J. A. CRISWELL.

HAME-TUG ATTACHMENTS.

No. 193,927. Patented Aug. 7. 1877,

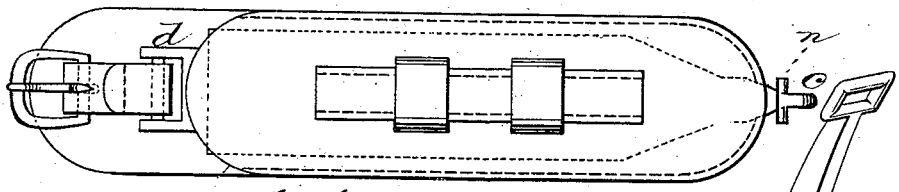


Fig 1

Fig 2

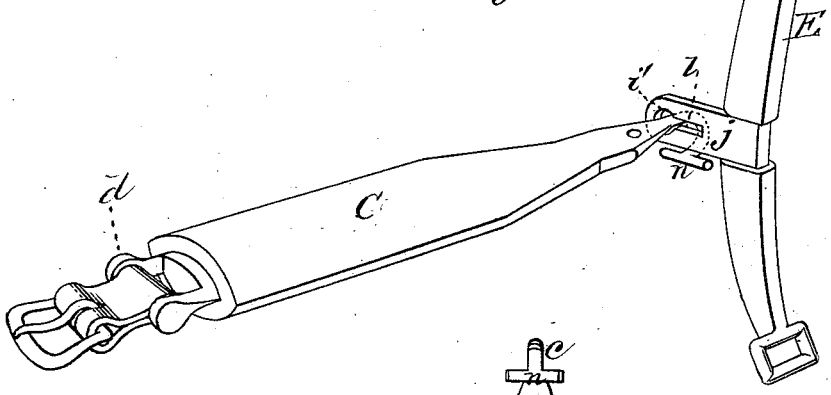
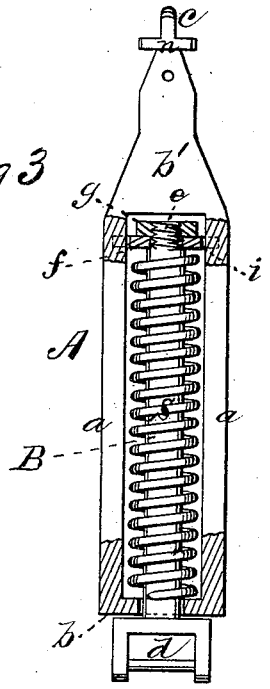


Fig 3



WITNESSES

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JAMES A. CRISWELL, OF MIFFLINTOWN, PENNSYLVANIA.

IMPROVEMENT IN HAME-TUG ATTACHMENTS.

Specification forming part of Letters Patent No. **193,927**, dated August 7, 1877; application filed June 23, 1877.

To all whom it may concern:

Be it known that I, JAMES A. CRISWELL, of Mifflintown, in the county of Juniata and State of Pennsylvania, have invented a new and valuable Improvement in Elastic Draft-Connections; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my improved elastic draft attachment applied in a leather sheathing. Fig. 2 is a perspective view thereof connected to a hame, and Fig. 3 is a longitudinal central section of the same, showing its internal construction.

This invention has relation to improvements in tug-springs, the object of which is to prevent too great and sudden strain upon the animal at the moment of starting; and it consists in the arrangement and novel construction, in connection with an oblong open frame having at one end a T-hook adapted to be engaged with an eye on the hame, and a spring arranged in said frame, of an axial rod extending through said frame and encircled by said spring, a follower upon one end of the rod and a loop for the attachment of the hame-tug, all as hereinafter more fully explained.

In the annexed drawings, the letter A designates the body or frame of my improved tug-spring, consisting of two spaced parallel bars, *a*, connected at one end by head-plate *b* and at the other by a tongue, *b'*, having on its extreme end a recurvate T-hook, *c*. The side bars *a* are beveled, and, in cross-section, are of angular form, and the head-plate *b* is double convex in form or of a flattened oval shape.

Within the bars *a*, between the head *b* and the tongue *b'*, is placed a helical spring, S, of any suitable metal, and this spring, by its gradual compression, protects the shoulders of the draft-animals from sudden injurious shocks at the moment when the strain of the load to be drawn is received thereon. The head *b* aforesaid is centrally perforated for the reception of a metallic rod, B, that passes through and is encircled by the said spring. This rod has on its outer end a loop, *d*, of suitable form, to which the usual hame-tug is secured, and at its inner end a screw-threaded rabbet, *e*, extends through a compressing-plate, *f*, and is screwed by a nut, *g*, fitting loosely between the side rails of the frame. The plate *f* is notched at each end, and in these notches *i* the side rails of the frame are received in such manner that they serve as guides thereto.

The T-hook being engaged with the hame, and the loop *d* with the hame-tug, the moment the strain of drawing the load commences rod B will be drawn out, and the spring S gradually compressed by plate *f* on the end of said rod, so that the strain will be gradually received by the animals, instead of all at once. This greatly conduces to the preservation of the animal's health and usefulness.

In practice, the frame will be included in a metallic sheath, C, that protects the spring, the rod, and its nut and compressing-plate from the injurious effects of the rain or snow. This sheath may in turn be covered in with a leather sheathing, the whole device presenting an appearance not materially different from the hame-tug. The hame E will have a projecting metallic strap, *j*, with an oblong slot, *l*, terminating at its outer extremity in a circular eye, *i'*. The cross-piece *n* of the hook is readily passed through the slot and eye aforesaid, and the hook itself will engage the eye *i'* by giving the frame a slight rotation. In this position the cross-piece lies across said eye, and serves as a lock to hold the hook to its engagement with the hame.

What I claim as new, and desire to secure by Letters Patent, is—

1. The tug-spring consisting of the open frame A, having a T-shaped hook at one end, and an opening at the other, the metallic rod B, having a loop at its outer end and a screw-thread at its inner end, a helical spring, S,

the compressing-plate *f*, and its retainer-nut *g*, substantially as specified.

2. The combination, with a hame having arm *j*, provided with oblong slot *l* and terminal eye *i*, of the tug-spring frame A, having spring S, metallic rod B, and the T-shaped hook *c*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES A. CRISWELL.

Witnesses:

WILBUR F. MCCAHAN,

J. C. WATTS.