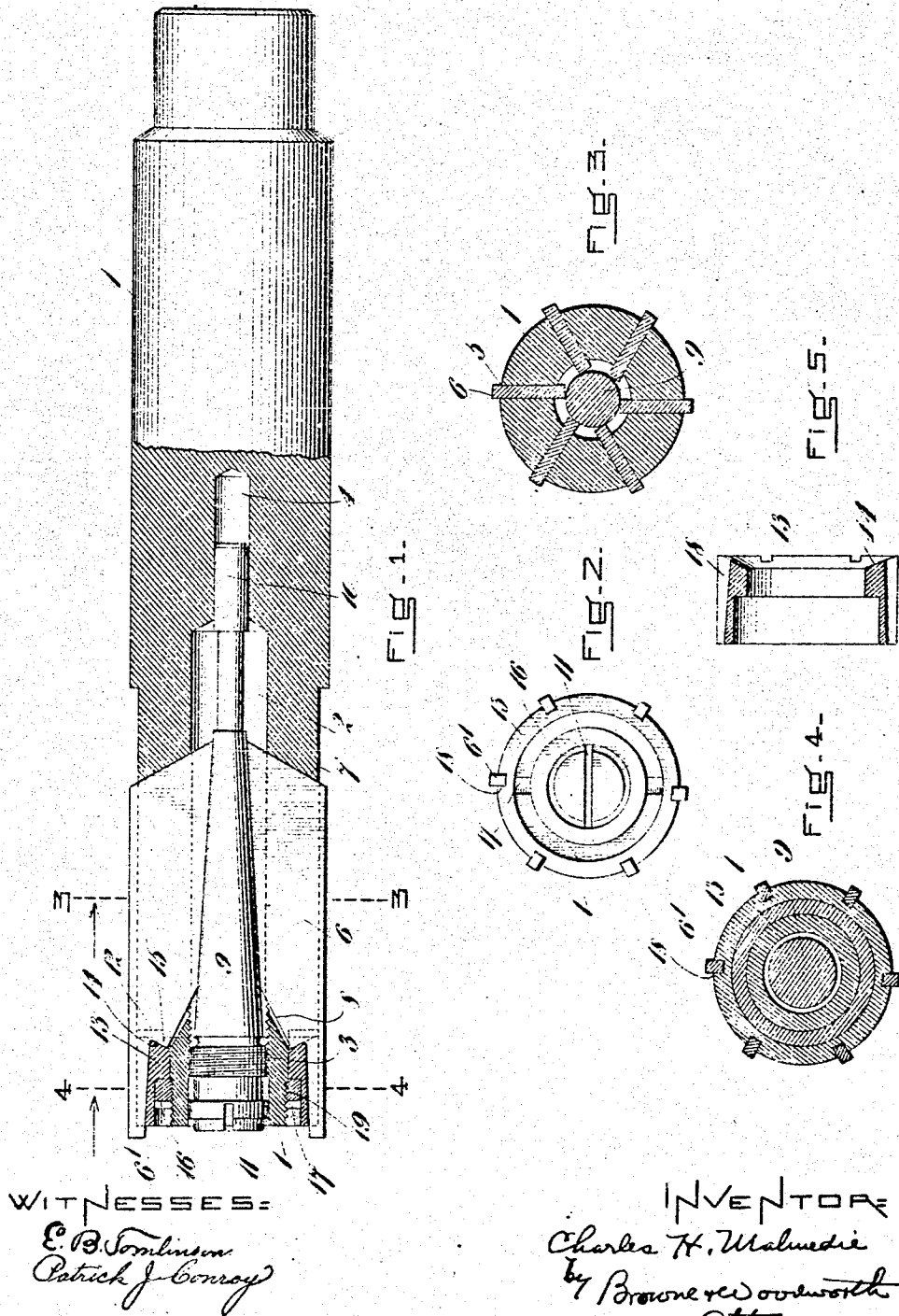


C. H. MALMEDIE.
ADJUSTABLE REAMER.
APPLICATION FILED MAY 6, 1909.

972,116.

Patented Oct. 4, 1910.



UNITED STATES PATENT OFFICE.

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ADJUSTABLE REAMER.

972,116.

Specification of Letters Patent.

Patented Oct. 4, 1910.

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To all whom it may concern:

Be it known that I, CHARLES H. MALMEDIE, a citizen of the United States, and a resident of New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Adjustable Reamers, of which the following is a specification.

My invention relates to adjustable reamers and its object is to improve the construction of said reamers in the manner hereinafter set forth whereby their solidity may be increased and their gage conveniently and accurately varied.

My invention will be described in connection with the drawings which accompany and form a part of this specification, in which—

Figure 1 is a side view of my improved adjustable reamer partly in section, Fig. 2 is an end view of the reamer shown in Fig. 1, Fig. 3 is a transverse section on the line 3—3 of Fig. 1, Fig. 4 is a transverse section on the line 4—4 of Fig. 1 and Fig. 5 is a longitudinal section of the supporting collar shown near the forward end of Fig. 1.

In the drawings selected for illustrating the particular embodiment of my invention herein described, 1 represents a stock cylindrical in section and provided with a central bore 2, which as shown, may terminate in a cylindrical chamber 4. A portion of said bore is threaded near the forward end thereof as shown at 3. The stock is provided with a number of longitudinal and radial slots 5, herein shown as six in number, each slot extending from the surface of the stock to the central bore. A cutting blade 6 is located in each slot and the under side thereof is inclined with respect to the longitudinal axis of the stock and coöperates with the tapered pin 9 screw-threaded to the stock at 7. The blades and tapered pin are so designed that when the under side of the blades rests upon the pin their cutting edges will be parallel with the longitudinal axis of the stock. The rearward ends of the slots are inclined with respect to the axis of the stock as shown at 7 and the ends of the blades are beveled to coöperate therewith. The forward end of each blade is beveled as shown at 8 but does not contact with the forward beveled edge of its slot.

The forward end of the stock is should-

ered at 12 to receive the supporting collar 13 provided with a beveled edge 14 which takes against the beveled portion 15 on the under side of each blade near the forward end thereof. The collar 13 is provided with as many slots 18 as there are blades and the forward portion 6' of each blade rests in one of said slots 18 and projects beyond the forward portion of the stock. The lock-nut 16 provided with slots 17 for a wrench is threaded to the stock at 19 and bears against the supporting collar 13. The tapered pin may be provided with a cylindrical barrel 10 at the rear end thereof which enters the chamber 4 and supports said pin against movement in any direction other than that parallel to the axis of the stock.

When it is desired to alter the gage of the reamer, the lock-nut 16 is loosened and the pin 9 turned to the right or left as by means of a screw-driver taking in the slot 11 so that the blades will be forced outwardly to increase the gage of the reamer or allowed to fall inwardly to reduce said gage, whereupon the lock-nut 16 is tightened and the blades secured in position.

It will be noted that one of the advantages of my invention is that the projecting ends of the blades permit the reaming of the bore to the bottom thereof.

It will be understood that within the scope of the claim many modifications may be made in the particular embodiment of my invention herein described without departing from the principle thereof.

I claim:

In an adjustable reamer, a stock provided with a central bore and having a plurality of longitudinal slots extending from its circumference to said central bore, the rear end of each slot making an angle with the central axis of the stock, a cutting blade located in each slot and having its under side inclined to the axis of the stock, the rear end of each blade being beveled to make the same angle with the axis of the stock as the coöperating end of its slot, a beveled collar located on the forward end of said stock and having slots for receiving and supporting the forward end of each of said blades, said collar coöperating with a correspondingly beveled portion of each blade, means for adjustably securing said collar to the forward portion of said stock, and a tapered

pin screw-threaded to the stock and located in the central bore thereof, said pin cooperating with the inclined under sides of the cutting blades, whereby the longitudinal movement of said pin will cause said blades to move radially.

In testimony whereof, I have hereunto

subscribed my name this 29th day of April 1909.

CHARLES H. MAIMEDIE.

Witnesses:

SETH J. BESSE,

GEORGE H. H. ALLEN.