Dec. 26, 1939. S. S. VAUGHAN 2,184,985

HAMMER

Filed Dec. 30, 1936

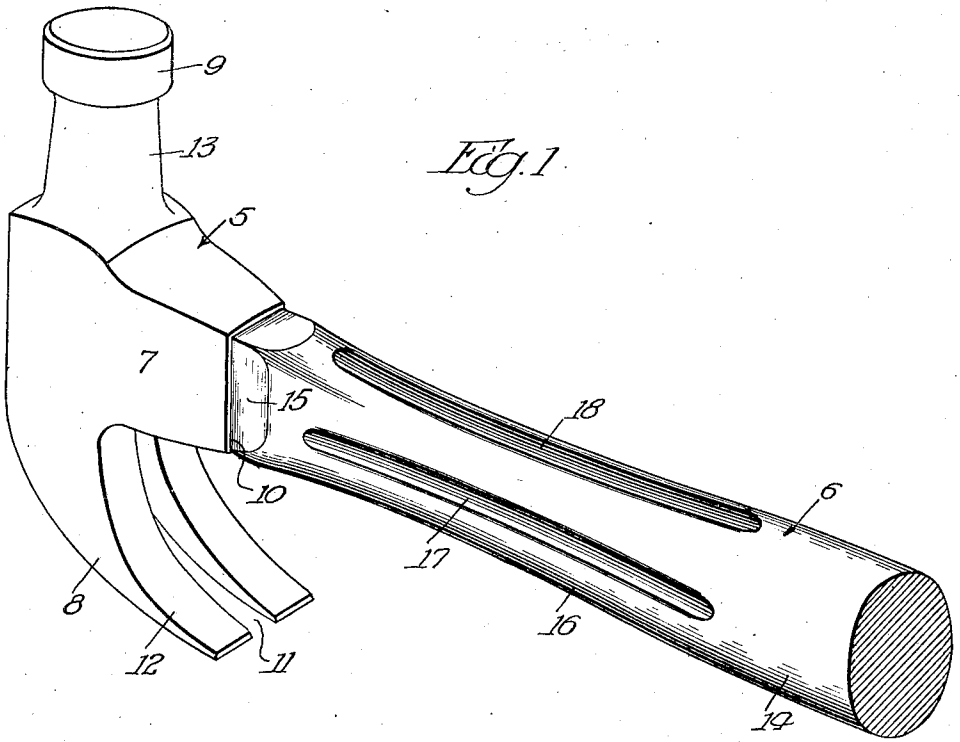


Fig. 1

Fig. 2

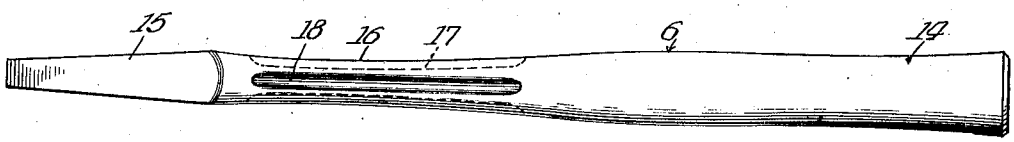


Fig. 3

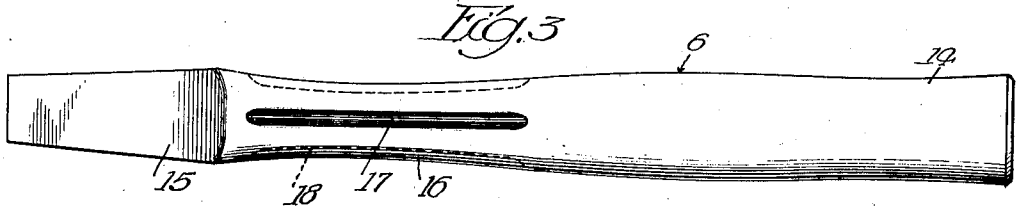
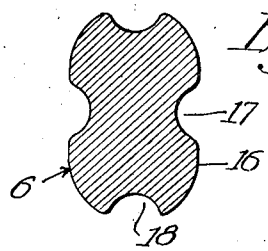


Fig. 4



Inventor
Sanford S. Vaughan
By Fred Gerlach his Atty.

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2,184,985

HAMMER

Sanford S. Vaughan, Oak Park, Ill., assignor to Vaughan & Bushnell Mfg. Co., Chicago, Ill., a corporation of Illinois

Application December 30, 1936, Serial No. 118,339

3 Claims. (Cl. 145—61)

The present invention relates generally to hammers for use by carpenters and others in hammering or driving nails and other objects. More particularly the invention relates to that type of hammer which is known as a claw hammer and embodies in addition to a drop-forged head with an elongated open ended eye in its central portion and an arcuate nail removing claw at the top thereof and a cylindrical hammer part at the bottom, an elongated handle which is formed of wood and has a comparatively thick grip forming part at one end, a tapered part of polygonal cross-section at its other end fitting within the eye of the head, and a neck part of reduced thickness between and serving to connect the grip forming part and the tapered part.

In the manufacture of a hammer of this type it has heretofore been proposed to bevel or chamfer the corner portions of the neck part of the handle in order to reduce the neck part in cross-sectional area and make it springy or resilient to the end that better results can be obtained with the hammer as a whole and continued use of the hammer is less fatiguing. Because but a small amount of material or stock can be removed from the neck part of the handle without weakening the handle to the point where it is likely to fracture during use, the degree of springiness or resiliency which is obtained as the result of the bevel or chamfer operation is so small that it is practically negligible or inconsequential and the intended results are not achieved.

One object of this invention is to provide a claw hammer in which the neck part of the wooden handle is of such cross-sectional design that it has substantially the same resistance to fracture or breakage as a beveled or chamfered neck part and at the same time is materially more springy and resilient with the result that the hammer as a whole is more efficient, practical and durable and is less fatiguing to the user than a conventional or standard hammer of the aforementioned character, that is, one in which the corners of the neck part of the handle are beveled or chamfered.

Another object of the invention is to provide a claw hammer of the type under consideration in which the reduced neck part of the wooden handle is elliptical in cross-section and is rendered springy or resilient to the desired extent by means of specially located and shaped longitudinal flutes.

A further object of the invention is to provide a claw hammer which is not only of new and improved construction but is also pleasing in appearance.

Other objects of the invention and the various advantages and characteristics of the present claw hammer will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawing which accompanies and forms a part of this specification or disclosure and in which like numerals of reference denote corresponding parts throughout the several views:

Figure 1 is a fragmentary perspective view of a claw hammer embodying the invention;

Figure 2 is a plan view of the wooden handle of the improved hammer;

Figure 3 is a side view of the handle; and

Figure 4 is an enlarged transverse section of the neck part of the hammer handle showing in detail the cross-sectional design and construction of the neck part and the arrangement and character of the flutes which serve to give the neck part increased springiness or resiliency without in any way impairing its resistance to breakage or fracture.

The hammer which is shown in the drawing constitutes the preferred embodiment of the invention and is essentially of the claw variety. It is primarily adapted for use in carpentry and consists of a head 5 and a handle 6.

The head is shown in the drawing as being of conventional or standard design. It is in the form of a one piece drop-forging and comprises an elongated open ended eye 7 in the central portion thereof, an arcuate nail removing claw 8 at the top and a cylindrical hammering part 9 at the bottom. The eye 7 embodies a top wall, a pair of side walls and a bottom wall which together define a longitudinally extending socket 10. The latter is polygonal in cross-section and extends from one end of the eye to the other. The claw 8 is curved and projects upwardly and rearwardly from, and is formed integrally with, the outer portion of the top wall of the eye. It serves as an instrumentality or medium for removing nails and embodies a V-shaped cleft 11 and a pair of laterally spaced claw forming members 12. The hammering part 9 of the head is disposed beneath the outer portion of the bottom wall of the eye and is connected to the latter by a reduced stem-like part 13.

The handle 6 is formed of wood. It is adapted for use in wielding the drop-forged head 5 and embodies a comparatively thick grip-forming part 14 at one end, a tapered part 15 of polygonal cross-section at its other end, and a neck part 16 of reduced thickness between the grip-forming and tapered parts. The grip-forming part 14 of the handle 6 is elliptical in cross-section and its length is approximately equal to one-half the entire length of the handle. The central portion of the grip-forming part of the handle is

concave or dished so that it may be readily gripped and the extreme outer end of the grip-forming part forms an enlarged abutment which prevents the handle from slipping from the user's hand during use of the hammer. The tapered part 15 of the handle fits within the socket 10 in the eye 7 of the drop forged head and is secured against removal by wedges (not shown) in the small end thereof. In connecting the handle to the head the tapered part is inserted into the socket 10 and is then driven inwards until it is securely fixed within the socket. Thereafter the aforementioned wedges are applied by hammering or driving them into the small end of the tapered part 15. The inner end of the tapered part 15, that is, the large end is substantially the same height and thickness as the inner portion of the grip-forming part 14 of the handle. The neck part of the handle extends between and connects the grip-forming part 14 and the tapered part 15. It is elliptical in cross section and is of reduced thickness and height, as shown in Figures 2 and 3. The thickness of the central portion of the neck part is about two-thirds the thickness of the inner end portion of the grip forming part 14 and the height of the central portion of the neck part 16 is approximately two-thirds the height of the grip-forming part 14. The end portion of the neck part 16 which is contiguous to or joins the tapered part 15 is slightly flared in the direction of said tapered part, as shown in Figure 3, and the opposite end portion of the neck part 16, that is, the portion which joins and is contiguous to the inner end portion of the grip-forming part 14 is likewise flared to a slight extent.

In order to make the neck part 16 of the handle 6 so springy or resilient that there is a slight spring action between the head 5 and the grip forming part 14 of the handle and shocks resulting from impact or blows are readily absorbed by the neck part and are hence not transmitted from the head to the grip-forming part 14, a pair of flutes 17 and a pair of flutes 18 are provided. The flutes 17 are formed in and extend longitudinally of the sides of the neck part 16 of the handle. They are substantially segmental in cross-section, as shown in Figure 4, and extend from a point slightly inwards of the flared inner end of the neck part, that is, the end which is contiguous to the tapered part 15 of the handle to a point slightly inwards of the flared outer end of the neck part 16, that is, the end part which is contiguous to and joins the grip-forming part 14. The flutes 18 are formed in and extend lengthwise of the top and bottom portions of the neck part 16 of the handle. They are substantially segmental in cross-section and the ends thereof are substantially conterminous with the ends of the flutes 17. The flutes 17 and 18 are comparatively shallow. They do, however, change the cross-sectional design of the neck part of the handle so that such part is comparatively springy or resilient although not weakened to any material extent as far as resistance to fracture or rupture is concerned. By reason of the springiness or resiliency which is afforded by the flutes 17 and 18 the hammer can be used for a comparatively long time without fatiguing or tiring the user. In addition the hammer is extremely efficient in operation. This is directly attributable to the fact that the flutes 17 and 18 permit of a small amount of spring between the head and the grip forming part 16 of the handle and it is hence possible to wield the head with a slight snap or spring action. By forming the flutes 17 and 18 in the neck part 16 the handle as far as the neck part is concerned is much more springy than a handle of the same size but having a neck part with beveled or chamfered edges.

The herein described hammer may be produced at a low and reasonable cost and is not only efficient but is also practical and durable due to the springiness or resiliency which is present in the neck part of the handle due to the formation of the flutes 17 and 18.

Whereas the invention has been described in connection with a claw hammer, it is to be understood that the improved handle may be used with any type of hammering head or tool, that is, one other than a claw-type head. It is also to be understood that the invention is not restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. As a new article of manufacture, a hammering tool comprising a head having an eye, and a one-piece wooden handle consisting of a comparatively thick grip-forming part at one end, a tapered part at the other end fitting and secured within the eye of the head and a reduced neck part of elliptical cross-section extending between and serving to connect the grip-forming part and the tapered part and having laterally spaced longitudinal comparatively shallow flutes of substantially segmental cross-section formed therein whereby it is rendered appreciably springy or resilient.

2. As a new article of manufacture, a hammering tool comprising a head having an eye, and a one-piece wooden handle consisting of a comparatively thick grip-forming part at one end, a tapered part at the other end fitting and secured within the eye of the head, and a neck part of reduced thickness and height and of elliptical cross-section extending between and serving to connect the grip-forming part and the tapered part and having formed therein no less than four laterally spaced longitudinal comparatively shallow flutes of substantially segmental cross-section whereby it is rendered appreciably springy or resilient.

3. As a new article of manufacture, a hammering tool comprising a head having an eye, and a one-piece wooden handle consisting of a comparatively thick grip-forming part at one end, a tapered part at the other end fitting and secured within the eye of the head, and a reduced neck part of elliptical cross-section extending between and serving to connect the grip forming part and said tapered part and having a pair of opposed centrally positioned comparatively shallow longitudinal flutes of substantially segmental cross-section in the sides thereof and a pair of opposed centrally positioned comparatively shallow longitudinal flutes of similar length and cross-section in its top and bottom portions whereby it is rendered appreciably springy or resilient.

SANFORD S. VAUGHAN.