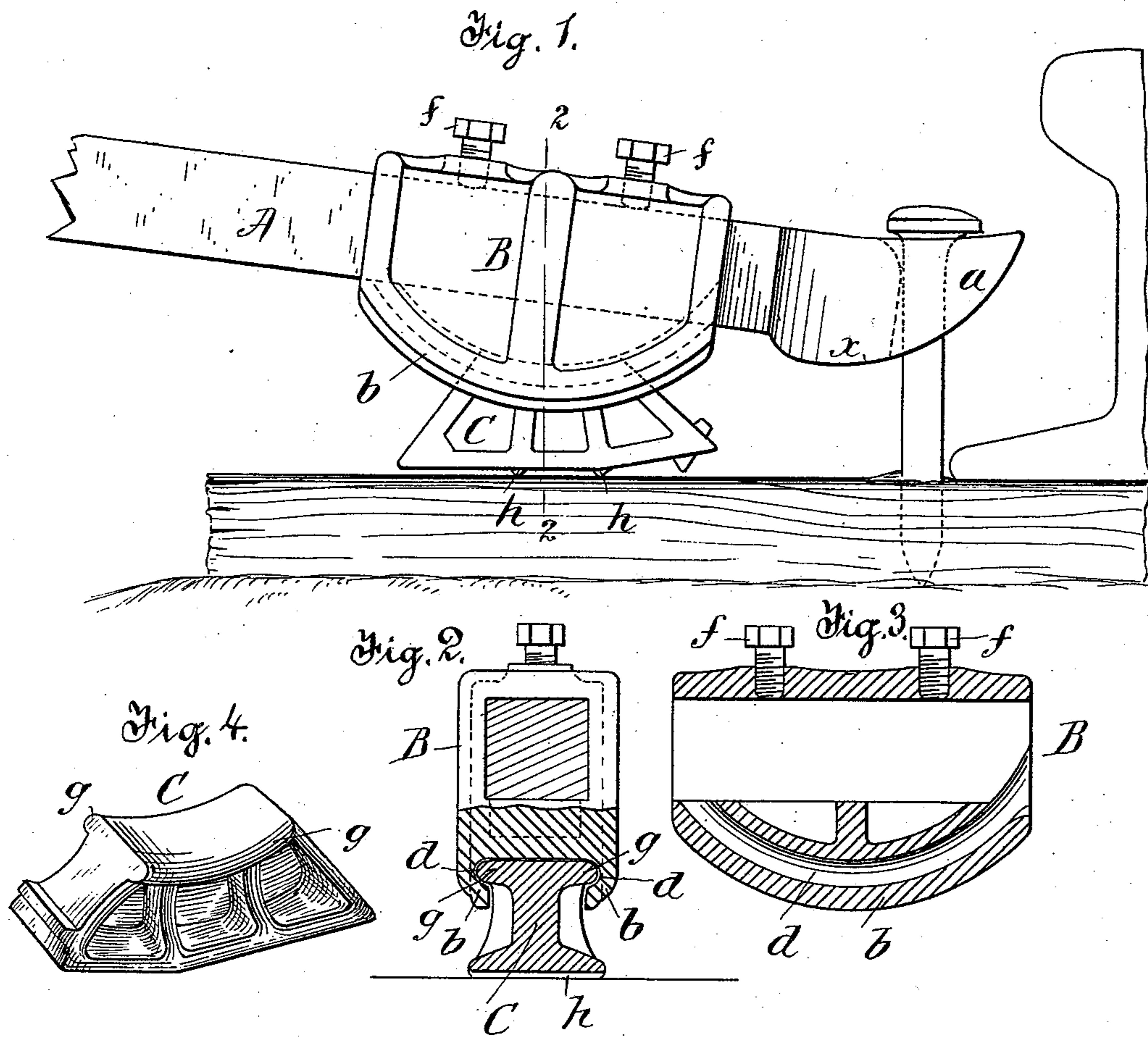


(No Model.)

F. L. GRAVES & H. S. KNIGHT.
SPIKE PULLING IMPLEMENT.

No. 541,531.

Patented June 25, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK L. GRAVES AND HENRY S. KNIGHT, OF WHATELY, MASSACHUSETTS.

SPIKE-PULLING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 541,531, dated June 25, 1895.

Application filed April 10, 1895. Serial No. 545,138. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK L. GRAVES and HENRY S. KNIGHT, citizens of the United States of America, residing at Whately, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Spike-Pulling Implements, of which the following is a specification.

This invention for improvements in spike-pulling implements relates to that class of devices having means combined with the claw-ended lever whereby, after the spike has been started by the claw,—working on a short fulcrum with great power,—the lever may then be brought to a secondary fulcrum which is provided as an equipment of the lever so that the claw end of the lever will move with greater speed and in a line approximately conforming to the direction of penetration of the spike.

The object of the invention is to render, by the provision of certain adjustable parts and improved arrangements and modes of engagement thereof, the implement adaptable for acquiring various leverages according to the convenience of the workman, or the nature of the work to be performed; and the invention consists in the particular construction and combination of parts, all substantially as will hereinafter fully appear and be set forth in the claim.

Reference is to be had to the accompanying drawings, in which the present improved spike-extracting implement is illustrated.

Figure 1 is a side elevation of the same as in use. Fig. 2 is substantially a cross-sectional view on line 2 2, Fig. 1. Fig. 3 is a central longitudinal sectional view of the shoe. Fig. 4 is a perspective view of the part with which the shoe engages and which forms the secondary fulcrum.

In the drawings, A represents the lever or bar, as usual, having at its forward end the claw, *a*, the same having the rounded and rearwardly widened base to constitute the common short rolling fulcrum.

B represents the shoe or clip which is applied adjustably upon the lever, the same consisting of a casting having a longitudinal opening therethrough to fit the lever, and having the opposing longitudinally ranging de-

pending cheeks, *b, b*, with the arc-shaped internal groove, *d*, which extend and are open to one or both ends of the casting. The set screws, *f, f*, provide means for adjustably confining the shoe upon any part of the length of the lever suitably removed from the claw to accord with the leverage required. The base, C, also consists of a casting, an advantageous form of which is shown in the drawings, the same having at its upper portion the opposing outwardly extending ribs, *g, g*, of arc form as to their longitudinal trend and which have engagements within the aforesaid groove, *d*, of the shoe their entrance into such engagement being permitted, before the lever is passed through and connected to the tubular shoe, by reason of the aforesaid endwise opening slots, *d*. The bottom of the base, C, preferably has the angular lugs or spurs, *h*, so as to acquire an effectual and stable bearing and engagement upon the railroad sleeper or other similar object at the time of the use of the implement, and as manifest. The lever when passed through and within the tubular shoe, B, serves as a stop for preventing the base, C, from slipping out from the grooved cheeks, *b*.

In the use of the improved implement, the lever may be inclined at quite a great angle to the horizontal to enable the claw to take its engagement under the head of the spike and to exert the primary or starting action, then working on the short fulcrum understood as being at or about the location of the letter *x*. The spike having been started the operating end of the lever is downwardly swung whereupon the base, C, becomes the secondary fulcrum support and as the action of leverage is continued the shoe, in addition to having its rocking motion relative to the base, also has a forward sliding motion whereby the elevation of the claw is proximately vertical so that the spike in being extracted will not be bent and whereby the extraction may be accomplished with the utmost ease and speed.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

In a spike-pulling instrument, the combination with the lever, of the tubular shoe to

have a sliding fit upon the lever and provided at its bottom with the opposing depending cheek-pieces having the longitudinally ranging arc-formed grooves which open to the end
5 of the cheek-pieces, the set-screws passing through the wall of the tubular shoe against the lever for confining the shoe adjustably at any desired point along the length of the lever, and the base, C, having sidewise there- of the arc-formed ribs engaging, for a combined rocking and sliding bearing, in the said grooves, all substantially as described and shown.

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