

Home-Tugs.

Patented Dec. 22, 1874.

FILE

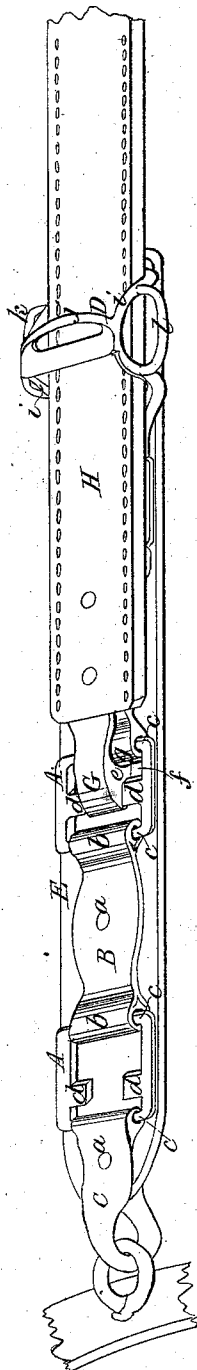


FIG. 11

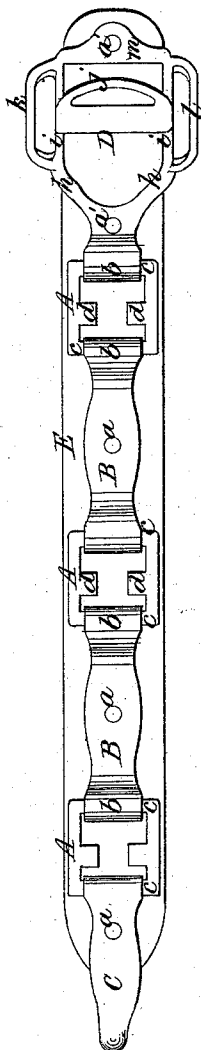
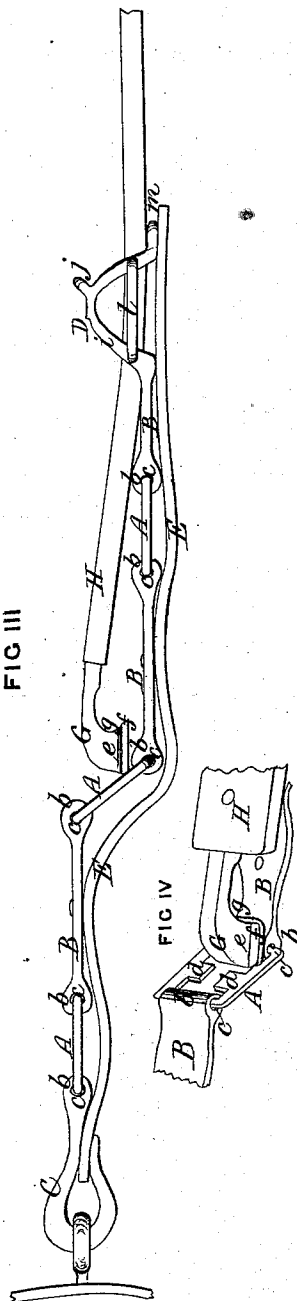


FIG III



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HAME-TUGS.

Specification forming part of Letters Patent No. **158,046**, dated December 22, 1874; application filed November 7, 1874.

To all whom it may concern:

Be it known that I, JOHN W. DENTON, of Paris, in the county of Edgar and State of Illinois, have invented certain new and useful Improvements in Hame-Tugs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

It is the object of my invention to produce a metallic flexible hame-tug with clip for hame-ring and loop-piece for back-band, belly-band, and breeching-strap combined, the device being constructed in such manner as to be perfectly flexible, afford easy adjustment, obtain great strength, and avoid the punching of holes in the traces.

My invention consists, first, of a flexible metallic tug, composed of a series of squares, for the trace-connection, united, by fixed couplings, with each other, and at each end to the clip and the loop-buckle guard-piece, all mounted upon a flexible backing of leather; second, in the combination of a trace-catch having an enlarged flanged head, and guttered on its under side, with tug-squares having inner locking ears or projections, and the outer convex end of the fixed coupling for affording a hold and bearing for the trace-catch; third, in the combination, in such a tug, of the eared squares with fixed couplings, provided with end sleeves for the reception of the pintles of said squares, whereby said squares may be thrown at right angles, or nearly so, for the purpose of inserting or removing the trace-catch, and for maintaining a flexible connection between said squares and couplings, as will be set forth.

In the accompanying drawings, Figure 1 represents a view, in perspective, of my improved tug with trace attached; Fig. 2, a view of the metallic tug as mounted upon its backing; and Fig. 3, a side view, showing one of the squares thrown in position for adjustment of the trace; and Fig. 4, a detailed perspective of the same.

The metallic tug is about from twelve to eighteen inches long, and is composed of a se-

ries of from three to five squares, A, united by couplings B, and at the ends united to the clip C and the loop-buckle guard-piece D, the whole being mounted upon a flexible leather backing, E, to which the couplings B, clip C, and loop-piece D are riveted at *a a a*; and these couplings B are fixed and riveted only in the middle by one rivet, so as to leave their ends free as regards the backing E, in order to allow for the play of the squares while inserting or removing the trace-catch, as will be presently described. The ends of the clip-plate and loop-piece plate adjacent to the couplings are similar to the ends of the couplings, so as to preserve corresponding connections for the squares throughout. These fixed couplings B are of oblong-shaped plates, which, at each end, have hinge-sleeves *b*, which serve the double function of receiving the pintles of the squares and forming, by their convex outer sides, seats for the catch-piece of the trace. As before stated, the ends of the clip-plate and loop-plate guard have similar sleeves *b* for the reception of the pintles of the squares. These squares A have the two sides which are transverse of pintles *c*, which play, hinge-like, in the sleeves *b*, so as not only to preserve a flexible connection, but afford means for throwing said squares in a line at right angles, or nearly so, to the couplings, for the purpose of inserting or removing the trace-catch. The remaining sides of these squares A have inner locking ears or projections *d*, which form arrests for the trace catch when inserted. The trace-catch G is of peculiar form—that is to say, it is an oblong metallic piece riveted to the trace H, and having an enlarged head, *e*, which has lower lip projections or flanges *f*, the under side, in rear of its head *e*, being guttered or hollowed out at *g* to coincide with the outer convex of the sleeve of the couplings.

When the trace-catch G is desired to be inserted in any one of the squares A the latter is thrown into a position at right angles, or nearly so, to the tug by grasping the tug with the hands a short distance from the ends of said square, and making the hands approach, so as to give a bend to the leather backing. Said square A being thus brought into the requisite position, the catch G is inserted, as

shown in Figs. 3 and 4, the flanges *f* thereof passing under and being held by the locking-ears *d* of the square, and, the pressure being released and the trace *H* drawn taut, the guttered portion *g* coincides and seats itself against the convex outer portion of the sleeve *b* for a firm bearing, the keeping of said trace *H* in such conjunction being assisted by the loop-buckle guard-piece *D* of the tug, which piece *D* confines the trace in line with the tug and keeps its catch in the square. This loop-buckle guard-piece *D* is riveted to the backing *E* at both its ends, at *a' a'*, commencing with the hinge-sleeve *b'* for the pintle of the last square *A*, and continuing for a short distance in a forked flat plate, *h h*, from which bows *i i* rise and support the breeching-strap loop *j*; and at the side of each bow *i* are upper and lower loops *k l* for the back-strap and belly-band, the bows terminating in a transverse plate, *m*, which is also riveted to the leather backing. These bows *i i*, in connection with the loop-plate *j*, form a guard or confining-loop for the trace *H*, and take the place of the tug-loop in common use.

The trace is lengthened or shortened by inserting its catch in a forward or a rear square, according to the length required.

Thus is produced a perfect trace-tug, so connected to the trace as to avoid any possi-

ble weakness; and its flexibility of construction renders it not only easy of adjustment, but free from the accidents which occur to rigid parts by careless handling in the harness-room.

I claim—

1. A flexible hame-tug of metal, composed of a series of squares, *A*, for the trace-connection, united by fixed couplings *B*, and at the ends to the clip *C* and loop-buckle guard *D*, and mounted upon a flexible backing, *E*, as described, and for the purpose set forth.

2. The trace-catch *G*, having an enlarged flanged head and guttered under side, as described, in combination with the tug-squares *A*, having inner locking-ears, and the outer convex end of the coupling-sleeve, as and for the purpose described.

3. The eared squares *A*, in combination with couplings *B*, provided with end sleeves *b*, for receiving the pintles *c* of said squares, as described, and to effect the purposes stated.

In testimony that I claim the foregoing I have affixed my signature in presence of two witnesses.

JOHN W. DENTON.

Witnesses:

GEO. W. BROWN,
ALFRED TANNER.