Nov. 19, 1935. J. R. RIGANDI 2,021,490

TOOL HANDLE FASTENING

Filed July 14, 1934

FIG. 1.

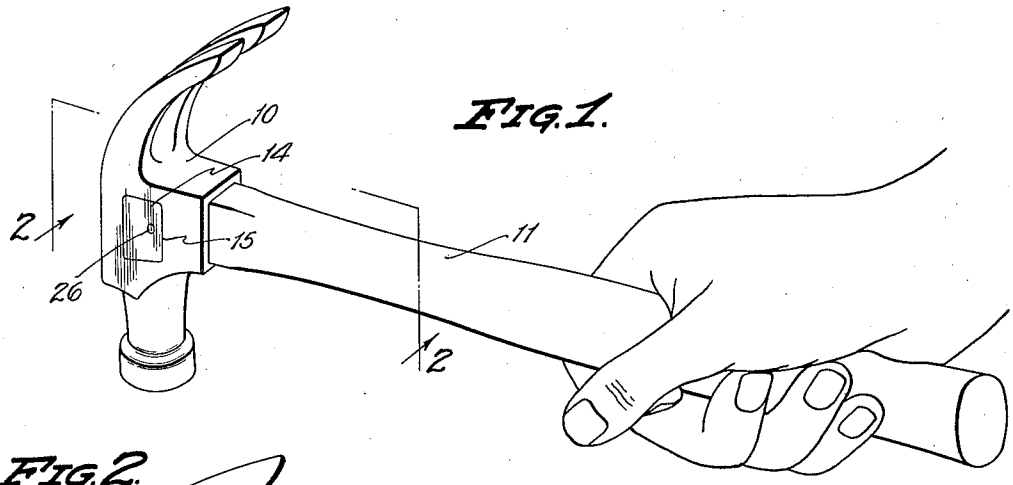



FIG. 2.

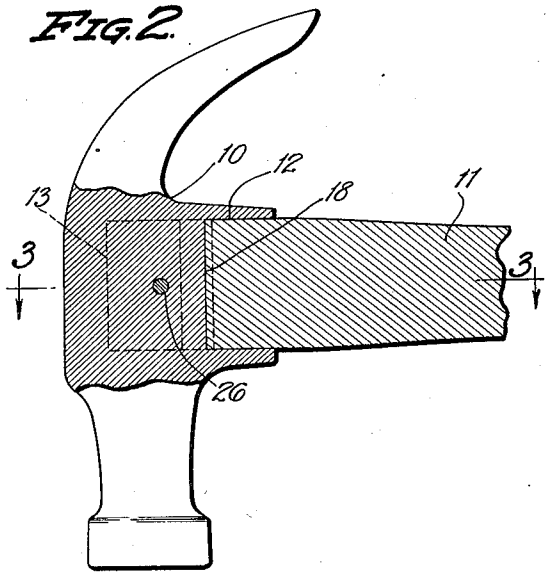



FIG. 4.

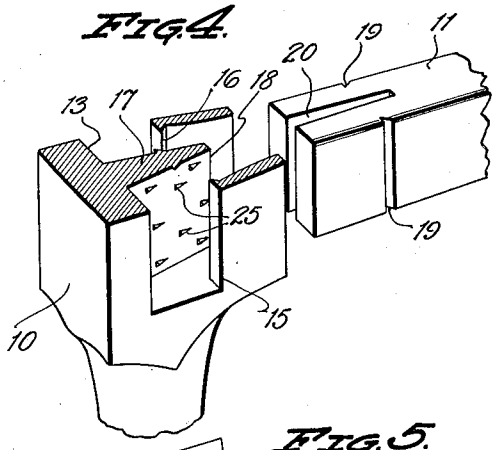



FIG. 5.

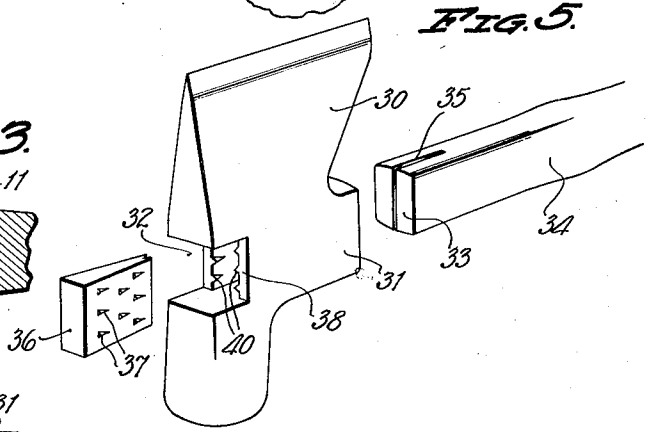



FIG. 3.

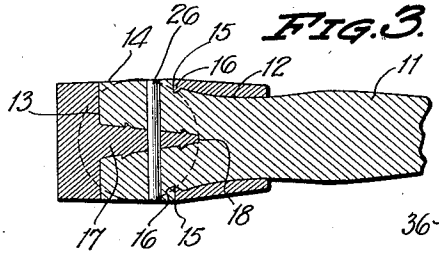
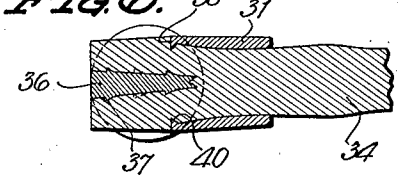



FIG. 6.




WITNESS:

JOSEPH R. RIGANDI.
INVENTOR

BY Ely & Pattison.
ATTORNEYS

Patented Nov. 19, 1935 2,021,490

# UNITED STATES PATENT OFFICE

2,021,490

## TOOL HANDLE FASTENING

Joseph R. Rigandi, Staten Island, N. Y.

Application July 14, 1934, Serial No. 735,095

3 Claims. (Cl. 306—33)

This invention relates to new and useful improvements in tool handle fastening devices.

It is an object of the invention to provide a new and improved tool handle fastening means whereby the handle of a hammer, hatchet and similar tools may be securely fastened to the tool head without danger of the tool becoming separated in use.

It is a further object of the invention so to construct the device that when the handle is attached to the tool head, the tool will be securely fastened together.

It is a further object of the invention so to construct the device that the mere insertion of the handle into the tool head will cause automatic securing of the two elements together.

Still a further object of the invention resides in the provision of novel means for preventing relative movement between a tool head and its handle.

With the above and other objects in view reference will be had to the accompanying drawing, wherein,

Figure 1 is a perspective view illustrating a hammer, the head and handle of which are constructed in accordance with the present invention,

Figure 2 is a detail sectional view taken on the line 2—2 of Figure 1,

Figure 3 is a detail sectional view taken on the line 3—3 of Figure 2,

Figure 4 is a detail perspective view partly in section,

Figure 5 is a distended perspective view of a hatchet illustrating a slightly modified form of the invention, and;

Fig. 6 is a detail sectional view illustrating that form of the invention shown in Figure 5.

Referring again to the drawing, and more particularly to Figures 1 to 4, inclusive, the reference numeral 10 designates a tool head which in Figures 1 to 4, is illustrated as a hammer, and 11 designates the handle.

The tool head differs slightly from the conventional hammer head in that it is provided with a recess or handle receiving socket 12, which is provided with an inner or bottom wall 13 and is not open as is the conventional form of hammer head. The socket 12 is provided in its side walls with openings 14, and those edges designated 15 are provided with inwardly projecting handle engaging ribs 16 which are preferably formed with a sharp biting edge. Projecting from the inner or bottom wall 13 of the handle receiving socket 12, and preferably formed integral with said wall there is a wedge 17, which wedge projects into the handle receiving socket and extends to a point slightly beyond the handle engaging ribs 16, as indicated at 18 in Figure 3.

The handle 11 is formed on two of its opposite side faces with recesses 19, and these recesses 19 are adapted when the handle is positioned in the tool head to receive the ribs 16. The handle is further provided in its end with a notch 20 which is adapted to receive the wedge 17.

The outer dimensions of the handle are slightly less than the inner dimensions of the handle receiving socket of the tool head. When, however, the handle is placed in position in the socket of the tool head, the wedge 17 enters the notch 20 and spreads the handle laterally. This spreading of the handle causes the ribs 16 to engage in the recesses 19 of the handle and also causes the free ends of the handle formed by the notch 20 to pass into the spaces designated 14 so that the handle and tool head will be securely fastened together. The wedge is preferably provided with barb-like projections 25 which engage the inner faces of the notch 20 to prevent relative movement between the handle and the wedge 17, and to further insure against such relative movement, a cross pin 26 may be passed through the handle 11 and the wedge 17, as best illustrated in Figures 2 and 3, it being understood, of course, that the wedge 17 will be provided with a suitable opening to receive the pin 26.

In that form of the invention illustrated in Figures 5 and 6, the tool head 30 is illustrated as a hatchet. In this form of the invention the tool head is provided with a handle receiving socket 31 which has a cut-out portion 32 to receive the end 33 of the handle. The handle 34 is provided with a notch 35 for the reception of a wedge 36, the side faces of which are provided with barbs or similar projections 37. The opposite edges 38 of the handle receiving socket 31 are provided with inwardly projecting teeth 40 which are adapted to engage the outer side faces of the handle when the same is positioned in the tool handle.

In this form of the invention the handle is positioned in the socket, it being understood that it is small enough to be driven thereinto in spite of the teeth or projections 40. After the handle has been positioned in the socket, the wedge 36 is driven home to expand the handle into engagement with the teeth or projections 40 thus locking the handle to the head. In the driving home of the wedge 36 the barbs 37 bite into the opposite faces of the notch 35 to anchor the wedge in the

position in the handle, thus forming a tight locking action between the handle, the tool head and the wedge.

From the foregoing it will be apparent that the invention provides a new and novel means for securing a tool handle to a tool head and one in which the positive attachment of the tool handle and head is assured.

While the invention has been herein illustrated in a preferred form, it is to be understood that the invention is not to be limited to the specific construction shown and that it may be practiced in various other forms without departing from the spirit thereof.

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

1. A tool handle fastening means comprising in combination, a tool head having a handle receiving socket, two opposite side walls of which have openings therein, the bottom wall of said socket being closed, a perforated wedge formed integral with the bottom wall of said socket and projecting therefrom, into the socket to a point beyond the inner edges of the openings in the side walls thereof, a rib refining the inner edge of each opening in the side walls of the socket, a handle having one end adapted to be received in said socket and provided with a pre-formed slot to receive said wedge, said wedge serving to expand said handle into the openings in the opposite side walls of the socket and into engagement with the afore-mentioned ribs when the handle is driven home in the socket and a cross pin adapted to pass through the end of the handle and the perforation in said wedge.

2. A tool handle fastening means comprising in combination, a tool head having a handle receiving socket, two opposite side walls of which have openings therein, the bottom wall of said socket being closed, a perforated wedge formed integral with the bottom wall of said socket and projecting therefrom into the socket to a point beyond the inner edges of the openings in the side walls thereof, a plurality of barb-like projections extending from opposite side faces of said wedge and adapted to bite into a handle inserted in said socket, a rib defining the inner edge of each opening in the side walls of the socket, a handle having one end adapted to be received in said socket and provided with a preformed slot to receive said wedge, said wedge serving to expand said handle into the openings in the opposite side walls of the socket and into engagement with the afore-mentioned ribs when the handle is driven home in the socket, recesses in the handle to receive the aforementioned ribs when the handle is driven home in the socket, and a cross pin adapted to pass through the end of the handle and the perforation in said wedge.

3. A tool handle fastening means comprising in combination, a tool head having a handle receiving socket, two opposite side walls of which have openings therein, sharp ribs extending inwardly of the socket from said open side walls, a wedge element projecting into the socket from the bottom wall thereof, a handle, said handle having recesses on two of its opposite sides to receive the ribs on the walls of the tool head socket, and a slot in its end to receive the wedge of the socket and expand the socket end of the handle into the openings of the side walls of the socket and into engagement with the afore-mentioned ribs when the handle is driven home in the socket.

JOSEPH R. RIGANDI.