(No Model.)

J. H. MOYER.

METALLIC SHAFT TUG.

No. 324,876. Patented Aug. 25, 1885.

Fig. 3.

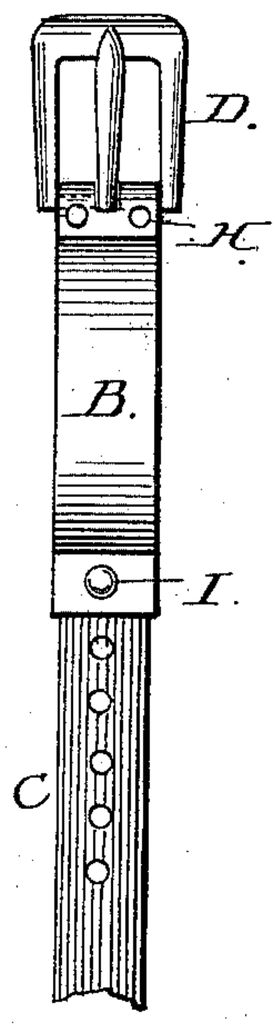

Fig. 1

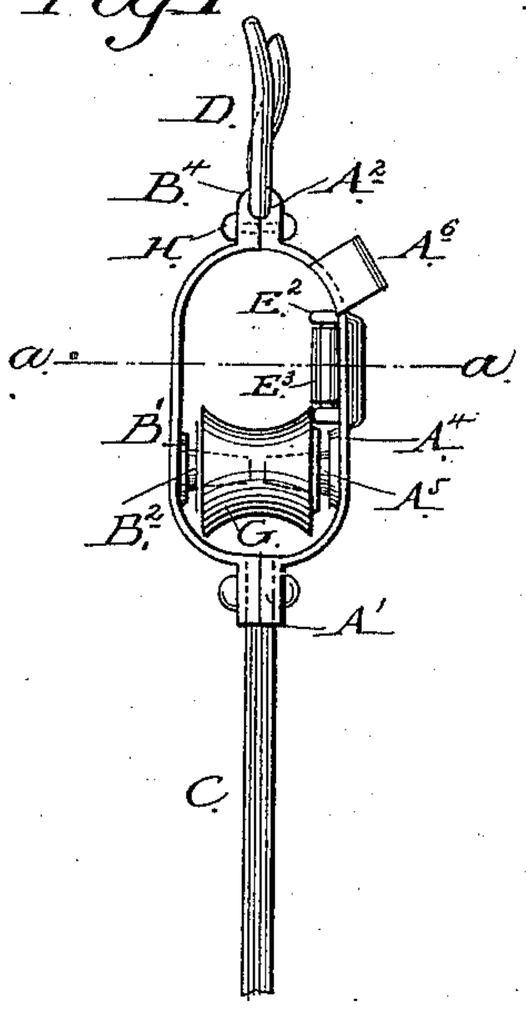

Fig. 2.

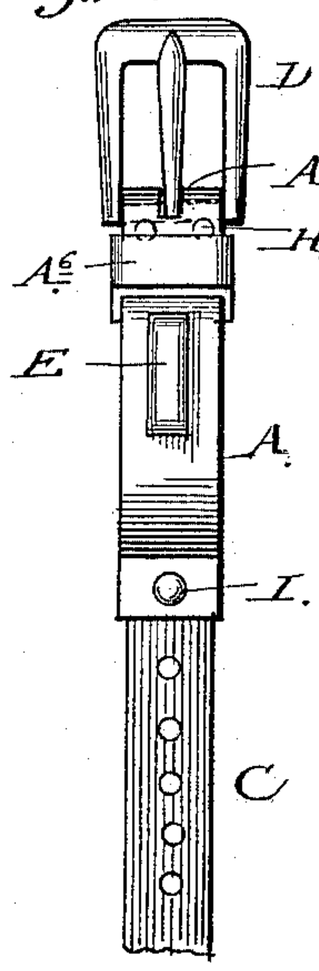

Fig. 4.

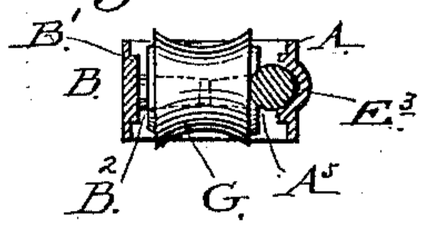

Fig. 5.

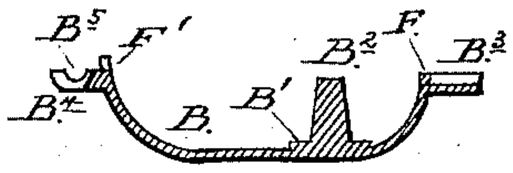

Fig. 6.

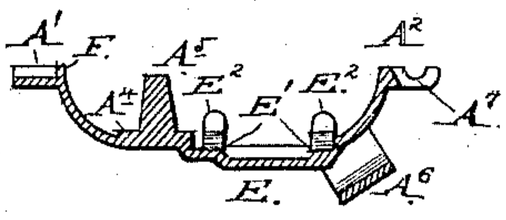

Fig. 7.

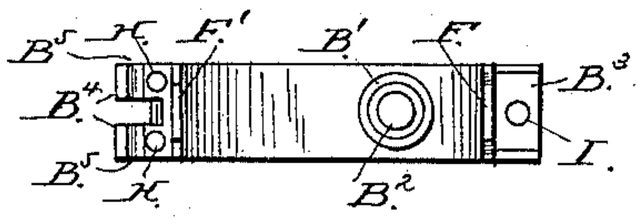

Fig. 8.

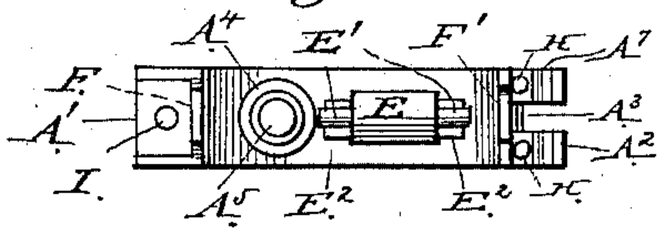

Fig 9

WITNESSES

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METALLIC SHAFT-TUG.

SPECIFICATION forming part of Letters Patent No. 324,876, dated August 25, 1885.

Application filed May 9, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. MOYER, a citizen of the United States, residing in the city of Reading, county of Berks, State of Pennsylvania, have invented a new and useful Improvement in Metallic Shaft-Tugs, of which the following is a specification.

This invention pertains more particularly to shaft-tugs for light carriages, although applicable to cart and dray harness.

The object of the invention is to furnish a tug-loop easily applied, neat in its appearance, that will give relief to the horse, and reduce the wear upon the thills or shaft.

The above objects are attained in the use of the tug shown in the accompanying drawings, in which similar letters of reference indicate similar parts.

Figure 1 represents a full side elevation of the tug; Fig. 2, a front view of the same, showing the loop and roller-shield. Fig. 3 represents a rear view of the tug; Fig. 4, a transverse section of the tug on the line *a a* of Fig. 1; Fig. 5, a longitudinal section through the rear portion of the improved tug, showing the integral roller-shaft; Fig. 6, a longitudinal section through the front portion of the tug, showing the integral roller-shaft, seat and locking ears for the side roller, and the strap-loop. Fig. 7 represents an interior plan of the rear portion of the tug, showing the recess for the belly-strap, and seat for the buckle cross-bar, slot for buckle-tongue, and roller-shaft. Fig. 8 represents a similar view of the front portion of the tug, showing the recess for the side roller, the journal-bearings and locking-ears for the same, also main roller-shaft; and Fig. 9, a detached side roller, in all of which—

A represents the outer half or portion of the tug, cast or stamped of suitable metal, and integral therewith a recess, A′, at the lower end, to receive the belly-strap C, and with a bifurcated end provided with transverse recesses A^2, to receive the cross-bar of the buckle D, the tongue of which plays freely in the bifurcation A^3; also, integral therewith, a boss, A^4, and pin or shaft A^5 for the main roller G, the length of the pin or shaft being arranged to clear the opposite pin when the two halves or portions are closed upon each other. A loop, A^6, is cast with or subsequently soldered thereon, and a recess, E, journal-bearings E′, and locking-ears E^2 are provided to receive a side anti-friction roller, E^3, having journals E^4. The roller is laid in place in the tug-piece A, and the ears E^2 are pressed down upon the journals E^4, which locks the roller E^3 movably in place. The inner half or opposite portion, B, of the tug is provided with a boss, B′, shaft or pin B^2, strap-seat B^3, bifurcated ear B^4, with buckle-bar recess B^5. The front portion has recesses F, and the rear portion projections F′, which interlock when the pieces are brought together and prevent shifting of the parts. Perforations H in the ears and I in the strap-recess serve to combine the parts by rivets or small screws.

The main roller G may be of metal or of wood, rubber, or equivalent material, in which case they would require to be bushed with metal. I give preference to the leather roller patented to Grunder and Moyer, No. 289,910, December 11, 1883. The side roller is preferably metallic.

Having placed the side roller, E^3, in position, as described, the main roller G is placed upon the pin of one of the parts. The strap C is laid in the recess provided for it, and the buckle D also in place. The opposite part of the tug has its pin entered within the main roller, and the bearing-faces being brought together the projections F′ enter the recesses F, and the rivets or screws being applied the tug is completed ready for attachment to the harness.

I am aware that I am not the first to apply a roller upon the outside portion of a shaft-tug (see Patent No. 168,275, September 28, 1875, A. F. Morse) in which a roller is secured movably within a mortise cut through the tug-frame. My application differs in that it (the roller) is not exposed to sight and dirt, requires no machine work, and is securely held in place by simply turning down the locking-ears E^2 upon the journals of the same.

A tug constructed as shown and described makes a cheap, neat, and superior substitute for the ordinary tug-loop of leather, and gives ease to the horse by transferring the vibratory motion of the thills to the anti-friction rollers, and ease to the carriage by absorbing in a rolling motion the jars and jerks usually transferred through the thills to the same.

Having described my improvement and

shown its application and advantages, I desire to secure by Letters Patent the following claims thereon:

1. As an improved construction of metallic shaft-tugs for harness, the front portion provided with a pin or shaft adapted to enter within and support thereon a roller, G, having an internal recess, journal-seats, and locking-ears for a side roller, E^3, the rear portion also provided with an integral pin or shaft for the roller G, the two portions jointly providing interlocking ears for the reception of a buckle, D, and a receptacle for the strap C, the whole combined and adapted to form a harness shaft-tug, substantially as and for the purpose set forth.

2. The combination, with a shaft-tug, of a side roller, E^3, within a concealed recess, E, provided within the interior face of the tug, said recess having bearings E′ and ears E^2, whereby the same are locked in place, as and for the purpose shown and described.

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Witnesses:
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