July 1, 1924. 1,499,561

P. STEFANICH

DRILL

Filed Nov. 16, 1922 2 Sheets-Sheet 1

FIG. 1

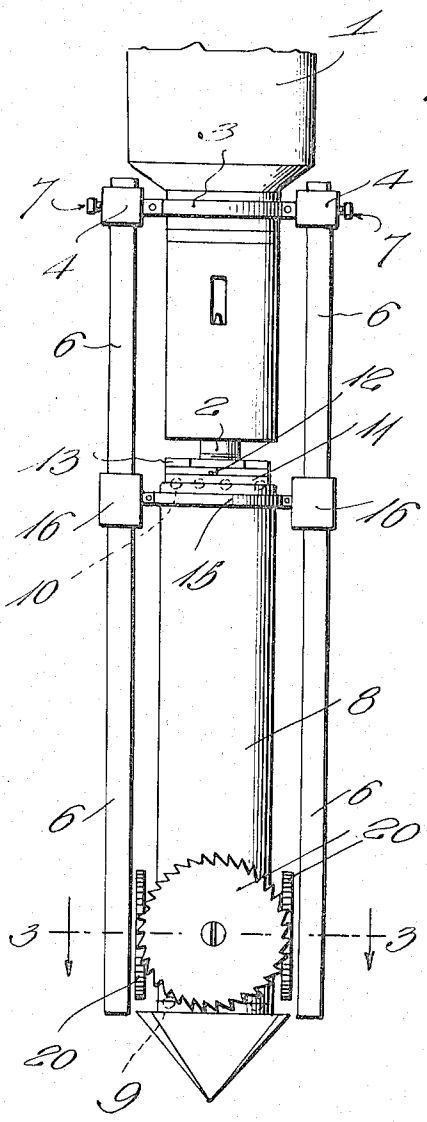


FIG. 5

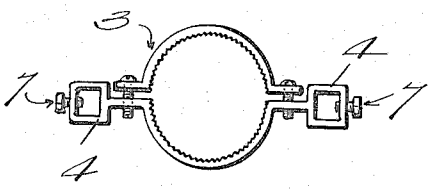
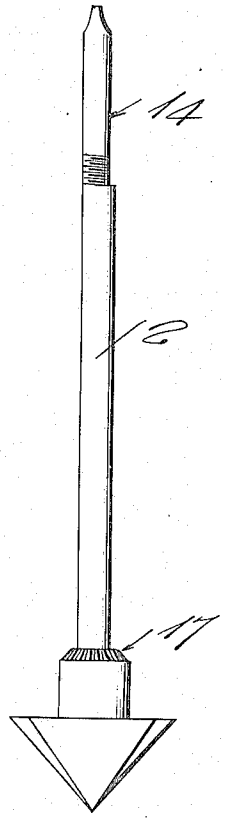


FIG. 4



Witness

Inventor

Peter Stefanich

By A. B. Williamson

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July 1, 1924.

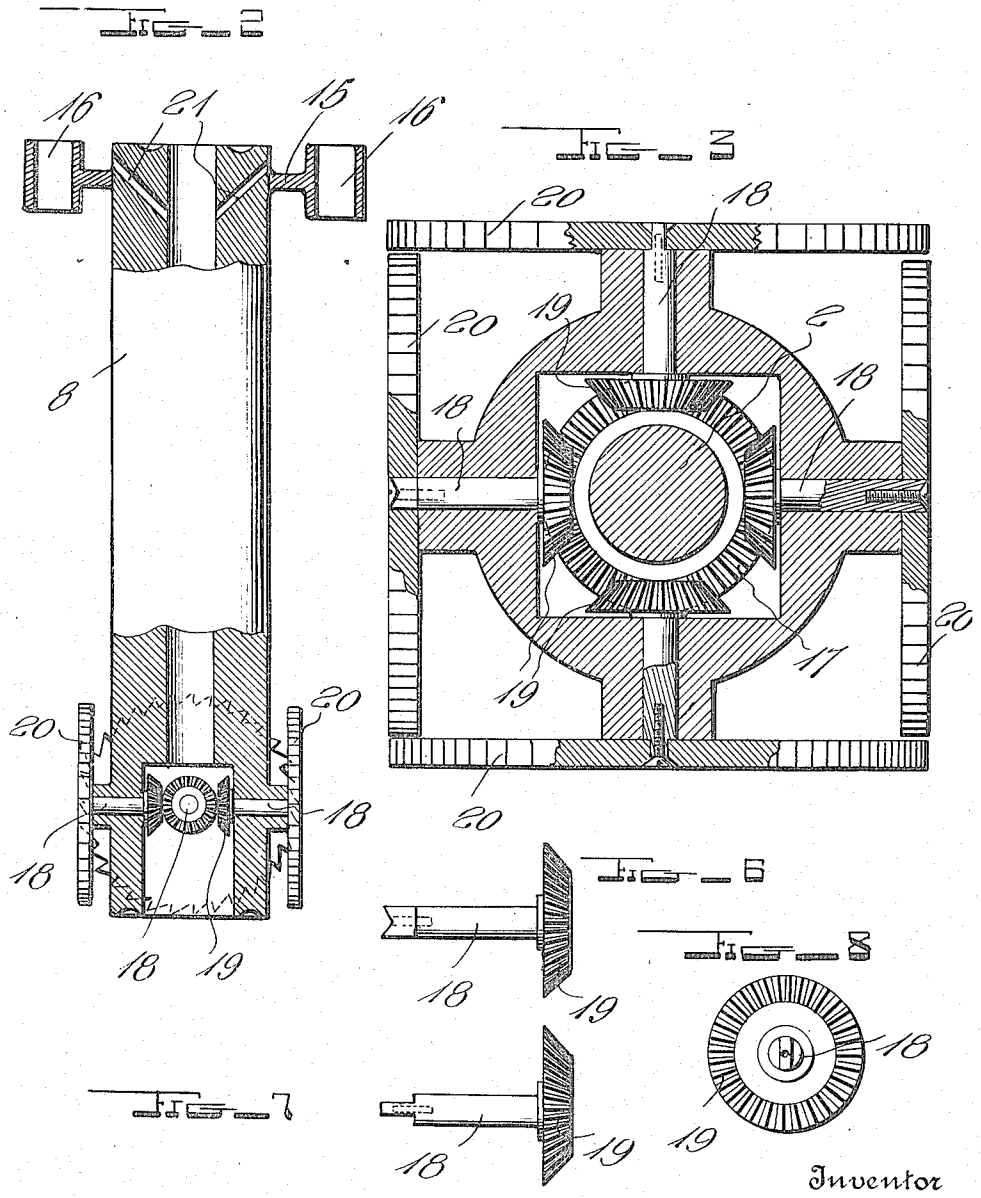
1,499,561

P. STEFANICH

DRILL

Filed Nov. 16, 1922

2 Sheets-Sheet 2



Witness

Inventor

Peter Stefanich

By D. B. Williamson & Co

Attorneys

Patented July 1, 1924. 1,499,561

UNITED STATES PATENT OFFICE.

PETER STEFANICH, OF INDIANA HARBOR, INDIANA, ASSIGNOR OF ONE-HALF TO BARNEY STEFANICH, OF INDIANA HARBOR, INDIANA.

DRILL.

Application filed November 16, 1922. Serial No. 601,408.

To all whom it may concern:

Be it known that I, PETER STEFANICH, a citizen of Austria, residing at Indiana Harbor, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Drills; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a drill, the general object of the invention being to provide means for boring a square hole by means of a central bit and four side cutters which cut the corners from the walls of the hole made by the bit.

Another object of the invention is to provide means for permitting the part which carries the cutters to have vertical or longitudinal movement.

The invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation of the invention.

Figure 2 is an elevation, with parts in section, of the drill carrying member.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is a view of the drill bit.

Figure 5 is a view of one of the guide bar supporting clamps.

Figures 6 and 7 are views showing one of the saw-carrying shafts in side elevation.

Figure 8 is a view showing the saw-carrying shaft in end elevation.

In these views, 1 indicates the drill press having a chuck to which the shank of the bit 2 is connected so that the bit can be rotated in the ordinary manner and made to travel towards and away from the work. A sectional collar 3 is secured to said press and carries square sockets 4 for the guide rods 6, the rods being secured in the sockets by set screws 7. The shank of the bit passes through a cylindrical body 8, the bit and shank being rotatably connected with the body, preferably by a ball bearing 9 placed between the lower end of the body and the head of the bit and another ball bearing 10 placed between the upper end of the body and the washer 11, the washer being held in place by the nut 12 which engages a screw threaded part of the shank and is secured by the lock nut 13. The washer may be held rotatably in relation to the shank by the flat part 14, the washer having a similar flat portion. The body 8 has secured thereon the sectional collar 15 which carries the sockets 16 for slidably receiving the rods 6, so that the body is guided in its vertical movement by said rods and is held against rotary movement. The bore of the body has an enlarged part at its lower end to receive an enlarged part of the shank, this part of the shank having a bevel gear 17 formed thereon. Small shafts 18 are mounted in the lower part of the body, the inner ends of these shafts carrying the bevel gears 19 which mesh with the gear 17 so that the shafts are revolved when the drill and its shank are rotated. The outer ends of the shafts have secured thereto the circular cutters 20, which are made somewhat similar to a saw, these cutters being so arranged that they will cut the corners from the wall of the hole made by the bit so that the device will make a square hole. The upper part of the body is formed with the oil holes 21 so that the movable parts may be provided with lubricant.

From the foregoing it will be seen that when the bit is rotated from the press and advanced into the work, the cutters will be revolved to cut the corners from the hole made by the bit so as to make this hole square instead of round. The body and the bit can have a certain amount of vertical movement due to the connection of the body with the guide rods, thus insuring a steady cutting action and preventing injury to the cutters and the bit.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the

combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

I claim:

1. In combination with a drill, a chuck for driving the drill, and a stationary member toward and from which said chuck is movable; an elongated casing through which said drill passes, means connecting the drill and casing for axial movement as a unit, rotary cutters carried by the lower end of said casing and driving connections between said cutters and drill, a collar clamped around said stationary member and having diametrically opposed external sockets, a pair of parallel guide rods at the exterior of said casing and chuck rigidly held at one end in said sockets, a second collar clamped around said casing, and diametrically opposed external sockets carried by said second collar and slidably surrounding said guide rods.

2. A structure as specified in claim 1; each of said collars comprising a main semi-circular section whose ends carry the sockets, an auxiliary semi-circular section, and fasteners connecting the ends of said sections.

In testimony whereof I have hereunto affixed my signature.

PETER STEFANICH.