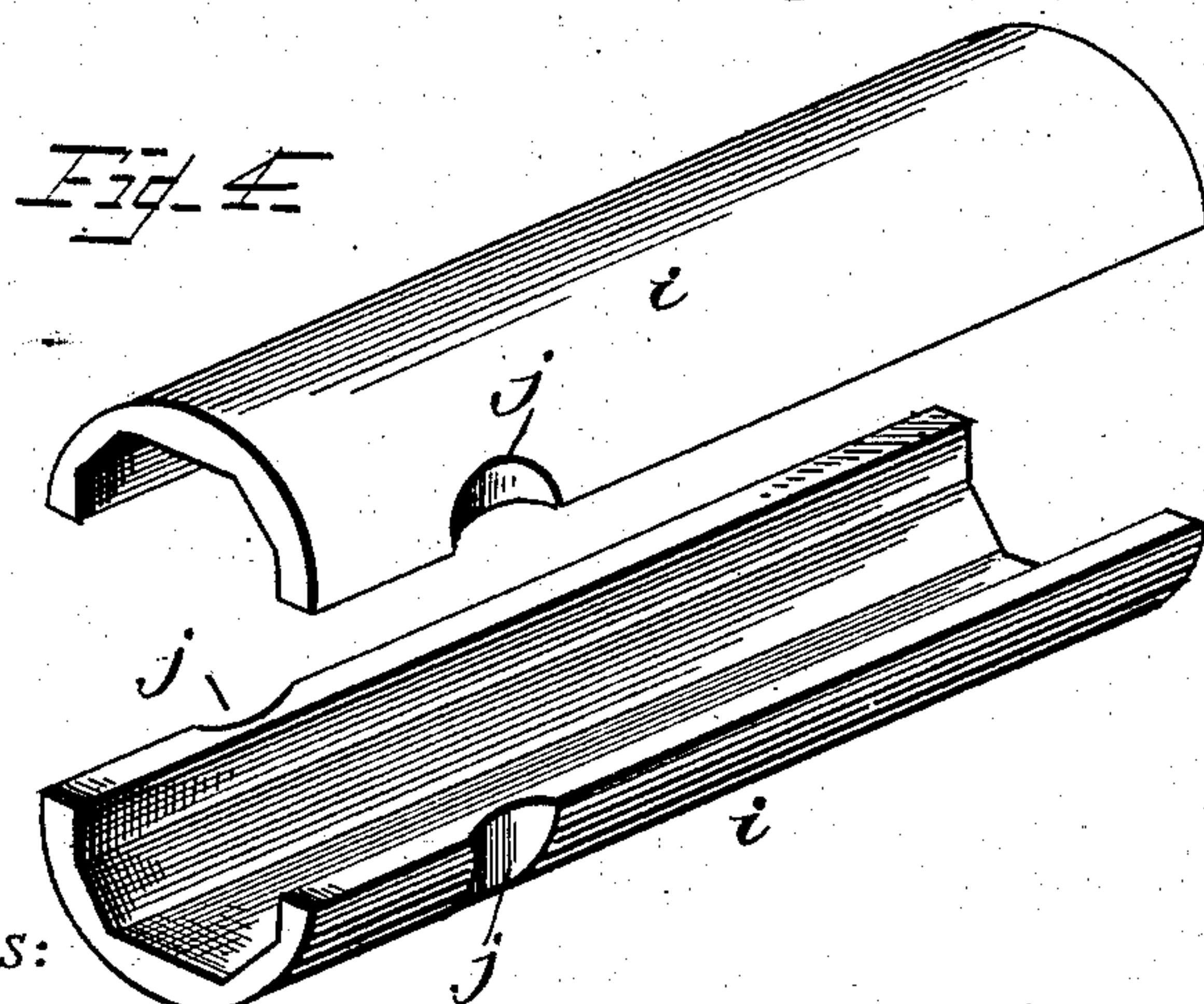
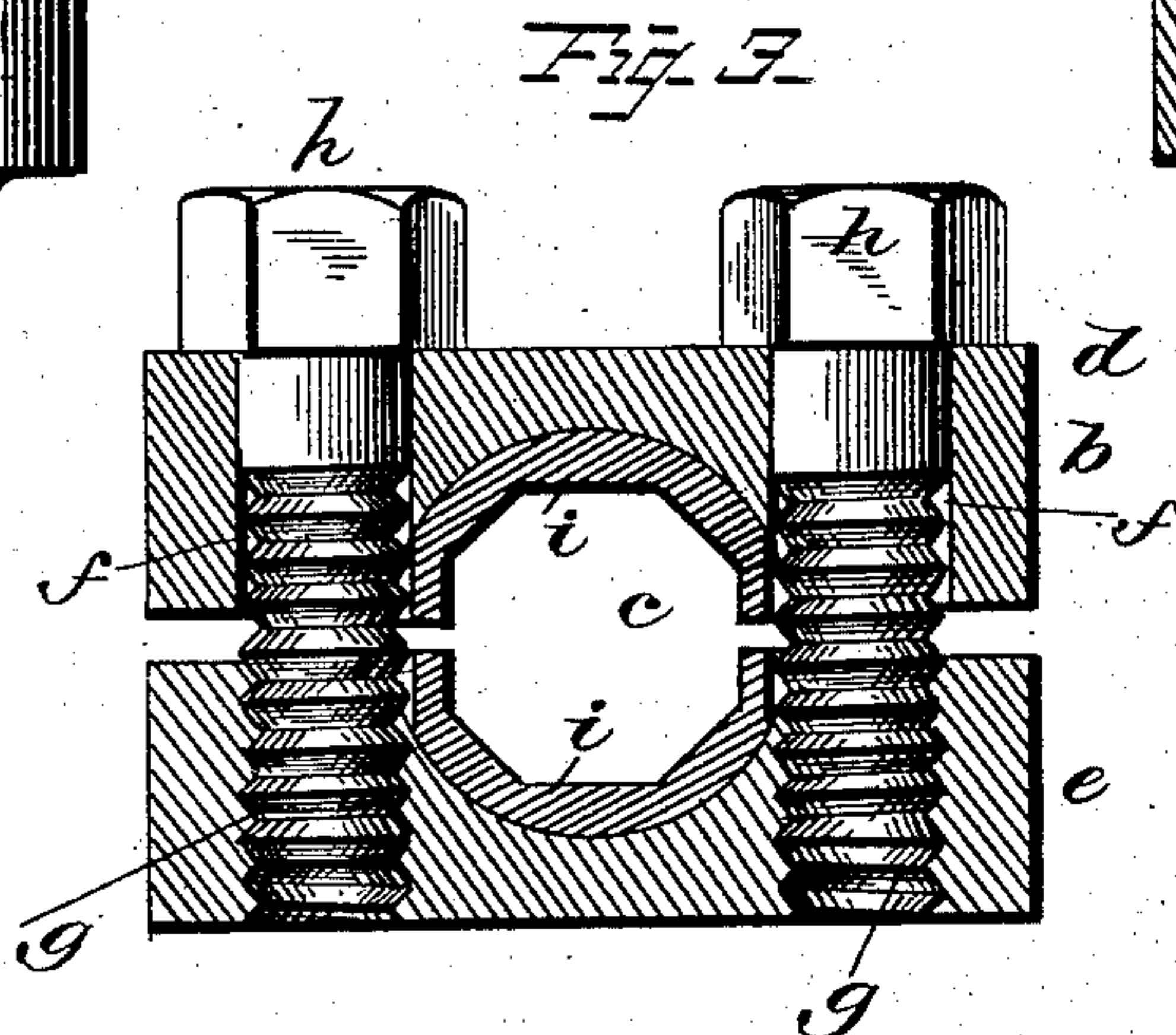
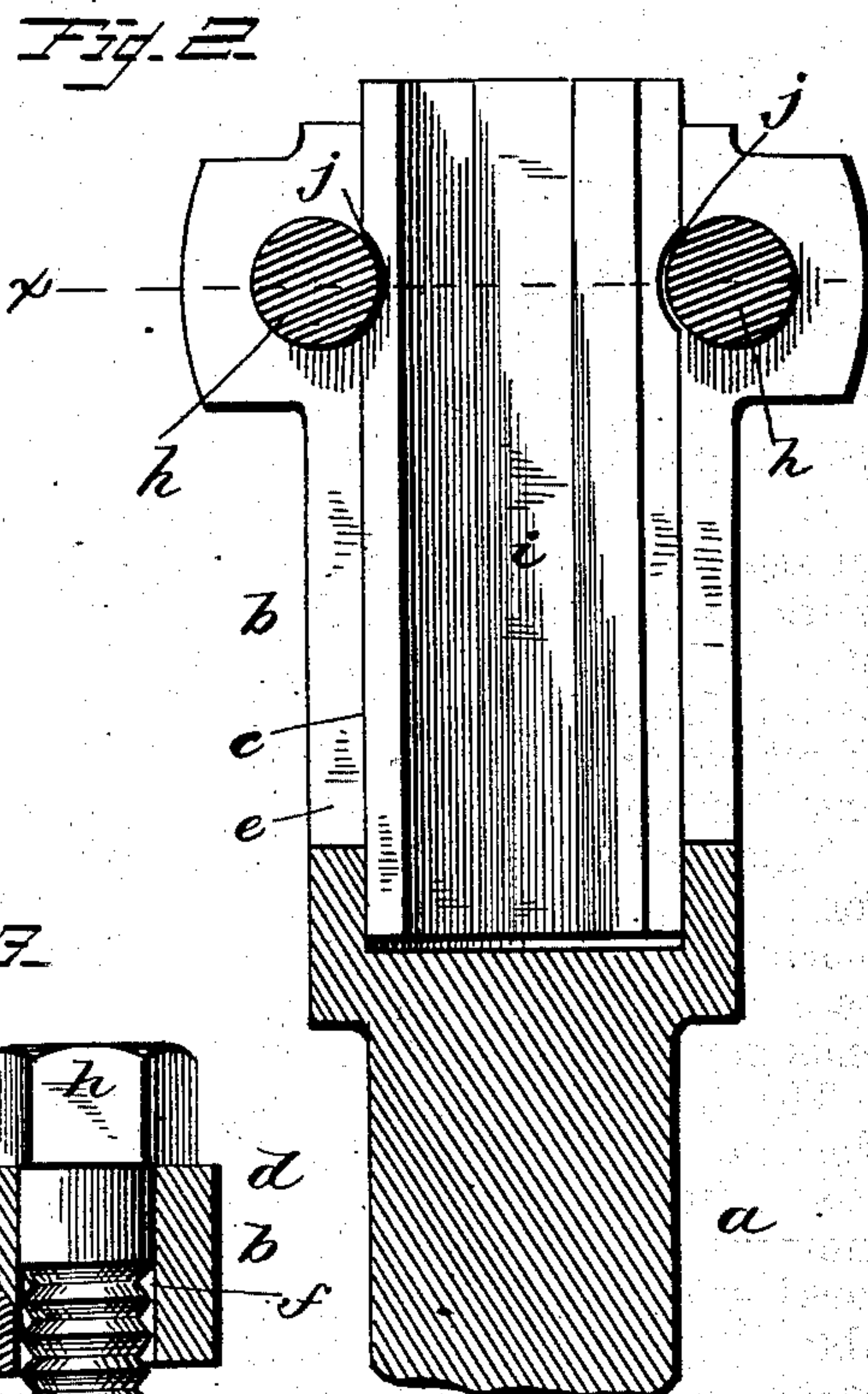
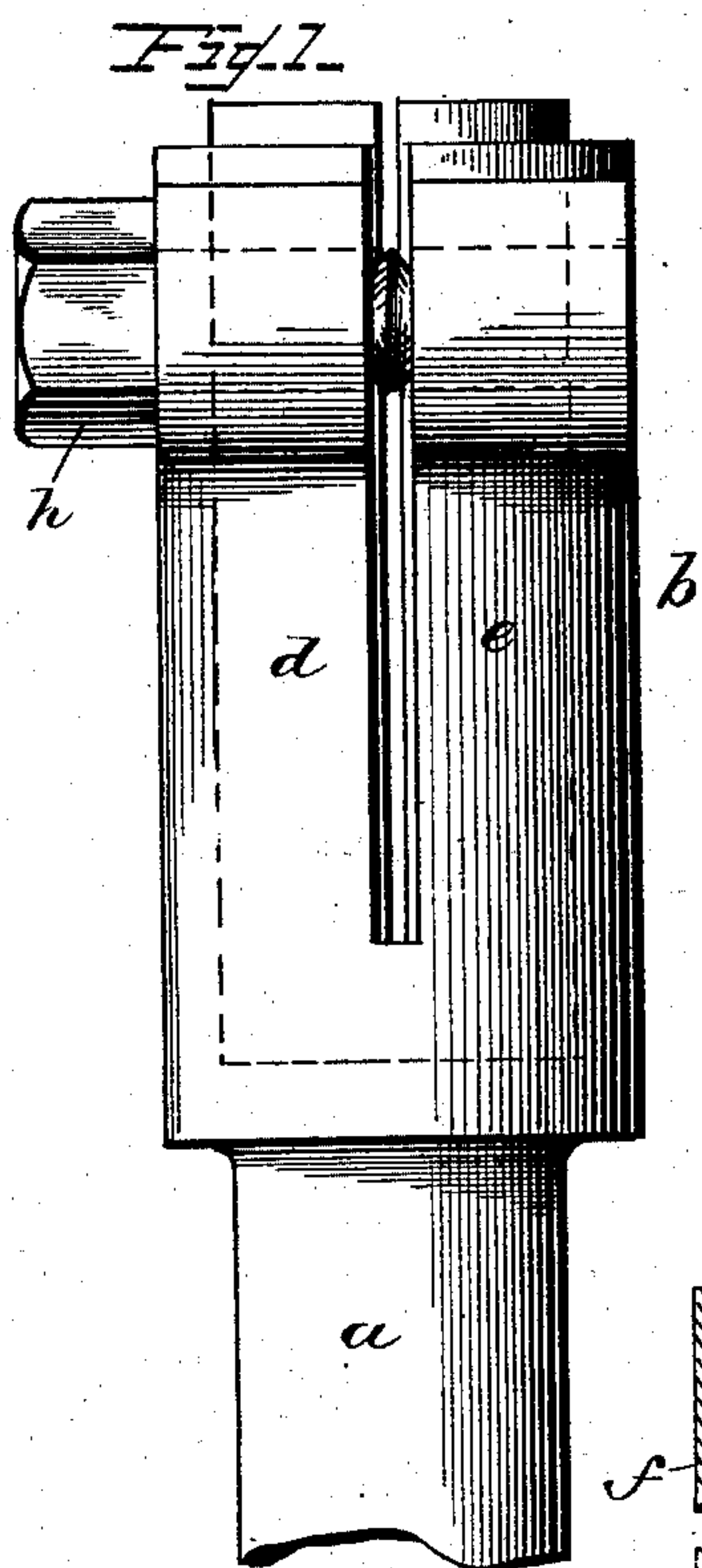


(No Model.)

A. I. PARSONS.
ROCK DRILL CHUCK.

No. 315,326.

Patented Apr. 7, 1885.



WITNESSES:
Frauck L. Ouraud,
Geo. M. Finckel.

INVENTOR:
A. Ingram Parsons,
by Geo. M. Finckel
Attorney.

UNITED STATES PATENT OFFICE.

A. INGRAM PARSONS, OF NEW YORK, N. Y.

ROCK-DRILL CHUCK.

SPECIFICATION forming part of Letters Patent No. 315,326, dated April 7, 1885.

Application filed April 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, A. INGRAM PARSONS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Rock-Drill Chucks, of which the following is a full, clear, and exact description.

This invention relates to improved means for holding the tool or drill of rock-drilling machines in the drill-spindle, so that it may be readily replaced with tools the holding ends of which are of different contour.

The invention consists of a drill-spindle the chuck, clutch, or tool-holding end of which is socketed and split longitudinally into jaws more or less yielding, and provided with connecting clamp-screws, combined with removable "brasses" or bearings placed in the socket between said jaws, and of shape to conform to the shape of the holding end of the tool or drill-rod employed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation (shown vertically for economy of space on the sheet) of the tool-holding end of a drill-spindle containing my invention. Fig. 2 is a cross-section (shown vertically, as in Fig. 1) taken in the plane of the split in the spindle. Fig. 3 is a vertical cross-section on the plane of line *x x*, Fig. 2; and Fig. 4 is a perspective view of the two brasses removed.

This invention is designed specially for the class of drills represented in my applications for Letters Patent therefor filed August 8, 1883, No. 103,116, and December 26, 1883, No. 115,525, respectively, but is of general application in drills employing a reciprocating drill-spindle.

a is a part of the spindle, the head or tool-holding end *b* of which is made with a longitudinal socket, *c*. This socketed head is split longitudinally the length of its socket and on both sides, the split being kerfs of, say, about one-eighth or three-sixteenths of an inch width throughout, and dividing the head into two jaws, *d e*. These jaws, at their forward ends, are provided, one, *d*, with holes *f*, and the other with screw-threaded openings *g*, with which latter the threaded portions of clamp-screws *h h* engage, said screws having heads

that bear upon the surface of the jaw *d*, and as the screws are driven in the threaded openings *g* draw the jaws into closer proximity, and which, being turned in the opposite direction, permit the jaws through the inherent resiliency or spring of the metal to "recover" or resume their natural position of separation. Within the socket, half of which is in each jaw, are placed the brasses *i i*. These brasses or bearing-blocks, one for each jaw, are of metal, preferably one of the usual bearing alloys, and their outer surfaces are turned true to the contour of the socket, say circular, as shown, while their inner surfaces are angular to grasp and hold the drill-rod or tool against rotation therein.

To insure the retention of the brasses in the jaws, I provide their edges with notches or cavities *j j*, which notches or cavities are engaged by the screws projecting into them. This engagement of the screws with the notched brasses will also assist the clamped jaws in preventing the rotation of the brasses by the drill-tool. Drills or drill rods or tools are made with a square or polygonal holding end, and to adapt the drill-spindle to such tools as may be at hand I provide sets of brasses of various internal configuration to correspond therewith. The tool is inserted in the spindle by placing its holding end in between the brasses and turning down the screws till the jaws firmly clamp or embrace the same, thereby insuring the retention of the tool in the spindle both in its projection into the rock and its rotation in the hole made therein.

I am well aware that tool-holders have been made with jaws to fit the configuration of the tool to be held thereby, and I do not claim the same; but

What I claim is—

1. The combination, in a rock-drill spindle, of a socketed head split longitudinally into two jaws, clamping-screws engaging such jaws to vary their proximity, and removable brasses or bearing-blocks arranged in said jaws, substantially as shown and described.

2. The combination, in a rock-drill spindle, of a socketed head split longitudinally into two jaws, clamping-screws engaging such jaws to vary their proximity, and removable brasses or bearing-blocks arranged in said jaws, and provided with notched edges, which are also

engaged by the said screws, substantially as shown and described.

3. The combination, with a drill-spindle having a tubular split portion and a drill-rod, 5 of brasses interposed between the drill-rod and drill-spindle, and adapted externally to the interior of the tubular portion of the drill-spindle and internally to the exterior of the drill-rod, substantially as specified.

10 4. The combination, with a drill-spindle having a tubular split portion and a drill-rod, of brasses interposed between the tubular split portion of the drill-spindle and the drill-rod,

and shaped to conform to the contiguous surfaces of these parts, and a bolt or bolts which 15 serve to tighten the tubular split portion of the drill-spindle and engage with the brasses so as to retain the same in place, substantially as specified.

In testimony whereof I have hereunto set 20 my hand this 16th day of February, A. D. 1884.

A. INGRAM PARSONS.

Witnesses:

J. MCG. SMITH,

DANIEL S. REMSEN.