

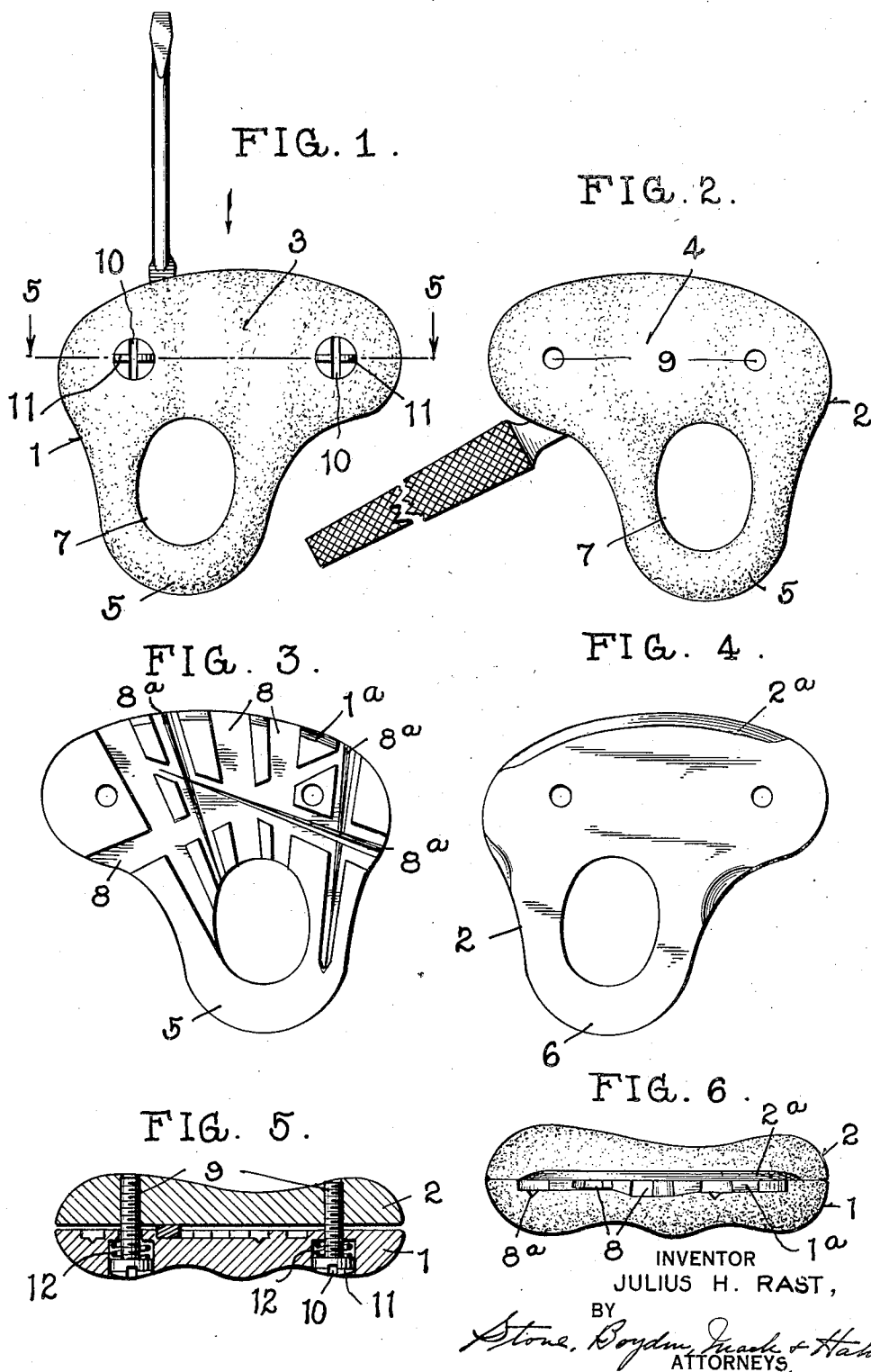
Nov. 6, 1934.

J. H. RAST

1,980,087

DETACHABLE TOOL HANDLE

Filed Dec. 10, 1932



UNITED STATES PATENT OFFICE

1,980,087

DETACHABLE TOOL HANDLE

Julius H. Rast, Charleston, S. C.

Application December 10, 1932, Serial No. 646,680

16 Claims. (Cl. 145-61)

This invention relates to tool handles and more particularly to detachable handles which are adapted to be secured to a number of different types of tools.

Files, screw drivers, awls, punches, and similar tools which are used in metal and wood working and in various other arts are in many cases provided with shanks which are designed to be inserted into a wooden handle, each tool presumably having an individual handle adapted to be permanently attached thereto. It is an object of this invention to provide a sturdy metallic handle which may be attached or detached at will to any of the tools of this general class and used therewith whether the shanks of the tools be tapering or straight, or rectangular, triangular or round in cross section.

A further object of this invention is to provide a detachable handle which will furnish a more comfortable and more secure handle on the particular tool being used.

Another object of this invention is to provide a handle in which a tool may be adjusted and used in any one of a number of different positions as may be desired.

Still another object of this invention is to provide a tool handle which will have a finger hole therethrough to accommodate the finger of the user and serve as a means whereby the tool may be hung up when it is not being used. Constant use of a tool handle of a given shape often brings unnecessary fatigue to the user's hand, and it is an object of this invention to provide a tool which may relieve this fatigue by being adapted to fit comfortably in many positions in the hand of the user.

Other and further objects of this invention will hereinafter appear.

In the drawing:—

Figure 1 is a top view of the assembled handle with a screw driver clamped in one of its channels;

Figure 2 is a view of the reverse side of the tool handle shown in Figure 1, showing a file clamped in one of the channels;

Figure 3 is a view of the inner face of one of the members showing the channels for receiving the tool handles;

Figure 4 is a view of the inner face of the opposite member;

Figure 5 is a sectional view taken along the line 5-5 of Figure 1; and

Figure 6 is a front view of the tool handle, looking in the direction of the arrow in Figure 1.

With more particular reference to the draw-

ing 1 and 2 designate the two substantially co-extensive members of which the tool handle is formed. These members are preferably cast from a light, tough metal such as aluminum or one of its alloys. The members have main body portions 3 and 4 and rearwardly extending portions 5 and 6 which form the finger hole 7. The front adjacent edges of the body portions of these members are bevelled as shown at 1^a and 2^a to facilitate the insertion of tools between the members.

It is desirable to make all corners of the handle which would be exposed to the hand of the user somewhat rounded so that the handle will fit comfortably into the hand regardless of the particular position in which it may be used. It is further noted that the portions of the surface of the members 1 and 3 where they meet the finger hole 7 are rounded off so that there are no sharp corners.

In the preferred embodiment shown in the drawing, one of the members 1 has a plurality of gradually tapering channels 8 and 8^a formed therein extending in different directions and preferably of different size and depth. Some of said channels such as those indicated at 8^a are preferably formed with a gradually tapering V-shaped groove in the bottom thereof adapting them for grasping triangular and round tool shanks. These channels may be of any desired form but are preferably substantially rectangular in cross-section and of gradually increasing dimensions as they approach the edge of the member 1. This form of channel has been found to be most satisfactory for securing the shanks of various tools which it is desired to mount in the handle.

A pair of screws 9 are used for securing the two main members of the tool handle together. These screws are passed through holes in the member 1 which preferably has a substantially larger hole partially drilled therethrough for counter-sinking the screw heads flush or below the surface of the member. The screws are threaded into the body portion 4 of the member 2. The screws are of such a length that even when tightened down to the maximum position they will not extend or protrude through the surface of the member 4. The heads of the screws 9 have slots 10 therein and are adapted for the reception of a screw driver for purposes of adjustment and are also provided with upstanding transverse wings 11 which permit the adjustment of the screw members with the fingers in substantially the same way as a wing nut is adjusted. Encircling each screw shank 9 and be-

tween the head thereof and the bottom of the counter-sunk hole is a coil spring 12 or a resilient washer which permits a resilient adjustment of one of the members against the other.

5 It is obvious that if a tool has a shank which is not particularly adapted to fit within one of the channels formed in the member 1, the roughened effect of the edges of the walls of the plurality of channels provides an excellent surface which will tend to grasp the shank of the tool regardless of its particular conformation in the same way as the jaws of a vise grip a tool shank placed therein.

10 It is also obvious that the members may be used to grip tools having substantially flat shanks and the handle may be used for the purpose of clamping a short or broken hacksaw blade, knife blades, razor blades or similar substantially flat tools where the adjacent surfaces only of the members 1 and 2 are used to grip the tool. Similarly, if the shank of a tool is too broad to enter one of the slots 8 or 8^a it may be clamped between the two members.

15 It is further obvious that a plurality of tools may be mounted in different channels of the handle at the same time so that each one will extend in a different direction from the handle and each one will be available for use as is required. In this case, however, it is obvious that 30 the shanks of the respective tools mounted in the handle must be of substantially the same thickness and must be placed in channels which do not cross each other in order to retain all of the tools in the handle simultaneously.

35 It is noted that the general shape of the tool handle is of such a conformation that it will fit comfortably in the hands of the user when mounted on a tool regardless of the direction in which the tool projects from the handle. It 40 will therefore be seen that when a great deal of work is being done with a given tool its mounting in the handle may be shifted from one position to another in order to relieve the hand of the user and present to the surface of his hand 45 an entirely new surface. The finger hole with its rounded corners extending through the rear portion of the members may be found very convenient for one or more fingers of the user while using the tool in a particular position and also serves as a very satisfactory means of hanging 50 the tool and tool handle when not in use.

It will be obvious from the foregoing that there are many and various modifications in the shape of the tool, the construction of the channels and 55 the arrangement of the particular fastening means for securing the separate halves of the tool handle together which are apparent. It is noted that the channels pass between the screw members which are used for securing the members 60 together and hence regardless of the particular position in which the shank of the tool is retained, the shank or tool is gripped firmly by both of the members as a result of the pressure exerted by the screws 9. The gripping action is to a slight degree yieldable because of the springs 12 encircling 65 the screws and this also tends to make the device adaptable to shanks of different thicknesses. One of the possible adaptations of this tool relates to its use as a clamp such as commonly 70 used for holding glued wood joints or mending parts, such as furniture to be joined together. This further use may be readily accomplished by substituting longer screws for the screws 12 shown in the drawing, and the length of which 75 screws obviously depend on the thickness of the

material to be clamped. As shown on the drawing it is intended that the screws should not extend beyond either face of the clamp so as not to provide a rough surface by which the hand of the user may be hurt. If the device is to be used 80 as a wood clamp, the screws might be an inch or so longer if the thickness of the wood is considerable, or if the article to be clamped is delicate and small, the screws may be correspondingly shorter. 85

What I claim is:—

1. A tool handle adapted to be held in the hand and manipulated by the hand of the operator comprising a pair of members and a pair of screws for securing said members together, said members having a plurality of channels formed therebetween adapted for the reception of the shank of the tool, said channels each extending in a different direction and passing between said screws. 90 95

2. A tool handle comprising a pair of members adapted to be secured together face to face and relatively widely spaced fastening means adapted to secure said members together, said members having a plurality of channels formed therebetween adapted for the reception of the shank of the tool, said channels each extending in a different direction and passing between said fastening means. 100

3. A tool handle comprising a pair of substantially co-extensive members and means for resiliently securing said members together face to face, the exterior surface and entire periphery of said members being exteriorly rounded and of a configuration adapted to fit the hand, one of said members having a plurality of channels formed therein, said channels each extending in a different direction and adapted for the reception of the shank of the tool, the other member having a substantially plane face. 105 110 115

4. A tool handle comprising a pair of exteriorly rounded substantially co-extensive members of a configuration adapted to fit the hand and a pair of screws securing said members together face to face, one of said members having a plurality of channels formed therein, each of said channels extending in a different direction, adapted for the reception of the shank of the tool and passing between said screws, the other member having a substantially plane face. 120 125

5. A tool handle comprising a pair of substantially co-extensive members adapted to be secured together face to face, each of said members having a body portion and a rearwardly extending portion integral with said body portion forming a finger hole, the finger hole of each of said members registering with each other, the body portion having a plurality of channels therein each adapted to grasp the shank of the tool, and fastening means for clamping the body portions of said members together and securing a tool shank therebetween. 130 135

6. A tool handle comprising a pair of substantially co-extensive members each having a body portion and rearwardly extending portions therefrom, said rearwardly extending portions each forming a finger hole, said finger holes adapted to register with each other, a plurality of forwardly extending tapering channels formed between the body portion of said members and additional rearwardly extending channels also formed between the body portions of said members, and means for securing said members together. 140 145 150

7. A tool handle comprising a pair of substantially co-extensive members adapted to be secured together face to face and a pair of screws for securing said members, each of said members having a body portion and a rearwardly extending portion forming a finger hole, said finger holes registering with each other, a plurality of channels formed between said members, said channels extending in different directions and being of various sizes, each of said channels passing between said securing screws.

8. A tool handle having a rounded peripheral configuration adapted to fit the hand comprising a pair of members and a pair of screws for securing said members together, said members having a plurality of channels formed therebetween adapted for the reception of the shank of the tool, said channels each extending in a different direction and passing between said screws, one of said members being rigid and the other member resiliently mounted with respect to said screws whereby the members may be separated for the admission of a tool to be clamped.

9. A tool handle comprising a pair of substantially co-extensive members of a configuration adapted to fit the hand and a pair of screws securing said members together face to face, one of said members having a plurality of channels formed therein, each of said channels extending in a different direction, adapted for the reception of the shank of the tool and passing between said screws, the other member having a substantially plane face, one of said members being rigid and the other member resiliently mounted with respect to said screws whereby the members may be separated for the admission of a tool to be clamped.

10. A tool handle comprising a pair of members having an outward configuration adapted to fit the hand and a pair of screws for securing said members face to face, a plurality of gradually tapering channels formed between said members, said channels being of various sizes extending in different directions and each adapted to seat the shank of the tool, one of said members being rigid and the other member resiliently mounted with respect to said screws whereby the members may be separated for the admission of a tool to be clamped.

11. A tool handle comprising a pair of substantially co-extensive members adapted to be secured together face to face and a pair of screws for securing said members, each of said members having a body portion and a rearwardly extending portion forming a finger hole, said finger holes registering with each other, a plurality of channels formed between said members, said channels extending in different directions and being of various sizes, each of said channels passing between said securing screws, one of said members being rigid and the other member resiliently mounted with respect to said screws whereby the members may be separated for the admission of a tool to be clamped.

12. A tool handle comprising a pair of members adapted to be secured together face to face and relatively widely spaced fastening means adapted to secure said members together, said members having a plurality of channels formed

therebetween adapted for the reception of the shank of the tool, said channels each extending in a different direction and passing between said fastening means, one of said members being rigid and the other member being resiliently mounted with respect to said fastening means whereby the members may be separated for the admission of a tool to be clamped.

13. A tool handle comprising a pair of substantially co-extensive members adapted to be secured together face to face, each of said members having a body portion and a rearwardly extending portion integral with said body portion forming a finger hole, the finger hole of each of said members registering with each other, the body portion having a plurality of channels therein each adapted to grasp the shank of the tool, and fastening means for clamping the body portions of said members together and securing a tool shank therebetween, one of said members being rigid and the other member being resiliently mounted with respect to said fastening means whereby the members may be separated for the admission of a tool to be clamped.

14. A tool handle comprising a pair of substantially co-extensive members and means for securing said members together face to face, one of said members having a plurality of channels formed therein, said channels each extending in a different direction and adapted for the reception of the shank of the tool, the other member having a substantially plane face, one of said members being rigid and the other member being resiliently mounted with respect to said securing means whereby the members may be separated for the admission of a tool to be clamped.

15. A tool handle comprising a pair of substantially co-extensive members adapted to be secured together face to face, each of said members having a portion extending therefrom to form a ring, the ring formed by one of said members registering with the ring from one of the other of said members and adapted to lie adjacent thereto, the main portions of said members form channels therebetween adapted to seat the shank of the tool, and means for securing said members together and clamping a tool shank therebetween, one of said members being rigid and the other member being resiliently mounted with respect to said securing means whereby the members may be separated for the admission of a tool to be clamped.

16. A tool handle comprising a pair of substantially co-extensive members each having a body portion and rearwardly extending portions therefrom, said rearwardly extending portions each forming a finger hole, said finger holes adapted to register with each other, a plurality of forwardly extending tapering channels formed between the body portion of said members and additional rearwardly extending channels also formed between the body portions of said members, and means for securing said members together, one of said members being rigid and the other member being resiliently mounted with respect to said securing means whereby the members may be separated for the admission of a tool to be clamped.

JULIUS H. RAST.