

(No Model.)

B. E. FOSS.
PISTON ROD PACKING.

No. 368,916.

Patented Aug. 23, 1887.

Fig. 1.

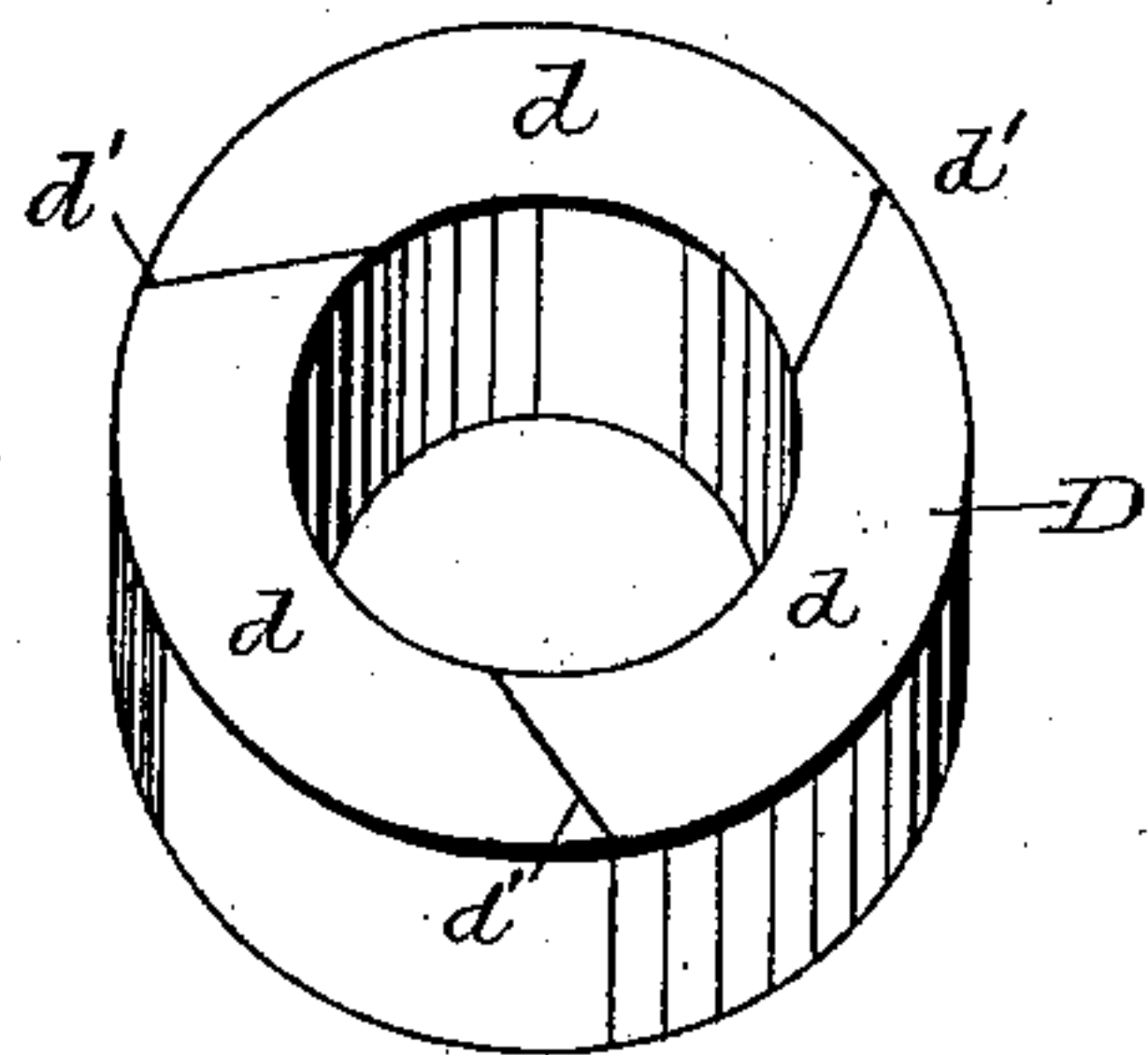


Fig. 2.

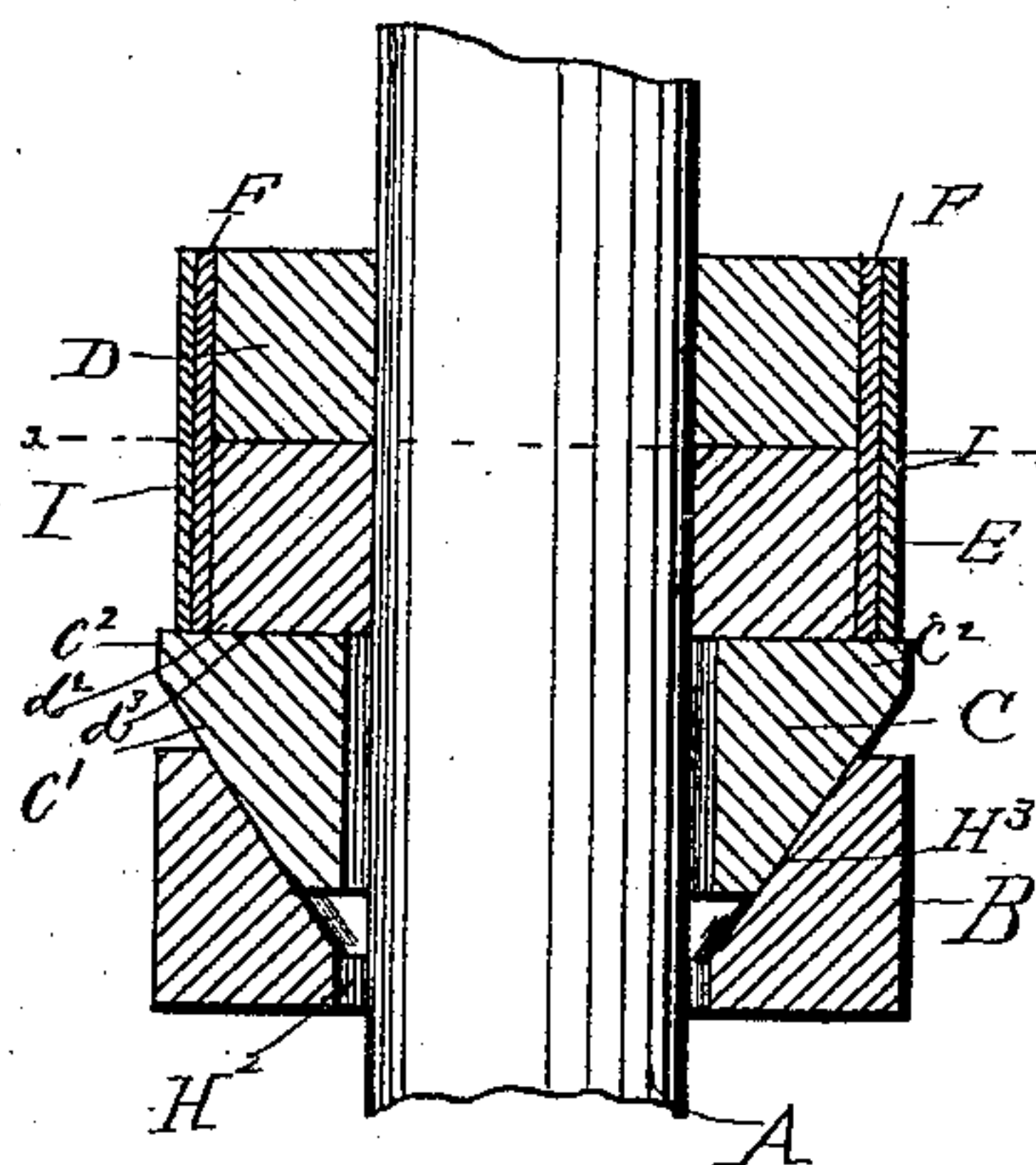


Fig. 3.

Fig. 4.

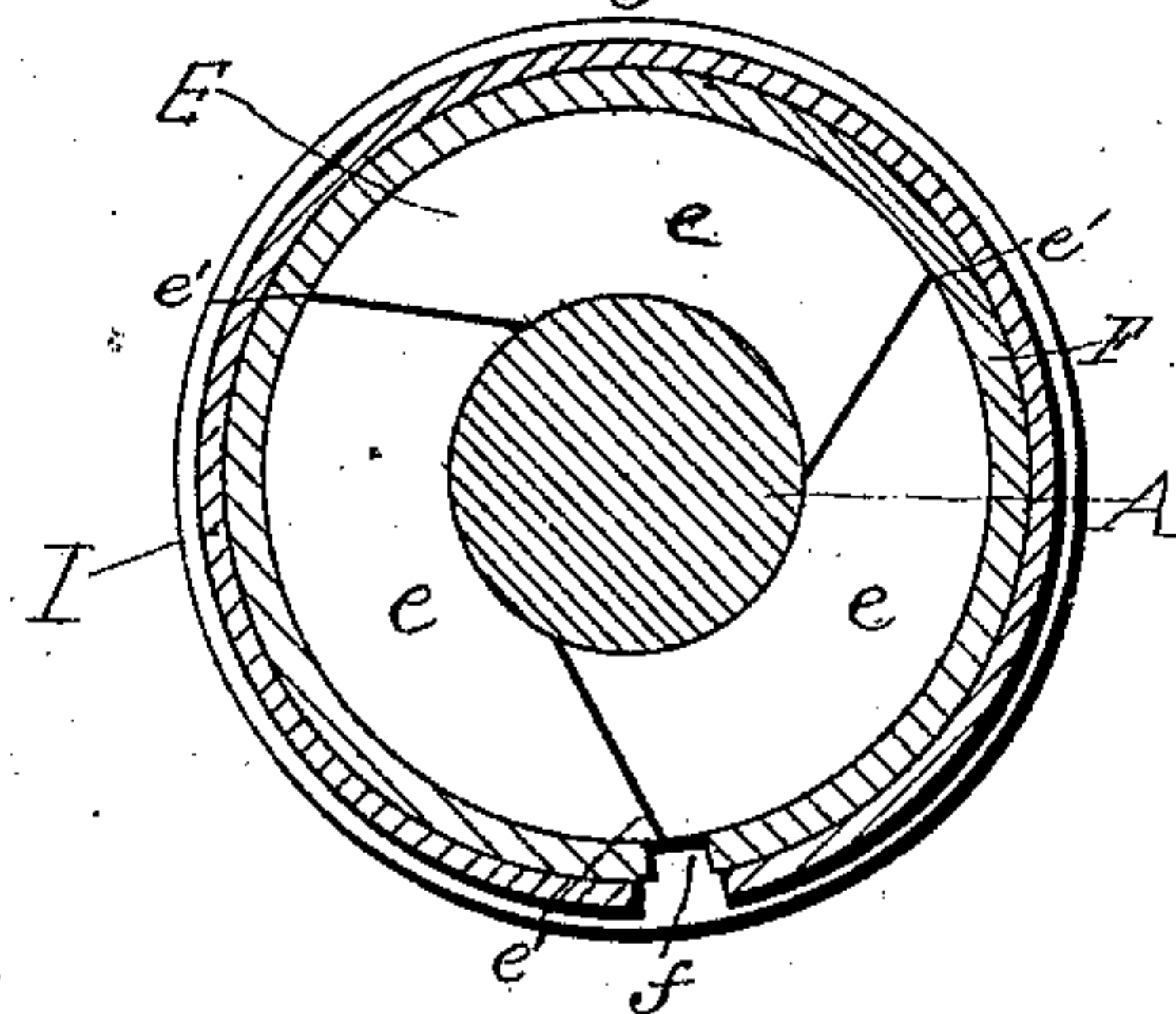
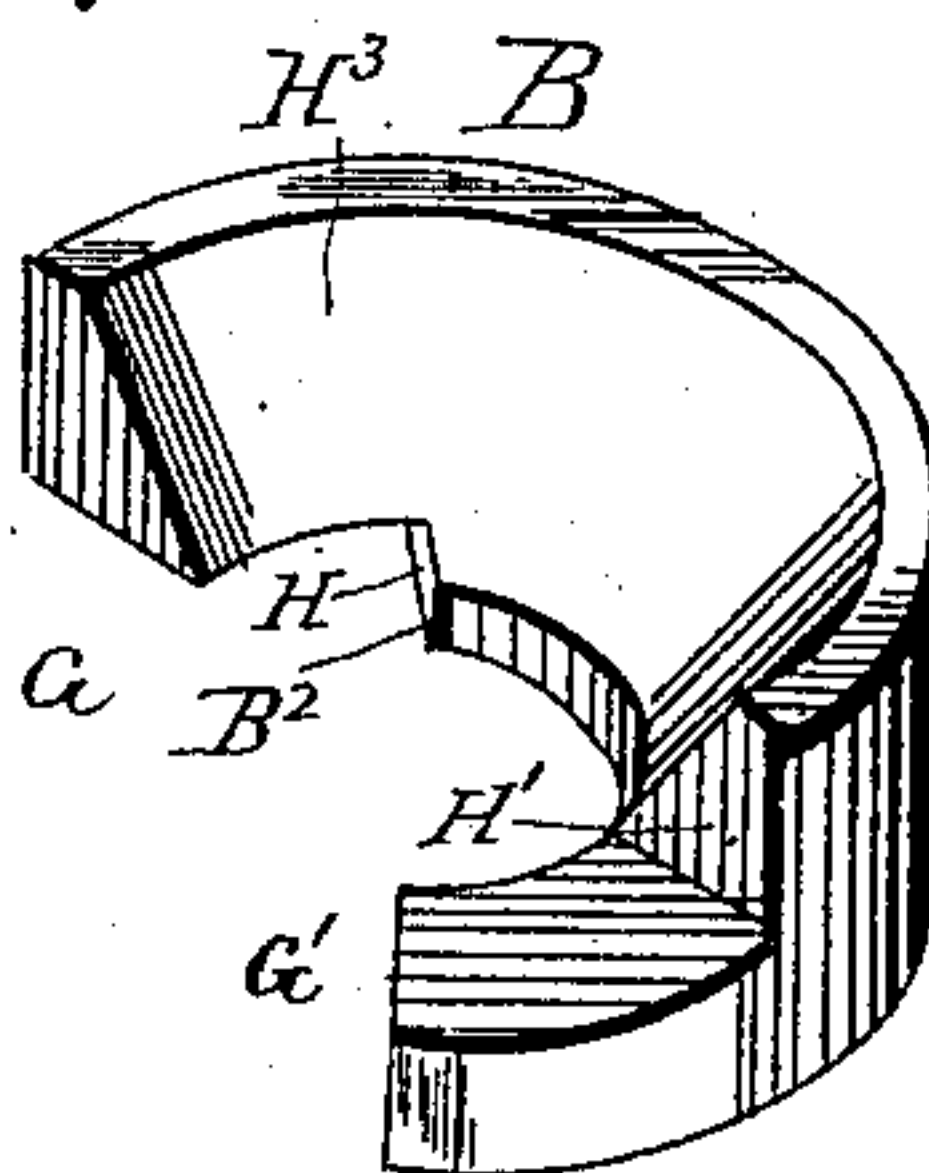
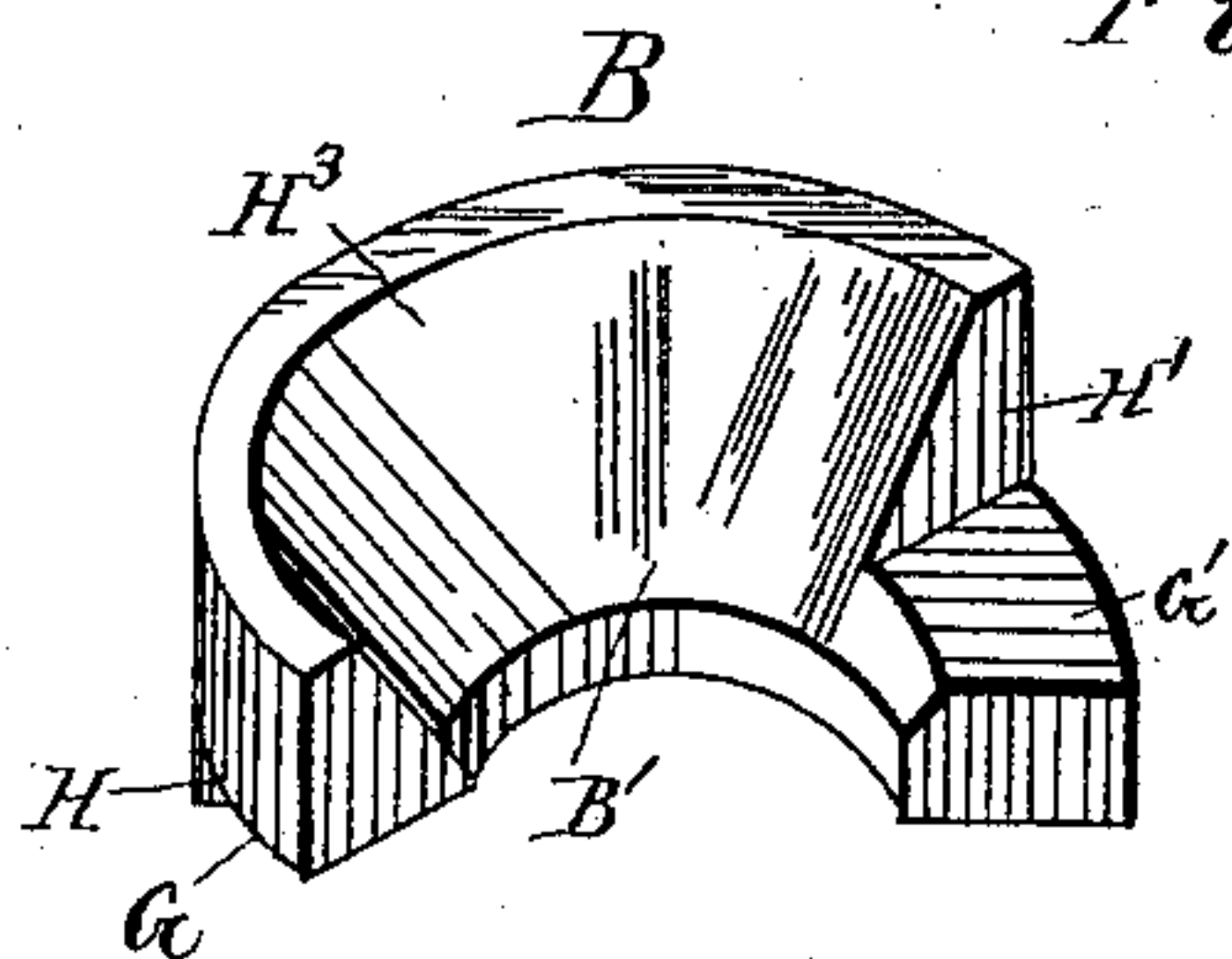


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

BYRON E. FOSS, OF INDIANAPOLIS, INDIANA.

PISTON-ROD PACKING.

SPECIFICATION forming part of Letters Patent No. 368,916, dated August 23, 1887.

Application filed April 27, 1887. Serial No. 236,327. (No model.)

To all whom it may concern:

Be it known that I, BYRON E. FOSS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Piston-Rod Packing and Valve-Stem Packing; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical longitudinal section of my invention. Fig. 2 is a perspective view of ring D. Fig. 3 is a perspective view of ring E. Fig. 4 is a transverse section on line *x x*, Fig. 1; Fig. 5, perspective views of ring B.

The invention relates to improvements in packing for valve-spindles and piston-rods, referring more particularly to metal-ring packing; and it consists in the construction and novel arrangement of parts hereinafter set forth, and illustrated in the drawings.

Referring to the accompanying drawings, A designates a piston-rod extending through the packing-rings, as shown. The rings are formed in two divisions, the inner one of which is composed of the ring B, formed of the sections B' B² and the solid ring C. The sections B' B² each have the rabbets or shoulders G G' at their meeting ends, which rabbets fit upon each other and are respectively provided with the shoulders H H'. When these sections are closed, their surfaces form the flat inner face, H², and the inwardly beveled or reversed conical outer face, H³, which forms a seat for the conical inner face, C', of the solid ring C, the outer face, C², of which is flat.

The rings B and C fit loosely, as shown, upon the valve-stem or piston-rod, their bores being of larger diameter than the same. The outer division consists of the two similar rings, D and E, each divided into three equal sections and of about equal width. The ring D is composed of the sections *d d d*, separated or divided by the joints *d'*, which run tangential to the rod or stem passing through the ring, and the ring E is divided into similar sections, *e e e*, by the

joints *e'*, also tangential to the said rod or stem, but in the opposite direction, the joints *e'* being interposed between the joints *d'*, so as to break joints.

The bores or central openings of the rings D and E fit snugly on the rod or stem, and they are surrounded by a brass ring-plate, F, equally as wide as their united widths, and rendered expansible by being cut at *f*. The said ring covers all the joints of the ring D, but leaves uncovered one joint, *e'*, of the ring E. The tangential joints allow the sections of the rings to move easily on each other when expanding, and prevent the said sections from binding, as radial joints would do if the expansion were unequal.

I is a circular plate-spring of steel surrounding the brass ring-plate F, and by its action holding the sectional rings D and E on the stem or rod, yet allowing them to give sufficiently to prevent their binding thereon and to prevent their inner surfaces from being fused on the stem or rod, as might happen should the spring and sections not give enough outwardly.

The rings D and E have flat faces, and the inner face, *d²*, of the ring D forms a ground joint, *d²*, with the flat outer face, C³, of the solid ring C, so that the two divisions can have sufficient lateral motion on each other without interfering with or binding on the rod or stem.

The rings B and C being shown and described in the patent granted to me October 26, 1886, and numbered 351,695, I do not claim the same, broadly, but only in combination with the rings D and E, and other parts not shown in my patent referred to.

Having described my invention, I claim—

1. The combination, with the piston-rod or valve-stem and the rings B and C, substantially as described, of the sectioned rings, the inner one of which forms a flat transverse joint with the outer flat face of the ring C, the severed metal band surrounding the said sectioned rings, and the severed circular plate-spring surrounding the said metal band, substantially as specified.

2. The combination, with the piston-rod or valve-stem and the rings B and C, substantially as described, of the sectioned rings divided by joints running tangential to the said rod or stem, the severed metal band surround-

ing the said sectioned rings, and the severed plate-metal spring surrounding said band, substantially as specified.

3. The combination, with the piston-rod or
5 valve-stem and the rings B and C, substantially as described, of the rings D and E, composed of three equal sections separated by joints running tangentially to the said rod or
stem, the joints of the ring D being extended
10 in the direction opposite to those of the ring

E and breaking joints therewith, the cut brass band surrounding the rings D and E, and the circular steel plate-spring I, substantially as specified.

In testimony whereof I affix my signature in 15
presence of two witnesses.

BYRON E. FOSS.

Witnesses:

WM. JAMES,
E. C. COOPER.