

W. GEDDES.  
BORING OR DRILLING BIT.  
APPLICATION FILED OCT. 1, 1909.

960,635.

Patented June 7, 1910.

Fig. 1.

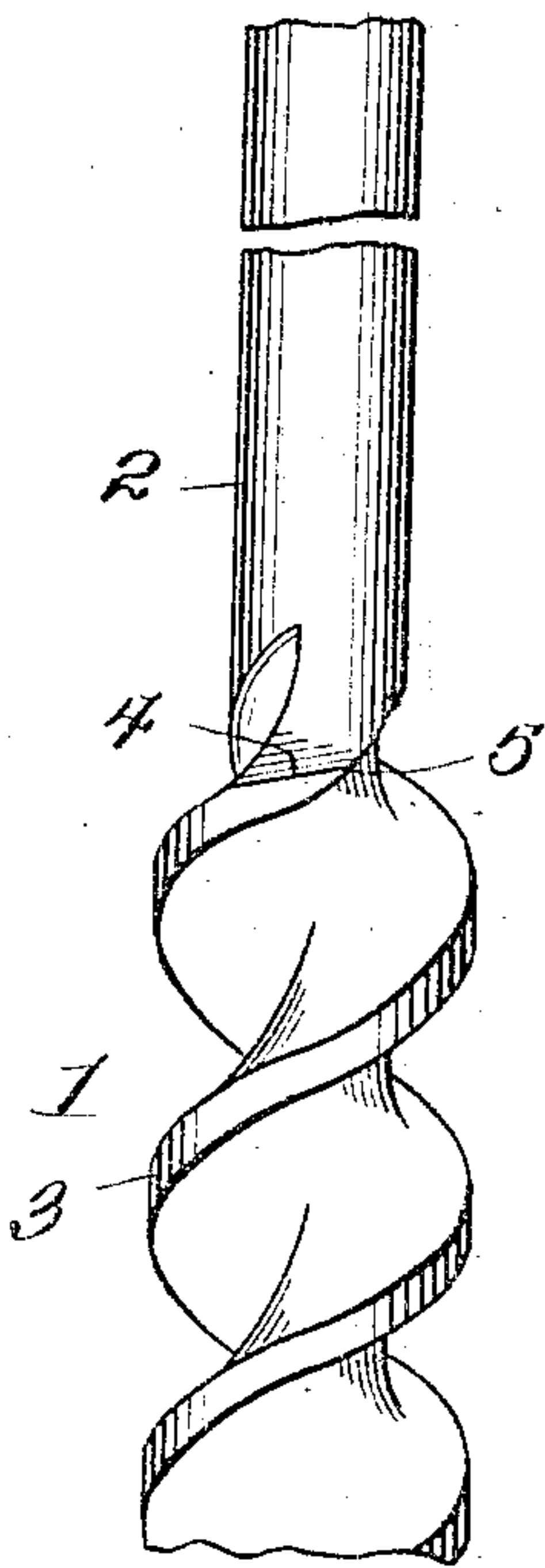


Fig. 2.

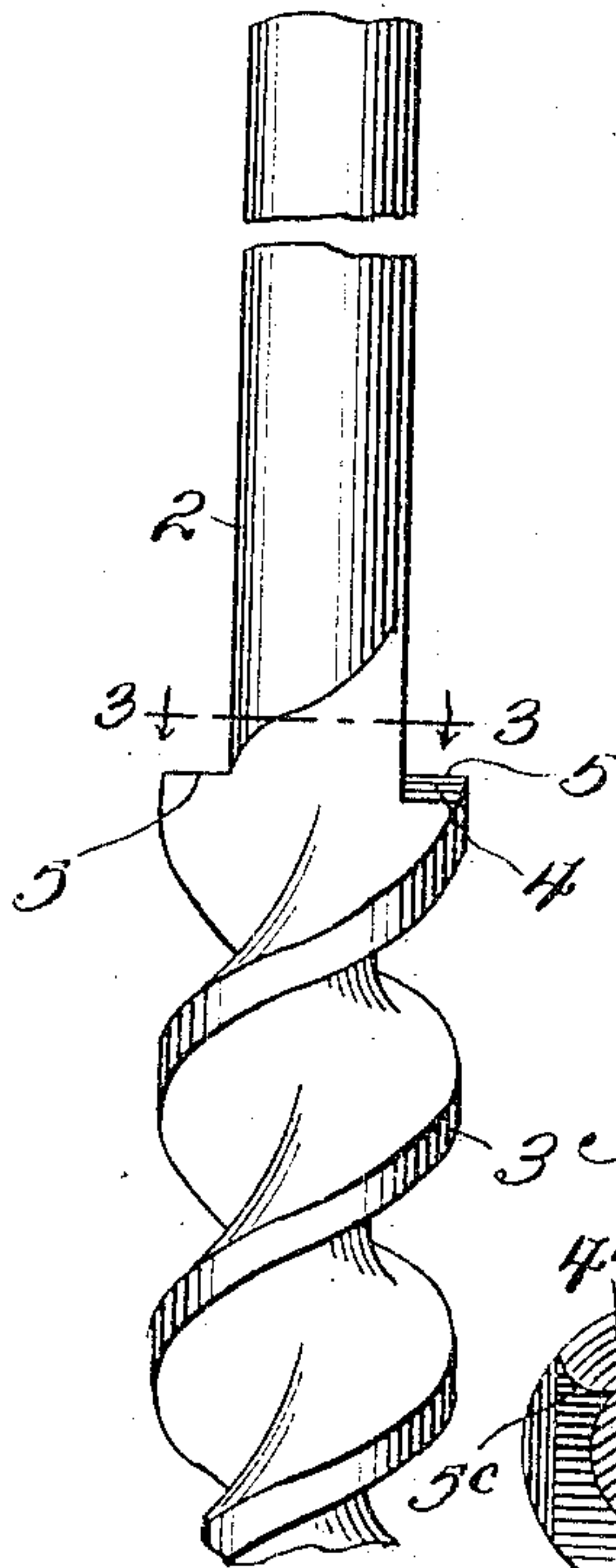


Fig. 3.

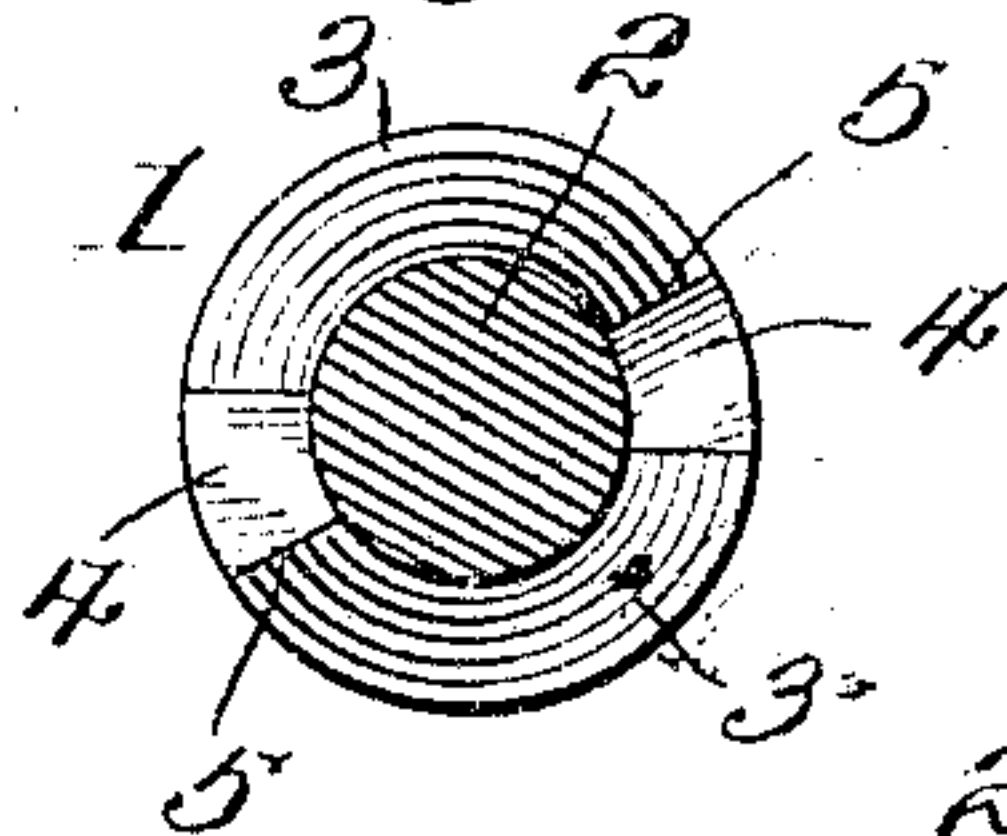


Fig. 7.

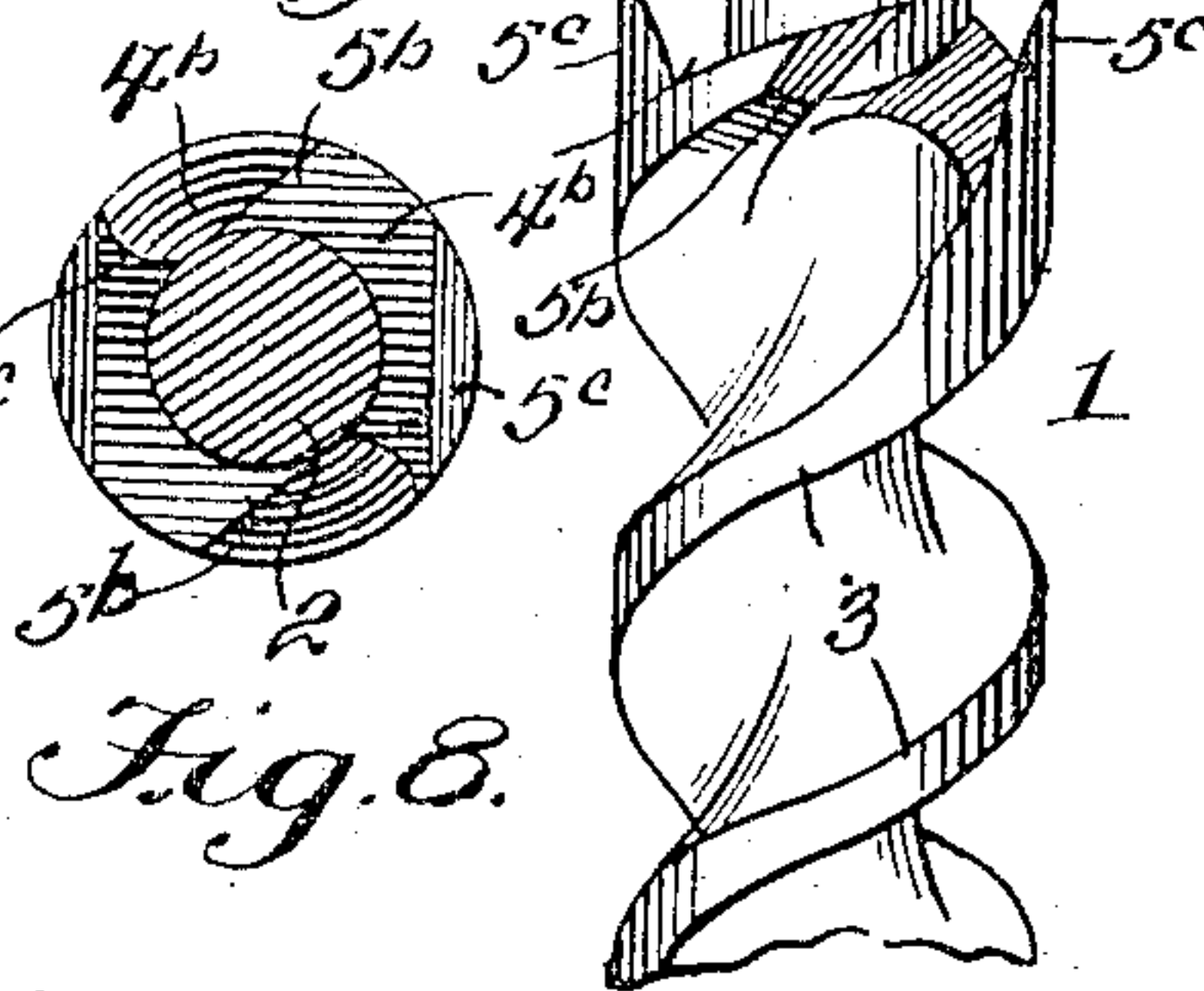


Fig. 8.

Fig. 6.

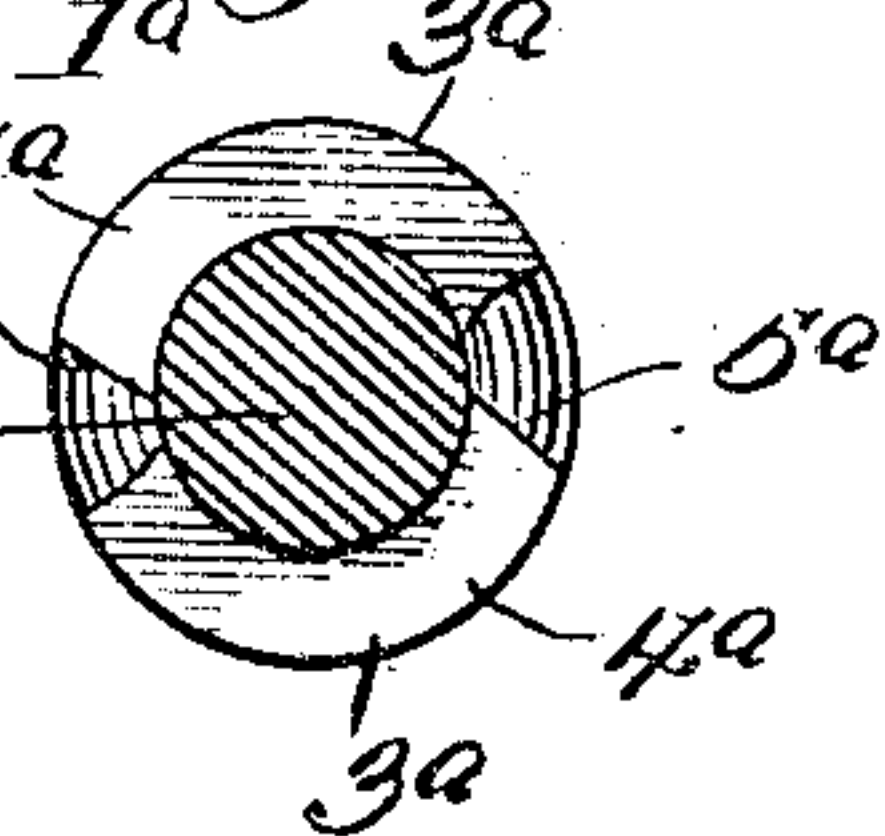


Fig. 5.

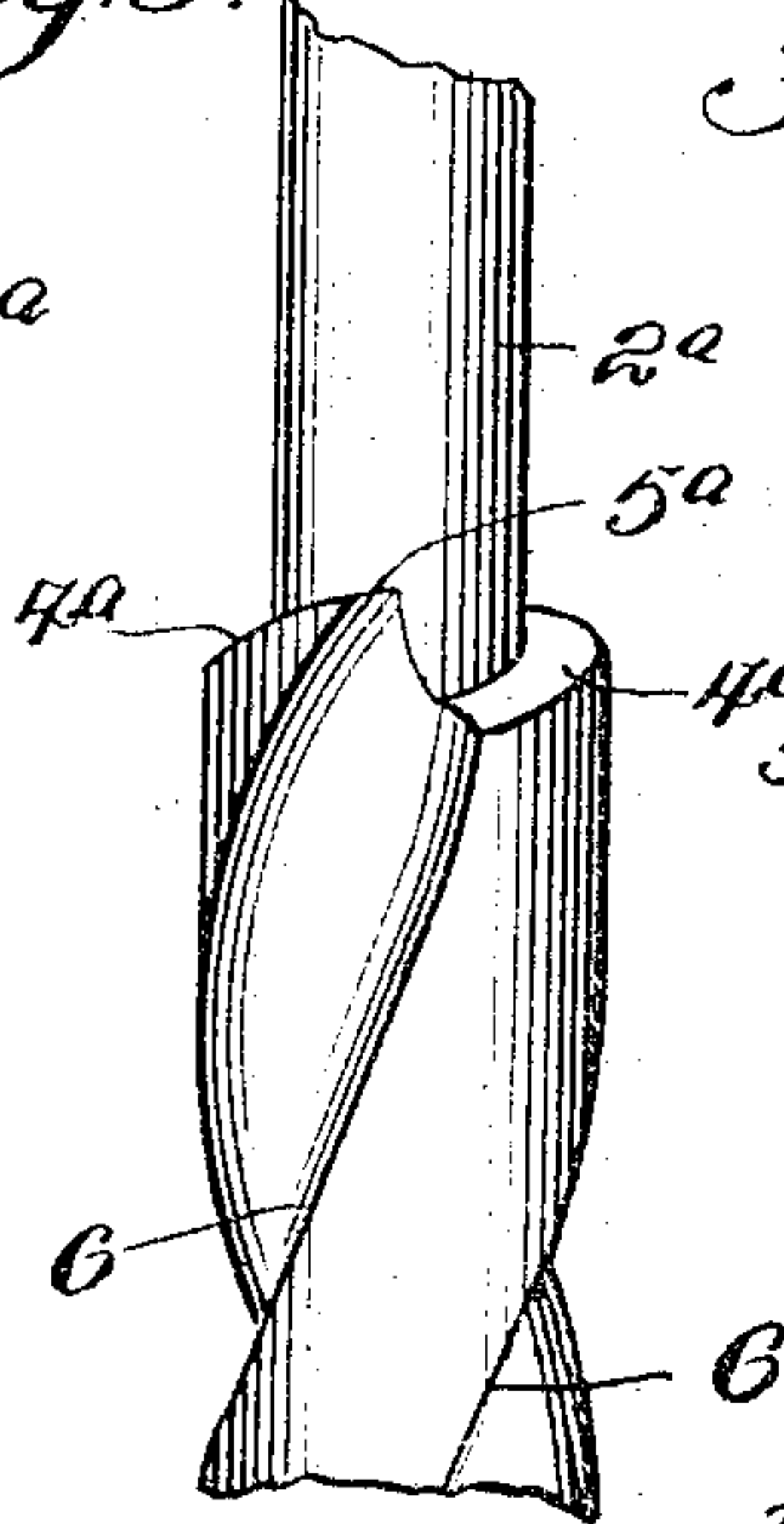
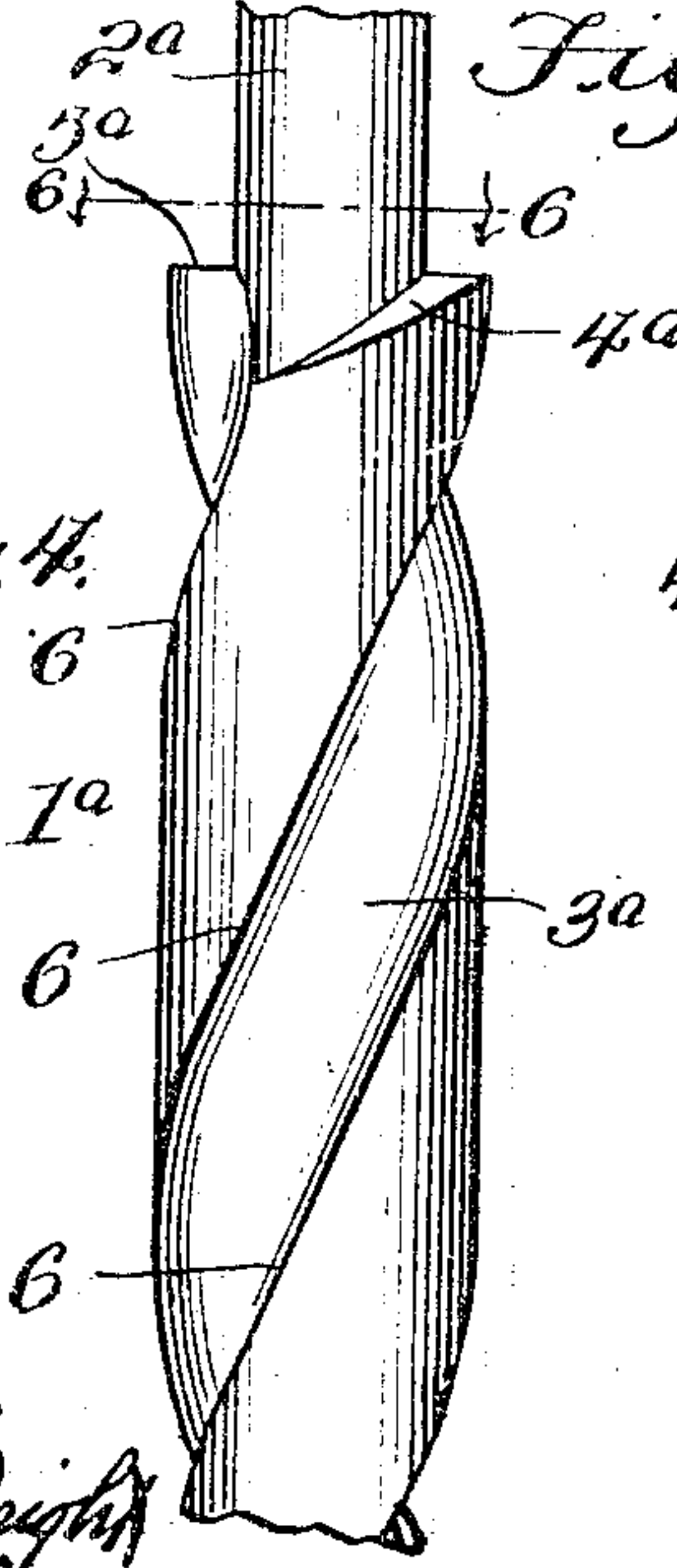


Fig. 4.



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# UNITED STATES PATENT OFFICE.

WILLIAM GEDDES, OF ANNAN, ONTARIO, CANADA, ASSIGNOR OF ONE-FOURTH TO H. B. WILSON AND ONE-FOURTH TO JOHN S. DUNDON, BOTH OF SAN FRANCISCO, CALIFORNIA.

BORING OR DRILLING BIT.

960,635.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, WILLIAM GEDDES, a subject of the King of Great Britain, residing at Annan, in the Province of Ontario and Dominion of Canada, have invented new and useful Improvements in Boring or Drilling Bits, of which the following is a specification.

This invention relates to boring or drilling bits, and particularly to those intended for deep boring or drilling.

Boring and drill bits of ordinary construction are objectionable because of their tendency to become choked by the shavings or chips after the bore has been partly made. Owing to this tendency it is often necessary to remove the bit one or more times before a bore of the full depth can be cut, and the choking of the bit not only increases the labor of boring, but sometimes the bit hangs or binds in a deep bore so that it is impossible to remove it in the ordinary way.

The object of the invention is to provide a bit which may be turned back with facility and will cut its own way through the shavings or chips, thus preventing undue resistance to its movement and enabling a bore to be cut in less time and less labor, and also preventing the bit from binding to such an extent that it cannot be extracted.

The invention is illustrated in the accompanying drawing, in which:

Figure 1 is a side view of an auger bit embodying the invention. Fig. 2 is a similar view taken at right angles to Fig. 1. Fig. 3 is a section on line 3—3 of Fig. 2. Figs. 4 and 5 are views similar to Figs. 1 and 2, showing the application of the invention to a bit having spiral cutters. Fig. 6 is a section on line 6—6 of Fig. 5. Fig. 7 is a side elevation of a further modified form of a bit. Fig. 8 is a section on line 8—8 of Fig. 7.

Referring to Figs. 1, 2 and 3, 1 designates the body and 2 the shank of an ordinary type of auger-bit, the former having the usual spiral 3 provided at the lower edges thereof with cutters, (not shown). In accordance with the invention, the diametrically opposite upper edges of the spiral 3 are flattened

transversely at right angles or substantially so to the axis of the tool, as shown at 4, so as to provide a bevel extending from the upper to the lower face of the spiral cutting edges at the upper ends of the spiral, thus forming a floor lip or routing cutter to cut when the tool is turned rearwardly.

In the form of the invention shown in Figs. 4, 5 and 6, 1<sup>a</sup> designates the body, 2<sup>a</sup> the shank and 3<sup>a</sup> the spiral, which latter is provided with forward cutting edges 6. In this construction the upper ends of the spiral are beveled, as shown at 4<sup>a</sup>, to provide floor lips or routing cutters 5<sup>a</sup> at the points of intersection of the beveled faces and the lower faces of the spiral.

If, in the use of the tool, proper clearance is not obtained and the tool is choked by the shavings or chips, a reverse revolution of the tool will cause the cutters 5 or 5<sup>a</sup> to cut a clearance for the tool, thus obviating the necessity of removing the tool or, if removal is necessary, enabling the tool to be turned back and removed with facility. Hence the bore may be made in less time and with less labor and without the liability of the tool binding so firmly in the bore that it cannot be extracted.

In the construction shown in Figs. 7 and 8 the upper ends of the spiral are cut away or divided at 4<sup>b</sup> and shaped to provide floor lips or routing cutters 5<sup>b</sup> and following scoring lips or cutters 5<sup>c</sup>, which cutters act upon a reverse rotation of the bit to cut a clearance.

Having thus described the invention, what is claimed as new is:

A bore or drill bit having a spiral cut away at its upper edges, the cut away portions forming cutters facing reversely to the direction of rotation of the bit in forming a bore, to clear the bore upon the rotation of the bit in the opposite direction.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM GEDDES.

Witnesses:

MILBURN LESLIE,  
A. G. SEYFERT.