Mar. 27, 1923. 1,449,677.

H. B. JONES.

WIRE HANDLED HAMMER.

FILED MAY 2, 1921.

Fig. 1.

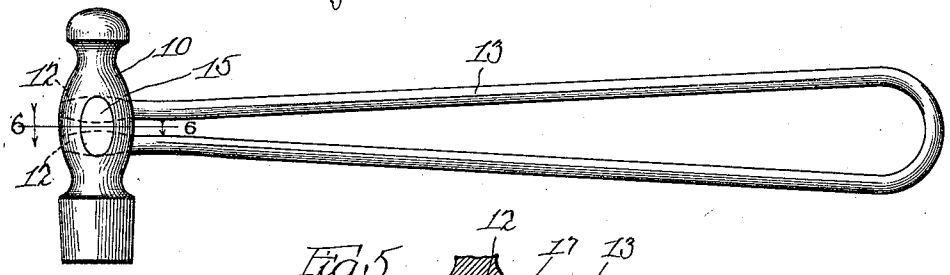


Fig. 5.

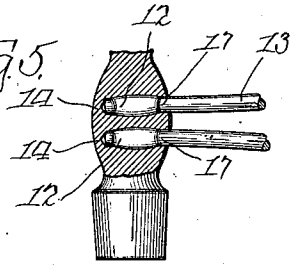
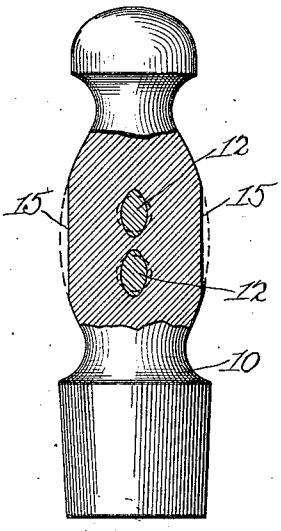


Fig. 4.



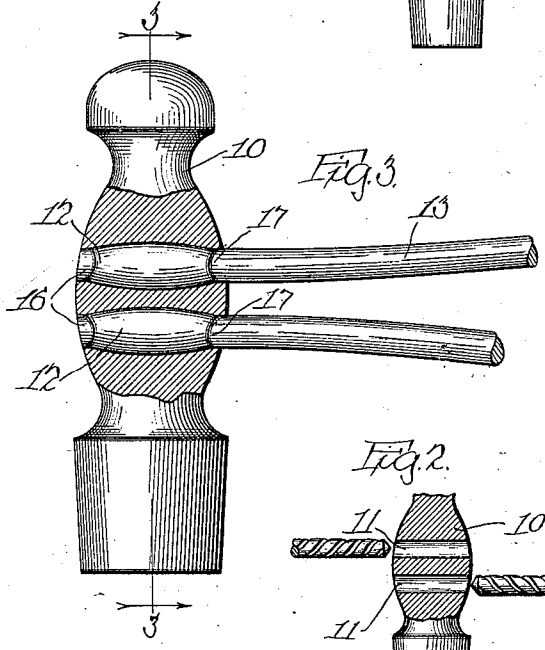


Fig. 3.

Fig. 2.

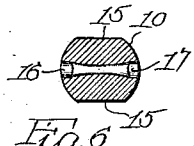


Fig. 6.

Witness:

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UNITED STATES PATENT OFFICE.

HOWARD B. JONES, OF CHICAGO, ILLINOIS.

WIRE-HANDLED HAMMER.

Application filed May 2, 1921. Serial No. 466,329.

To all whom it may concern:

Be it known that I, HOWARD B. JONES, a citizen of the United States, and a resident of Chicago, Cook County, Illinois, have invented certain new and useful Improvements in Wire-Handled Hammers, of which the following is a specification.

My invention relates to wire-handled hammers. Its principal object is to provide such a hammer having the handle and head thereof secured together in a rigid, neat, strong and durable union and to provide such a union in a simple, cheap and expeditious way.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side view of my improved hammer complete; Fig. 2 is a side view of the head showing the middle portion thereof in medial vertical section; Fig. 3 is a similar view enlarged showing the handle ends widened within the body of the head; Fig. 4 shows the head of Fig. 3 with the middle portion in medial vertical section in a plane at right angles to the section of Fig. 3; Fig. 5 is a fragmentary section, on the scale of Figs. 1 and 2, corresponding to Fig. 3, but showing a slightly modified construction; and Fig. 6 is a horizontal sectional view showing one of the wire ends longitudinally.

It is not new to provide a hammer having a wire handle held in transverse holes through the head. The chief objection to the use of wire for hammer handles has been the difficulty in securing the handle and head together with a rigid strong and durable joint—one which would not work loose—and the difficulty of tightening the joint when it became loose.

The head 10 is in the usual ball-peen hammer form, but the invention contemplates the use of any desirable shape of head.

The middle portion of the head 10 is bored transversely with two holes 11, which may well be parallel to each other, as shown, and which, from the manufacturing standpoint are preferably bored through the head, as shown in Fig. 3. It is pointed out that in order expeditiously to manufacture such tools the boring of the two holes should be done simultaneously; and since these holes are fairly close together they cannot be bored simultaneously in the same direction, but can be so bored in opposite directions, as indicated in Fig. 2, having consideration of the room necessary for the chucks holding the bits. Where the two holes are bored independently the preferred construction would be that of Fig. 5 in which the holes for the handle ends do not pass entirely through the head.

The head 10 is first turned in a lathe or screw machine, or it may be forged, and the central body part is circular in cross section at all points according to my preferred construction, and as illustrated herein.

After the holes 11 are bored the ends 12 of the loop-shaped handle 13 are inserted in these holes. In the preferred construction of Figs. 1, 2, 3 and 4 the ends of the wire extend through to the opposite surface of the head, while in the device of Fig. 5 they extend to the walls 14 at the ends of the holes.

The parts being thus assembled the head is placed between the hammer and anvil of a punch press, or it may otherwise be subjected to a hammer blow, the head being positioned so that the hammer blow will be directed from a side of the hammer head, as 10, at right angles to the direction of the end portions 12 of the handle. The force of the hammer blow is such as to smash in the opposite sides of the head and produce a flat surface, as 15, at each side, and also to smash somewhat the ends 12 of the handle giving them a substantially elliptical shape in cross section, as shown in Fig. 4, the greatest distortion being directly between the hammer and anvil of the punch press, the distortion of the wire becoming less along their length towards the outer surfaces of the head.

The wire ends 12 are thus enlarged in the longitudinal directions of the head in the middle portion thereof, and are correspondingly reduced there transversely of the head. The circular shape of the wire is, however, preserved at the extreme end 16 of the wire and also at 17, or, in other words the original shape of the wire is preserved at and about the outer surfaces of the head adjacent to the wire. The holes 11 similarly change their shape in the middle portion of the head, while retaining their original shape at the ends.

The result of this method of operation is that the ends 12 of the handle are now thoroughly locked in the hammer head by oppositely extending medial enlargements in the longitudinal directions of the head and by oppositely disposed depressions in the cross or lateral directions, the latter

giving the effect of enlargements in the wires at 16 and 17. The metal of the head is thus forced into exceedingly tight and rigid contact with that of the handle ends and the parts are so locked together as to be substantially integral in effect. The enlargement of the wire in the vertical directions is further important in that it prevents the possibility of any twisting of the wire which would have a tendency to loosen same in the head.

In the construction of Fig. 5 the end walls 14 provide a firm lock or stop against movement of the handle in one direction, although when the handle ends extend almost through the head, as illustrated, the parts are locked firmly together in the manner already described. The construction of Fig. 5 would be preferred, except for expeditious manufacturing reasons, inasmuch as the outer surface of the head at 14 is finished and smooth and without any appearance of the ends of the wire there.

I claim:

A hammer comprising a head provided with two substantially parallel transverse cylindrical holes therein, and a handle having two wire ends projecting into said holes respectively, portions of each of said wire ends within the body of the head being of a different cross-section from the handle portions which respectively emerge from the head and from the handle portions at the extreme ends respectively of the said wire ends, the metal of the head being in tight contact with and conforming to the wire where the same so differs in cross-section, and this variation in cross-section and conformation comprising such as is producible by a forcible compression of parts of the head upon the wires.

HOWARD B. JONES.