May 27, 1952 Y. H. KURKJIAN 2,597,876

MAGNETIC NAIL-HOLDING HAMMER

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Fig. 1.

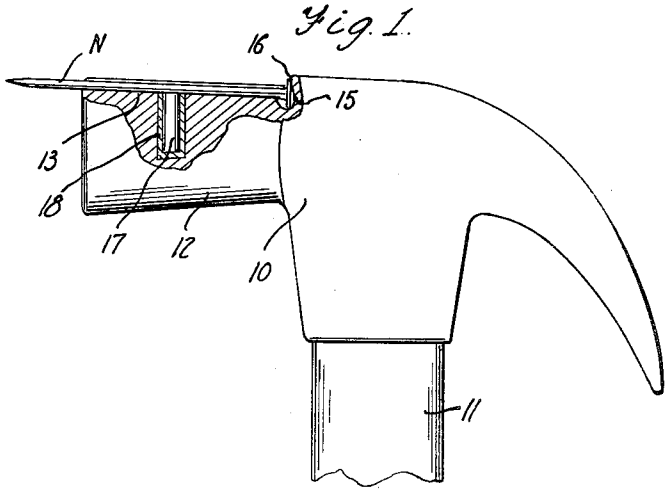


Fig. 2.

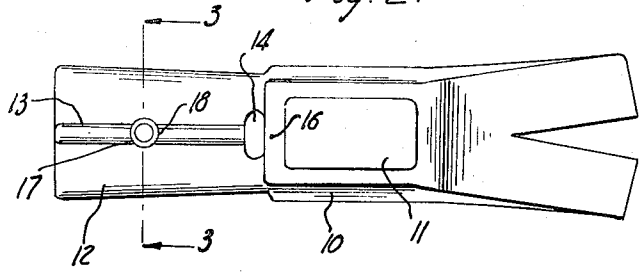


Fig. 3

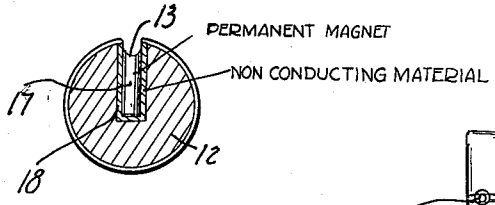
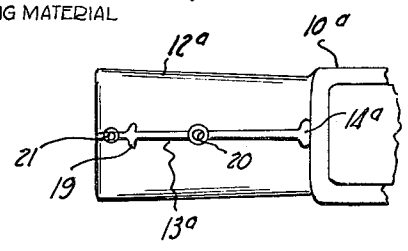


Fig. 4.



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MAGNETIC NAIL-HOLDING HAMMER

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3 Claims. (Cl. 145—30)

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This invention relates to hammers, and more particularly to a means for facilitating the driving of nails, tacks, and the like.

One of the important objects of the invention is the production of a simple and efficient magnetic means for holding a nail or tack upon the shank and head of a hammer, in a manner to facilitate the driving of a nail or tack in a place where it may be impossible or inconvenient to hold the nail or tack with the hand.

A further object of the present invention is the production of a hammer having a permanent magnet embedded in the shank thereof for holding a nail or tack thereon by magnetic attraction, the magnet being mounted within a non-conducting casing to localize and insulate the magnetism so as to prevent the magnetism from spreading over the entire shank or head of the hammer.

Other objects and advantages of the present invention will appear throughout the following specification and claims.

In the drawing:

Figure 1 is a side elevational view illustrating the manner of supporting a nail upon a hammer head, a portion of the shank being shown in section;

Figure 2 is a top plan view of the hammer head;

Figure 3 is a sectional view taken on line 3—3 of Figure 2;

Figure 4 is a fragmentary top plan view of a hammer head illustrating a modified form of shank which is constructed to receive a nail or tack.

By referring to the drawing in detail, it will be seen that 10 designates the hammer head which is carried by a conventional handle 11. The hammer head 10 is provided with a conventional shank or poll 12, which is provided with a longitudinally extending nail receiving channel 13. The channel 13 extends longitudinally of the shank 12, preferably for the entire length of the shank 12, as shown. The channel 13 is also preferably formed in the top or outer face of the shank 12. The channel 13 is provided with a head receiving groove or channel 14 at its inner end which extends transversely of the channel 13 and is provided with a rear wall 15. This rear wall 15 preferably is inclined rearwardly and downwardly or inwardly so as to place the pressure of the hammer head against the top of the nail head at the point 16 while driving the nail in position in a wall or other nail receiving structure. This arrangement will tend to hold the nail N within the channel 13 while the nail is being initially driven. The channel 13 is preferably concave in cross section, as shown in detail in Figure 3.

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A permanent magnet element 17 of the conventional type which is readily obtainable upon the market, is placed transversely through the shank 12 and is fitted within a magnetic insulating socket member 18. The magnet element 17 is preferably circular in cross section and may be of any desired length to suit the type of hammer used and the type of nail or tack which it is intended to hold. The socket member 18 preferably is formed of brass or other non-magnet conducting or poorly conducting material so as to shield the magnetism of the element or core from spreading over the entire shank 12 or hammer head 10. The upper end of the element or core 17 conforms to the contour of the transverse area of the channel 13 and extends flush with the wall of the channel 13, in the manner as shown in Figure 3. The socket member 18 extends outwardly at its side edges to points upon either side of the channel 13 and are flush with the exterior of the shank. The outer end of the socket member 18 however, also conforms to the transverse contour of the channel 13 to permit the nail N to lie flat within the full length of the channel 13. The bottom of the socket member 18 is closed to shield the bottom end of the magnet element or core 17.

As shown in Figure 4, the shank 12^a of the hammer head 10^a is provided with a nail receiving channel 13^a which is constructed similar to the channel 13 with an additional transverse groove 19 near its outer end to receive the head of a tack or short nail, the transverse groove 14^a being adapted to receive the head of a larger nail in the same manner as described with respect to Figures 1 and 2. A permanent magnet 20 properly insulated in the manner similar to magnet 17 is carried by the shank 12^a and is located in the channel 13^a intermediate the grooves 19 and 14^a. A second permanent magnet 21 similar to the magnet 17, and properly insulated, is carried by the shank 12^a intermediate the groove 19 and the outer end of the shank 12^a to retain a tack in the outer end of the channel 13^a when it is so desired.

It should be noted that the magnet 17, such as is shown in Figures 1, 2 and 3, has only its outer concave end exposed, and that this concave end is fitted within the channel 13 in a manner to extend flush therewith. The shielding socket member 18 completely covers the magnet 17 so as to shield and to prevent the magnetism from

spreading over the entire hammer head 10. Due to this fact, the hammer may be placed in a tool box or may be laid aside without fear of picking up adjoining nails or other metal articles or particles which would necessitate their removal before the hammer is used. The magnetism in the present device will only attract a nail or the like which is placed within the channel 13 and will efficiently hold the nail in the channel without assistance by the operator while initially hammering the nail into a piece of work. When the nail or tack is driven into a piece of work, the hammer is released from the nail and may be used in the conventional manner to drive the nail home. The end wall 15 by contacting the head of the nail N will facilitate the initial driving of the nail and the magnet 17 has sufficient strength to hold the nail against accidental removal from the hammer until the nail is initially driven into the work. It should be noted that the term "nail" is used in the following claims in its broadest sense, meaning "nail," "tack" or "other securing element" and the claims should be so interpreted.

It should be noted that one important feature of the present invention is the magnetism localizing element or permanent magnet element 17 wherein the magnetism is localized and does not spread over other portions of the hammer head or shank. One or more elements 17 may be carried within a shield casing or socket member 18 as set forth in the foregoing description, but such a socket member is not necessary where a proper type of magnet, such as may now be obtained is utilized wherein the magnetic flux is localized therein and does not spread beyond the element itself except at the point of approximate contact. Because of this structure, a nail may be placed in the groove and held therein against accidental removal until the nail is initially driven into an object. The combination of the inclined wall 18 and the magnetism localizing element provides a very simple and efficient nail holding means. At the same time, the hammer head will not pick up other nails and metal objects which may be adjacent thereto, or contact therewith when the hammer is placed on the floor or in a tool box, unless the nail fits or falls into the channel 13, the chances of which are very remote.

Having described the invention, what is claimed as new is:

1. An article of manufacture comprising a hammer head having a conventional shank, said shank having a longitudinally extending nail receiving channel, a nail head abutment wall at one end of said channel, a magnetism localizing element fitted in said shank and having one end thereof communicating with said channel intermediate

the ends of said channel for releasably retaining a nail in said channel, and said magnetism localizing element retaining the magnetic flux localized in close proximity to the element in a manner whereby metal objects such as nails, screws, and the like, will not be picked up by the hammer upon contact and whereby a nail may only be releasably held by the hammer when the nail is placed within the channel.

2. An article of manufacture comprising a hammer head having a conventional shank, said shank having a longitudinally extending nail receiving channel, a nail head abutment wall at one end of said channel, a magnetism localizing element fitted in said shank and having one end thereof within and flush with the wall of said channel intermediate the ends of said channel for releasably retaining a nail in said channel, and said magnetism localizing element retaining the magnetic flux localized in close proximity to the element in a manner whereby metal objects such as nails, screws, and the like, will not be picked up by the hammer upon contact and whereby a nail may only be releasably held by the hammer when the nail is placed within the channel.

3. An article of manufacture comprising a hammer head having a conventional shank, said shank having a longitudinally extending nail receiving channel, a nail head abutment wall at one end of said channel, a magnetism localizing element fitted in said shank and having one end thereof within and flush with the wall of said channel intermediate the ends of said channel for releasably retaining a nail in said channel, said magnetism localizing element retaining the magnetic flux localized in close proximity to the element in a manner whereby metal objects such as nails, screws, and the like, will not be picked up by the hammer upon contact and whereby a nail may only be releasably held by the hammer when the nail is placed within the channel, and said abutment wall being inwardly and rearwardly inclined to contact the head of a nail in outward spaced relation to the channel in a manner to contact the head of a nail beyond the channel and to hold the nail in the channel when the nail first makes contact with the material into which it is driven.

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