JOHN A. BOGERT.

Improvement in Spike Extractors.

No. 115,421. Patented May 30, 1871.

Fig: 1.

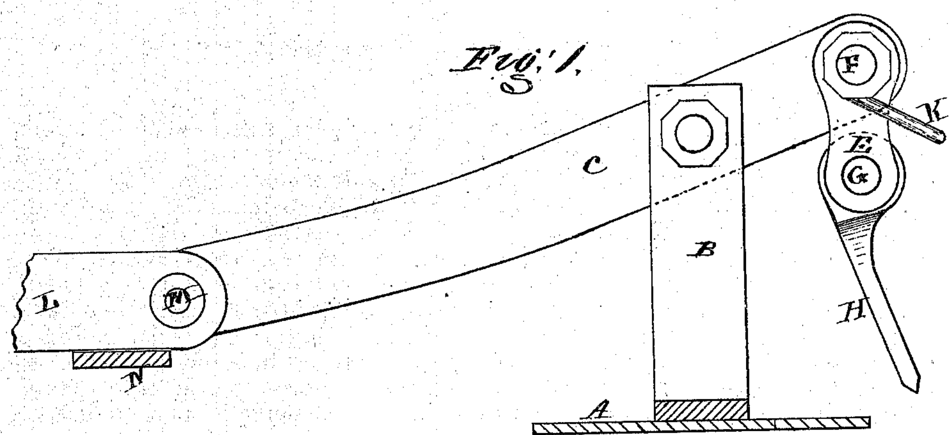


Fig: 2

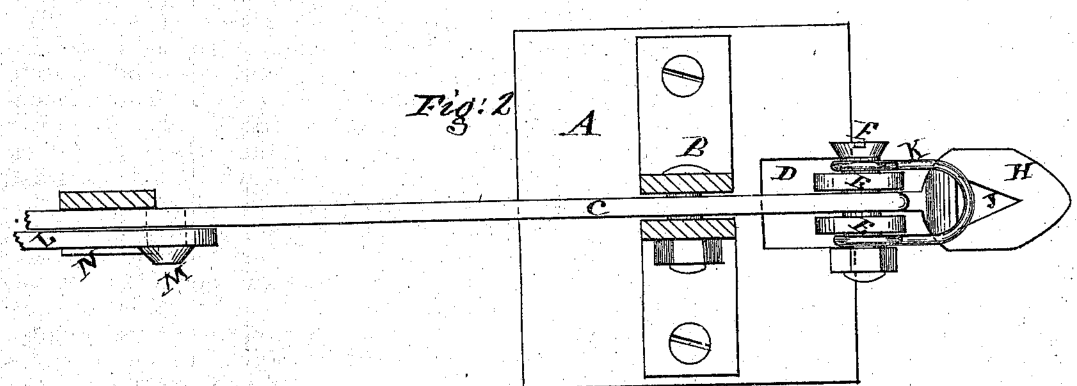
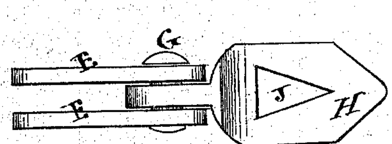


Fig: 3.



Witnesses.

[illegible]

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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JOHN A. BORGORT, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN SPIKE-EXTRACTORS.

Specification forming part of Letters Patent No. 115,421, dated May 30, 1871.

To all whom it may concern:

Be it known that I, JOHN A. BORGORT, of Jersey City, State of New Jersey, have invented certain new and useful Improvements in Screw-Bolt and Spike-Extractors; and I do hereby declare that the following is a full description of the same.

The nature of my invention consists in combining with the lever a hinged die, having either a square or V-shaped slot in it to hook upon or over the head of the spike or bolt, and a loosely-jointed guide-link for keeping the bolt or spike in a vertical position while being drawn from the railroad tie or other piece of timber into which the spike may have been inserted; but, to describe my invention more particularly, I will refer to the accompanying drawing forming a part of this specification, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a side view of the machine or apparatus. Fig. 2 is a plan view of the same. Fig. 3 is a detached view of the hinged die and intermediate link connecting it to the end of the lifting-lever.

Letter A is the base, upon which the prop (or fulcrums B) of the lifting-lever C is secured by screw-bolts or any other suitable means. These parts are made of metal or other suitable material, of any required size for the work intended to be done by the machine. In the front edge of the base is cut an opening, D, directly under the head of the lifting-lever. The object of this is to permit the base to have a solid and firm rest upon the tie or other timber at each side of the spike and beyond its head, so as to prevent the lever tilting over, as would be the case if the base were cut off on a line with the inner edge of the opening D, and thus were acting entirely against the inner side of the spike when being extracted from the timber. Another object is to admit of using a broad base, and, at the same time, use a very short lever beyond the fulcrums to obtain the greatest amount of power possible by means of a simple lever of the first order of levers. To the head of the lifting end of the lever is secured an intermediate link, E, by means of a bolt, F. The lengths of this intermediate link may be various, according to the height of the props and size of the apparatus. To the lower end of this intermediate link is secured, on a loosely-working joint or center pin or bolt, G, a steel die-plate, H, having a V-shaped or other suitably-shaped slot, J, in it. The object of making the die and intermediate link in two parts and linking them together by the bolt G is to admit of drawing the spike or bolt from the timber perpendicularly, and thus require less power than would be the case if there were a side pressure against the bolt, in consequence of the outward pressure, (where the end of the lever is rigid,) as well as the binding pressure of the wood on all sides of the spike. To assist in keeping the spike from binding while being extracted from the wood a loop or guide-strap, K, is linked to the head of the lifting end of the lever by means of the bolt F, which also secures the intermediate link to the lever, so that, as the head of the spike is drawn up, the guide can be passed over it, and thus will keep it straight while being lifted or drawn from the timber. To the power end of the lever a jointed or folding arm, L, is attached by a bolt, M, and is prevented from folding back beyond the straight line of the lever proper by a ledge, N, of metal secured thereto solidly, and projecting from its lower edge beyond the thickness of the foiding arm L, so that it affords a solid support for it to rest upon when necessary to use it to increase the power of the lever to pull the spike or bolt out of its fastenings in the timber.

Having now described my invention, I will set forth what I claim, and desire to secure by Letters Patent of the United States:

The combination of the lifting-lever C, intermediate link E, hinged die-plate H, and guide-strap K, arranged and operating substantially as hereinbefore set forth.

Witnesses: JOHN A. BORGORT.
G. GLAUBRECHT,
JOHN PETER VOLTHARDT.