March 4, 1924. 1,485,974

A. G. FLORIAN

NAIL PULLER

Filed May 15. 1922

FIG-1

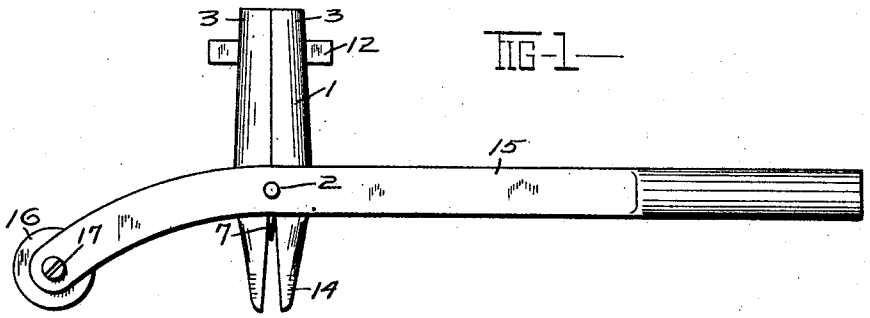


FIG-2

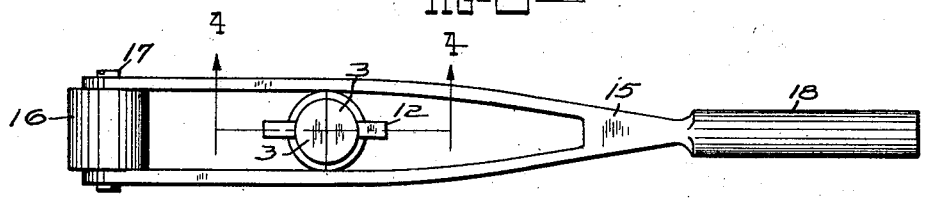


FIG-3

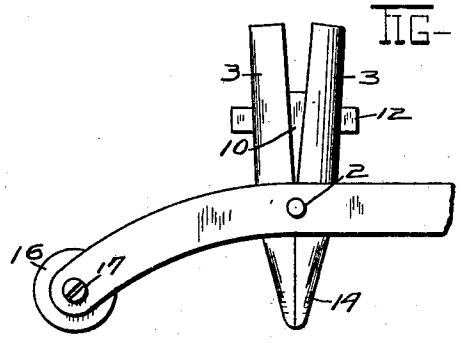
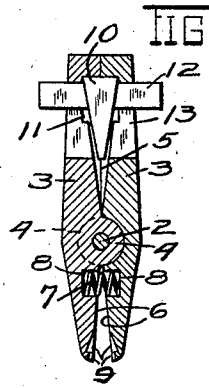


FIG-4



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by

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UNITED STATES PATENT OFFICE.

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NAIL PULLER.

Application filed May 15, 1922. Serial No. 561,049.

To all whom it may concern:

Be it known that I, ALBERT G. FLORIAN, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have made an invention appertaining to Nail Pullers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention has for its object to provide a means whereby a nail or other article of similar nature may be withdrawn from any body, such as wood or similar material, and is particularly applicable where considerable force is required not only to penetrate the body to permit engagement with the nail or similar article, but also wherein it requires considerable force to draw the nail or similar device from the body, and consequently necessitates the tight grip engagement as between the nail or similar holding means and the device embodying my invention.

The invention may be contained in structures of different forms. To illustrate a practical application of the invention I have selected a structure containing the invention, and shall describe it hereinafter. The structure selected is illustrated in the accompanying drawings.

Figure 1 of the drawings is a side view of a structure containing my invention. Fig. 2 is a top view of the structure. Fig. 3 is a view showing the position of the elements when in substantially engaging relation to a nail or similar article. Fig. 4 is a sectional view of the form of the construction containing my device.

1 in the figures is a puncturing and gripping means for engaging the nail that is to be drawn, as from wood. It comprises two substantially semicylindrical parts that are pivotally connected together by means of the pin 2. The parts 3 have dove tailed bosses 4 that interfit, through which the pin 2 extends, and pivotally connects the parts 3 together. The inner surfaces of the parts 3 are in the main planular and have parts thereof located at a slight angle to each other. The inner or opposing surfaces 5 are located at a slight angle to the inner opposing surfaces 6, which enables the parts to be moved through short angular distances relative to each other.

A spring 7 is located below the pivot pin 2 and is secured in sockets 8 formed in each of the parts 3 and operates to keep the portions of the parts 3 below the pin open, that is, separated as far as the angular relation between the surfaces 5 and 6 will permit, unless the lower portions of the parts 3 below the pin 2 are forced towards each other in a direction to cause further compression of the spring 7. The lower ends of the parts 2 are provided with opposed gripping or clamping surfaces or recesses 9 which will clamp the upper end of the nail or similar device, that is, it may clamp the head of the nail or screw or tack, or it may clamp the upper end of the screw or nail if the head should be removed. Thus the device may be used for pulling rods from bodies formed of wood or similar material.

The upper end of the nail engaging device 1 is provided with a wedge 10 that is located in a recess 11. The wedge 10 operates between the upper opposing surfaces 5 of the parts 3 to cause the upper portions of the parts 3 to be separated and thus to cause the lower portions to be brought together with considerable pressure. The wedge 10 is provided with a cross bar or lugs 12 that may be struck with a hammer to work the wedge down between the surfaces 5, and thus to forcibly bring the surfaces 6 of the lower portions of the parts 3 together. The cross bar or lugs 12 are located in slots 13 formed in each of the parts 3, whereby the wedge 10 may be forced down by striking the ends of the cross bar or lugs 12. When, therefore, it is desired to engage a nail, the wedge 10 is raised to substantially the top of the recess 11 and the device 1 is so placed that the jaws formed in the lower ends of the parts 3 will be positioned on opposite sides of the substantially exposed end of the device to be withdrawn from the body or article. By a blow of a hammer on the upper end of the device 1 the jaws will penetrate the wood or other article on opposite sides of the exposed end of the nail and then the jaws may be clamped together by striking or pressing down the cross bar or lugs 12. This will cause the device 1 to grip the nail or similar device and upon drawing the device 1 the nail or other article will be pulled from the

body. The lower end of the device 1 is provided with cross cuts 14 whereby a claw hammer may be used to engage the device 1, as by the claws of the hammer, and thus the device 1 may be raised while it is gripping the nail.

To more conveniently manipulate the device, particularly in raising the device to draw the nail or similar article from a body, the device may be supported in a forked bar 15. The pin 2 may be extended so that it will enter the prongs or legs of the forked bar 15, and thus the parts 3 are not only pivotally supported relative to each other, but also the device 1 will be pivotally supported in the bar 15. The bar 15 is preferably curved downward so as to bring the ends of the forked parts near to a plane passing substantially through the lower end of the device 1 and substantially at right angles to the axis of the device 1. A roller 16 is supported between the ends of the prongs of the forked bar 15 by the pin 17 and so as to permit rotative movements of the roller. The bar 15 may also be provided with a handle 18 for ease of manipulation of the bar 15.

The device 1, when it has been forced into gripping relation with the article to be drawn from the body, may be raised by simply raising the handle 18 of the bar 15, while the roller 16 will move over the surface of the body and towards the nail or other article that is being withdrawn by the device.

By my invention I have therefore provided a means whereby the end of a nail or similar article may be gripped without materially destroying or injuring the surface of the body into which the article has been driven or forced or is held, and also provides an efficient means for withdrawing the nail or other article.

I claim:

1. In a nail puller, a substantially cylindrical device formed of two semi-cylindrical slotted parts pivotally connected together near the center of the said parts, a wedge located between the upper ends of the said parts and having arms located in the said slots of the said parts for forcing the lower ends of the parts towards each other, substantially pointed clamping jaws located in the lower ends of the said parts whereby the said jaws may be driven into the material in which the nail is located and means for moving the cylindrical device to draw the nail.

2. In a nail puller, a device formed of two parts pivotally connected together, a wedge for forcing ends of the parts towards each other, clamping jaws located in the said ends, a forked bar for pivotally supporting the device, a roller located in one end of the forked bar for permitting the end of the bar to freely move towards the article being withdrawn by the device while the device is being raised.

In testimony whereof, I have hereunto signed my name to this specification.

ALBERT G. FLORIAN.