

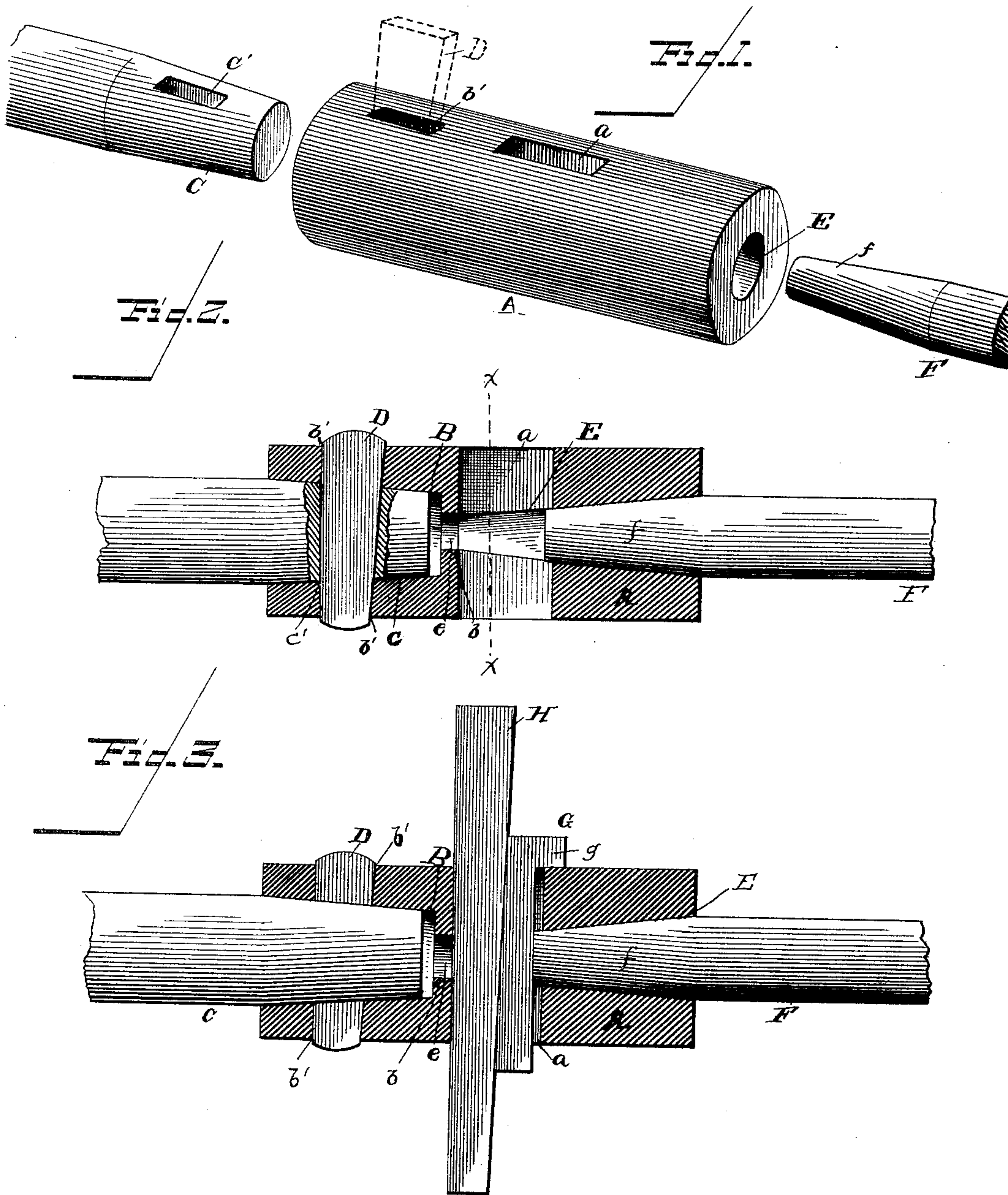
(No Model.)

2 Sheets—Sheet 1.

E. MOYLE.
DRILL CHUCK.

No. 410,601.

Patented Sept. 10, 1889.



WITNESSES

Wm. J. Little,
A. Lee (lowe)

Edward Moyle,
INVENTOR

by

J. R. Littell,
Attorney

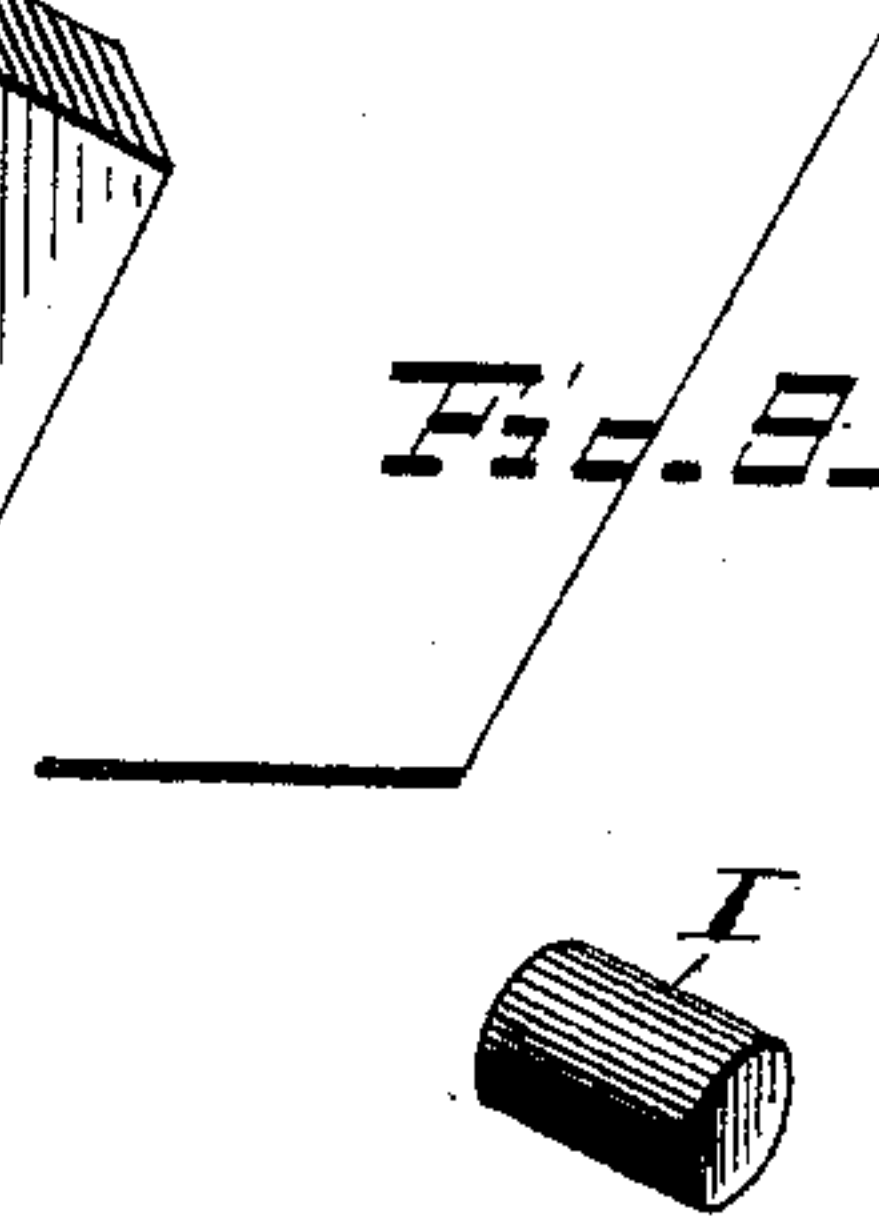
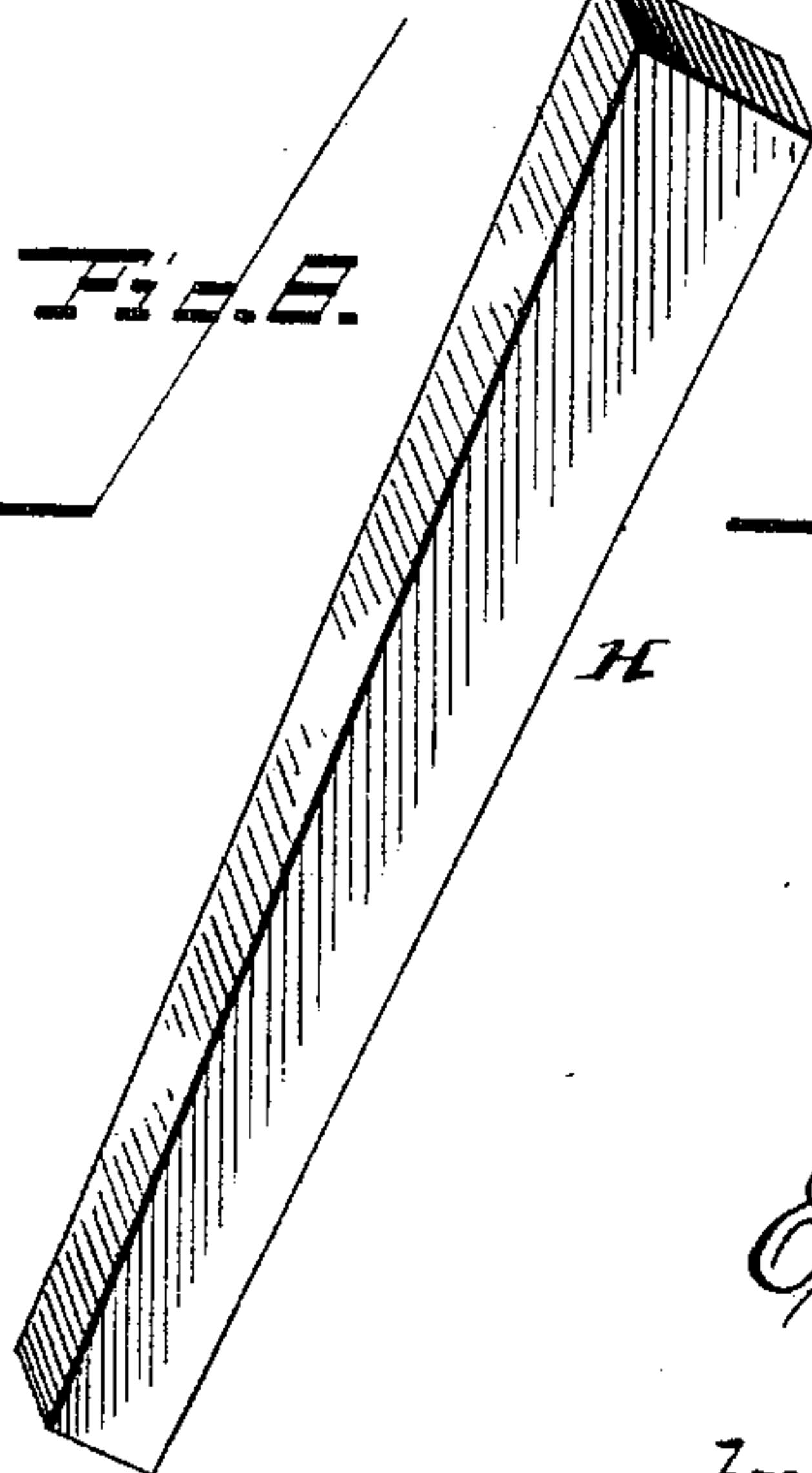
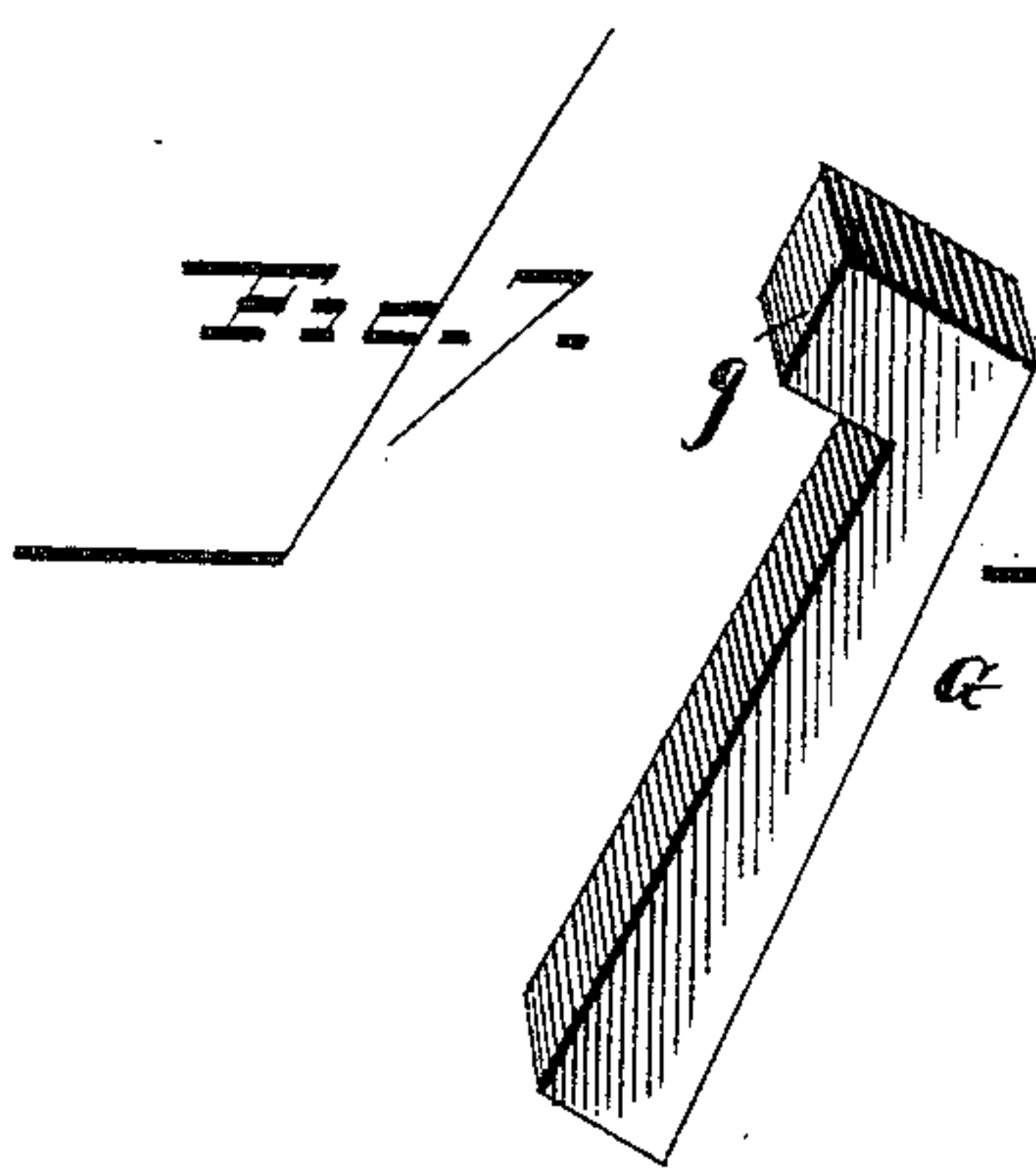
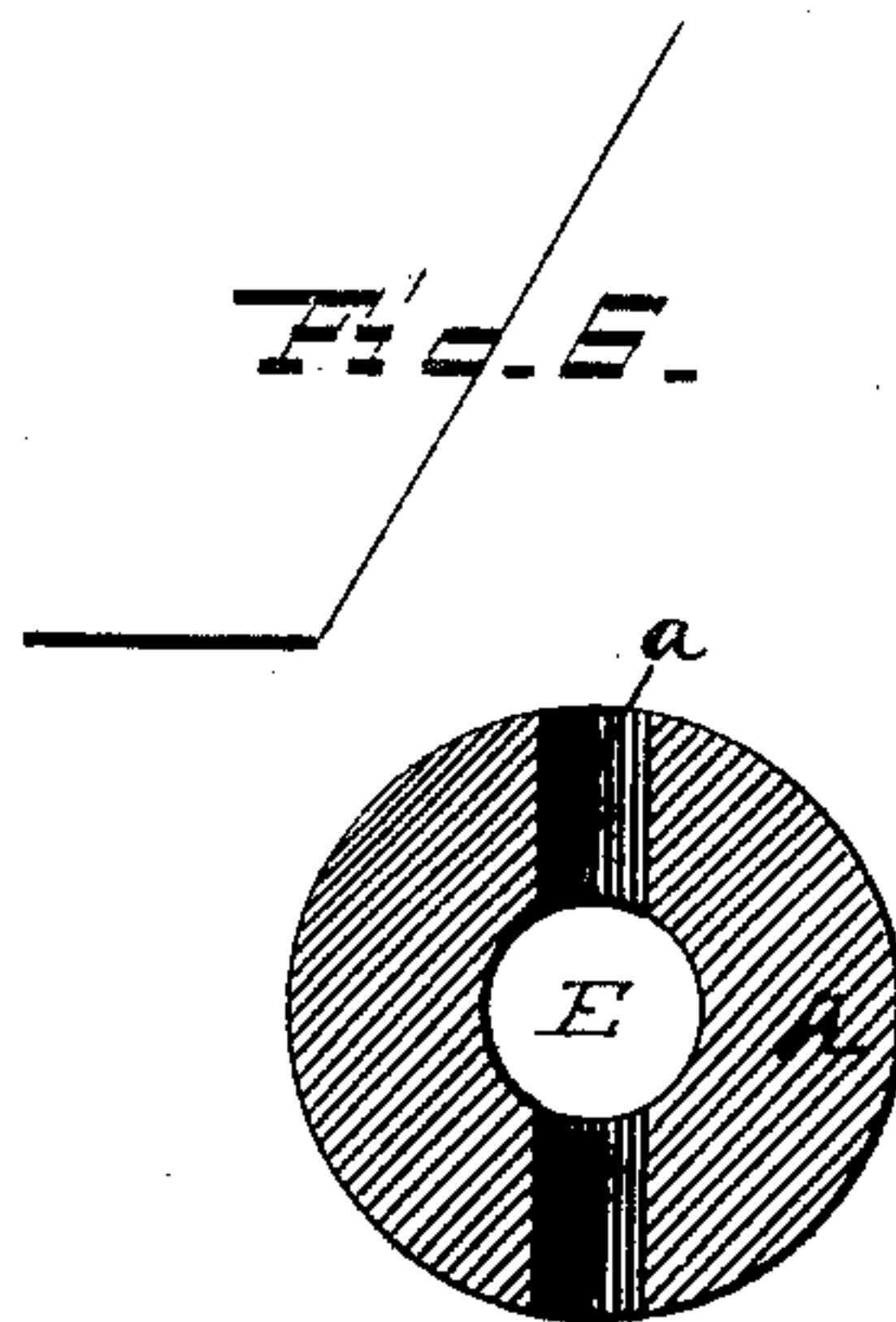
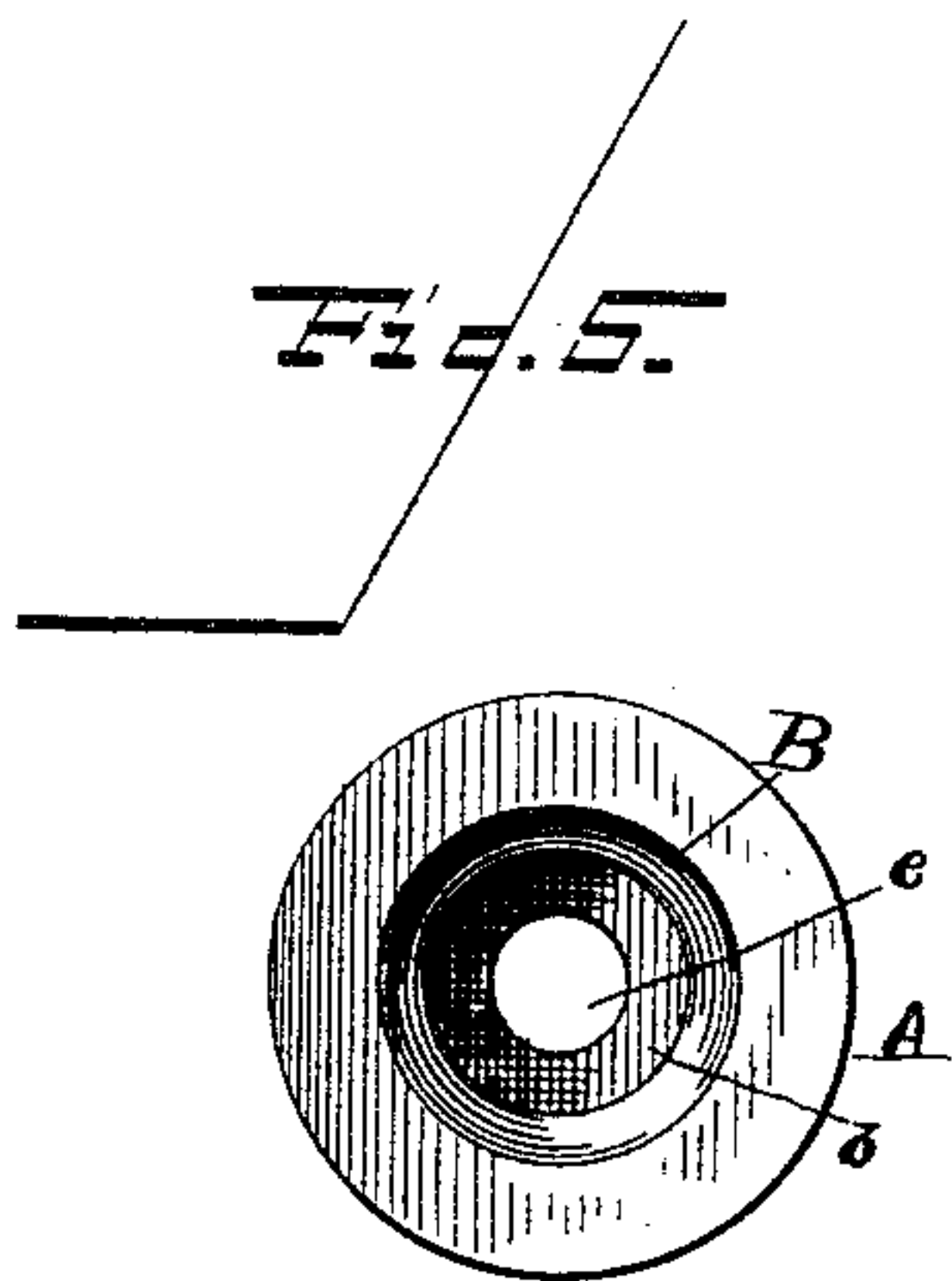
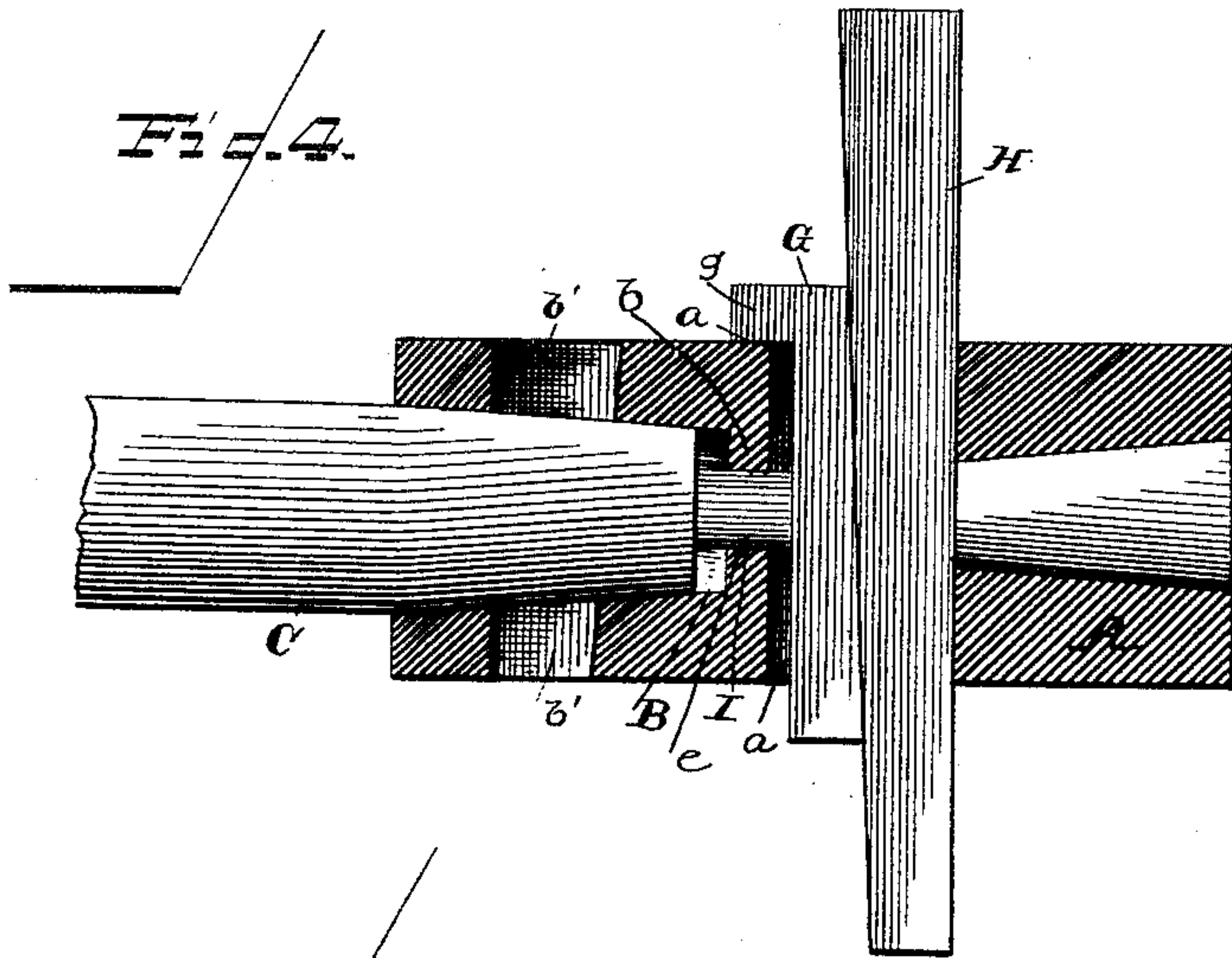
(No Model.)

2 Sheets—Sheet 2.

E. MOYLE.
DRILL CHUCK.

No. 410,601.

Patented Sept. 10, 1889.



WITNESSES

Wm. J. Kittell,
A. Lee Lowe.

Edward Moyle,
INVENTOR

by

J. P. Littell,
Attorney

UNITED STATES PATENT OFFICE.

EDWARD MOYLE, OF GRASS VALLEY, CALIFORNIA.

DRILL-CHUCK.

SPECIFICATION forming part of Letters Patent No. 410,601, dated September 10, 1889.

Application filed January 3, 1889. Serial No. 295,287. (No model.)

To all whom it may concern:

Be it known that I, EDWARD MOYLE, a citizen of the United States, residing at Grass Valley, in the county of Nevada and State of California, have invented certain new and useful Improvements in Drill-Chucks, of which the following is a specification.

This invention relates to drill-chucks, and is designed more specially for use in connection with rock-drills.

The object of the invention is to provide a simple and improved device of this character which is capable of being firmly connected with and removed from the drill-shaft, in which the drill can be quickly removed therefrom, and which will furthermore possess advantages in point of inexpensiveness, durability, and general efficiency.

In the drawings, Figure 1 is a perspective view of a chuck embodying my invention and showing the drill-shaft and drill separated therefrom. Fig. 2 is a longitudinal sectional view. Fig. 3 is a similar view showing the gib and drifting-key in position for removing the drill. Fig. 4 is a similar view showing the gib, drifting-key, and block in position for removing the chuck from the shaft. Fig. 5 is an end elevation of the chuck, taken from the rear, the same being removed from the shaft. Fig. 6 is a transverse sectional view on the line $x x$, Fig. 2. Figs. 7, 8, and 9 are detail perspective views of the gib, drifting-key, and block, respectively.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the chuck, which is provided near its longitudinal center with a diametrical slot a , extending entirely through the chuck, said slot being rectangular in cross-section and of approximately the same diameter throughout its length.

In the rear end of the chuck is provided a longitudinal conical-shaped socket B, which extends nearly to the rectangular slot a , leaving a partition b between. This socket B is adapted to receive a corresponding tapering or conical end C of the shaft.

The chuck is held rigid upon the shaft by a tapering key D, rectangular in cross-section, and which is adapted to be wedged into op-

positely-disposed diametrical slots $b' b'$ in the chuck and a coincident slot c' through the end of the shaft, said slots forming conjunctively a single tapering slot corresponding to the key D.

E designates a longitudinal rearwardly-tapering or conical drill-socket, which is adapted to receive the corresponding tapering or conical end f of a drill F. This socket is provided at the front end of the chuck and is connected at its inner end with the inner end of the shaft-socket by a cylindrical channel e , for the purpose hereinafter described.

In practice the chuck is first placed upon the end of the drill-shaft (the latter having been previously tapered and provided with the slot c') in a position in which the slots b' and c' coincide to form a single tapering slot, when the key D is driven therein, thus forming a rigid and durable connection between the chuck and drill-shaft. The drill is inserted in the socket therefor, and retained therein by friction, its tapering portion being of such a size as to permit the end thereof to project into the diametrical slot a .

To disconnect the parts hereinbefore described, I employ a gib G, drifting-key H, and block I. The former of these—the gib—comprises a main portion rectangular in cross-section and beveled upon one side, and a lug g projecting from the beveled side at the smaller end of the said main portion, and at approximately right angles thereto. The gib is designed to be inserted in the slot a , so that the lug projects over the periphery of the chuck at either end of the slot. The drifting-key is of the ordinary wedge shape, and is adapted to be inserted in the vacant portion of the slot a . The block I is designed to be employed only when it is desired to remove the chuck from the drill-shaft; and it consists of a short cylinder adapted to occupy that portion of the channel e through the partition b , but is of sufficient length to project partially within the slot a .

When it is desired to remove the drill, the gib is inserted in the slot a with its beveled side against the end of the former. The smaller end of the drifting-key is then inserted in the vacant portion of the slot from the side upon which the lug of the gib is located.

The key is then driven in until the drill is loosened, when it is removed.

To remove the chuck from the shaft, the locking-key D is first removed and the block
5 I passed through the drill-socket and into the position in the channel *e* before described. The gib is then inserted with its beveled side against the block, when the chuck is loosened from the shaft after the manner of removing
10 the drill.

I claim as my invention—

The herein-described drill-chuck, provided at its respective ends with inwardly-tapering

longitudinal drill and shaft sockets, a contracted cylindrical channel connecting the 15 same, and with a diametrical slot passing entirely through the chuck and through the drill-socket, the said shaft-socket having oppositely-disposed diametrical tapering slots in its walls, substantially as set forth. 20

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

EDWARD MOYLE.

Witnesses:

CHARLES STOCKS,
G. W. STARR.