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CHISEL TYPE BLADE FOR CARVING TOOLS

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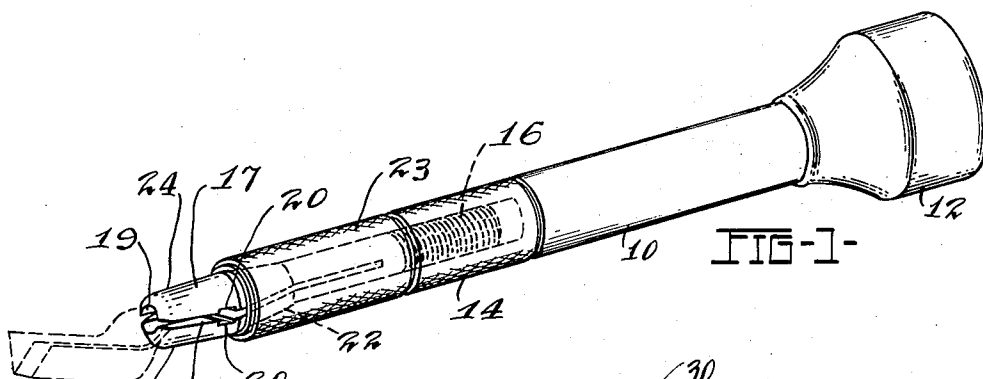


FIG-1-



FIG-3-



FIG-4-

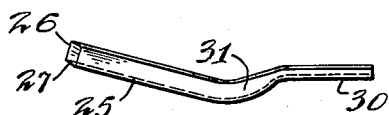


FIG-2-

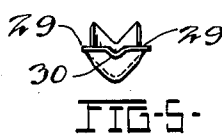


FIG-5-

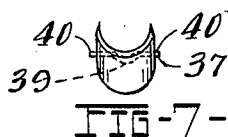


FIG-7-

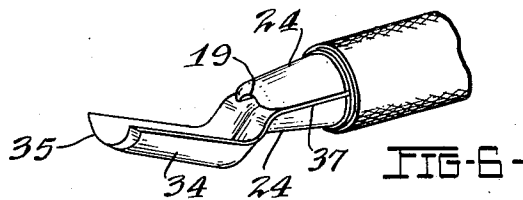


FIG-6-

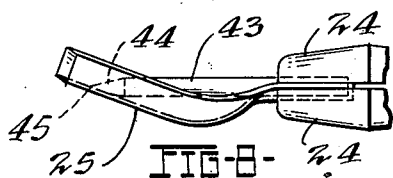


FIG-8-

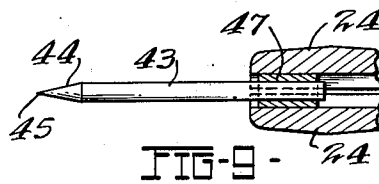


FIG-9-

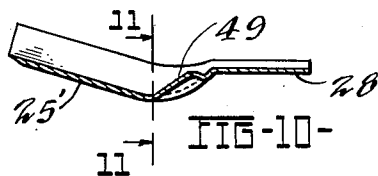


FIG-10-

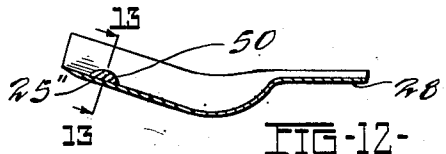


FIG-12-

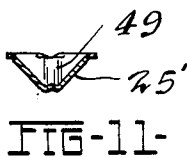


FIG-11-



FIG-13-

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CHISEL TYPE BLADE FOR CARVING TOOLS

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2 Claims. (Cl. 145—24)

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This invention relates to carving tools and more especially to tools of the gouge and corner chisel types for performing grooving and carving operations in woodwork or similar materials. The invention embraces the provision of carving tools of the chisel type that may be interchangeably inserted in a suitable holder and which are especially adapted for hobby craft work, model building, and the like.

The invention further embraces the provision of a chisel or carving tool formed of a single strip of metal which is configured to provide a channel-shaped operative portion and a shank portion formed with a rib acting as a reinforcement means.

Another object of the invention is the provision of carving tools formed with shank portions which are of a shape and size to be used interchangeably with a holder, the tools being of a character that may be fashioned with various shapes of cutting configurations for performing many kinds of grooving or carving operations.

A further object of the invention resides in the provision of means associated with a carving tool for deflecting or diverting the cuttings away from the holder.

Still another object of the invention is the provision of carving tools which may be made and formed from sheet metal whereby the cost of producing the tools is reduced to a minimum.

Further objects and advantages are within the scope of this invention such as relate to the arrangement, operation and function of the related elements of the structure, to various details of construction and to combinations of parts, elements per se, and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification and drawing of a form of the invention, which may be preferred, in which:

Figure 1 is an isometric view of a form of tool holder adapted to support tools made in accordance with my invention;

Figure 2 is a side elevational view illustrating one form of chisel or carving tool of my invention;

Figure 3 is a top plan view of the carving tool shown in Figure 2;

Figure 4 is a front end view of the carving tool illustrated in Figure 2;

Figure 5 is a rear view of the carving tool shown in Figure 2;

Figure 6 is an isometric view illustrating another form of carving tool of my invention showing the same positioned in the chuck of a tool holder;

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Figure 7 is a front end view of the tool illustrated in Figure 6;

Figure 8 is an elevational view of the carving tool illustrated in Figure 6 in combination with means for deflecting or diverting cuttings or chips away from the tool supporting handle;

Figure 9 is a sectional view illustrating a form of chip deflecting means positioned in the tool holder and usable as an awl;

Figure 10 is a longitudinal sectional view illustrating another form of carving tool of my invention;

Figure 11 is a vertical sectional view taken substantially on the line 11—11 of Figure 10;

Figure 12 is a longitudinal sectional view showing a further form of carving tool of my invention, and

Figure 13 is a transverse sectional view taken substantially on the line 13—13 of Figure 12.

While I have illustrated the forms of my invention as embodied in chisels or gouges for producing V-shaped or curved configurations in cross section, it is to be understood that tools embodying the principles of my invention may be formed in various shapes to produce other types of grooving without departing from the spirit of the invention.

Referring to the drawings in detail and first to Figure 1, I have illustrated a holder adaptable for supporting the tools of my invention. The holder is inclusive of a body portion 10 adapted to slidably receive a button or knob portion 12. The opposite end of the body 10 is knurled as at 14, this end of the holder being provided with an interiorly threaded bore adapted to receive the threaded portion 16 of a chuck member 17. The chuck member 17 is formed with a centrally disposed kerf or slot 18 forming chuck jaws 24, an axial bore 19, and transversely-disposed recesses 20, the latter being employed for the reception of other forms of tools than those herein disclosed. The chuck member 17 is provided with a tapered or frusto-conically shaped portion 22. A bushing 23 surrounds the intermediate portion of the chuck member 17 and has an outwardly flared interior configuration co-extensively arranged with the tapered portion 22 so that when the portion 16 of the chuck member is threaded into the bore in the handle 10, the flared portion of bushing 23 cooperates with the tapered portion 22 to draw the jaw portions 24 of the chuck 17 together into clamping engagement with the shank of a tool.

Figures 2 through 5 inclusive illustrate a form of carving tool of my invention in which the tool is adapted to carve or cut V-shaped grooves in

woodwork. In this form the body 25 of the tool is of V-shaped cross section as indicated in Figure 4 and is sharpened to a cutting edge 26 by the tapered extremity 27. As particularly shown in Figures 2 and 5, the carving tool is formed with a shank portion 28 provided with two uniplanar spaced sections 29 which are joined through a longitudinally extending rib or raised portion 30, the latter not only serving to reinforce the shank construction 28 but also functions as a positioning means when the tool is placed in the chuck 17 of the holder. The body portion 25 of the tool and the shank portion 30 are joined together through an angularly disposed configuration 31 which blends the body section to the shank section as especially shown in Figures 2 and 3. Thus the rib formation 30 is, in effect, a prolongation of the body section providing a section having ample strength at the juncture of the shank and body portions.

Figures 6 and 7 illustrate a modified form of carving tool of the round gouge type in which the body portion 34 is configured to a substantially semi-circular cutting edge 35 at one end and formed with a shank portion 37 at the other end portion. The shank portion 37 is of a configuration substantially identical with that formed on the tool construction shown in Figures 2 and 3. The shank portion 37 is received in the jaws 24 of the tool holder as illustrated in Figure 6, the construction shown in Figures 2 through 5 inclusive being adapted to be held in the jaws of the holder in the same manner. The rib or ridge portion 39 is received into a longitudinally extending opening or recess 19 formed in a jaw 24 of the chuck 17, and the rib and walls of such recess cooperate to properly position the gouge or carver in the tool holder and prevent lateral movement of the tool with respect to the holder. When the chuck member 17 is threaded into the handle portion 10 of the tool holder, the chuck jaws 24 are urged toward one another into engagement with the uniplanar portions 40 of the tool shank 37 to prevent vertical movement of the tool with respect to the holder.

I have found that in the use of carving tools or gouges with certain types of wood, the cuttings or chips tend to follow the concave or channeled interior formation of the tool to the entrance of opening 19 in the upper jaw 24 of the tool holding chuck and also tend to accumulate adjacent the chuck jaws. In order to avoid the projection of chips or cuttings into the recess in the upper jaw 24, or their accumulation adjacent the chuck jaws, means are provided for diverting the chips from the carving tool channel and away from the chuck jaws. As shown in Figure 8, this means is in the form of a rod or bar 43 preferably of circular cross section and tapered at its outer end as shown at 44 to provide a point or apex 45 adapted to lie in the bight or central portion of the channel of the tool configuration. The apex 45 terminates a short distance from the extremity of the body of the tool 25 as illustrated in Figure 8. In the use of this arrangement, the cuttings or chips made by the cutting edge of the tool will be diverted by the tapered portion 44 of the rod in a direction away from the chuck jaws 24.

As shown in Figure 9, the rod 43 may be utilized as an awl, prick punch or the like by inserting the same in a bushing or sleeve 47 of a dimension to be received in the recesses 19 formed in the chuck jaws 24.

Figures 10 and 11 illustrate a means integrally formed in the tool configuration for diverting chips and cuttings away from the tool supporting chuck. In this construction, the tool body 25' is formed adjacent its juncture with the shank 28 with an angularly disposed or canted portion 49. The raised portion 49 is formed centrally of the tool, as shown in Figure 11, and serves to deflect chips or cuttings upwardly or laterally and away from the chuck jaws of the tool holder.

Another modification of means for diverting chips or cuttings away from the holder is illustrated in Figures 12 and 13. In this form of tool, an impediment to the passage of the chips or cuttings is placed in the bight portion of the carving tool configuration 25''. I have found that the deposition of a small amount of solder or other fluxable metal or alloy 50 in the channel configuration provides a satisfactory means of accomplishing the desired result. In the use of this form of tool, the cuttings or chips, being moved along the interior of the channel configuration, engage the impediment or abutment 50 and are deflected upwardly or laterally so that they will not accumulate in or in front of the jaws of the tool holder. The composition comprising the abutment 50 may be applied by the use of a suitable soldering or brazing flux to cause it to adhere to the carving tool.

The tools, as illustrated herein, may be conveniently and rapidly made from sheet metal through the use of suitable forming dies so that the tools may be made in large quantities at a low cost.

While I have illustrated my invention as embodied in carving tools of the corner chisel and round gouge type, it is to be understood that my invention may be embodied in tools of different cross sectional configuration following the principles of construction of the present invention.

It is apparent that, within the scope of the invention, modifications and different arrangements may be made other than is herein disclosed, and the present disclosure is illustrative merely, the invention comprehending all variations thereof.

What I claim is:

1. A cutting tool comprising an elongated member formed of a single strip of sheet metal, said member being formed with a body portion, an intermediate portion and a shank portion, said body portion being of nonuniplanar configuration in cross-section and angularly disposed with respect to said mid-portion and having a mid section extending below the plane of its edges and the extremity of said body portion being configured to present a cutting edge; said shank portion being formed of a planar surface having a reinforcing rib running the full length of said surface and extending below the plane of said surface in a direction similar to that of said center section, said shank portion being angularly disposed with respect to said intermediate portion and offset with respect to said body portion, said rib terminating at the angular juncture of said shank and intermediate portion.

2. A cutting tool comprising an elongated member formed of a single strip of sheet metal having parallel lateral edges, said member being formed with a body portion, an intermediate portion and a shank portion, said portions having as their lateral edges, the lateral edges of said single strip of sheet metal, said body portion

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being of nonuniplanar configuration in cross-section and angularly disposed with respect to said mid-portion and having a mid-section extending below the plane of its edges and the extremity of said body portion being configured to present a cutting edge; said shank portion being formed of a planar surface having a reinforcing rib running the full length of said surface and extending below the plane of said surface in a direction similar to that of said center section, said shank portion being angularly disposed with respect to said intermediate portion and offset with respect to said body portion, said rib terminating at the angular juncture of said shank and intermediate portion.

PHILIP H. UNSINGER.

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