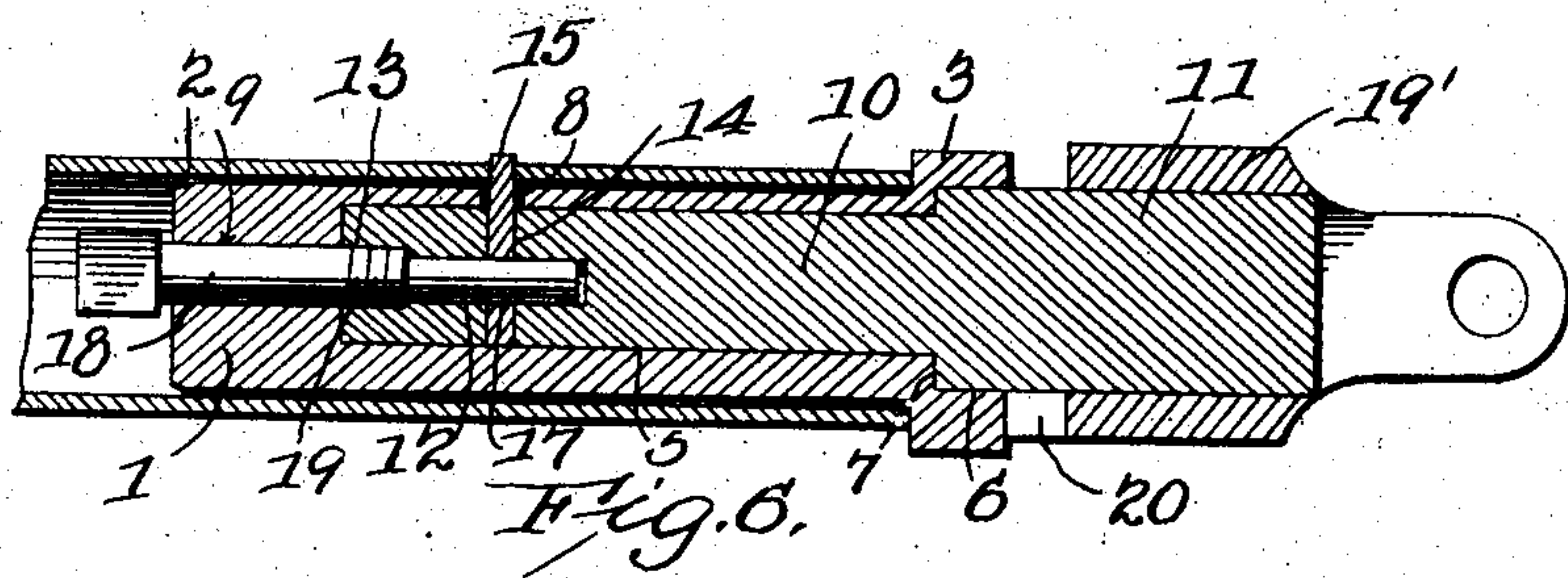
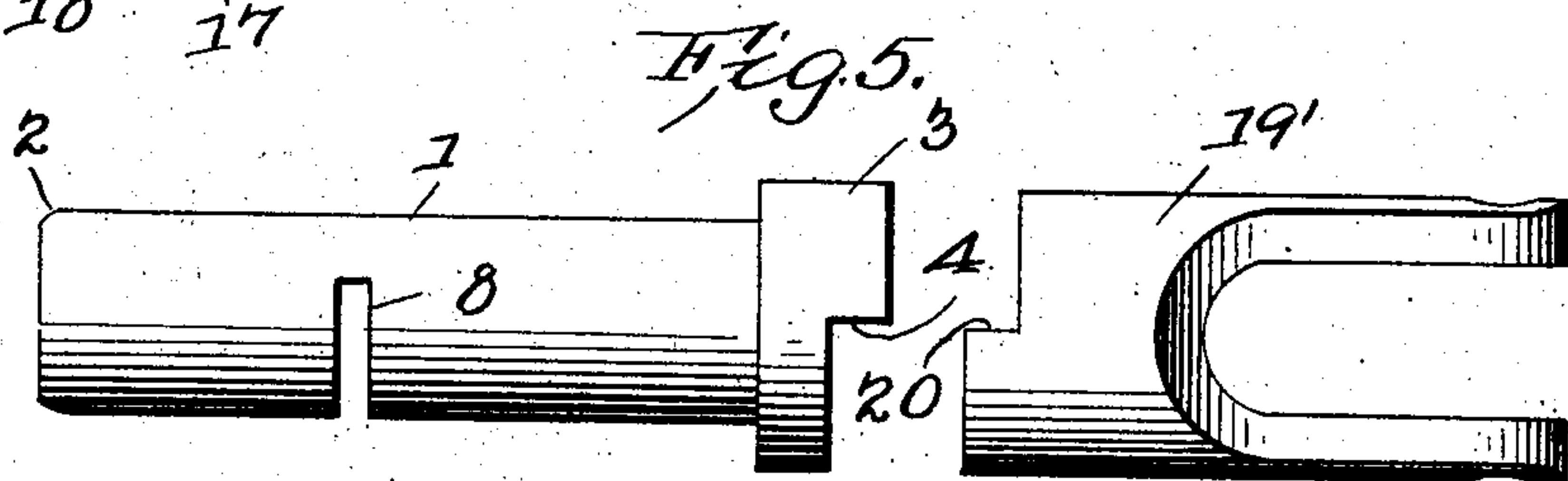
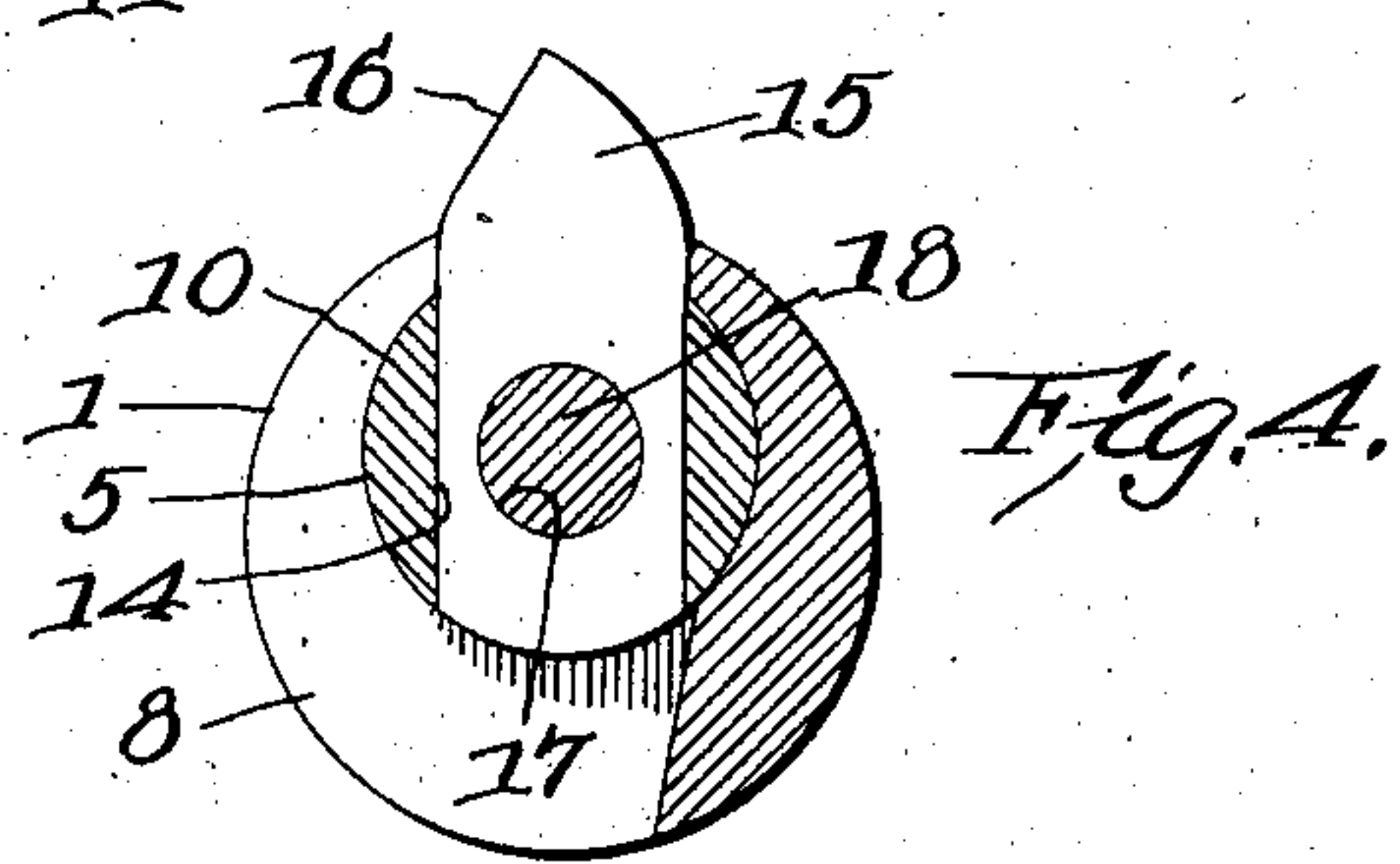
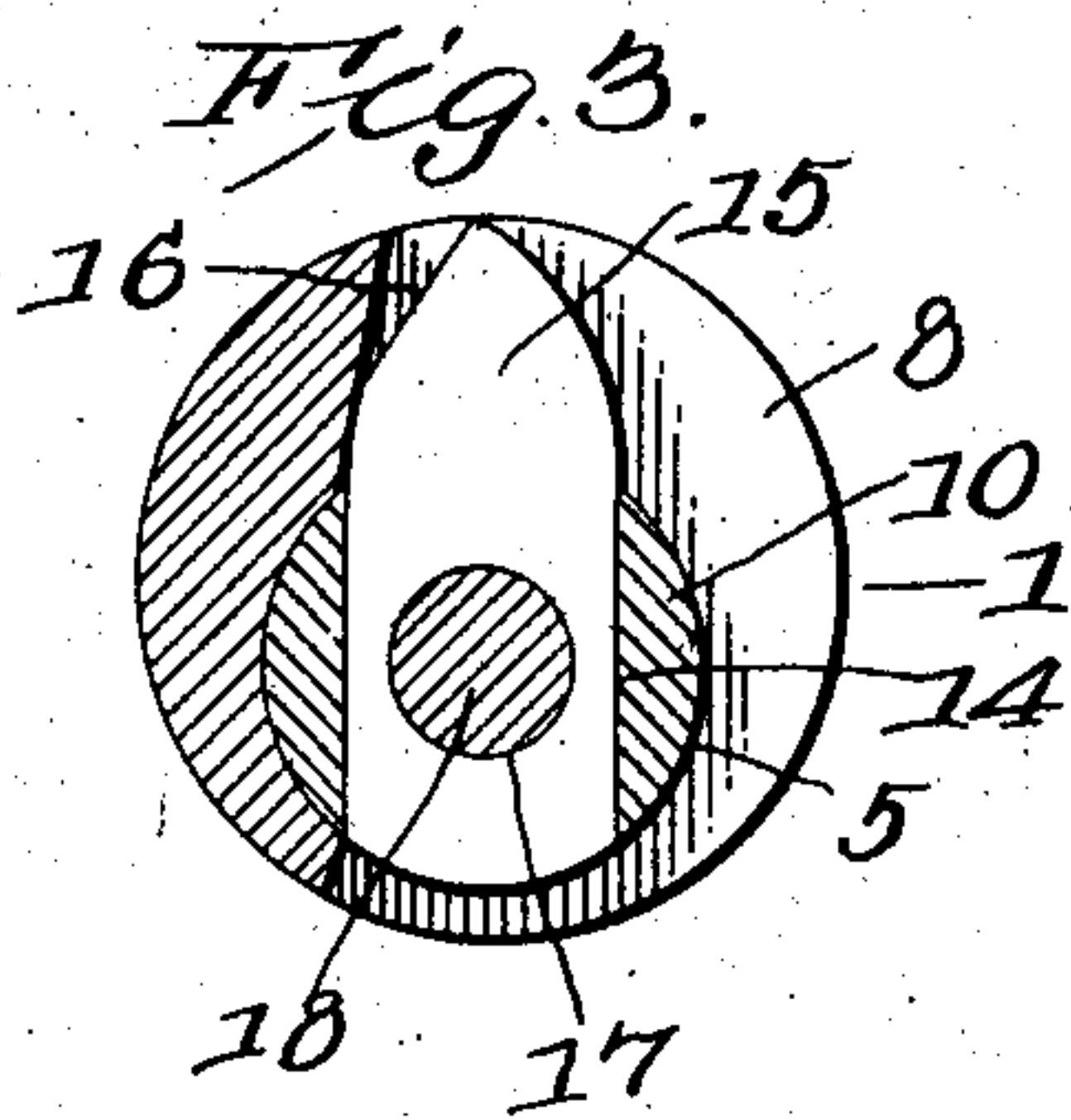
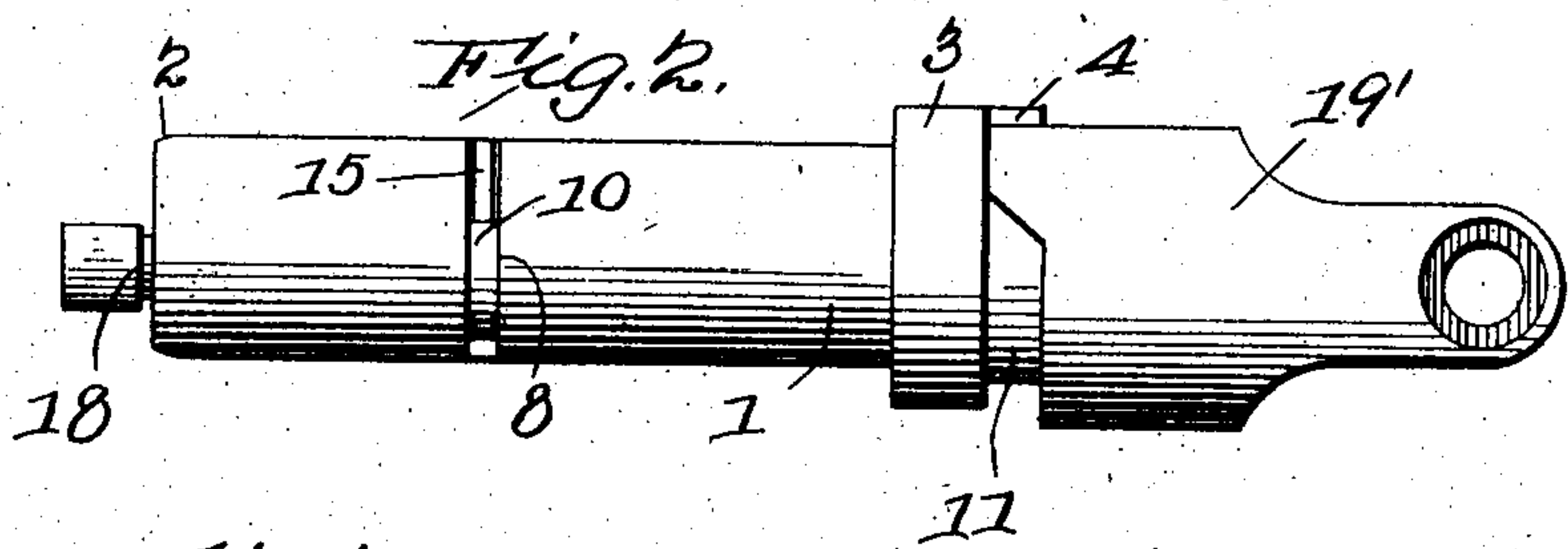
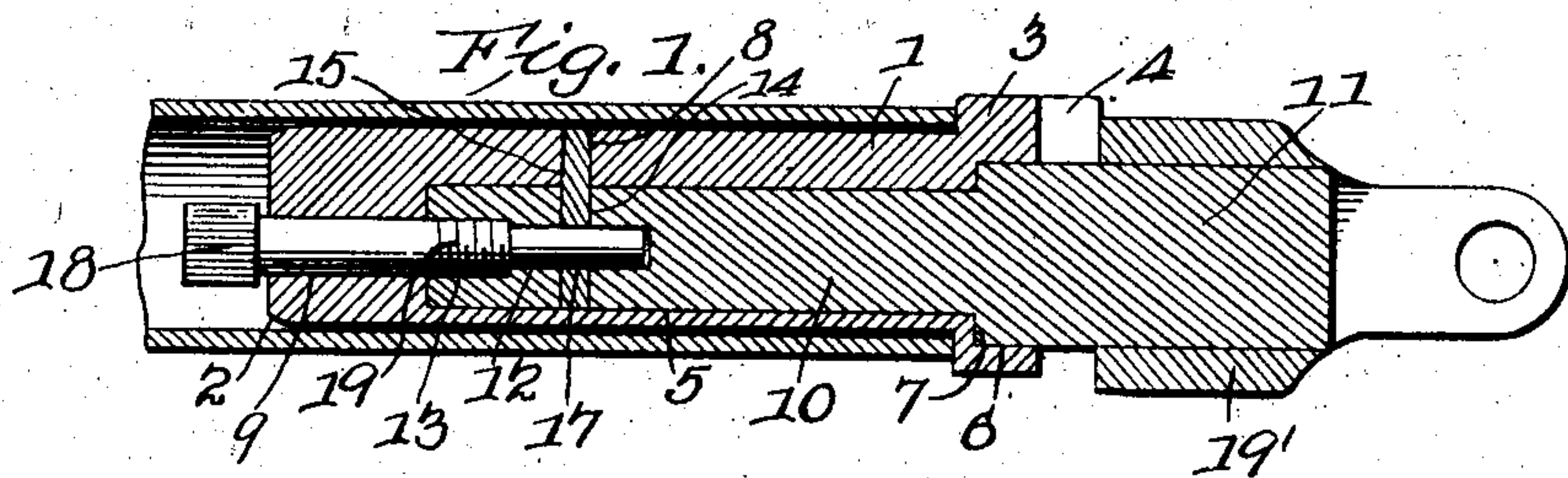


No. 833,843.

PATENTED OCT. 23, 1906.

W. McCORMICK.
FLUE CUTTER.

APPLICATION FILED JUNE 18, 1906.



WITNESSES:

E. J. Stewart
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UNITED STATES PATENT OFFICE.

WASHINGTON McCORMICK, OF HILLYARD, WASHINGTON.

FLUE-CUTTER.

No. 833,843.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed June 18, 1906. Serial No. 322,259.

To all whom it may concern:

Be it known that I, WASHINGTON McCORMICK, a citizen of the United States, residing at Hillyard, in the county of Spokane and State of Washington, have invented a new and useful Flue-Cutter, of which the following is a specification.

This invention has relation to an improved flue and pipe cutter; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a new and improved flue or pipe cutter which is simple and durable in construction, very effective in operation, and may be readily applied to and disconnected from a flue or pipe and when actuated is adapted to quickly cut the flue or pipe at the desired point.

The further object of the invention is to so mount the flue-cutting bit that in engaging the flue or pipe it is first projected through the said pipe radially with relation to the same and when in extended position is then carried around by a sleeve to which the power is applied. As the flue-cutting bit is projected radially through the pipe, it is seated upon a pin which extends through the said bit in a transverse direction with relation thereto, so that the said bit is firmly seated and will have no tendency to slip within its retaining member as a consequence of the strain in passing through the pipe in the initial incidents.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a flue, showing the cutter in section therein with the bit withdrawn. Fig. 2 is a side elevation of the flue-cutter. Fig. 3 is a transverse sectional view of the flue-cutter, showing the position of the posts when the bit is withdrawn. Fig. 4 is a transverse sectional view of the flue-cutter, showing the position of the posts when the bit is extended. Fig. 5 is a side elevation of the sleeve and clutch disconnected; and Fig. 6 is a longitudinal sectional view of a flue, showing the cutter in section therein with the bit extended.

The sleeve 1 is cylindrical in form and is preferably tapered at its inner end, as at 2, and is provided at its outer end with the enlarged head 3. This head is provided at its outer end with the shoulder 4, which extends in alinement with the longitudinal axis of the sleeve. The bore 5 of the sleeve is eccentrically disposed therein and extends within a suitable distance of the inner end

thereof and is provided at its outer end with the annular enlargement 6, whereby a shoulder 7 is formed. The sleeve is provided with a segmental slot 8, which is at right angles to the longitudinal axis of the sleeve and is adapted to receive the flue-cutting bit, hereinafter described. At the inner end of the sleeve an opening 9 of suitable diameter communicates with the eccentrically-disposed bore of the sleeve and is disposed centrally with relation thereto. The mandrel 10 is fitted accurately to the bore 5 of the sleeve and is adapted to describe partial rotation therein. Said mandrel is provided with the enlarged portion 11 to fit the enlarged bore 6 of the sleeve. Said mandrel is provided at its inner end with a bore 12, which is smooth and extends concentrically therewith. The end of said bore is provided with the internal screw-thread 13. The bore 12 extends from the end of the mandrel 10 across the transverse opening 14, which is adapted to receive the flue-cutting bit 15. Said bit is provided with the usual cutting edge 16 and at an intermediate point with the perforation 17, which is adapted to register with the bore 12 when the bit 15 is in position upon the mandrel 10.

The screw 18 passes through without engaging the bore 9 of the sleeve, and its threaded portion 19 engages the thread 13 of the mandrel. The inner end of the screw fits snugly within the bore 12 of the mandrel and passes through the opening 17 of the flue-cutting bit 15. Thus the said bit is positively seated upon the said pin 18. The clutch member 19' is provided with an opening which is adapted to receive the enlarged head 11 of the mandrel 10. Any suitable means (not shown) may be provided for revolving said clutch member. The said clutch member is provided at its inner end with a shoulder 20, which is adapted to engage the shoulder 4 of the sleeve 1. When the sleeve 1 has been inserted in the flue or pipe and when the said sleeve is turned by the means described, the eccentric disposition of the bore 5 causes the cutting-bit to move radially with relation to the pipe and penetrate the same. As the sleeve 1 turns independently of the mandrel 10 until the bit 15 comes in contact with the end of the slot 18, the said bit is moved strictly in a radial direction with relation to the flue. Thereafter the bit 15 is rotated with the sleeve, as will be understood. One rotation

of the implement suffices to cut the flue or pipe.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of this invention will be apparent.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 In a flue or pipe cutter the combination of a sleeve having an eccentrically-disposed bore and a segmental opening entering said bore, a mandrel located in said bore, said mandrel having at its inner end a centrally-
15 disposed smooth bore with a threaded portion at the end of the mandrel, a screw passing through the end of the sleeve and having a threaded surface adapted to engage the threaded bore of the mandrel, the inner end

of said screw being smooth and fitting snugly within the smooth portion of the mandrel-bore, an opening extending laterally through the mandrel and intersecting the bore thereof, a flue-cutting bit located in said opening and having a smooth bore which registers with the bore of the mandrel and receives the smooth portion of said screw, the end of said bit working within the segmental opening of the sleeve, and a means for rotating said sleeve.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WASHINGTON McCORMICK.

Witnesses:

M. J. GUIRY,
GEO. M. DIXON.