March 18, 1952 E. W. TAYLOR 2,590,053

CONCRETE DRILLING DEVICE

Filed April 7, 1950

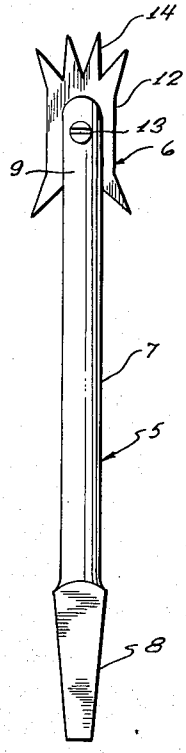


FIG. 1

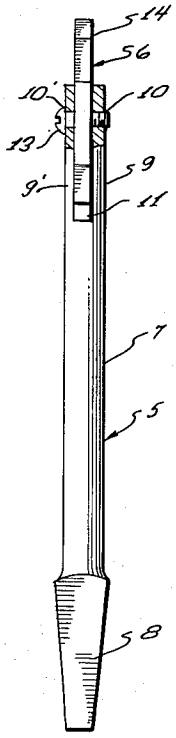


FIG. 2

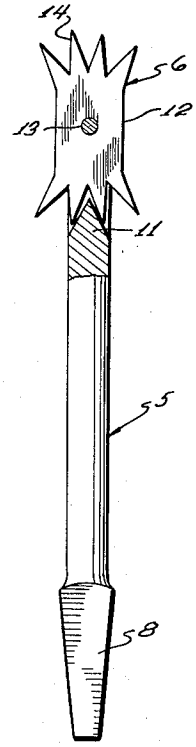


FIG. 3

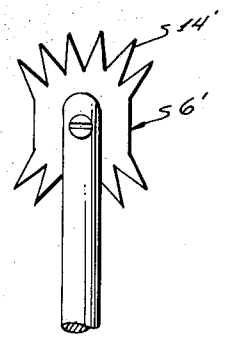


FIG. 4

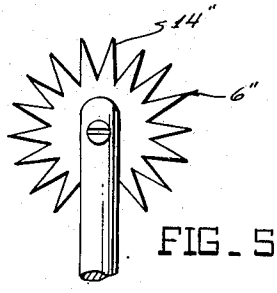


FIG. 5

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CONCRETE DRILLING DEVICE

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2 Claims. (Cl. 255—61)

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This invention relates to drilling devices, but more particularly to a drilling device which is especially suitable to the drilling of concrete or similar materials.

The principal object of this invention is to provide a drilling device having a cutter which may be conveniently mounted in a plurality of cutting positions.

Another object of this invention is to provide a drilling device which is efficient and easy to use, and which can be manufactured at very little cost.

Other and further objects and advantages will become apparent from a consideration of the following claims and specification in conjunction with the drawing, wherein:

Figure 1 is a plan view of the device forming this invention;

Figure 2 is a side elevational view of the device with a portion thereof shown in section;

Figure 3 is a view similar to Figure 1 with one of the bifurcated arms removed to show the structure of the cutter;

Figures 4 and 5 are fragmentary plan views of the device, each showing a modified form of a cutter.

With continued reference to the drawing, the device forming this invention comprises, in general, a drill embodying an elongated shank 5 which has one end provided with means for attachment to a drilling tool, and has the other end formed to support a cutter 6.

The shank 5, which is preferably of steel construction, has an elongated body 7 and a tapered head portion 8 at one end which is designed to be held within the socket of a conventional brace (not shown). The other end of the body 7 is bifurcated to define a pair of spaced, parallel, longitudinally extending arms 9, 9'. The arms 9, 9' are provided adjacent their free ends with opposed, aligned apertures 10, 10'. Between the arms 9, 9', the body 7 is provided with a triangularly-shaped portion 11 for a purpose to be later described.

The cutter 6 is preferably a flat, hardened steel element 12, and is positioned between the arms 9, 9' of the body 7. The cutter element 12 is loosely supported in position by means of a pin, such as a screw 13, which extends through the aligned apertures 10, 10' and also freely through the center of the cutter element 12. One of the arms, as the arm 10, is threaded to receive the screw 13. The screw 13 is, therefore, easily removable to thereby release the cutter 6 from its operative position between the arms 9, 9'.

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The cutter element 12 is provided with a plurality of cutting teeth 14 adjacent opposite ends thereof. When the cutter 6 is in its operative position, the triangularly-shaped portion 11 of the body 7 projects between a selected pair of the teeth 14 and engages therewith, to thereby lock the cutter 6 in a fixed position relative to the body 7.

The modifications of the device shown in Figures 4 and 5 are similar to the preferred form of the device shown in Figures 1 through 3, except that different cutters are therein employed. In Figure 4, a cutter 6' is used which is similar to the cutter 6 of Figure 1, but is provided with a greater number of cutting teeth 14'. The device shown in Figure 5 employs a flat, circularly-shaped cutter 6'' having a plurality of circumferentially spaced teeth 14''. The cutters 6' and 6'' may be substituted for the cutter 6 of the preferred form whenever the chaarcter of the material being cut demands their employment. It has been found that when large holes are desired to be drilled, the forms of Figures 4 and 5 are more efficient than the form of the device shown in Figure 1.

It will be noted that the drilling device forming this invention employs a cutter, such as the cutter 6, which may be easily and conveniently mounted in a variety of operative positions. For example, when the teeth 14 on one end of the cutter body 12 are worn, the cutter 6 may be conveniently remounted or reversed so that the teeth 14 on the opposite end of the cutter body 12 are exposed to the work. This is accomplished by merely removing the screw 13 from the arms 9, 9', relocating the cutter 6, and then replacing the screw 13. The cutters 6' and 6'' of the forms in Figures 4 and 5, respectively, are similarly mounted and remounted in a variety of operative positions.

I claim:

1. A drilling device comprising an elongated shank having means for attachment to a drilling tool on one end thereof, the other end of said shank being bifurcated to define a pair of longitudinally extending parallel arms, a flat cutter removably mounted between said arms, said cutter being provided with a plurality of spaced cutting teeth adjacent opposite edges thereof, a pin extending transversely through said arms and said cutter and removably secured to one of said arms for loosely supporting said cutter, and means on the bifurcated end of said shank and engageable between a pair of said teeth to thereby

lock the latter in a fixed position relative to said shank.

2. A drilling device comprising an elongated shank having means for attachment to a drilling tool on one end thereof, the other end of said shank being bifurcated to define a pair of longitudinally extending parallel arms, a flat cutter removably mounted between said arms, a pin extending transversely through said arms and said cutter and removably secured to one of said arms for loosely supporting said cutter, said cutter being provided with a plurality of spaced cutting teeth adjacent opposite edges thereof, and a triangularly-shaped element on the bifurcated end of said shank having its apex projecting between a pair of said teeth and engageable therewith to

thereby lock said cutter in a fixed position relative to said shank.

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