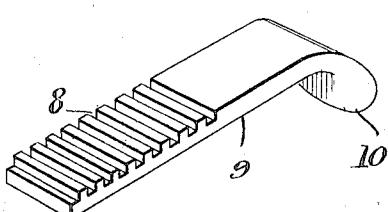
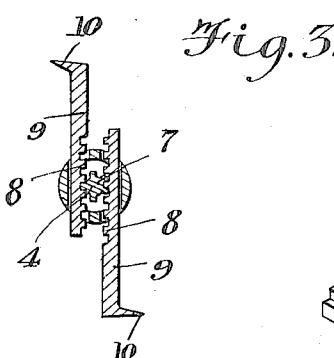
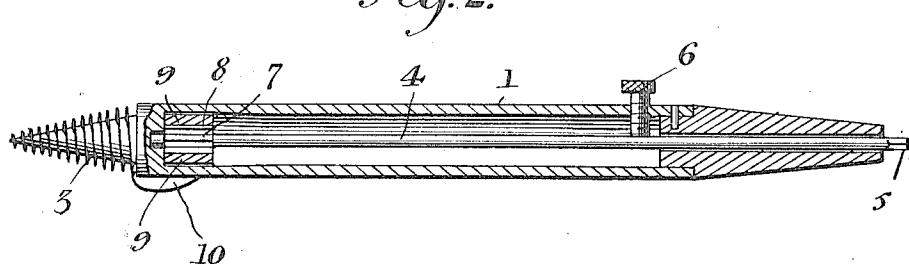
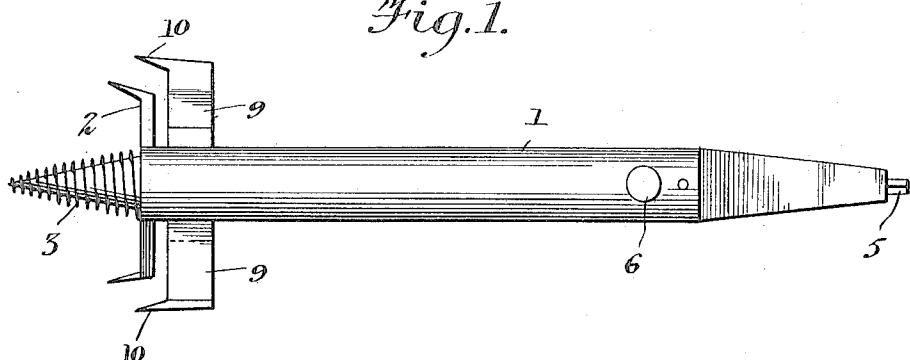


1,206,363.

J. G. PASSAUER.
EXPANSIBLE BIT.
APPLICATION FILED NOV. 13, 1915.

Patented Nov. 28, 1916.



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EXPANSIBLE BIT.

1,206,363.

Specification of Letters Patent. Patented Nov. 28, 1916.

Application filed November 13, 1915. Serial No. 61,361.

To all whom it may concern:

Be it known that I, JOHN G. PASSAUER, a citizen of the United States, residing at Tionesta, in the county of Forest and State 5 of Pennsylvania, have invented new and useful Improvements in Expansible Bits, of which the following is a specification.

This invention relates to attachments for boring bits by means of which the diameter 10 of the bore cut by the bit may be increased.

The primary object of the invention is to provide means coöperating with the well known form of bit having the inherent 15 property of cutting behind the blade of the bit a bore of greater diameter than the bore cut by the blade of the bit.

An object of the invention is to provide simple and well constructed means for moving the cutting elements of the attachment 20 toward or away from the body of the bit for increasing or decreasing the size of the cut.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will 25 be hereinafter more fully described, illustrated in the accompanying drawing and pointed out in the claim hereunto appended.

In the drawing:—Figure 1 is a side elevation of a bit showing my invention applied 30 thereto. Fig. 2 is a longitudinal section therethrough. The remaining figures are detail views.

Referring to the drawing the numeral 1 designates the shank of a bit shown in this 35 particular instance as being hollow throughout its length. One end of the shank is closed while the remaining end is open and in this open end is arranged a bearing 1^a.

The numeral 2 designates the cutting 40 blade while the numeral 3 designates the threaded point or tip of the bit.

Mounted for rotation within the shank is a shaft 4 having one end protruding beyond one end of the shank 1 as indicated at 5 45 and squared so that an instrument may be attached thereto for giving rotatable movement to the shaft. For preventing movement of the shaft at predetermined times I provide a thumb screw 6 secured into the 50 shank 1 and engaging the shaft 4. The

other end of the shaft 4 is mounted in the bit at the blade 2 while adjacent this end the shaft is provided with gear teeth 7 properly meshing with teeth 8 formed on the opposing faces of jaws 9. These jaws 55 are slidably mounted in the shank 1 in a transverse direction with relation to the passage in the shank and as shown each jaw is provided at its end with a cutting edge 10. At this point attention is called to the 60 fact that the jaws 9 are arranged just in the rear of the blade 2 with the result that the cutting edges of the jaws will only have to cut the surplus material necessary to enlarge 65 the bore as the cutting blade 2 cuts the bulk of the material in its passage.

From the foregoing description it will be seen that when an instrument is applied to the squared end of the shaft and rotation given to the latter, the jaws will be 70 fed outwardly or inwardly depending entirely upon the direction in which the shaft is rotated with the result that I can accurately regulate the size of openings made by the jaws.

A very important advantage of my device 75 is that the size of a bore can be increased after once being cut by a bit of smaller diameter.

From the foregoing description taken in 80 connection with the accompanying drawing, the advantages of the construction and the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while I describe 85 the principle of the operation of the invention together with the device that I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that 90 such changes may be made when desired as are within the scope of the claim.

What I claim is:—

A bit comprising a cylindrical hollow shank having one end open, a bearing 95 detachably mounted in the open end and extending beyond the end whereby said shank may be rotated, a shaft rotatably mounted in said bearing and having one end mounted in the wall of the closed end of the shank, 100

a pair of jaws slidably mounted in the shank in a right-angular direction with relation to said shaft, a gear secured to said shaft and engaging teeth formed on said jaws,
5 said gear and shaft being insertible into the interior of the shank through the open

end of the latter, and a set screw mounted in said shank and engaging an intermediate portion of said shaft at a point adjacent said bearing.

10

In testimony whereof I affix my signature.
J. G. PASSAUER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents.
Washington, D. C."