

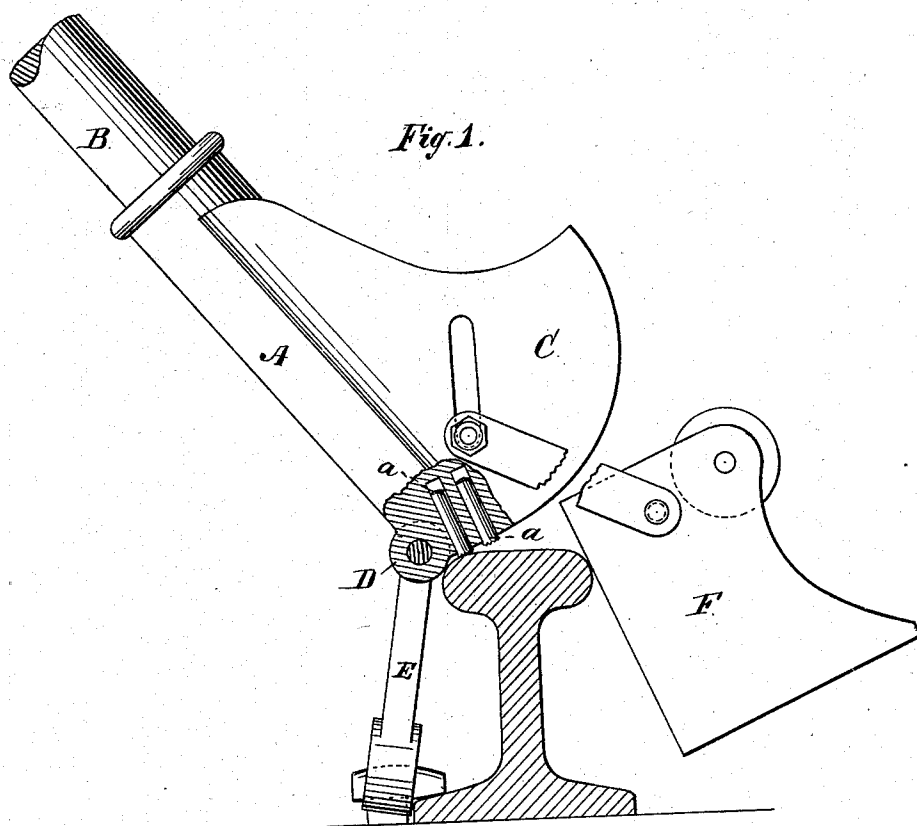
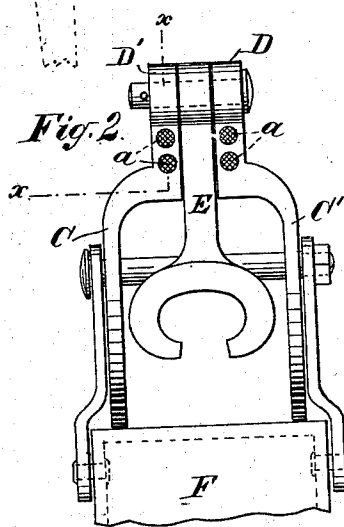
(No Model.)

2 Sheets—Sheet 1.

A. P. PROUT.
SPIKE EXTRACTOR.

No. 276,877.

Patented May 1, 1883.



Witnesses:
Henry Pickling
A. G. Vermilye

Inventor
Albert P. Prout
by *J. P. Fitch*
his atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

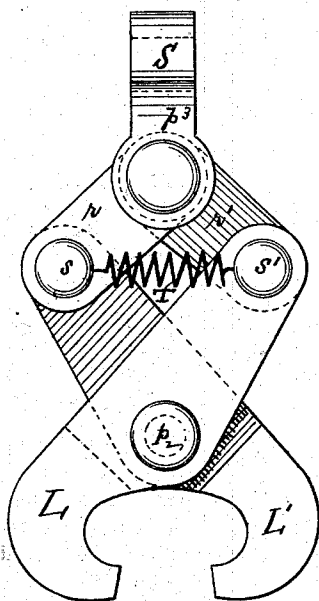
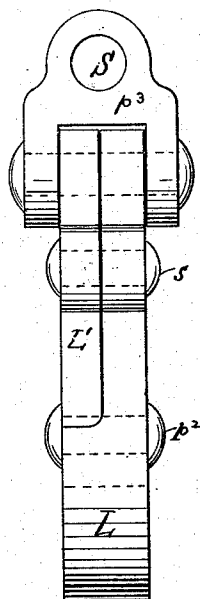


Fig. 4.



Witnesses:

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Inventor

Albert P. Prout

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UNITED STATES PATENT OFFICE.

ALBERT P. PROUT, OF WOOD HAVEN, NEW YORK.

SPIKE-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 276,877, dated May 1, 1883.

Application filed January 30, 1883. (No model.)

To all whom it may concern :

Be it known that I, ALBERT P. PROUT, residing at Wood Haven, in the county of Queens and State of New York, have invented a new and useful Improvement in Spike-Extractors, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same, in which—

Figure 1 is a side elevation, partly in section, of a spike-extractor containing my improvement; and Fig. 2 is a view of the lower end of the same.

Figs. 3 and 4 represent a modified form of the claw, combined with a spring which acts to draw the jaws of the claw together automatically. The said modified claw consists of the two jaws $L L'$, pivoted together at p^2 , and connected to the arm p^3 by the links $r r'$, which at the upper ends are pivoted together and to said arm, and at the lower ends, respectively, to the upper ends of the jaws $L L'$. T is a spiral spring, attached at its ends to the pivotal pins $s s'$. Its action, as is obvious, is to draw said upper ends of the jaws toward each other, and thereby close their lower ends.

This invention is an improvement upon the spike-extractor for which United States Letters Patent No. 254,411 were issued to me, dated February 28, 1882, and also the spike-extractor for Letters Patent for which an application was by me filed in the United States Patent Office August 4, 1882, and allowed October 12, 1882; and it consists in the combination of devices hereinafter described and claimed.

The extractor to which my present improvement is applied consists of a lever composed of a socket-head, A , with a handle, B , inserted in the socket. On this head are formed two parallel wings, $C C'$, that extend laterally from opposite sides of the lever, the lower edges of the said wings being curved, as shown plainly in Fig. 1. Between lugs $D D'$, formed on the lower end of the head, opposite to said wings, is hung a swinging claw, E .

F is a swinging shoe, designed to act as a fulcrum when it is desired to draw a spike in such a position that the rail cannot conveniently be used as the fulcrum. In Fig. 1 the extractor is shown in position at the commencement of the operation of extracting a spike, the rail being used as the fulcrum. In the po-

sition shown it is obvious that the lever is liable to slip off from the rail at the first movement in drawing a spike. To obviate this slipping, I provide the face of the lower end of the head of the lever, adjacent to the claw-hinge, with teeth or sharp edges, tempered so as to take hold of the surface of the rail and prevent slipping until the spike is started and partly drawn out. These teeth or edges cannot be conveniently tempered, as they are required to be, in order not to be blunted or crushed by contact with the rail or the fulcrum-shoe, if they are formed on the face of the end of the head A itself. To this end it is necessary that they should be composed of hardened or tempered steel, while the head A is, for convenience and economy, made of iron or untempered cast-steel. Even if made of steel it is still impracticable to temper the surface at the place indicated without at the same time hardening the lugs $D D'$, and thus impairing their strength. For these reasons I drill into the lower end of the lever holes, and insert therein steel plugs, (indicated by the letter a ,) preferably two on each side of the claw E , as shown in Fig. 2, although one on each side will answer. These steel plugs, roughened into teeth or sharp edges at their lower outer ends, which project slightly below the face of the lever, are suitably tempered and driven firmly into the holes aforesaid. When the lever is placed either upon the swinging shoe or, as shown in Fig. 1, upon the rail, it is obvious that the said plugs will prevent the slipping of the lever on its fulcrum until the spike is started, but that when the lever is rocked over on the curved lower edges of the wings $C C'$ the plugs, after the spike is drawn a little way, will be lifted from the rail or shoe, and thus permit the lever to slide toward the spike, allowing the spike to be drawn straight out without bending. It is obvious, also, that the plugs nearest the hinge of the claw E , projecting as it does somewhat below the face of the end of the lever, constitute a fulcrum-line, on which the lever rocks to start the spike a greater distance without lessening the leverage than it would if the curved edges of the wings $C C'$ rested directly on the rail or shoe. As is obvious, this jaw tightens its grip on the spike in proportion as force is applied in drawing it, and the jaws may be

opened and passed over the head of the spike and take hold of it by means of the edges of the jaws being forced inward under the head of the spike on opposite sides.

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

1. The combination, with the described spike-extractor, of the tempered steel plugs *a*, inserted in the lower end of the head *A*, near
10 the lugs *D D'*, and provided with roughened faces at their outer ends, as and for the purpose specified.

2. The combination, with the described lever-head, of the claw represented in Fig. 3, consisting of the pivoted jaws *L L'*, the links
15 *r r'*, pivoted, respectively, to the said jaws and to the arm *p*³, together with a spring, *T*, which acts to close said jaws, as and for the purpose specified.

ALBERT P. PROUT.

Witnesses:

A. G. N. VERMILYA,
A. S. FITCH.