Aug. 8, 1950 M. PEMMERL 2,518,059

MALLET HAVING INTERCHANGEABLE PERCUSSION HEADS

Filed Oct. 31, 1947

Fig. 1

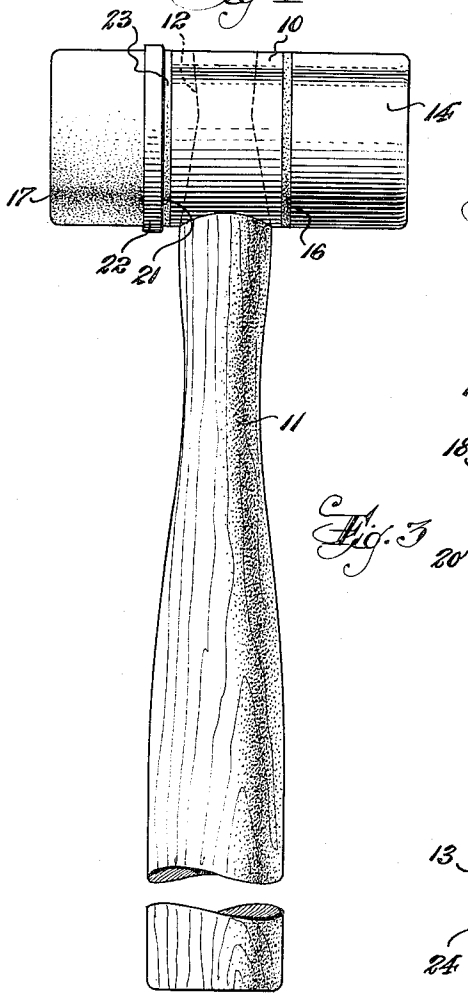


Fig. 2

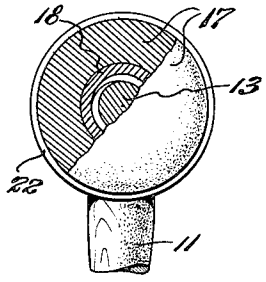


Fig. 3

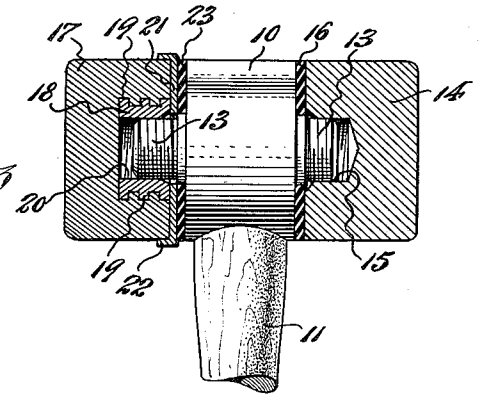


Fig. 4

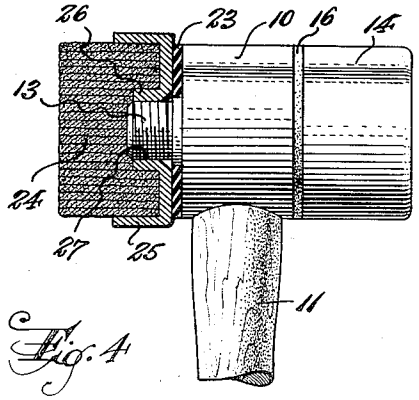
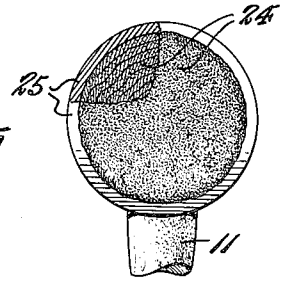


Fig. 5



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MALLET HAVING INTERCHANGEABLE PERCUSSION HEADS

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Application October 31, 1947, Serial No. 783,312

1 Claim. (Cl. 145—36)

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This invention relates to improvements in mallets for industrial use; and the invention has reference, more particularly, to a novel mallet structure including interchangeable percussion members.

The invention has for an object to provide a mallet so constructed that its head may be equipped with interchangeable percussion members of selected materials possessing desired qualities, such as various degrees of hardness, or other characteristics which suitably qualify the same for given uses, especially in the industrial field.

The invention has for another object to provide a mallet structure adapted to include interchangeable percussion members, and novel means for detachably connecting said members with the mallet head, including means to sustain and reenforce the bases of said members, when made of deformable material, against deformation likely to interfere with easy manipulation thereof when it is desired to detach the same from the mallet head.

A further object of the invention is to provide in combination with a mallet head and detachable interchangeable percussion members therefor, means interposed between said head and members which serve the double purpose of binding the members to the head against accidental loosening when in use, as well as to provide means to prevent undue transmission of stock, developed by impact of the percussion members in use, to the head and handle of the mallet.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

Illustrative embodiments of this invention are shown in the accompanying drawing, in which:

Fig. 1 is a side elevational view of a mallet according to the invention; Fig. 2 is a fragmentary end view, observed from the left in Fig. 1, and with parts in section; Fig. 3 is a fragmentary side view similar to that of Fig. 1, but showing the attached percussion members and associated parts in section.

Fig. 4 is a fragmentary view, also similar to that of Fig. 1, but showing a different character of percussion member attached to one end of the head, said member being shown in section; and Fig. 5 is a fragmentary end view, observed from the left in Fig. 5, and with parts in section.

Similar characters of reference are shown in the above described views, to indicate corresponding parts.

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Referring to the drawings, the reference character 10 indicates the head of the mallet structure, the same usually comprising a cylindrical body of tough metal, such as steel, wrought iron or the like. The handle 11 of the mallet is engaged with the head 10 by an end portion 12 thereof which extends transversely through the head intermediate its ends, said end portion 12 of the handle being affixed to the head in any customary or known manner. Extending axially from opposite end faces of the head 10 are externally screw-threaded coupler studs 13, which preferably form integral parts of said head.

Percussion members of selected materials and characteristics are adapted to be interchangeably mounted on the respective ends of the head 10 by screwing the same onto the coupler studs 13.

Illustrative of some types of percussion members with which the mallet head may be provided, Fig. 1 shows a percussion member 14 made of a selected relatively hard metal, such e. g. as iron, steel, bronze, brass or the like, which is mounted on the right hand end of the head 10. When the percussion member 14 is formed from a hard metal or like hard material, the same is penetrated at its inner end by an internally screw-threaded socket 15 sized to screw onto the axial stud 13 of the head 10. Interposed between the inner end face of the percussion member 14 and the opposing end face of the head 10, so as to surround the stud 13, is a washer 16, of appreciable thickness, made of resilient material, such as soft rubber or like material which possesses both resiliency and strong frictional characteristics.

As also shown in Fig. 1, mounted on the opposite or left hand end of the head 10 is a percussion member 17 which is made from a selected comparatively soft material or metal, such e. g. as lead, rubber or other plastic material, or other resilient material. When the percussion member 17 comprises such comparatively soft or resilient material, the same is provided at its inner end portion with an embedded, axially disposed ferrule element 18 which is made of hard metal or like relatively hard material. Said ferrule element 18 is provided with external annular flanges 19 or like means disposed to project from its periphery, about which the material of the percussion member 17 is molded, whereby said ferrule element is immovably affixed in interlocked relation to the mass of said percussion member. Said ferrule element 18 is provided with an internally screw-threaded bore 20 sized to screw onto the axial stud 13 which projects

from said opposite or left hand end of the head 10. When the percussion member 17 comprises a deformable material, such e. g. as lead, means is provided to reenforce and sustain its inner end portion, which is backed by the head 10, against lateral bulging or other undesired deformation. This means comprises a rigid cupped washer or cap, preferably made of a tough metal. Said cupped washer or cap comprises a perforate body portion 21 disposed to overlie the inner end face of the percussion member 17, and a peripheral annular flange or skirt 22 disposed to surround and embrace the periphery of the percussion member 17 adjacent the inner end face of the latter. Interposed between the inner end of the thus reenforced percussion member 17 and the opposing end face of the head 10, so as to surround the stud 13 which projects from the latter, is a washer 23, of appreciable thickness, made of resilient material such as soft rubber or like material, which possesses both resiliency and strong frictional characteristics.

The frictional and cushioning washers 16 and 23, as interposed between the respective percussion members 14 and 17 and the mallet head 10, serve the two-fold purpose of setting up a strong frictional resistance against tendency of said percussion members to accidentally loosen or turn off the coupling studs 13 when the mallet is in use, while at the same time said washers act as impact shock absorbing means whereby to diminish transmission of impact shocks from said percussion members through the head and handle of the mallet to the hand of the user.

Referring to Figs. 4 and 5, there is shown therein another type of percussion member with which the mallet may be provided, the same comprising a body 24 formed by a strip of rawhide wound into substantially cylindrical form, and which is held in such conformation by an annular socket ring 25 which embraces the inner end portion thereof. Said socket ring is provided with a central hub portion 26 having an internally screw-threaded bore 27 to receive a coupling stud 13, whereby to operatively mount the percussion member body 24 on the mallet head 10. As in the case of the percussion member 17, a frictional and cushioning washer 23 is interposed between the socket ring 25 and the opposing end face of the mallet head 10.

It will be obvious that percussion members of various selected material not specifically shown may be provided for interchangeable use in the mallet structure according to this invention, but which will embody the attachment features hereinabove described for separably connecting the same in operative relation to the mallet head.

Having now described my invention, I claim:

A mallet having a head transverse to its handle, said head having a screw-threaded coupling stud projecting axially from an end thereof, a percussion member made of relatively soft material such as lead, an internally screw-threaded ferrule made of hard metal imbedded in said percussion member, said ferrule having external annular flanges by which it is interlocked with the percussion member as a unitary part thereof, said coupling stud being screwed into said ferrule whereby to attach the percussion member to the head, a perforate cupped reenforcing member of hard rigid material engaged over said coupling stud and embracing the inner end portion of the percussion member, and a perforate rubber washer of substantial thickness also engaged over said coupling stud and disposed intermediate the cupped reenforcing member and the head.

MICHAEL PEMMERL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
338,888	Tracy	Mar. 30, 1886
460,115	Colton	Sept. 29, 1891
834,827	Luse	Oct. 30, 1906
934,162	Gorman	Sept. 14, 1909
1,118,010	Huhn	Nov. 24, 1914
1,781,344	Salazar	Nov. 11, 1930
1,823,016	Widman	Sept. 15, 1931
1,986,374	Shippy	Jan. 1, 1935