

(No Model.)

2 Sheets—Sheet 1.

J. A. HINSON.

DRAW BAR ATTACHMENT FOR RAILWAY CARS.

No. 427,990.

Patented May 13, 1890.

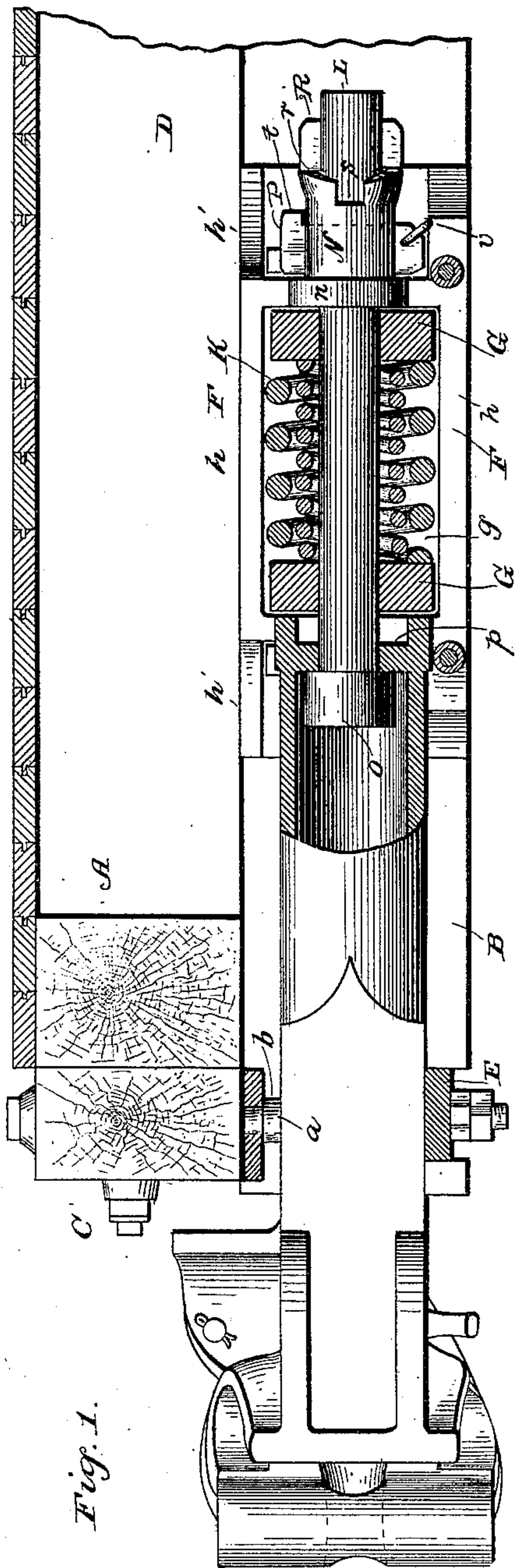


Fig. 1.

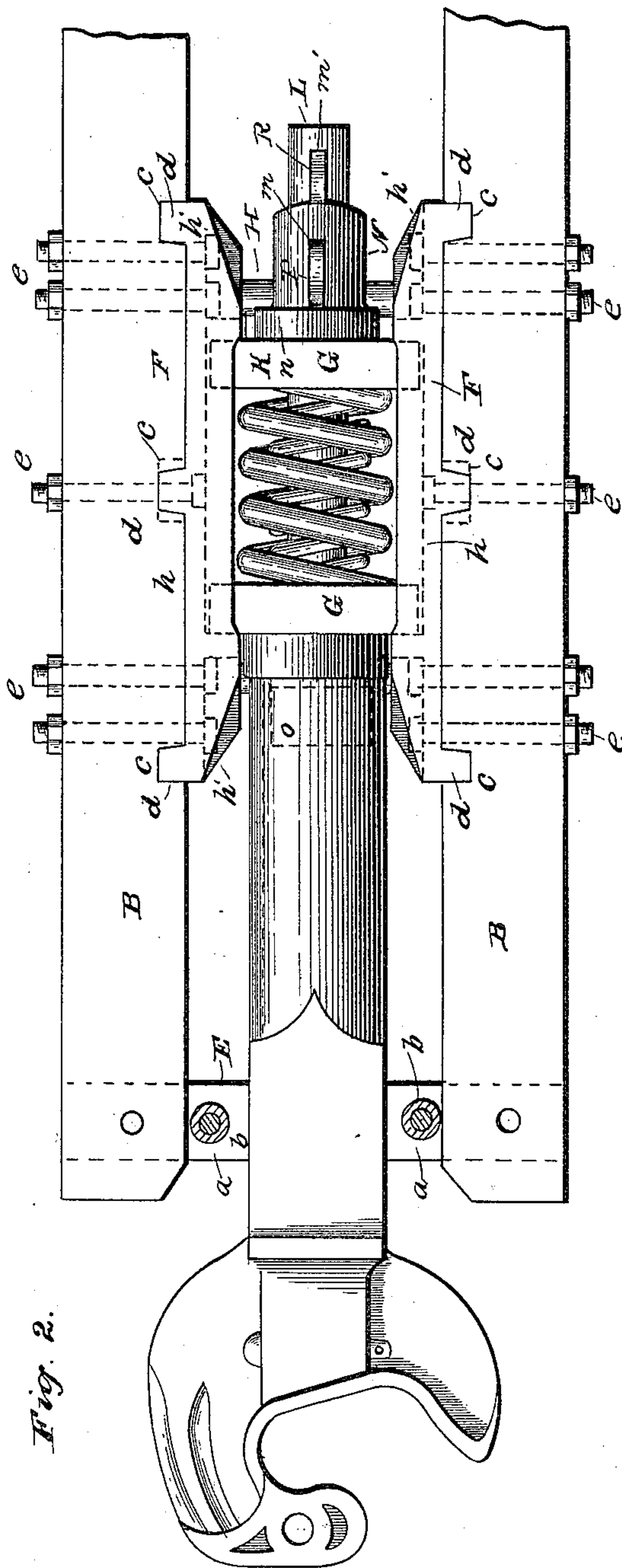


Fig. 2.

ATTEST.

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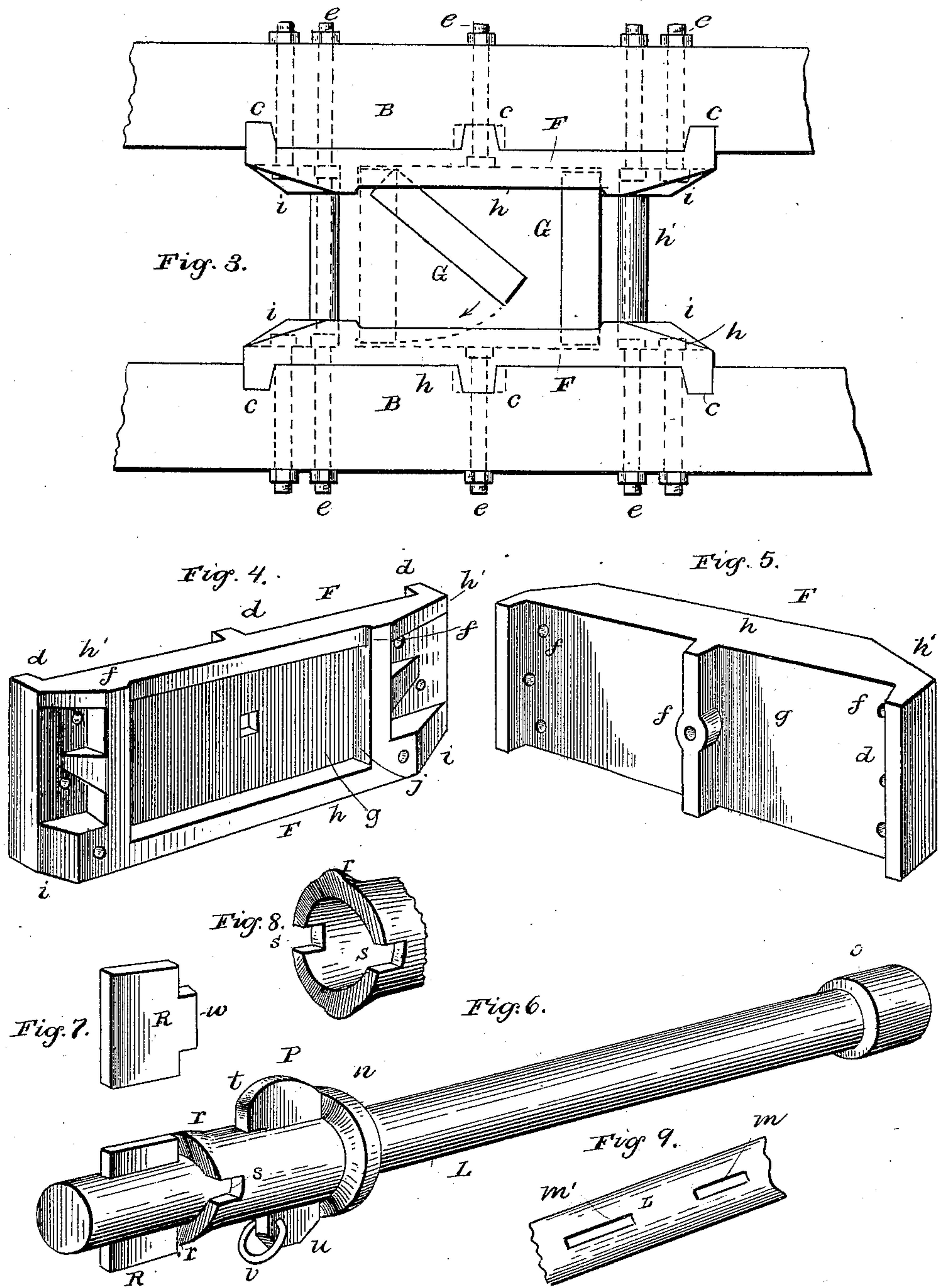
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UNITED STATES PATENT OFFICE.

JAMES A. HINSON, OF DES MOINES, IOWA.

DRAW-BAR ATTACHMENT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 427,990, dated May 13, 1890.

Application filed March 10, 1890. Serial No. 343,381. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. HINSON, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Draw-Bar Attachments for Railway-Cars; and I do hereby 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.

This invention relates to a draft-rigging or draw-bar attachment for railway-cars, and it has for its object to provide simple, durable, and comparatively inexpensive means for this purpose, by which the draw-bar will not be unduly restricted in its movement back and forth and yet be held firmly in position, said means being of greater strength and better adapted to remain firmly in the position where secured, no matter how great the strain exerted thereon through the draw-bar, than the means now commonly employed to secure draw-bars to cars; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical longitudinal section through my improved attachment, showing the draw-bar partly broken away; Fig. 2, a plan view of the coupler and attachment; Fig. 3, a detail plan view of attachment with draw-bar and spindle removed; Fig. 4, a perspective view of the inner face of one of the draw-bar lugs or castings; Fig. 5, a perspective view of the outer face of one of the draw-bar lugs or castings; Fig. 6, a perspective view of the spindle and key locking device; Fig. 7, a perspective detail view of the locking or retaining key; Fig. 8, a perspective view of the thimble, and Fig. 9 a detail view of the end of the spindle.

Similar letters refer to similar parts throughout the several views.

A represents the end sill of a railway-car, B the draft-timbers for the support of the draft-rigging or draw-bar attachment, and C the buffer head-block. The draft-timbers are rigidly secured to the longitudinal sills D of the car by means of bolts, and are arranged at a suitable distance apart to permit the insertion of the draw-bar of the coupler between them.

A cross-bar E is bolted to the lower edges of the draft-timbers across the front end thereof, through which bolts *a*, one of which is shown in Fig. 1, are passed on each side of the draw-bar in order to form a guide for the draw-bar and prevent it from being pushed or thrown out of line in coupling cars. A thimble *b* (see Figs. 1 and 2) surrounds each of the bolts *a*, in order to prevent the breaking of said bolts if the draw-bar should happen to be forced violently against the same.

The draft-timbers are recessed on their contiguous faces, as at *c*, in order to receive the ribs *d*, formed on the rear or outer faces of the lugs or castings F, which are secured to said timbers by means of screw bolts and nuts *e*, said bolts passing through perforations *f* formed in said lugs or castings. As clearly shown in Figs. 4 and 5, three of the perforations *f* for bolts *e* are arranged at each end of the lugs or castings, and one at the center to insure the rigid and secure attachment of the lugs or castings to the draft-timbers and, in connection with the ribs, preventing the longitudinal movement of the lugs or casting as pressure is brought against the same through the follower-plates G in the movement of the train or in coupling cars.

The lugs or castings F consist of the back portion *g*, the side pieces or flanges *h*, having the inclined or beveled ends *h'* at the upper side of the lugs or castings, and the thickened and enlarged ends *i* at the lower side of the lugs or castings, the end or cross pieces *j*, and the ribs *d* on the outer or rear face of the lugs or castings, all of which are cast together or in one piece.

The side pieces or flanges *h* and the cross-pieces *j* project from the back portion *g* of the lugs or casting and form a rectangular inclosed space or recess for the ends of the follower-plates G, the edges of said plates resting on and between said side pieces or flanges and sliding thereon as they follow the movement of the draw-bar back and forth, and the end or cross pieces *j* form shoulders or stops at both ends against which the follower-plates press alternately as the draw-bar is moved in or out by the movement of the cars. Thus it will be seen that I provide ample working-space for the follower-plates, and a firm support for the same, as well as means for hold-

ing them in position and guiding them in their movement, and shoulders or stops against which they press and which prevent them being drawn or pushed out of place, and that the whole is firmly held in position in the draft-timbers and consists of but two pieces or parts. One of the bolts at each end of the castings or lugs F passes clear across to the opposite casting and passes through the same, and surrounding these bolts are thimbles H, which rest at each end against the enlarged ends *j* of the flanges *h*, the object of which is to prevent the castings and draft-timbers being drawn too closely together in bolting the same in place, and thus narrowing or contracting the working-space between the castings and pinching or tightening the follower-plates, so that their free movement is either rendered difficult or uncertain, or they are tightly held in place against movement in either direction.

The follower-plates are inserted between the castings after the latter are bolted in place by simply passing them up between the castings from the under side thereof until they are between the flanges *h*, and then turning them crosswise and into place, as shown in Fig. 3, in which figure one of the plates is shown in position with its ends between the flanges and the other as having one end inserted between the flanges at one side and the other end in such position that by simply pushing it in the direction of the arrow it will be forced between the flanges into position, as indicated by dotted lines, for operation.

Between the castings F the springs K, one within the other, as is usual, are located and are prevented dropping out in case of the breaking of the spindle L by the lower or bottom flange *h*, which, as shown, is of slightly greater width than the upper flange *h*. The springs K surround the spindle, and their ends rest against the follower-plates G, through the centers of which the spindle passes. The spindle is formed with an enlarged head *o*, which may be of any desired shape or configuration of greater diameter than the openings in the follower-plates, thus preventing the spindle working through the openings, and also when in use forming a stop, so as to catch against the interior flange or shoulder *p*, formed at the inner or rear end of the draw-bar M, to hold said draw-bar in place, as shown in Fig. 1. The spindle is inserted through the front or forward end of the draw-bar and through the plates and springs. At one end two slots *m* and *m'* are formed in the spindle at a short distance apart and in line with each other, the outer of which slots *m'* being of greater length than the inner slot *m*, and located a short distance from the extreme end of the spindle, as best shown in Fig. 9, a thimble N, having a flange *n* at one end and a slot *q* through its body portion, and having its other end formed with a double incline or bevel *r*, and diametrically-opposite recesses

s, said incline or bevel commencing at the opposite sides of the recesses and running outward toward the end of the thimble, as clearly shown in Fig. 8. A key P, having a shoulder *t* at one end, and a perforation *u*, adapted to receive a split ring *v*, is provided to lock the thimble in place on the spindle, and a retaining-key R, having a projection *w* on one side edge and adapted to enter slot *m'*, is provided to force the thimble against the follower-plate. After the spindle is in place the thimble is slipped thereon and turned until its recesses *s* coincide with the slot *m'*. The key R is then passed down through the slot and recesses until the ends of its projection *w*, which is of the same or slightly less diameter than the end of the spindle, completely enters the slot in said spindle, when the thimble is given a quarter-turn, locking the key R in the slot and bringing the slot in said thimble in line with the slot *m* of the spindle, and, owing to the inclined or beveled end of the thimble, forcing the same up against the follower-plate and compressing the spring so that the key P may be readily inserted in the slot *m*. By this arrangement all slack that may exist between the ends of the springs and the plates is taken up and the thimble is held rigidly against the plate.

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

1. The combination, in a draw-bar attachment for railway-cars, with the draft-timbers having recesses on their contiguous faces, of the castings having ribs formed on their rear faces adapted to fit said recesses, and the longitudinal flanges and the cross-pieces formed on their front faces, the whole being cast in one piece, substantially as described.

2. The retaining lugs or castings for draw-bar attachments, cast in one piece and consisting of the casting having ribs formed at intervals on its rear longitudinal side, the side flanges and the cross-pieces formed on its front face, and suitable perforations formed therein, substantially as described.

3. The retaining lugs or castings for draw-bar attachments for railway-cars, cast in one piece, consisting of the casting having ribs formed on its rear side or face at intervals, the side flanges and the cross-pieces formed on its front face, one of said side flanges being formed heavier and enlarged at the ends thereof to form a bearing-surface, and suitable bolt-holes formed in said castings, substantially as described.

4. The combination, in a draw-bar attachment for railway-cars, of the draft-timbers having recesses in their contiguous faces, the castings having ribs formed on their rear faces, the side flanges and cross-pieces formed on their front faces, the bolts connecting said castings at their ends, and the thimbles on said bolts, substantially as described.

5. The combination, in a draw-bar attachment, of the draft-timbers, the castings hav-

ing recessed front faces secured to said timbers, the follower-plates adapted to fit in said recesses, the bolts connecting said castings at their ends, and the thimbles surrounding said bolts and having their ends bearing against said castings, substantially as described.

6. The combination, in a draw-bar attachment, of the draft-timbers, the castings having recessed front faces, the follower-plates having their ends adapted to fit said recesses, the spindle, the springs surrounding said spindle and bearing against said plates, the bolts connecting said casting, and the thimbles surrounding said bolts and at their ends bearing against said castings, substantially as described.

7. The combination, in a draw-bar attachment for railway-cars, of the castings, the follower-plates, the spindle having slots at one end, the springs surrounding said spindle, the thimble having a slot in its body portion and

double beveled or inclined and recessed end, the key adapted to secure said thimble and spindle together, and the key having a projection on its side edge adapted to force said thimble against one of the follower-plates, substantially as described.

8. The combination, with the spindle of a draw-bar having a long and a short slot in line with each other near one end, of the thimble having a flange at one end, a slot in its body portion, and a double beveled and slotted end, the key adapted to secure said thimble to said spindle, and a key having a projection adapted to force said thimble along said spindle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES A. HINSON.

Witnesses:

J. F. BEALE,
VICTOR J. EVANS.