W. S. Hough,

Strike Extractor.

No. 111,845. Patented Feb. 14. 1871.

Fig. 3.

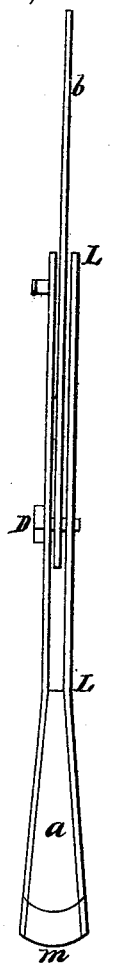
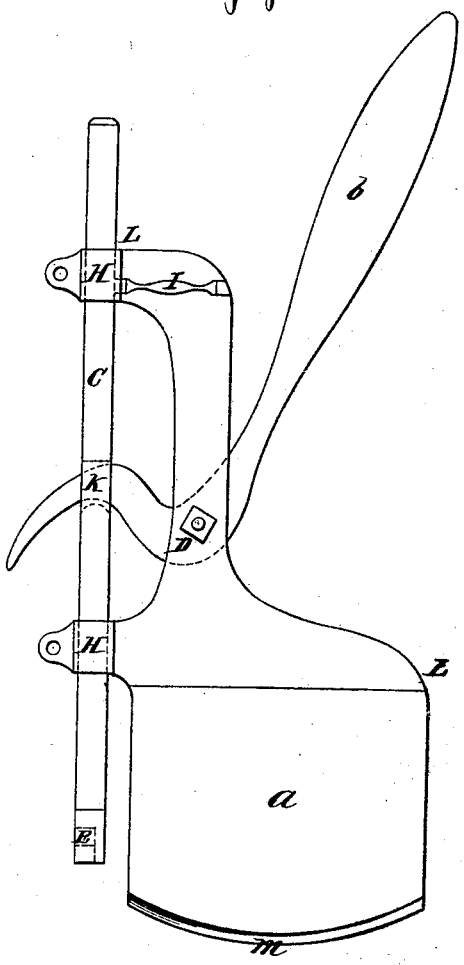


Fig. 2.

Fig. 1.



Witnesses.

Agnus Elder

J. R. Caldwell

Inventor.

William S. Hough

United States Patent Office.

WILLIAM S. HOUGH, OF JOHNSTOWN, PENNSYLVANIA.

Letters Patent No. 111,845, dated February 14, 1871.

IMPROVEMENT IN SPIKE-EXTRACTORS.

The Schedule referred to in these Letters Patent and making part of the same.

I, WILLIAM S. HOUGH, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a Machine for Extracting Railroad-Spikes used for fastening railroad-bars to the sleepers or ties on road-bed, of which the following is a specification.

Nature and Objects of Invention.

My invention consists of the combination of a curved lever, of novel form, with a movable stand or frame, of novel form, operating as a fulcrum, for the purpose of elevating and lowering a vertical bar which attaches itself, by means of an orifice or catch at the lower end, to the spike to be pulled out, thus effecting the extraction of the spike with greater ease and speed than by the hand-power now in use, and also enabling the operator, by inclination of the stand upon its curved bottom, in such way that the lifting power will be parallel with the inclination of spikes driven in at an angle, to draw such spikes without curving or breaking them, and without injury to the tie.

Description of Accompanying Drawing.

Figure 1 is a side elevation of my machine.

Figure 2 exhibits vertical bar, with orifice or catch for catching the head of the spike to be pulled.

Figure 3 is a back view of stand and lever.

General Description.

a, in fig 1, is the stand or frame, to be constructed of two iron plates, held together by bolts, indicated by round dots, thus, *o*, broad at the bottom, to make it set firmly, as shown at *a* in fig. 2 and at *a* in fig. 3, the plates having a space between them from L to L in fig. 1 and fig. 3, through which the lever *b* operates upon bolt D.

The bottom or foot of stand from the line at L to the part which sits on the tie or road-bed at M is weighted with solid iron, cast to form upon and with one of the plates, and, where it sits upon the tie or road-bed at M, is curved to the sides and ends so that it may be leaned to any angle necessary to pull out a spike in the direction in which it was driven in.

The stand is heavy enough to support itself, and may be carried readily by a man, or moved by the handle I.

The power is applied by means of the lever *b*, which moves upon the bolt D, fig. 1, as a fulcrum, and plays through the vertical bar *c* at the orifice K, thereby elevating and depressing it in a right line through the guides H H, which are a part of the stand or frame A.

At E, in fig. 1 and fig. 2, is the orifice and catch, in and on vertical bar *c*, which catches the head of spike to be drawn.

In fig. 2 *c* represents a front view of the vertical bar, the dotted lines at the right of the figure at *a* showing the foot of the stand, more fully shown in fig. 3, and the dotted lines at the left of the figure at *b b* indicating the arm of the lever when raised, more fully shown at *b* in fig. 3. At K is the orifice in the vertical bar, through which the lever *b* plays, and H H are the guides, being a part of the frame, which give direction to the vertical bar.

In fig. 3 A represents the stand or frame, shaded from M to L, to show how far it is solid, the space between the plate of the stand from L to L showing the space through which the lever *b* is operated upon the bolt and fulcrum D.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of stand A, curved lever *b*, and vertical bar *c*, provided with orifice and catch E, all constructed as and for the purpose set forth.

W. S. HOUGH.

Witnesses:

J. R. CALDWELL,

CYRUS ELDER.