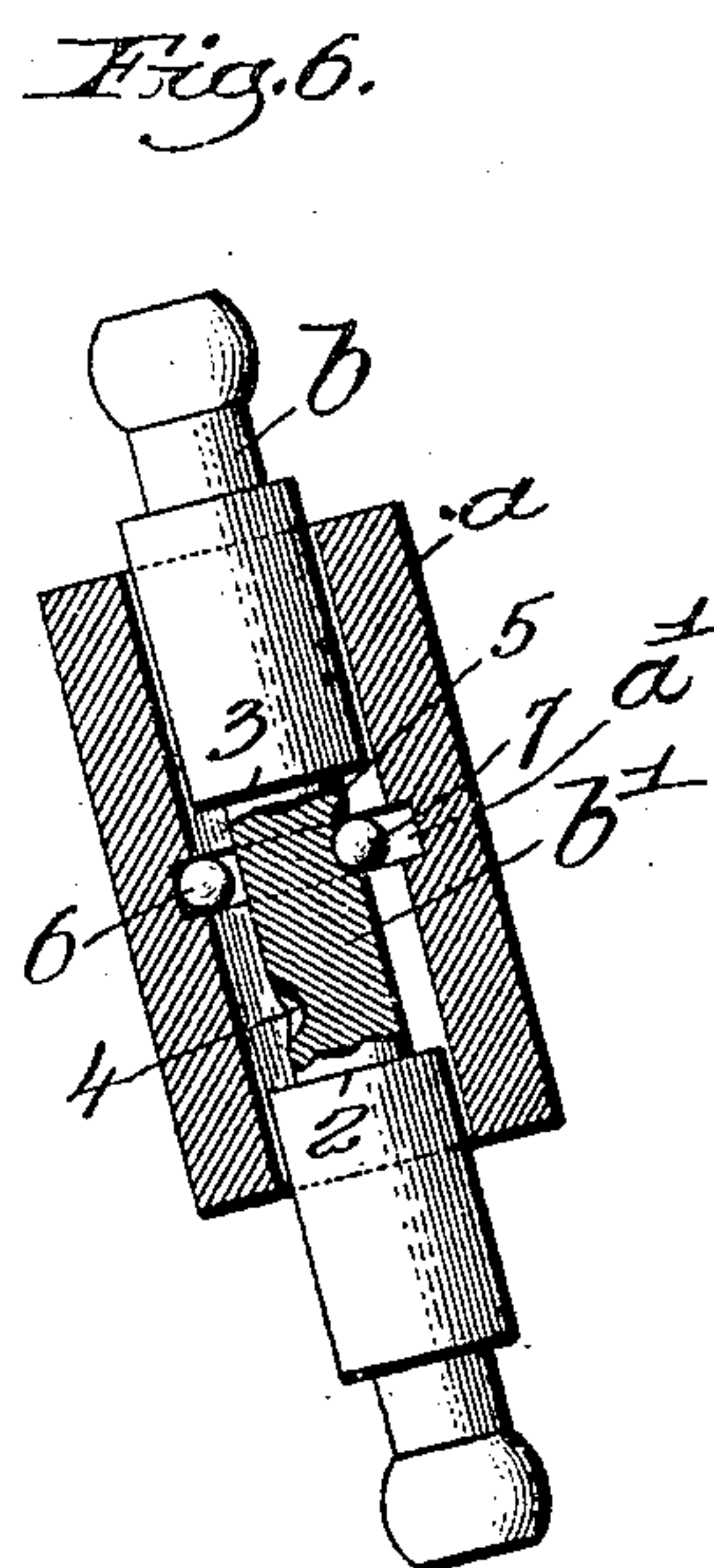
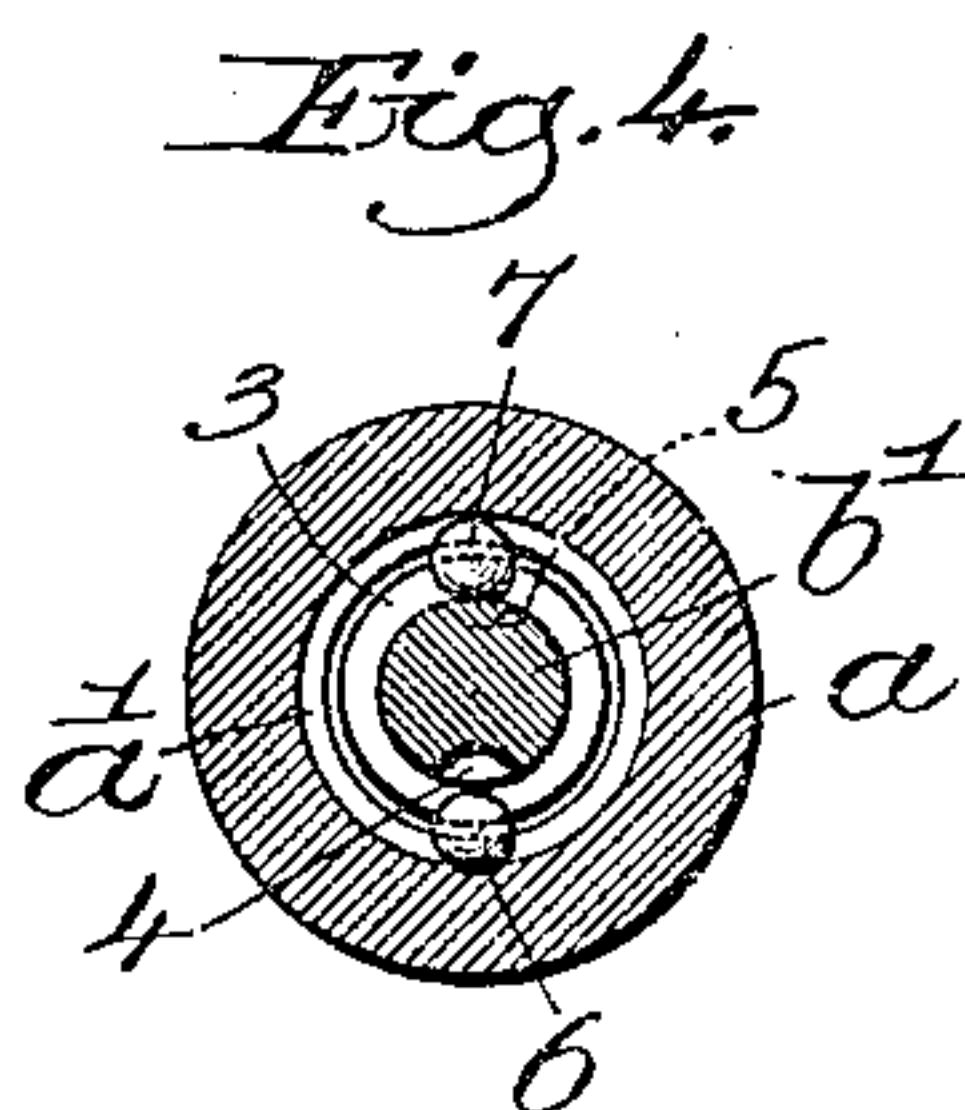
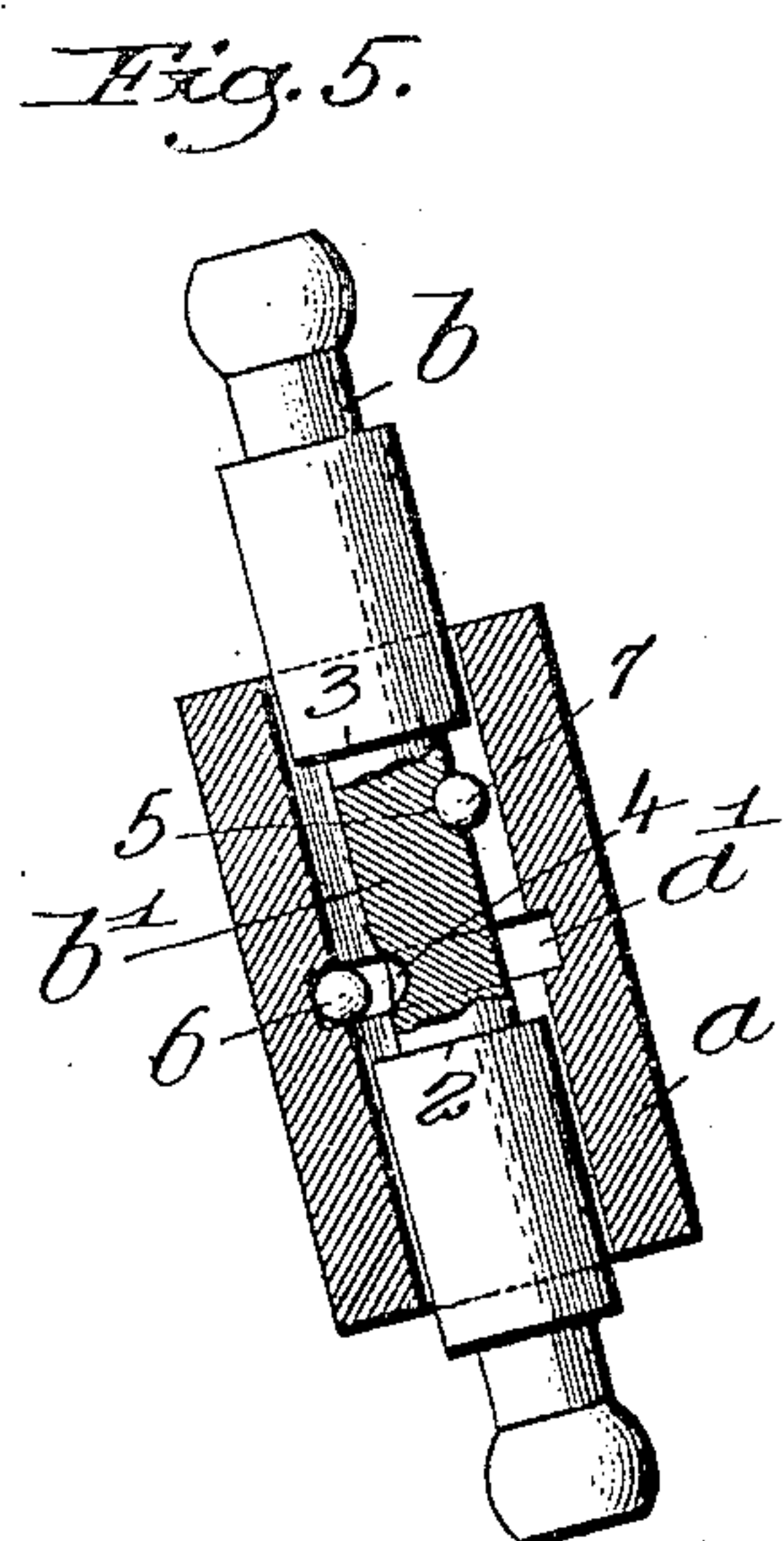
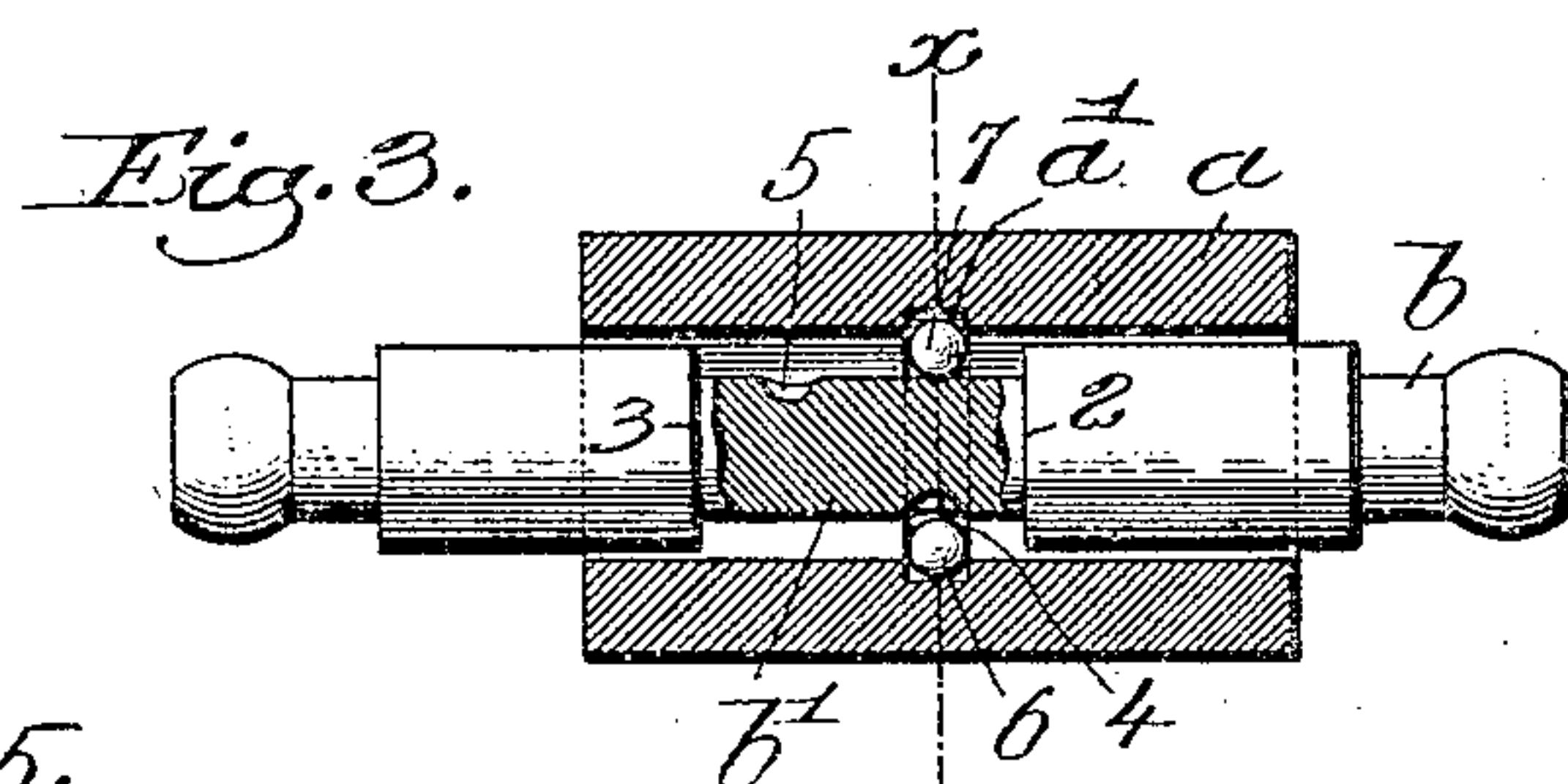
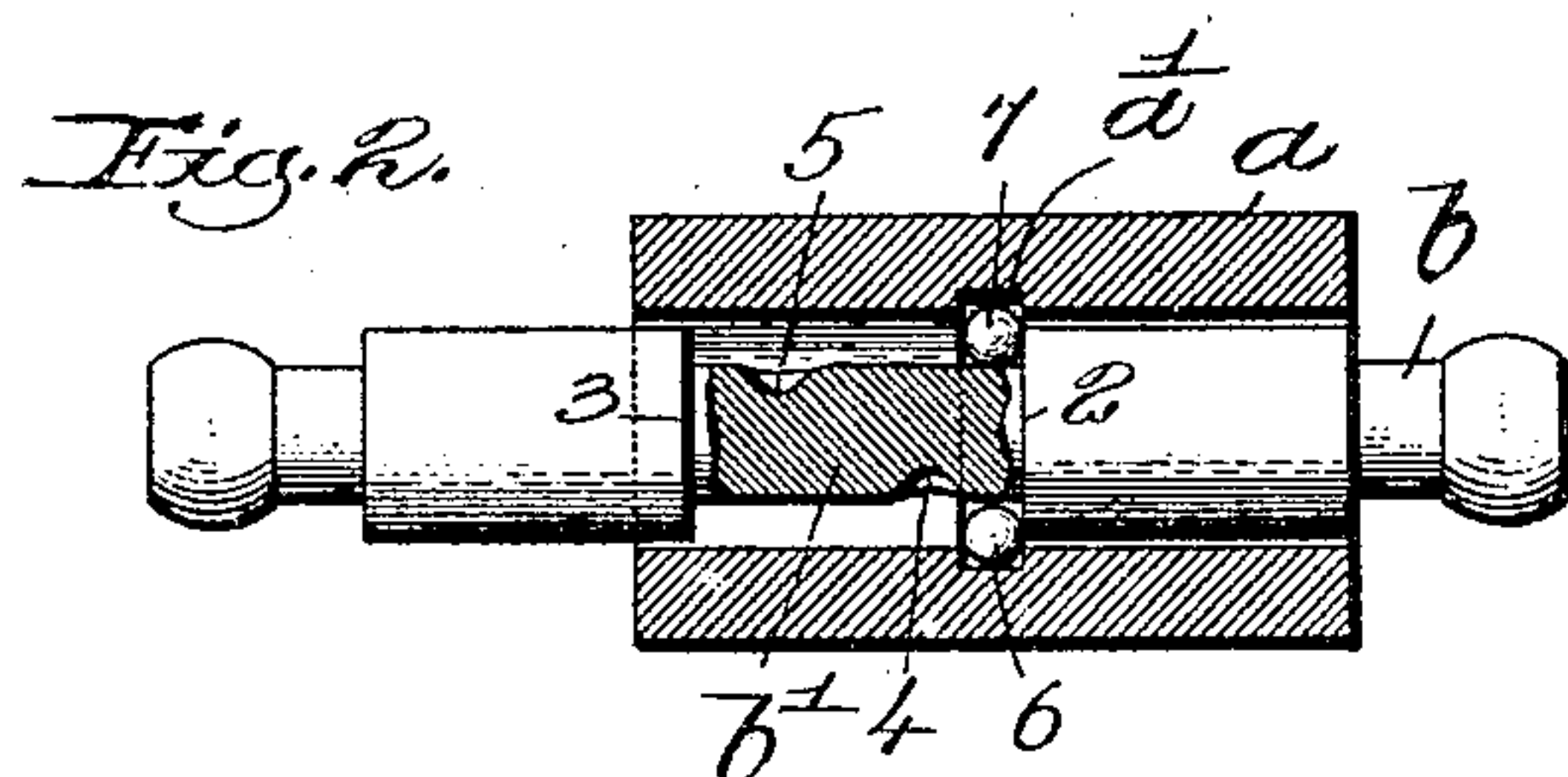
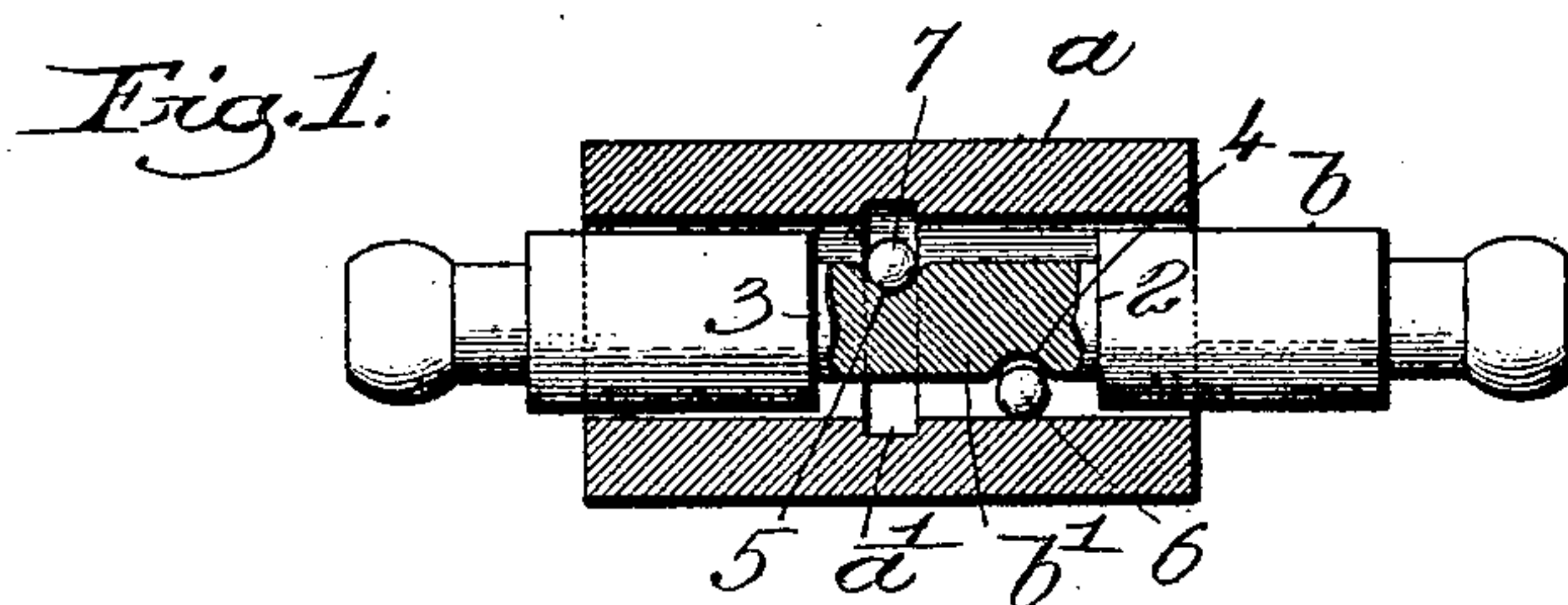


J. L. DOW.
PUZZLE.

APPLICATION FILED APR. 20, 1905



Witnesses:
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S. Wm. Lutton.

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UNITED STATES PATENT OFFICE.

JOHN L. DOW, OF HAVERHILL, MASSACHUSETTS.

PUZZLE.

No. 800,995.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed April 20, 1905. Serial No. 256,594.

To all whom it may concern:

Be it known that I, JOHN L. DOW, a citizen of the United States, and a resident of Haverhill, in the county of Essex and State of Massachusetts, have invented an Improvement in Puzzles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention has for its object the production of a novel puzzle comprising two members and an interposed ball or balls, the puzzle as herein shown being represented in the form of a rolling-pin; but the exterior of the two parts of the puzzle may be differently shaped without departing from my invention.

Figure 1 shows my puzzle in one attractive form partly in elevation and in longitudinal section. Figs. 2 and 3 are like views with the inner and outer members in different positions. Fig. 4 is a cross-section in the line *x*, Fig. 3; and Figs. 5 and 6 show the parts in the position they must occupy before they can be separated.

The puzzle as herein represented comprises a hollow shell *a*, having an internal annular groove *a'*, and a spindle *b*, having its central portion *b'* reduced in diameter to leave shoulders 2 3. The reduced portion *b'* is shown as provided with two ball-cavities 4 5 to receive balls 6 7.

The spindle is shown as having two like ends that project far enough from the ends of the shell to be grasped by the person trying to withdraw the spindle from within the shell, it being understood that so long as the parts are held in a horizontal or nearly-horizontal position, as shown in Figs. 1 and 3, this cannot be accomplished.

The ball-cavities occupy, as shown, positions at the opposite sides of the reduced portion *b'* of the spindle, and said cavities are out of line or separated one from the other with relation to a line intersecting the longitudinal axis of the spindle preferably for a distance substantially equal to the width of the annular groove *a'*.

From an inspection of Figs. 1 to 3 it will be seen that either one or both balls occupy a position at times in the annular groove, and with a ball in the annular groove one or the

other shoulder of the spindle will be arrested and prevented from leaving the shell, that depending upon the direction in which the spindle is pulled in attempting to withdraw it from the shell.

To effect the withdrawal of the spindle from the shell, it is necessary to hold the puzzle in a nearly-vertical position, as represented in Figs. 5 and 6, and a person attempting to withdraw the spindle from the shell will hold the same in his left hand and lower the end of the spindle in his right hand, and the spindle will be moved until the ball-cavity 5 is substantially in line with the annular cavity *a'*, (see Fig. 6,) and the parts will be partially rotated until one of the balls enters said cavity. Now when this has been effected the person manipulating the puzzle will move the spindle upwardly in the shell and carry the ball above the upper side wall of the annular groove, and to effect the withdrawal of the spindle he must lift the same until the cavity 4 is brought in line with the annular groove, and he must then by careful feeling and manipulation of the parts *a* and *b* turn the same until the other ball 6, then in the annular groove, enters the cavity 4, and this being effected by a quick movement he carries the second ball 6 past the upper shoulder of the annular groove, and the spindle may be withdrawn.

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

In a casing, a cylindrical open-ended shell having an interior annular groove, a spindle extending entirely through said shell and projecting beyond the same at each end, said spindle being reduced in diameter between its ends to form shoulders, the portion of reduced diameter being provided with a plurality of ball-cavities, and a corresponding number of balls confined between the shell and reduced portion of the spindle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN L. DOW.

Witnesses:

MATTHEW J. GRAY,
J. FRANK BATCHELDER.