

No. 704,081.

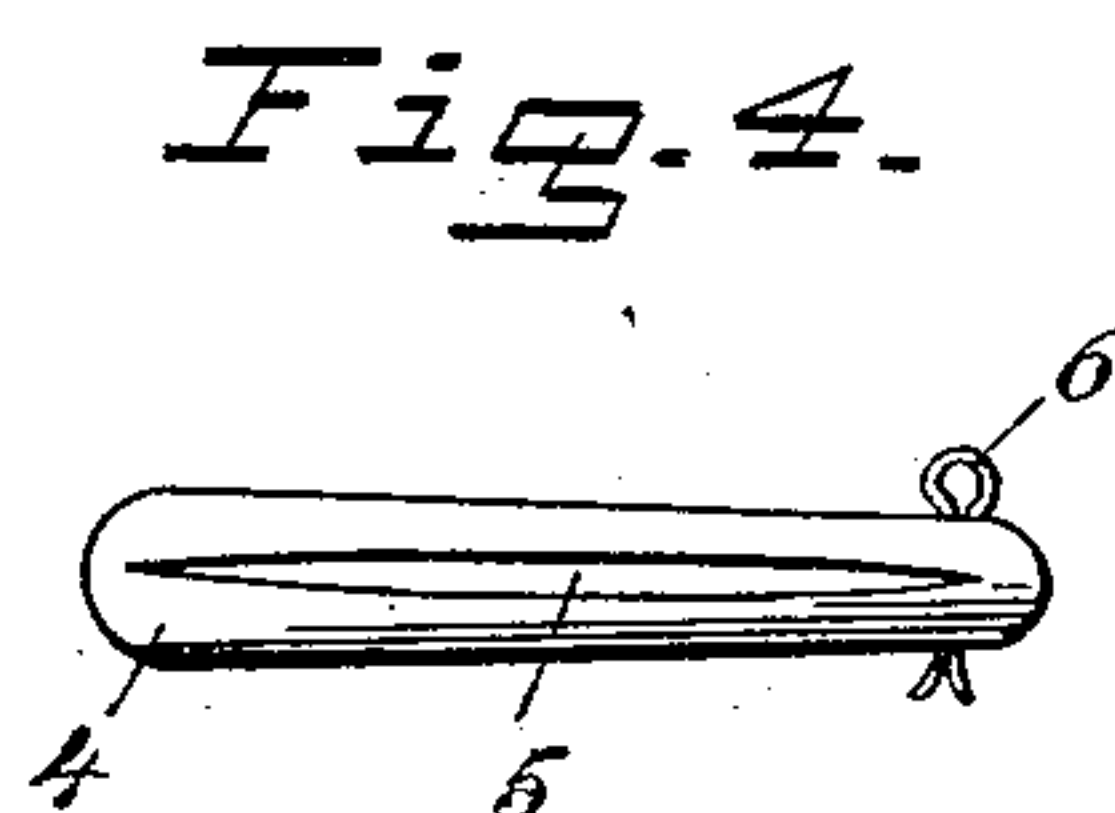
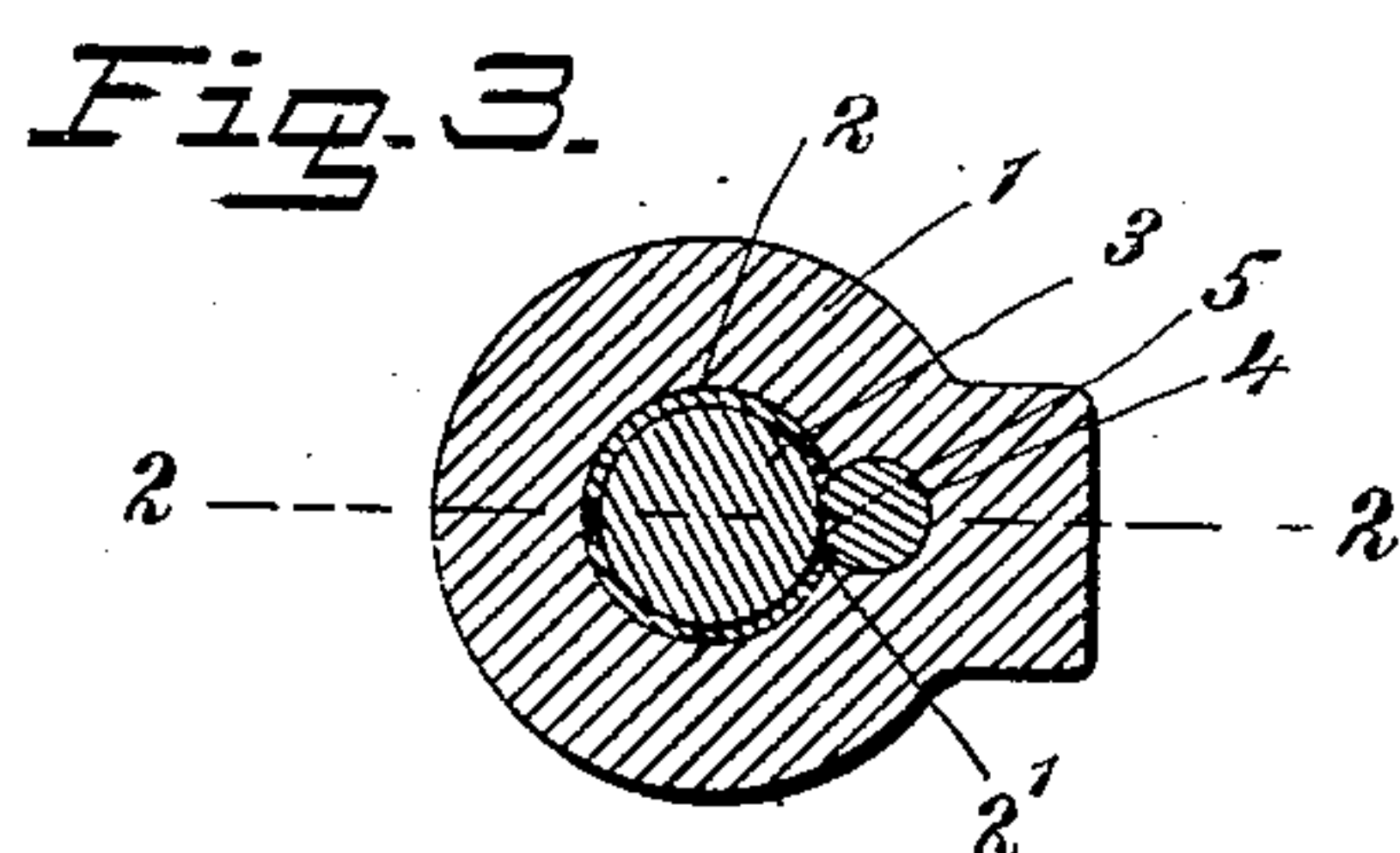
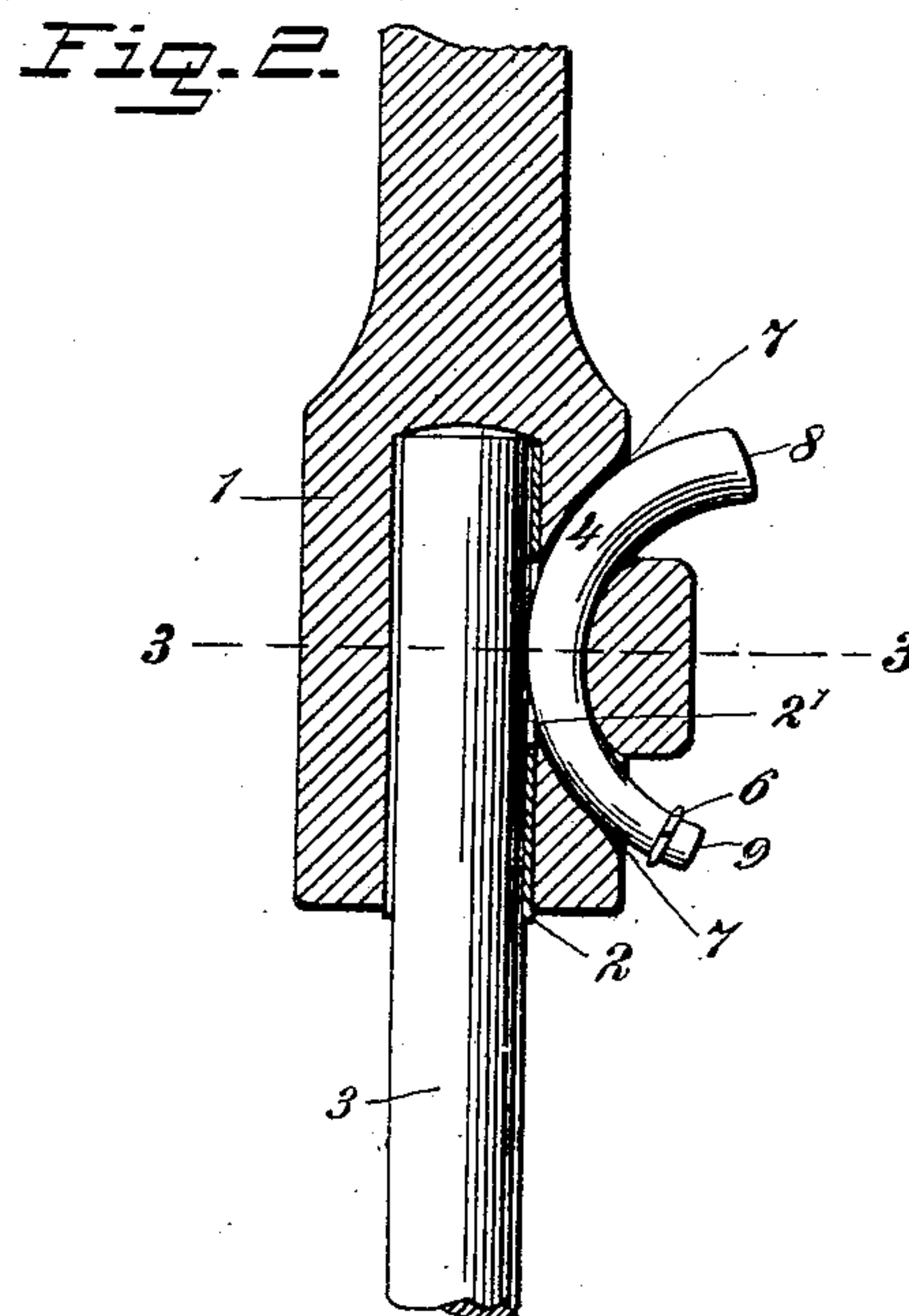
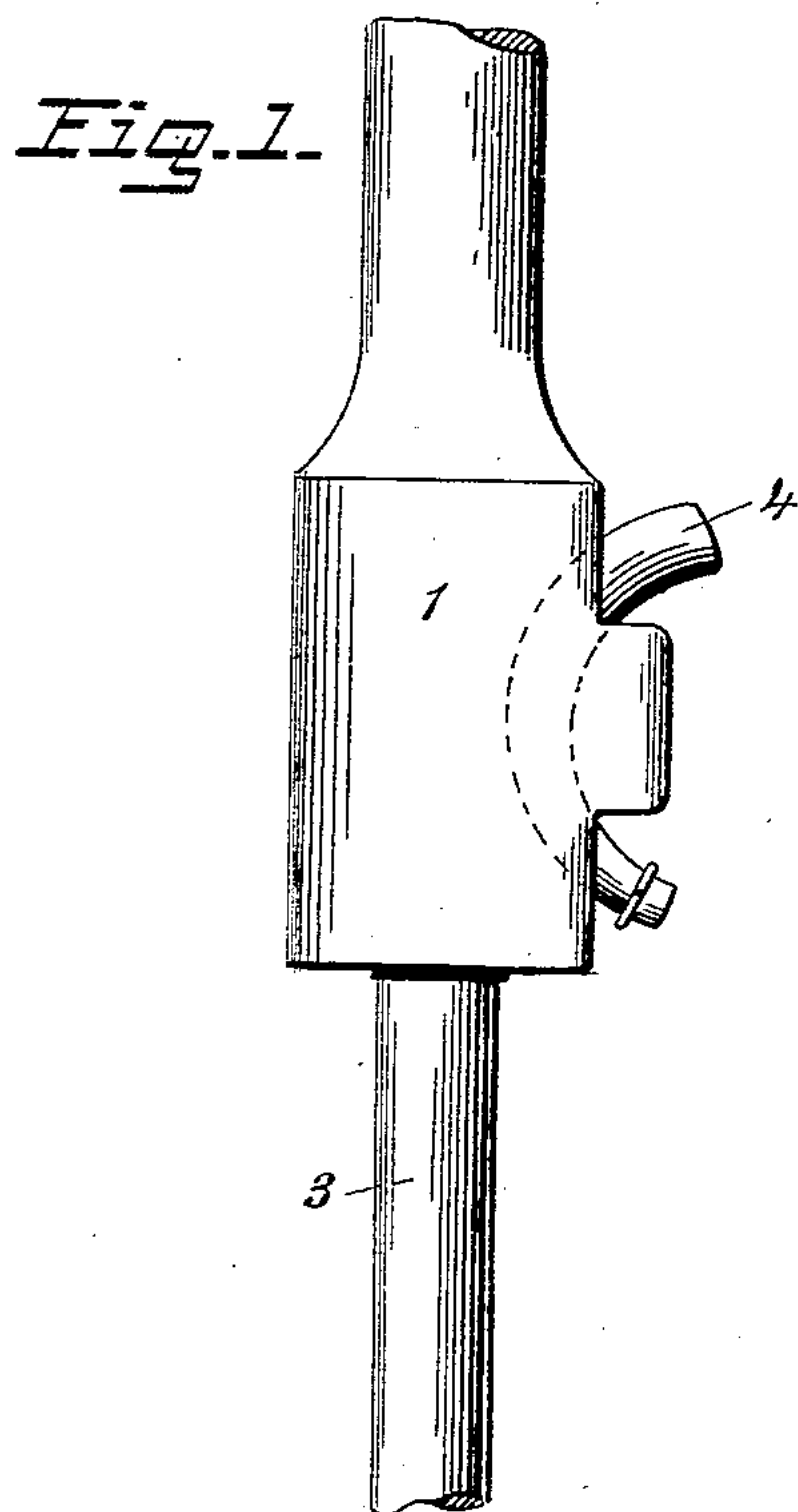
Patented July 8, 1902.

M. McHALE & J. TRAINNER.

ROCK DRILL CHUCK.

(Application filed Oct. 10, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

MARTIN McHALE, OF PHOENIX, AND JOSEPH TRAINNER, OF EHOLT,
CANADA.

ROCK-DRILL CHUCK.

SPECIFICATION forming part of Letters Patent No. 704,081, dated July 8, 1902.

Application filed October 10, 1901. Serial No. 78,219. (No model.)

To all whom it may concern:

Be it known that we, MARTIN McHALE, of Phoenix, and JOSEPH TRAINNER, of Eholt, in the Province of British Columbia and Dominion of Canada, citizens of the United States of America, have invented a new and Improved Rock-Drill Chuck, of which the following is a full, clear, and exact description.

Our invention relates to chucks for rock-drills, and has for its object the production of a chuck into and from which a drill may be easily and quickly removed and inserted and which, while it possesses great simplicity of structure, holds the drill in a very firm and satisfactory manner, thus insuring a great saving over chucks commonly used both in first cost and in the numerous repairs which become necessary when more complicated devices are used. With our invention a great saving of time is also effected, owing to the ease with which a drill may be removed or inserted, and yet the drill is firmly held against the hardest usage.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of our invention. Fig. 2 is a longitudinal section on line 2 2 of Fig. 3. Fig. 3 is a transverse section on line 3 3 of Fig. 2. Fig. 4 is a detail view of the key.

1 represents the chuck, 2 the lining, and 3 the drill secured therein.

4 is a curved tapering key, preferably though not necessarily circular in cross-section, which is held in a correspondingly-curved passage 7, formed in the walls of the chuck. This passage communicates with the drill-chamber at the apex of the curve and extends outward entirely through the walls of the chuck both above and below said apex. The lining is provided with an aperture 2' opposite the point where the passage 7 opens into the drill-chamber. The key is provided with a notch or groove 5, extending along its outer periphery. The key is prevented from becoming accidentally withdrawn from the passage 7 by the pin 6.

It is evident that after the drill 3 has been inserted in the drill-chamber it may be se-

curely held therein by driving the key in from its large end 8, thus wedging the drill tightly in its chamber. The edges of the groove 5 cut into the drill and secure the same more firmly against turning. When it is desired to remove the drill, a slight tap on the small end 9 of the key serves to liberate the drill. In practice it has been found that the drill may be firmly secured or released by one blow with a one-pound hammer.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A drill-chuck having a curved tapering passage communicating with the drill-chamber, said passage having its ends leading out through the wall of the chuck at separate and distinct points one above the other, and a curved and tapering key in said passage, as set forth.

2. A drill-chuck having a curved tapering passage communicating with the drill-chamber, said passage being circular in cross-section and having its ends leading out through the wall of the chuck at separate and distinct points one above the other, and a curved tapering key circular in cross-section and fitting in said passage, as set forth.

3. A drill-chuck having a curved tapering passage communicating with the drill-chamber, said passage being circular in cross-section and having its ends leading out through the wall of the chuck at separate and distinct points, one above the other, and a round curved and tapering key fitting in the said passage, said key being provided with a longitudinal groove in its outer periphery, as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

MARTIN McHALE.
JOSEPH TRAINNER.

Witnesses to the signature of Martin McHale:

WM. McDONALD,
E. J. ALLEN.

Witnesses to the signature of Joseph Trainner:

WM. EDWARDS,
E. W. MAUKY.