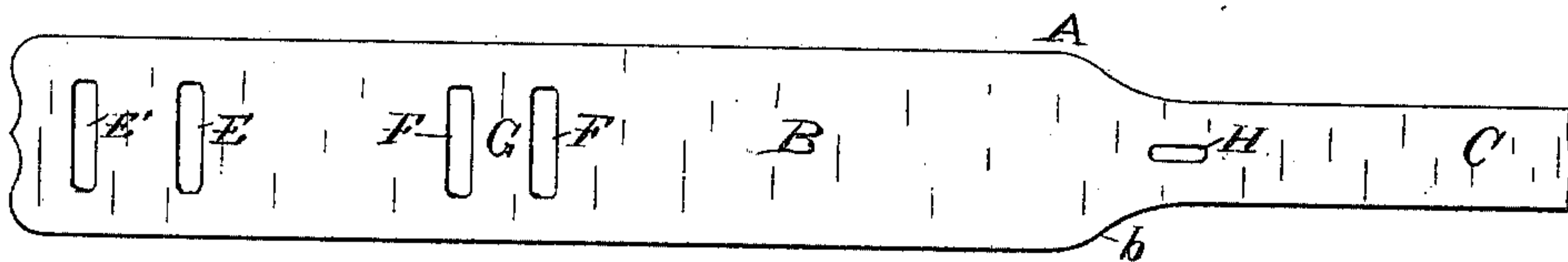
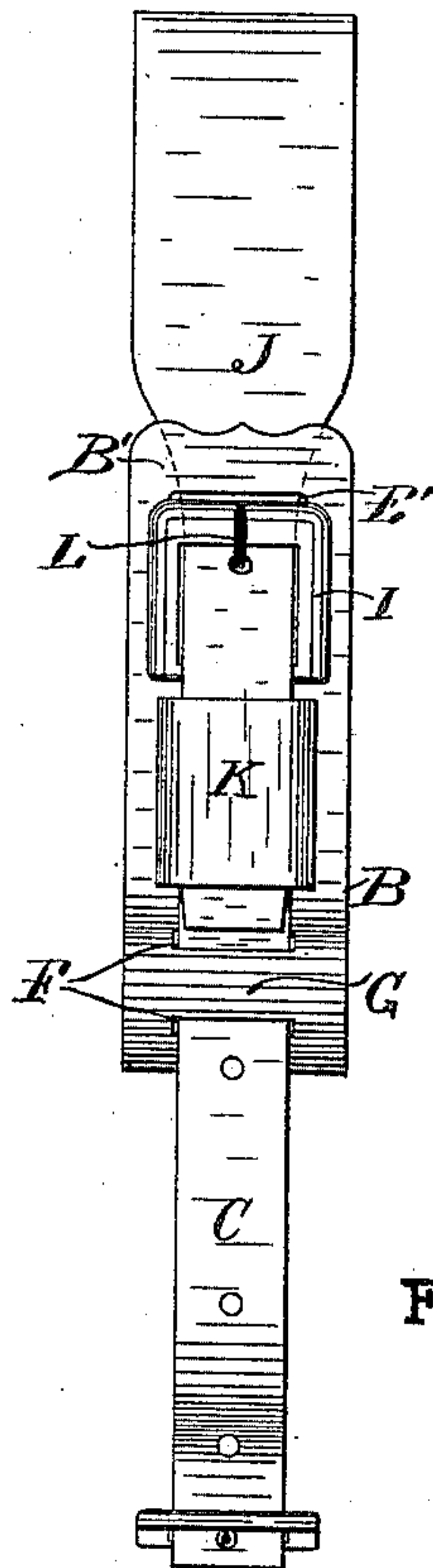
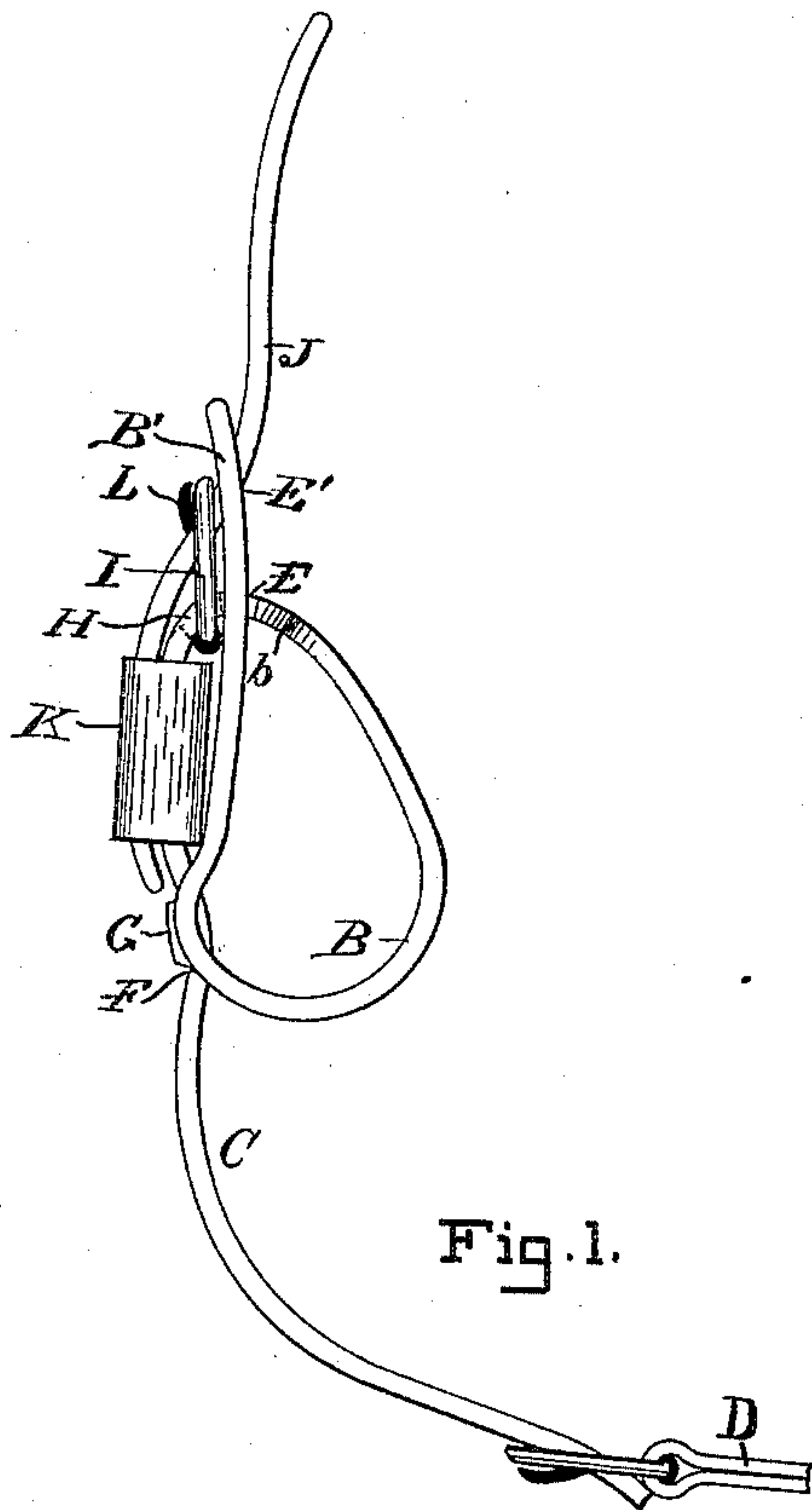


(No Model.)

E. A. HALL & A. H. HAMILTON.
TUG.

No. 446,677.

Patented Feb. 17, 1891.



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ERNEST A. HALL AND ARTHUR H. HAMILTON, OF LEHIGH, IOWA.

TUG.

SPECIFICATION forming part of Letters Patent No. 446,677, dated February 17, 1891.

Application filed November 1, 1890. Serial No. 370,075. (No model.)

To all whom it may concern:

Be it known that we, ERNEST A. HALL and ARTHUR H. HAMILTON, citizens of the United States, residing at Lehigh, in the county of Webster and State of Iowa, have invented certain new and useful Improvements in Shaft-Tugs, of which the following is a specification.

Our invention relates to a shaft-tug for harness; and the special object sought to be accomplished is to so form the loop as to dispense with all stitching and thereby render the device much stronger and more durable than its predecessors.

With this end in view our invention consists in the peculiarities of construction and combinations of parts more fully described hereinafter, and pointed out in the claim.

Referring to the accompanying drawings, Figure 1 represents an edge view of our improved tug, shown in its complete form; Fig. 2, a face view of the same; Fig. 3, a detail of the strap which forms the loop.

The reference-letter A indicates a flat strap, which is made with a wide portion B and reduced end C, which is punctured with a series of perforations to adapt it for attachment to the belly-band D, which is provided at its end, as usual, with an ordinary buckle.

At the end of the wide portion B of the strap a pair of cross-slots or rectangular openings E E' are made and at a suitable distance therefrom a similar pair of openings F are cut through the strap, leaving a connecting-strip G, which constitutes a keeper, as hereinafter explained.

Through the reduced portion of the strap, just beyond the wide part B, a lengthwise slit H is made to accommodate the tongue L of a buckle I, which is slipped over the strap, and the lower end of the saddle-strap J is also arranged to engage this buckle after passing through the opening E', and is confined by a loose keeper K, fitted on the strap A.

The tug-loop is formed out of the parts above described in the following manner: The reduced end C of the strap A is first brought around to form a loop and passed through the opening E from behind and pulled through as far as possible—i. e., until the shoulder b of the wide part comes against the inside of the strap, when the lengthwise slit H will have been brought on the outside. The buckle I is now slipped over the reduced end C and pushed up on the same until

it bears against the outside of the projecting wide portion B'. The tongue L is then introduced through the slit H, and thus the strain of the shaft in the loop will not withdraw the end C of the strap. After thus adjusting the buckle the loose keeper K is run onto the strap end C, which is then inserted through the openings F beneath the cross-strip G and drawn taut, the latter thus acting as a keeper for the narrow end C of the strap, the loose keeper K being confined upon that portion extending between the buckle and the fixed keeper G. The loop having now been formed out of the wide portion of the strap, as will be readily apparent, is attached to the saddle by inserting the saddle-strap J through the top opening E, and thence running it through the buckle I and loose keeper K, whereby it will be seen that the tug-loop will be securely connected to the saddle.

It will be obvious that with this arrangement no stitching whatever is necessary, and hence the device will be as durable as the leather itself, and, moreover, its form and shape will always be preserved, as there is a draft in both directions upon the connecting-buckle I, for the belly-band through the strap end C pulls down upon it while the saddle-strap J holds it up against the pull of said belly-band, and consequently the buckle will always be held in its normal position and will thus preserve the shape of the loop.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A shaft-tug comprising a strap having a slot and an aperture for a buckle-tongue and a reduced end which is passed through the said slot and forms a shaft-loop, and the buckle secured to said reduced end on the outer side of the loop by having its tongue inserted through the said aperture, whereby it prevents the withdrawal of the reduced end, in the manner and for the purpose set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

ERNEST A. HALL.
ARTHUR H. HAMILTON.

Witnesses:

L. A. GOODRICH,
S. C. McANALLY.