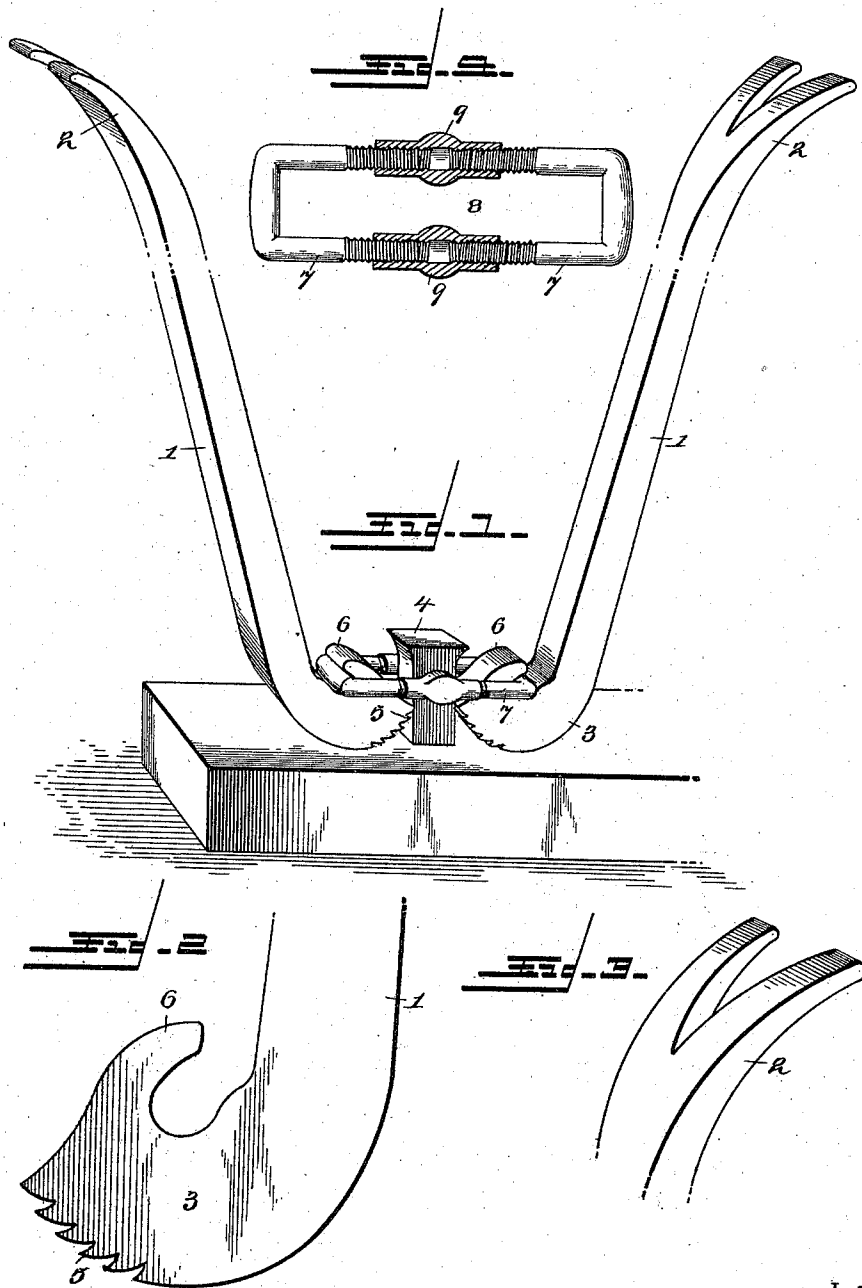


(No Model.)

P. J. FURLONG.
SPIKE AND BOLT PULLER.

No. 575,226.

Patented Jan. 12, 1897.



Witnesses

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UNITED STATES PATENT OFFICE.

PHILIP JOSEPH FURLONG, OF LAKE MONT, FLORIDA.

SPIKE AND BOLT PULLER.

SPECIFICATION forming part of Letters Patent No. 575,226, dated January 12, 1897.

Application filed August 12, 1895. Serial No. 559,085. (No model.)

To all whom it may concern:

Be it known that I, PHILIP JOSEPH FURLONG, a citizen of the United States, residing at Lake Mont, in the county of Orange and State of Florida, have invented a new and useful Device for Extracting Spikes, Bolts, and the Like Driven Into or Firmly Embedded in other Substances, of which the following is a specification.

The invention relates to improvements in devices for extracting spikes, bolts, other fastening devices, and the like.

The object of the present invention is to provide a simple, inexpensive, and efficient device which will be strong and durable, and which will be capable of exerting great power, and which will be adapted for extracting spikes, bolts, other fastening devices, and analogous articles requiring strength to withdraw them.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of an extracting device constructed in accordance with this invention. Fig. 2 is a detail view of one of the levers. Fig. 3 is a detail perspective view of the upper end of one of the levers. Fig. 4 is a detail view illustrating the construction of the link.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designate a pair of similar operating-levers provided at their upper ends with claws 2, and having their lower terminals 3 enlarged and bent to form fulcruming heels, and provided with a lower curved edge. The lower bent ends of the operating-levers are adapted to rest upon the cross-tie or other supporting-surface to fulcrum the levers at opposite sides of a fastening device 4, as illustrated in Fig. 1 of the accompanying drawings. The lower curved edges of the levers form fulcrums, and the opposed edges or faces of the levers engage opposite sides or edges

of the spike 4 and are provided with teeth 5 to prevent them from slipping and to cause the spike to move rapidly upward when the upper ends of the operating-levers are forced apart. The lower ends of the edges are provided at their upper sides with hooks 6, extending inward and forming recesses or openings receiving a link 7, which detachably connects the levers and holds them in position for continuously and simultaneously engaging the spike. The teeth 5 are arranged in a curved series concentric with the openings or recesses formed by the hooks, and the teeth successively engage the spike as the upper portions of the operating-levers are forced away from each other. The operating-levers are adapted to extract the spike rapidly by successive movements, and after one lift has been given to the spike the levers are again brought to their initial position and the extracting operation is repeated.

The link may, if desired, be solid or formed of one piece of metal, but it is preferably composed of two adjustable sections 8, having the terminals of the sides threaded and connected by turnbuckles or couplings 9, which are provided with right and left hand threads. This construction permits the link to be varied in length to adapt the device to different kinds of fastening devices and other articles. The couplings are provided at their centers with enlargements and are flattened at opposite sides to enable them to be readily engaged by a wrench or other tool for adjusting the sections of the link.

By having the operating-levers detachably connected with each other either one may be detachable for enabling its claw to be employed for withdrawing a nail, spike, or other device which does not require the power of the two levers.

It will be seen that the device is exceedingly simple and inexpensive in construction, that it possesses great strength and durability, and that it is adapted to be readily adjusted to accommodate the fastening device or other article to be extracted or lifted. It will also be apparent that it is capable of rapidly extract-

ing fastening devices of various kinds and of lifting or withdrawing articles, and that such fastening devices and articles are not bent, twisted, or otherwise injured in being extracted.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any advantages of the invention.

10 What I claim is—

1. A device of the class described, comprising a pair of oppositely-disposed operating-levers having their upper or outer portions forming handles, and bent at their lower ends
15 to form fulcruming heels and provided with curved faces arranged to engage the opposite sides of a fastening device, whereby, when the levers are fulcrumed on their heels the engaging portion will exert a continuous lifting
20 action on the fastening device as the handle portions of the levers are swung outward, and means for connecting the lower ends of the levers at points concentric with their curved engaging faces, substantially as described.

2. A device of the class described, comprising a pair of oppositely-disposed operating-levers having their upper or outer portions forming handles, and bent at their lower ends to form fulcruming heels and provided with
30 curved faces arranged to engage the opposite sides of a fastening device, whereby when the levers are fulcrumed on their heels the engaging portions will exert a continuous lifting action on the fastening device as the handle
35 portions of the levers are swung outward, and

a link connecting the lower ends of the levers at points concentric with the curved engaging faces of the same, substantially as described.

3. A device of the class described, comprising a pair of oppositely-swinging operating-levers provided at their lower ends with fulcruming heels and having curved engaging edges and provided with openings concentric with the curved engaging edges, and a link
45 connecting the levers and having its ends arranged in said openings, substantially as described.

4. A device of the class described, comprising a pair of operating-levers having their
50 lower ends spaced apart and provided with openings, and having curved engaging edges or teeth concentric with the openings and arranged to engage the opposite sides of a spike or the like, said levers being provided at their
55 lower ends with fulcruming heels and being adapted to exert a continuous lifting action on the fastening device when their upper portions are swung outward, and a link connecting the levers and having its ends arranged
60 in the openings and composed of two sections adjustably connected, whereby the link may be varied in length to vary the space between the engaging portions of the levers to adapt
65 the device to spikes and other articles of different sizes, substantially as described.

PHILIP JOSEPH FURLONG.

Witnesses:

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