Oct. 8, 1957 R. W. HUGHES 2,808,861

HAMMER WITH DETACHABLE STRIKING TIPS

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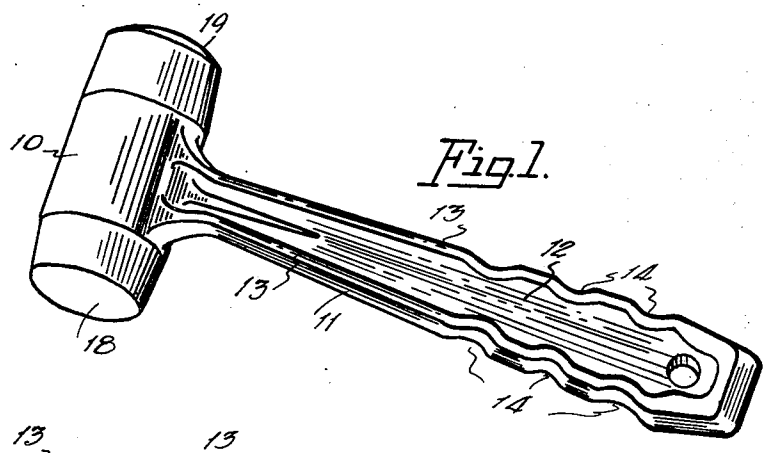


Fig. 1.

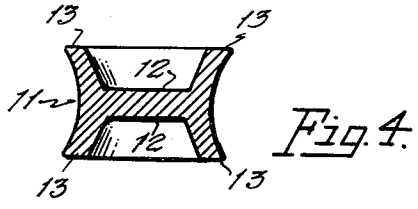


Fig. 4.

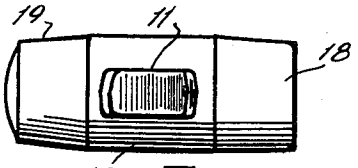


Fig. 3.

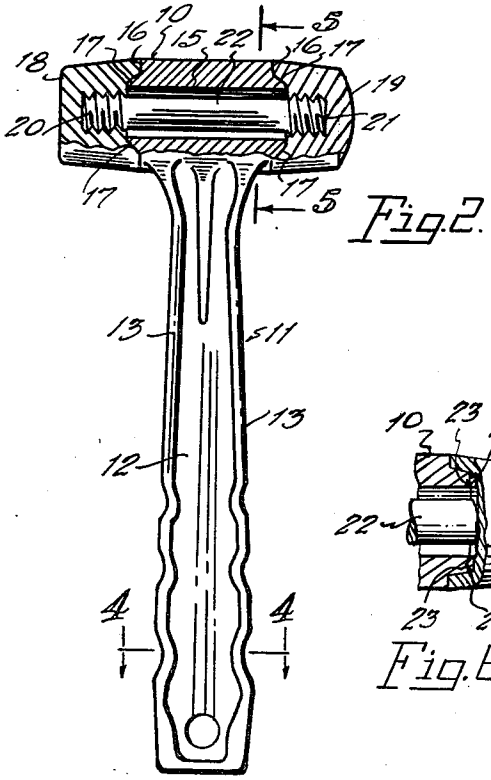


Fig. 2.

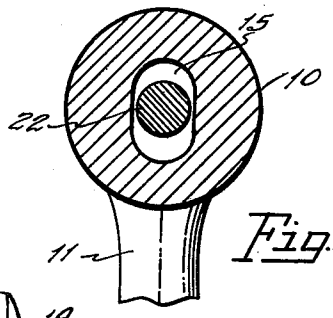


Fig. 5.

Fig. 6.

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HAMMER WITH DETACHABLE STRIKING TIPS

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1 Claim. (Cl. 145—36)

This invention relates to hand tools for craftsmen, and it has particular reference to a hammer of special design having detachable and renewable striking tips or faces which are composed of relatively soft metals, or other suitable materials, whereby operations can be performed on articles or parts of machinery without marring or damaging the same, such as in sheet metal work, automobile body and fender work, or in driving studs, bolts or shafts which have threaded portions thereon capable of being damaged by heavy blows of metal hammers having a hardness similar to that of the metal of which the work is composed.

The principal object of the invention resides in the provision of a tool of the character described which is designed to afford greater versatility than conventional tools for like purpose, by embodying therein a novel means for attaching the striking tips, and seating the same on the head, and by which the striking faces can be readily replaced, as required, or adjusted so as to present to the work unmarred or undistorted surfaces to the work, as by rotating the striking members to different radial positions with respect to the head.

Another object of the invention is that of providing a hammer of the type referred to in which the striking tips are connected through the head, and thus made rigid therewith, but without attaching these members directly to the head itself, whereby a certain yieldability is afforded to minimize the shock of the impact of the striking tips against the work.

Broadly, the invention contemplates the provision of a hammer in which the striking members have no connection with the head directly, except for being seated thereon, but are connected together through the head and are thus capable of being adjusted with respect to each other and the head, and each of the striking tips is cushioned against a special seat by which these members are self-centered.

While the foregoing objects are paramount, other and lesser objects will become manifest as the description proceeds, taken in connection with the appended drawings wherein:

Figure 1 is a perspective illustration of a hammer embodying the detachable striking tips, and showing the preferred form of handle structure.

Figure 2 is an elevational view of the invention, the head being shown in longitudinal section to illustrate the securing device for the striking tips.

Figure 3 is an illustration of the invention as viewed from the end of the handle.

Figure 4 is a transverse sectional view, on lines 4—4, through the handle.

Figure 5 is a transverse sectional view, on lines 5—5, through the head showing the shape of the bore or passage therethrough and the relationship of the stud concentrically of the bore, and

Figure 6 is a fragmentary illustration of the head, shown in section, wherein star washers are employed to insure rigid seating of the striking tips.

It is contemplated that the invention herein described be embodied, if desired, in any tool having one or two operating surfaces in opposing arrangement, such as in the construction of a slag hammer for welders, and other similar tools, wherein it is necessary or desirable to provide renewable or adjustable tips or work surfaces, and insure a tight, rigid structure even though it is found desirable to rotate the tip to present a different portion of the striking surface to the work.

Accordingly, the invention comprises a head **10** which is attached to a handle **11** by any suitable means. It is desirable that the head **10** and handle **11** be formed together, and such structure may result from a casting from any suitable metal or plastic, depending upon the purposes of the tool. The handle **11** can be formed with recessed faces **12** defined by a continuous boss **13** about its perimeter so that the handle **11** is H-shaped in transverse section, as illustrated in Figure 4. A plurality of spaced recessions **14** are formed along each side of a portion of the handle **11** to provide convenient hand grips.

The head **10** has a bore **15** formed longitudinally thereof, as shown in Figures 2 and 5, which is substantially oval or oblong in transverse section, as apparent in Figure 5, the longitudinal axis of the bore **15** being in the longitudinal plane of the handle **11**. On each end of the head **10** is formed an annular seat **16** which has an external bevelled surface **17** against which are seated striking tips **18** and **19** of metal, plastic or rubber, of various degrees of hardness.

The striking tips **18** and **19** have their inner surfaces conformable to the seats **16**, as shown in Figure 2, and are threaded upon the ends **20** and **21** of a stud **22** arranged concentrically of the bore **15**, as indicated in Figure 5, so that the elements **18** and **19** can be tightly secured against their respective seats at all times. This arrangement has many advantages over the conventional method of providing fixed or stationary studs or dowels to which the striking tips are attached by threading or other means, since the members **18** and **19** of the instant invention can be loosened individually and rotated so as to present a different portion of its striking surface to the work when other portions thereof become impaired or marred.

This feature is desirable also in that a variety of different shaped tips of different compositions can be provided and used interchangeably as desired, and the possibility of the threads on the ends **20** and **21** of the stud **22** is minimized if not completely obviated. The flexibility of the assembly, by reason of the relatively loose arrangement of the stud **22** in the copious bore **15**, with its odd formation, will aid in minimizing the stock imparted to the tips **18** and **19** in striking the work since the shock is absorbed only partially by the affected seat **16** while the opposite tip receives the major portion thereof.

In Figure 6 the head **10** has an annular seat **23**, which can be formed on each end thereof, against which is arranged a washer **24** of the type generally referred to as a star washer which is formed with projections capable of being tensioned to lock the tips **18** and **19** against voluntary rotation and displacement. The use of the washer **24** is optional, however, and may be employed if desired.

It is apparent that the invention may assume other forms and structural design as may be suited to the particular requirements without departing from the spirit and intent of the invention or the scope of the appended claim.

What is claimed is:

In a hand tool, a hammer having a head and a handle connected to said head, a bore formed axially of said head, an annular boss formed on each end of said head about said bore and recessed therein to define a shoulder about each of said bosses, said bosses and said shoulders

providing seats for striking tips, a stud arranged concentrically of said bore and spaced from the walls thereof and having threads on each end, and a striking tip threaded upon each end of said stud and seated about said bosses.

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