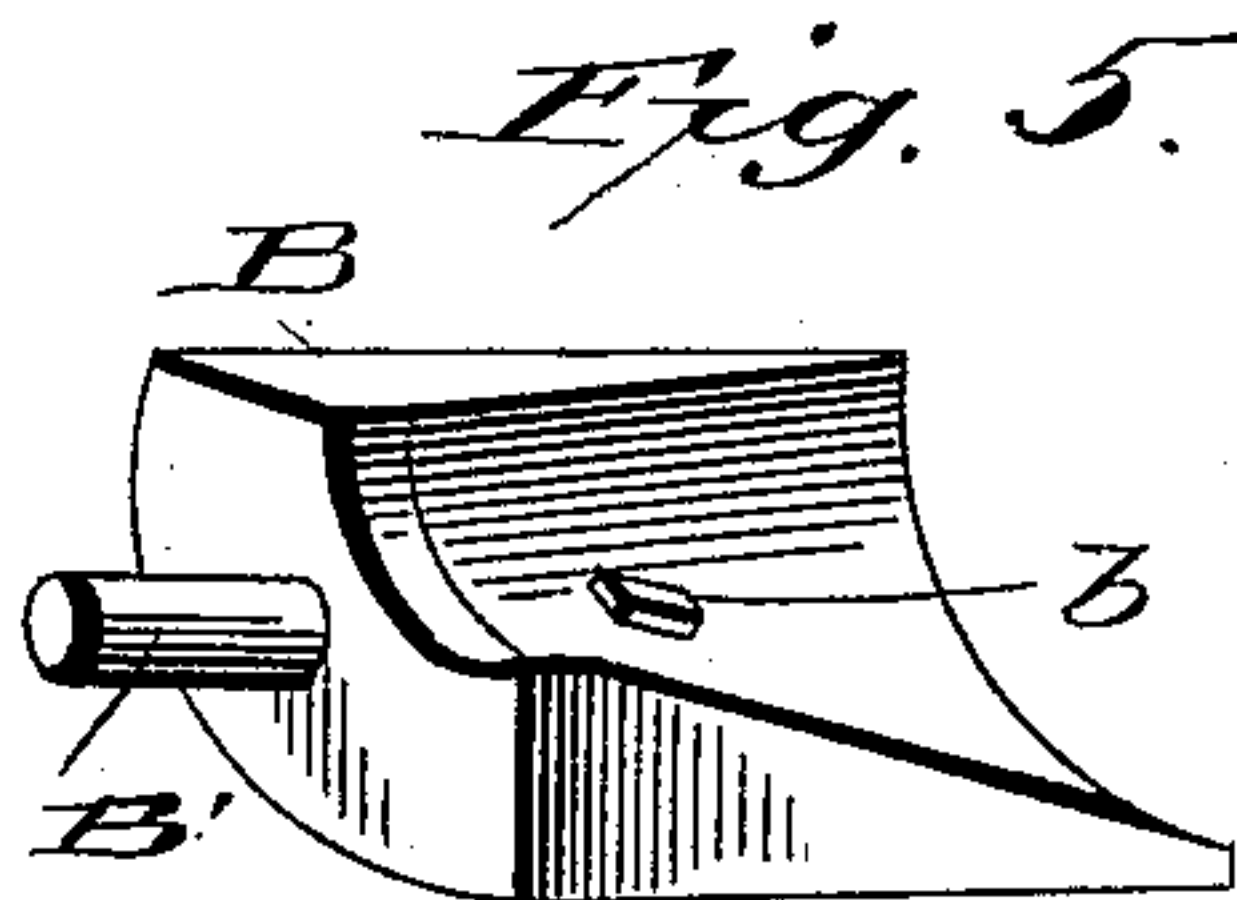
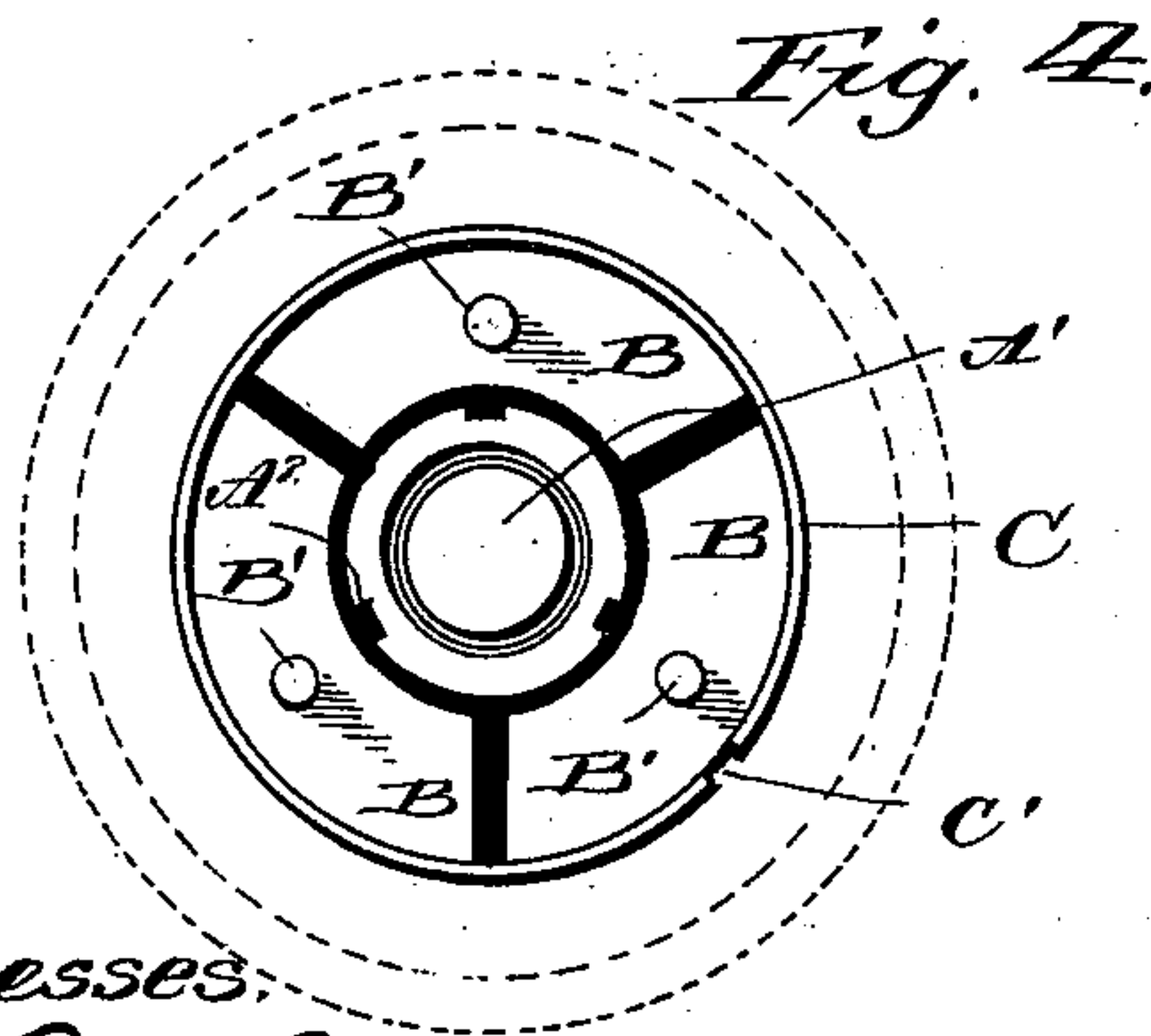
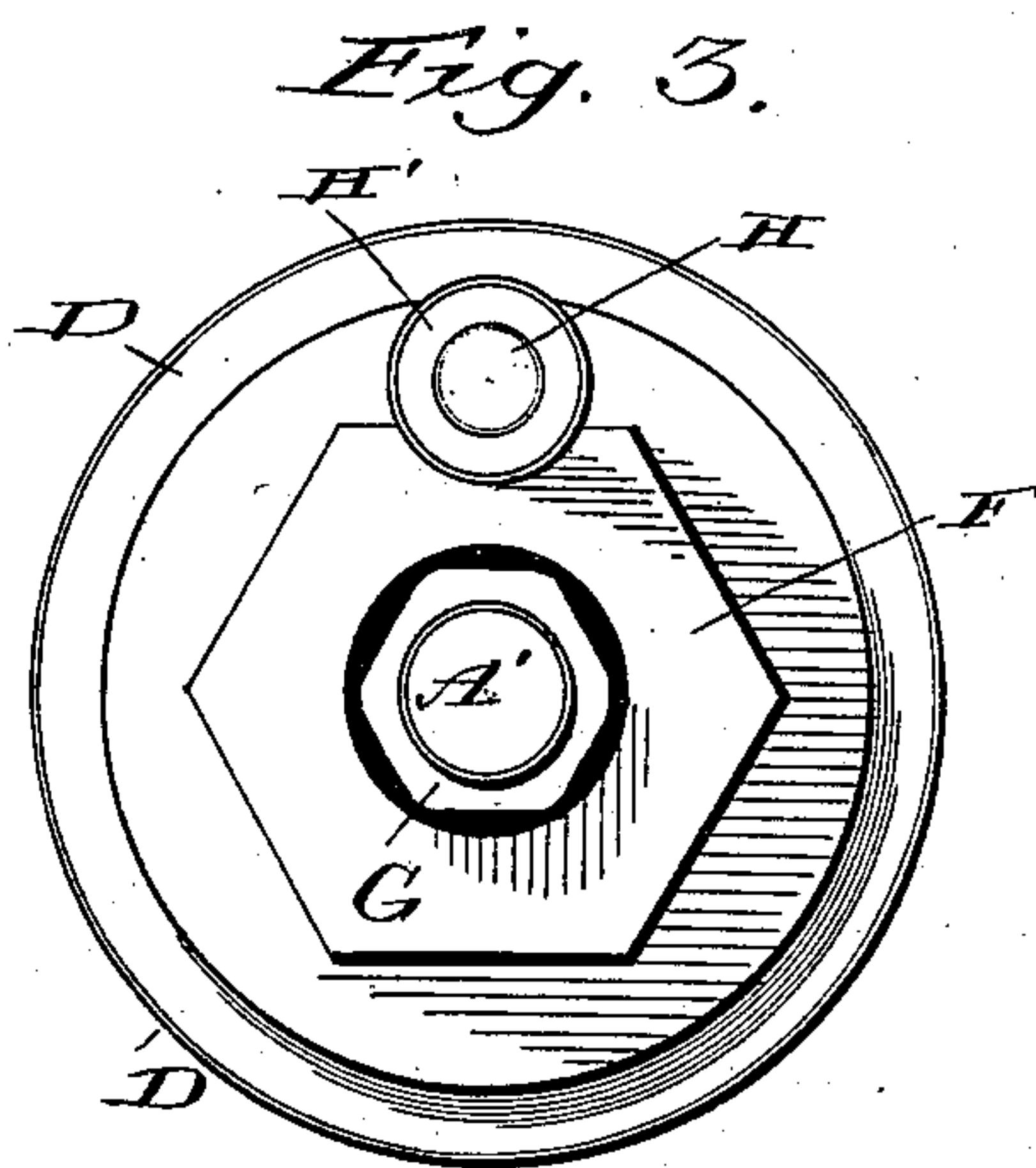
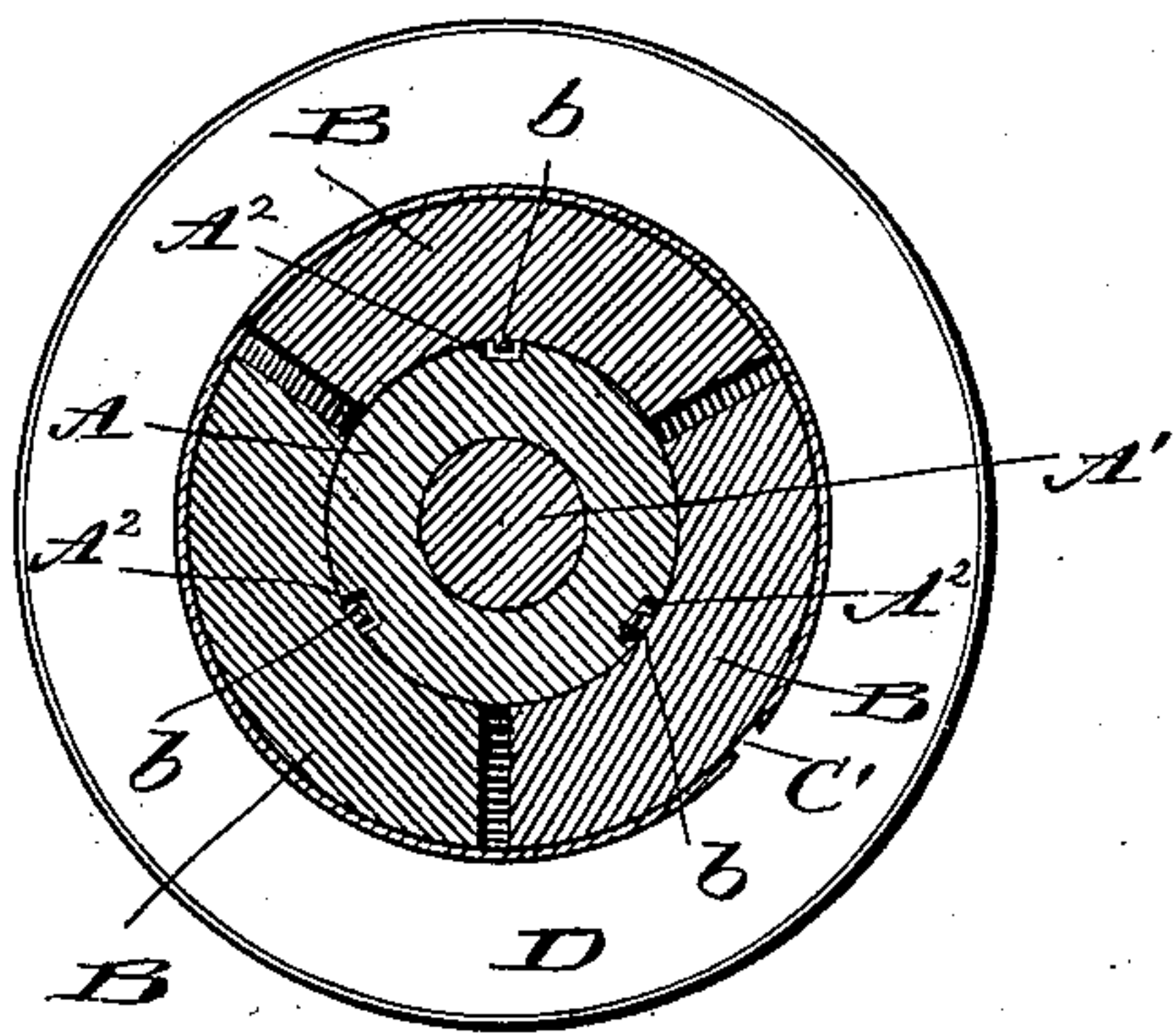
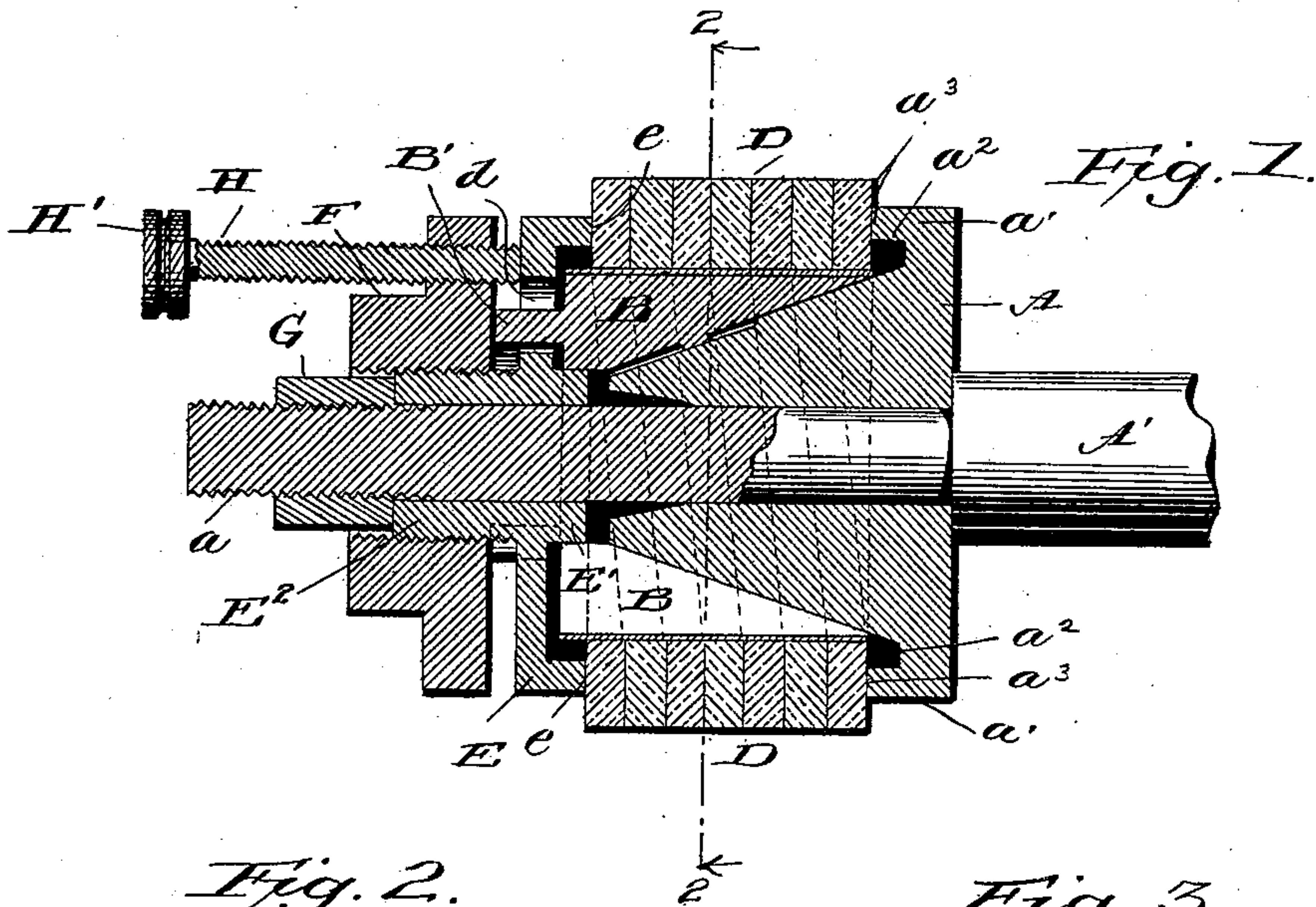


(No Model.)

J. F. PRUDEN.
CUP HEAD OR PISTON PACKING.

No. 539,085.

Patented May 14, 1895.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN F. PRUDEN, OF OAKDALE STATION, PENNSYLVANIA.

CUP-HEAD OR PISTON-PACKING.

SPECIFICATION forming part of Letters Patent No. 539,085, dated May 14, 1895.

Application filed February 13, 1895. Serial No. 538,294. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. PRUDEN, a citizen of the United States, residing at Oakdale Station, in the county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Cup-Heads or Piston-Packing, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in cup-heads or piston-packing for any and all forms of pumps and the like where such device is employed. It is designed more particularly as an improvement upon the construction disclosed in the Patent No. 526,053, granted to me September 18, 1894, and has for its objects among others to simplify the construction and reduce the number of parts and yet at the same time accomplish equally as good results. I dispense with the adjusting screws employed in the former construction, making the tapered sleeve in sections and providing each section with a lug or projection. Against the outer ends of these lugs or projection a plate bears, and this plate is provided with a set screw by which the parts may be firmly bound together after the cap-piece is adjusted to compensate for wear. The tapered portions are provided with lugs which work in grooves in the conical part of the body portion of the device.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a substantially central longitudinal section through my piston-head with a portion of the piston rod shown in elevation and broken away. Fig. 2 is a cross-section of the same on the line 2 2 of Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a view similar to Fig. 3 with the plate and its set-screw removed. Fig. 5 is a perspective view of one of the sections of tapered the sleeve.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings

by letter, A designates the body portion which is conical in form with a central longitudinal bore through which passes the piston rod A' which is screw-threaded at its end as shown at *a*. The larger end of this conical part has an annular enlargement *a'* as seen best in Fig. 1, which is provided with a socket or annular recess *a''* into which the smaller end of the sectional tapered sleeve may be forced as the latter is adjusted to throw the packing rings outward.

The inclined wall of the body portion A is formed with longitudinally-disposed grooves A² in which are located the lugs or projections *b* on the inner faces of the tapered portions or wedges B which are fitted over the conical part of the body portion, there being in this instance three shown which constitute a tapered sleeve, the outer periphery of which is embraced by a sleeve C which is split lengthwise as shown at C', and this sleeve is embraced by the packing rings D of suitable construction, or they may be in the form of a single strip wound spirally about the outer sleeve as indicated by dotted lines in Fig. 1. These packing rings are arranged with their peripheries extended beyond the periphery of the body portion as shown and the innermost one bears against the shoulder or face *a''* of the enlargement *a'* of the body portion A as seen in Fig. 1. Each of the sleeve sections B carries at its outer end a stud or pin B' which works through openings *d* in the cap-piece E against the inner face *e* of the annular flange of which the outermost packing rings finds a bearing as shown in Fig. 1. This cap-piece E has an inwardly-extending central boss E' as seen in Fig. 1, which enters between the outer ends of the sleeve-portions B as shown in Fig. 1, while an outwardly-extending boss E² embraces the piston rod A' as is also seen in Fig. 1.

F is a plate having a threaded opening engaging the threads of the boss E² of the cap-piece E, and G is a nut engaging the threaded end of the piston rod and bearing against the outer end of the boss E² of the cap-piece E all as shown in Fig. 1.

H is a bolt having a thumb nut or milled head H' by which it may be turned. This bolt is tapped through the flange of the plate

F and bears against the outer face of the cap-piece E as shown in Fig. 1.

The parts are assembled as shown. The cap-piece is screwed up and then the nut G is tightened and the tapered sleeve-portions B are forced inward and the packing rings outward and when the parts are sufficiently adjusted the set screw H is turned to bind the plate and the cap-piece E together and the parts are all held against displacement or movement upon each other.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. The combination with the conical body portion, of the tapered separated sleeve sections, sleeved thereon the packing rings, surrounding said sections the cap-piece bearing on the packing rings the plate and the retaining nut, all substantially as specified.

2. The combination with the conical body portion having grooves, of the tapered sleeve portions surrounding said body portion and having lugs working in said grooves, the annular packing, around the sleeve portion the cap-piece the plate threaded on said cap-piece, and the retaining nut, substantially as specified.

3. The combination with the conical body portion, of the tapered sleeve sections, surrounding the said body portion the annular packing, around said tapered section the split sleeve around said sections, the cap-piece bearing against the tapered sleeve section, the

plate bearing on cap-piece and the retaining nut, substantially as specified.

4. The combination with the conical body portion, the tapered sleeve sections surrounding the body portion and having projections or studs, and the annular packing, around the sleeve section of the cap-piece with openings for said projections or studs, the plate bearing against the tapered sleeve section and the retaining nut, as set forth.

5. The combination of the conical body portion, the tapered sleeve sections, surrounding the body portion the annular packing, surrounding the sleeve sections the cap-piece having threaded boss, the plate screwed on said boss, the retaining nut and the set screw carried by the plate and engaging the said cap-piece, substantially as and for the purpose specified.

6. The combination of the conical body portion, having longitudinal grooves, the tapered sleeves surrounding the body portion and formed with lugs fitted in said grooves, the split sleeve, the annular packing, surrounding said sleeves, the cap-piece bearing against said sleeves, the plate, the retaining nut, and the set bolt in said plate and bearing on the said cap piece, substantially as shown and described.

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

JOHN F. PRUDEN.

Witnesses:

SAMUEL NEWTON,
E. A. THOMPSON.