

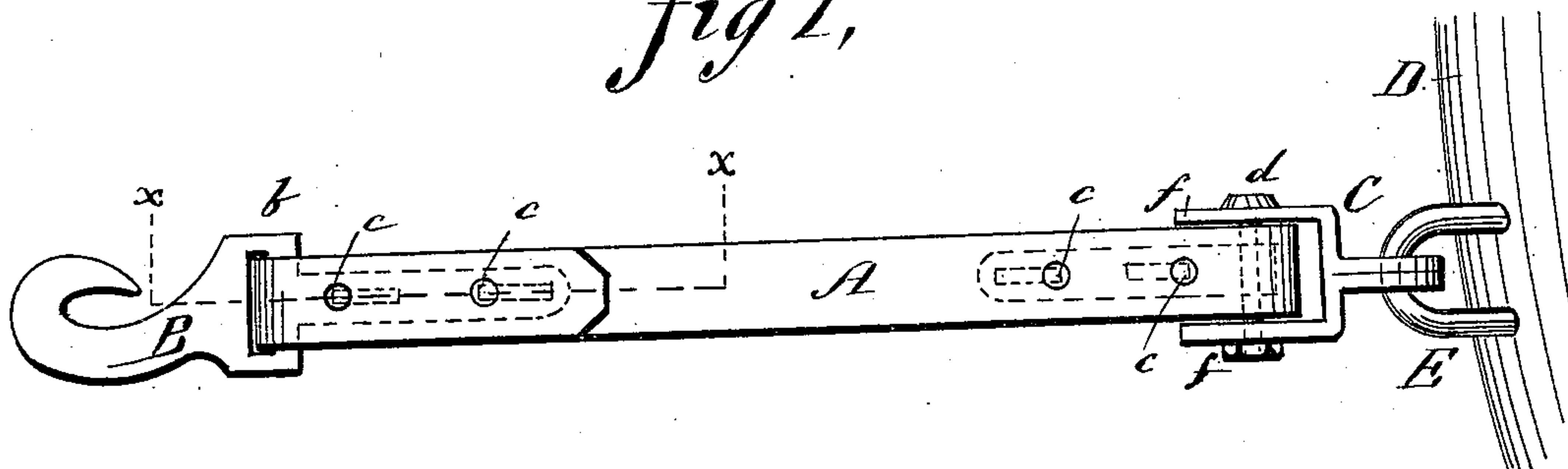
(No Model.)

J. W. HILL.  
HARNESS TUG ATTACHMENT.

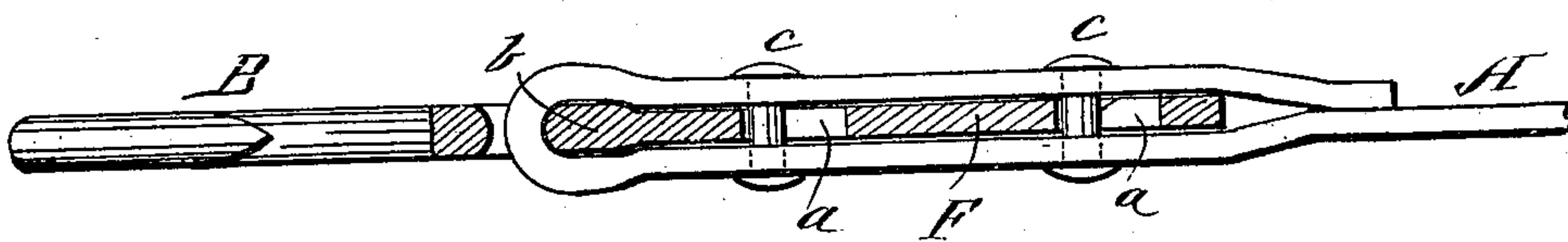
No. 275,043.

Patented Apr. 3, 1883.

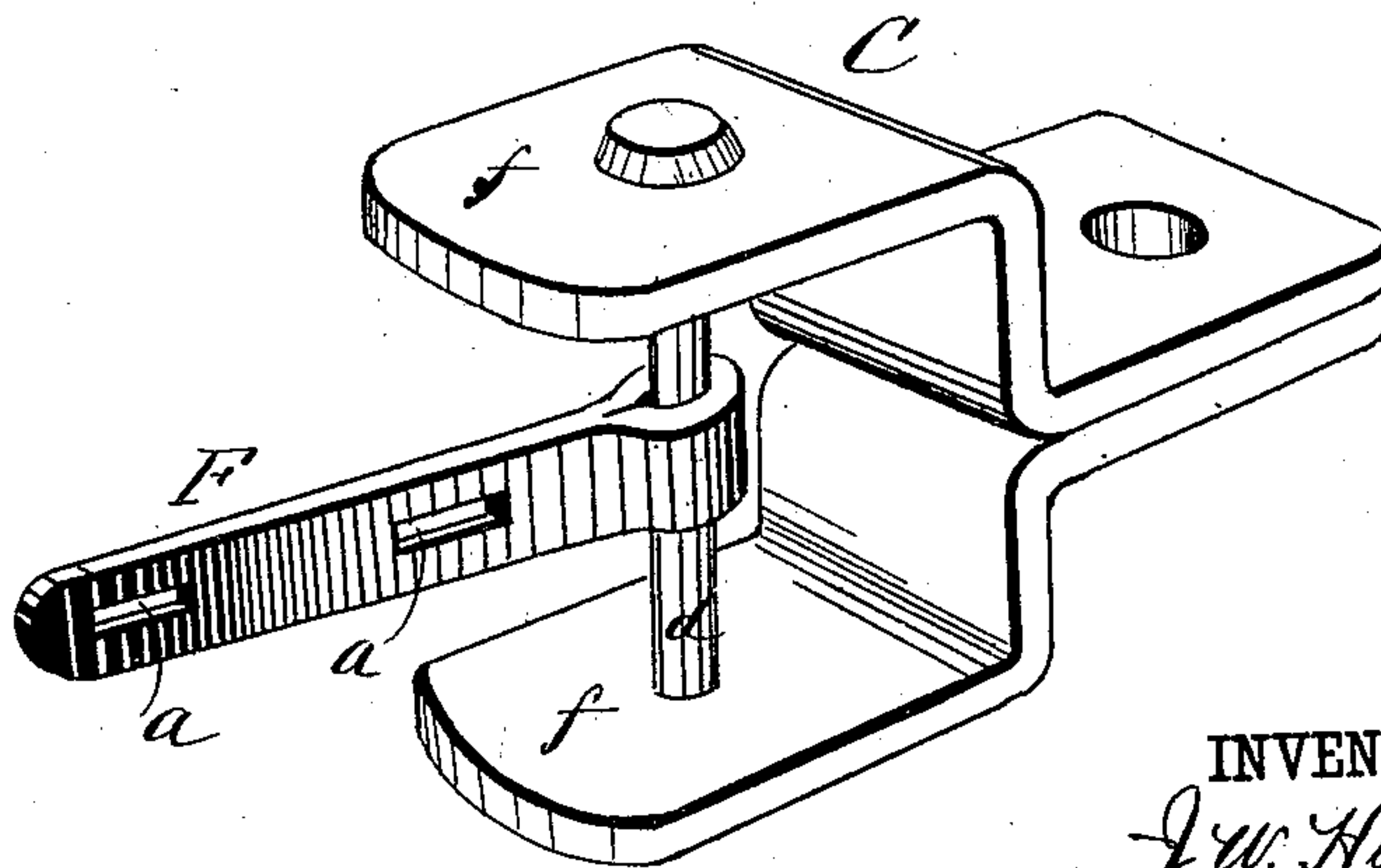
*fig 1,*



*fig 2,*



*fig 3,*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH W. HILL, OF JERSEY SHORE, PENNSYLVANIA.

## HARNESS-TUG ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 275,043, dated April 3, 1883.

Application filed January 24, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH W. HILL, of Jersey Shore, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Harness-Tug Attachments, of which the following is a full, clear, and exact description.

My invention relates to that class of hame and tug connections and tug-hooks or cock-eyes that have tangs through which rivets pass for securing them to the tug, and has for its object such construction of the tangs and such method of attaching the hooks or cockeyes and hame-connections to the ends of the tug that the draft will come upon the whole width of the tug, and not only upon the points of the tug where the rivets pass through it and through the tangs, as is the case with the old form of tang and method of attachment.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my invention. Fig. 2 is a sectional elevation taken on the line *xx* of Fig. 1, and Fig. 3 is a perspective view of the hame-connection.

A represents the tug; B, the tug-hook; and C the hame-connection, which is preferably made in the form of a clevis and attached to the hame D by means of the ordinary staple E. The hook B and the clevis-like connection C are each provided with the tang F, which may be loosely attached or made rigid, as desired, and these tangs are formed with the slots *aa*, through which the rivets *cc* pass for securing the hook and clevis-like connection to the ends of the tug. In this instance the hook B is formed with the bar *b*, over which the end of the tug is folded, as shown in Fig. 2, and the tang F thereof is made rigid and integral with the hook, so that the hook, bar, and tang are of one piece of metal, while in the clevis-like connection C the tang F is a separate piece attached to the bolt *d*, that passes through the members *ff* of the clevis-like connection, which bolt also serves the purpose of a bar, over which the end of the tug is folded in attaching the tug, as will be understood from Fig. 1. The tang of the hook might be a separate piece and attached in like manner to the bar *b*, if desired.

In attaching the hook and connection C to the tug, the ends of the tug are simply folded around the bar *b* or bolt *d*, as shown clearly in Figs. 1 and 2, and the rivets *cc* passed through the folds of the tug and through the slots *aa*, but in such manner as to leave the greater portion of the slots in the rear of the rivets—that is, on the side away from the end of the tug. The folds of the tug are then stitched down in the ordinary manner. The rivets being put through the folds of the tug and the slots *aa*, as described, at the front ends of the slots, it will be seen that the draft at the ends of the tug will come upon the bar *b* and the bolt *d*, and not upon the rivets; that the strain will thus be distributed equally throughout the whole width of the tug and not confined at the center where the rivets pass through, as is the case with the old method of forming and attaching the hooks and connections; and that the tug is thus rendered very much stronger and more durable than by the old method. Besides constructed in this manner the hook and connection are very cheap, and, when the tang is hinged or made loose, they make the tug very flexible, and the connection C will adjust itself to high or low draft. It will be understood that the draft-strain at first will come entirely upon the stitching of the lap of the tugs until the lap stretches the length of the slots *a*, which will bring the tongues at the opposite ends of the slots against the rivets, and thus bring them into service, thus greatly increasing the durability of the tug. Where tug-chains are used, the tangs can be attached to or formed upon the rings of the chain.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a tug attachment, the combination, with the hame-connection, of the bolt *d*, rivets *c*, and slotted tang F, whereby the draft-strain on the rivets which hold the bolt to the tang will be taken from the middle of the rivets, as described.

2. In a tug attachment, the hook B, formed with the bar *b*, and tang F, formed with the slots *aa*, as and for the purposes set forth.

JOSEPH W. HILL.

Witnesses:

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