R. MILLER & C. M. BOWEN.

Improvement in Stump-Extractors.

No. 130,857. Patented Aug. 27, 1872.

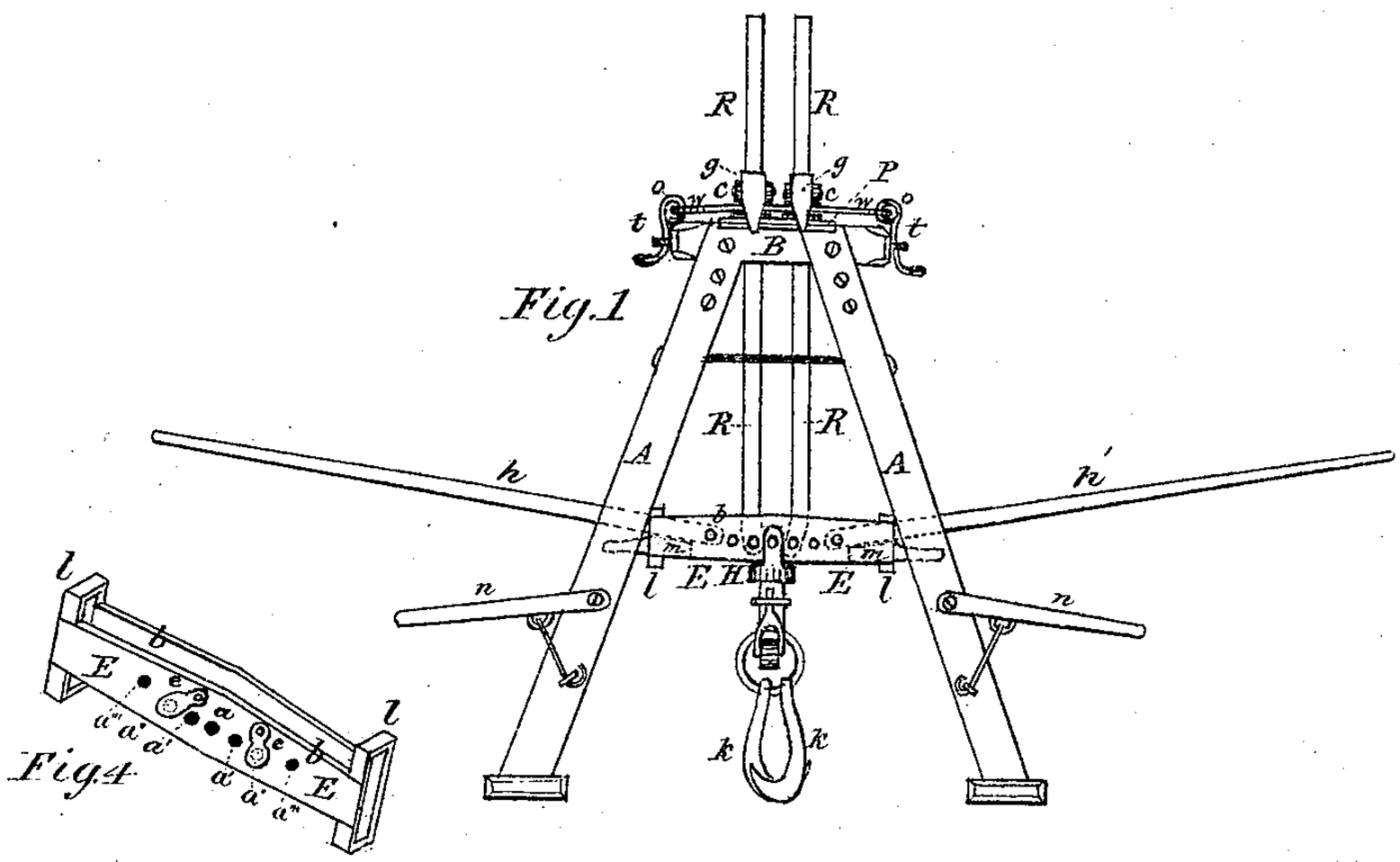


Fig. 1

Fig. 4

Fig. 3

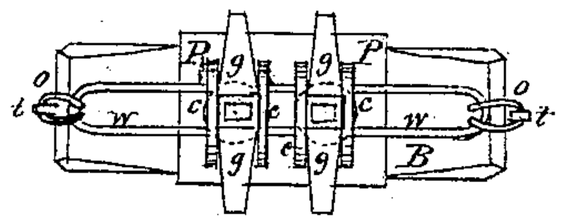


Fig. 6.

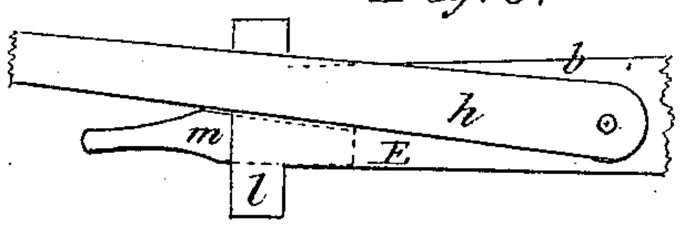
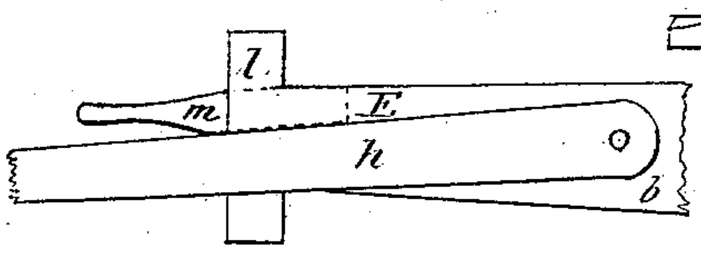


Fig. 5



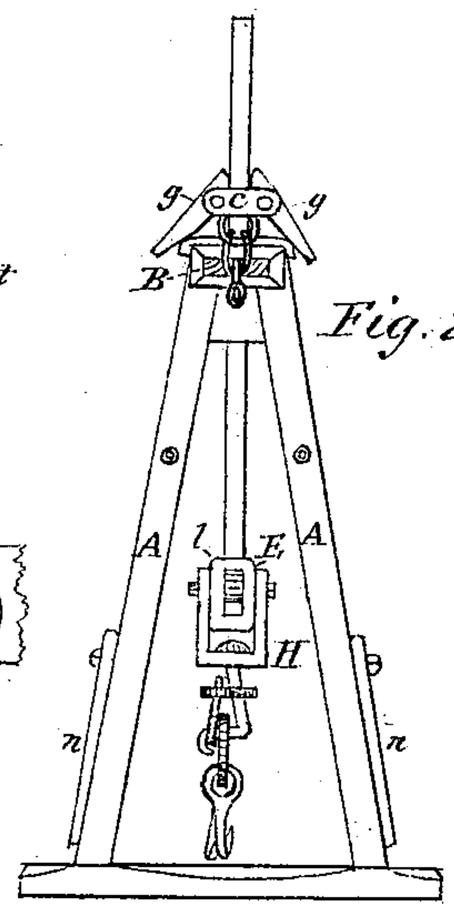


Fig. 2

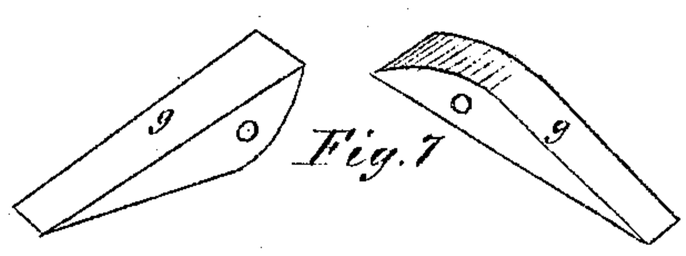


Fig. 7

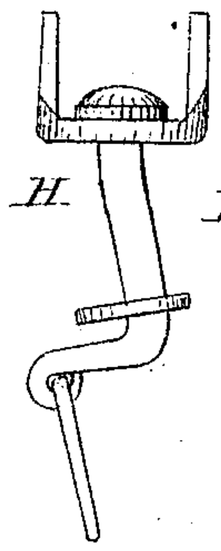


Fig. 8

Witnesses

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UNITED STATES PATENT OFFICE.

RAYMOND MILLER, OF LANDIS TOWNSHIP, AND CHARLES M. BOWEN, OF BUENA VISTA TOWNSHIP, NEW JERSEY, ASSIGNORS TO SAID CHARLES M. BOWEN.

IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. **130,857**, dated August 27, 1872; antedated August 23, 1872.

SPECIFICATION.

We, RAYMOND MILLER, of Landis township, Cumberland county, and State of New Jersey, and CHARLES M. BOWEN, of Buena Vista township, Atlantic county, State of New Jersey, have invented certain Improvements in Stump-Pullers, of which the following is a specification:

This invention is intended to be an improvement upon the machine patented by Pardee and Parvin May 28, 1867; and consists in the peculiar construction and operation of the various devices herein described.

In the accompanying drawing, Figure 1 is a side view of the machine; Fig. 2, an end view; and Figs. 3, 4, 5, 6, 7, and 8, views of the parts in detail.

In lieu of the rack-bars and pawls in the patented machine before mentioned we substitute smooth lifting-bars R R, which are made square, and curved at the lower ends, and the gripes *g g* pivoted to the straps *c c*, and resting upon the iron plate P, which caps the bed-piece B. The cap-plate P is substituted for the iron socket in the Pardee and Parvin machine, and has square openings, through which the bars R R pass loosely. It also overlaps the edges of the bed-piece B, so that the gripes rest upon it. The lower ends of the bars R R are curved, so that by simply turning them round the fulcrum is placed nearer or further from the weight. The lever-iron E E, as enlarged in Fig. 4, consists of two bars of iron, *b b*, connected together at each end by the loops *l l*, which are enlarged to admit of the wooden hand-levers *h h'* being elevated or lowered to suit the position of the operators as the stump or other weight is elevated, (which is done by placing the wedges *m m* above or below the levers, as shown in Figs. 5 and 6.) This lever-iron is perforated at *a a' a'' a'''* for pins, which form pivots for the upright bars R R and levers *h h* and swivel H. The slides *e e* are to cover the pivots to keep them in place while operating the bars. In place of the pendent bail and ring in the Pardee and Parvin machine, we substitute the swivel H H, so as to accommodate the grappling-hooks to the position of the stump or roots to be pulled. The form of the swivel is more plainly shown in Fig. 8. For lowering the bars R R after having been drawn up, we use the device W W, shown in Fig. 1 and more plainly in Fig. 3. It consists of the long link-shaped bar *w w* lying longitudinally across the top plate P, passing under the gripes *g g*, and fastened at both ends by the loops *o o* and staples *t t*. Beneath the link-bar *w w* and resting upon the plate P are two wire-springs coiled about the bars R R. When the weight has been raised to the height desired one end of the link-bar *w w* is released and the gripes *g g* are opened, so that the bars R R descend again. The adjustable handles *n n* are for the purpose of lifting and transporting the machine from place to place.

The operation is as follows: The grappling-hooks *k k* are attached to the roots of the stump, or to any other weight to be raised, and the hand-levers *h h'* are operated by two men. The lever *h* being pivoted at *a'''* in the lever-iron E E, the pivot at the lower end of the lifting-bar R forms a fulcrum, by which the weight pivoted at *a* is slightly raised. Then, by a similar arrangement, the lever *h'* is made to raise the weight slightly, so that by working both levers alternately the weight is constantly raised. The gripes *g g* being faced with steel upon the rounded ends, or otherwise hardened and made rough upon their faces, hold the upright bars fast by being drawn in toward each other, and so prevent them from descending. When the weight is drawn up as far as is desired it is released by the tripping device W W, operating as before mentioned.

Having thus described our improvements, what we claim is—

1. The gripes *g g*, constructed and operating substantially as and for the purposes set forth.

2. The lever-iron E E, composed of the horizontal bars *b b* and loops *l l*, substantially as shown.

3. The tripping device W W, *o o*, and *t t*, substantially as set forth.

4. A stump-puller, composed of the frame A A, bed-piece B, plate P, lifting-bars R R, gripes *g g*, lever-iron E E, tripping device W W, levers *h h'*, and swivel H, the whole constructed and arranged substantially as herein described.

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Witnesses:
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