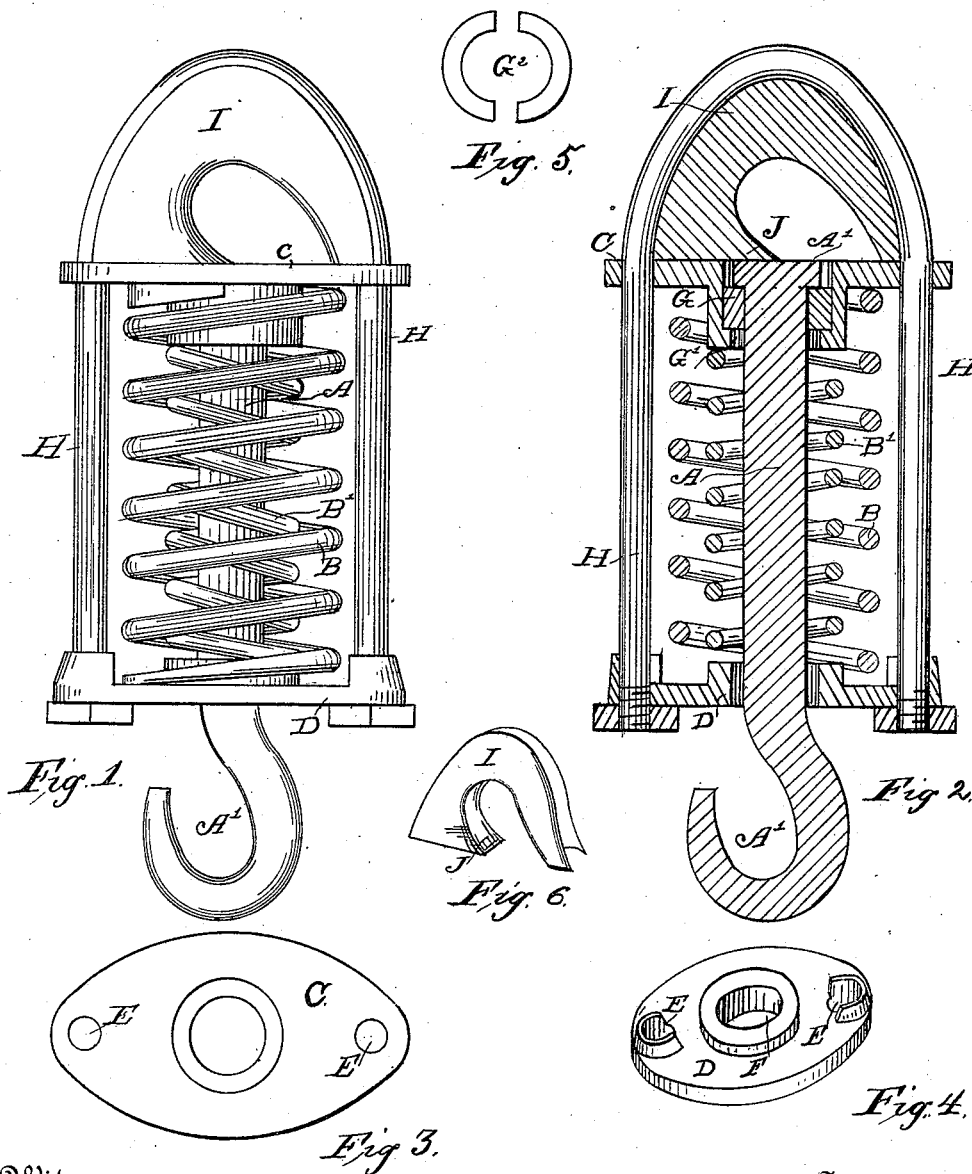


(No Model.)

J. M. ROHRER.
SPRING DRAFT TUG.

No. 343,068.

Patented June 1, 1886.



Witnesses

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JACOB M. ROHRER, OF CHEWSVILLE, MARYLAND.

SPRING DRAFT-TUG.

SPECIFICATION forming part of Letters Patent No. 343,068, dated June 1, 1886.

Application filed April 8, 1886. Serial No. 198,259. (No model.)

To all whom it may concern:

Be it known that I, JACOB M. ROHRER, a citizen of the United States, residing at Chewsville, in the county of Washington and State of Maryland, have invented certain new and useful Improvements in Spring Draft-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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in that class of devices known as "spring draft-tugs," and particularly to the form shown in my Patent No. 311,260, dated January 27, 1885.

The object of the present invention is to strengthen and increase the efficiency of this class of tugs.

It consists in certain parts and novel combinations of parts, as will be hereinafter first fully described, and then pointed out in the claims.

In describing my invention reference is had to the accompanying drawings, in which Figure 1 is a side view of my improved tug. Fig. 2 is a central longitudinal section. Fig. 3 is a plan view of the upper end plate. Fig. 4 is a detail perspective view of the lower end plate. Fig. 5 is a detail view of the divided washer; and Fig. 6 is a detail perspective of the re-enforcing block.

The central draft-rod, A, is provided at one end with a hook, A', which engages the whiffletree in the operation of my device, and the other end is enlarged, so as to form a head, A², as shown. This draft-rod A is surrounded by two coiled springs, B B', one within the other, coiled in opposite directions. The coiled springs are held in place by the end plates, C D, as shown. (For convenience of reference I will call the plate C the "upper plate" and the plate D the "lower plate.") The end plates, C D, are both elliptical in form, as is clearly shown in Figs. 3 and 4. They are provided at both ends with small openings E, of sufficient diameter to admit of the passage of the outer draft-rod. The end plates, D and C, have flanges

g' stuck up around the openings E, which partially encircle the outer draft-rods and re-enforce them at their lower ends. They are also provided at their centers with an opening, F, through which the center draft-rod passes. A flange, F', is provided around the opening F, and this flange fits within the end of the outer coiled spring, B, in the operation of the device, and the inner spring, B', rests upon it. The upper end plate, C, is provided with a socket, G, for the reception of the enlarged end of the central draft-rod. The opening G' in the base of this socket is larger than the head of the draft-rod, and a washer, G², is placed in the socket between its base and the head of the draft-rod to prevent it being drawn through the socket. This washer G² is formed of metal and in two parts, as shown in Fig. 5, the purpose of which will hereinafter be specified.

The outer draft-rods, H, are formed from a single rod, bent on itself so as to form a U-shaped rod, as shown in Figs. 1 and 2. The arms of this U-shaped rod are passed through the openings E in the ends of the end plates and secured by nuts passed over their ends.

To prevent the bend of the U-shaped rod being broken by the strain put upon it, I provide the re-enforcing block I. This block I is made to fit the bend of the rod, and is provided with a groove, in the edge adjacent the rod, within which the rod fits. This block may be simply a semicircular block, or it may be constructed as shown in the drawings, which is the form I prefer. In this form the block is enlarged and extended at one end, so as to form a point, J, which projects across the mouth of the socket G and prevents the head of the draft-rod A passing out of the socket.

In putting my tug together the block I is fitted to the draft-rod H, and the draft-rod A is passed through the end plate, D. The coiled springs are then placed around the draft-rod A, and the end plate, C, slipped over the head of the draft-rod. The washer G² is then placed in position. As this washer must necessarily be smaller than the head of the draft-rod, I form it in two parts, which are placed in position separately by passing the head of the rod slightly past the end plate and then slipping the half-washer in between the end plate and

