June 12, 1945. G. Y. KNIGHT 2,378,303

SPIKE PULLER

Filed May 27, 1944

Fig. 1.

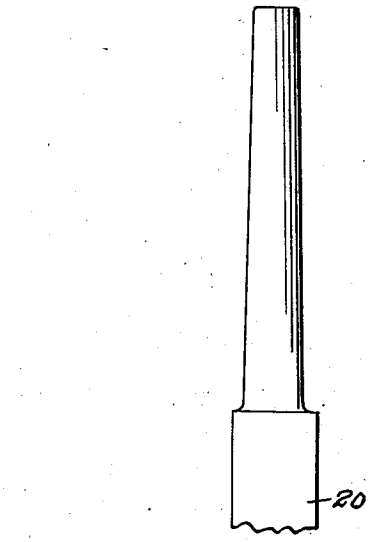


Fig. 4.

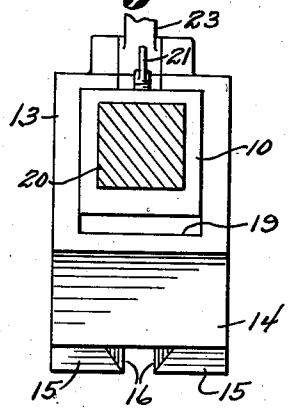


Fig. 5.

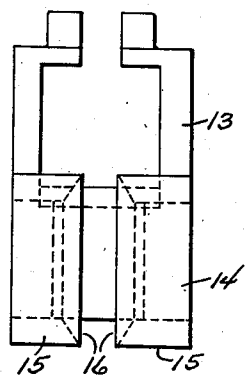


Fig. 2.

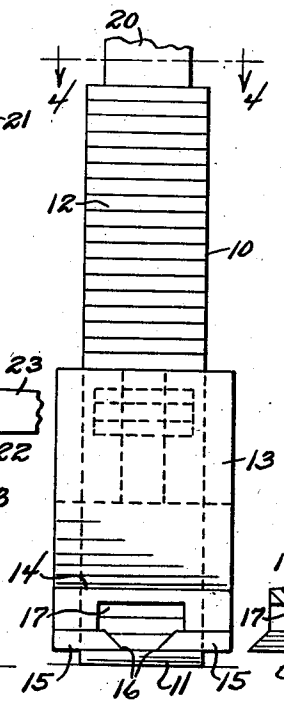
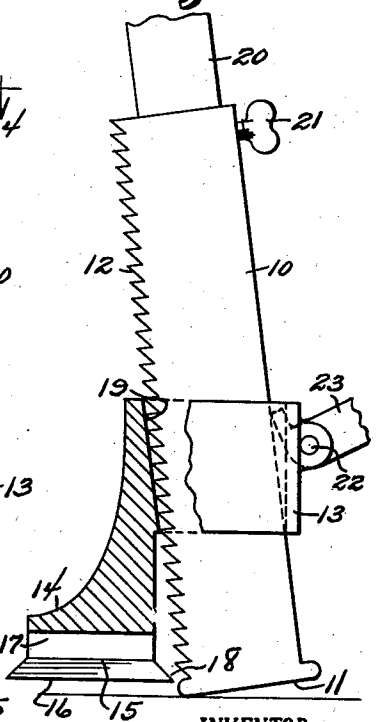


Fig 3.



INVENTOR.

Gordon Y. Knight

BY

Victor J. Evans & Co.

ATTORNEYS

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SPIKE PULLER

Gordon Y. Knight, Huntington, Ind.

Application May 27, 1944, Serial No. 537,690

3 Claims. (Cl. 254—25)

The invention relates to a lifting jack, and more especially to a spike puller.

The primary object of the invention is the provision of a device of this character, wherein positive engagement of the same with the head of a spike or the like is assured, to avoid accidental disconnection of the head of the said spike or the like from the device during the extracting operation, the extraction of the spike or the like being had with a minimum amount of time and labor in the use of such device.

Another object of the invention is the provision of a device of this character, wherein different sizes of spikes or the like can be pulled or extracted, the device being easily manipulated with safety to an operator, and is hand actuated.

A further object of the invention is the provision of a device of this character, wherein an operator thereof is able to actuate the said device from a standing position, and there is no liability of the spike or the like flying free of the device with resultant injury by striking a bystander during the pulling of the said spike or the like.

A still further object of the invention is the provision of a device of this character, wherein the same is readily and easily engaged and disengaged from a spike or the like, and is susceptible of being conveniently brought into working position, without regard to the protrusion of the said spike or the like when in a fastening position.

A still further object of the invention is the provision of a device of this character, which is simple in construction, thoroughly reliable and efficient in operation, requiring minimum exertion in the working of the same, strong, durable, possessed of few parts, readily and easily adjusted, and inexpensive to manufacture.

With these and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawing which discloses the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a fragmentary side elevation partly broken away of the device constructed in accordance with the invention.

Figure 2 is a front view thereof.

Figure 3 is a view similar to Figure 1 showing the device in a pulling position.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2 looking in the direction of the arrows.

Figure 5 is a bottom plan view of the spike engaging foot piece of the device.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, the device constituting the invention comprises a squared tubular fulcrum post or tread section 10, which at its lowermost end forms a tread area 11 for contact with a base or the top face of a railway cross-tie in which is fastened a track-rail spike or the like. This post or section 10 is of a determined length and on the forward flat outer face thereof is formed a ratchet toothed rack 12 which is co-extensive with the length of the said post or section.

Movably fitted on the post or section 10 is a runner sleeve 13 which embraces the said post or section and depending from this sleeve is a downwardly and forwardly extending toe 14 having at its under face spaced opposed parallel flat bottom faced claws 15 with the reversely beveled inner biting edges 16 confronting a clearance way or slot 17 opening through the outer and inner sides of the toe to accommodate the head of a spike or the like therein on the straddling of the shank of the latter by the claws 15 when such toe is engaged with the said spike or the like for the pulling of the same in the operation of the device.

The toe 14 at the rear thereof is provided with a ratchet acting latching tooth 18 for engaging the toothed rack to hold the said top raised on the post or section 10 on adjustment of the sleeve 13 thereon, the latter being internally beveled at one side thereof as at 19 for the rocking of the said sleeve or post or section to effect the disengagement of the tooth 18 from the rack 12, so that these parts; namely, the post or section and the sleeve can be adjusted relative to each other, to regulate the raised or lowered position of such sleeve 13.

Adjustably telescoped in the upper end of the post or section 10 is a handle bar 20, which is held in adjusted position by a set screw 21 fitting the said post or section, this bar 20 being preferably straight and of any selected length for the required leverage purposes.

The runner sleeve 13 at its rear side has pivoted at 22 thereto a lifter handle 23 for the convenient raising and lowering of the sleeve on the post or section 10 by hand.

When the toe 14 is slipped onto the head of a

spike or the like, after proper adjustment of the sleeve 13 on the post or section 10, with the tooth 18 latched with the rack 12, the post or section 10 being at rest on a foundation, then by rocking the said post or section 10 rearwardly the claws 15 grab the said head of the spike or the like and this rearward motion extracts it from fastening position. The sleeve 13 is adjusted according to the protrusion of the spike or the like from its anchorage. The head of the spike or the like by reason of its confinement within the way or slot 17 in the toe 14 cannot fly free thereof, and such spike or the like may be quickly and easily pulled from its anchorage in the use of the device.

The tooth 18 will engage itself with the rack 12 on a pull upon the handle bar 20, then by pushing on the latter rocks forwardly so that the toe 14 swings away from the post or section 10 with the result that this tooth 18 disengages from the rack 12, as such tooth will then be out of the path of the latter, as is clearly shown in Figure 3 of the drawing. Figure 1 of the drawing shows the engagement of the tooth 18 with the rack 12 and the relative positions of the toe 14 and the post or section 10 with respect to each other.

What is claimed is:

1. A device of the kind described, comprising a fulcrum post including a rack, a movable runner sleeve on the post, and mounted for rocking movement thereon, a claw toe formed on the sleeve for spike head engagement, and a ratchet acting tooth formed on the toe for engagement with and disengagement from the rack on the rocking of the sleeve.

2. A device of the kind described comprising a fulcrum post including a rack, a movable runner sleeve on the post and mounted for rocking movement thereon, a claw toe formed on the sleeve for spike head engagement, a ratchet acting tooth formed on the toe for engagement with and disengagement from the rack on the rocking of the sleeve, and a handle bar adjustably fitting the post.

3. A device of the kind described comprising a fulcrum post including a rack, a movable runner sleeve on the post and mounted for rocking movement thereon, a claw toe formed on the sleeve for spike head engagement, a ratchet acting tooth formed on the toe for engagement with and disengagement from the rack on the rocking of the sleeve, a handle bar adjustably fitting the post, and a handle pivotally connected to the sleeve.

GORDON Y. KNIGHT.