G. W. HUNTER.

LIFTING-JACK.

No. 178,777. Patented June 13, 1876.

Fig. 1.

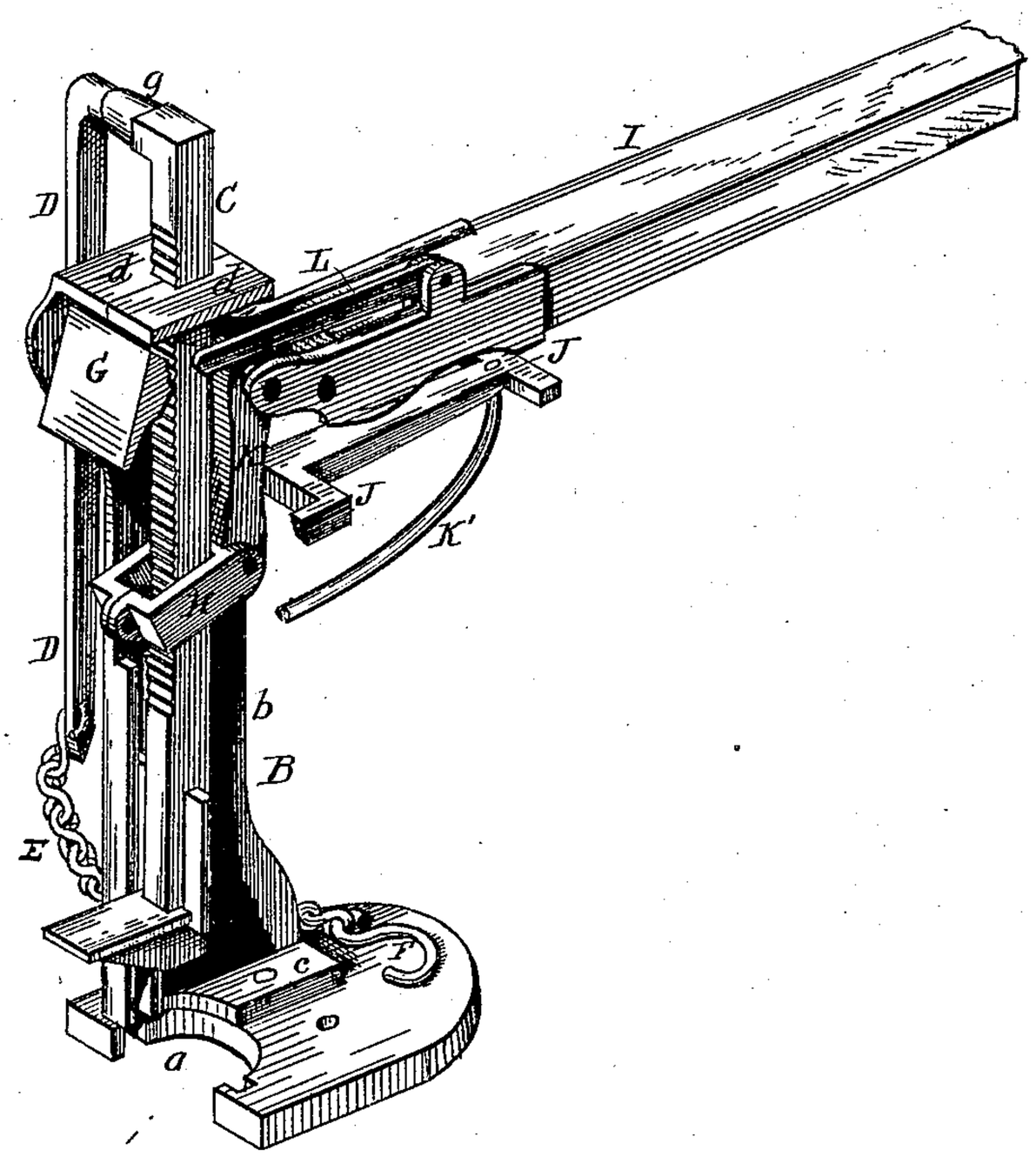


Fig. 3.

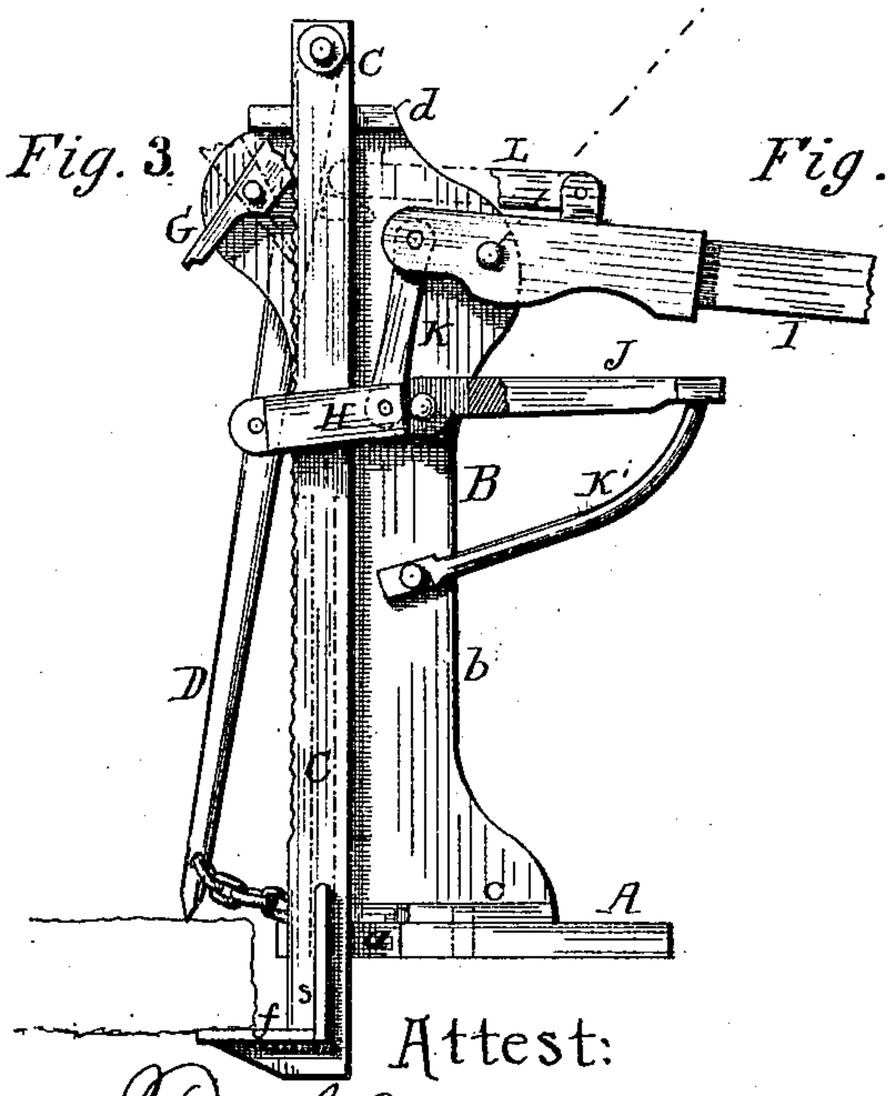


Fig. 4.

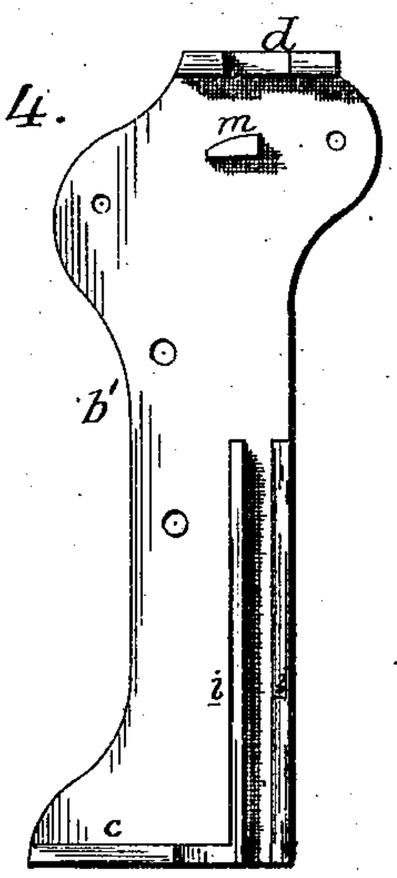
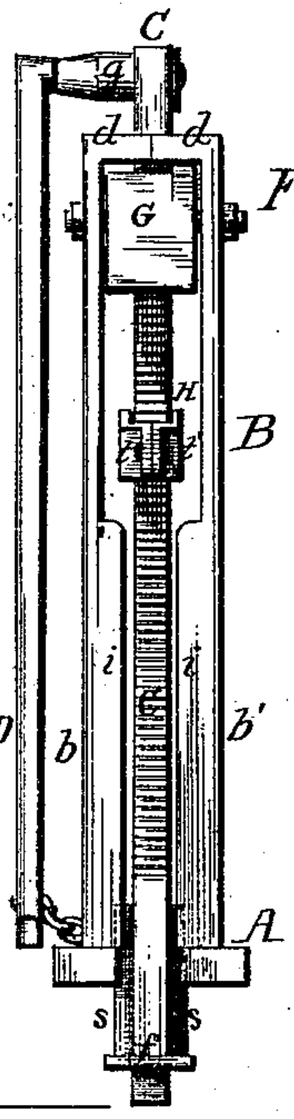


Fig. 2.



Attest:

Frank M. Green.

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G. W. Hunter

By his atty

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UNITED STATES PATENT OFFICE.

GEORGE W. HUNTER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF PART OF HIS RIGHT TO J. PARKER NORRIS, OF SAME PLACE, HENRY M. BAKER, OF WASHINGTON, DISTRICT OF COLUMBIA, AND THEODORE L. CHASE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. **178,777**, dated June 13, 1876; application filed May 15, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. HUNTER, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improved Lifting-Jack, of which the following is the specification:

The object of my invention is an improved lifting-jack constructed, as fully described hereafter, to increase the capacity of the jack, reduce the cost of manufacture, and facilitate manipulation.

In the accompanying drawing, Fig. 1 is a perspective view of my improved lifting-jack, a portion of one of the side pieces being detached; Fig. 2, a front elevation; Fig. 3, a sectional elevation; and Fig. 4, an elevation of one of the side pieces.

The standard B of the jack consists of two side pieces, *b b'*, of cast metal, each having on its inner face at the lower end a flange, *c*, at the upper end a flange, *d*, and near the front edge two parallel ribs, *i i*. The side pieces are placed with the edges of their flanges in contact, and are bolted through the lower flanges to a metal base-plate, A, the front edge of which, below the ribs *i*, is cut away, forming a recess, *a*. The flanges *d* are recessed, forming an opening for the passage of a lifting-bar, C, which has at the lower end a foot-piece, *f*, and at the sides wings *s s*, which extend between the ribs *i i*, and at the front edge of the bar are transverse ribs or serrations beveled on both sides, as shown. To a lateral arm, *g*, at the upper end of the bar C, is hung an adjustable arm, D, pointed at the lower end, and having attached thereto one end of a chain, E, at the opposite end of which is a hook, F. In front of the bar C, between the side pieces, is hung a double pawl, G, either end of which may be brought in contact with the serrated edge of the bar.

To the inner end of a hand-lever, I, vibrating between the side pieces, is hung a link, K, which is jointed at the lower end to the inner end of a tilting-dog, H, the bar C extending through the latter, which consists of two flanged side pieces, *t t'*, bolted together. The link K is of such a length that when the lever I is elevated to the position shown in dotted lines, Fig. 3, the dog will strike the upper ends of the ribs *i*, and will be brought to a horizontal position. An arm, L, hung to ears on the lever I, rests upon a lug, *m*, at the inner side of the side piece *b'*, for a purpose described hereafter.

From the rear of the standard extends an arm, J, supported by a brace, K', and limiting the downward movement of the lever, which, as it approaches the arm, tilts the dog H, clamps the bar C, and raises both. The pawl G, when arranged, as shown in Fig. 3, prevents the descent of the bar, while the dog H slides downward thereon, as the lever I is raised. When the long arm of the lever is again depressed the dog clamps the bar and carries it upward, the operations being repeated, as often as may be necessary, to raise the bar to the desired extent.

As the plate A is cut away beneath the ribs *i i* the bar may descend with the foot-piece *f* below the plate, to permit the foot-piece to be inserted below a railway-tie or other object, X, Fig. 3, the wings *s* extending between the ribs *i*, which guide the bar, and the pointed arm D bearing upon the top of the tie and clamping the latter to the foot-piece.

Upon elevating the bar in the manner already described the end of the tie will be raised, the standard assuming an inclined position in accordance with the angle assumed by the tie, and firmly retaining the latter. To release the bar, the lever is elevated until the arm L strikes the pawl G and turns it to the position shown in dotted lines, Fig. 3, and the dog H rests in a horizontal position on the ribs *i*, when the bar, being no longer confined, may descend freely by its weight. When the pawl G is adjusted, as described, its lower end, bearing upon the beveled face of one of the serrations of the bar, will prevent the latter from being elevated. In raising ties with the rails attached the foot-piece is introduced beneath one of the rails from the inner side, and the hook F is attached to

the opposite rail, thus steadying the jack and insuring the tilting of the same as the rail is raised to maintain it at about right angles to the tie. When the lever I is brought upon the arm J the two may be grasped by one hand, while the other grasps the end of the lever, enabling the operator to readily manipulate the tool, to introduce the foot-piece beneath a rail or cross-tie.

The within-described construction of the standard of two pieces, each capable of being cast from a pattern without a core, facilitates the manufacture of the tool, and enables it to be made at a small cost, while the steadiness which may be imparted to the tool in operation by the arm D and chain, the readiness with which the bar may be raised, secured, and released, the security with which the object operated on is retained, constitute important advantages.

In some instances the arm D may be dispensed with, the chain being connected to the bar C either at the upper or lower end, and being of any desired length, so as to communicate motion to objects at a distance from the jack, which may be laid upon its side or inverted, as circumstances may require. It will be apparent that the arm, or chain, or both, may be connected to the bars of jacks constructed in the ordinary manner, and that any other elevating appliance, as a screw, may be substituted for the lever I.

Without confining myself to the precise construction and arrangement of parts described, I claim—

1. A lifting-jack, provided with a sliding bar carrying an adjustable arm, D, substantially as and for the purpose set forth.

2. The combination of the sliding bar of a lifting-jack and a chain secured permanently to the bar, as set forth.

3. The combination of the standard, rigid sliding bar, and base-plate A, having a recess, *a*, through which the bar may be projected below the base, as and for the purpose specified.

4. The double-ended pawl combined with the sliding bar having teeth inclined at both sides, to arrest the movement of the bar in either direction, as specified.

5. The combination of the sliding bar, pawl, operating-lever I, and arm L, whereby the pawl is thrown outward on elevating the lever, substantially as described.

6. The standard, provided with an arm, J, extending at right angles, or thereabout, to the standard below the lever, for the purpose specified.

7. The standard consisting of the side pieces *b b'*, each having flanges *c d*, and parallel ribs *i*, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. W. HUNTER.

Witnesses:
ISAAC SULGER,
CHAS. T. SCHIVELY.