Nov. 2, 1948. C. W. REYNOLDS 2,453,037

NAIL PULLER

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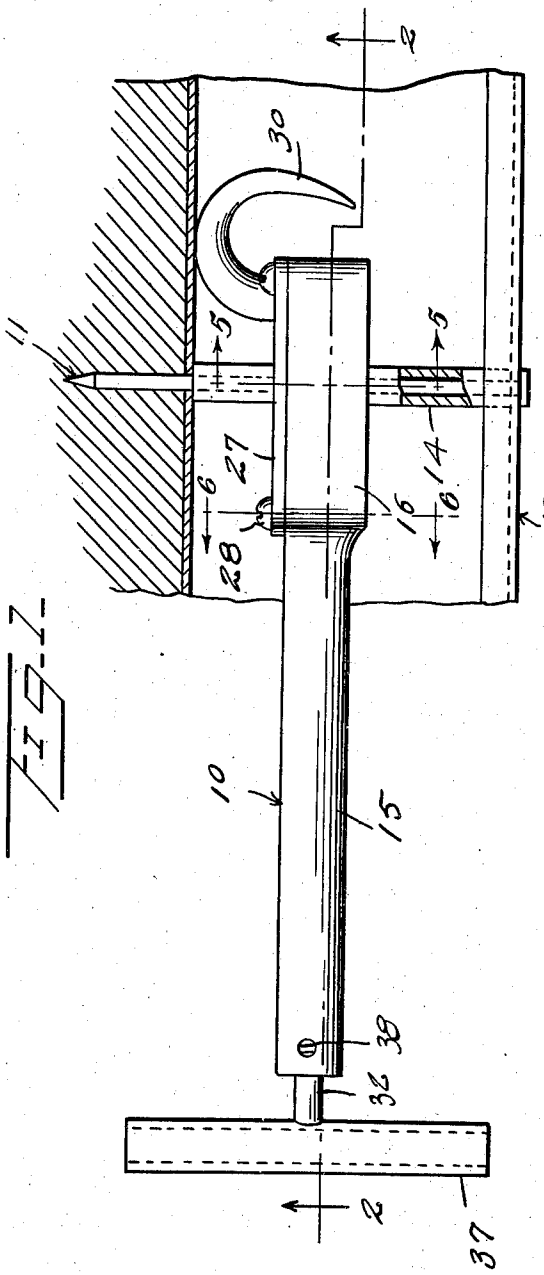


FIG. 1.

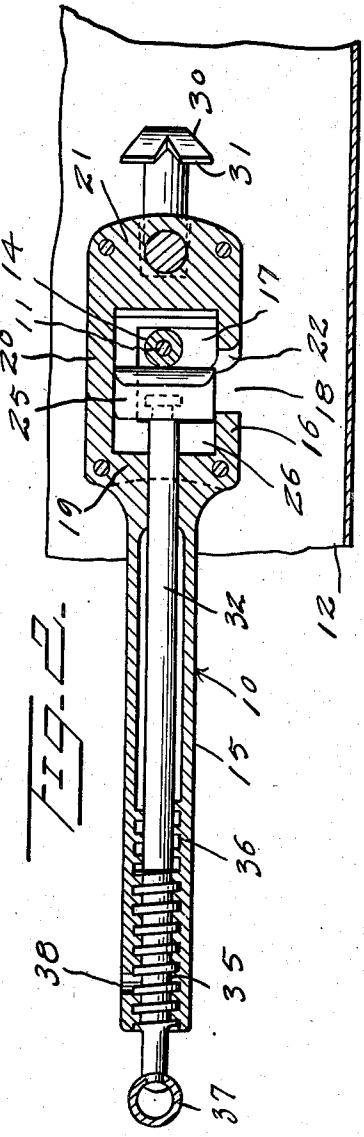


FIG. 2.

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Fig. 3.

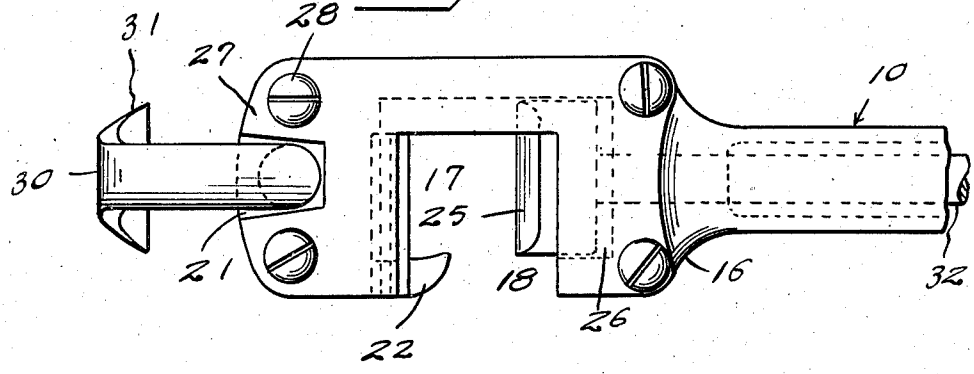


Fig. 4.

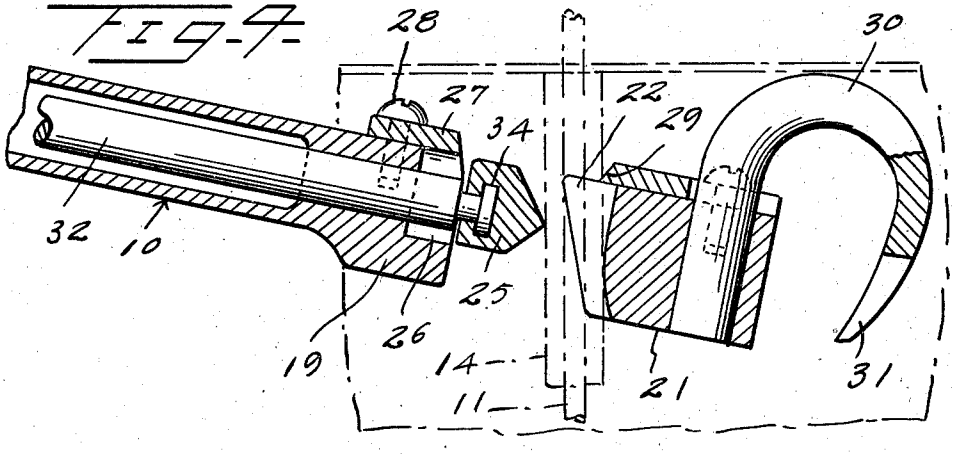


Fig. 5.

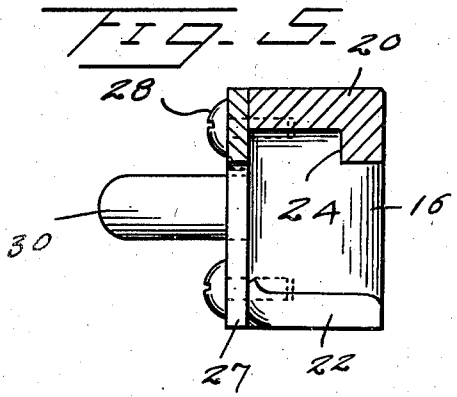
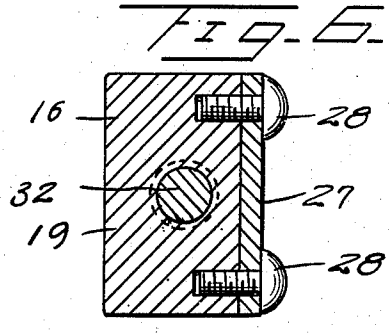


Fig. 6.



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Patented Nov. 2, 1948

2,453,037

UNITED STATES PATENT OFFICE

2,453,037

NAIL PULLER

Carl W. Reynolds, Barboursville, W. Va.

Application April 29, 1946, Serial No. 665,826

3 Claims. (Cl. 254—21)

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This invention relates to nail pullers and more particularly to a tool which is especially adapted for use in pulling nails from gutters.

Heretofore it has been the practice of tinners in extracting nails from gutters to use two hammers, by placing one claw hammer astride the nail and striking the set hammer with a second hammer. This practice has proven to be dangerous to the workman who usually is standing near the top of a ladder and is required to use both hands for the hammer. Also this method very frequently damages the roof. While installing new gutters, due to the limited space the workman has for swinging the hammer, many nails are bent and it is necessary to remove these bent nails. Using the two hammer method, often damage is done to the inner walls of the new gutter.

It is an object of this invention to provide a tool for pulling nails from gutters which may be used by only one hand of the operator thus permitting him to support himself on a ladder with his free hand.

Another object of this invention is to provide a nail pulling tool for removing nails from gutters, which is adapted to grasp the nail or tubing spacer used on gutter nails and is provided with an extension below the nail gripping section to be used as a fulcrum which may bear against a reinforced part of the gutter.

Still another object of this invention is to provide a nail puller especially adapted for pulling nails from a gutter which may readily be used by a tinner and which will not damage the walls of the gutter.

A further object of this invention is to provide a gutter nail puller which is formed with clamping means for grasping the nail and spacer in gutters and a fulcrum extending from the end of the tool, the fulcrum being formed with claws as a standard claw hammer or crowbar, thus providing a tool which may be used for pulling nails in a gutter and also for pulling nails in other places as straps and wire hangers on some types of gutter.

A still further object of this invention is to provide a nail pulling tool of the kind to be described, which is very sturdy and reliable which may be manufactured and sold at an economical price and which is compact to be readily carried by a workman.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings,

Wherein similar reference characters designate similar parts throughout the respective views,

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Figure 1 is a plan view of a nail puller constructed according to an embodiment of my invention,

Figure 2 is a longitudinal section taken on the line 2—2 of Figure 1,

Figure 3 is a left side elevation of the head of the tool,

Figure 4 is a horizontal section of the head and handle connection of the tool,

Figure 5 is a sectional view of the nail puller taken on the line 5—5 of Figure 1,

Figure 6 is a sectional view taken on the line 6—6 of Figure 1.

Referring to the drawings, the numeral 10 designates generally a nail puller tool constructed according to an embodiment of my invention. The tool 10 is so constructed as to be readily adaptable for use in removing nails, as 11, used to support a gutter or trough 12, and particularly for use where a spacer 14 is used about the nail 11 between the walls of the gutter 12.

The tool 10 comprises an elongated tubular handle 15 having an enlarged clamping head 16 formed on or fixed to one end. The head 16 is of a substantially rectangular configuration having an opening 17 through the center thereof and another opening 18 through one side wall communicating with the opening 17, whereby the nail 11 and/or spacer 14 may be inserted into the head 16. By so forming the head 16 there is provided a solid upper end portion 19, a side wall 20, and a bottom jaw member 21. The bottom member 21 forms a fixed jaw and is formed with a slight contour so as to be adaptable for use in several positions. An upwardly extending tapered lug 22 is formed on the jaw 21 in the opening 18 to provide a keeper so the nail 11 or spacer 14 will not slip out of the clamping head 16.

The side wall 20 is formed with a rabbeted guide section 24 to provide a guide for the sliding jaw member 25, and the upper end portion 19 is recessed to permit the member 25 to be moved into the recess 26 when the tool is being inserted on or removed from a nail. A substantially U-shaped cover plate 27 is fastened to the head 16 to cover the recess 26 and to form a retainer for the sliding jaw 25 opposite from the rabbeted section 24. The cover plate 27 is fastened to the head 16 by screws 28 or other suitable fastening devices. The lower arm of the U-shaped cover plate 27 overhangs the edge of the fixed jaw 21 and is beveled to form a knife edge 29 for gripping the nail 11 or spacer 14 when the movable jaw 25 is pressed down.

A U-shaped claw member 30 is fixed to the lower end of the head 16 and extends outwardly and downwardly from the side of the head on which the cover plate 27 is attached to provide a fulcrum for the tool when in use. The free lower

arm of the member **30** is split to form a bifurcated claw **31** as commonly seen on hammers and crowbars.

The sliding jaw **25**, slidable in the head **16** is formed with a V-shaped or chisel end for clamping the nail between the sliding and fixed jaws **25** and **21** respectively. The jaw **25** is carried by the end of a bolt or screw **32** which is rotatably secured to the jaw **25** in any conventional manner as at **34**. The screw **32** is rotatably carried by the tubular handle **15** and the jaw **25** is moved by the engagement of threads **35** on the screw **32** with threads **36** in the handle **15**. A cross piece of jaw operating handle **37** is fixed to the end of the screw **32** extending from the handle **15**. For lubricating the threads **35** and **36** an oil opening **38** is formed in the handle **15**.

In the use and operation of this nail puller **10**, the handle **37** is rotated counter-clockwise to move the sliding jaw **25** to the full open position. The tool is then inserted over a nail **11** which may have a spacer **14** about it for spacing the walls of a gutter **12**. The tool **10** is so positioned that the bight of the claw member **30** may be pressed against a reinforced section of the gutter. The handle **31** is turned counter-clockwise to clamp the nail **11** between the sliding jaw **25**, the fixed jaw **21**, the knife edge **29** and the lug **22**. Then by moving the handle **15** about the member **30** as a fulcrum the nail may readily be removed. For removing nails which are not in such confined spaces, the claws **31** of the member **30** may be used in a conventional manner.

I do not mean to confine myself to the exact details of construction herein disclosed but claim all variations falling within the purview of the appended claims.

What I desire to claim is—

1. A nail puller comprising a tubular handle, an enlarged side opening puller head at one end of said handle, said head formed with a recess opening through the bottom thereof, a side on said head having a rabbeted guide formed thereon, the lower end of said head providing a fixed clamping jaw, an upwardly extending lug on said lower end on the open side thereof, a U-shaped cover plate for said head for covering said recess,

the leg of said cover plate overlapping the lower end of said head being formed with a knife edge, a sliding jaw in said head, slidable between said upper and lower ends and between said rabbeted guide and said cover plate for clamping a nail between said fixed and movable jaws and said knife edge, a screw rotatably secured to said sliding jaw and extending through said handle, cooperating threads on said screw and said handle for moving said screw and said sliding jaw, and a transverse handle fixed to said screw extending from said handle for rotating said screw.

2. A nail puller comprising a tubular handle and a clamping head on one end of said handle, a fixed jaw on said clamping head, a movable jaw slidable in said head, a screw rotatably secured to said movable jaw and extending through said handle, cooperating threads on said screw and in said handle for moving said movable jaw on rotation of said screw, a U-shaped cover plate on said clamping head, one leg of said cover plate overhanging said fixed jaw, and said overhanging portion of said cover plate having a knife edge for gripping a nail between said jaws and said knife edge.

3. A nail puller comprising a tubular handle, an enlarged clamping head on one end of said handle, a fixed jaw on said clamping head, a retaining lug extending from said jaw, a U-shaped cover plate on said head, a knife edge on said cover plate overhanging said jaw, a screw threaded through said handle, a movable jaw on one end of said screw in said clamping head, and a downwardly and outwardly extending claw member extending from said clamping head, the rear side of said member being a fulcrum for said nail puller.

CARL W. REYNOLDS.

REFERENCES CITED

The following references are of record in the file of this patent:

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