the brush-cylinder and acting upon the brush-cylinder, the middle portion of the brush-cylinder being made with a larger diameter and the middle traction-wheels of less diameter than the end wheels, to conform to portions of the horse's body. Fig. 8 is another modification showing pulleys *p* on the ends of front and rear traction-rollers, and a belt, *p'*, passed from each pulley, crossed, and passed round pulleys on the respective ends of the brush-cylinder. Fig. 9 is another modification showing the front and rear traction-rollers and an auxiliary loose pulley, *r*, and a belt, *o''*, passed around the rollers, a pulley of the brush-cylinder, and the loose pulley *r*. Fig. 10 is another modification showing a saddle-support, C', suspended beneath the center of the brush-cylinder, with a friction traction-wheel bearing against the brush-cylinder while resting on the horse's body. The saddle-support carries also a toothed wheel, *q*, of smaller diameter than the friction-wheel, which toothed wheel may be used in lieu of the friction-wheel for driving the brush direct by providing a pinion on the brush-cylinder. Fig. 11 is a modified form of brush-cylinder, showing the toothed pinion *q'*, with which the pinion of the saddle-support gears.

In all of the constructions represented the brush or comb cylinder A revolves in the direction indicated by the arrow 1, while the traction roller or wheels B revolves in the direction indicated by the arrow 2.

Referring to Figs. 1, 2, and 3 of the drawings, it will be seen that an arch-shaped frame, C, closed at its sides or ends *a a'*, is employed for supporting the brush or comb cylinder A and all the other parts of the implement. Across the top of this frame a loop-like bail or handle, D, is applied in a rigid manner. This loop-handle is of a form to ad-

mit of the operator's hand being inserted between it and the top of the frame in just the same manner as when the hand is passed into the loop or strap of an ordinary grooming-brush for the purpose of moving it over the horse's back. The arched form of the top of the frame C and the construction and arrangement of the handle D give the operator complete control of the cleaner, whether he desires to press it downward or lift it up or move it forward or backward. The construction and arrangement of the handle as shown are preferable to any other known to us; but other constructions and arrangements might be adopted without departing, essentially, from our invention. The brush-cylinder, provided with bristles, whalebone, or other suitable brushing or combing materials, is provided at one or both ends with a perforated coupling-disk, *b*. In the drawings but one such disk is shown, and therefore a short journal, *b'*, is provided on one end of the cylinder, which journal is boxed in the end or side *a*. The coupling-disk *b* is coupled to a short detached journal, *c*, by means of a disk, *b²*, which has several spurs or pins, *b³*, projecting from its face, and which pins enter the perforations in disk *b*, and are held in place by a spiral spring, *b⁴*, as shown. The short detached journal *c* is suitably boxed in the end or side *a'* of the frame, and is allowed to slide longitudinally, with its disk *b²*, through a proper-sized opening, *e*, cut into the said end or side of the frame provided for this purpose. When the journal *c* is moved along far enough to withdraw the spurs or pins *b³* from the disk *b*, the brush-cylinder can be withdrawn from the frame. The longitudinal movement of the journal *c* and the pinion *f* thereon is effected by moving the brush-cylinder longitudinally against the spring-pressed disk *b²* until the spring *b⁴* is compressed and the journal *b'* of the brush-cylinder has been completely withdrawn from its box. Thus provision is made for taking out a worn brush and replacing it by a new one, or for changing the character of the brush to suit the kind of work to be done. To accomplish this it is only necessary to move the brush longitudinally against the spring-pressed disk *b²*, and then to lower incliningly the journal end *b'* of the brush sufficiently to withdraw the coupling-disk *b* from the pins *b³* of the disk *b²*, and thereby disconnect the brush-cylinder from the machine.

In constructing our brush or comb we arrange the bristles or splints on spiral lines around the cylinder, and also set the bunches or "tufts" so that a succeeding tuft or bunch of one spiral row will stand opposite a space of a preceding row. By this construction and arrangement a diagonal sweep across the animal's body is produced, which insures a more perfect grooming operation with less strain upon the machine or resistance to the operator, and while this effect is produced the alternating of the bunches of bristles insures contact of the brush with every part passed

over by the implement. For effecting the revolution of the brush or comb in the direction of the arrow 1, the short journal *c* is extended out beyond the end or side *a'*, and on this extension a pinion, *f*, is keyed fast. This pinion gears into an internally-toothed wheel, *F*, which is supported on the frame C by a fixed arbor, *g*. The toothed rim of the wheel *F* is broad enough to allow the extended portion of the short journal to move longitudinally for the purpose of uncoupling the brush-cylinder, as hereinbefore described, and a hole, *e'*, is cut in the side of said wheel *F*, to afford a passage through which the pinion *f* can move longitudinally with the extension of the short journal *c* and the disk *b²*. Between the brush-cylinder and the traction roller or wheels B a spur-wheel, *G*, is provided upon the outer end of the fixed arbor *g*, and into this spur-wheel a larger spur-wheel, *H*, on the shaft of the roller or wheels B gears, as shown. The roller B (shown in Figs. 1, 2, and 3) is journaled in the frame C, and a portion of its periphery stands a little below the base of the ends or sides *a a'* during its revolution, and thus when the implement is pressed down and moved along the horse's back the traction or friction between the roller and the horse's back causes the roller to revolve, and thereby set the gearing and the brush in revolving motion.

The roller I at the front end of the frame serves as a fulcrum or purchase upon which to operate the machine, and by means of this roller the extent of contact of the brush with the horse's body can be controlled, for by throwing up or down the rear end of the frame the height of the frame from the horse's back will be regulated. This roller might be provided with adjusting-holes, into which its journals may be placed. For catching the dust brushed from the horse, trap-doors or hinged plates J and K are applied horizontally on the bottom of the frame C, these plates being hinged at *h h'* near one of their edges, and their hinging-rods being extended up at right angles on the side or end *a* of the frame, bent into the form of a loop, *i*, and then carried down and fastened to the plates near their free edges, as shown at *h² h³*. The loop portions *i* of the hinging-rods form spring catches or fastenings, and they catch against retaining-pins *j* and hold the plates in the position shown by full black lines. When the catches *i* are released from the pins *j*, the plates will descend to the positions illustrated in dotted lines in Fig. 2, and allow the trapped dust to escape from the inside of the frame.

Across the frame and within the circle described by the brush-cylinder a rod or bar, *k*, is applied, so that the bunches of bristles shall strike against it during the revolution of the brush-cylinder, and thereby have dirt and dust jarred or knocked out of them, and thus be in better condition for cleaning the horse when they again come into action.

In the various modifications shown the one

leading operation of the machine herein described, and represented by Figs. 1, 2, and 3 of the drawings, is embraced—viz., producing the revolution of the brush in the direction
5 of the arrow 1 by means of gearing set in motion by a traction roller or wheel bearing on and moving over the horse's back, and as the special constructions shown by these modifications are not specifically claimed, further
10 description of them is not deemed necessary.

It will be understood that the rotary brush or comb which we employ for cleaning horses and other animals is constructed of bristles, wires, or splints of such stiffness as to be capable of stirring out and removing dirt and
15 dust adhering to the surface skin or hair of the animals operated upon—that is, the bristles, wires, or splints are unlike the soft, pliable substances used in brushes of carpet-sweepers, and if such were used in sweepers they
20 would destroy the carpets in a very short time.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The horse cleaning, brushing, or combing
25 machine comprising the closed portable arch-shaped frame having a bow-shaped handle, the partition, the dust-traps, and the knocker-rod, suitable driving-gearing, the combing, brushing, or cleaning cylinder, the traction-rollers,
30 and the coupling devices between the gearing and the cylinder, substantially as and for the purpose described.

2. An animal brushing, combing, or cleaning
35 machine comprising a closed portable frame having a partition and a handle, hinged dust-trap doors, a knocker-rod, suitable driving-gearing, a traction-roller, an adjusting-roller, and the coupling means between said
40 gearing and cylinder, substantially as and for the purpose described.

3. The horse brushing, combing, or clean-

ing machine comprising the arch-shaped closed portable frame having a loop or bow shaped handle at the crown of its arch, the removable brushing, combing, or cleaning cylinder having its stiff tufts of bristles, whale-
45 bone, or other stiff substance arranged on spiral lines and alternately out of line with one another, the dust-trap doors hinged and provided with spring fastening-extensions, the
50 knocker-rod, the driving-gearing, the traction and adjusting rollers, and the coupling means, whereby the said cylinder and gearing are coupled and uncoupled, substantially as and for the purpose described.

4. The combination of the frame C, provided with a handle, the brush-cylinder A, provided with a coupling-disk, the sliding short journal provided with a coupling-disk
60 and pins, the pinion, the internally-toothed wheel, the two gears, and a traction-roller, substantially as and for the purpose described.

5. The combination of the short journal having gear *f*, coupling-disk and pins, gear F, spiral spring, the revolving brush having a
65 perforated coupling-disk, a traction roller or wheel, and a frame provided with a handle, substantially as and for the purpose described.

6. The revolving combing-brush provided with a short journal, *b'*, at one end, and a perforated disk, *b*, at its other end, in combination
70 with the short journal *c*, having a pinion, and provided with the spring *b'*, and coupling-disk *b''*, having pins *b''*, and the arched frame with its gearing, substantially as and for the
75 purpose described.

CORNELIUS S. CONDE.
EDWIN A. CONDE.

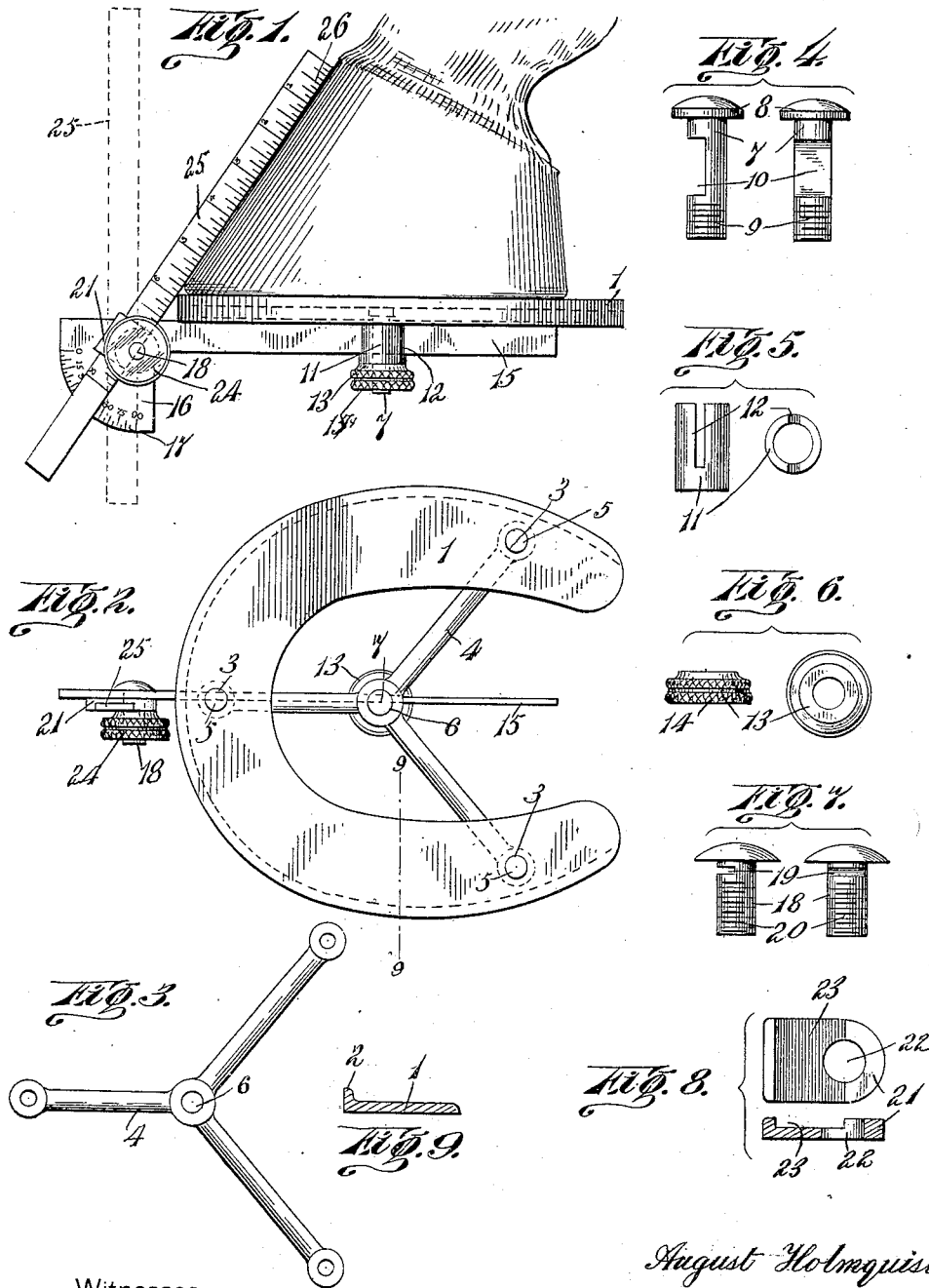
Witnesses:

H. C. LITGINS,
A. I. COX.

No. 832,060.

PATENTED OCT. 2, 1906.

A. HOLMQUIST.
HORSE HOOF LEVEL GAGE.
APPLICATION FILED JAN. 29, 1906.



Witnesses:

Eugene M. Slaney
H. Cousins

August Holmquist.
Inventor,

By *Marion Marion*
Attorneys

UNITED STATES PATENT OFFICE.

AUGUST HOLMQUIST, OF BRIDGEWATER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO EBEN PERKINS, OF BRIDGEWATER, MASSACHUSETTS.

HORSE-HOOF LEVEL-GAGE.

No. 832,060.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed January 29, 1906. Serial No. 298,404.

To all whom it may concern:

Be it known that I, AUGUST HOLMQUIST, a citizen of the United States of America, residing at Bridgewater, county of Plymouth, in the State of Massachusetts, have invented certain new and useful Improvements in Horse-Hoof Level-Gages; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to horseshoers' gages.

The object of my invention is to provide a gage by the use of which may be determined the height, the pitch, and the level of the under side of the hoof.

A further object of my invention is to provide such an instrument with a swiveled connection, so that the height and pitch of the sides of the hoof may be determined without removing the instrument from the hoof.

A further object is to provide a beveled protractor which is swiveled to and detachable from the base portion of the instrument.

A further object is to provide a supporting member for the gage which is detachable, so that various sizes of plates may be used to suit different sizes of hoofs.

A further object is to provide means for slidably supporting a straight-edge and a protractor-bar, so that they may be adjusted to various sizes of hoofs; and my invention consists of the construction, combination, and arrangement of parts, as herein illustrated, described, and claimed.

In the accompanying drawings, forming part of this application, I have illustrated one form of embodiment of my invention, in which drawings similar reference characters designate corresponding parts, and in which—

Figure 1 is a side elevation of the instrument, showing its application to the hoof of a horse. Fig. 2 is a bottom plan view of the instrument. Fig. 3 is a plan view of a supporting-spider. Fig. 4 is a side and front elevation of a screw adapted to lock the protractor-bar. Fig. 5 is a side elevation and top plan of a sleeve adapted to cooperate with a screw to lock the protractor-bar in position. Fig. 6 is an edge elevation and bottom plan view of a locking-nut. Fig. 7 is a side and front elevation of a screw adapted to receive the slidably straight-edge used in the

invention. Fig. 8 is a plan and longitudinal vertical section of a plate adapted to lock the straight-edge against a screw used in the invention; and Fig. 9 is a vertical transverse section through the base-plate of the instrument, taken approximately on line 9 9 of Fig. 2.

Referring to the drawings, 1 designates a plate having a continuous peripheral flange 2 on its under side. For varying sizes of hoofs the plate 1 may be made of different sizes; but of whatever size made each plate is provided with a plurality of openings 3 relatively of the same distance apart in each plate.

Carried by the plate 1 is a supporting-spider 4, the legs of which are each provided with a lug or pin 5, adapted to engage in the openings 3 when a slight pressure is put on the spider, and when the pressure is removed the contractile force of the spider forces its lugs 5 against the walls of the openings 3 to hold the spider 4 in position on the plate.

The spider 4 is provided with a central opening 6, through which is disposed a bolt 7, having a head 8 adapted to hold the same on the spider. The opposite end of the bolt 7 is provided with screw-threads 9, and intermediate of its ends the bolt is provided with a longitudinal recess 10. Rotatably disposed on the bolt 7 is a sleeve 11, provided with a longitudinal slot or recess 12. Disposed on the bolt 7 is an interiorly-screw-threaded nut 13, provided with a milled outer edge 14, whereby the sleeve 11 may be forced upward on the bolt. Disposed through the slot 12 and lying within the recess 10 is a slidable removable bar 15, provided at its outer end with a plate 16, having graduations 17 thereon, marking the degrees from a horizontal plane. The protractor-bar 15 being disposed in the recess 10 of the bolt and the sleeve 11 being disposed on the bolt so that its slot engages over the bar 15 by tightening the nut 13 the sleeve 11 will be forced against the under side of the bar, and its upper surface will be forced against the wall of the slot 10, whereby said bar 15 may be locked in a plurality of positions. This construction permits the bar to swing in a horizontal plane, the bolt 7 serving as a pivotal point. By loosening up the nut 13 the bar and its connecting parts may be entirely removed from its connection with the plate 1.

Projecting through the bar 15 adjacent the plate 16 is a bolt 18, provided with a trans-

verse slot 19 and provided with screw-threads 20 at one end. Disposed on the bolt 18 is a plate 21, provided with an opening 22 of a diameter slightly larger than the diameter of the bolt, so that said plate may slide thereon. 5 Provided in one face of the plate is a recess 23, and disposed on the screw-threaded end of the bolt 18 is a milled nut 24. Slidably disposed in the recess 19 of the bolt 18 and 10 the recess 23 of the plate 21 is a straight-edge 25, provided with graduations 26, commencing at its upper end and increasing downwardly. By tightening up the nut 24 the plate 21 is forced against the straight-edge 15 which is carried in the slot 19, so that the straight-edge may be locked in a plurality of positions with relation to its length. At the same time the straight-edge 25 may be swung through a circle, the bolt 18 forming a 20 pivotal point therefor.

To ascertain the pitch and height of the front portion of a hoof, the instrument is used as illustrated in Fig. 1. To ascertain the pitch and height of the side or rear portions 25 of a hoof, the protractor-bar is swung on its pivotal support until the straight-edge 25 rests at the desired point, the pitch being indicated by the graduations 17 and the height being indicated by the graduations 26.

30 The spider 4 being held in position on the plate 1 by spring-pressure, any number of sizes of plates 1 may be used with the remainder of the instrument. The protractor-bar being readily removable from its support, 35 the instrument may be used without the use of the plate 1. The straight-edge 25 being held as described may be also readily detached from the remainder of the instrument.

40 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, a plate, a supporting member attached to the 45 plate, a bar carried by the supporting member, and a graduated member slidably and pivotally attached to the bar.

2. In a device of the character described, a 50 plate provided with a flange, a supporting member attached to the plate, a bar carried by the supporting member, and a graduated member slidably and pivotally attached to the bar.

3. In a device of the character described, a 55 plate, a supporting member removably attached to the plate, a bar carried by the supporting member, and a graduated member slidably and pivotally attached to the bar.

4. In a device of the character described, a 60 plate provided with openings therein, a spider provided with lugs adapted to engage in said openings, a bar carried by the spider, and a graduated member movably attached to the bar.

65 5. In a device of the character described, a

plate, a supporting member attached to the plate, a bar provided with a protractor-plate, means for attaching the bar to the supporting member, and a graduated member slidably and pivotally attached to the bar. 70

6. In a device of the character described, a plate, a supporting member attached to the plate, a bar provided with a protractor-plate, means for pivotally attaching the bar to the supporting member, and a graduated member 75 slidably and pivotally attached to the bar.

7. In a device of the character described, a plate, a supporting member attached to the plate, a bar provided with a protractor-plate, 80 means for removably attaching the bar to the supporting member, and a graduated member slidably and pivotally attached to the bar.

8. In a device of the character described, a 85 plate, a supporting member attached to the plate, a bar provided with a protractor-plate, means for pivotally and slidably attaching the bar to the supporting member, and a graduated member slidably and pivotally at- 90 tached to the bar.

9. In a device of the character described, a plate, a supporting member attached to the plate, a bar provided with a protractor-plate, a bolt carried by the supporting member and 95 provided with a recess adapted to receive the bar, a sleeve pivotally disposed on the bolt and provided with a slot to receive the bar, a nut on the bolt adapted to abut against the sleeve, and a graduated member slidably and 100 pivotally attached to the bar.

10. In a device of the character described, a plate, a supporting member attached to the plate, a bar provided with a protractor-plate, 105 a bolt carried by the supporting member and provided with a longitudinal recess adapted to receive the bar, a sleeve pivotally disposed on the bolt and provided with a longitudinal slot to receive the bar, a nut on the bolt adapted to abut against the sleeve, and a 110 graduated member slidably and pivotally attached to the bar.

11. In a device of the character described, a plate, a bar provided with a graduated protractor-plate and slidably and pivotally connected 115 with the plate, a graduated straight-edge, and means for pivotally connecting the bar and the straight-edge.

12. In a device of the character described, a supporting-plate, a bar provided with a 120 graduated protractor-plate and slidably and pivotally connected with the supporting-plate, a graduated straight-edge, and means for pivotally and removably connecting the bar and the straight-edge. 125

13. In a device of the character described, a supporting-plate, a bar provided with a graduated protractor-plate and slidably and pivotally connected with the supporting-plate, a graduated straight-edge, a bolt pro- 130

jected through the bar and provided with a recess adapted to receive the straight-edge, a plate disposed on the bolt and provided with a recess adapted to receive the straight-edge, and a nut on the plate adapted to lock the plate against the straight-edge.

14. In a device of the character described, a protractor-bar provided with a graduated plate, a graduated straight-edge, and means for slidably and pivotally attaching the straight-edge to the bar.

15. In a device of the character described, a protractor-bar provided with a graduated plate, a graduated straight-edge, and means for slidably and pivotally attaching the straight-edge to the bar adjacent the graduated plate.

16. In a device of the character described, a protractor-bar provided with a graduated

plate, a graduated straight-edge, a bolt disposed through the bar and provided with a transverse slot, and means for locking the straight-edge in the slot.

17. In a device of the character described, a protractor-bar provided with a graduated plate, a graduated straight-edge, a bolt disposed through the bar and provided with a transverse slot, a plate disposed on the bolt and provided with a recess adapted to receive the straight-edge, and a nut on the bolt adapted to abut against the plate.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

AUGUST HOLMQUIST.

Witnesses:

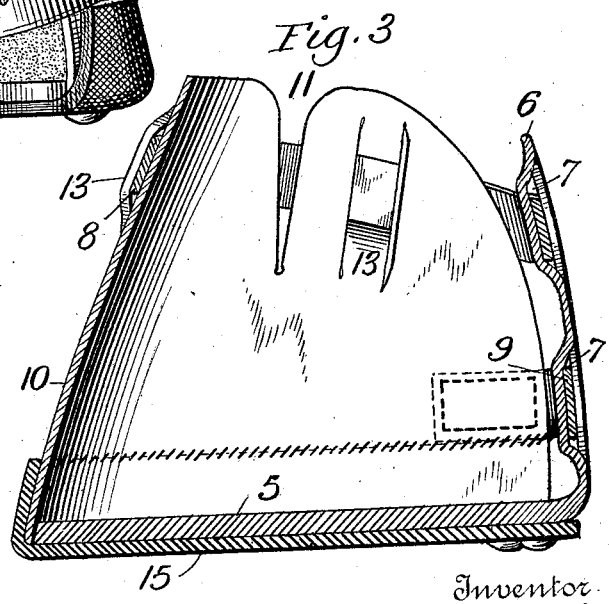
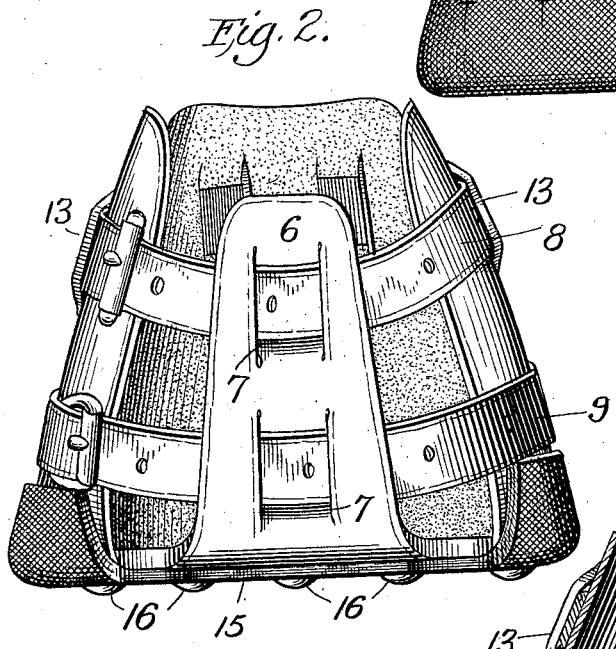
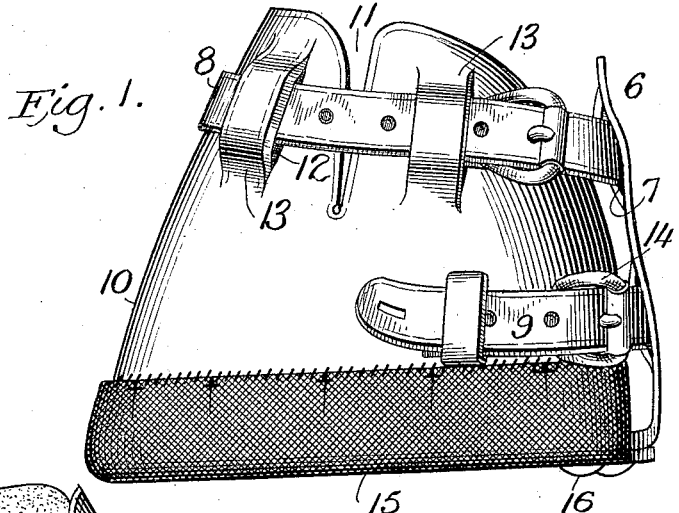
EBEN PERKINS,
FRANK E. SWEET.

No. 840,892.

PATENTED JAN. 8, 1907.

E. ADAM.
HORSESHOE.

APPLICATION FILED OCT. 10, 1906.



Witnesses
James D. Duhamel.
g

Inventor.
Emile Adam

UNITED STATES PATENT OFFICE.

EMILE ADAM, OF NEW YORK, N. Y.

HORSESHOE.

No. 840,892.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed October 10, 1906. Serial No. 338,319.

To all whom it may concern:

Be it known that I, EMILE ADAM, a citizen of the Republic of France, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Horseshoes, of which the following is a specification.

My invention relates to horseshoes, or more particularly to an overshoe to be worn by horses when there is snow or ice on the ground to keep them from slipping, and the object of which will be more fully described in the following specification, set forth in the appended claims, and illustrated in the drawings.

Figure 1 is a side view of my improved shoe. Fig. 2 is a rear view of the same. Fig. 3 is a sectional view.

The construction of my improved shoe consists in a sole 5, of heavy leather, conforming with the shape of a horse's hoof and having at the heel an upward tongue or extension 6 of reduced thickness, so that the same is flexible. This tongue has slits 7 cut in it to afford means for passing and securing thereto the straps 8 and 9, the upper one being adapted to encircle the ankle of the horse and at the same time secure the shoe to the foot, as will be hereinafter more fully described.

Secured to the sole is an upper portion 10, also conforming with the shape of the foot of a horse and provided with gores 11 and also having slits 12, which form the loops 13, under which passes the upper strap 8. The lower strap 9 is also attached to the upper 10 at one side, while its buckle 14 is secured to the other side of the ends of the upper, the tongue 6 not quite entirely filling the space intervening between the two ends of the upper.

To the lower surface of the sole 5 is secured an additional sole, of rubber or similar material 15, having its front and side edges turned upward around the lower part of the upper 10, to which it is stitched, as shown in Figs. 1 and 3, while the rear end may be secured to the sole 5 by means of rivets or similar attaching devices 16.

By constructing an overshoe for horses on this plan I am enabled to effectually secure the same to the hoof of the horse by tightening the straps 8 and 9 and buckling same. This shoe will be found useful not only in freezing weather, but on smooth pavements which are wet and slippery, and for this reason I employ a rubber sole with a roughened surface, which is adapted to create a great amount of friction on a smooth pavement. By stitching the rubber to the leather upper and riveting it to the sole the shoe is made more lasting, as the use of glue or cement attaching the two substances would be almost useless and really detrimental.

It is obvious that the construction of certain details may be modified without departing from the essential features as above described and illustrated.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an overshoe for animals, the combination with a sole having at its rear an upwardly-extending tongue, of an upper with gores attached to the sole, and securing means connected with the upper and tongue for binding the shoe upon the ankle of the animal.

2. In an overshoe for animals, the combination with a sole, of an upper provided with gores and loops, a tongue at the rear of the sole having a loop, binding means passing through the loops and a subsole on the first sole.

3. In an overshoe for animals the combination with a sole, of a tongue rising from the rear of the sole and having a loop, an upper secured to the sole and having gores and loops, binding means passing through the loops and a frictional waterproof flexible subsole secured to the first sole.

Signed at New York, New York county, New York State, October 9, 1906.

EMILE ADAM.

Witnesses:

JAMES F. DUHAMEL,
J. C. LOWELL.

No. 735,567.

PATENTED AUG. 4, 1903.

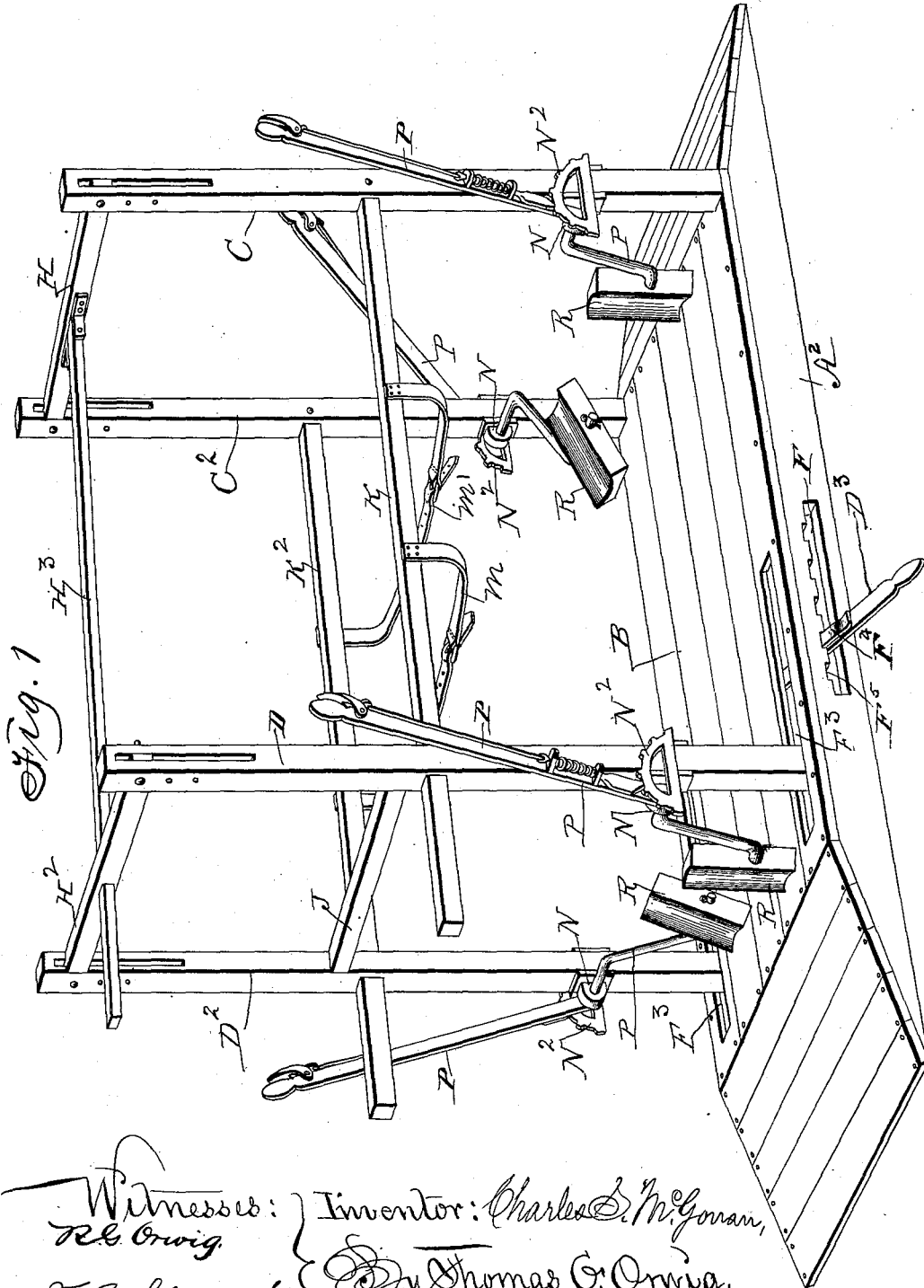
C. S. MCGOWAN.

HORSESHOER'S HORSE HOLDING MACHINE.

APPLICATION FILED DEC. 7, 1901. RENEWED SEPT. 27, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses: } Inventor: Charles S. McGowan,
 R. C. Craig }
 F. C. Stuart. } Thomas C. Craig, Attorney.

No. 735,567.

PATENTED AUG. 4, 1903.

C. S. MCGOWAN.

HORSESHOER'S HORSE HOLDING MACHINE.

APPLICATION FILED DEC. 7, 1901. RENEWED SEPT. 27, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2

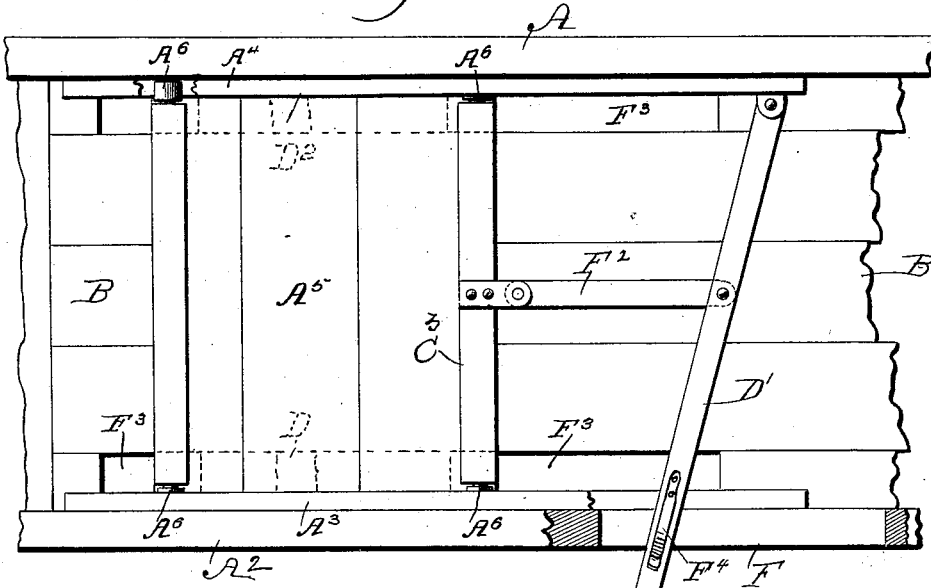
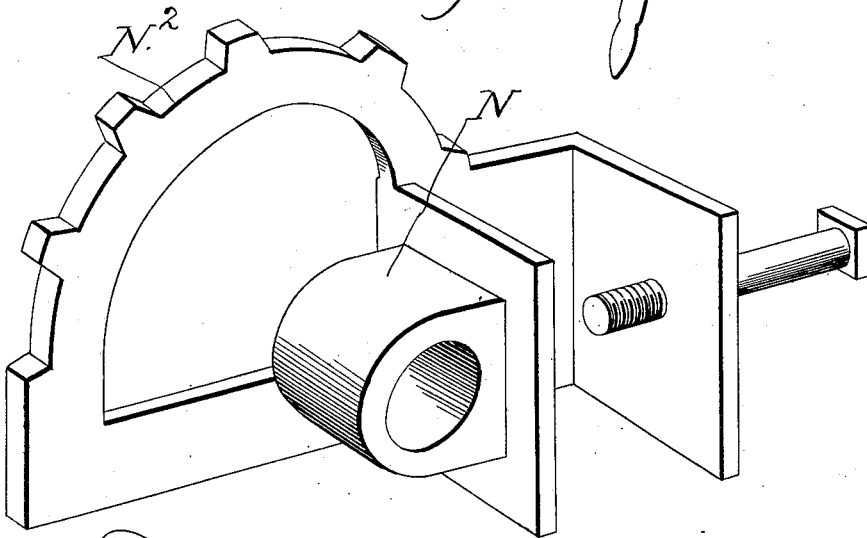


Fig. 3



Witnesses:
 R. S. Orwig
 F. C. Stuart.

Inventor: Charles S. McGowan
 by Thomas G. Orwig, Attorney.

UNITED STATES PATENT OFFICE.

CHARLES S. MCGOWAN, OF DESOTO, IOWA.

HORSESHOER'S HORSE-HOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 735,567, dated August 4, 1903.

Application filed December 7, 1901. Renewed September 27, 1902. Serial No. 125,129. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. MCGOWAN, a citizen of the United States, residing at Desoto, in the county of Dallas and State of Iowa, have invented a new and useful Horseshoer's Horse-Holding Machine, of which the following is a specification.

My object is to prevent the straining and injury incident to man and animals in the process of shoeing horses and to avoid the labor of holding up horses' legs and to facilitate the work of trimming hoofs and nailing on shoes.

My invention consists in the machine adapted to be adjusted and operated for holding horses of different sizes, hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the complete machine, showing all the parts in place, as required, for admitting and fastening a horse therein, so that his legs can be successively lifted and retained in an elevated position and the hoof be advantageously trimmed and a shoe nailed on or taken off without applying hand force to the leg. Fig. 2 is an enlarged portion of the machine inverted endwise and shows a sliding base for supporting and carrying two posts and adjusting them and the machine, as required, to suit horses of different lengths. Fig. 3 is an enlarged detail view of a device adapted for pivotally connecting hand-levers with the corner-posts to be used for lifting and holding an animal's legs elevated and bent, so the hoofs will be in proper position for taking off and nailing on shoes.

The letters A and A² designate the parallel sides, and B the fixed floor, of a platform adapted to support a horse. The ends of the platform are inclined.

C and C² are corner-posts fixed to the front end of the platform, and D and D² are corner-posts fixed to a base adjustably connected with the rear end portion of the platform, as shown in Fig. 2.

A³ and A⁴ are tracks fixed to the inside faces of the parallel sides A and A² to support an adjustable base A⁵, provided with rollers A⁶ at its corners to travel on said fixed tracks and to carry the posts D and D², fixed on the base, as indicated by dotted lines.

D³ is a lever fulcrumed to the side A of the platform-frame extended through an elongated opening F in the side A² and connected with the adjustable base A⁵ by means of a link F² in such a manner that the posts D and D², fixed on top of the base A⁵, can be moved backward and forward in the parallel elongated openings F³, that extend longitudinally in the rear portion of the platform. A spring F⁴, fixed to the lever D, normally engages a rack F⁵, formed on or fixed to the upper edge of the slot F, through which the lever D extends, as shown in Fig. 1.

The top end portion of each of the four corner-posts is provided with a vertical slot, and H and H² are cross-pieces provided with tenons on their ends fitted in said slots, so they can slide up and down therein.

H³ is a straight bar fixed to the front cross-bar H and extended through a central mortise in the rear cross-bar H². The posts and tenons on the ends of the cross-bars are provided with transverse bores, so the bars can be fastened to the posts at different points of elevation, as required, to engage the backs of horses that differ in height.

J is a cross-bar fixed to the central portions of the rear and adjustable posts D and D² to engage the buttocks of an animal when fastened in the machine.

K and K² are side bars fixed to the central portions of the front fixed posts C and C² and extended through mortises in the rear posts D and D² in such a manner that the rear posts can slide backward and forward thereon, as required, in adjusting the rear posts relative to the length of an animal.

m and m' are girths fixed to the side bars K and K² and adapted to be adjusted to engage the under sides of the bodies of animals, as required, to aid in retaining them in standing positions in the machine.

N represents fulcrums for levers adapted to stride the corner-posts and to be adjustably fastened thereto by means of bolts extended through perforations, as shown in Fig. 1.

N² represents segmental racks formed on or fixed to the irons or fulcrums N, and P represents elbow-shaped hand-levers mounted in the adjustable fulcrums N and provided with spring-actuated pawls to engage the racks N². On the horizontal inward extensions of

the levers P are pivoted cushioned blocks R, adapted to rotate in vertical planes and to engage horses' legs in such a manner that the legs can be lifted by means of the levers and held stationary in such positions, as required, to enable a person to trim the hoofs and to take off and nail on shoes without touching or holding the legs by hand.

In the practical use of my invention a horse is backed over the front of the platform and into the machine and the adjustable parts fitted to him, as required, to fasten and retain him standing and his legs then successively elevated and held while old shoes are taken off, the hoofs trimmed, and new shoes nailed on.

Having thus described the construction and operation of my invention, its practical utility will be readily understood by persons familiar with the art to which it pertains, and

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for holding and shoeing horses, a platform having two fixed corner-posts at its front end, parallel slots in its rear end portion and two rear corner-posts extended down through said slots and rigidly connected by fixed cross-bars below the platform and means for adjusting and fastening the rear posts to the platform and means for holding an animal for the purposes stated.

2. In a machine for holding and shoeing horses, a platform having fixed corner-posts at one end and corner-posts extended through parallel longitudinal openings in the other end of the platform and rigidly connected below the platform by means of a cross-bar, a lever pivoted to one side of the platform and extended horizontally through an opening in the other side of the platform, a link pivotally connected with the said cross-bar and said lever and means for locking the lever arranged and combined to operate in the manner set forth for the purposes stated.

3. In a machine for holding and shoeing a horse, a platform having two fixed posts at its front and a side bar fixed to the central portion of each of said posts and two adjustable posts at its rear end adjustably connected with said side bars and said posts provided with a vertically-adjustable cross-bar, at their top end portions a straight bar fixed to the front cross-bar and adjustably connected with the rear cross-bar, arranged and combined

to operate in the manner set forth for the purposes stated.

4. In a machine for holding and shoeing a horse, a platform having two fixed posts at its front end and two adjustable posts at its rear end and each post provided with a vertically-adjustable cross-bar, a straight bar fixed to the front cross-bar and adjustably connected with the rear cross-bar, arranged and combined to operate in the manner set forth for the purposes stated.

5. In a machine for holding and shoeing a horse, a platform and two posts fixed to its front portion in parallel position, two corner-posts extended down through slots in the platform and rigidly connected below the platform, a cross-bar fixed to the central portions of said posts means for adjusting said posts in said slots, side bars fixed to the central portions of said fixed front posts and adjustably connected with the central portions of the rear adjustable posts and adjustable girths fixed to said side bars, all arranged and combined to operate in the manner set forth for the purposes stated.

6. A machine for holding and shoeing horses, comprising a platform having fixed corner-posts at its front end, an adjustable base having fixed corner-posts, means for adjusting the said base and rear posts carried thereby backward and forward relative to the platform, a vertically-adjustable cross-bar at the tops of the front fixed posts, a vertically-adjustable cross-bar at the top ends of the adjustable rear posts, a bar fixed to the cross-bar at the tops of the front posts and adjustably connected with the adjustable cross-bar at the tops of the rear adjustable posts, side bars fixed to the central portions of the front fixed posts and adjustably connected with the central portions of the rear adjustable post and girths fixed to said side bars levers fulcrumed to the corner-posts, devices for lifting and holding horses' legs pivotally connected with said levers, means for locking the levers and means for retaining the adjustable rear corner-posts stationary, arranged and combined to operate in the manner set forth for the purposes stated.

CHARLES S. MCGOWAN.

Witnesses:

P. S. MCGOWAN,
C. W. MCKELLIPS.

W. S. MITCHELL.
Bridle-Bits.

No. 209,911.

Patented Nov. 12, 1878.

Fig. 1.

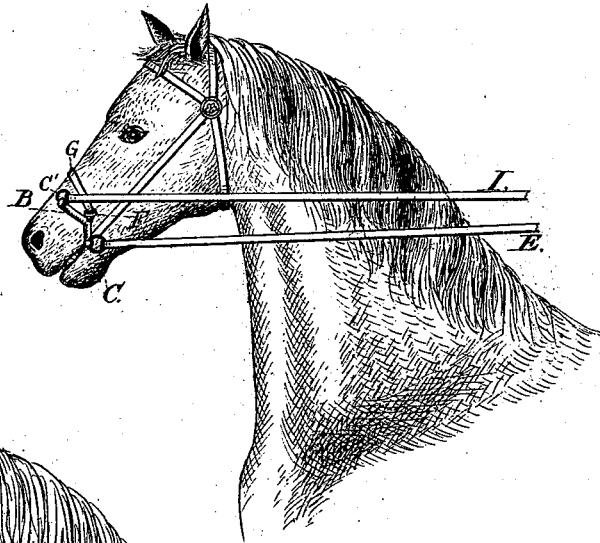


Fig. 3.

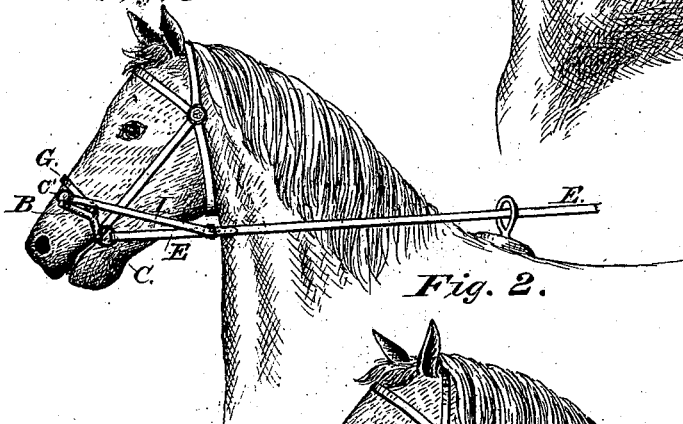
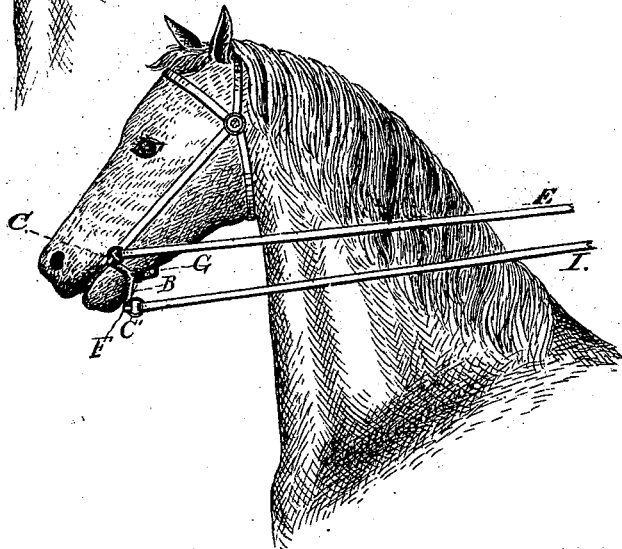


Fig. 2.



Witnesses:

J. L. Brecht
W. Beale Hale

Inventor:

William S. Mitchell,

By James L. Norris.

Attorney

W. S. MITCHELL.
Bridle-Bits.

No. 209,911.

Patented Nov. 12, 1878.

Fig. 4.

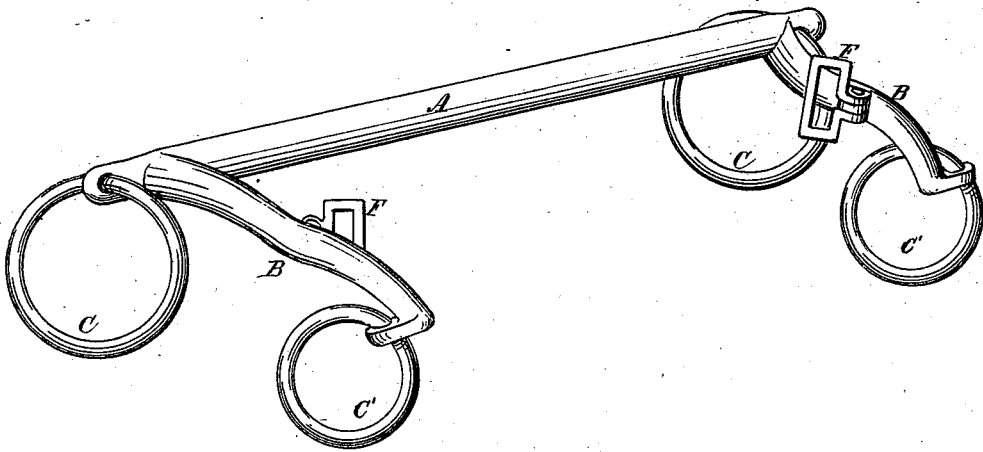
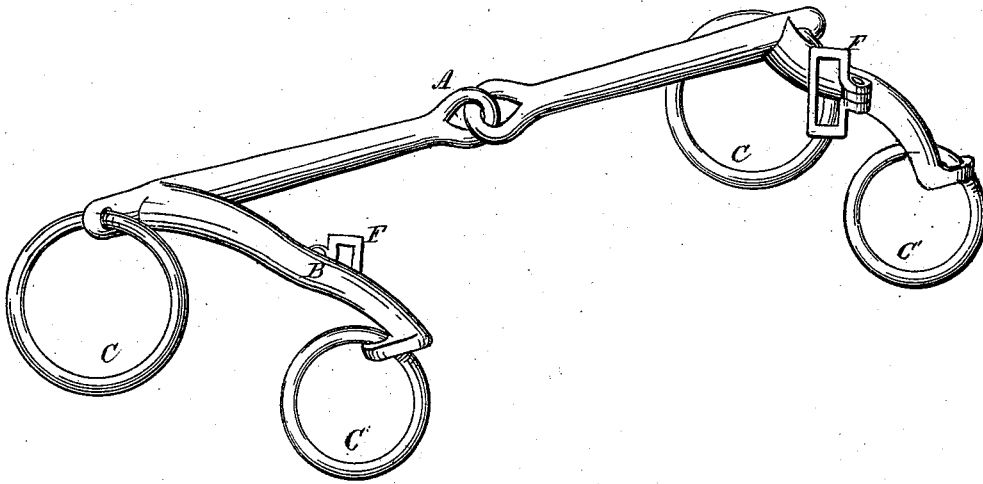


Fig. 5.



Witnesses:

J. C. Brecht,
Wm Beale Hale

Inventor:

William S. Mitchell,

By James L. Norris,

Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM S. MITCHELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN BRIDLE-BITS.

Specification forming part of Letters Patent No. **209,911**, dated November 12, 1878; application filed November 2, 1878.

To all whom it may concern:

Be it known that I, WILLIAM S. MITCHELL, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Bridle-Bits, of which the following is a specification:

This invention relates to certain improvements in bridle-bits; and it has for its object to provide a reversible bit by means of which the proper pressure may be brought to bear upon the mouth of the animal irrespective of the position of its head, whereby it can always be kept perfectly under the control of the driver.

The well-known curb-bit has its fulcrum in the mouth of the animal, and is so constructed that when the reins are drawn upon pressure will be brought to bear upon the roof of the mouth, if the animal's head is in its natural position. The animal has it in its power, however, to relieve its mouth of such pressure by lowering its head until the lower jaw rests upon its breast or throat, in which position the levers of the bit assume, with the check-rein, a straight or approximately a straight line, in which position there is little or no leverage to be obtained, and the control of the animal is lost.

My invention is designed to obviate these objections and provide a bit the fulcrum of which may be brought over the nose or under the lower jaw of the animal, whereby the proper pressure may be brought to bear upon the upper or lower jaw inside the mouth of the animal, irrespective of the position of its head—that is, that it may exert pressure upon the upper or lower jaw, as desired.

To this end my invention consists of a mouth-piece consisting of a bar of metal or other suitable material, which may be in one piece, or formed in two bars jointed in the middle, as in the ordinary snaffle-bit, the bar or bars being provided with cheek-pieces or levers at right angles thereto, with means at their ends for the attachment of check-reins, and having between said ends and the mouth-piece loops for the attachment of a strap to be brought over the nose or under the lower jaw of the animal, according to the position in which the bit is to be employed, the bit having rings at the ends of the mouth-pieces and

cheek-pieces, by means of which the reins are attached, as more fully hereinafter explained.

In the drawing, Figure 1 represents a view showing the head of the animal with the bit in position, showing the fulcrum upon the animal's nose. Fig. 2 is a similar view, showing the bit reversed. Fig. 3 shows my improved bit as used for driving purposes. Fig. 4 is a detached perspective view of the bit, and Fig. 5 illustrates my invention as applied to a snaffle-bit.

The letter A represents the mouth-piece of the bit, which consists of a metallic bar, which may be either in one piece or in two pieces jointed in the middle, as in the ordinary snaffle-bit. The mouth-piece is provided at each end with the cheek-pieces B, and with rings C, to which the driving-rein E is secured, and the cheek-pieces at their ends are provided with similar rings C' for the check-rein I.

The letter F represents two loops swiveled to the cheek-pieces, to which are attached the ends of a strap, G, which forms the fulcrum of the bit, and may be arranged upon the animal's nose or under the lower jaw, according to the position of the bit.

In use the mouth-piece B is placed in the mouth of the animal, the cheek-pieces being elevated or depressed, so that the strap G embraces either the nose or lower jaw of the animal, as may be desired, the said strap G being passed over the nose or under the lower jaw, according to the position in which the bit may be secured; and if it is desired to produce pressure by the bit upon the animal's upper jaw, the cheek-pieces are turned upward, so as to bring the strap G over the nose, while to act on the lower jaw the cheek-pieces are turned downward.

Upon pulling upon the check-rein, pressure will be brought to bear upon the mouth of the animal, no matter to what position it may bring its head, thus keeping it always under the control of the driver or rider, as the proper amount of leverage can always be brought upon the bit.

When the bit is used in the position shown in Fig. 1, and the check-rein I drawn upon, the strap G becomes the fulcrum upon which the bit turns, and the mouth-piece A is thrown

upward against the upper jaw, the upper jaw and nose being thus compressed between the mouth-piece and the strap.

When the bit is used as shown in Fig. 2, the cheek-pieces or levers extend downward and the strap G passes under the lower jaw. Drawing of the check-rein throws the mouth-piece downward, and causes the lower jaw to be compressed between the said mouth-piece and the strap.

In Fig. 3 the check-rein I is simply a short strap attached to the free end of the cheek-piece, and secured to the driving-rein E by a buckle. When the driving-rein is drawn tight the horse is compelled to hold his head up, as the attempt to throw it down would cause a compression of his upper jaw.

As will be perceived, my improved bit may be used without a headstall, as the strap G is sufficient, in connection with the reins, to hold it in position in the animal's mouth.

What I claim is—

1. The combination, in a reversible bit, of a mouth-piece provided with cheek-pieces having end rings for check-reins and a strap secured to said cheek-pieces between the end rings and mouth-piece, and adapted to be brought over the animal's nose or under its

lower jaw, said strap forming the fulcrum of the bit, whereby the mouth-piece and cheek-pieces are converted into a lever, by which the requisite pressure can be maintained upon either the upper or lower jaw of the animal, irrespective of the position of its head, in order to give the driver complete control, substantially as described.

2. In combination with the mouth-piece, constructed in one or more parts, the cheek-pieces having end rings for check-reins, and provided with an adjustable strap intermediate of the end rings and mouth-piece, and adapted to be brought over the nose or under the lower jaw of the animal and the rings attached to the end of said mouth-piece for the guiding-reins, substantially as described.

3. The combination, with the cheek-pieces B of a bit, of the swiveling loops F, and strap G, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

WM. S. MITCHELL.

Witnesses:

JAMES L. NORRIS,

JAS. A. RUTHERFORD.

C. R. SUTER & E. E. FURNEY.
PHYSICIANS' SADDLE-BAG.

No. 193,288.

Patented July 17, 1877.

FIG. 1.

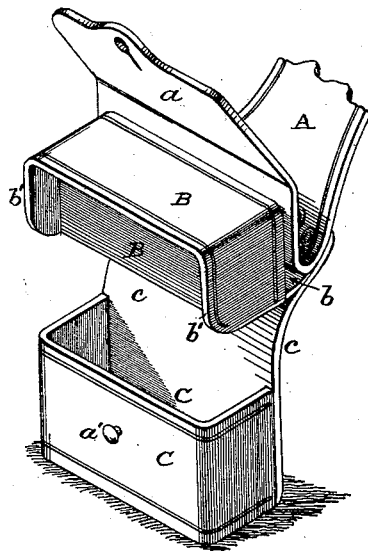
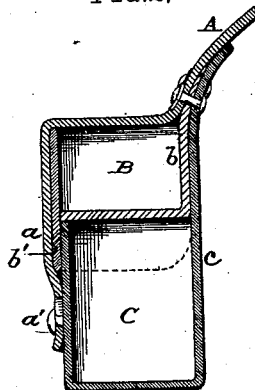


FIG. 2.



ATTEST:

Robert Burns.
Edmond Purditt

INVENTORS:

Charles R. Suter
Elliott E. Furney.
per *Wright Bro.*
Atty.

UNITED STATES PATENT OFFICE.

CHARLES R. SUTER AND ELLIOTT E. FURNEY, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN PHYSICIAN'S SADDLE-BAGS.

Specification forming part of Letters Patent No. 193,286, dated July 17, 1877; application filed February 27, 1877.

To all whom it may concern:

Be it known that we, CHARLES R. SUTER and ELLIOTT E. FURNEY, both of the city and county of St. Louis, and State of Missouri, have invented a certain new and useful Improvement in Physician's Saddle-Bags, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

Our improvement relates to a saddle-bag made in two parts or cases, one above the other; and it consists in connecting the upper one of these parts or cases to the suspending or back strap by a flexible piece or hinge at its upper rear corner, so that this case may be turned upward to such a height as to permit free access to be had to the lower part or member.

Our improvement consists, also, in extending the leather forming the front and sides of the upper case below the bottom of said case, so as to lap down past the top of the lower case, to exclude water and dust.

In the drawings, Figure 1 is a perspective view with the upper case thrown up upon its hinge, so as to expose the top of the lower case. Fig. 2 is a transverse section.

A is a part of the back or suspending strap which extends over the horse's back, having at each end a bag or case to contain medicines, &c. The lower end *a* of this strap forms the flap which extends over the top and front of the upper part or case B, and in front of the part or case C below it, to the attachment *a'*.

These cases (B and C) are made of leather. The case or pouch B is secured at its upper corners to the suspension band or strap, which arrangement permits of its being raised to any desired angle when it may be desired to get at the contents of the lower tray, or for other purposes, without disturbing either the lower case or the back strap.

The back *c* of the lower case C extends up behind the case B, and is attached to the back-strap A, and serves to support said case C. The back *b* of the case B extends above the top of the case, and is attached to the strap A, and has no connection to the case C except through the medium of the suspending-straps *c* and *b*, so that the movement of the case B is, to a certain extent, independ-

ent of case C. The strap or connection *b* forms a hinge, upon which the case B may be thrown up into the position shown in Fig. 1, so as to be at a distance above the case C to expose fully the top of the case C, so that when the bag is suspended in its usual position easy access can be had to the lower case C.

The piece of leather forming the front and ends of case B extends down below the level of the bottom of said case at *b'*, so as to lap past the top of case C, and form a lap-joint that will be impervious to water running down the bag or cases. The lap *b'* also serves to exclude the dust. If the lip or flange *b'* were made of a piece of leather or other material separate from the front and ends of case B, water would be liable to pass through the joint between said pieces and wet the contents of the lower case C.

We are aware that it is not new to attach the upper pouch or tray of physician's saddle-bags to the suspension-band or back-strap, but it has been usual to secure said pouch to the band at or near both the top and bottom in such a manner as to preclude the top tray being raised while suspended from the horse's back, without the strap being bent back considerably over the back of the horse or against its side. Our improved manner of securing the pouch at its upper rear portion only, enables its being raised to any necessary angle to gain access to the lower pouch without pressing upon the back of the horse or creasing the back-strap.

We claim herein as our invention—

1. The bag composed of two parts or cases, B C, the case B being suspended to the back C from its upper corners only by flexible piece or hinge *b*, to allow of its free and independent upward movement, substantially as and for the purpose set forth.

2. The combination, in a saddle-bag composed of two cases or parts, B C, of lip or flange *b'*, in one piece with the front and ends of case B, and forming a lap-joint between the cases, substantially as set forth.

CHARLES R. SUTER.
ELLIOTT E. FURNEY.

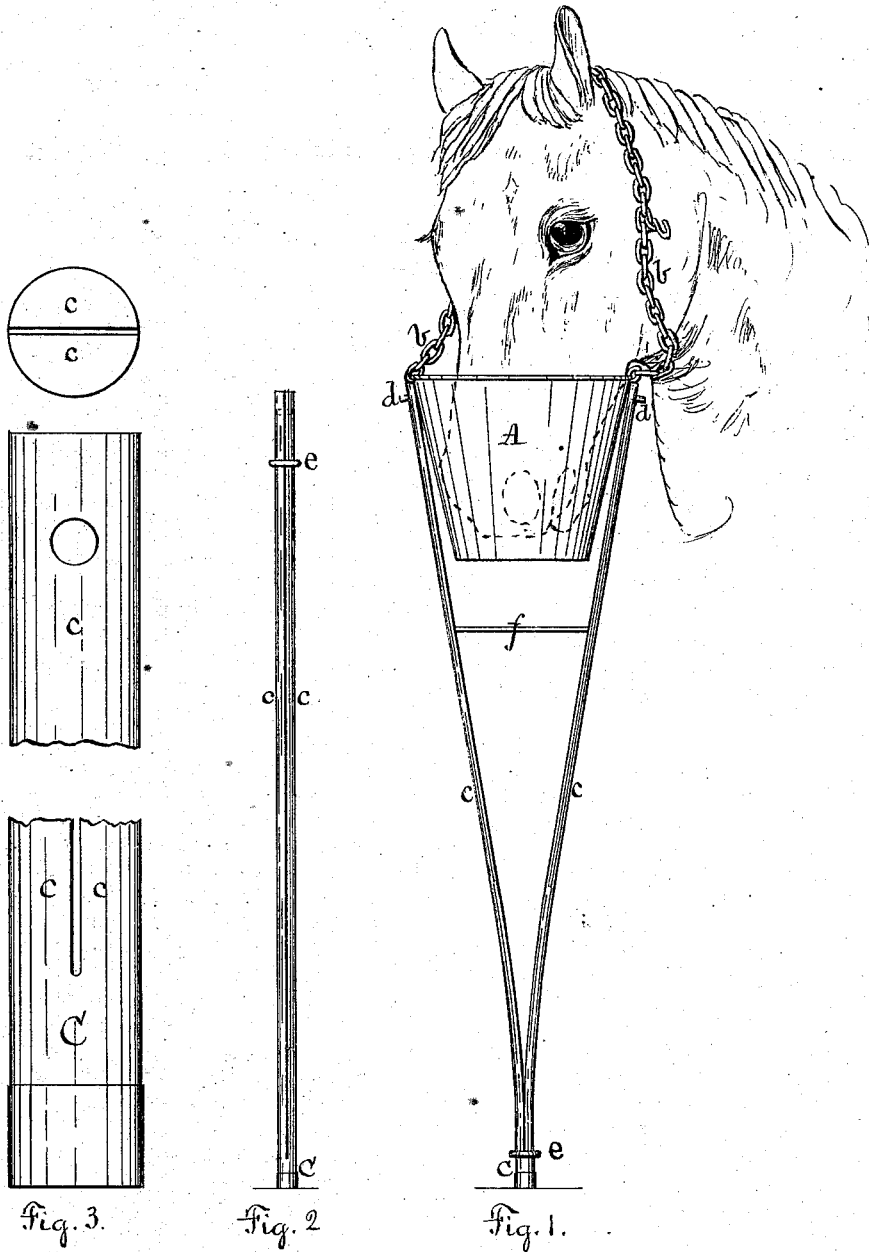
Witnesses:

SAML. KNIGHT,
ROBERT BURNS.

A. H. SPENCER.
Portable Horse-Feeding Support.

No. 159,617.

Patented Feb. 9, 1875.



Witnesses.
Chas. F. Sleeper.
Wm. H. Emmond.

Inventor.
Albert H. Spencer

UNITED STATES PATENT OFFICE.

ALBERT H. SPENCER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PORTABLE HORSE-FEEDING SUPPORTS.

Specification forming part of Letters Patent No. 159,617, dated February 9, 1875; application filed January 11, 1875.

To all whom it may concern:

Be it known that I, ALBERT H. SPENCER, of Boston, State of Massachusetts, have invented an Improvement in Feed-Buckets for Animals, of which the following is a specification:

The object of my invention is to relieve the animal's neck of the weight of the food while eating, to enable him, without effort, to reach all the grain in the bucket, and thus prevent waste.

In the drawings, A represents the bucket or bag for containing the food, with a chain, *b*, attached to it at each side, passing over the animal's head, to prevent his removing it entirely from the bucket. I prefer a conical form for these pails, as conforming more nearly to the shape of a horse's head, packing more snugly for storage or transportation, and being better adapted for attaching the support in the simplest manner. C represents the portable rest or support, which may be made in various ways; but the method shown in the drawings is the simplest and best.

A wooden staff of suitable size, protected by a stout ferrule at the bottom to rest on the ground, is split nearly its entire length and parted at the top, so as to receive the pail A between the ends. A socket at each of these ends, *c c*, receives a pin or hook, *d d*, projecting from each side of the pail near the top, by which means the support is attached to it and suspended from it.

If preferred, the hooks may belong to the support and the sockets to the pail. The relative arrangement of these parts is such that the bucket is always supported in an upright position, the center of gravity being below the pins which connect it with the forked standard; and in case the bucket is raised above its proper height and tipped to the

front or rear the standard will, by its own weight, maintain a perpendicular position, and be ready to act when sufficiently lowered. A brace, *f*, between the prongs of the support below the bucket, adds to its strength or stiffness, as shown in Figure 1.

When the animal has eaten his grain the support can be readily removed by springing it off from the pins *d d*. The bucket is then adapted for use as a water-pail or for other purposes; and by sliding the ring *e* up toward the top of the standard the prongs *c c* are brought and held in close contact with each other, as shown in Fig. 2.

Instead of the customary strap over the animal's head, I use a chain, *b*, which will lie snug in its place, even if very slack, when eating from the bottom of the pail, thus avoiding a tendency to slip over the ears and fall off, as a stiff strap would do. This plan has also the merit of cheapness, and does not hurt the horse, as the weight of the bucket and contents rests on the support C. A simple hook at either side enables me to shorten the chain at pleasure.

The support may be made of a single piece bent into U form, or of two pieces hinged together at the bottom; but I prefer the form shown in the drawings, Fig. 3 showing details of full diameter for illustration.

I claim as my invention—

1. A feed-bucket adapted to be suspended from the animal's neck, and trunnioned near its upper part to a bifurcated support, substantially as and for the purpose described.

2. The detachable support C *c c*, constructed as and for the purpose specified.

ALBERT H. SPENCER.

Witnesses:

J. R. WIDGER,
S. A. SNOW.

M. McBARREN.

RUBBER ATTACHMENT FOR HORSESHOES TO PREVENT INTER-FERING, &c.

No. 188,808.

Patented March 27, 1877.

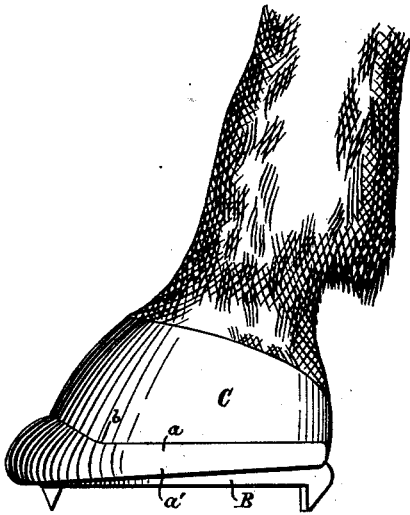


FIG. 1.

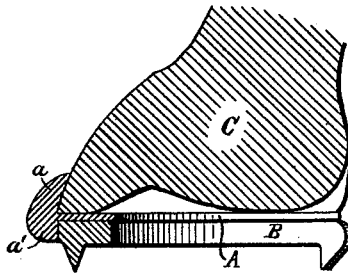


FIG. 2.

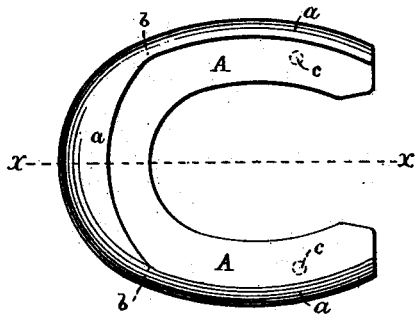


FIG. 3.

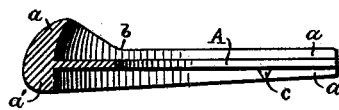


FIG. 4.

WITNESSES:

N. C. Lombard.
W. A. Kemmenway.

INVENTOR:

Michael McBarren

UNITED STATES PATENT OFFICE.

MICHAEL MCBARREN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN RUBBER ATTACHMENTS FOR HORSESHOES TO PREVENT INTERFERING, &c.

Specification forming part of Letters Patent No. 188,808, dated March 27, 1877; application filed February 17, 1877.

To all whom it may concern:

Be it known that I, MICHAEL MCBARREN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Device for Preventing Overreaching and Interfering in Horses, of which the following, taken in connection with the accompanying drawings, is a specification:

My invention relates to a device to be secured to a horse's hoof, to prevent injury to his feet by overreaching or interfering; and it consists in the use of a rubber cushion or pad extending around, or partially around, the base of the hoof and the outer edge of the shoe, and projecting outwardly therefrom a short distance, and secured firmly to the horse's foot by being clamped between the metal shoe and the hoof, as will be further described.

Figure 1 of the drawings is a side elevation of a horse's foot with my invention applied thereto. Fig. 2 is a vertical section of the same, illustrating the manner of applying it to the foot. Fig. 3 is a plan of my device removed from the foot, and Fig. 4 is a vertical section on line *x x* on Fig. 3.

A is a thin web of rubber, having an outline, as seen in plan, corresponding to the shape of the base of the horse's hoof, but somewhat larger across, so that when secured to the hoof by nailing the metal shoe B thereto through said web, as shown in Fig. 2, it will project beyond the edge of the shoe B and the hoof C. Around the outer edge of the web A extend the ribs *a* and *a'*, projecting, one upward and the other downward therefrom, so as to fit around and partially inclose the outer edge of the metal shoe and the base of the hoof, as shown in Fig. 2. These ribs *a* and *a'* are thickened up at the toe of the foot, so as to form a thick cushion of elastic material, as shown, and the outer edge of the whole is rounded over, so as to present no sharp corners. This cushion of soft rubber, molded in one piece, is placed upon the bottom of the horse's foot, with the web A resting flat thereon, and the rib *a* fitting closely around the base of the hoof, and the metal shoe B is placed in position, resting upon the web A and within the rib *a'*, and nailed to

the hoof in the usual manner, the nails passing through the rib A in an obvious manner.

Overreaching and interfering are two sources of serious trouble to owners of horses, and many devices have been tried to obviate or remedy the difficulty with only partial success. Horses given to overreaching very often cut their fore legs or feet by striking them with the calk of the hind shoe so seriously as to disable them for active service for some time, and in other cases the toe of the hind foot comes in contact with the shoe on the forward foot; a constant repetition of such contact soon wears the toe of the hind hoof away till it becomes so tender and sore as to necessitate dispensing with the services of the horse until the hoofs can have time to grow and become sound and tough again. This difficulty is entirely overcome by the use of my elastic cushion, upon which the blow is received, thereby preventing the shoe on one foot coming in contact with the other foot or leg, and, as a consequence of the blow being struck with the soft-rubber cushion instead of the iron or steel shoe, as heretofore, serious injury to either of the feet of the horse is entirely avoided.

For preventing injurious effects from the overreaching of horses it is only necessary to place the cushions on the hind feet of the horse, and if the same horse is not given to interfering the cushion need not extend back around the sides of the foot beyond the points marked *b b*. But for horses given to interfering, the cushions should be made of the full length, as seen in Figs. 1, 3, and 4, and placed upon either the fore or hind feet, or both, according to the requirements of the particular case in hand, the projecting rounded edges of the soft-rubber cushions effectually preventing the edge of the metal shoe from coming in contact with the fetlock-joint of the opposite foot, in an obvious manner.

On the under side of the web A, and near its rear end, are formed the downwardly-projecting teats *c c*, as shown in full in Fig. 4 and in dotted lines in Fig. 3, said teats being designed to fit into correspondingly-shaped recesses formed in the upper surface of the shoe, to assist in holding the cushion in place in

cases where the shoe is nailed to the hoof only near the toe, as is necessary on the inside of an interfering horse's foot.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

An elastic cushion shaped to conform to and partially inclose and surround the base of a horse's hoof and the shoe attached thereto, by means of the overlapping portions *a* or *a'*, and adapted to be secured to the foot by be-

ing clamped between the shoe and hoof, as herein set forth, as a new article of manufacture.

Executed at Boston, Massachusetts, this 13th day of February, A. D. 1877.

MICHAEL McBARREN.

Witnesses:

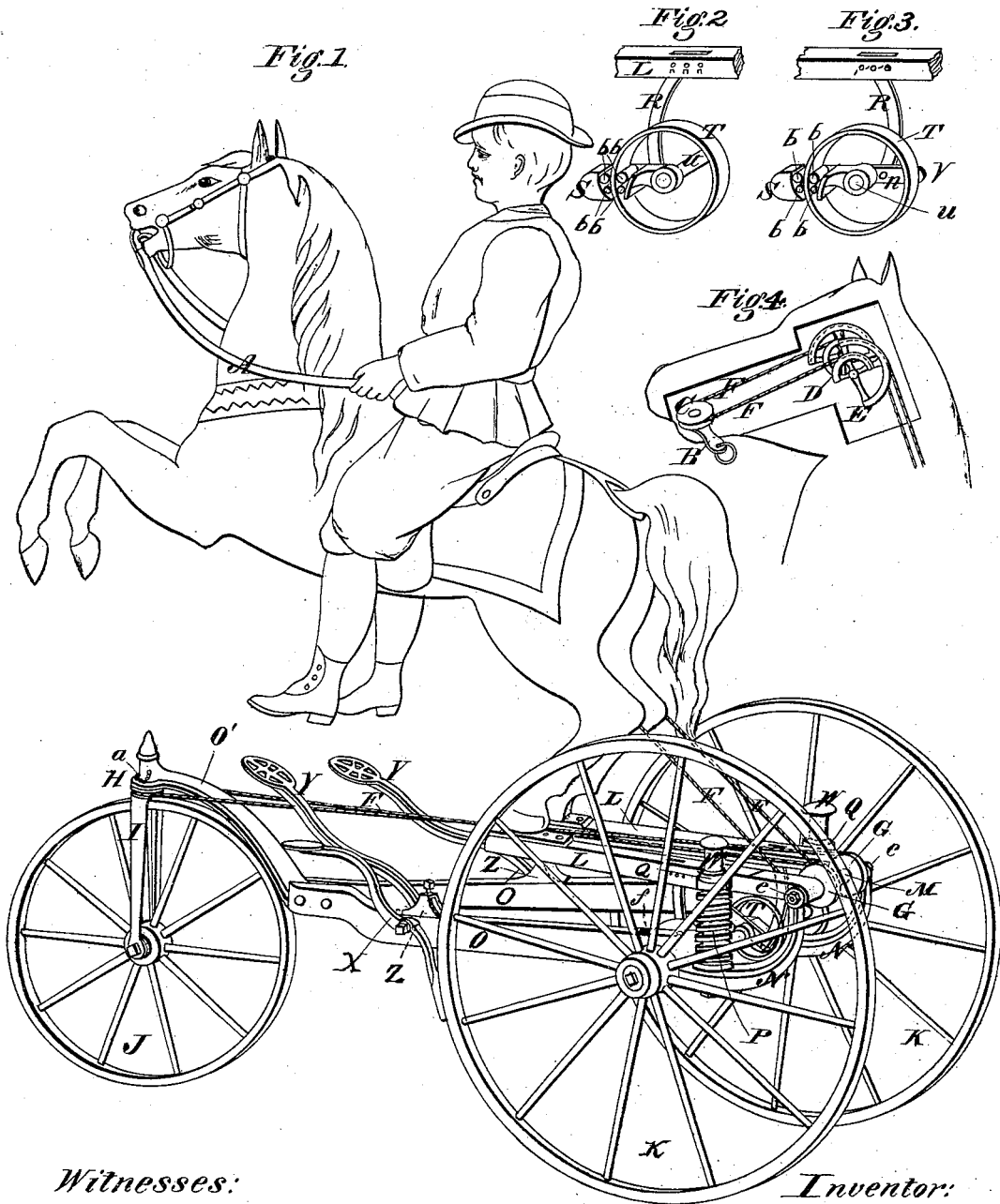
N. C. LOMBARD,

E. A. HEMMENWAY.

J. H. NOLAN.
VELOCIPEDE.

No. 193,098.

Patented July 17, 1877.



Witnesses:

Donn J. Twitchell
William W. Dodge.

Inventor:

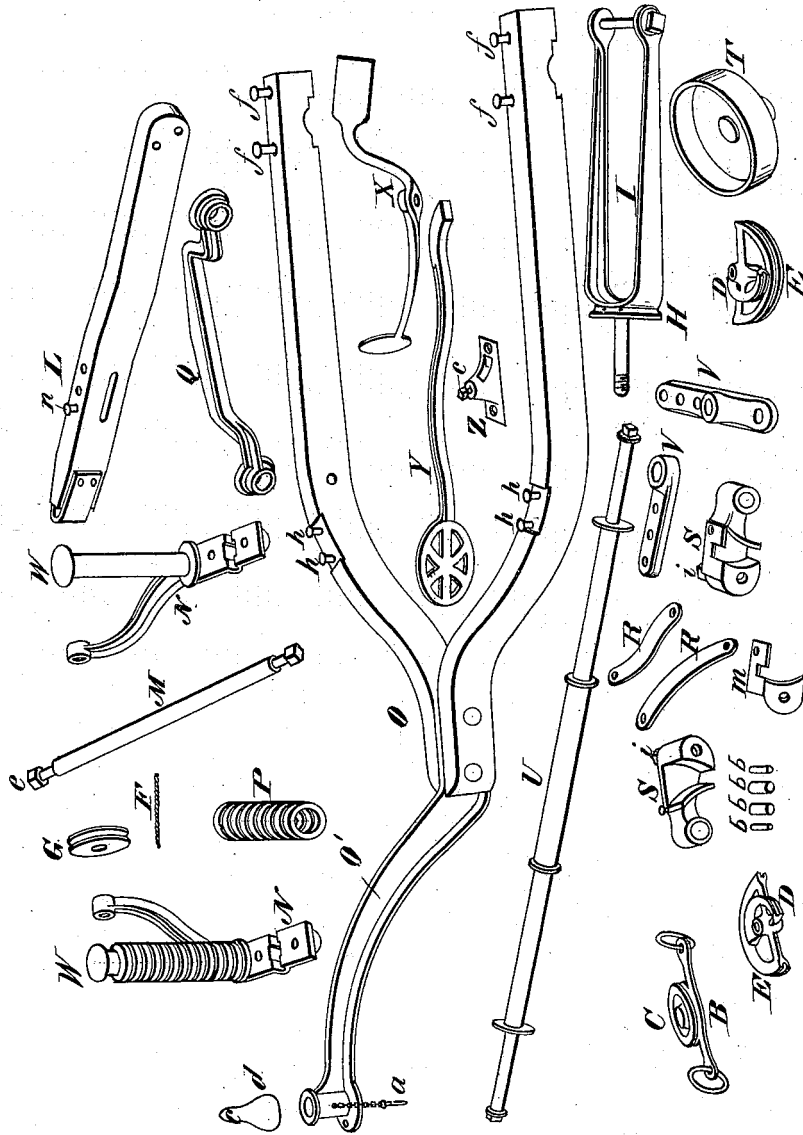
J. H. Nolan
By Dodge & Co
His Attys.

J. H. NOLAN.
VELOCIPEDE.

No. 193,098.

Patented July 17, 1877.

Fig. 5.



Witnesses:

Donn S. Twitchell.
William W. Dodge.

Inventor:

J. H. Nolan.
By his Atty.
Dodger & Son

UNITED STATES PATENT OFFICE.

JOHN H. NOLAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN VELOCIPEDES.

Specification forming part of Letters Patent No. 193,098, dated July 17, 1877; application filed May 19, 1877.

To all whom it may concern :

Be it known that I, JOHN H. NOLAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Velocipedes, of which the following is a specification :

My invention relates to that class of velocipedes in which the rotation of the wheels is produced by means of a vertically-moving seat sustained by a spring or springs, and more especially to those in which the seat is formed on the figure of a horse arranged to rock on the frame of the vehicle.

The object of the invention is to simplify and cheapen the construction, improve the action, and render the velocipede readily adjustable for the use of boys of different sizes; and to this end it consists in various details hereinafter described and explained.

Figure 1 represents a perspective view of my velocipede; Figs. 2 and 3, perspective views illustrating the construction of the clutches by which the driving-wheels are rotated; Fig. 4, a view, showing the arrangement of the steering-gear within the head of the horse; Fig. 5, a view, showing the various parts and pieces separated from each other.

In constructing my velocipede I first construct a Y-shaped frame, and sustain the same by two driving-wheels, K, at the rear end, and a swiveled guiding-wheel, J, at the front, as shown in Fig. 1.

As shown in Figs. 1 and 5 the frame consists of two curved bars, O, bolted at their forward ends to a metal goose-neck or reach-bar, O', the forward end of which latter is provided with a vertical eye or socket to receive the upper end of the forked swivel post I, in which the guiding-wheel is mounted.

The driving-wheels are mounted on, and one or both of them secured rigidly to, the ends of a transverse shaft, U, which latter is seated in notches or bearings in the under sides of the bars O of the frame, and secured therein by the ends of metal arms N, which are fastened to the under side of the frame-bars by bolts. The rear ends of the arms N are curved upward, and provided at their extremities with eyes which sustain the ends of a transverse rod or shaft, M, which latter, in turn,

sustains and forms a pivot for two arms, L, which are extended forward and bolted firmly to the hind feet of a model horse, as shown in Fig. 1.

The arms L, to which the horse is attached, rest upon a transverse bar, Q, the ends of which are arranged to slide on vertical rods W, and supported by spiral springs P mounted on said rods, the springs serving to sustain the horse in an elevated or rearing position, except when it is depressed by the weight and motion of the rider, who will sit astride of the back in the same manner as upon a live animal. The rods on which the springs are mounted are secured to the fixed arms N, and are provided on the upper ends with nuts, which admit of the springs being readily replaced by others which are weaker or stronger, as occasion may require.

On the ends of the axle, inside of the frame, I secure firmly two disks or wheels T, and by the sides of the disks two loose clutch-blocks, S, to give them a rotary motion, the clutch-blocks being given a vibratory motion by bolting to their sides arms V, and connecting the latter by links R to the arms L, on which the horse is sustained.

As shown in Figs. 1, 2, 3, and 5, each disk or wheel T is provided on one side with a peripheral rim or flange, and is secured rigidly on the axle, while its driving-clutch is mounted loosely on the axle, and provided in its side with a V-shaped notch or recess, which receives the rim or flange of the disk, and also two steel rollers, b, on each side of the same, as clearly represented in Figs. 2 and 3.

As the clutch-blocks S descend, the rollers turn loosely therein, but as they are elevated the rollers ride down in the V-shaped notch and lock the arm or block fast to the flange of the disk or wheel, which is thereby caused to turn with the clutch.

It will be noticed that one of the clutches takes hold in front and the other in rear of the axle, but that both actuating-links are connected to the clutches in rear of the axle, the consequence of which arrangement is that the operating or gripping end of one clutch rises as that of the other descends, so that the two clutches act alternately, one during the down-

ward and the other during the upward motion of the horse, thereby imparting a constant and uniform motion to the driving-wheels.

By providing each clutch with the rolls on both sides of the flange of the disk opposite to each other, a double gripping-power is secured, and the action of the clutch rendered more certain than it would otherwise be, the danger of springing or breaking the flange avoided, and the clutch prevented from straining upon and wearing the axle.

On opposite sides of the frame I secure, as shown, two rigid foot pieces or rests, Y, in such position that the rider can place his feet upon them as the horse descends, for the double purpose of checking the downward motion and of assisting the upward motion by the power of his legs.

As shown in Figs. 1 and 5, the foot-rests consist of long arms, having their rear ends seated in sockets Z on the frame, and secured by set-screws c, the ends which enter the sockets being curved vertically, so that by adjusting them endwise the forward ends may be raised or lowered to suit the length of leg of the rider. One side of the frame is also provided with a brake-lever, X, pivoted at its middle and held out of action by a spiral spring, the forward end of the lever standing in such position that it may be readily operated by one of the feet of the rider.

For the purpose of enabling the rider to steer the velocipede the upper end of the swivel-post I is provided with a pulley, H, which has secured to it a steering cord or wire, F, which is passed backward from opposite sides of the pulley, and crossed and carried downward around two loose pulleys, G, on the rear shaft M, and thence upward through the body of the horse, as shown in Figs. 1 and 4, around pulleys D E in the head of the horse, to a small pulley, C, secured on the middle of the bit B, which is pivoted in the mouth of the horse and provided at its ends with the reins A, so that by drawing one rein or the other the steering-wheel J may be turned to the right or the left as required.

By mounting the pulleys G, around which the steering wire or cords pass, on the axis of motion of the horse I prevent the motion of the latter from affecting the tension or the action of the wires.

In order that a small movement of the bit may give a wide movement to the steering-wheel, the two pairs of pulleys D and E are employed, the former being smaller than the latter. Each pair consists of one large and one small pulley, united and arranged to rotate independently of the other pair. The ends of the cord pass, one over each large wheel, and then over the small wheel to the bit-pulley. A small movement of the cord, acting on the small pulley, causes the large pulley to give the cord beyond it a much greater movement.

In order that the steering-wheel may be locked fast when desired, either to cause the advance of the velocipede in a straight line or in a circle, the front of the frame is provided with a series of holes through which a pin may be inserted into a hole made for the purpose in the upper end of the swivel-post I, this pin being attached to the frame by a chain, so that it cannot be lost.

Having thus described my invention, what I claim is—

1. The combination of the wheeled frame having its rear axle provided with the disks and their operating clutches, the horse pivoted upon the frame and sustained by springs, and devices connecting the horse and the clutches, substantially as shown and described.

2. The foot-rests Y, having their rear ends curved and secured in sockets on the frame, as shown, whereby they are rendered adjustable vertically.

3. In combination with the frame-bars O, having the axle U seated on its under side, the arms N applied as shown, for the double purpose of securing the axle and sustaining the shaft M.

4. In combination with the arms L, having the horse secured to them, the transverse bar Q, mounted on guides W, and supported by the spiral springs P.

5. In combination with the swivel-post I and the steering-cord F extending therefrom to operating devices in the head of the pivoted horse, the guiding-pulleys G for said cord, arranged with their axes coincident with that on which the horse is mounted, as shown, whereby the movements of the horse are prevented from affecting the cord.

6. In combination with the steering-cord F passing through the horse in the manner shown, the pulley C, pivoted bit B, and reins A, substantially as shown.

7. In combination with the steering-cord, the pulleys D E, constructed and arranged as shown.

8. In a velocipede, the combination of the horse mounted on pivoted arms and sustained by springs, the main shaft or axle U, provided with the clutch-arms S and disks T, and the links R, arranged in the manner shown and described, so as to actuate the clutches alternately, one during the upward and the other during the downward movement of the horse.

9. In combination with the flanged wheels T, arranged as shown, the clutch-blocks S, provided with the V-shaped recess to admit the flange of the wheel, and with the rolls b bearing against both sides of the flange, as shown.

JOHN H. NOLAN.

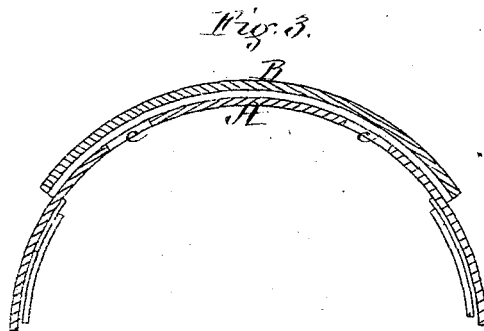
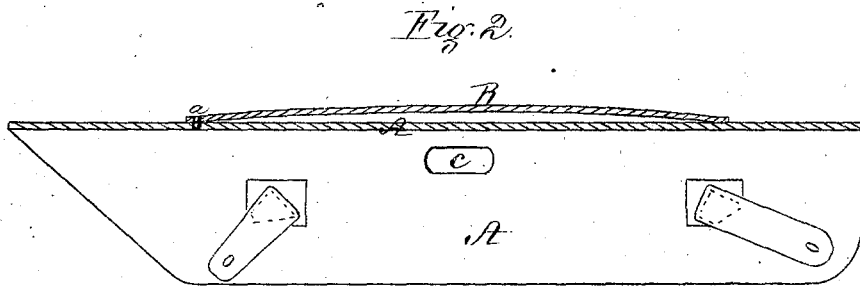
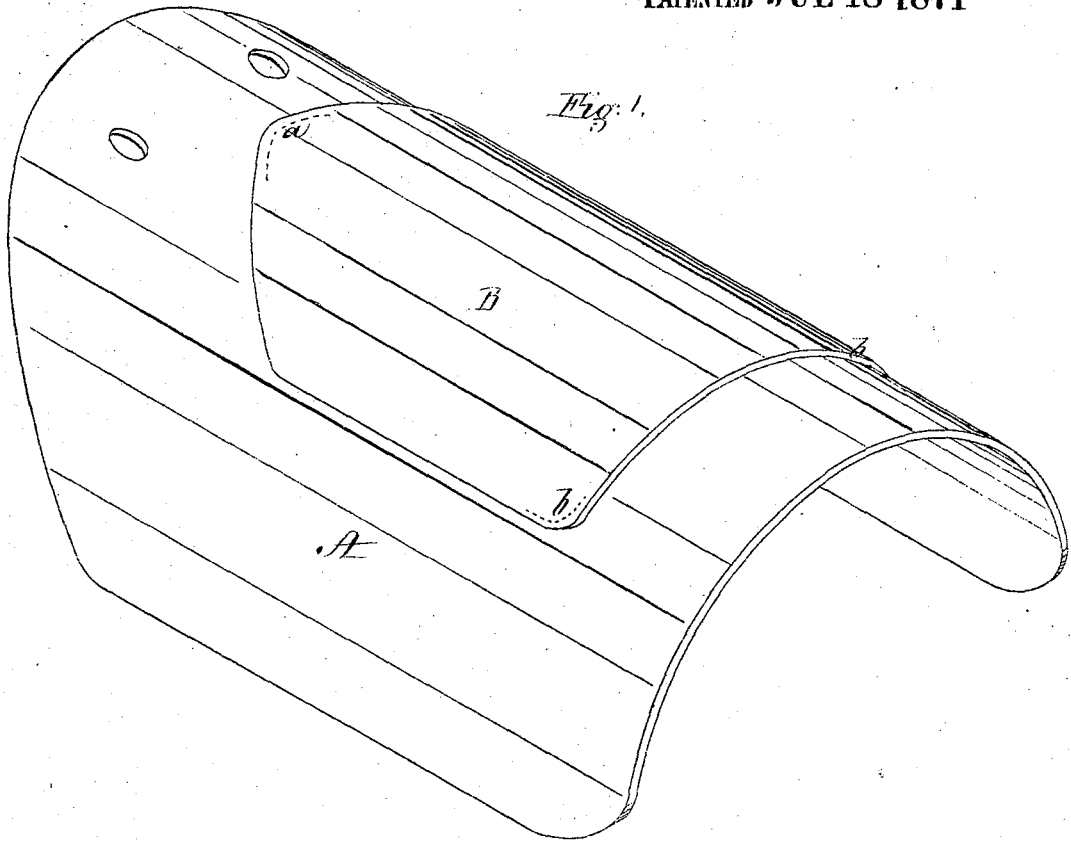
Witnesses:

P. T. DODGE,
DONN I. TWITCHELL.

Stephen Sibley's Ventilating Horse Cover:

117118

PATENTED JUL 18 1871



Witnesses,
S. W. Adams
W. J. Cambridge

Inventor,
Stephen Sibley

UNITED STATES PATENT OFFICE.

STEPHEN SIBLEY, OF CHELSEA, MASSACHUSETTS.

IMPROVEMENT IN VENTILATED HORSE-COVERS.

Specification forming part of Letters Patent No. 117,118, dated July 18, 1871.

To all whom it may concern:

Be it known that I, STEPHEN SIBLEY, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented an Improved Ventilating Horse-Cover, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of my improved ventilating horse-cover. Fig. 2 is a longitudinal vertical section through the same. Fig. 3 is a transverse vertical section through the same.

The ordinary rubber or water-proof horse-cover is objectionable on account of its excluding the air and thus sweating the horse. To overcome this objection ventilated horse-covers have been constructed with openings, provided with caps or coverings, held open to admit the air by braces and springs; but these devices are complicated and liable to be broken or put out of order by careless handling.

My invention has for its object to enable me to dispense with these braces and springs, and to produce a horse-cover of simple construction which will allow the air to circulate freely between it and the body of the horse; and consists in making that portion of the cover which extends partially over the back and sides of the horse double, with one or more openings in the inner portion of the cover, through which the air passes when the two parts of the double portion are separated from each other by the motion of the horse.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing, A represents a cover, which is made of suitable water-proof material and of

a proper form to fit a horse. B is a piece of the same or other suitable material, which is secured, at *a b*, to the cover A, and is of sufficient size to extend partially over the back and sides of the horse. The portion of the cover provided with the piece B is thus made double, and the two parts of the double portion, being secured together at the ends only, are free to separate from each other as the horse moves, which allows the air to pass freely between them and through openings *c c* in the cover A. And it will be seen that the alternate rise and fall of the portion B, caused by the motion of the horse in traveling, will tend to exhaust the air from beneath the cover and force it thereunder through the openings *c c*, the air thus admitted circulating freely under the cover and between it and the body of the horse, and insuring the desired ventilation, while the upper portion B effectually prevents the rain from entering the openings *c c*.

I do not confine myself to the number of openings *c c*, as one or more than two may be used, as preferred.

What I claim as my invention, and desire to secure by Letters Patent, is—

The within-described ventilating horse-cover, constructed with a double portion, A B, extending partially over the back and sides, and one or more openings, *c*, in the portion A, operating substantially in the manner and for the purpose set forth.

Witness my hand this 2d day of June A. D. 1871.

STEPHEN SIBLEY.

Witnesses:

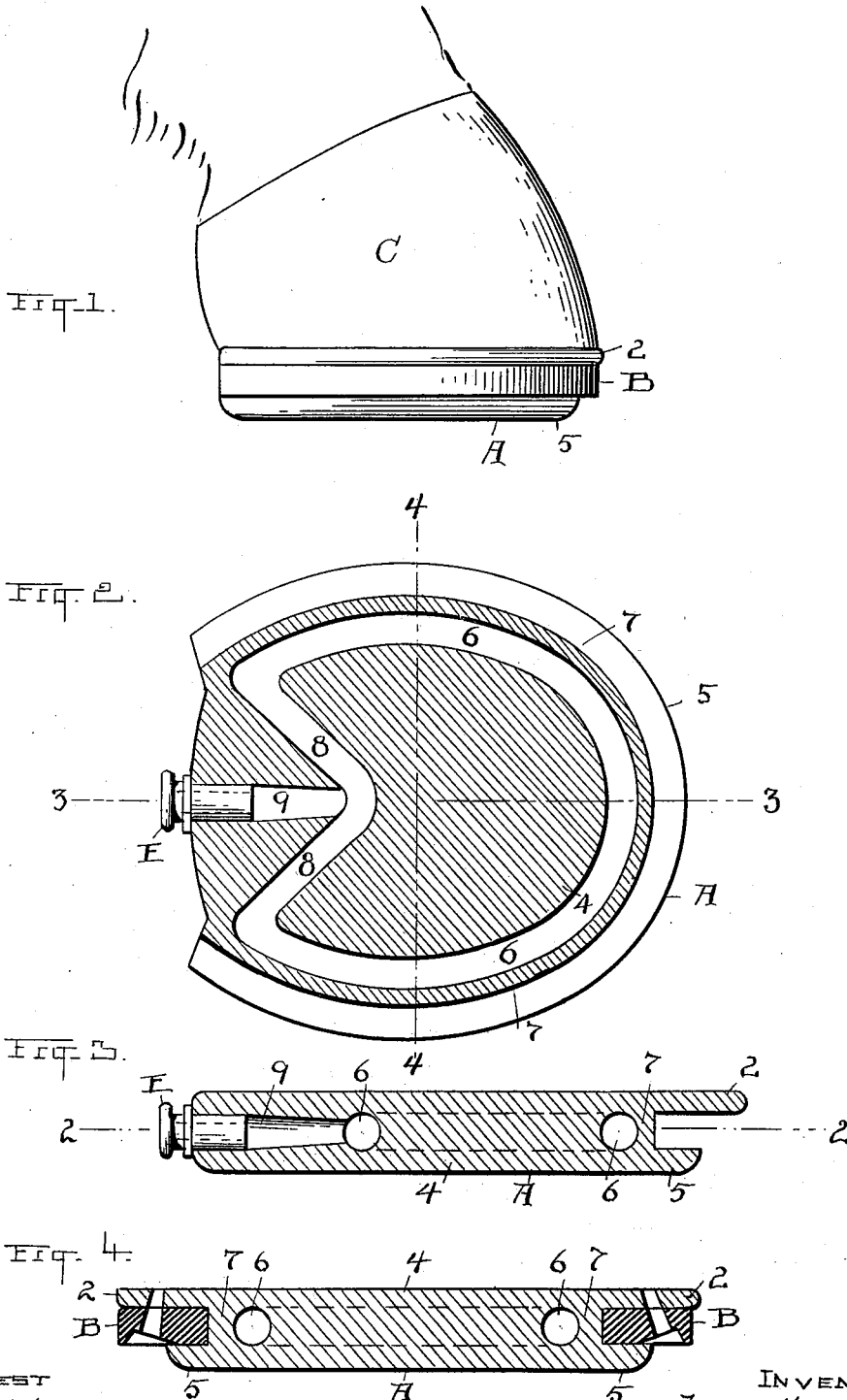
N. W. STEARNS,
W. J. CAMBRIDGE.

(No Model.)

J. HENNESSY.
PNEUMATIC RUBBER HOOF PAD.

No. 594,080.

Patented Nov. 23, 1897.



ATTEST
R. B. Moore
H. C. Mudge

INVENTOR
James Hennessy
By H. J. Fisher ATTORNEY

UNITED STATES PATENT OFFICE.

JAMES HENNESSY, OF PAINESVILLE, OHIO, ASSIGNOR OF ONE-HALF TO
JOHN M. WARN, OF SAME PLACE.

PNEUMATIC RUBBER HOOF-PAD.

SPECIFICATION forming part of Letters Patent No. 594,080, dated November 23, 1897.

Application filed July 19, 1897. Serial No. 645,032. (No model.)

To all whom it may concern:

Be it known that I, JAMES HENNESSY, a citizen of the United States, residing at Painesville, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Pneumatic Rubber Horseshoes or Foot-Pads; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to pneumatic horseshoes or foot-pads; and the object of the invention is to furnish a pad which can be attached to a horse's foot either at the time he is being shod and with the shoe or when the shoe is on the foot, as may be desired. However, the preferred method is to place the pad on the foot with the shoe and in such manner that the flange of the pad will come between the shoe and the foot or hoof of the horse and be supported by the shoe as well as by the expansion of the pad, as hereinafter described. This pad is made of india-rubber and when inflated is so firmly spread about its sides within the horseshoe that it is firmly held by such inflation alone without other means of support, and yet the flange about the pad which engages between the shoe and foot, as shown, is preferred. A pad of this kind which will relieve the severe jar and stiffening effect of hard pavements is a well-known need among horsemen, and the present pad is designed not only to meet this need, but also to equip the horse with foot-gear which will make his movements noiseless on hard pavements.

It is well known in cities that the approach of a horse on brick, stone, or asphalt pavements, and particularly on the latter, can be heard a long distance away, and the noise is often very objectionable to occupants of such streets. My invention therefore has for its object to meet the needs of the horse to protect him from injury and to make his travel easy, and also to protect the community by making his travel noiseless.

Having reference now to the accompanying drawings for an illustration of the invention, Figure 1 is an elevation of a horse's foot with my improved pad and a shoe on the foot. Fig. 2 is a horizontal sectional view of the

lower half of the pad, looking down from a line corresponding to 2 2 of Fig. 3. Fig. 3 is a cross-section on line 3 3, Fig. 2. Fig. 4 is a cross-section corresponding to line 4 4, Fig. 2.

The shoe or foot-pad A thus shown is made of india-rubber, so as to be yielding to the foot and that it may be spread laterally about its side to engage and hold within the horseshoe B. I have already explained that I may rely on this lateral expansion of the pad by and through the pneumatic pressure therein to secure the pad to the horse's foot; but I prefer to construct the pad with the flange 2 about its top to also fasten the pad thereby between the shoe B and the foot C, as clearly seen in Fig. 1. This construction and arrangement of parts not only helps to fix the pad securely on the foot, but it also forms a partial cushion to the foot and thus contributes to one of the purposes or objects of this invention. Now in order that both the cushioning effect or advantage to the horse and the noiselessness of his movements may be obtained by my novel construction of pad I form the pad with the central or body portion 4, which fills the space within the shoe and extends down below the level of the shoe substantially as far as shown in Figs. 1 and 4—that is, the pad may come down more or less depth below the level of the shoe, as may be desired, and is here shown with a bottom flange 5 extending under or beneath the shoe and overlapping the same some distance, so as to take the action of the foot off the shoe and make a noiseless tread of the animal. Then to inflate the pad and get the requisite lateral pressure to make it hold its place in the shoe and foot I provide an air channel or space 6, which extends around the side of the body portion 4 of the pad, and which channel has a comparatively thin outer wall 7, which bears against the inner edge of the shoe. This channel crosses at the rear of the pad with inward deflections 8 from both sides, and at the inner angles of these deflections is tapped by a direct channel or duct 9 from the outside, in which is placed any suitable air-inlet-valve mechanism E, such as is used on a bicycle-tire or the like, and so that air may be pumped into channel 6 with as much pressure as may be needed. The air-channel 6 is removed far enough from the bottom of the pad not to be

exposed to the wear of the pad, and where it is protected from such wear until the pad may be said to be practically worn out.

5 The peculiar arrangement of the air-channel 6 at the rear of the pad, with its inwardly inclined or deflected lines 8, enables me to exert the necessarily-increased lateral pressure at this point.

10 This pad is deemed of material advantage for light driving-horses in cities and for horses generally where such relief to the feet as is afforded by this device is desirable. If preferred, the central portion of the pad might be constructed to be fully inflated, in which
15 event the rear, but not the side channels, would be employed to introduce the air.

What I claim as new, and desire to secure by Letters Patent, is—

1. A pneumatic pad for horses' feet, having

flanges 2 and 5, respectively, about its edge 20 and a space between said flanges for the horse-shoe, and having a pneumatic channel opposite said space for the horseshoe, substantially as described.

2. A pad substantially as described, hav- 25 ing a body portion to fill the space within the shoe, and flanges about its edge to engage over the top and under the bottom of the horse-shoe, respectively, and a pneumatic channel extending around the body of the pad in po- 30 sition to bear laterally against the shoe, substantially as described.

Witness my hand to the foregoing specification this 28th day of June, 1897.

JAMES HENNESSY.

Witnesses:

W. R. FLAVIN,
JOHN M. WARN.

No. 721,540.

PATENTED FEB. 24, 1903.

G. B. BUCKINGHAM.
PORTABLE STALL.

APPLICATION FILED JUNE 26, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.

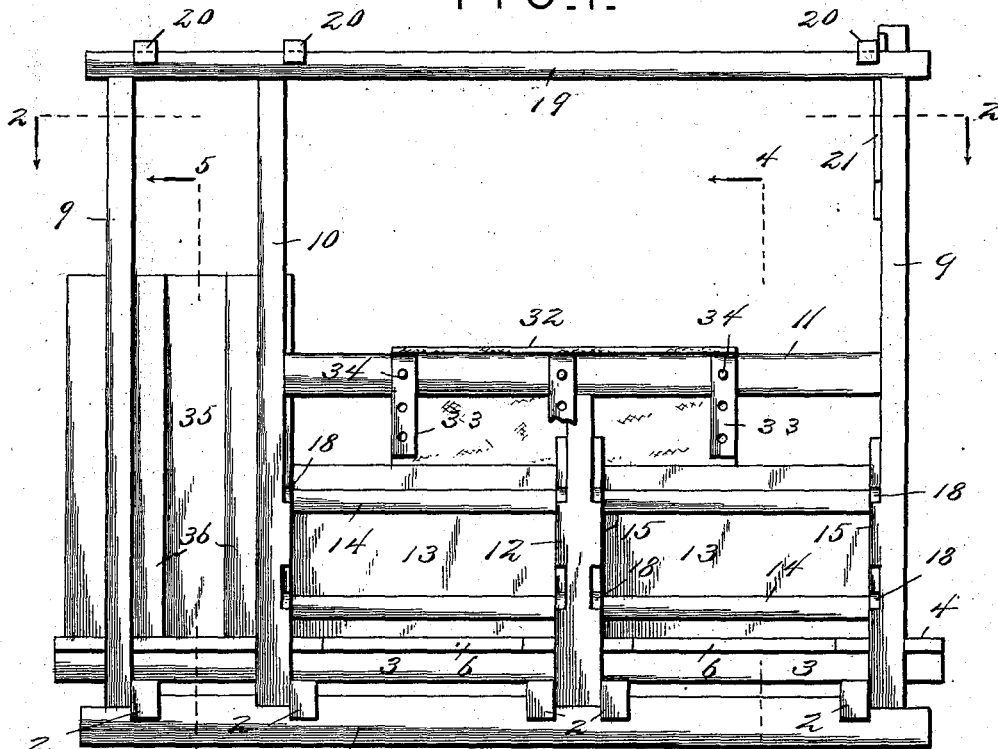


FIG. 2.

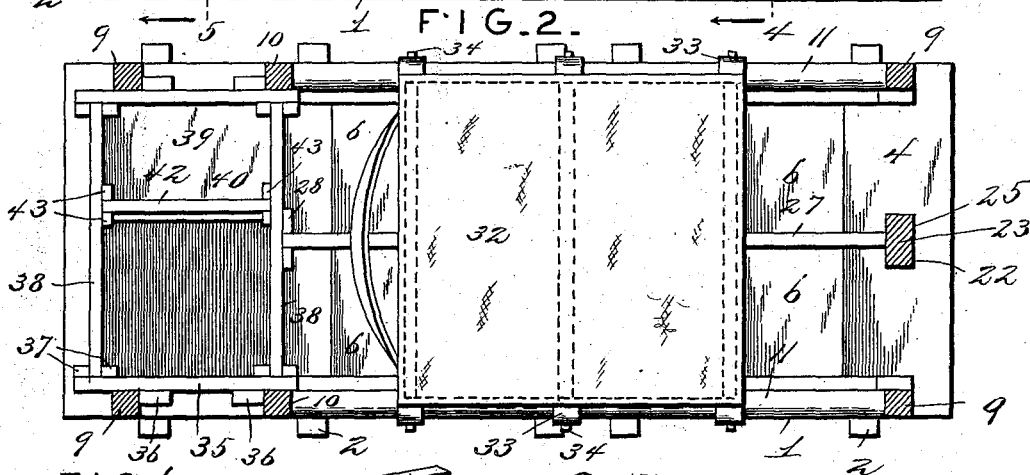
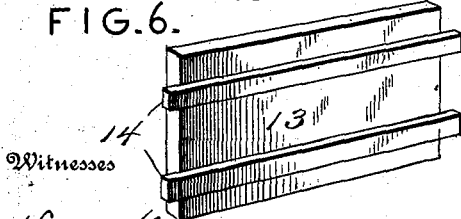


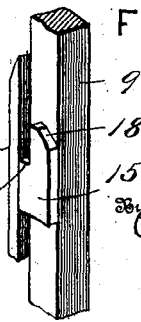
FIG. 6.



Witnesses

Harry L. Amer.
J. W. Riley

FIG. 7.



Inventor

George B. Buckingham.

Perford M. Smith.

Attorney.

No. 721,540.

PATENTED FEB. 24, 1903.

G. B. BUCKINGHAM.
PORTABLE STALL.

APPLICATION FILED JUNE 26, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

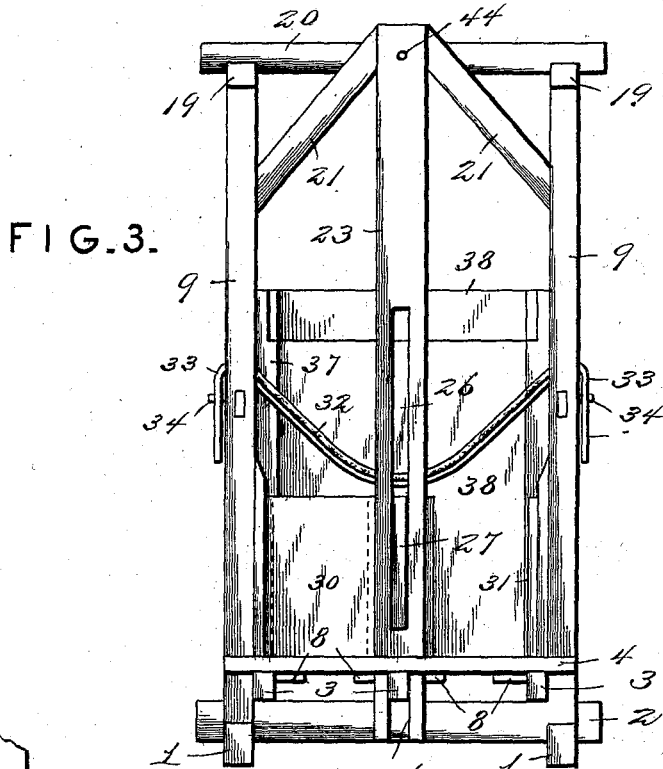


FIG. 3.

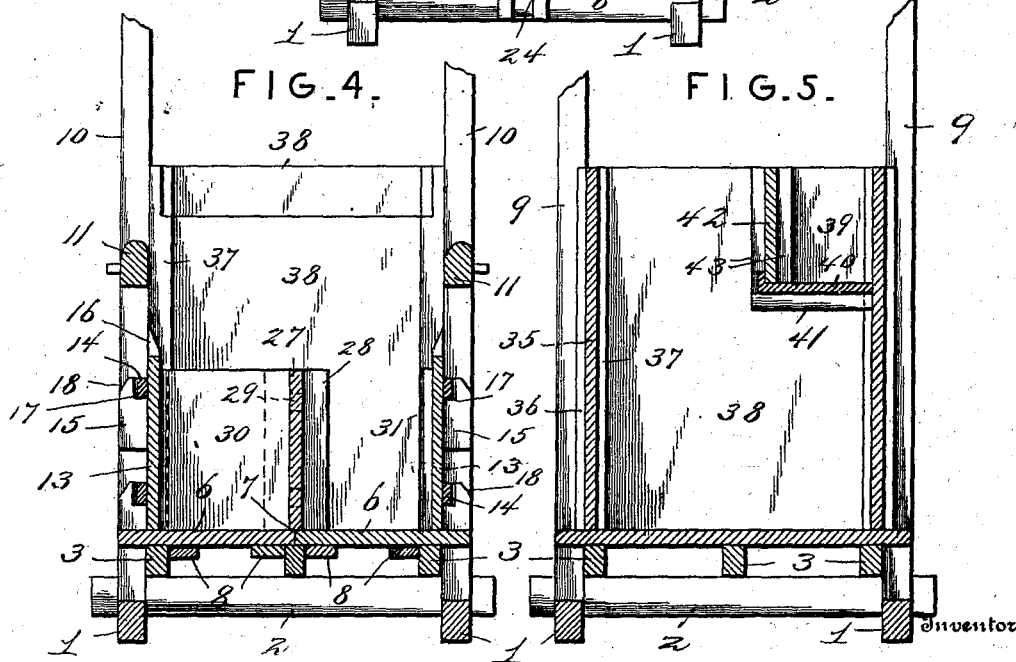


FIG. 4.

FIG. 5.

Witnesses

Harry L. Amer.

J. W. Riley.

George B. Buckingham.

By R. M. Smith.

Attorney

UNITED STATES PATENT OFFICE.

GEORGE B. BUCKINGHAM, OF BROOKVILLE, INDIANA.

PORTABLE STALL.

SPECIFICATION forming part of Letters Patent No. 721,540, dated February 24, 1903.

Application filed June 26, 1902. Serial No. 113,276. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. BUCKINGHAM, a citizen of the United States, residing at Brookville, in the county of Franklin and State of Indiana, have invented a certain new and useful Portable Stall, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to portable stalls especially designed for treating horses, cattle, and other animals having fractured, sprained, or diseased limbs.

The main object of the present invention is to provide a portable and sectional stall so constructed and arranged that sections of the floor and sides may be removed for giving access to the particular limb which has been injured.

A further object of the invention is to provide means for partitioning off the other limbs of the animal, so as to prevent the animal from kicking the diseased or injured limb; further, to provide means for supporting the weight of the body and limbs of the animal and preventing the animal from throwing a portion or all of its weight upon the injured limb.

The stall is so constructed that it may be taken apart for transportation or storage and when set up may be moved from place to place upon a suitable truck while still containing the injured animal.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the portable stall constructed in accordance with the present invention. Fig. 2 is a sectional plan view taken on the line 2 2 of Fig. 1. Fig. 3 is an end view of a stall. Fig. 4 is a vertical transverse section through the stall, taken on the line 4 4 of Fig. 1 looking in the direction of the arrow. Fig. 5 is a similar section taken through the trough or manger on the line 5 5 of Fig. 1 looking in the direction of the arrow. Fig. 6 is a detail perspective view of one of the removable side panels or sections. Fig. 7 is a fragmentary perspective view showing one of

the standards and the arrangement of stops or keepers for retaining the side panels or sections in place.

Like reference-numerals designate corresponding parts in all figures of the drawings.

The portable stall contemplated in this invention comprises longitudinal base-timbers 1, extending along opposite sides of the stall and connected by cross-bars 2, arranged at suitable intervals and forming seats for a series of parallel floor-supports 3, which extend longitudinally of the stall and are arranged one at each side of the stall and one about centrally thereof, as shown in Figs. 4 and 5. The floor 4 is supported directly upon the longitudinal bars 3 and comprises a series of removable floor-sections 6, four of such sections being by preference employed, each section being adapted to support one of the animal's limbs. The sections 6 extend about half-way across the stall, meeting at a central point 7, as shown in Fig. 4, and said sections are provided on the under side with cleats 8, which serve to hold the floor-sections in proper place, but admit of said sections being lifted and removed after having removed the corresponding side panel or panels hereinafter described.

Extending upward from the base-timbers 1 are corner-standards 9, and between the corner-standards are intermediate standards 10, arranged at the sides of the stall and connected with the corner-standards at one end of the stall by means of side rails 11, which form the supports for the sling hereinafter described. Interposed between the side rails 11 and the base-timbers 1 are short intermediate standards 12. The spaces between the standards 12 and the longer standards 9 and 10 at each side thereof are normally closed by means of removable side panels or sections 13, which extend a suitable height and are provided upon their outsides with parallel horizontal cleats 14, the ends of which project beyond the panels proper, so as to engage behind keepers 15, mounted on the standards, said keepers serving to retain the side panels in place. The construction last referred to is best illustrated in Figs. 6 and 7, wherein it will be seen that stops 16 are secured to the inner sides of the standards to prevent the side panels from falling inward, the pro-

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jecting ends of the cleats 14 being held between the upper portions of the keepers 15 and the stops 16 and resting on shoulders 17 of the keepers. The keepers are further provided with beveled or inclined edges 18 to facilitate the placing of the side panels in position.

The standards 9 and 10 are connected at their upper ends by longitudinal top bars 19, the latter in turn being connected by a series of cross-bars 20, the standards and cross-bars being further connected by inclined braces 21.

At the entrance end of the stall there is arranged a central end standard 22, which is best illustrated in Fig 3, the lower end of said standard being bifurcated or slotted, as shown at 24, to embrace a central floor-support 3, the lower end of said standard being insertible through an opening 25 in the stall-floor. The standard 23 is also provided with a longitudinal slot or mortise 26, which is adapted to receive and admit of the insertion of a central longitudinal partition or dividing-board 27, which extends the entire length of the stall and has its inner end received between parallel cleats 28, secured to the feed-trough or manger, as shown in Fig. 2. The partition 27 is designed to pass between the legs of the animal and is provided about centrally with mortises or sockets 29 to receive tenons on a small transverse partition 30, which is insertible between the partition 27 and either side of the stall for the purpose of separating the front and hind feet on one side. The outer edge of the transverse partition 30 is received between and held by cleats 31 on the sides of the stall. It will thus be seen that by means of the longitudinal transverse partitions the animal's limbs are kept separated, thus avoiding injury to the injured limb and also obviating danger to the persons treating the limb.

The weight or a portion of the weight of the animal's body may be supported by means of a sling 32 of flexible material, such as canvas or leather, adapted to reach across the stall, as shown in Figs. 2 and 3, and provided with straps 33, having a series of holes adapted to take over pins or studs 34, projecting outward from the supporting side rails 11. In this way the sling may be adjusted and raised or lowered to suit the height of the animal. The sling is not essential in some cases, as the animal can readily support himself on the uninjured limbs; but it is preferred to place the sling in position, so that it may be used in cases of emergency and to prevent the animal from throwing too much weight on the injured limb. The sling is used principally to prevent the horse from falling, as it will be seen that the injured limb may be treated without the necessity of supporting the weight of the animal's body in and upon the sling.

At one end of the stall there is arranged a manger or feed-trough, comprising oppo-

sitely-arranged sides 35, having parallel cleats 36 on the outside to fit between the standards 9 and 10 and other sets of parallel cleats 37 upon the inner side to receive the edges of the front and rear sides 38 of the trough. In this way all sides of the trough are made readily removable for purposes of transportation. The trough is also provided with a small compartment 39 for mixed feed, the same comprising a bottom 40, which rests upon horizontal supporting-strips 41, and a side 42, which is held between parallel cleats or guides 43 on the front and rear sides 38 of the trough.

In placing the animal in the stall the partitions 27 and 30 are removed and the end standard 23 taken out. After the animal is directed into the stall the standard 23 is replaced in position, the upper end thereof being held by a pin or other suitable fastener 44. The longitudinal partition 27 is then slid into place, after which the short transverse partition 30 is introduced at the same side of the stall as that on which the injured limb is located. Finally, the sling 32 is properly adjusted in place. The proper side panel or section 13 is then removed, after which the corresponding floor-section 6 is taken out. This leaves the injured limb without any support, preventing the animal from bearing any weight thereon and giving ready access to the veterinary surgeon for the purpose of treating the injured limb. After the animal has been treated he may be removed from the stall, or the stall may be mounted upon a suitable truck and moved from place to place.

It will be apparent that changes may be made in the form, proportion, and minor details of construction without departing from the principle or sacrificing any of the advantages of the invention, and I therefore reserve the right to make such changes as properly fall within the scope of the appended claims.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A stall for the treatment of animals comprising a suitable frame, and a series of detachable floor-sections, substantially as described.

2. In a stall for treating injured animals, a series of removable floor-sections, in combination with a series of removable side panels or sections, substantially as described.

3. In a stall for treating injured animals, a detachable partition insertible between the legs of the animal, in combination with a series of removable floor-sections arranged at opposite sides of the partition and made independently detachable, substantially as described.

4. In a stall for treating injured animals, the combination with removable partitions insertible between the legs of the animal, of a series of removable side panels arranged at

opposite sides of the partitions, substantially as described.

5. In a stall for treating injured animals, the combination of removable partitions insertible between the legs of the animal, detachable floor-sections arranged at opposite sides of the partitions, and detachable side panels or sections adjacent to the removable floor-sections, substantially as described.

6. In a stall for treating injured animals, the combination with a frame having standards, and keepers secured to the standards, of a series of removable side panels provided with retaining-cleats adapted to engage said keepers, substantially as described.

7. In a stall for treating injured animals, the combination with a suitable base-frame and floor, of standards extending upward therefrom, keepers and stops connected with said standards, and removable panels having retaining-cleats receivable between the said keepers and stops, substantially as described.

8. In a stall for treating injured animals, the combination with a base-frame, and floor, and standards extending upward therefrom, of a removable central end standard provided with a longitudinal slot or mortise, and a removable partition insertible through the slot

or mortise of the end standard, substantially as described.

9. In a stall for treating injured animals, the combination with a base-frame, a floor, and standards extending upward therefrom, of partitions insertible between the legs of the animal, horizontal side rails connecting the standards, and a detachable sling supported by the side rails, substantially as described.

10. In a stall for treating injured animals, the combination with a base-frame, and floor, and standards extending upward therefrom, of a central end standard provided with a longitudinal slot or mortise, a longitudinal partition insertible through said standard and between the legs of the animal, and a transverse partition having a mortise-and-tenon engagement with the longitudinal partition and shiftable from one side to the other from said longitudinal partition, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEO. B. BUCKINGHAM.

Witnesses:

LOUIS QUELLHORST,
JOHN W. BAKER.

(No Model.)

S. G. JONES.
SADDLE PAD.

No. 439,353.

Patented Oct. 28, 1890.

Fig: 1.

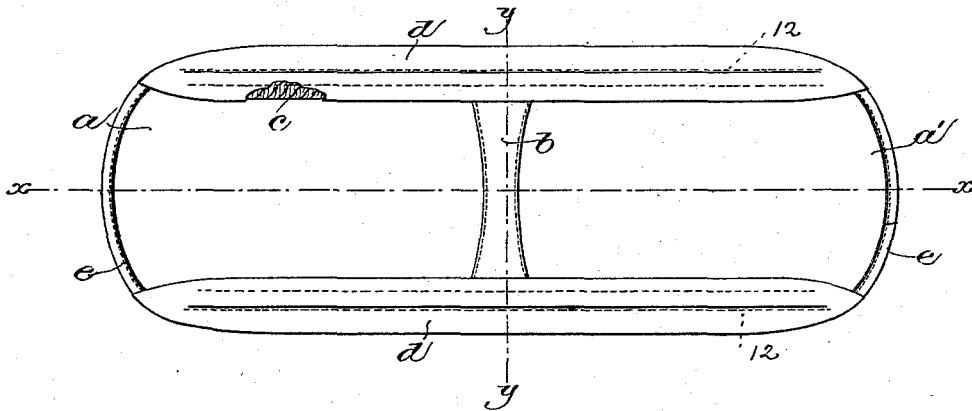


Fig: 2.

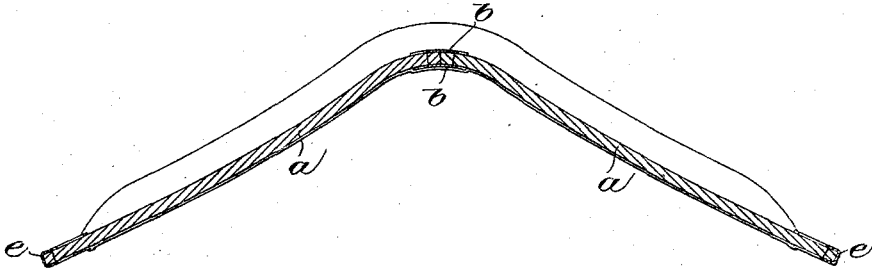
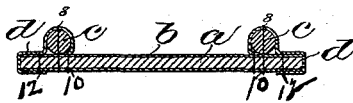


Fig: 3.



Witnesses.
Frederick L. Emery,
John F. C. Printz

Inventor.
Samuel G. Jones,
by Lemby & Gregory attys.

UNITED STATES PATENT OFFICE.

SAMUEL G. JONES, OF BROCKTON, MASSACHUSETTS.

SADDLE-PAD.

SPECIFICATION forming part of Letters Patent No. 439,353, dated October 28, 1890.

Application filed December 8, 1888. Serial No. 293,040. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. JONES, of Brockton, county of Plymouth, State of Massachusetts, have invented an Improvement in Saddle-Pads, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Sweat-pads as now commonly made are either confined to the saddle by straps or the pad is placed on or beneath the saddle, and friction is depended on to keep the pad in place. The use of straps to keep the pad in place is objectionable because of the unsightly appearance and the trouble of removing the pad when the saddle is to be cleaned, and without the straps the pad is objectionable, because it slips out of place. To obviate these objections I have placed or formed on the upper side or surface of the pad at its longer or side edges raised ribs or wales, to thereby leave or present between them a space to receive the saddle. To form the rib or wale referred to, a piece of rope or other suitable material is covered with plush, leather, or other suitable material stitched to the body of the pad, as will be described.

Figure 1 shows in plan view a sweat-pad embodying this invention; Fig. 2, a longitudinal section of the pad shown in Fig. 1, taken on the dotted line *x x*; Fig. 3, a cross-section of the pad shown in Fig. 1, taken on the dotted line *y y*.

The body portion of the pad is herein shown as composed of two pieces of felt, leather, or other usual material *a a'*, joined together at their ends (provided felt is used) by pieces of leather *b* or other suitable material above and below the pad and stitched or otherwise fastened to each piece *a a'*. The top of the pad, near each side edge and parallel thereto, has applied to it a piece of rope *c* or other suitable filling inclosed in a binding *d* of plush, leather, or other suitable material, the said binding or covering also preferably inclosing or covering the edge of the body of the pad

and being stitched or otherwise secured thereto. The covering *d*, laid on the pad wrong side out, is stitched to the body of the pad by the line of fastenings or stitches 10, and the covering is then turned up over the cord *c* and bent around and so as to protect and finish the edges of the pad, the covering *d* being stitched to the pad at 12, as best shown in Fig. 3.

The pieces of rope or other suitable filling material, covered as shown for ornamentation and convenience in care, constitute ribs, projections, or wales rising from the top surface of the pad, but set in from the edges, thus forming a space between which the usual harness-saddle is placed, the saddle thereby serving to hold the pad in position without straps, the ribs from their position on the pad having no tendency to be bent over the edge and rendered useless.

The body portion of the pad will be bound, faced, or united at its ends, as at *e*, in the usual manner.

I do not desire to limit my invention to the particular number of wales, nor to the material employed for the ribs or wales.

The rope *c* might be stitched directly to the pad, as represented at 8, Fig. 3.

I claim—

The herein-described independent housing or sweat-pad, composed, essentially, of the thin flexible body portion, the binding *d*, and the rope or filling *c*, the said binding being secured to the said body by stitches at 10 and 12, and inclosing the said rope or filling between it and the top of the pad to form a wale just inside the edges of the body, all substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL G. JONES.

Witnesses:

WILEY S. EDMONDS,
JOSEPH E. WAKEFIELD.

No. 849,169.

PATENTED APR. 2, 1907.

G. J. STEIN.
STOCK FEEDER.

APPLICATION FILED JUNE 27, 1906.

2 SHEETS—SHEET 1.

FIG. 2.

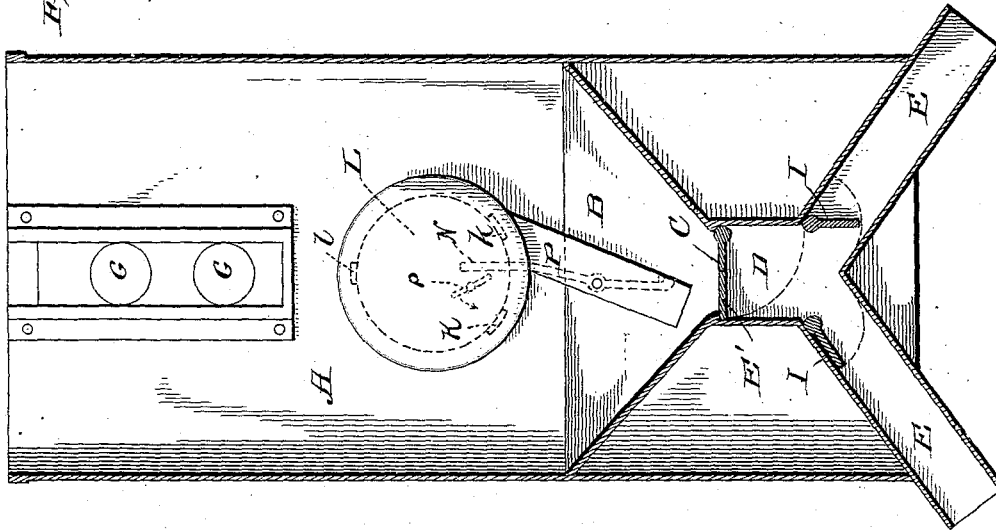
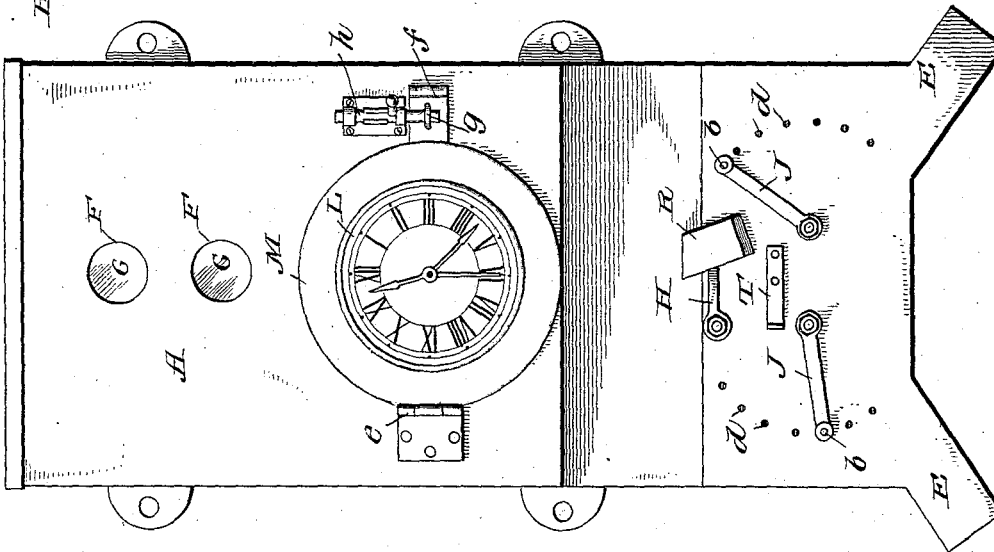


FIG. 1.



Witnesses
Geo. H. Spurr
J. J. Sheehy Jr.

Inventor
George J. Stein
 By *James J. Sheehy* Attorney

No. 849,169.

PATENTED APR. 2, 1907.

G. J. STEIN.
STOCK FEEDER.

APPLICATION FILED JUNE 27, 1906.

2 SHEETS—SHEET 2.

Fig. 3.

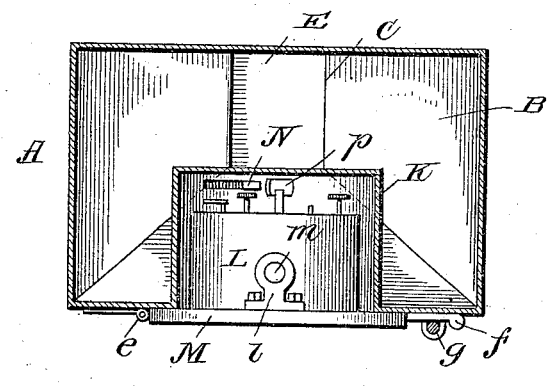


Fig. 4.

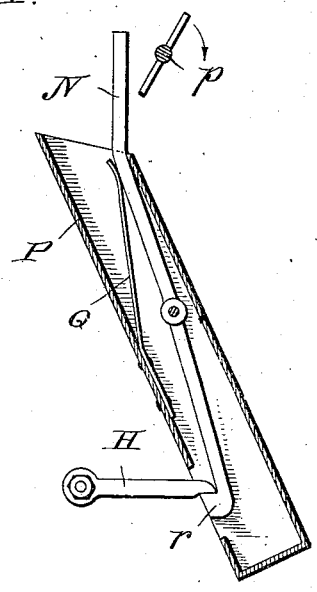


Fig. 5.

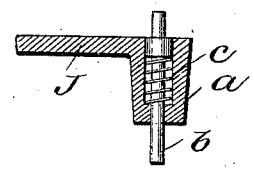
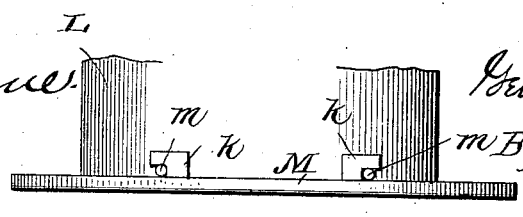


Fig. 6.

Witnesses
Geo. A. Payne.
J. J. Sheehy.



Inventor
George J. Stein.
 By *James J. Sheehy*
 Attorney

UNITED STATES PATENT OFFICE.

GEORGE J. STEIN, OF MOUNT CARMEL, PENNSYLVANIA.

STOCK-FEEDER.

No. 849,169.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed June 27, 1906. Serial No. 323,611.

To all whom it may concern:

Be it known that I, GEORGE J. STEIN, a citizen of the United States, residing at Mount Carmel, in the county of Northumberland and State of Pennsylvania, have invented new and useful Improvements in Stock-Feeders, of which the following is a specification.

My invention pertains to stock-feeders; and it has for one of its objects to provide a stock-feeder having a plurality of spouts connected with the discharge of a hopper and arranged when the valve controlling the said discharge is opened to supply feed to different animals, separate valves for controlling the said spouts, and means whereby each valve may be adjustably fixed in the position desired independent of the other, this in order that equal quantities of the feed may be supplied to the animals or more may be supplied to one animal than to another.

Another object of the invention is the provision of a time-controlled stock-feeder in which the clock employed is normally arranged in a chamber isolated from the interior of the casing and is carried by the hinged door of the chamber. This provision is obviously advantageous, since the isolation of the clock precludes the same being affected by the feed, while the connection of the clock to the chamber-door adapts the clock to be conveniently thrown into a position where its parts may be readily positioned to assure opening of the valve controlling the discharge of the hopper at the predetermined time fixed upon.

Another object is the provision in a time-controlled stock-feeder of a construction whereby the mechanism intermediate the clock and the valve controlling the discharge of the hopper is isolated from and is not liable to be affected by the feed.

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of the stock-feeder constituting the present and preferred embodiment of my invention, the same being shown with the valve controlling the dis-

charge of the hopper closed and the valve of one spout fully open and the valve of the other spout partially open. Fig. 2 is a vertical section illustrating the hopper in the casing, the valve controlling the discharge of the hopper, the divergent spouts arranged to receive from said discharge, and the valves for controlling the said spouts. Fig. 3 is a horizontal section taken through the clock-chamber of the casing looking downward and showing the clock in plan. Fig. 4 is a detail view illustrative of the relative arrangement of the arm on the valve controlling the hopper-discharge, the alarm-winding key, the lever which engages said arm to normally hold the valve closed, and the subcasing in which the said lever is arranged or mounted. Fig. 5 is an enlarged detail section illustrative of the construction whereby the arms of the valves controlling the spouts are adjustably fixed to the casing. Fig. 6 is a detail inverted plan showing the manner in which the lower portion of the clock is connected to the door M.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is the casing of the feeder, which is preferably of sheet metal and of the shape illustrated. The said casing is open at its upper end and contains a hopper B, the side portions and front portion of the bottom of which are declined inward to a discharge C, from which depends a conduit D. This conduit D merges at its lower end into divergent spouts E, the office of which is to conduct feed to the troughs of different animals. In the front wall of the casing are preferably provided openings F, controlled by a pane of glass G. These openings F serve to enable the person in authority to see whether or no the hopper B contains feed.

The discharge C of the hopper B is controlled by a vertically-swinging valve E', and this valve is provided on its shaft and in front of the casing A with an arm H, through the medium of which the valve is held in a closed position until the time arrives for permitting the feed to pass from the hopper B to the spouts E. The spouts E are controlled by vertically-swinging valves I, Fig. 2, and these valves I are provided on their shafts at points

in front of the casing A with arms J. These arms J have sleeves *a* disposed at right angles to the front casing-wall, and in the said sleeves are pins *b*, between abutments on which and the forward portions of the sleeves are interposed coiled springs *c*, which are contained in the sleeves *a* and have for their function to press the pins *b* toward the front wall of the casing A. In the said front wall are series of apertures *d*, arranged to describe arcs of circles, and by placing the pins *b* in said apertures it will be apparent that the valves I may be adjustably fixed in various positions. For instance, one of the valves I may be fixed in a fully-opened position, while the other valve I may be fixed in a partly-opened position, this to assure more feed passing through one of the spouts E than the other.

In the hopper B, at about the elevation illustrated, is arranged a chamber K, which is open at its forward side and is entirely isolated from the hopper with a view of preventing the feed from affecting the clock L. The front of the said chamber K is closed by the said clock L and by the door M, in which the clock is mounted and secured. The door M is hinged at *e* to the front wall of casing A, and at its opposite end it is provided with a hasp *f*, designed to receive a staple *g* on the casing and to be connected or fastened thereto through the medium of a bolt *h*. At its inner side the door M is provided with hook-shaped lugs *k* and an apertured arm *l*, the lugs *k* being designed to seat studs *m* on the exterior of the clock, while the aperture in the arm *l* receives a stud *n* on the exterior of the clock at an opposite point with reference to the studs *m*. Thus it will be observed that the clock is firmly held to the door, so as to move therewith, and yet when necessity demands the clock may be readily removed from the door after the arm *l* is disconnected from the door.

The clock L may be, and preferably is, of the well-known alarm type—that is to say, it is provided with an alarm-winding key *p* and the ordinary appurtenances whereby it may be set so as to assure turning of the said key at a predetermined time. When the door is closed and the clock is contained in the chamber K, the alarm-key *p* of the clock rests at the right of the upper arm of a lever N. This lever N is mounted in a subcasing P and is normally held by a spring Q in the position illustrated. The subcasing P extends outside the casing A, as indicated by R in Fig. 1, and is provided in the side of its said extension with an opening to receive the arm H on the shaft of the valve E' and to permit of the said arm being placed in engagement with the toe *r* on the lower arm of lever N. By virtue of this construction it will be

apparent that when the alarm of the clock is set for a predetermined time and the alarm is wound through the medium of the key *p* the said key will when the said time arrives push the upper arm of lever N toward the left, when the lower arm of said lever N will permit the valve E' to gravitate to an open position, thus assuring the passage of feed from the hopper B to the spouts E.

T is a stop which is preferably provided on the front wall of the casing A to limit the downward movement of the arm H on the shaft of the valve E' when the said valve is permitted to gravitate to an open position.

The general operation of my novel stock-feeder will, it is believed, be fully understood from the foregoing, and it need not, therefore, be reiterated. It will be gathered from the foregoing, however, that the clock and the parts controlled thereby do not come in contact with, and hence are not liable to be affected by, the feed, and it will also be gathered that the clock serves when properly set and wound to rock the lever N at the predetermined time desired and in that way effect the release of the valve E' and the discharge of feed from the hopper B.

The construction shown and described constitutes the present and the preferred embodiment of my invention; but I desire it understood that in practice those changes or modifications may be made which fairly fall within the scope of my invention as claimed.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a stock-feeder, the combination of a casing having a hopper, a valve arranged to control the discharge of the hopper, spouts arranged to receive from the discharge of the hopper when the valve thereof is opened, separate valves controlling communication between the discharge of the hopper and the spouts, coöperating means on the valves and the casing, whereby each valve may be adjustably fixed independent of the other, and time-controlled mechanism for releasing the valve controlling the discharge of the hopper at a predetermined time.

2. In a stock-feeder, the combination of a casing containing a hopper and a chamber; the said chamber being isolated from the hopper, a subcasing communicating with and extending down from the bottom of the chamber and having an opening in its side adjacent to its lower end, a lever extending lengthwise of and fulcrumed at an intermediate point of its length in the subcasing and having a toe on its lower arm and also having its upper arm extended up into the casing, a valve controlling the discharge of the hopper and having an arm arranged to be engaged by the said toe of the lever, a hinged door for

closing the front of the chamber, and a clock
carried by the door and having a rotary de-
vice arranged when the door is closed to as-
sume a position in readiness to engage the
5 upper arm of the lever and also arranged to
rock the lever and release the valve at a pre-
determined time.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

GEORGE J. STEIN.

Witnesses:

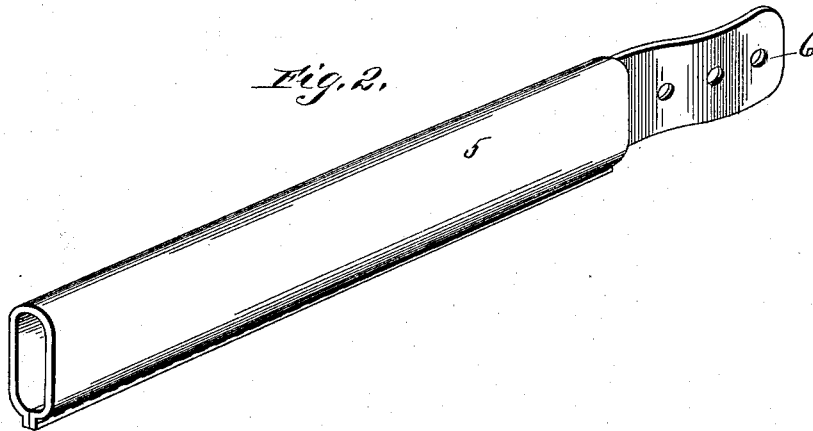
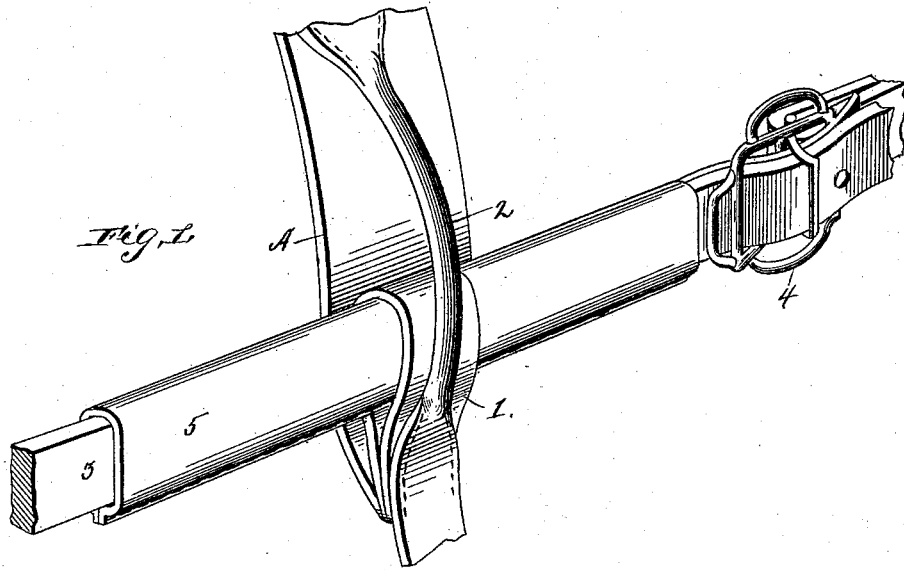
SAMUEL A. RUBRIGHT,
AL JEFFERSON.

(No Model.)

T. H. LEE.
TRACE PROTECTOR.

No. 477,560.

Patented June 21, 1892.



Witnesses:

A. C. Caylor
S. B. Rariden

Inventor:

Thomas H. Lee.

UNITED STATES PATENT OFFICE.

THOMAS H. LEE, OF GREENUP, ILLINOIS.

TRACE-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 477,560, dated June 21, 1892.

Application filed August 10, 1891. Serial No. 402,305. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. LEE, a citizen of the United States, residing in the township of Greenup, in the county of Cumberland and State of Illinois, have invented a new and useful Improvement in Harness, of which the following is a specification.

My invention relates to a device for protecting the traces of a harness, the object being to combine with the trace a protecting sleeve or cover secured by the trace-buckle, but readily removable when worn.

The invention consists in the combination, with a trace, trace-buckle, and back-band of a harness, of a removable sleeve, through which the trace passes, said sleeve being provided with a tongue-extension, which is secured by the trace-buckle.

In the accompanying drawings, Figure 1 is a view in perspective of parts of a harness, with my improvement applied thereto. Fig. 2 is a view in perspective of the protecting-sleeve detached.

A indicates the back-band of the harness, provided with a trace-loop 1, secured to an outer loop 2.

3 indicates the trace, and 4 the trace-buckle.

5 indicates the improved protecting-sleeve, preferably made of leather or other yielding material and formed with a tongue-extension 6. This sleeve 5 is adjusted upon the trace, as shown in Fig. 1, and is held by the engagement of its tongue 6 with the tongue of the buckle 4. It will be apparent that this sleeve will protect the trace from undue wear caused by frictional contact with its supporting-loop, and, further, that the sleeve may be readily renewed or replaced when worn.

I claim as my invention—

The combination, with the back-band, trace, and trace-buckle, of a removable protecting-sleeve 5, through which the trace passes, provided with a perforated tongue-extension 6, resting on the inner side of the trace and secured by the trace-buckle, substantially as described.

THOMAS H. LEE.

Witnesses:

HARRY KELLOM,
A. L. WILLIAMS.



US006003290A

United States Patent [19]
Hsi-Chang

[11] **Patent Number:** **6,003,290**
[45] **Date of Patent:** **Dec. 21, 1999**

[54] **VENTILATED PROTECTIVE COVER FOR A HORSE**

1,293,521	2/1919	O'Brien et al.	54/79.2
3,626,663	12/1971	Moon	54/79.2
3,785,451	1/1974	McCord	180/69.1
4,169,428	10/1979	Waugh	119/482

[75] Inventor: **Chang Hsi-Chang**, Taichung, Taiwan

[73] Assignee: **Eastwest International (Taiwan) Enterprises**, Taichung, Taiwan

Primary Examiner—Thomas Price
Assistant Examiner—Son T. Nguyen
Attorney, Agent, or Firm—Antonio R. Durando

[21] Appl. No.: **09/030,322**

[57] **ABSTRACT**

[22] Filed: **Feb. 25, 1998**

[51] **Int. Cl.⁶** **B68C 5/00**

[52] **U.S. Cl.** **54/79.1; 54/79.4; 119/850**

[58] **Field of Search** 54/79.1, 79.4, 54/66, 79.2; 119/850; 5/485, 482, 417; 135/115, 93; 52/3

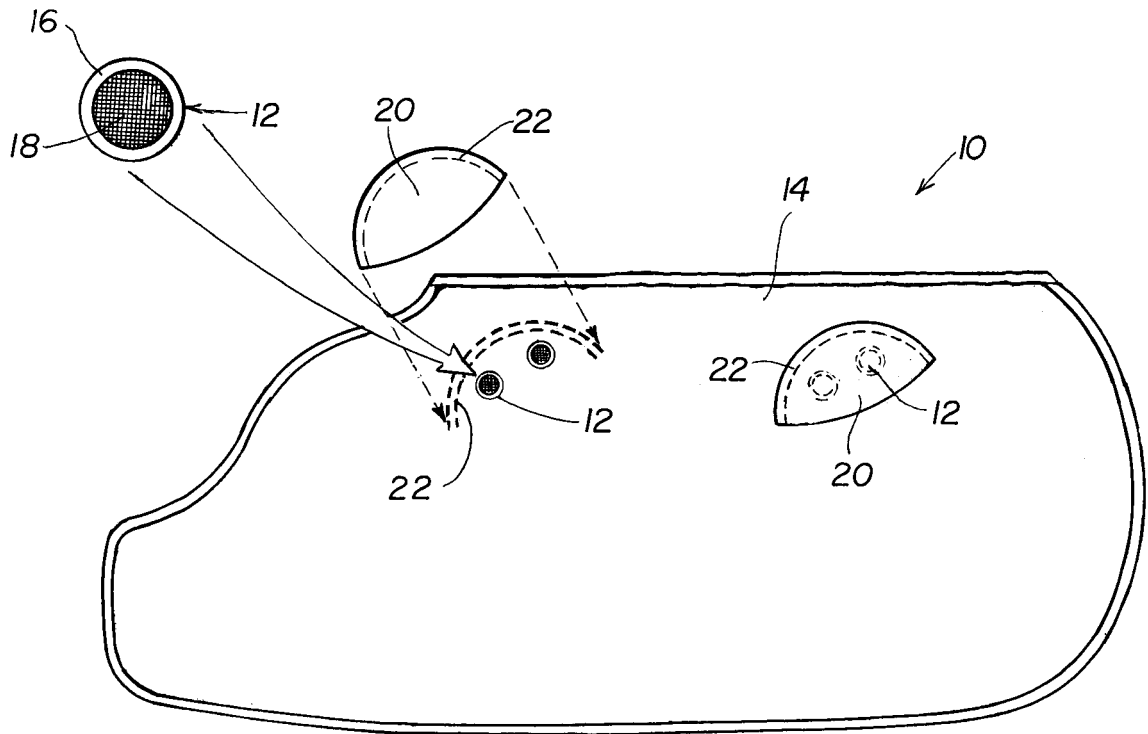
A horse blanket that includes a plurality of grommets netted eyelets to provide ventilation to the portion of the horse's body covered by the blanket. Each netted eyelet is also covered by a flap that is attached to the blanket above the eyelet but is free below the eyelet. The grommets defining the edge of each eyelet are sufficiently thick to provide a relief structure to prevent water that may reach the hole from passing through under the blanket. The netting material overlapping the eyelet ensures that insects and debris also cannot infiltrate the blanket. On the other hand, sweat and other moisture created under the blanket can escape through the covered eyelets and the horse is kept dry and comfortable.

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890,581	6/1908	Wood	54/79.1

17 Claims, 2 Drawing Sheets



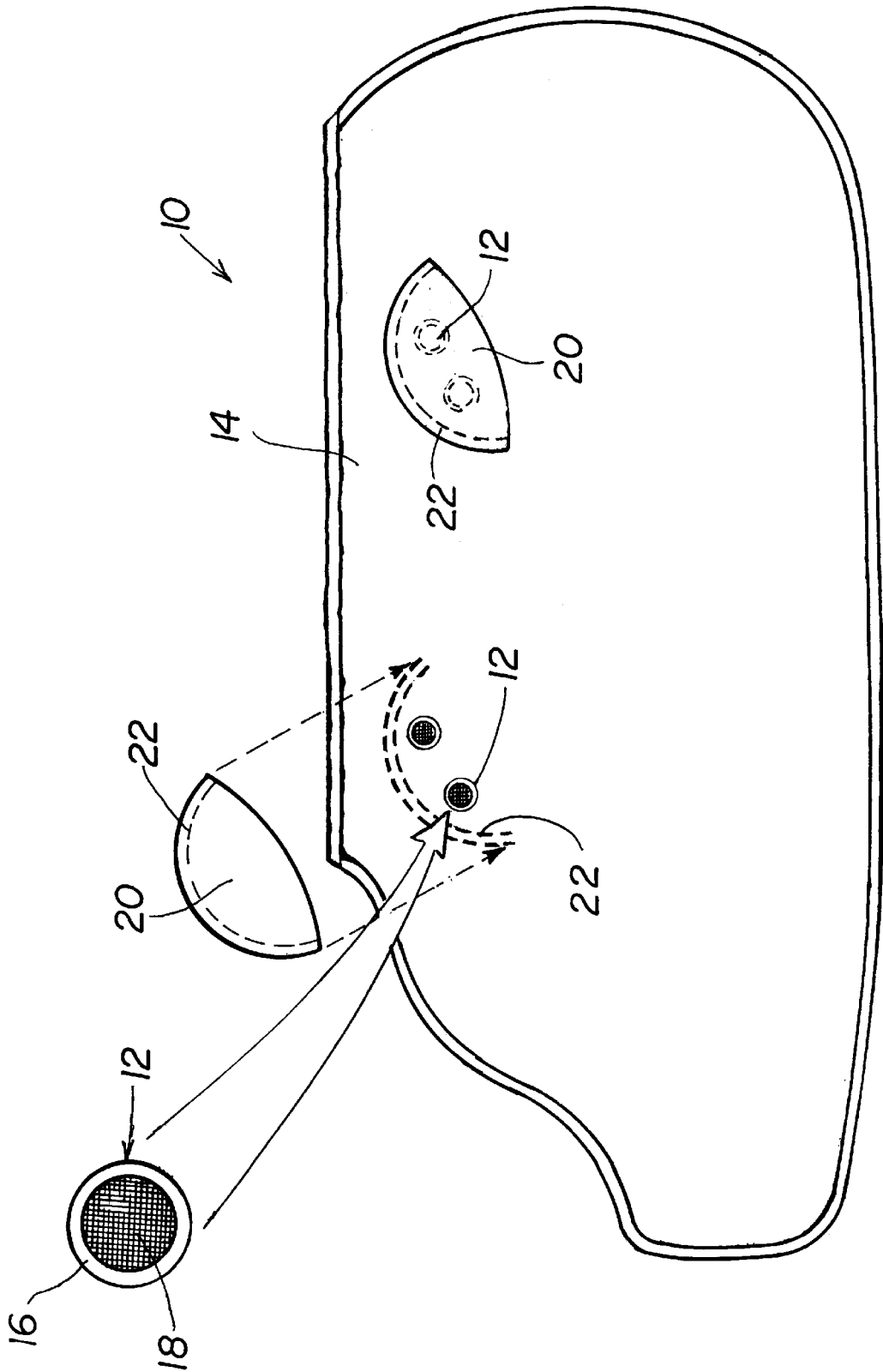


FIG. 1

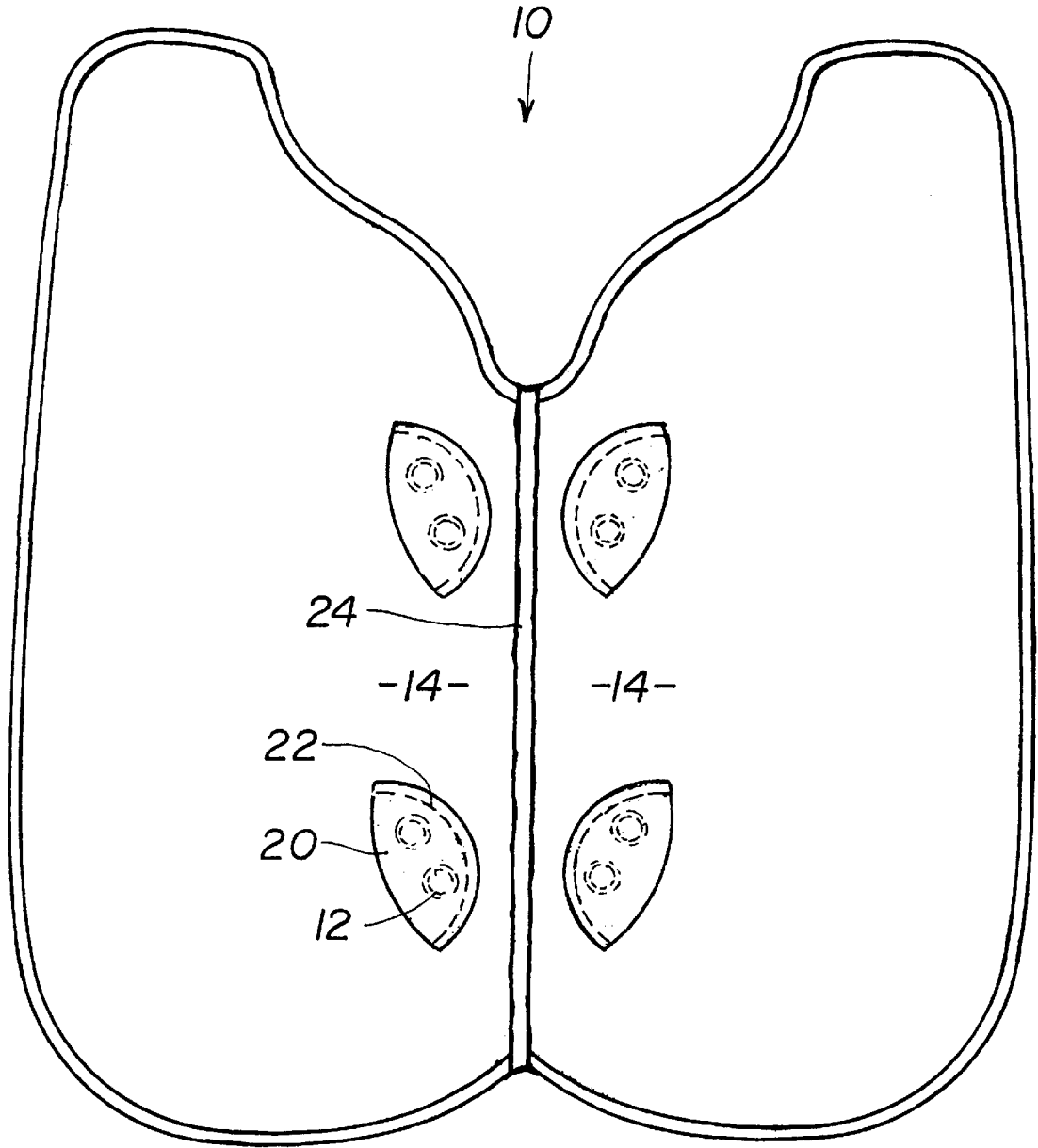


FIG. 2

VENTILATED PROTECTIVE COVER FOR A HORSE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention pertains to the field of equestrian accessories. In particular, it relates to a protective rain cover that is fitted with ventilation openings to improve comfort of a horse.

2. Description of the Related Art

Horse blankets and water-resistant rain covers have been in use for a long time. The best modern water-resistant sheets are typically made with laminated materials that permit passage of moisture from the inside out but prevent flow in the opposite direction. These materials are said to allow "breathing." They are often also coated with a permeable inside layer for comfort.

These materials are expensive to manufacture, especially for equestrian use. Therefore, a less costly approach would be welcome by the industry. This invention is directed at a simple solution to providing such an improvement.

BRIEF SUMMARY OF THE INVENTION

The primary goal of this invention is to provide breathing to a water-resistant rain cover for a horse, such that the animal will stay dry even under wet and warm conditions.

Another goal is to provide or increase such breathing by means of natural ventilation.

Finally, an objective of the invention is a ventilated rain cover that can be manufactured with inexpensive single-layer impermeable material.

Therefore, according to these and other objectives, the present invention consists of a horse blanket that includes a plurality of grommeted netted eyelets to provide ventilation to the portion of the horse's body covered by the blanket. Each netted eyelet is also covered by a flap that is attached to the blanket above the eyelet but is free below the eyelet. The grommets defining the edge of each eyelet are sufficiently thick to provide a relief structure to prevent water that may reach the hole from passing through under the blanket. The netting material overlapping the eyelet ensures that insects and debris also cannot infiltrate the blanket. On the other hand, sweat and other moisture created under the blanket can escape through the covered eyelets and the horse is kept dry and comfortable.

Various other purposes and advantages of the invention will become clear from its description in the specification that follows. Therefore, to the accomplishment of the objectives described above, this invention consists of the features hereinafter illustrated in the drawings and fully described in the detailed description of the preferred embodiment and particularly pointed out in the claims. However, such drawings and description disclose but some of the various ways in which the invention may be practiced.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational side view of a horse blanket according to the invention, shown as it would be seen while worn by a horse.

FIG. 2 is a plan view of the horse blanket of the invention, as seen front-side up while laying on a flat support.

DESCRIPTION OF THE PREFERRED EMBODIMENTS OF THE INVENTION

The idea of this invention is the inclusion of ventilation holes in the traditional design of a horse blanket in order to

provide breathing under sweaty conditions. Referring to the drawings, wherein like reference numerals refer to like parts throughout, FIG. 1 is a side view of an impermeable horse blanket **10** according to the invention, seen as it would appear hanging from a horse. The blanket **10** is made with a sheet of water-resistant material tailored to fit a normal horse. These design criteria are not detailed here because well known in the art.

The blanket **10** comprises a plurality of netted holes or eyelets **12** scattered mainly throughout the upper portion **14** of the blanket, especially at the junctions (front and back) between the horse's legs and body, which is where horses sweat most and are mostly in need of ventilation when covered by a water-resistant blanket. As better seen in the enlarged particulars of FIG. 1, the perimeter of each hole **12** is attached to a grommet **16** sufficiently thick to provide a raised edge to prevent water accumulated around the hole from flowing into the hole. Netting material **18** is also used to cover each eyelet **12**, so that insects, debris and other undesirable particles are prevented working their way under the blanket **10** through the eyelets of the invention. Moreover, all eyelets **12** are loosely covered by waterproof flaps **20** attached to the blanket **10**, such as by stitches **22** sewn through the blanket by sealed by waterproof tape on the back to ensure impermeability at the point of connection.

Each flap **20** is attached above one or more eyelets **12**, as illustrated in the partial exploded view of FIG. 1, such that the flap loosely overlaps the holes to prevent rain or outside moisture from penetrating through the holes. Because the lower portion of the flaps **20** is not attached to the blanket **10**, air can freely flow through the netted eyelets **12** and provide ventilation to the portions of the horse's body covered by the blanket. The horse's movements and wind can further enhance ventilation through the eyelets **12**. Because of the thickness of the grommets **16** and the corresponding relief provided by them over the blanket sheet, the flaps **20** are also slightly separated from the blanket **10**, so that air flow is present even when the horse is standing still and no wind is present. A single flap **20** can be used to cover more than one hole **12**, as shown in the figures.

FIG. 2 illustrates a blanket **10** according to the invention as seen in plan view on a flat supporting surface. The blanket essentially consists of two symmetrical portions corresponding to each side of a horse. The sides can be attached along a common edge **24** or made as an article of unitary construction. I found that four eyelets **12** approximately 10 to 25 mm in diameter on each side of the blanket are sufficient to significantly improve ventilation under an otherwise impermeable blanket **10**. The ventilation has proven to provide significant comfort to a horse, especially under wet conditions. Eyelets varying in size from to 1.5 to 2.5 mm in diameter are preferred.

Various changes in the details, steps and components that have been described may be made by those skilled in the art within the principles and scope of the invention herein illustrated. Therefore, while the present invention has been shown and described herein in what is believed to be the most practical and preferred embodiments, it is recognized that departures can be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope embraced by any and all equivalent processes and products.

I claim:

1. A ventilated horse blanket comprising:
 - an impermeable horse blanket;
 - a plurality of eyelets in the blanket;

3

netting material covering each eyelet; and
water-resistant means for covering said eyelets;
wherein said water-resistant means is partially attached to
the blanket and partially loose to allow air flow through
the eyelets.

2. The blanket of claim 1, further comprising a grommet
affixed to the perimeter of each eyelet.

3. The blanket of claim 2, wherein said grommet affixed
to the perimeter of each eyelet is sufficiently thick to provide
a raised edge to prevent water accumulated around the eyelet
from flowing therethrough.

4. The blanket of claim 3, wherein said water-resistant
means for covering said eyelets consists of at least one flap
covering at least one eyelet, said at least one flap being
partially attached to the blanket and partially loose thereon.

5. The blanket of claim 4, wherein said at least one flap
is attached to the blanket by stitching the flap above said at
least one eyelet covered thereby.

6. The blanket of claim 5, wherein said eyelets are about
10 to 25 mm in diameter.

7. The blanket of claim 1, wherein said water-resistant
means for covering said eyelets consists of at least one flap
covering at least one eyelet, said at least one flap being
partially attached to the blanket and partially loose thereon.

8. The blanket of claim 7, wherein said at least one flap
is attached to the blanket by stitching the flap above said at
least one eyelet covered thereby.

4

9. The blanket of claim 1, wherein said eyelets are about
10 to 25 mm in diameter.

10. The blanket of claim 1, wherein said grommet affixed
to the perimeter of each eyelet is sufficiently thick to provide
a raised edge to prevent water accumulated around the eyelet
from flowing therethrough.

11. The blanket of claim 10, wherein said water-resistant
means for covering said eyelets consists of at least one flap
covering at least one eyelet, said at least one flap being
partially attached to the blanket and partially loose thereon.

12. The blanket of claim 11, wherein said at least one flap
is attached to the blanket by stitching the flap above said at
least one eyelet covered thereby.

13. The blanket of claim 12, wherein said eyelets are
about 10 to 25 mm in diameter.

14. The blanket of claim 1, wherein said water-resistant
means for covering said eyelets consists of at least one flap
covering at least one eyelet, said at least one flap being
partially attached to the blanket and partially loose thereon.

15. The blanket of claim 14, wherein said at least one flap
is attached to the blanket by stitching the flap above said at
least one eyelet covered thereby.

16. The blanket of claim 15, wherein said eyelets are
about 10 to 25 mm in diameter.

17. The blanket of claim 1, wherein said eyelets are about
10 to 25 mm in diameter.

* * * * *

No. 749,514.

PATENTED JAN. 12, 1904.

L. H. AYRES.
HORSE BLANKET.

APPLICATION FILED JULY 24, 1903.

NO MODEL.

Fig. 1.

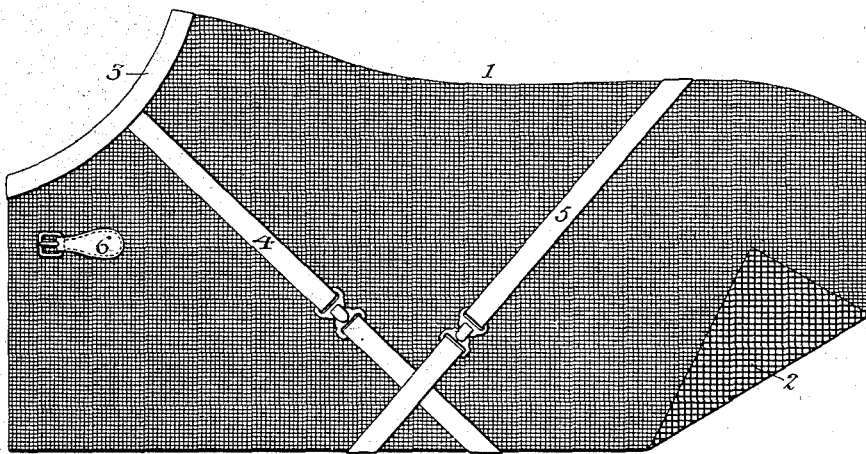


Fig. 2.



Witnesses:-

Hamilton D. Jurnie
Herman E. Melius

Inventor:-

Louis H. Ayres,

by his Attorneys;

Howson & Howson

UNITED STATES PATENT OFFICE.

LOUIS H. AYRES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, WILLIAM M. AYERS, WILLIAM G. AYERS, AND GEORGE R. AYERS, OF PHILADELPHIA, PENNSYLVANIA, TRADING UNDER THE FIRM-NAME OF WILLIAM AYERS AND SONS.

HORSE-BLANKET.

SPECIFICATION forming part of Letters Patent No. 749,514, dated January 12, 1904.

Application filed July 24, 1903; Serial No. 166,880. (No model.)

To all whom it may concern:

Be it known that I, LOUIS H. AYRES, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Horse-Blankets, of which the following is a specification.

The object of my invention is to so construct a horse-blanket that the same will present an attractive external appearance and will be strong enough to provide the proper support for the straps whereby it is secured upon the body of a horse and yet will permit such free circulation of air adjacent to the body of the horse as to dry the same when it is wet from perspiration, while at the same time the rapid radiation of heat from the surface of the body is arrested and the chilling of said surface thereby prevented.

In the accompanying drawings, Figure 1 is a side view of a horse-blanket constructed in accordance with my invention and showing one corner of the same turned up in order to expose the lining or inner surface of the blanket; and Fig. 2 is an exaggerated section of the blanket, illustrating the fabrics of which the same is composed.

My improved horse-blanket is composed of an outer and closely-woven fabric 1, of cotton, wool, or other available material, and an inner and more loosely-woven fabric 2, of bur-lap or other coarse and loosely-woven fabric, these two fabrics being secured together by stitches around the borders of the blanket and at such other points as may be necessary. The outer closely-woven fabric 1 can have any desired pattern produced thereon either in the weaving of the fabric, by subsequent printing, or by other means, and this closely-woven fabric is sufficiently firm and strong to provide the proper support for the straps 3, 4, and 5 and for the neck-fastenings 6, with which horse-blankets are usually provided, while the inner

fabric 2, owing to its coarse texture, provides channels for the circulation of air adjacent to the body of the horse, and thus permits of the drying of said surface when the same is wet with perspiration, the close texture of the outer fabric 1, however, retaining the natural heat of the body and preventing the objectionable chilling of the same, which is caused if such heat can be freely radiated through the blanket. The inner surface of the fabric may be brushed, if desired, to form a fleece thereon, and thus provide a softer surface for contact with the body of the horse than would be presented by the comparatively harsh threads of which said fabric is composed; but such fleecing of the inner face of said fabric does not obstruct the circulation of air between the two fabrics due to the coarseness or openness of weave of said inner fabric.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A horse-blanket composed of inner and outer textile fabrics secured together, the inner fabric being of coarser or more open texture than the outer fabric, substantially as specified.

2. A horse-blanket composed of inner and outer textile fabrics secured together around the borders of the blanket and where straps and other fastenings are applied to the blanket, but otherwise free from connection with each other, the inner fabric being of coarser or more open texture than the outer fabric, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS H. AYRES.

Witnesses:

HOWARD S. KNEEDLER,
A. E. PHARO.

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Thanks,

Charlie Hicks

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