

(No Model.)

A. B. WEBSTER.
TUG HOLDER FOR VEHICLES.

No. 405,136.

Patented June 11, 1889.

Fig: 1.

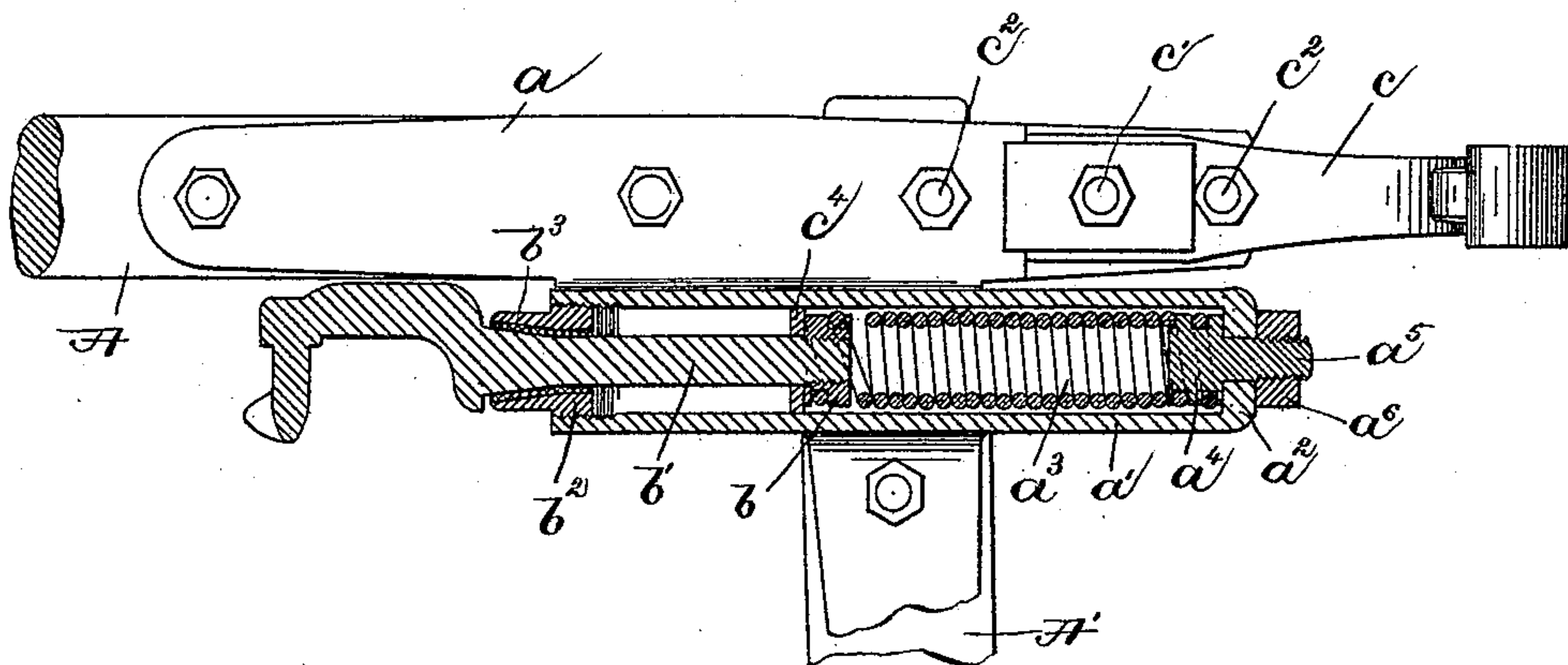


Fig: 2.

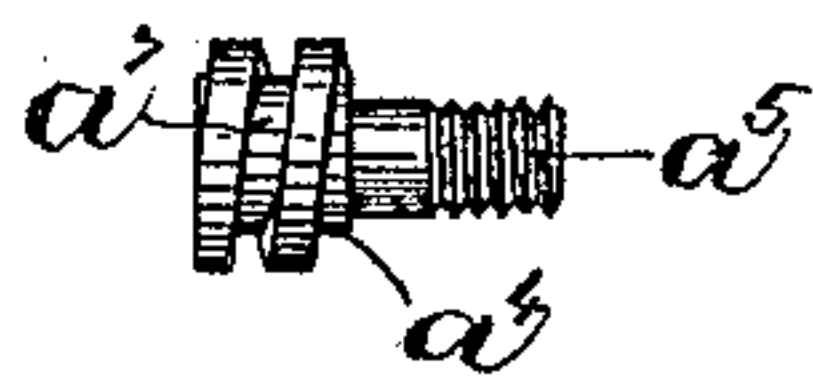


Fig: 3.

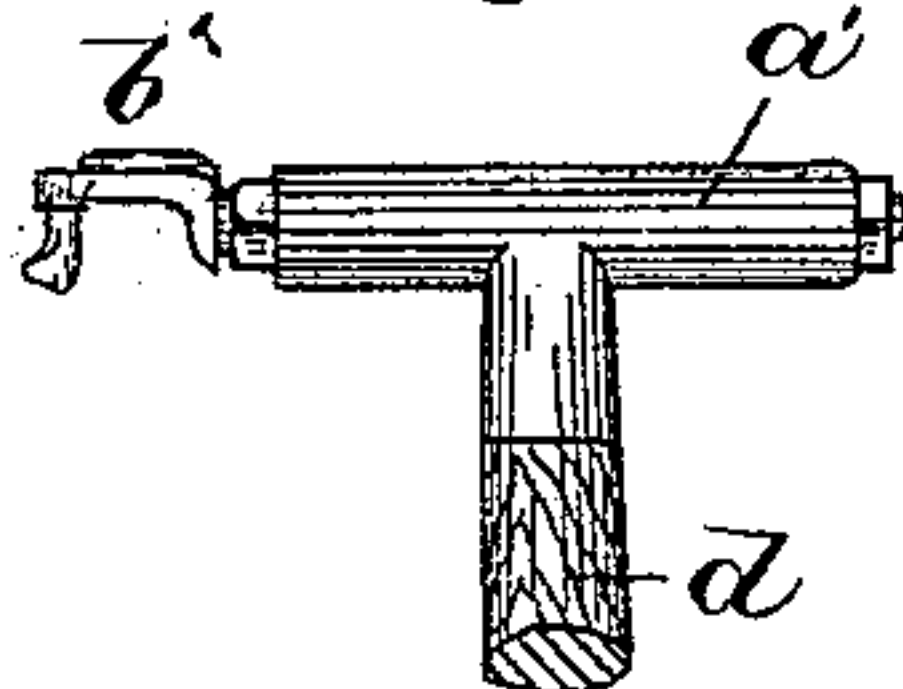


Fig: 4.

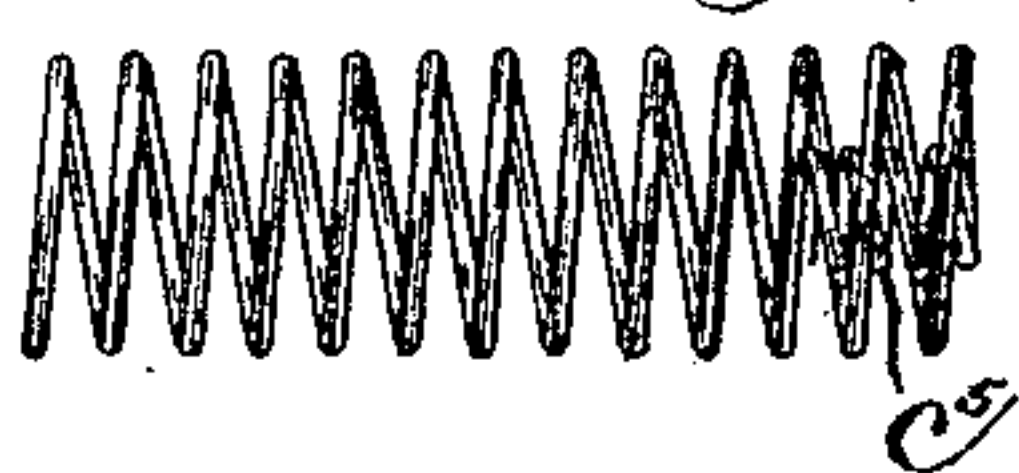
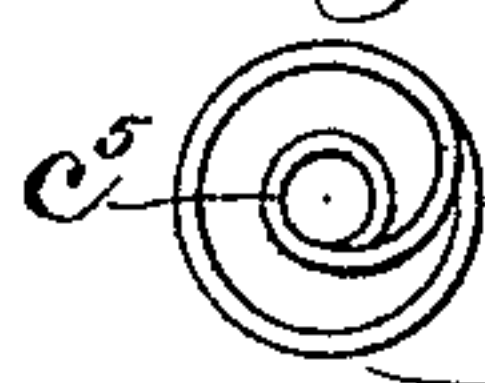


Fig: 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALBERT B. WEBSTER, OF MANCHESTER, NEW HAMPSHIRE.

TUG-HOLDER FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 405,136, dated June 11, 1889.

Application filed July 5, 1888. Serial No. 279,020. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. WEBSTER, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented an Improvement in Tug-Holders for Vehicles, of which the following description, in connection with the accompanying drawings, is a specification, like letters in the drawings representing like parts.

This invention has for its object to provide vehicles with a novel tug-holder by which the strain upon the horse in starting the vehicle, especially under a heavy load, is reduced.

In accordance with my invention I employ a spiral spring of sufficient size and strength to withstand substantially excessive strain and connect one end of said spring to a fixed portion of the vehicle, as the shaft or shaft-iron, and the other end to the draw-bar of the tug-holder, a suitable stop being provided by which the said spring is prevented from being elongated beyond its point of recovery, substantially as will be described.

My improved tug-holder is especially adapted to be used with a tug-holder secured to or forming part of the shaft-iron, substantially as shown and described in United States Patent No. 377,128, granted to me January 31, 1888.

The particular features of my invention will be pointed out in the claims at the end of this specification.

Figure 1 is an under side view of a sufficient portion of a shaft provided with shaft-iron and tug-holder embodying my invention to enable my invention to be understood; Fig. 2, a detail to be referred to; Fig. 3, a modification to be referred to; Fig. 4, a side elevation of a modified form of spring, and Fig. 5 an end view of the spring shown in Fig. 4.

The shaft A, cross-bar A', the shaft-iron a, and the tube a', cast integral therewith, are substantially as in the patent referred to. The tube a' is closed at one end to form a head a², and receives within it a spiral spring a³, constituting my improved elastic draft, the said spring having one end firmly attached to a stationary part of the vehicle, (shown in Fig. 1 as a cross-head a⁴), having a threaded extension or rod a⁵, which is extended through the hole in the head a², and secured thereto by nut a⁶, the said cross-head being provided

with grooves a⁷, (see Fig. 2,) into which the coils of the spiral spring are fitted, the said spring being preferably secured to the said cross-head by solder. The spiral spring a³ is secured at its opposite end to a similar cross-head b, screwed upon a draw-bar b', extended through and supported by a cylinder head or bearing b², preferably provided with an interior anti-friction bearing, b³, the said cylinder-head, as herein shown, being screwed into the end of the tube a' and affording a substantially long bearing for the draw-bar, thus obviating rattling of the said draw-bar, which is preferably curved or bent at its outer end.

The anti-friction bearing b³ is made conical, as shown in Fig. 1, to form a conical or tapering seat for the draw-bar b', which is made tapering to fit the said conical seat and form a substantially tight joint at the outer end of the cylinder-head, the tapering form of the draw-bar insuring a substantially tight joint as the parts become worn.

The shaft-iron a has spliced to it the sweep-piece c, it being secured to the said shaft-iron by bolt c', and for strength the shaft-iron and sweep-piece, on opposite sides of the splice, are secured to the shaft by bolts c².

In the operation of my improved tug-holder the spiral-spring a³ is elongated by the draft upon the draw-bar until the cross-head, or, preferably, a washer c⁴, strikes the cylinder-head b², which forms a stop for said spring. Instead of employing the cross-head provided with grooves, the wire to form the spring may be first wound upon a threaded rod of small diameter to form the small coil of spring c⁵, (see Figs. 5 and 6,) and then turned to a larger diameter to form the spring proper.

The spring shown in Figs. 5 and 6 may be secured by an ordinary screw inserted through the hole in the head and into the coil c⁴.

Referring to Fig. 3, the tug-holder, comprising the tube a', spring, and draw-bar b', is fastened to the ends of the whiffletree d.

I prefer to employ a substantially long tube a', as shown in Fig. 1; but, if desired, the central portion of the said tube may be omitted, leaving a short tube or socket secured to or carried by the shaft and into which the ends of the spiral spring project.

The washer c⁴ is preferably made to fit the

tube a' snugly to prevent the vibration of the spring upon the inner surface of the tube; or the said spring may have a rubber or other elastic or suitable covering (not shown) for the same purpose.

I claim—

1. In a tug-holder, the combination, with an elongating spring having one end fastened to a stationary part of the vehicle, of a draw-bar extended through a bearing and connected to the said spring, whereby the said spring is elongated when the draw-bar is drawn upon, substantially as described.

2. The combination, with a tube, of a spring located therein and firmly secured at one end, a draw-bar secured to the opposite end of the spring, and a cylinder-head through which the said draw-bar is extended, the said cylinder head forming a long bearing for the draw-bar to prevent rattle, substantially as described.

3. The combination, in a tug-holder, of a tube, an elongated spring having one end fixed within the said tube, a cylinder-head,

and a draw-bar extended through the said cylinder-head and connected to the said spring, substantially as described.

4. The combination, with a shaft-iron having a tube a' , closed at one end and cast integral therewith, an elongated spring located in said tube, and a draw-bar secured to said spring, of a sweep-piece c , bolted to the shaft-iron, substantially as described.

5. The combination, with a shaft-iron, a tube cast integral therewith, an elongating spring located therein, a cross-head, to which one end of the said spring is secured, a cylinder-head, and a draw-bar extended through said cylinder-head and secured to the said spring, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT B. WEBSTER.

Witnesses:

JAS. H. CHURCHILL,
J. C. SEARS.