Dec. 21, 1943. W. T. ARROWOOD 2,337,440

FLEXIBLE HANDLE FOR TOOLS

Filed Aug. 3, 1942

Fig. 1

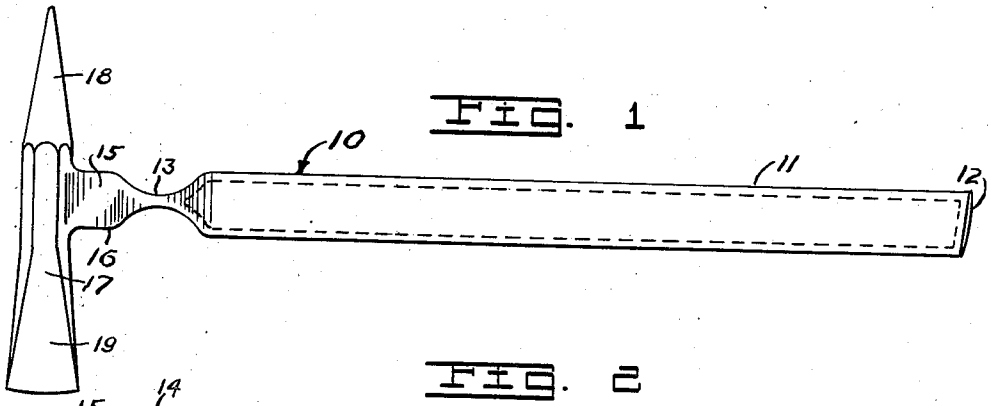


Fig. 2

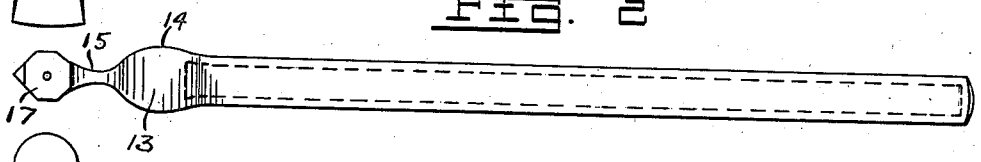


Fig. 3

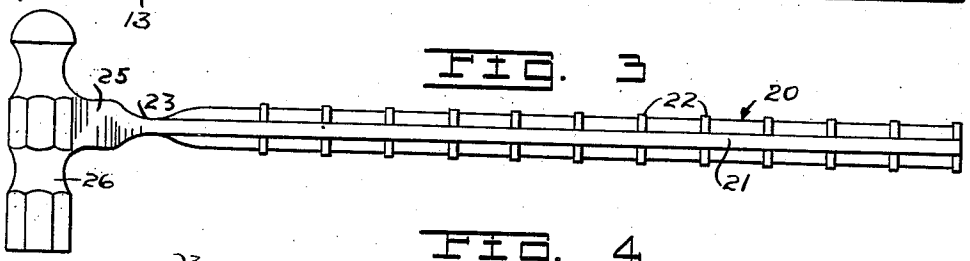


Fig. 4

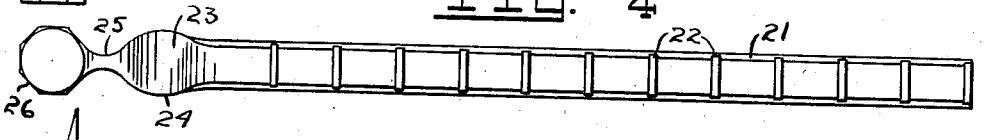


Fig. 5

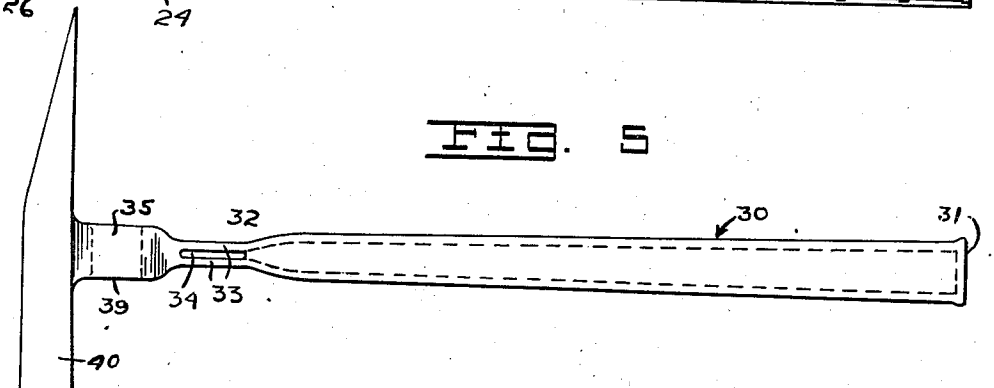
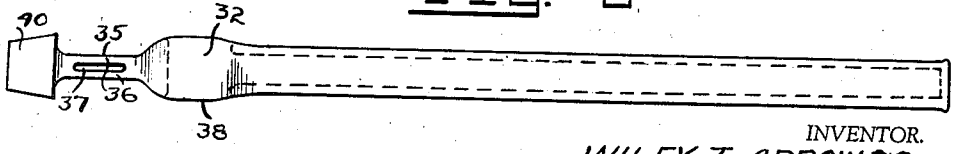


Fig. 6



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Patented Dec. 21, 1943 2,337,440

UNITED STATES PATENT OFFICE

2,337,440

FLEXIBLE HANDLE FOR TOOLS

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Application August 3, 1942, Serial No. 453,340

2 Claims. (Cl. 145—29)

This invention relates to flexible cushioned handle for tools.

The general object of the invention is to provide an improved flexible handle wherein the handle is made of metal or similar material and includes a resilient portion so that the shock or sting of a blow is cushioned.

A further object of the invention is to provide a metal handle which is of substantially uniform cross section throughout the major portion of its length and which adjacent the head end includes a portion of cross section which permits the handle to flex.

Another object of the invention is to provide a handle which is rigid and which has a flexible end-portion integral therewith, the flexible end portion including regions of resiliency which permit axial flexing in different directions about the axis of the handle.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing wherein:

Fig. 1 is a side elevation of a hammer having a handle thereon embodying the features of my invention;

Fig. 2 is a top plan view of the hammer;

Fig. 3 is a view similar to Fig. 1 showing a modification;

Fig. 4 is a top plan view of the modification;

Fig. 5 is a side elevation showing a further modification; and

Fig. 6 is a top plan view showing the further modification.

Referring to the drawing by reference characters I have shown my invention as embodied in a handle which is indicated generally at 10. The handle shown includes a tubular body portion 11 closed at one end 12. At the other end portion the body 11 is flattened as at 13 and the two layers of material are preferably welded into a homogeneous mass. The edges of the portion 13 flare outwardly as at 14 as shown in Fig. 2.

Beyond the portion 13 the handle is flattened as at 15 and flares outwardly as at 16. The two layers of metal of the portion 15 are welded together and the portion 15 is disposed at right angles to the portion 13.

The two layers of the portion 15 are connected by welding to a hammer head 17 which may be of any desired type. As shown it includes a conical portion 18 at the end and a bladelike portion 19 at the other end. The axis of the head is parallel to the faces of the portion 15.

The portions 13 and 15 provide regions of flexibility. When the hammer is in use the portion 13 is disposed substantially parallel to the face of the work engaged by the hammer portions 18 or 19 and thus when direct blows are struck the body of the handle is cushioned. Lateral forces such as might be present when the hammer is used for a chipping operation are cushioned by the portion 15 which extends parallel to the axis of the head 17. The two regions of flexibility 13 and 15 combine to provide a cushion effect for the body of the handle regardless of the type of blow struck.

In Figs. 3 and 4 I show a modification of my invention wherein the handle 20 is an elongated solid body having a rib 21 along each side thereof. The body is generally cylindrical and on the top and bottom is provided with beads 22 which intersect the ribs 21. The ribs 21 and beads 22 form reinforcement and gripping means.

The handle 20 is solid and at its forward end includes a flattened portion 23 which extends outwardly at 24. The flattened portion 23 is connected to a second flattened portion 25. The portion 25 is connected to a head 26. The axis of the head 26 is parallel to the surfaces of the portion 25 while the surfaces 25 are perpendicular to the surfaces of the portion 23.

As a result of the described construction the handle 20 has two regions of flexibility which are arranged so that the handle flexes in both the horizontal and vertical planes.

In Figs. 5 and 6 I show a modification of my invention wherein the handle 30 is hollow and has a closed end 31. At its forward end the handle is flattened as at 32 and the layers 33 are spaced apart leaving a slot 34 between them. Forwardly of the portion 32 I show a second portion 35 integral with and similar to the portion 32. In the portion 35 the layers 36 are spaced apart to form a slot 37.

The flattened portion 32 projects outwardly at each side at 38 beyond the adjacent portion of the handle and the flattened portion 36 also extends outwardly as shown at 39 in Fig. 5. The handle 30 is provided with a head 40.

The spaced layers 33 and 36 form regions of flexibility. The layers 33 and 36 are at right angles to each other with the layers 36 parallel to the axis of the head 40 and as a result a cushioned action is provided when the hammer is used.

From the foregoing description it will be apparent that I have invented a novel flexible cushioned handle for tools which can be economically

manufactured and which is highly efficient for its intended purpose.

Having thus described my invention, I claim:

1. In a striking tool, a flexible handle comprising a tubular metal body closed at one end, the other end of said body being flattened with the walls welded into a homogeneous portion, a second similarly flattened portion merging into the first portion and arranged at a right angle to the first portion and a striking head secured to said second flattened portion with the axis of the head lying in the plane of said second portion.

2. In a striking tool, a flexible handle comprising a tubular metal body, one end of said body being flattened with the walls welded into a homogeneous portion, a second similarly flattened portion merging into the first portion and arranged at substantially a right angle to the first portion and a striking head secured to said second flattened portion with the axis of the head lying substantially in the plane of said second portion.

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