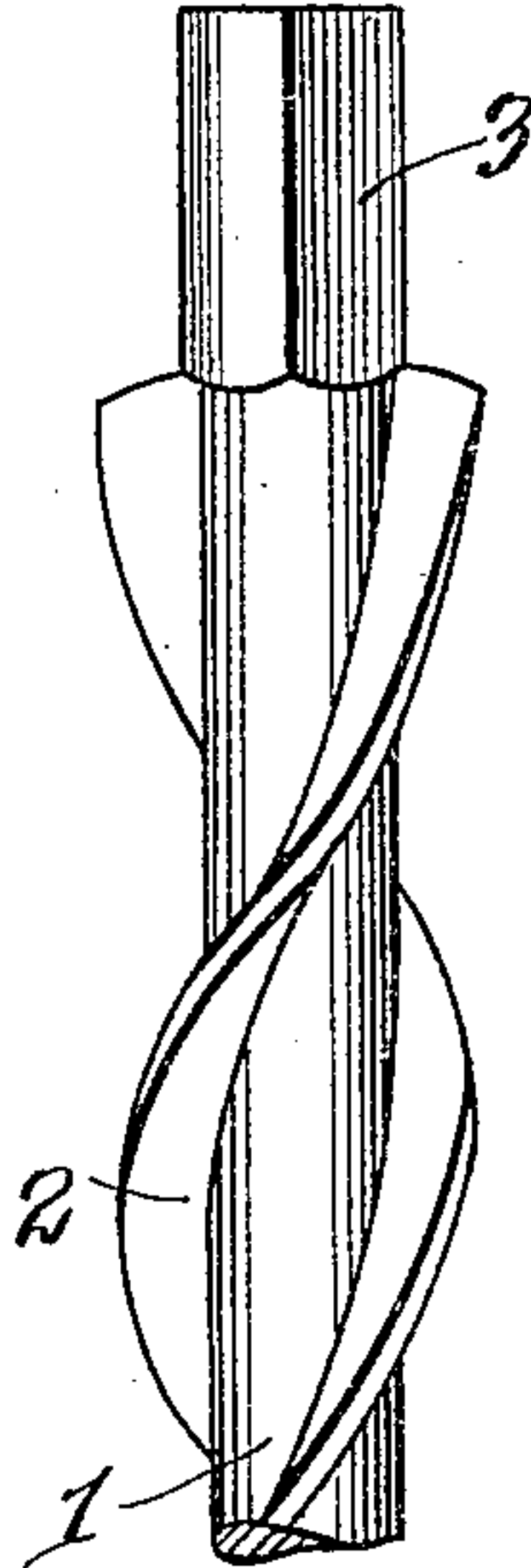


G. G. MAYER & R. ASHTON.  
MINING STARTER BIT.  
APPLICATION FILED JAN. 15, 1909.

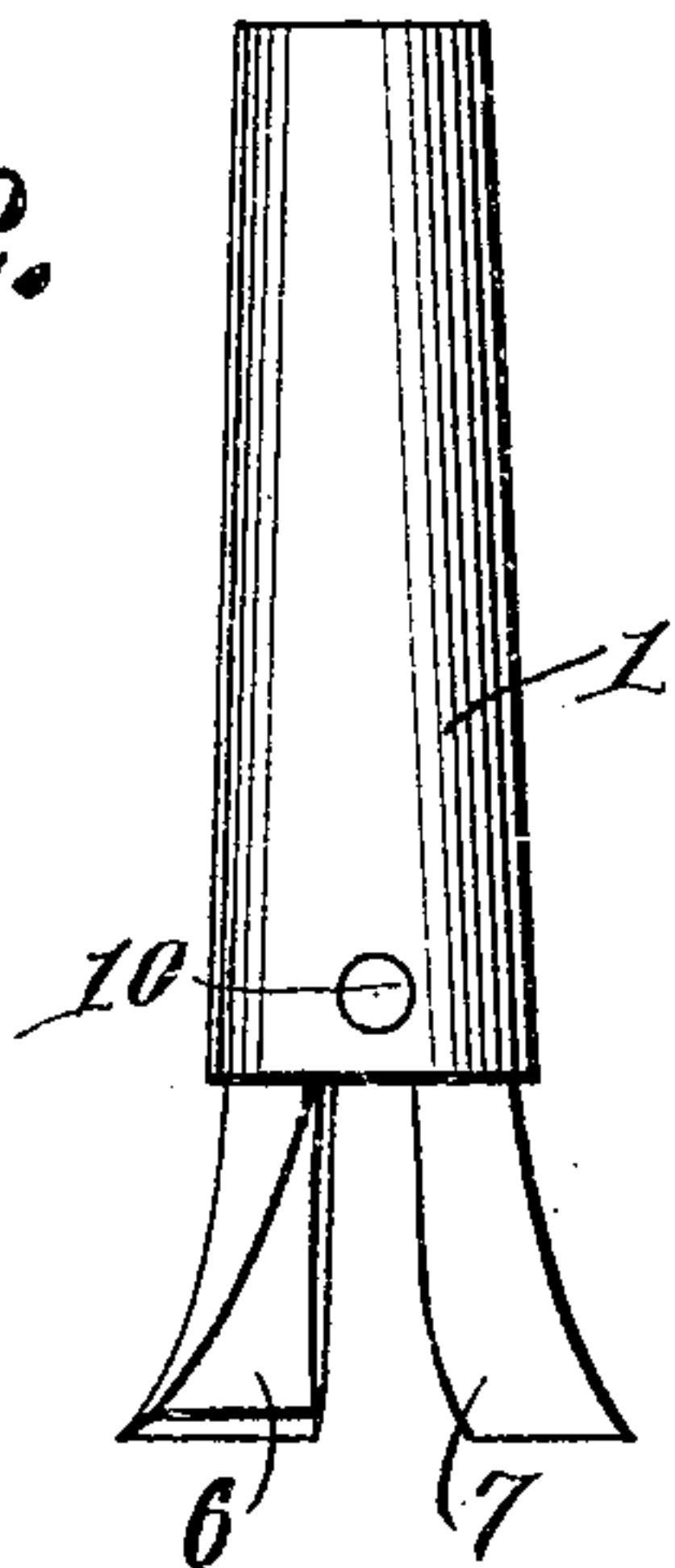
979,319.

Patented Dec. 20, 1910.

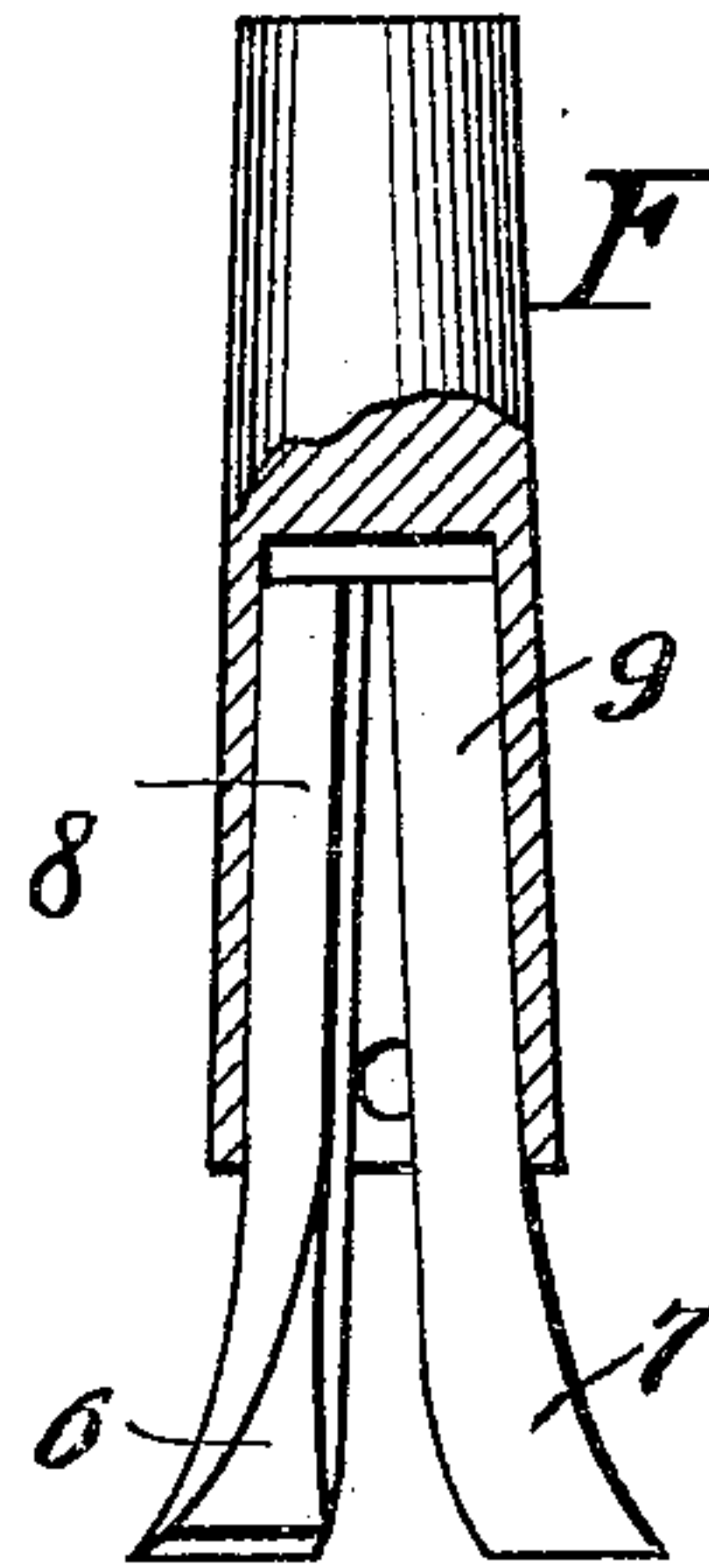
*Fig. 1.*



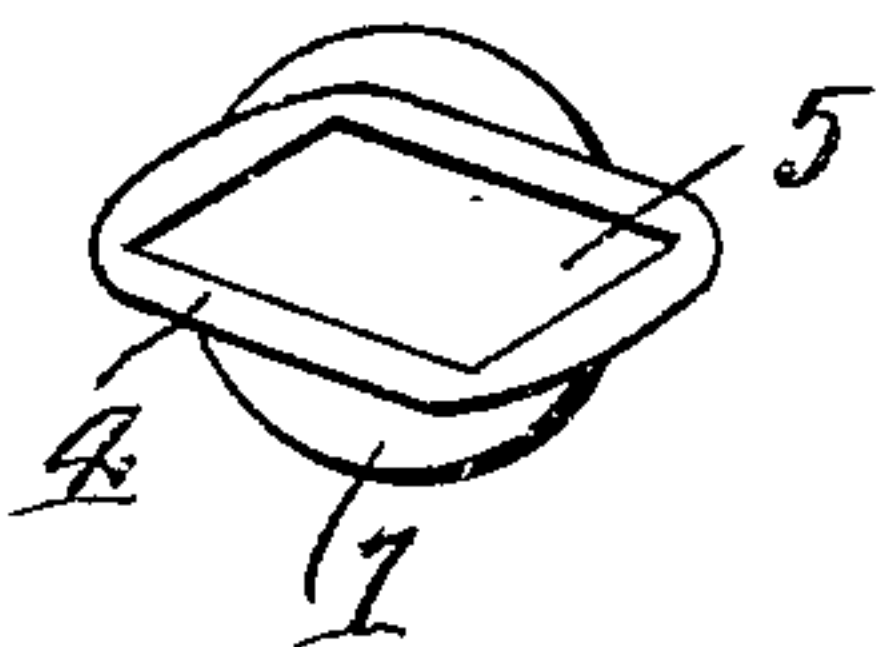
*Fig. 2.*



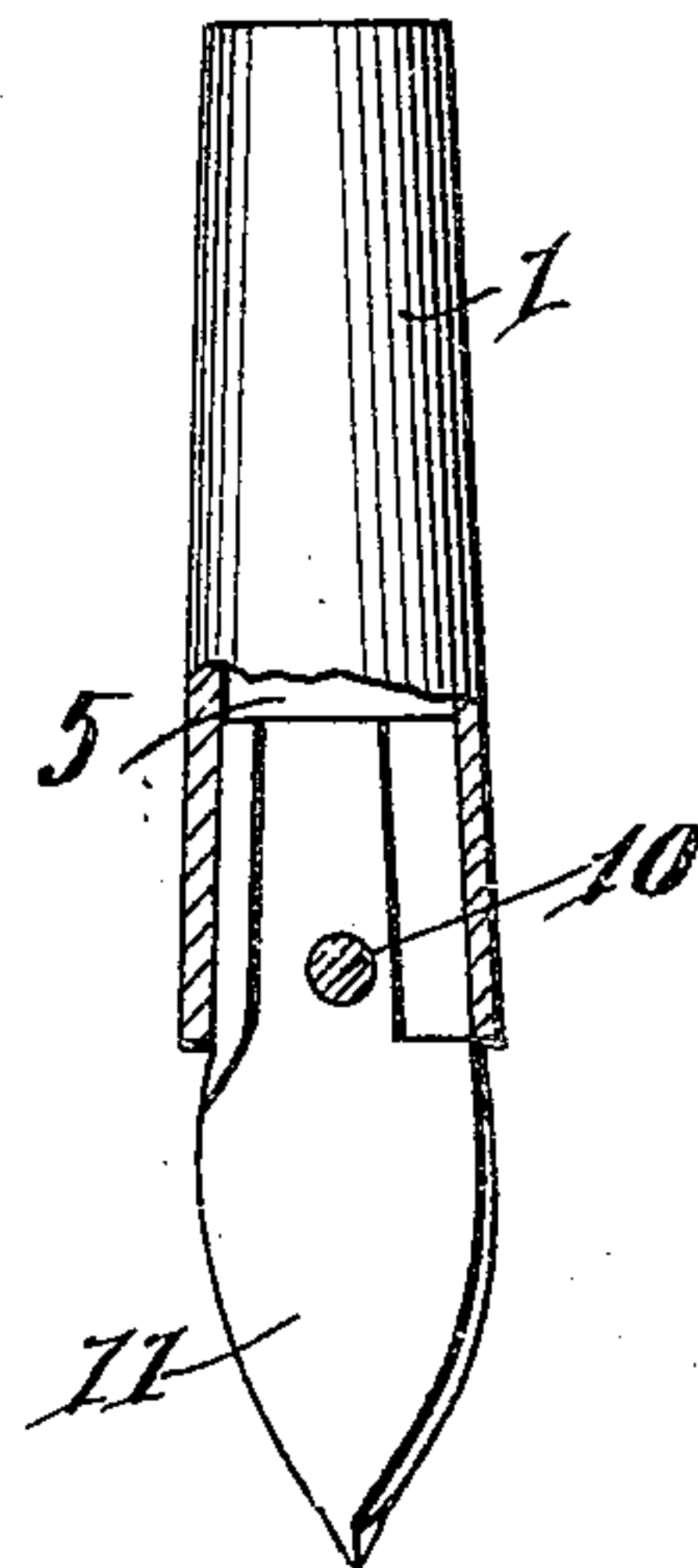
*Fig. 3.*



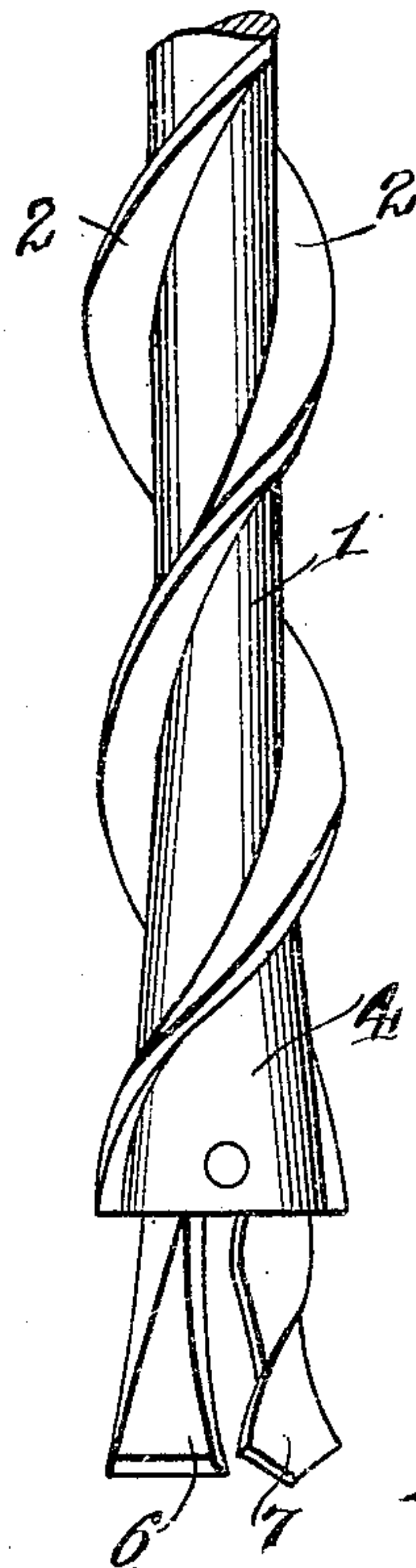
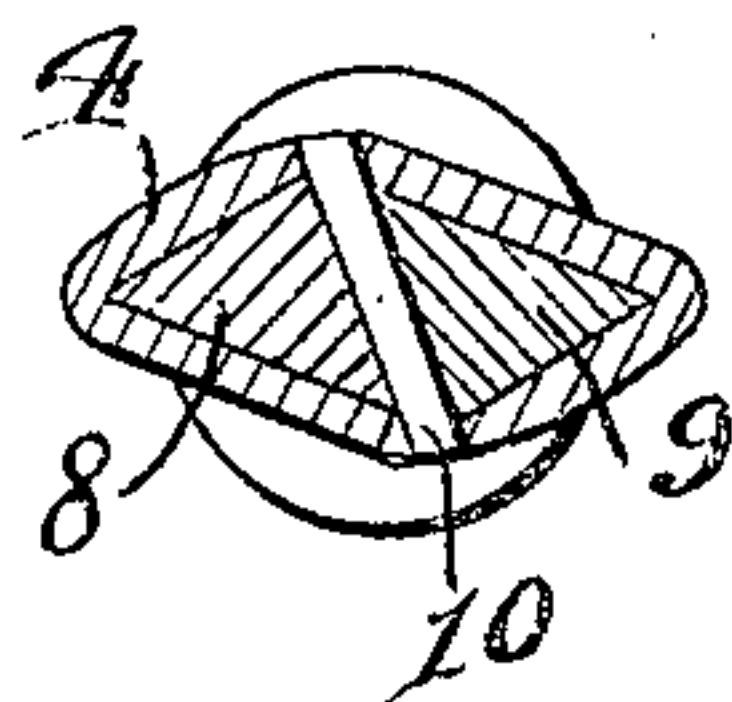
*Fig. 5.*



*Fig. 4.*



*Fig. 6.*



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By Victor J. Evans  
Attorney



# UNITED STATES PATENT OFFICE.

GEORGE G. MAYER AND REESE ASHTON, OF SOUTH BETHLEHEM, PENNSYLVANIA.

## MINING STARTER-BIT.

979,319.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed January 15, 1909. Serial No. 472,511.

*To all whom it may concern:*

Be it known that we, GEORGE G. MAYER and REESE ASHTON, citizens of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented new and useful Improvements in Mining Starter-Bits, of which the following is a specification.

This invention relates to mining starter bits, the object of the invention being to provide a starting bit holder of novel construction adapted to receive cutting bits of different shapes for different purposes, in connection with means for snugly holding the cutting bits in proper relation to the bit holder, whereby the life and durability of the bit holder are increased, the redressing or reshaping of the holder entirely eliminated, and the wear brought to bear entirely on the adjustable cutting members of the bit. The construction involved also does away with the services of a skilled mechanic to maintain the tool in working position thereby saving materially in the expense of the user and also avoiding the delay now required for repair of implements of the kind referred to.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a complete bit holder with the bits applied thereto according to this invention. Fig. 2 is a side elevation of the lower portion of the bit holder, showing the cutting bits of different forms. Fig. 3 is a sectional view of the same. Fig. 4 is also a sectional view, showing another form of cutting bit. Fig. 5 is a bottom plan view of the bit holder. Fig. 6 is a horizontal section through the lower end of the bit holder, looking upward.

Referring to the drawing, 1 designates the shank of the bit holder which is provided with one or more special ribs 2 inserted in the same. The bit holder is provided at its upper end with a squared, flattened portion 3 to adapt the same to be combined with a

brace and the lower end thereof is extended or made tapering as shown at 4, and hollowed out to form an upwardly tapering and contracted socket 5 which, as shown in Figs. 5 and 6 is of diamond or parallelogrammatic shape in cross section, the said shape adapting the socket to receive the shanks of a pair of cutting bits, the latter being shown at 6 and 7. The shanks 8 and 9 of the cutting bits are made triangular shanks of the cutting bits as clearly shown in Fig. 6, said pin or key also passing through oppositely located holes in the end portion 4 of the bit holder.

The key, when driven into place separates the triangular shanks 8 and 9 of the cutting bits 6 and 7, forcing the same outward into firm engagement with the correspondingly shaped opposite side portions of the socket and in this way the shanks of the bits are firmly held. The construction described also adapts the cutting bits to be easily removed for the purpose of reshaping or resharpening the same. It also adapts a large variety of interchangeable cutting bits to be utilized in connection with the bit holder and where a single cutting bit is desired for use, as shown in Fig. 4, the tapered pin or key 10 may pass through a hole in the shank of said bit, as illustrated.

It is unnecessary to repair the bit holder under ordinary conditions, the wear during the boring action coming entirely on the cutting bits held by the holder. This dispenses with the necessity of enabling a skilled mechanic to repair the implement and also avoids the unnecessary delay while waiting for tedious repairs.

We claim:—

A mining starter bit comprising a bit holding shank having a single tapering socket in one end thereof, said socket being of substantially diamond or parallelogrammic shape in cross section, the minor axis of said socket being extended diagonally across the major axis thereof, a tapered pin or key passing through oppositely arranged holes coincident with opposite angles in the socket, and in line with the minor axis of the socket, and cutting bits having shanks of triangular

shape in cross section adapted to fit into the socket on opposite sides of the pin or key whereby said pin or key operates to wedge apart the shanks of the cutting bits and jam the same into binding engagement with the opposite V-shaped portions of the socket, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEO. G. MAYER.  
REESE ASHTON.

Witnesses:

A. L. COPE,  
ISAAC W. MILLER.