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PATENTED JAN. 9, 1906.

J. S. McKENZIE.
HARNESS TUG.

APPLICATION FILED NOV. 28, 1904.

2 SHEETS—SHEET 1.

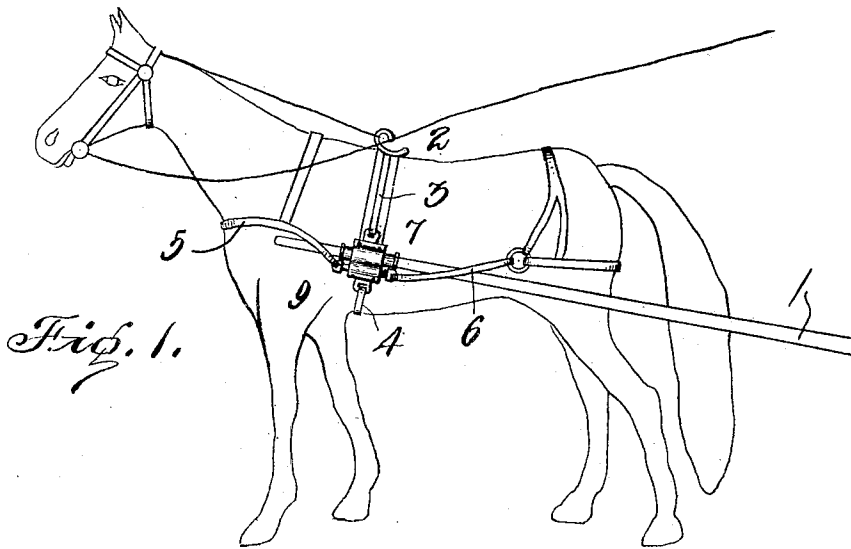


Fig. 1.

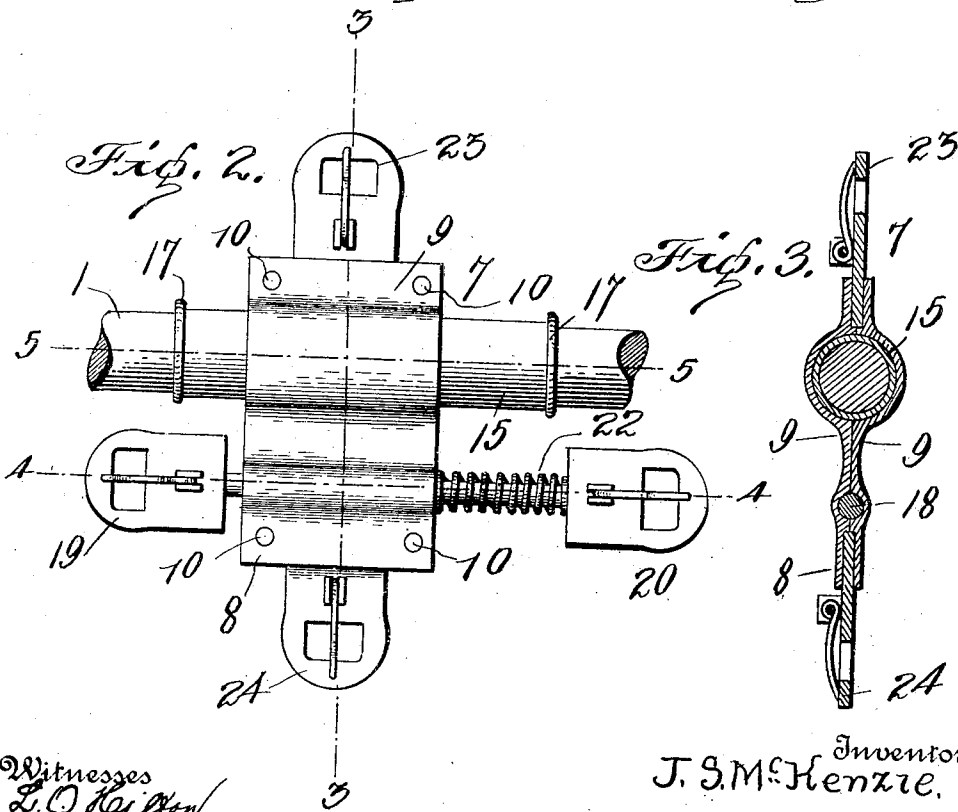


Fig. 2.

Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 4.

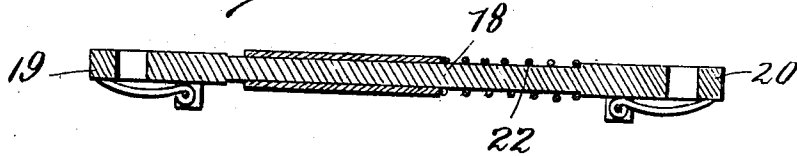


Fig. 5.

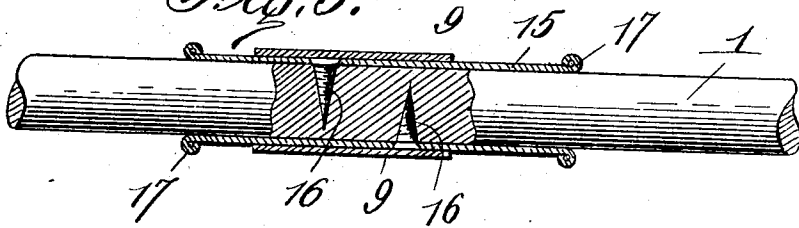


Fig. 6.

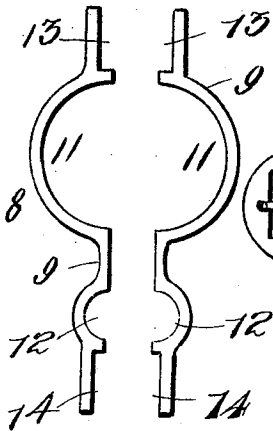
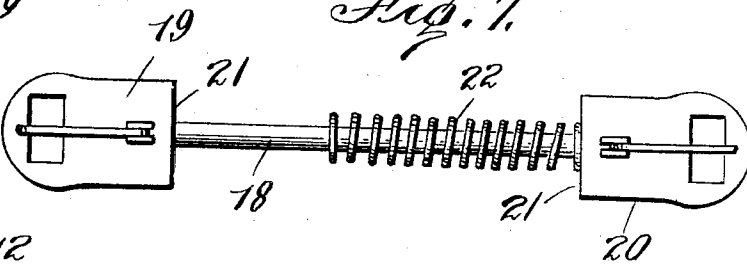


Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES S. MCKENZIE, OF ATLANTA, GEORGIA.

HARNESS-TUG.

No. 809,577.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed November 28, 1904. Serial No. 234,676.

To all whom it may concern:

Be it known that I, JAMES S. MCKENZIE, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Harness-Tugs; 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.

My invention relates to improvements in harness, and more particularly to a combination shaft-tug and holdback.

The object of my invention is to provide a simple, durable, efficient, and comparatively inexpensive device of this character by means of which the operation of hitching and unhitching will be materially simplified and the danger of accidents due to breakage of parts will be reduced to a minimum.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved shaft-tug and holdback, showing the application of the same. Fig. 2 is a side elevation of the device on an enlarged scale. Fig. 3 is a vertical transverse sectional view taken on the line 3 3 in Fig. 2. Figs. 4 and 5 are horizontal longitudinal sectional views taken, respectively, on the lines 4 4 and 5 5 in Fig. 2. Fig. 6 is a detail end elevation of the tug-frame, showing its two half-sections separated; and Fig. 7 is a detail view showing the sliding bar which carries the holdback-strap buckle and breast-strap buckle.

Referring to the drawings by numerals, 1 denotes a shaft or thill, and 2 a harness which comprises a back-band strap 3, a belly-band strap 4, a breast-strap 5, and a holdback-strap 6.

My combination device 7 is provided for the purpose of connecting the straps together and to the shaft, and it comprises a tug plate or frame 8, which is preferably formed of two similar castings 9, secured together by bolts 10, which are passed through aligned openings formed in said half-sections, as shown. Each of said half-sections 9 is formed with a large semicircular portion 11, a small semicircular portion 12, and recessed portions 13 and 14 at its upper and lower ends. When said half-sections are secured together, the por-

tions 11 register to form a tubular casing, in which is slidably mounted a tube 15. Said tube is secured upon a shaft 1 by screws 16 or any other suitable fastening means and has each of its ends provided with stop-flanges 17, which are preferably formed by bending or curling its ends, as seen in Fig. 5 of the drawings. This flange, it will be seen, limits the sliding movement of the tug-frame upon the tube 15. The curved portions 12 on the two sections when the latter are united register with each other to receive a sliding bar 18, which is of greater length than the width of the half-sections 9 and which has at its ends harness-buckles 19 and 20. Said buckles may be of any suitable form and construction and are provided at their rear ends with shoulders 21, which are adapted to engage the front and rear edges of the tug-frame to limit the sliding movement of said bar 18 in the tug-frame. The buckle 19 is adapted to be engaged by the usual breast-strap 5 and the buckle 20 with the holdback-strap 6. Upon the rod or bar 18 is a coil-spring 22, which is confined between the rear edge or end of the tug-frame and the shoulder or head 21 of the buckle 20, so that said bar and buckles are held normally in the position shown in Fig. 2 of the drawings. In the recessed portions 13 and 14 of the two half-sections 9 are secured, by means of the bolts 10, upper and lower buckles 23 and 24. These buckles may be of any desired form and construction, and the upper one 23 is adapted to be engaged by the back-band strap 3 and the lower one 24 by the belly-band strap 4.

The operation of my invention is as follows: When the parts are connected as shown in Fig. 1 of the drawings, it will be seen that the device is supported and held in its normal position by the straps 2 and 3, and it in turn supports the shaft 1 at the proper elevation. When the horse or draft-animal upon which the harness 2 is secured moves forwardly, the tension upon the breast-strap 5 will move the sliding rod 18 forwardly and against the tension of the spring 22 until the buckle 21 picks up the tug plate or frame 8, whereupon the latter will slide forwardly upon the tube 15 until its forward end engages the stop-flange 17 upon the forward end of said tube. The latter being secured to the shaft will draw the buckle to which the latter is attached forwardly. When the horse backs between the shafts 1, the holdback-strap 6 will move the sliding rod 18

rearwardly until the buckle 19 engages the front end of the tug-frame 8 and moves the latter rearwardly upon the tube 15 until it is stopped by the flange 11 at the rear end of said tube.

It will be seen that my improved device takes the place of the usual leather shaft-tugs with D's and billets and also takes the place of the usual holdback connection. The device is adapted for the back-band, belly-band, holdback, and short trace when desired to be used; but it will be seen that the device may be used in other ways than the one illustrated in Fig. 1 of the drawings. For instance, it may be used simply for supporting the shaft or for supporting the shaft and providing the connection for the breast-strap.

Owing to the simple, strong, and durable construction of the device, the danger of the parts breaking or wearing out is reduced to a minimum, and the operation of hitching and unhitching the horse is rendered less laborious.

Various changes in the form, proportion,

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

A combined shaft-tug and holdback comprising a shaft-tug frame consisting of two plates permanently secured to a shaft, a holdback-rod permanently and yieldingly mounted in the tug-frame and buckles secured to the opposite ends of said holdback-rod for detachably connecting the holdback-strap and the breast-strap, and buckles above and below the tug-frame plates, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES S. MCKENZIE.

Witnesses:

WALTER J. STOY,

JNO. A. BRICE.