

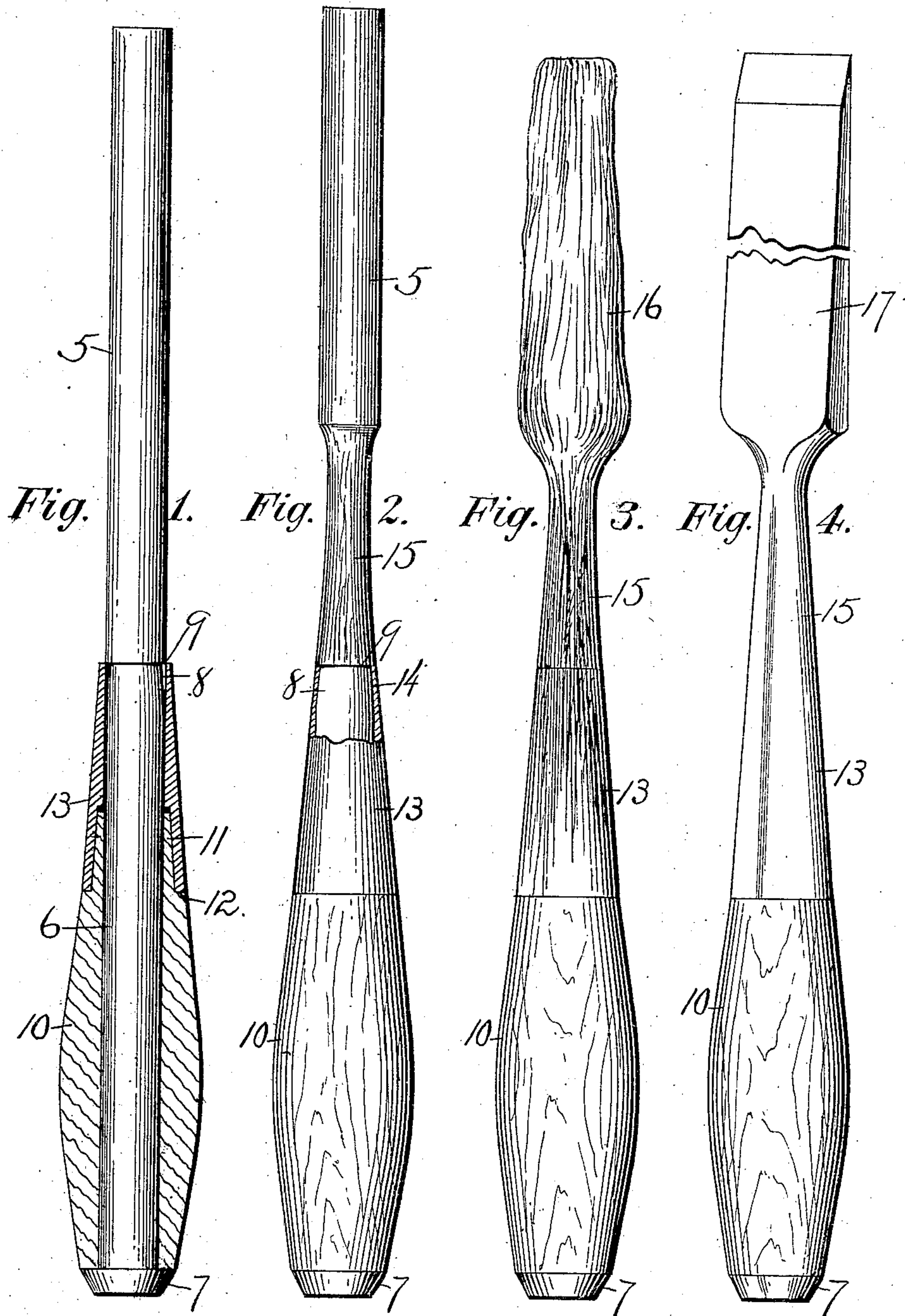
No. 894,303.

PATENTED JULY 28, 1908.

G. E. WOOD.

HAND TOOL.

APPLICATION FILED AUG. 28, 1907.



WITNESSES:

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GEORGE E. WOOD, OF SOUTHTON, CONNECTICUT.

HAND-TOOL.

No. 894,303.

Specification of Letters Patent.

Patented July 28, 1908.

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To all whom it may concern:

Be it known that I, GEORGE E. WOOD, a citizen of the United States, and a resident of Southington, in the county of Hartford and State of Connecticut, have invented a new and Improved Hand-Tool, of which the following is a specification.

My invention relates to the class of tools embodying a wooden handle fixed to a metallic part, and more especially to the class of carpenters' tools such as chisels, screw-drivers and the like.

The object of my invention is to produce a tool of this class that shall be extremely durable, cheap in construction and especially one that shall be neat and sightly in appearance.

A form of device in which these objects are embodied is illustrated in the accompanying drawings in which

Figure 1 is a view of a blank with a handle (cut in section) fixed thereto showing a preliminary step in the operation. Fig. 2 is a similar view, with the ferrule broken away and showing a succeeding step. Fig. 3 is a side view of a device showing still a further step in the operation. Fig. 4 is a side view showing the completed tool.

In the construction of the class of tools embodying screw-drivers, chisels and the like, and especially in the manufacture of chisels, it is desirable that the shank of the blade shall extend entirely through the handle and be formed into a head for the purpose of receiving blows in the customary method of using the tool. This construction avoids mutilation of the wooden or other fibrous handle with which the tool is supplied and thus greatly prolongs its life, the handle of a tool thus constructed in fact being practically as long-lived as the tool itself.

In order to maintain the handle within proper limits as to size it is necessary that that portion extending through the handle shall not exceed certain proportions. In the manufacture of screw-drivers, with a blade of limited width, this has been a comparatively easy matter for the reason that the blade could be drawn from a piece of stock of the size of that extending through the handle. It has been a more serious question, however, to obtain a blade of considerable width as is necessary in the manufacture of chisels for the reason that the size of stock sufficient for the shank located within the

handle has not been of sufficient size to produce a blade of proper width.

In the practical form of construction of such a tool it is essential that the head shall first be formed, the handle of wood or other fibrous material placed upon the shank and then the blade finished. In this finishing of the blade great care must be taken, in any heating thereof, in order to avoid injury to the handle of wood or other fibrous material from such heat, and in fact this liability of injuring the handle by heat has limited the size of the blade which could be produced on a tool thus formed.

In carrying out my invention I have demonstrated that a tool may be thus formed with a blade of any desired width, the manner of constructing such a tool being shown in the accompanying drawings in which a blank of proper length and of a uniform size in diameter the same as that of the shank to be located within the handle is provided. This blank is divided into the blade portion 5 and shank portion 6 and a head 7 is formed upon the end of the latter. The shank portion is also reduced as at 8 forming a shoulder 9. A handle 10 of wood or other fibrous material is then placed upon the blank and closely fitted against the head 7. This handle is formed after the general manner of what is known as a "socketed" handle, the inner end thereof being formed with the socket piece 11 terminating in the shoulder 12. A ferrule 13 is fitted upon the socket piece, lying closely against the shoulder 12 and projecting some distance beyond the socket piece, as plainly shown in Fig. 1, the inner end of this ferrule lying in position adjacent to the shoulder 9 of the reduced portion or groove 8. The ferrule is now swaged into the reduced portion or groove 8, so that the ferrule in fact forms practically an integral part of the shank 6, and as shown at 14 in Fig. 2. This swaging and union of the ferrule and shank may be performed after any of the well-known methods to cause the shank to be practically an integral part of the ferrule. In this swaging operation the blade portion 5 of the handle is reduced as at 15 thus causing the blade to approach the final form of this part thereof. The blade 5 is now upset forming an enlarged end 16, as shown in Fig. 3 of the drawings. In order to produce this enlarged end the blank portion 5 must be heated to a considerable degree,

but I have found that this heating can be done without injuring the handle to any material degree, and especially is this the case when the construction herein shown removes
5 that portion to be heated to a considerable extent from the handle of wood or other fiber. After the blank has been upset as shown in Fig. 3 the tool may be finished by drawing the blade 17, as shown in Fig. 4 of the draw-
10 ings.

It will be noted that from this construction a tool as a chisel of any width desired may be easily and cheaply made from a piece of stock of a size equal to that desired for the
15 part located within the handle. The handle of wood or other fibrous material is first placed upon the shank and then without injury to this handle the blade is formed as above described. The tool while constructed
20 with the shank and head integral with the blade, and the resulting advantages, has also the appearance of the more sightly "socketed" tool. In fact the tool is a combination of a "socketed" handle tool and a blade with
25 a shank with all the advantages appurtenant to both.

It will be noted that by swaging the ferrule

into the groove 8 all of the parts are securely held by abutting shoulders, and whether the ferrule is swaged or welded to the shank 6, to
30 form an integral or practically integral part thereof, within the purview of my invention, the union will be so closely made as to give to the tool the appearance of a tool of socketed construction, the entire metallic surface being
35 practically smooth and the joint between the ferrule and shoulder 9 being practically eliminated in the finishing operation, as shown in Fig. 4 of the drawings.

What I claim as new and desire to secure
40 by Letters Patent is:—

A tool including a shank with a head thereon and a groove intermediate the ends of the blank, a handle of wood or other fibrous material secured closely against said
45 head, a ferrule embracing the end of the handle and compressed closely into the groove, and a blade formed at the opposite end of the blank.

GEORGE E. WOOD.

Witnesses:

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