

(No Model.)

3 Sheets—Sheet 1.

J. MEALEY.  
HARNESS.

No. 591,222.

Patented Oct. 5, 1897.

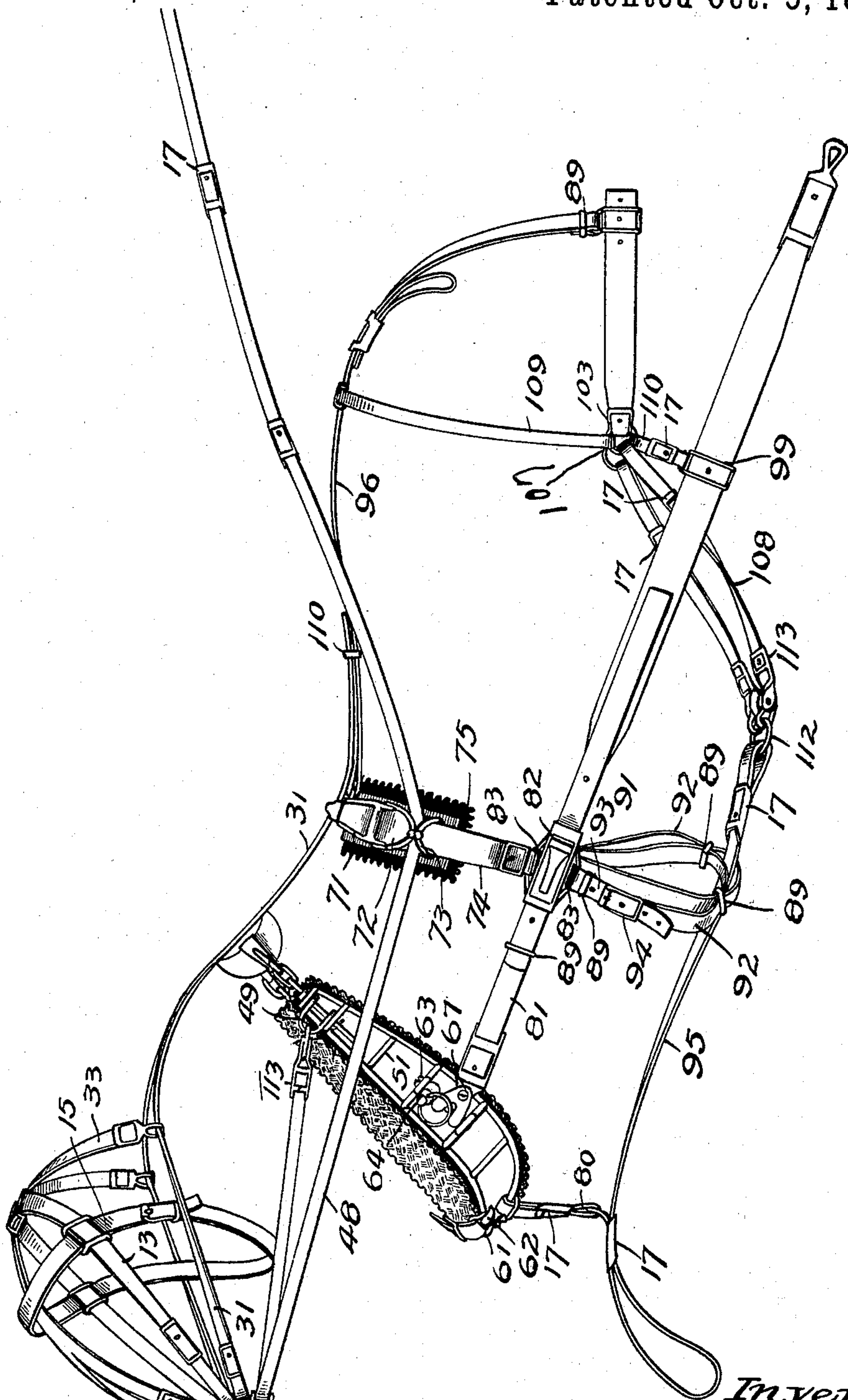


Fig. 1.

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W. E. Goober

Inventor;  
Johnston Mealey.  
By Paul & Hawley  
his Attorneys.

(No Model.)

3 Sheets—Sheet 2.

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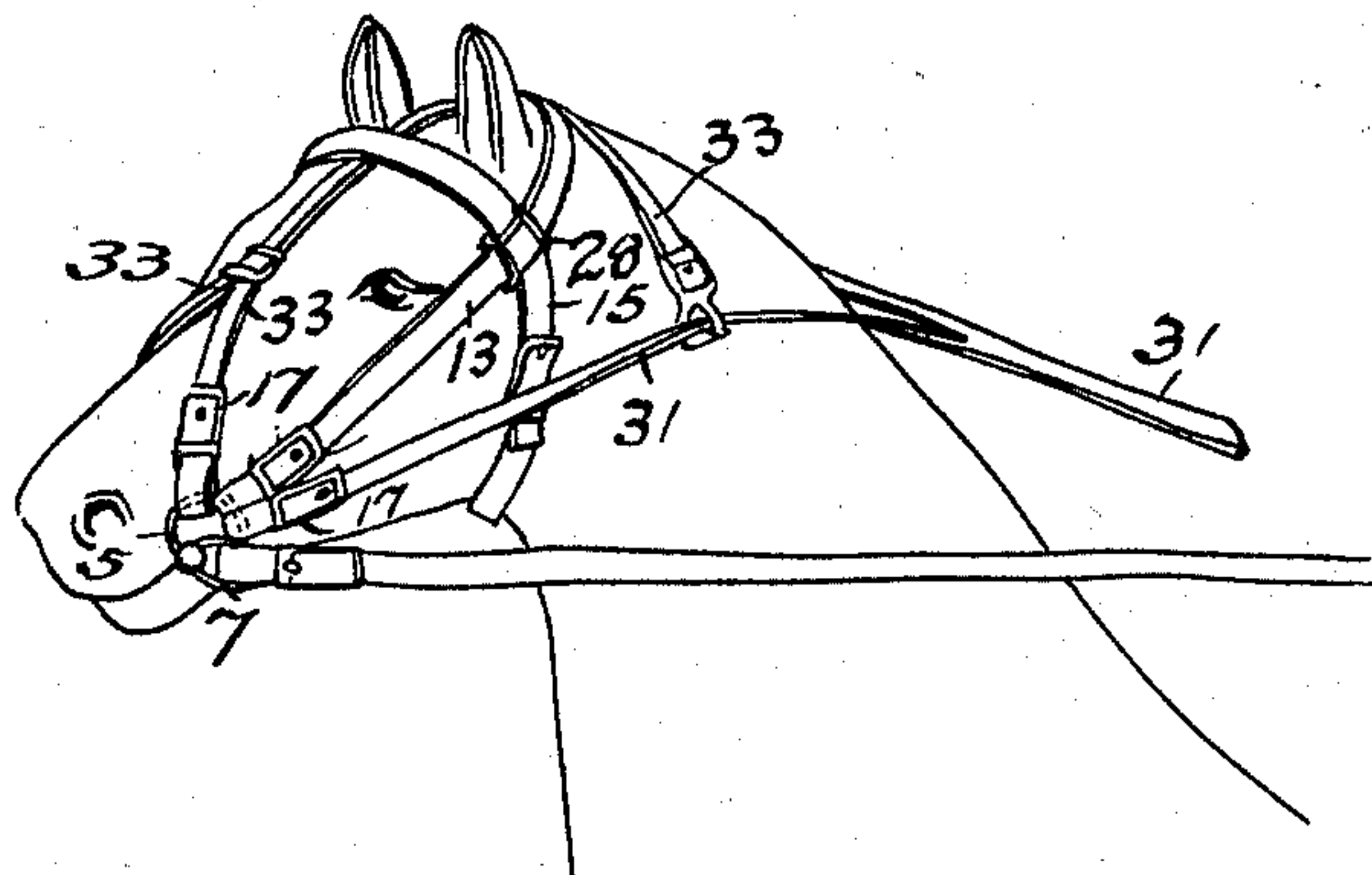


Fig. 2.

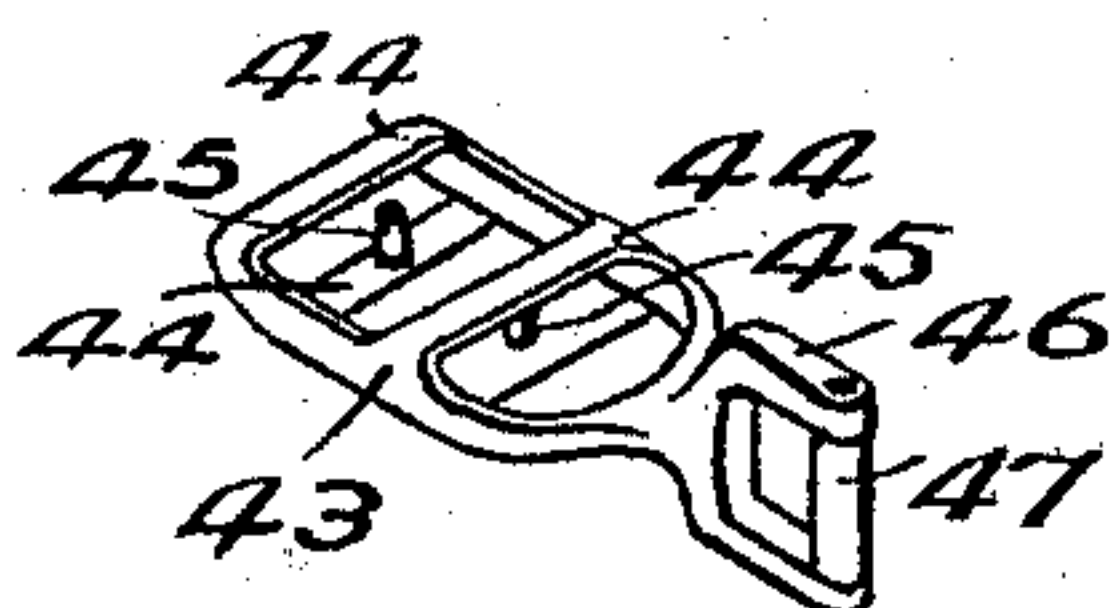


Fig. 5.

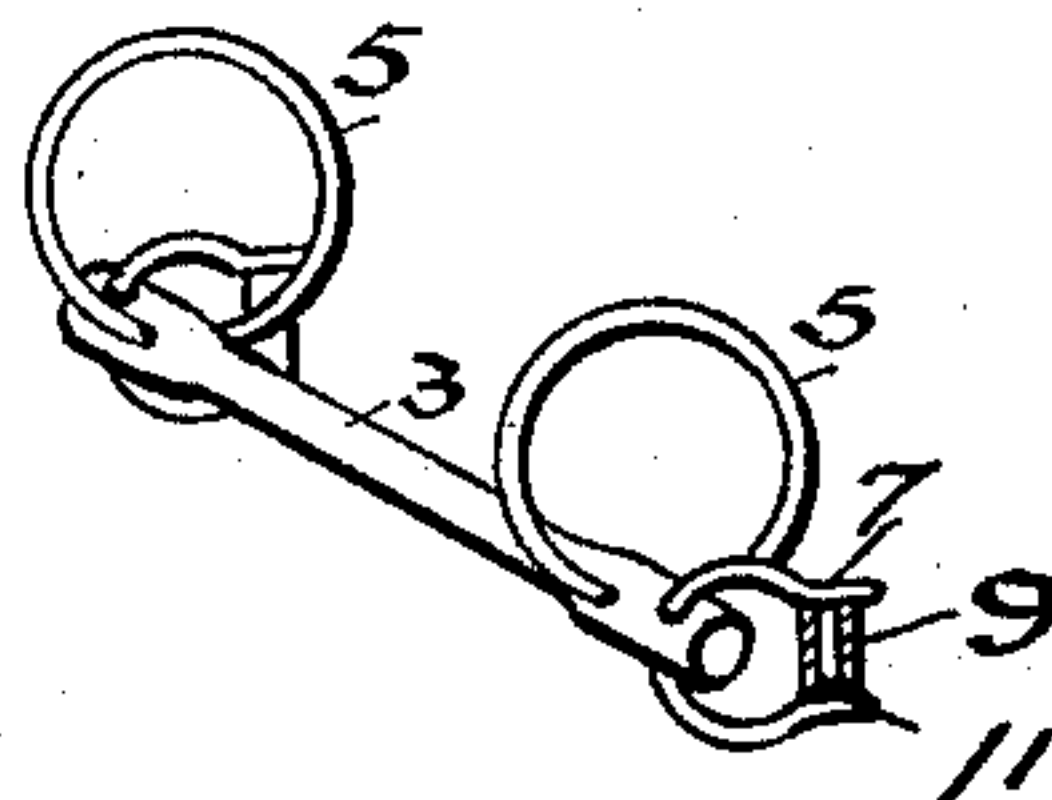


Fig. 3.

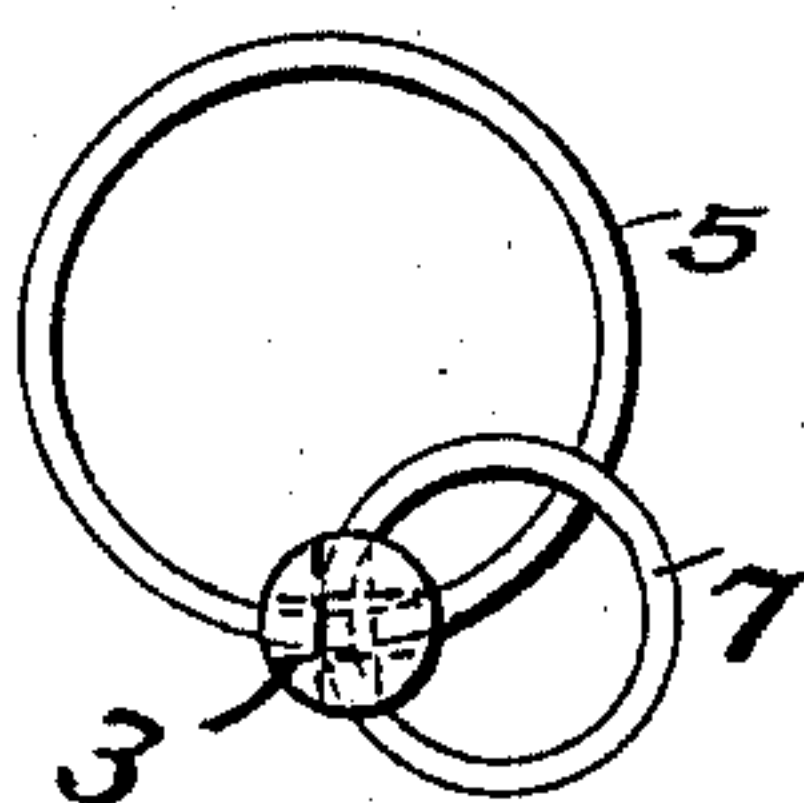


Fig. 4.

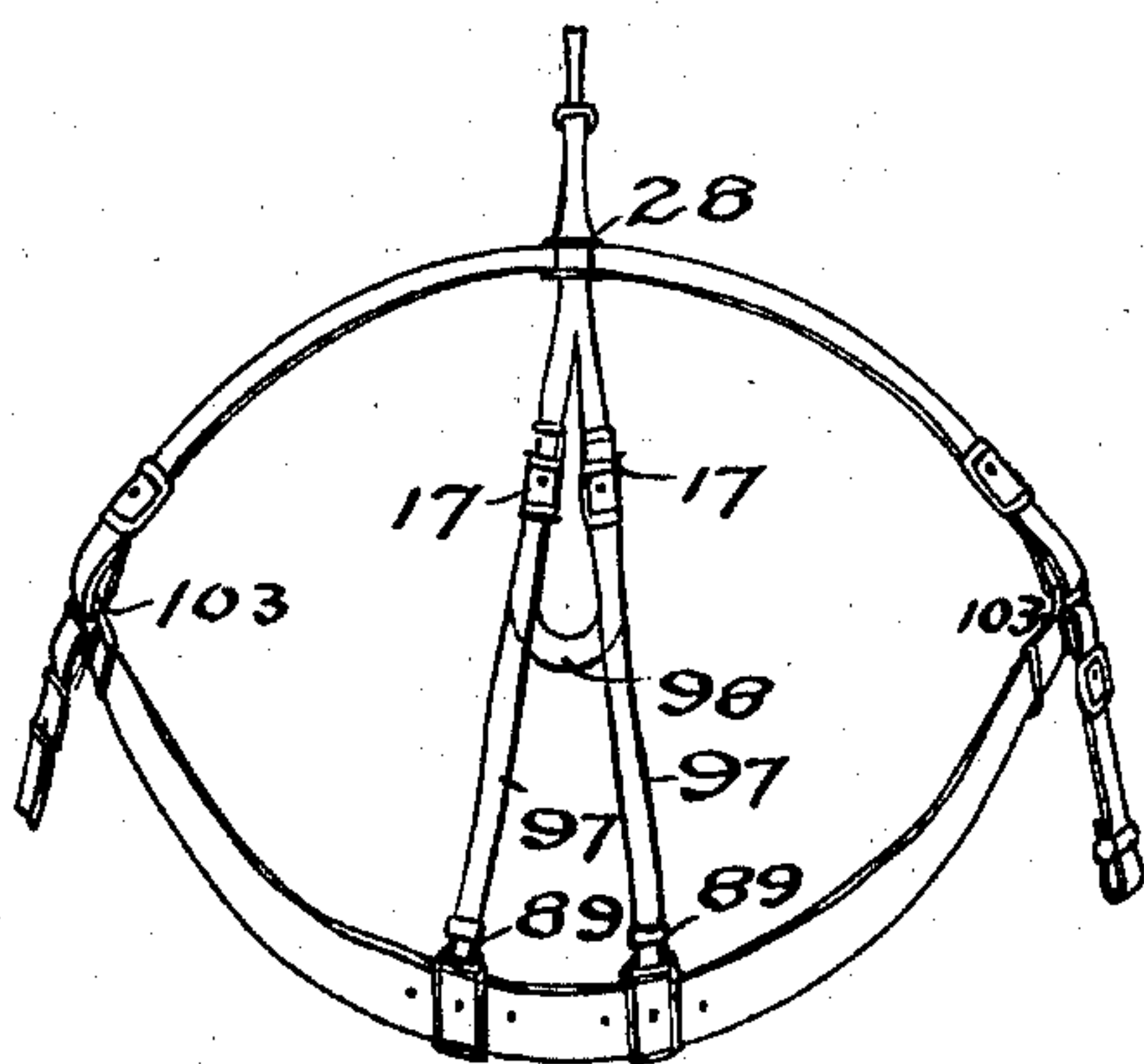


Fig. 15



Fig. 6.

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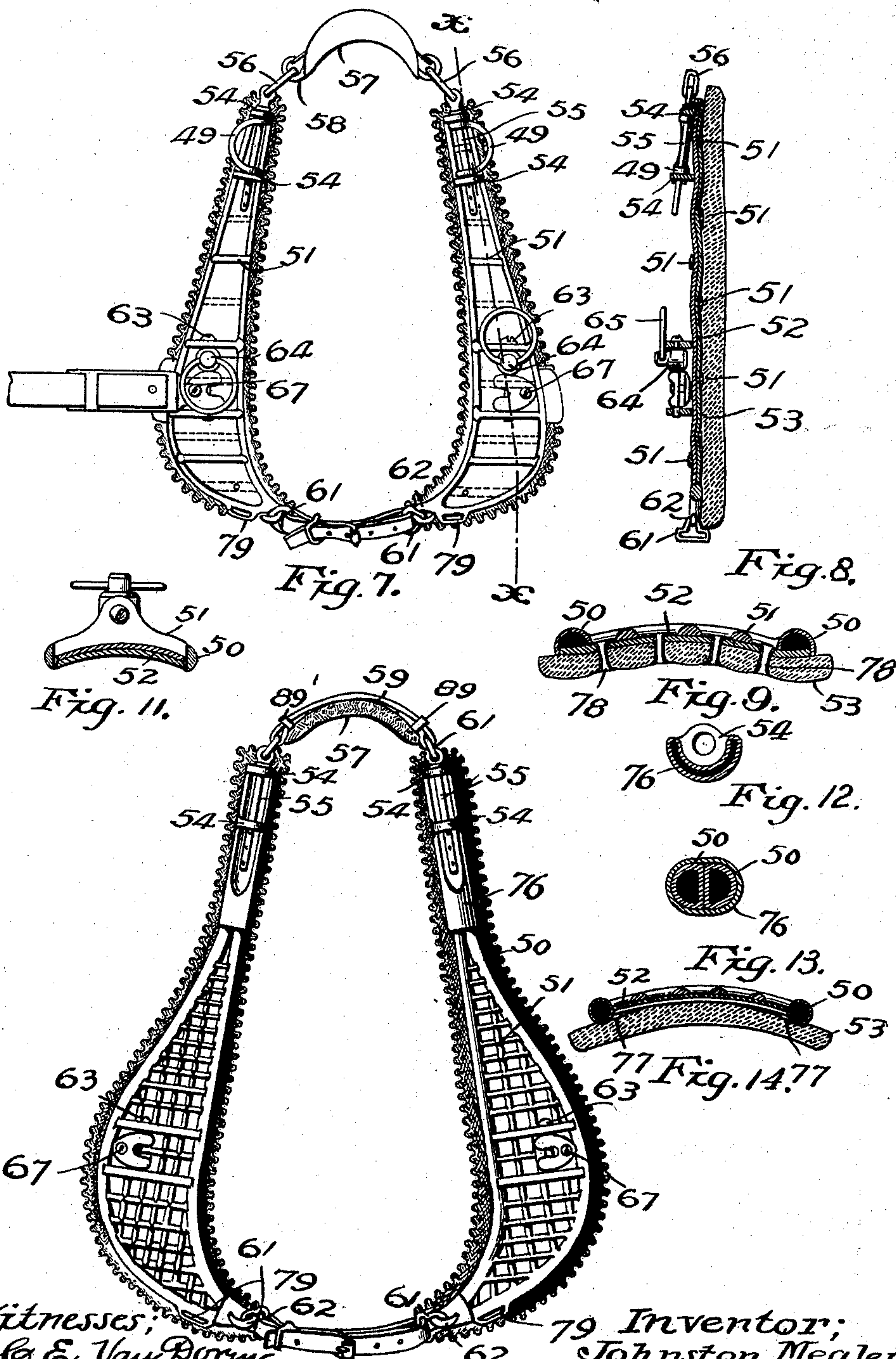
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J. MEALEY.  
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Witnesses;  
C. E. Van Dorn.

M. E. Gooley.

Fig. 10.

Inventor;  
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By Paul Hawley  
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# UNITED STATES PATENT OFFICE.

JOHNSTON MEALEY, OF HOWARD LAKE, MINNESOTA.

## HARNESSES.

SPECIFICATION forming part of Letters Patent No. 591,222, dated October 5, 1897.

Application filed April 13, 1896. Serial No. 587,379. (No model.)

*To all whom it may concern:*

Be it known that I, JOHNSTON MEALEY, of Howard Lake, Wright county, Minnesota, have invented certain new and useful Improvements in Harnesses, of which the following is a specification.

The objects of this invention are to provide an improved harness throughout and one that shall be constructed without the use of either sewing or rivets and in which the various parts of the harness shall be secured together in a much more durable and efficient manner than is customary in the ordinary forms of harness.

Another object of the invention is to provide an improved bridle and bit therefor.

Still another object is to provide an improved composite collar and hame which shall be of simple construction, which shall be adapted to fit the shoulders of the horse upon which it is to be worn, and which will prevent all chafing, such as is brought about by the use of the ordinary collar.

Another object is to provide improved means for carrying the breeching.

Other objects of the invention will appear from the following detailed description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my improved harness. Fig. 2 is a perspective view showing a bridle in use. Fig. 3 is a perspective view, and Fig. 4 is a side elevation, of the bit. Figs. 5 and 6 are details of means used for connecting and carrying parts of the harness. Fig. 7 is an elevation of my improved combined collar and hame. Fig. 8 is a section thereof on the line *xx* of Fig. 7. Fig. 9 is a transverse section. Fig. 10 is an elevation showing a slightly-modified construction of collar and hames. Figs. 11, 12, 13, and 14 are details of portions of the collar. Fig. 15 is an elevation showing the breeching-carrier.

I use the same principle and method of construction substantially throughout the entire harness, and one of the important features of the construction is that neither sewing nor riveting is employed for securing any of the parts together.

I will proceed to describe the harness, beginning with the bridle, and thence taking up in order the various parts which coöper-

ate therewith and together produce the complete harness.

The bit which I employ is shown in detail in Figs. 3 and 4 of the drawings, and the manner of using it is shown in Figs. 1 and 2. It consists of the bar 3, having near its opposite end the large rings 5, which are preferably secured by passing through transverse openings in the bar 3. Beyond or outside of the rings 5 are the small rings 7, having the rolls 9, secured therein by suitable pins 11. These rings are also secured by passing through openings in the bar 3, but said openings are at an angle, substantially and preferably a right angle, to the openings which receive and retain the rings 5, as indicated in the various views in the accompanying drawings. The various straps forming the bridle, together with the checkrein, are attached to the rings 5, while the small rings 7 are intended only to receive the reins. A single strap 13 has its opposite ends secured to the rings 5, and this strap forms the headstall or main part of the bridle, being adapted, when in use, to pass over the top of the horse's head, as shown in Fig. 2 of the drawings.

In place of the usual throat-latch and brow-band I provide a single strap 15, that is secured to the headstall 13, as shown in Figs. 1 and 2 of the drawings.

For securing the straps 13 and 15, forming the headstall and throat-latch, together I provide the buckle shown in Fig. 6, which has the oppositely-arranged bars 27 and 28, one of the bars 27 being provided with the stud 29 and one of the bars 28 being provided with the stud 30. The bars 27 and 28 are not arranged in the same plane, so that by passing one of the straps first over two of the bars—as, for example, over the two bars 28—and then permitting the studs 30 thereon to project into an opening in said strap, and then passing the other strap under both of the bars 27 and over the first strap and permitting the stud 29 to project into a hole in that strap the two straps will be permanently and firmly secured together in the manner shown in Figs. 1 and 2 of the drawings. These two parts—the headstall and throat-latch already described—together with the bit to which the headstall is secured, form the main part of the bridle; but in addition I prefer to employ



an improved form of check, which is also shown in Figs. 1 and 2 of the drawings.

The main part of the check consists of the single strap 31, which passes from the saddle to a point in the rear of the bridle, where it is divided, and its ends pass to the opposite rings 5 upon the bridle-bit.

I provide a check-carrier consisting of two straps 33, each having one end secured to the ring 5. These two straps are brought together a short distance above the rings or about midway between the rings of the bit and the part of the strap 15 forming the brow-band and are then carried side by side over the crown of the headstall. The ends of the straps 33, back of the crown portion of the headstall 13, are separated, and each end is provided with the carrier shown in Fig. 5.

This consists of a metal frame 43, having its side bars connected at their upper and lower edges by the cross-bars 44. Two of these bars are provided with the oppositely-extending studs 45, both of which extend inward. The frame is also provided with the loop 46, within which is journaled the roller 47. The carriers are arranged upon the ends of the straps 33, as shown in Figs. 1 and 2, and the checkrein 31 passes through said carriers over the rolls 47 and is buckled into the ring 5, as shown in said Figs. 1 and 2. The reins 48 extend to the outer or small ring 7 upon the bridle-bit, and they may be either buckled directly to said ring, as shown in Fig. 2 of the drawings, or for the purpose of giving additional leverage upon the bit the rein may be carried through the ring 7, passing over the roll 9, and be connected to a loop 49 on the collar, as shown in Fig. 1.

The collar and hames are combined in one structure, which is shown in detail in Figs. 7, 8, and 11. As here shown, each part of the collar consists of a light metallic frame formed of the side bars 50 and the cross-bars 51. The cross-bars 51 are arranged alternately at the upper and lower edges of the side bars 50, so that they permit the leather covering 52 to be passed alternately above and below said bars, as shown in Fig. 8. Beneath said frame and secured thereto and covered by said leather covering 52 is the flexible pad 53, which fits upon the shoulder of the horse when the collar is in use. The metallic frame is concave in cross-section, as shown in detail in Fig. 11, so that the leather covering 52 and the pad 53 are given a concave form by being secured to said frame in the manner described. The upper part of the metallic frame is provided with the projections 54, and a vertical pin 55 is arranged in openings in said projections, being free to turn in said openings or the frame being free to turn upon said pins. Each of said pins is provided at its upper end with the ring 56, and a loop 49 is also secured upon said pins, and to this loop the end of the rein may be attached, as already described and as shown in Fig. 1 of the drawings. The loop 49 may also be used

to carry the rein when the end of the rein is attached to the check in the manner shown in Fig. 2.

In connection with the collar already described I use a neck-pad 57, which may be an ordinary form of zinc neck-pad provided with snap-hooks 58, by means of which it is connected to the rings 56, or it may be a suitable flexible pad, as shown in Fig. 10, secured in position by a strap 59 and suitable buckles 89. At the lower end of each of the frames forming the collar I provide a loop-link 61, (shown clearly in Fig. 8,) the narrow part of the loop being secured upon a hook 62 at the lower point of the frame. I prefer to use also the loop-link 61 on the pins 54 at the top of the collar when I use the flexible pad 57. (Shown in Fig. 10.)

Each of the metal frames forming the sides of the collar is provided with two cross-bars which are extended out beyond the others, and a vertical pin or bolt 63 is arranged to pass from one of these bars to the other, being screwed into one of the bars, and thus being removable for the purpose hereinafter stated. Arranged upon this pin is a block 64, through which the pin loosely passes, and said block is provided with a ring 65, which carries the breast-strap.

I may provide any suitable means for securing the tug to the collar, as shown in Figs. 1 and 7, and for changing the draft I may remove the pin 63 and place the loop 67 above the block 64, thereby carrying the draft to a higher point on the collar. This will be found exceedingly advantageous in many instances.

The collar shown in detail in Figs. 9, 10, 12, 13, and 14 differs slightly in its mechanical construction from that shown in Figs. 7, 8, and 11. As here shown, the side bars 50 are of hollow form, being either circular in cross-section, as shown in Fig. 14, or being substantially of D shape in cross-section, in which case the back or under side may be open, as shown in Fig. 9. In either instance the upper ends of the bars are brought together, as shown in Fig. 13, and are projected into a tube 76, as shown in Fig. 13, where they are secured, preferably, by being brazed in position. The upper or front side of the tube is depressed, as shown in Figs. 10 and 12, forming a pocket for the reception of the pin 55. The projections 54 extend across this pocket, as shown in Fig. 12, and are provided with holes to receive the pin 55.

It will be understood that the pin 55 will be provided with a suitable transverse pin for locking it in position, and by providing the pin 55 with a series of holes its position relative to the collar and the position of the collar in relation to the neck-pad may be adjusted.

In the construction shown in Figs. 9, 10, and 14 I preferably arrange the bars 51 all in the same plane, and preferably arrange them to extend both transversely and vertically in



said plane, thus forming a sort of lattice-work, to the under side of which the leather covering 52 is secured. This covering may be secured in any suitable manner to the framework. I may secure it by the inwardly-projecting lug 77, arranged at the inner edge of the bar 50 and arranged to hold the edges of the leather covering 52, as shown in Fig. 14. The pad 53 is secured to the leather covering by any suitable means. In some instances I secure it by means of the hollow metallic rivets 78, arranged as shown in Fig. 9. These rivets will be arranged so as to come opposite the spaces between the bars 51, thus forming ventilators for the collar. The lower parts of the frame of the collar may be provided with the loops 79, as shown in Figs. 7 and 10, which receive the martingale-straps 80, as shown in Fig. 1.

The saddle which is used with this harness consists of the upper or rigid part 71 and the hinged side part 72, which are provided with the loops 73, through which passes the rein 48, as shown in Fig. 1. A strap 74 passes over the frame of the saddle, and a suitable pad 75 is arranged beneath the frame and the strap. This saddle is shown and described in detail in a separate application heretofore filed by me on the 10th day of February, 1896, Serial No. 578,651.

The short tug 81 is secured to the collar at its forward end in the manner already described, and upon this tug is arranged the trace-buckle 82, by which the end of the trace or long tug is secured to the short tug. The strap or band of the saddle is also secured to the trace-buckle, as is also the saddle-girth. The trace-buckle consists of a metallic frame having suitable loops 83 at the upper and lower side, to which are secured the straps of the saddle and the girth, as shown in Fig. 1.

The saddle-girth consists, preferably, of a single strap 91, which is secured to the saddle in the manner described in my former application, hereinbefore referred to. The billet 93 is secured to the under loop 83 on the trace-buckle and held in position by means of the loop 89. For connecting the end of the girth 92 to the end of the billet 93 I use a buckle 94, such as is shown and described in an application for patent heretofore filed by me, dated February 10, 1896, Serial No. 578,650. I arrange upon the tight or saddle girth 91 two loops 89. The loose girth 92 passes loosely through these loops and is free to slide therein, and the martingale 95 preferably extends between the two girths at points between said loops, as shown in Fig. 1 of the drawings. The back-strap 96 extends from the saddle and is divided at its rear end, and it may stop at the point where the crupper is buckled on or it may extend to the breeching, as shown in Fig. 1, or separate straps 97 may be buckled to the back-strap with the crupper 98, as shown in Fig. 15, the straps 97 being connected to the breeching by the breeching-carrier 99. By means of the straps 97 and the loops 89 the

breeching at each side of the center and at the rear of the horse is suitably supported. This prevents it from dropping too low around the horse's legs and prevents the horse from sitting down on the breeching and thus breaking the breeching or the hip-straps or their connections.

The ends of the breeching are provided with the carriers 103. This carrier consists of a rectangular frame provided with a loop 107. Into the loop 107 is secured the holdback-strap 108, the hip-strap 109, and the trace-carrier 110. The holdback-straps 108 are secured in the loop 107 by means of the buckle 17. The same buckle is also employed for securing the hip-straps 109 to the loop 107 and so is the trace-carrier 110. The trace is supported by the metallic carrier 99. The hip-straps are connected to the back-strap by means of the buckle shown in Fig. 6. This buckle securely fastens the two parts together, as shown in Fig. 15. The back-strap 96 is adjustably connected to the saddle by being passed through the loop upon the rear of the saddle and turned back upon itself and being connected to the combined buckle and loop 110.

For securing together the end of the back-strap 96, the crupper-strap 98, and the rear breeching-carrying strap 97 I make use of the buckle 17, which I also use upon the rear end of the martingale-strap, as shown in Fig. 1, and also upon the forward end, as shown in the same figure, and I also use the same buckle on the martingale-carrying strap 80, as shown in Fig. 1. For securing the ends of the breeching holdback-straps to the ring 112 on the rear end of the martingale I prefer to use the snaps 113, and I use the same snaps preferably upon the ends of the reins, as shown in Fig. 1.

I use the buckle 17 upon the rein where I wish to secure a cross-line to the main rein, the position of this buckle for this purpose being shown in Fig. 1.

It will be seen that the entire harness is constructed without the use of stitching or riveting, all of the parts being secured together by means of the connections herein shown and described.

The combined collar and hames is one of the important features of the invention, and it is especially important that the two parts of the collar be connected to the neck-pad by means which permits a pivotal line or axis. This permits a freedom to each part of the collar while the horse is in motion, which prevents any chafing or rubbing of the shoulders of the horse.

The connection between the neck-pad and the main parts of the collar permits the neck-pad to remain stationary while the main parts of the collar have the necessary movement, and this prevents any chafing or galling of the horse's neck. The tug can be adjusted vertically, also, so as to bring the draft higher or lower upon the horse's shoulders. The construction of the bridle and the arrange-



ment of the checkrein in connection therewith compels the horse to hold his head straight, and thus enables one to teach a young horse to carry himself properly.

5 The advantages of other features of the invention will be readily understood from the foregoing detailed description thereof.

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

1. In a harness, the bit, comprising the bar 3 having holes extending through it near each end, at right angles to each other, the rings 7 passing through the holes that are nearest  
15 the end of the bar, and the larger rings 5 passing through the inner holes, for the purpose set forth.

2. In a harness, the combination, with the bit, provided with the bar 3 having two holes  
20 passing through it near each end thereof, said holes being arranged with their axes at right angles to each other, of the rings 7 passing through the outer holes and provided with the rolls 9, and the larger rings 5 passing  
25 through the inner holes, for the purpose set forth.

3. In a harness, the combination, with the bit, consisting of the bar 3 having two holes at each end, with their axes at right angles  
30 to each other, of the rings 7 passing through the outer holes, and the larger rings 5 passing through the inner holes, the headstall and check connected to the inner or larger rings 5, and reins connected to said rings 7, for the  
35 purpose set forth.

4. In a harness, the combination with the bit, consisting of the bar 3 provided with holes at each end thereof, with their axes at right angles to each other, of the rings 7 passing  
40 through the outer holes and the larger rings 5 passing through the inner holes, of the check 31 consisting of the strap having a fork arranged at a point that will come substantially over the neck of the horse when the device  
45 is in use, the ends of said check being connected to said rings 5, the check-carriers 33 having their ends connected to said rings 5 and passing over the top of the headstall, and their free ends forming carriers, upon  
50 the opposite sides of the horse's neck, for said check 31, for the purpose set forth.

5. The combination, with the bit, consisting of the bar 3 having rings 5 and 7 passing through openings in said bar that are at right  
55 angles to each other, of the single continuous strap 13 forming the headstall and connected to said rings 5 by suitable buckles 17, the single continuous strap 15 forming the brow-band and the throat-latch and connected to  
60 said strap 13 at right angles thereto by the buckles formed of the rectangular frames 27 28 having open centers, one of said bars 27 being provided with the pin 29, and one of the bars 28 being provided with the oppositely-projecting pin 30, for the purpose set  
65 forth.

6. The combination, with the bit, consisting of the bar 3 provided with holes at right angles to each other in its ends, of rings 7  
70 passing through the holes in the bar and the larger rings 5 passing through inner holes therein, the headstall consisting of a single strap having its ends connected to said rings 5 by means of the buckles 17, the continuous  
75 strap 15 forming the brow-band and throat-latch and connected to said headstall 13 at right angles thereto by the rectangular frames 27 28, provided upon the part 27 with the stud 29 and upon the part 28 with the oppositely-projecting studs 30, the checkrein 31 con-  
80 sisting of a single strap divided at a point which in use will be substantially over the neck of the horse, and having its ends also connected to said rings 5 by buckles 17, the check-carrier 33 having its lower ends con-  
85 nected to said rings 5 by buckles 17, the two parts of said check-carrier being united at a point below the brow-band and passing over and being connected to the top of the headstall, the free ends of said check-carrier being  
90 provided with the rectangular frame 43, provided with the cross-bars 44 and secured to said check-carrier by the studs 45, said frame 43 having the loops 46 provided with the rolls 47 over which said check passes, for the pur-  
95 pose set forth.

7. The combination, with the collar-frame consisting of the side bars 50, transverse bars 51 connecting said side bars, of a flexible covering passing through said frame above and  
100 below said cross-bars, and a suitable pad secured thereto.

8. In a harness, the combination, with the metallic collar-frame, transversely concave in its inner side, of the pad 53 secured in con-  
105 cave form with the inner surface of said collar-frame, for the purpose set forth.

9. The combination, with the concave frame, consisting of the side bars 50, the transverse bars 51 connecting the upper and lower  
110 edges of said side bars, of the leather covering threaded or woven through said frame above and below said cross-bars, and the pad secured thereto.

10. The combination, with the neck-pad, of  
115 the two parts of the collar, and vertical pivots connecting said parts of the collar with said neck-pad, for the purpose set forth.

11. The combination, with the neck-pad, of the collar consisting of the independent  
120 frames, each arranged to turn or swivel upon its longitudinal axis, for the purpose set forth.

12. The combination, with the neck-pad, of the collar-frames, the pins 55 upon which said  
125 frames are adapted to turn, and means connecting said pins to said neck-pad.

13. The combination, with the collar-frames provided with the transverse projections 54, of the pins 55 extending through openings in  
130 said projections, means for securing said pins in position, and the link-loops 56 connecting said pins to the neck-pad.



14. The combination, with the collar-frame having the transverse bars 51, of the pin 53, two of said bars 51 being arranged to receive said pin 53, and the ring-block 64 and the loop 5 67 arranged on said pin and interchangeable thereon, substantially as described.

15. The combination, with the neck-pad, of the collar-frame adjustably mounted upon the pins 55 upon which said frames are free 10 to turn, and means connecting said pins with said neck-pad.

16. The combination, with the collar-frame having the side bars 50, brought together at their upper end and secured in the tube 76, 15 the upper portion of said tube being indented or recessed, the transverse projection 54, and the pin 55 mounted in openings in said projections, means for adjustably securing said pins in position, the neck-pad, and means for 20 securing said neck-pad to said pins, for the purpose specified.

17. The combination, with the open concave collar-frame, the leather covering 52 secured to said frame, the pad 53 arranged under said

leather covering, and the ventilating-tube 78 25 securing said pad to said covering.

18. The combination, with the back-strap and breeching, of the breeching-carrier straps 97 and the crupper 98, said straps 97 and said crupper 98 being secured to said back-strap 30 by the same buckles 17, for the purpose specified.

19. The combination, with the back-strap, of the hip-strap 109 secured to said back-strap by means of the buckle 28, the ends of said 35 hip-strap being connected to the end of the breeching by means of the buckle 17, and the carriers 103, and the breeching-carrying straps 97 connected to the ends of the back-strap by the buckles 17 and connected to said breech- 40 ing at opposite sides of the same.

In testimony whereof I have hereunto set my hand this 9th day of April, A. D. 1896.

JOHNSTON MEALEY.

Witnesses:

A. C. PAUL,  
M. E. GOOLEY.