Feb. 26, 1957 C. J. ROBINSON 2,782,824

FLAT OR SPADE TYPE WOOD BORING BIT

Filed April 27, 1954

FIG. 1

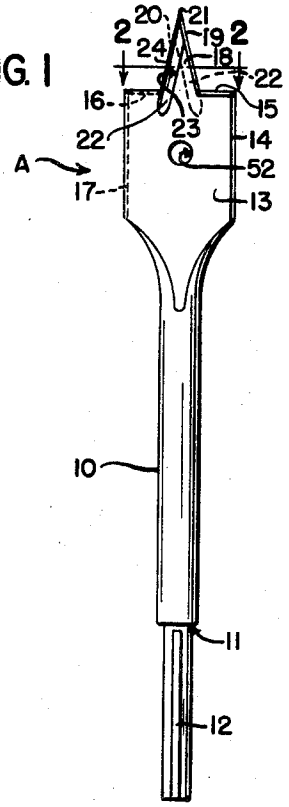


FIG. 4

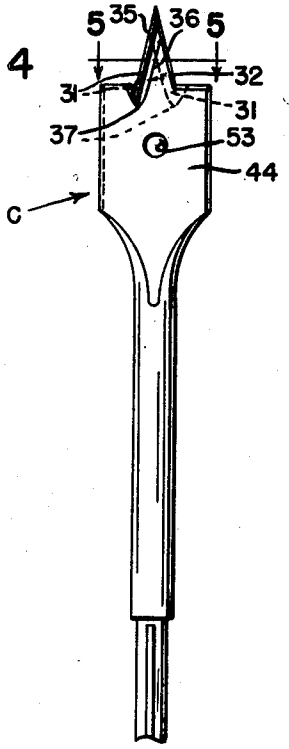


FIG. 2

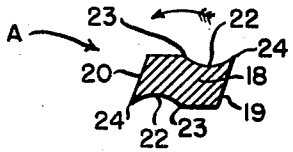


FIG. 5

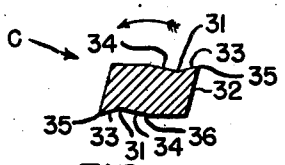


FIG. 7

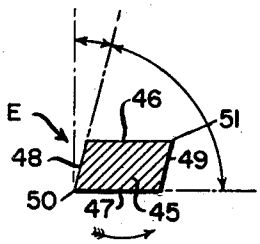


FIG. 3

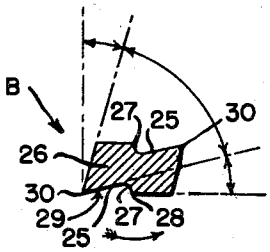
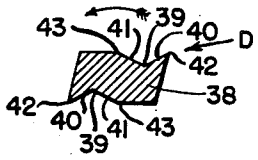


FIG. 6



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FLAT OR SPADE TYPE WOOD BORING BIT

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Application April 27, 1954, Serial No. 425,915

1 Claim. (Cl. 145—116)

This invention relates to woodworking tools and more particularly to flat or spade type wood boring bits, generally employed in a hand-held electric drill or drill press.

An important object of the invention is to provide a bit of this character which requires less torque and thrust in operation than do conventional bits for the purpose mentioned.

Another important object is to provide a bit as described in which the cutting angle at the cutting edge of the point is lessened over that of conventional bits of this character, whereby an appreciable reduction in thrust and torque is achieved.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention, taken in connection with the accompanying drawing, forming a part of this disclosure, and in which drawing:

Fig. 1 is an elevation of a flat or spade type wood boring bit disclosing one form of the invention.

Fig. 2 is an enlarged horizontal section of the point of the bit of Fig. 1, substantially on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal section of the point (enlarged) of a bit differing from that of Figs. 1 and 2 only in the shape of the flutes or grooves.

Fig. 4 is an elevation of a flat or spade type wood boring bit disclosing another form of the invention in which the flutes or grooves are angular.

Fig. 5 is an enlarged horizontal section of the point of the bit of Fig. 4, substantially on the line 5—5 of Fig. 4.

Fig. 6 is a horizontal section of the point (enlarged) of a bit differing from that of Figs. 4 and 5 only in the shape of the flutes or grooves.

Fig. 7 is an enlarged horizontal section of the point of a conventional flat or spade type wood boring bit.

In the drawing, wherein for the purpose of illustration are shown several embodiments of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letters A, B, C and D designate four embodiments of the invention and E, a conventional flat or spade type wood boring bit.

Each embodiment of the invention comprises a shank, a blade, and a point. Except for the point, each bit is substantially alike.

In the embodiment A of Figs. 1 and 2, the shank **10** is shown as a cylindrical body portion with the free end portion reduced in circumference to provide the shoulder **11** and this portion is provided with a plurality of spaced-apart flats **12**, for the chuck jaws, all this being conventional construction.

The blade **13** extending from the inner end portion of the shank and is preferably integral therewith, and comprises a body portion having opposite, substantially flat faces and bevelled edges or faces **14**, **15**, **16** and **17**, with

the edges or faces **15** and **16** being terminal edges with the bevelled faces extending in opposite directions, as can be appreciated in Fig. 1, but the bevels of the edges or faces **14** and **17** extend substantially parallel.

The point **18** extends from the outer end of the body portion of the blade **13** and is preferably integral therewith. It comprises a body portion having a thickness substantially like that of the blade **13** and bevelled end edges or faces **19** and **20** with the edge **20** like the edge **19**.

Extending from the apex **21** of the body portion of the point **18** is a groove or flute **22** in each opposite flat side face of the body portion of the point body. Each groove or flute **22** is defined by opposite longitudinal edges **23** and **24** in substantial parallelism, while one edge **24** is also an edge of the bevelled face **20**. Edges **23** and **24** join each other at a location in the body portion of the blade **13** just inwardly of the edges **15** and **16** respectively. It will be noted, in Fig. 2, that the grooves or flutes **22** are arcuate transversely.

The embodiment B differs from A simply in the transverse contour of the flutes or grooves **25** of the point **26** of the embodiment B, since they are curved transversely at the face **27** from the longitudinal edge **28** of the flute or groove and they then have substantially flat faces **29** joining the faces **27** and extending to the longitudinal edge **30**. The longitudinal edges **28** and **30** join to form a juncture quite similar to that of the edges **23** and **24**.

In Figs. 4, 5 and 6 are shown the embodiments C and D of the invention. They too differ from the embodiment A simply in the transverse contour of their flutes or grooves as well as the shape of the junctures of the longitudinal edges of these flutes or grooves.

In Fig. 5 it will be seen that each of the flutes or grooves **31** of the point **32** of the embodiment C, have two substantially flat faces **33** and **34** with the face **33** extending from the longitudinal edge **35** and the face **34** extending from the opposite edge **36** and these edges come together in a point **37** in the body portion of the blade **44**. It will be noted that the edges **35** also form one edge of each of the bevelled end faces of the body of the point **32**.

In Fig. 6 which is a section of the point **38** of the embodiment D, the flutes or grooves **39** each have substantially flat faces **40** and **41** with the face **40** extending from the edge **42** and the face **41** extending from the edge **43**.

In Fig. 7 there is shown, by way of example, and for comparison, a horizontal cross section of the body of a point **45** of a conventional flat or spade type wood boring bit E, having unbroken flat faces **46** and **47**, bevelled edges end edges or faces **48** and **49** and cutting edges **50** and **51**. Comparison thereof with any of Figs. 2, 3, 5 or 6 will show the sharper cutting edges **24**, **30**, **35** and **42** of the flat or spade type wood boring bits of this invention. As a consequence, the sharper edges of the points **18**, **26**, **32** and **38** enable these points to penetrate wood with a less expenditure of energy and thrust than would be the case when the conventional point **45** of Fig. 7 is employed in penetrating the same kind of wood.

I prefer to forge the bits of this invention from solid or integral pieces of steel, with heat treatment all over, and have discovered that, despite the provision of the flutes or grooves, which are preferably milled or hollow ground, the bits are sturdy and will not bend.

In order to permit hanging of the bits upon a support, as a nail, I prefer to provide a small perforation, like the openings **52** or **53** in the blades of the bits to receive the shank of the nail.

In the use of the new bits of this invention, a hole may be drilled in wood by the combined action of the

torque of a small, inexpensive power drill and thrust imparted by the operator. Since the cutting edges of the points of these bits are sharper and hence, are easier to use, and there are provided the flutes extending to the flat side faces of the blade, the chips which are only a few thousandths of an inch thick, travel along the flutes and are discharged over the wide flat side faces of the blade and into the pockets defined by these faces and the walls of the hole drilled by the bit blade.

Various changes may be made to the forms of the invention herein shown and described without departing from the spirit of the invention or scope of the claim.

What is claimed is:

A spade type wood boring bit having a flattened blade body portion provided with substantially parallel side faces and bevelled edges joining said side faces, said bevelled edges including an end edge, and a point extending outwardly from said flattened blade body portion, said point comprising a point body portion terminating in an apex and having a pair of substantially parallel side faces and narrow bevelled edges joining the last-named side faces and extending to said end edge intermediate the ends of said end edge, each side face of said point body portion being provided with a longitudinally inclined elongated flute partly defined by two elongated substantially parallel edges on said point body portion, with one of said elongated substantially parallel edges extending from the apex of the point body portion toward the juncture of the blade body portion and point body portion and the other of said elongated substantially parallel edges extending, from a location at one of said narrow bevelled edges intermediate said apex and said end edge, toward the juncture of the blade body portion and point body portion, and the juncture of the other of said narrow bevelled edges and one side face of said point body portion providing a cutting edge.

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