Feb. 11, 1941. G. N. ANDERSON 2,231,206

HAMMER HEAD CONSTRUCTION

Original Filed Feb. 17, 1939

Fig. 1.

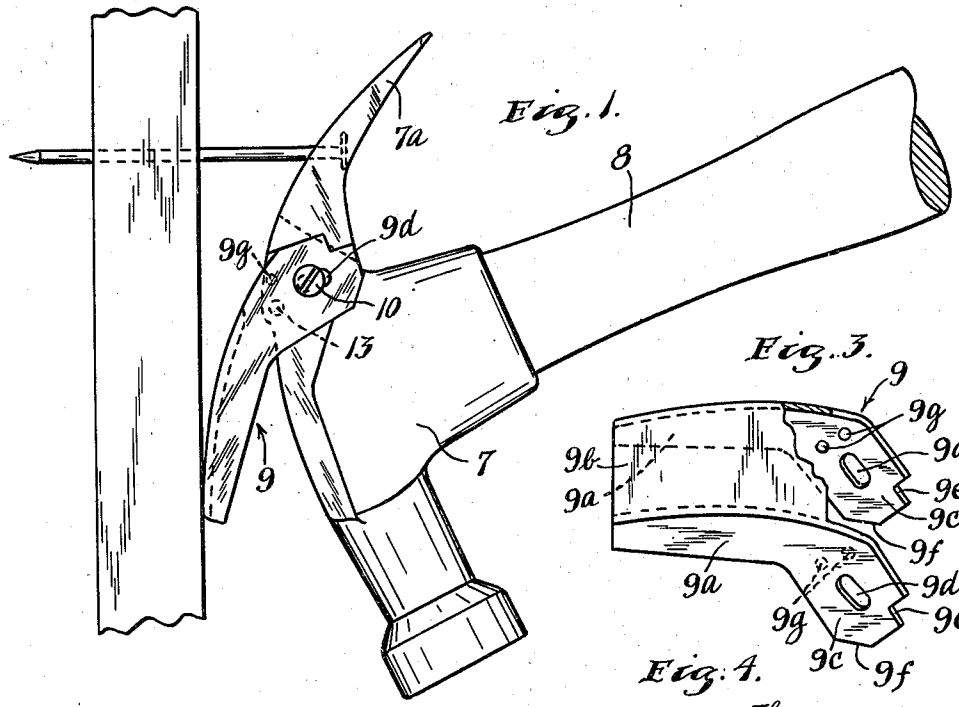


Fig. 3.

Fig. 4.

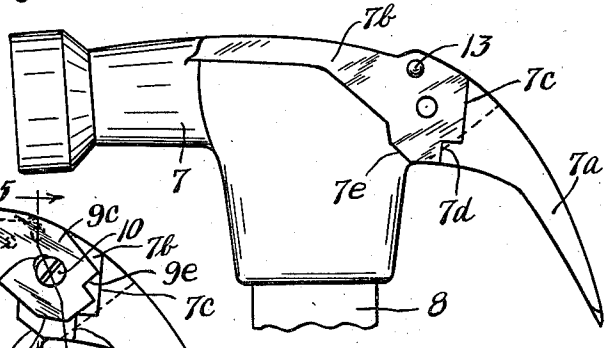


Fig. 2.

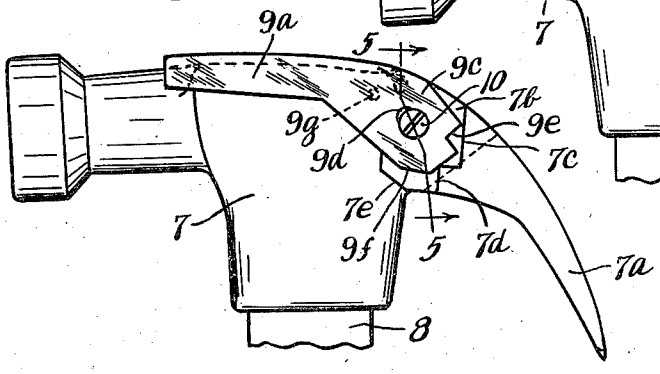
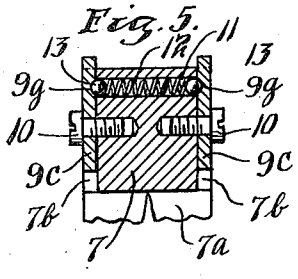


Fig. 5.



INVENTOR.
GEORGE N. ANDERSON.
BY HIS ATTORNEYS.
Williamson & Williamson

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HAMMER HEAD CONSTRUCTION

George N. Anderson, Crookston, Minn., assignor of one-half to Wm. M. Pease and J. D. Boileau, both of Crookston, Minn.

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7 Claims. (Cl. 254—26)

My invention relates to carpenters' tools and particularly to hammer head construction in claw hammers.

The usual type of claw hammers may be quite conveniently used in pulling nails in cases where the nails to be pulled are not particularly long. However, the distance between the crotch of the claws of the ordinary claw hammer and the portion of the hammer head which functions as a fulcrum during a nail-pulling operation is not sufficient to enable pulling of a particularly long nail in one movement of the hammer handle. It is usually necessary in such cases to pull a long nail out to a part of its length, detach the hammer claws from the nail, re-engage the hammer claws with a portion of the nail some distance below the nail head, and then pull the nail out to a further distance. Often, in such a nail-pulling operation, it is necessary to re-engage the hammer claws with the nail more than once and, in many instances, the claws of the hammer will slip on a part of the nail spaced from the nail head.

An object of my invention is to provide a claw hammer having a fulcrum element projecting from the head thereof to a point at a relatively great distance from the crotch of the hammer claws so as to enable pulling of a relatively long nail with one movement of the handle of the hammer.

Another object is to provide such a hammer wherein the fulcrum element may be shifted from its operative position relative to the hammer head to a position thereof compactly resting against the hammer head.

Still another object is to provide such a claw hammer with a shiftable fulcrum element and means for releasably securing the fulcrum element in its operative position.

Yet another object is to provide such a hammer having means for yieldingly holding the shiftable fulcrum element in its inoperative position.

A further object is to provide such a hammer of simple, compact, rugged and inexpensive construction.

These and other objects and advantages will be more apparent from the following description made in connection with the accompanying drawing, wherein like reference characters refer to similar parts throughout the several views, and in which:

Fig. 1 is a side view of a claw hammer having an embodiment of my invention incorporated therein shown in operative relation with a nail and an object from which the nail is being drawn;

Fig. 2 is a side view of the head of the hammer of Fig. 1 with the shiftable fulcrum element thereof in its inoperative position;

Fig. 3 is a perspective view of the fulcrum element;

Fig. 4 is a side view of the head of the hammer with the fulcrum element removed therefrom, and

Fig. 5 is a detail section view taken on the line 5—5 of Fig. 2, as indicated by the arrows.

Referring to the drawing, an embodiment of my invention is shown incorporated in a claw hammer having a head 7, a handle 8 and a curved pair of nail-pulling claws 7a integrally carried by the hammer head 7 in the usual manner.

In connection with a hammer head such as the head 7, I provide a fulcrum element carried by the head 7 and projecting from the portion of the head 7 from which the claws 7a project in a direction generally opposite to the direction in which the claws 7a project. Preferably I connect the fulcrum element to the head 7 in such a manner that the fulcrum element is swingable between the operative position thereof relative to the head 7 described above to an inoperative position wherein the fulcrum element is in compactly associated relation with the head 7.

As best seen in Fig. 3, I provide a fulcrum element 9 of channel shaped cross-section so as to have flanges 9a. The web portion 9b of the fulcrum element 9 is curved from one end to the other as shown to approximately the same degree of curvature as the side or face of the hammer head 7 opposite the handle 8. As viewed in Fig. 3 the flanges 9a of the fulcrum element 9 are extended downwardly and to the right at an oblique angle to form a pair of parallel ears 9c. Slots 9d are formed in the respective ears 9c extending at substantially the same angle as the ears 9c. The upper free end corner of each of the ears 9c is cut away to form a right angled notch 9e and the lower free end corner is cut away to form an edge 9f extending substantially horizontally as viewed in Fig. 3.

As shown in Fig. 4 the hammer head 7 is decreased in thickness in portions thereof adjoining the claws 7a so as to form recesses 7b in opposite sides thereof to receive the respective ears 9c and the flanges 9a of the fulcrum element 9. The fulcrum element 9 is made with the flanges 9a and ears 9c spaced apart by such a distance that the fulcrum element 9 may be placed, as shown in Fig. 2, in straddling relation with the reduced thickness portion of the head 7 so that the flanges 9a and the ears 9c are closely adjacent said head portion and the outer sides of the flanges 9a and

ears 9c are substantially flush with the portions of the head 7 which have not been reduced in thickness.

The shapes of the flange and ear receiving recesses 7b formed by reducing the thickness of portions of the head 7 are such as to follow the shape of the edges of the flanges 9a and ears 9c in all but certain parts thereof adjoining the ears 9c and which will be described. As shown in Fig. 2 the parts 7c of the head 7 defining the right-hand boundaries of the recesses 7b adjoining the corners adjacent the notches 9e of the ears 9c are vertically disposed and in their lower portions are formed into shoulders of dimensions approximately equal to the dimensions of the notches 9e of the ears 9c. To the left of the shoulders 7d the bottoms of the recesses 7b are open for a distance approximately equal to the distances between the mutually nearest portions of the notches 9e and the edges 9f of the ears 9c. To the left of the open bottoms of the recesses are recess-defining portions 7e of the head 7 which are inclined obliquely upwardly and to the left and are of lengths approximately equal to the lengths of the edge portions 9f of the ears 9c.

By means of the slots 9d therein the ears are pivotally connected to the hammer head 7. Pivot screws 10 extending through the respective slots 9d are screw-threadedly mounted in internally screw-threaded, apertured portions of the head 7 so situated that the screws 10 will be situated in the lowermost ends of the respective slots 9d when the fulcrum element 9 is positioned in its inoperative position relative to the head 7 as shown in Fig. 2.

To place the fulcrum element 9 in its operative position relative to the head 7 as shown in Fig. 1, the fulcrum element 9 is swung upwardly and to the right as viewed in Fig. 2 until the slots 9d are vertically disposed and the ears 9c have engaged the recess-defining portions 7c of the head 7. The fulcrum element 9 is then moved rectilinearly parallel to and toward the handle 8 into the position shown in Fig. 1. In this position it is to be noted that the portions of the ears 9c lying between the notches 9e and the edges 9f constitute retaining fingers received between adjoining recess-defining portions of the head 7 and that portions of the ears 9c bear against certain of said recess-defining portions to prevent displacement of the fulcrum element 9 from its operative position responsive to forces applied thereto when the hammer is used in the manner indicated in Fig. 1 for pulling nails.

Means is provided for yieldingly holding the fulcrum element 9 in the inoperative position thereof shown in Fig. 2 and in the operative position thereof shown in Fig. 1 relative to the head 7. As shown in Fig. 5 outwardly spring-pressed elements are provided in portions of the head 7 which are covered by the respective ears 9c in all positions of the fulcrum element 9 relative to the head 7. For this purpose an aperture 11 is provided containing a helical compression spring 12 in its medial portion pressing outwardly on balls 13 disposed in the open ends of the aperture 11. The inner sides of the ears 9c, against which the balls 13 are pressed, are each provided with respective shallow depressions 9g proportioned and situated for partially receiving the corresponding ball 13 when the fulcrum element 9 is in the respective positions thereof shown in Figs. 1 and 2. In cooperation with the depressions 9g the ball 13 will tend to hold the fulcrum element 9 in either one of the above mentioned positions, but will be forced out of the depressions by application of a moderate amount of force on the fulcrum element 9.

Obviously, when the fulcrum element 9 is in the inoperative position thereof shown in Fig. 2, the hammer may be used in the manner of an ordinary hammer wherein my improvement has not been incorporated. Also the hammer is relatively compact for purposes of transporting or packaging the same.

It is apparent that I have invented a novel, effective and inexpensive form of auxiliary fulcrum-equipped claw hammer capable of improved results in the use of the claws thereof for pulling long nails.

It will, of course, be understood that various changes may be made in the form, details, proportions and arrangement of parts without departing from the scope of my invention.

What is claimed is:

1. In a claw hammer having a head equipped with the usual handle and pair of curved claws, a fulcrum member formed at its inner end into a pair of ears spaced apart less than the thickness of the portion of said head from which said claws project, said head portion being reduced in thickness to form oppositely facing recesses wherein said ears are respectively received with remaining portions of said fulcrum member disposed outwardly of the face of said head opposite said handle, said ears having slots therein, pivot elements carried by opposite sides of the reduced thickness portion of said head and projecting through said slots whereby said fulcrum member is swingable relative to said head between an inoperative position compactly associated with said head and an operative position wherein said member projects from the claw-carrying portion of said head in a direction generally opposite said claws, said slots extending parallel to said handle when said member is in said operative position for movement of said member inwardly and outwardly of said head in a direction parallel to said handle, the free ends of said ears being formed into tongues and said head having portions formed to receive said tongues as said member is moved inwardly while in said operative position to restrain said member from swinging movement away from said operative position.

2. The combination defined in claim 1 and yieldable means for holding said tongues in the received positions thereof.

3. The combination defined in claim 1 and an outwardly spring-pressed element carried in a suitable recess in a portion of the reduced thickness part of said head covered by one of said ears, the inner side of said ear having a depression therein for partially receiving said spring-pressed element when said tongues are in received position.

4. The combination defined in claim 1 and an outwardly spring-pressed element carried in a suitable recess in a portion of the reduced thickness part of said head covered by one of said ears, the inner side of said ear having depressions therein for partially receiving said spring-pressed element when said member is respectively in said operative and inoperative positions thereof.

5. In a claw hammer having a head equipped with the usual handle and pair of curved claws, a fulcrum element of channel-shaped cross-section carried by said head at the side thereof opposite said handle with the flanges of said element toward said head, said element being con-

nected to said head for movement relative thereto between an inoperative position wherein said member is compactly associated with said head in straddling relation therewith and an operative position wherein said element extends from a point substantially at the base of said claws outwardly in a direction generally opposite the direction in which said claws extend, and releasable means for holding said fulcrum element in said operative position thereof.

6. In a claw hammer having a head equipped with the usual handle and pair of curved claws, a fulcrum element of channel-shaped cross-section carried by said head at the side thereof opposite said handle with the flanges of said element toward said head, said element being connected to said head for movement relative thereto between an inoperative position wherein said member is compactly associated with said head in straddling relation therewith and an operative position wherein said element extends from a point substantially at the base of said claws outwardly in a direction generally opposite the direction in which said claws extend, and releasable means for holding said fulcrum element in said inoperative position thereof.

7. In a claw hammer having a head equipped with the usual handle and pair of curved claws, a fulcrum member formed at the inner end thereof into parallel apertured ears disposed at opposite sides of and pivotally connected to the portion of said head from which said claws project whereby said fulcrum member may be swung between an inoperative position thereof compactly associated with the side of said head opposite said handle and an operative position thereof wherein said fulcrum member extends outwardly from said head portion in a direction generally opposite the direction in which said claws project, and releasable means incorporated in said fulcrum member and said head for locking said fulcrum member in said operative position thereof.

GEORGE N. ANDERSON.