A. F. MORSE.

Shaft-Tug.

No. 168,275. Patented Sept. 28, 1875.

Fig. 1.

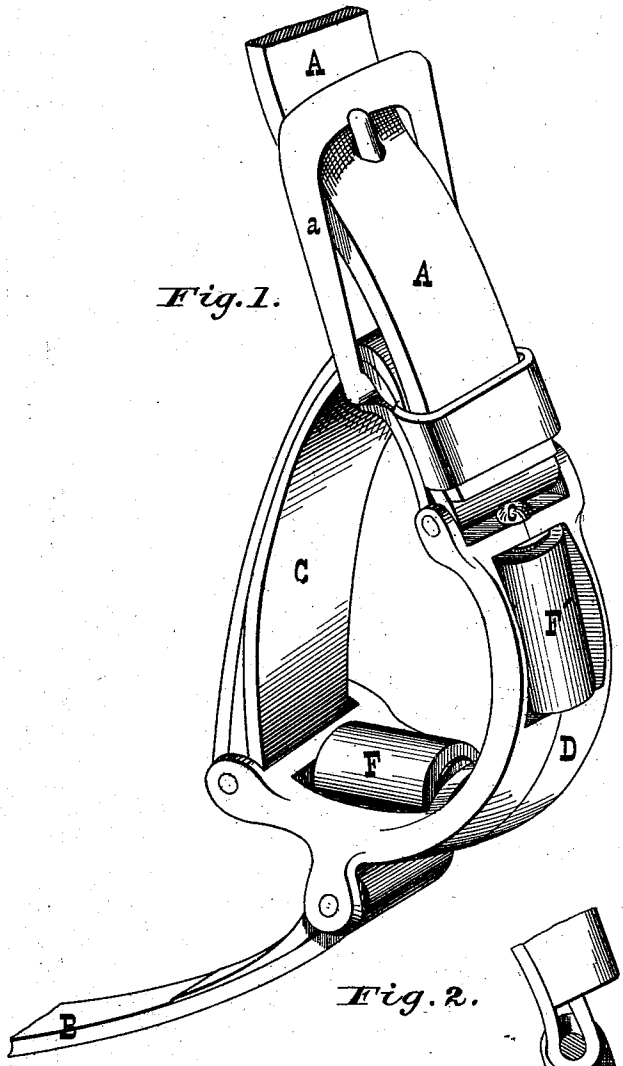
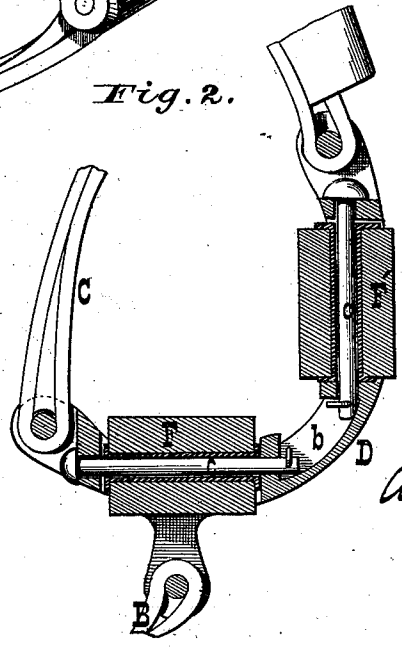


Fig. 2.



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ALBERT F. MORSE, OF SHARON, MASSACHUSETTS.

IMPROVEMENT IN SHAFT-TUGS.

Specification forming part of Letters Patent No. **168,275**, dated September 28, 1875; application filed April 2, 1875.

To all whom it may concern:

Be it known that I, ALBERT F. MORSE, of Sharon, Norfolk county, State of Massachusetts, have invented an Improvement in Shaft-Tugs; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my invention, and Fig. 2 is a section showing the rolls and the manner in which they are made removable.

The object of my invention is to produce a shaft-tug that will be both ornamental and durable, and at the same time a protection to the shaft, easy to the horse's back, and more easily harnessed and unharnessed; and it consists in providing the tug with removable friction-rolls, which lessen the friction between the tug and the shaft, and are so constructed that when they themselves are worn they may be easily replaced by others.

In the drawing, A is the back-strap, and B the belly-band, of the harness. The shaft-tug, which is composed of the strap C and metal part D, is supported upon the back-strap A by the buckle *a*, in the usual manner. In the outer metallic part D of the tug I place two or more friction-rolls, F F′, constructed of rubber, rawhide, or other yielding durable material, and, by the means hereinafter described, easily removed and replaced. In casting the metallic part D I make, in addition to the spaces for the rollers F F′ to be hung in, a recess, *b*, having sides parallel to the ends of the rolls, which operate next to said sides, forming bearings for the shaft, upon which the roll revolves. At the opposite ends of the rolls are also cross-bars for similar bearings. Through these bars or bearings I pass a pin, *c*, headed at one end, and having a hole and pin at the other. Upon these pins *c* the rubber rolls revolve, being properly bushed with metal to prevent wear. The same effect may be produced by casting the metallic part D in two parts, as shown in Fig. 1, and securing them together with the pins that secure the straps at each end of the metallic piece D.

The advantages arising from this mode of constructing shaft-tugs are numerous, as it lessens the adhesion between the tug and the shaft, and thereby tends to prevent sore backs upon horses, and difficulties in taking the horses from the shafts. But the greater advantage is in economy in the use of both tugs and shafts, as a pair of tugs will outlast several sets of harness, and the shafts of the wagon remain uninjured, while the removable rolls will enable the tugs themselves to be renewed over and over again.

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

1. A shaft-tug provided with removable friction-rolls, substantially as described.

2. The friction-rolls F F′ and pins *c*, in combination with the metallic shaft-tug D, having recess *b*, substantially as described.

The above specification of my said invention signed and witnessed at Sharon, Massachusetts, this 29th day of March, A. D. 1875.

ALBERT F. MORSE.

Witnesses:

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