

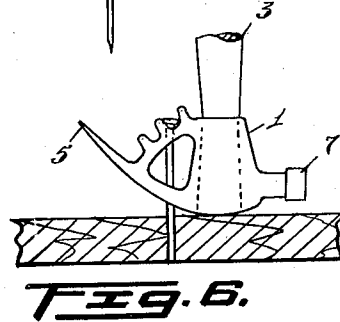
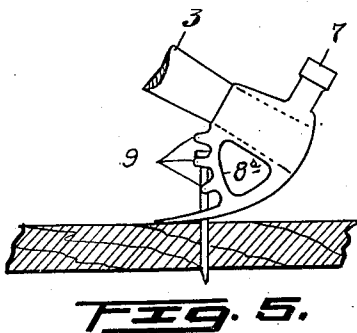
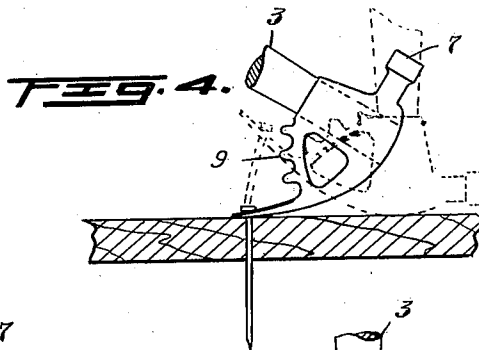
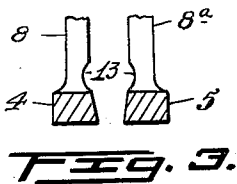
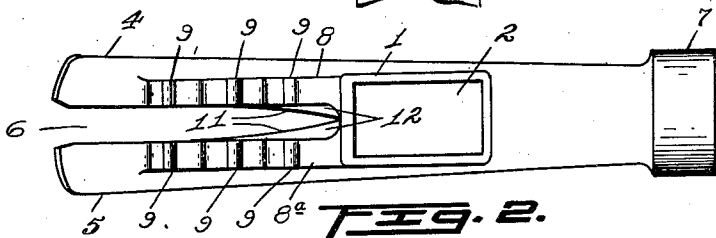
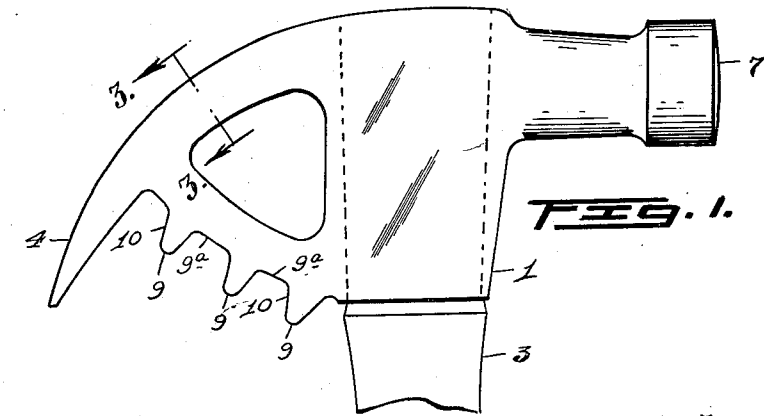
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J. N. JARRETT

2,239,719

HAMMER

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UNITED STATES PATENT OFFICE

2,239,719

HAMMER

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4 Claims. (Cl. 254-26)

The invention relates to improvements in hammers as described in the present specification and shown in the accompanying drawing that forms a part of the same.

The invention consists in the novel features of construction and arrangement of parts whereby during the progress of withdrawal operative contact with the nail is successively effected at different parts along the hammer, each point in turn further removed from the main claws, to compensate for the rotation of the hammer head on its fulcrum and thereby maintain the maximum leverage throughout the entire operation.

The main objects of the invention are to provide a hammer by means of which a nail may be wholly withdrawn from the object in which it is embedded without the necessity of using a block, wedge, or other auxiliary fulcrum; to provide a hammer which can be used with equal facility in the drawing of long or short nails; to provide means whereby the pull on the nail will always be at substantially right angles to the surface in which the nail is embedded so that said nail will not become bent while it is being pulled; to provide efficient nail pulling means which will not add materially to the weight of the hammer nor interfere with the balance of the hammer, and generally to provide a sturdy and efficient hammer which may be produced at small cost.

In describing the invention reference will be made to the accompanying drawing, in which—

Figure 1 is a side elevation of a hammer embodying my invention.

Figure 2 is a plan view of the inner face of the hammer head.

Figure 3 is a cross sectional view taken on the line 3-3 of Figure 1.

Figure 4 is side elevation showing the hammer in position preparatory to making the initial pull on the nail, the position at the end of the pull being shown in dotted lines.

Figure 5 is a side elevation showing the hammer in position preparatory to a further pull on the nail.

Figure 6 is a side elevation showing the relative positions of the nail and the hammer at the end of the pull from the starting position shown in Figure 5.

Like numerals of reference indicate corresponding parts in the various figures.

Referring to the drawing, the hammer head comprises a central portion 1 provided with the usual eye 2 for the reception of a handle 3, curved claws 4 and 5 extending from one side of said central portion 1 and spaced apart as at 6 to

receive the body of a nail, screw or other object to be pulled, and a striking head 7 opposed to the claws 4 and 5.

Arms 8 and 8a, preferably constituting an integral part of the head, connect the respective claws 4 and 5 with the portion 1 of the head at points substantially equi-distant from the junction of said claws with the head, the said arms preferably extending at an angle of substantially 45 degrees in relation to the longitudinal axis of the portion 1 of said head and joining with the claws at a considerable distance from the ends of said claws whereby to leave the said ends free for use in pulling short nails, prying up the end of a board, or for any of the various other purposes to which they may be put.

Each of the arms 8 and 8a is provided at intervals throughout its length with a like number of lateral fingers, or ledges, 9 extending outwardly in relation to the hammer head at substantially right angles to the arms and substantially parallel with the portions of the claws 4 and 5 therebelow, the fingers from the opposing arms being arranged in aligned pairs spaced longitudinally of the arms and the fingers of each pair spaced apart a sufficient distance to permit of the passage of the body, but not of the head, of the nail therebetween, so that when the hammer is positioned with one pair of horizontally aligned fingers beneath the head of a partially drawn nail and leverage is applied to the handle the hammer will be rotated, with the object in which the nail is embedded serving as a fulcrum, and said fingers will resist the passage of the head of the nail therebetween and thus cause further, or complete, withdrawal of the nail, according to the length of the latter.

The top faces (those farthest removed from the claws 4 and 5) of each aligned pair of fingers 9 may extend outwardly at right angles to the faces of the arms from which they extend, or they may be slightly concaved if desired. It is preferable, however, that the under surfaces of said fingers be tapered upwardly, to their outer ends, as shown at 10, whereby to deflect the head of the nail, or other device, upwardly and thus facilitate the manipulation of the hammer. It is important that the fingers 9 be spaced sufficiently from one another that in the swinging movement of the hammer head, during which the angle of relationship between the nail head and the top faces of the fingers varies, the said nail head will not become wedged between the adjacent sets of fingers. This spacing is indicated at 9a.

The opening 6 between the claws 4 and 5 is of even width from the outer ends of the claws to a point sufficiently far behind the arms 8 and 8a to freely accommodate the body of the nail, as the claws swing upwardly when the head is rotated on its fulcrum in the pulling operations when the nail head is engaged by one or other set of fingers, or auxiliary claws, and from this point rearwardly the walls of said opening converge as shown at 11, to the end of the opening and are bevelled, as shown at 12, to provide means for pulling small nails, or other like objects.

The inner faces of the arms 8 and 8a are slotted in opposition to each other near the claws 4 and 5, as shown at 13, to permit of the passage of the heads of the nails, or other objects which are to be extracted by the converging walls of the claws.

In employing my improved hammer to pull a deeply embedded nail, the head of which is close to the surface in which the body is embedded, the claws 4 and 5 are placed beneath the nail head in the manner of using the conventional type of claw hammer and by exerting a pull on the handle in a direction towards the striking head the hammer head is rotated on its fulcrum causing a pull on the nail.

When the hammer head has been rotated sufficiently far that the striking head has, or is about to, come into engagement with the object against which the hammer is resting, making further leverage impossible, and the nail has not been completely withdrawn, it is simply necessary to return the hammer to its original starting position with the claws spanning the body of the nail just above the surface in which the nail is embedded, upon which it will be found that the head of the nail is now positioned part way up the rack formed by the arms 8 and 8a and over one or other of the aligned pairs of fingers, according to the extent that the nail has been withdrawn on the previous operation. Further withdrawal of the nail is quickly effected by a pull on the handle as before. These cycles of operations can be continued in the case of a deeply embedded nail until the nail has been completely drawn, the nail head on each occasion being supported at a successively higher point on the rack whereby to permit of the maximum leverage being obtained on each operation.

In the extraction of a short nail the head is raised by one of the claw members sufficiently far to permit of the passage thereof through the recesses 13 in the arms to the reduced inner end of the opening for extraction by the converging walls of the claws.

It is preferable that the longitudinal spacing of each adjacent pair of fingers, or auxiliary claws, be proportionate to the distance of rotation of the hammer head in one operation so that upon each movement of the hammer head to its original position in the pulling of a nail the nail head will be in position above the next higher pair of fingers to provide a new grip.

While the invention has been shown and described herein as applied to a hammer it is of course to be understood that it may be applied to any form of tool or, it may comprise an independent tool to be used solely for the purpose of drawing nails, or other similar articles, in which case various modifications in construction and arrangements of parts may be made as come within the scope of the appended claims.

What I claim is:

1. A hammer comprising a head having a lateral inwardly curved bifurcate extension constituting nail drawing claws, a handle extending from said head for pivoting said head on its fulcrum to raise said claws, arms connecting said claws with said head at points substantially equidistant from the junction of said claws with said head, and spaced nail head supports carried by said arms adapted to be brought into position successively beneath the head of a nail which has been partially withdrawn by said claws on a previous movement of said handle.
2. A hammer as set forth in claim 1 in which the connection between the arms and the claws is at a point intermediate the length of the equidistantly-spaced portions of said claws.
3. A hammer as set forth in claim 1 in which said arms are provided with opposed transverse slots to permit of the passage of a nail to the rear of said arms.
4. A hammer comprising a leverage member having nail drawing claws extending laterally therefrom at one end, spaced parallel arms connecting the claw elements with said leverage member at points substantially equidistant from the junction of said claws with said leverage member, and nail head supports carried by said arms adapted to be brought into position successively beneath the head of a nail in the extraction of the latter, the nail head supports carried by each arm being spaced from one another a sufficient distance to permit of free movement of the nail head during the pivotal movement of the hammer.

JOHN N. JARRETT.