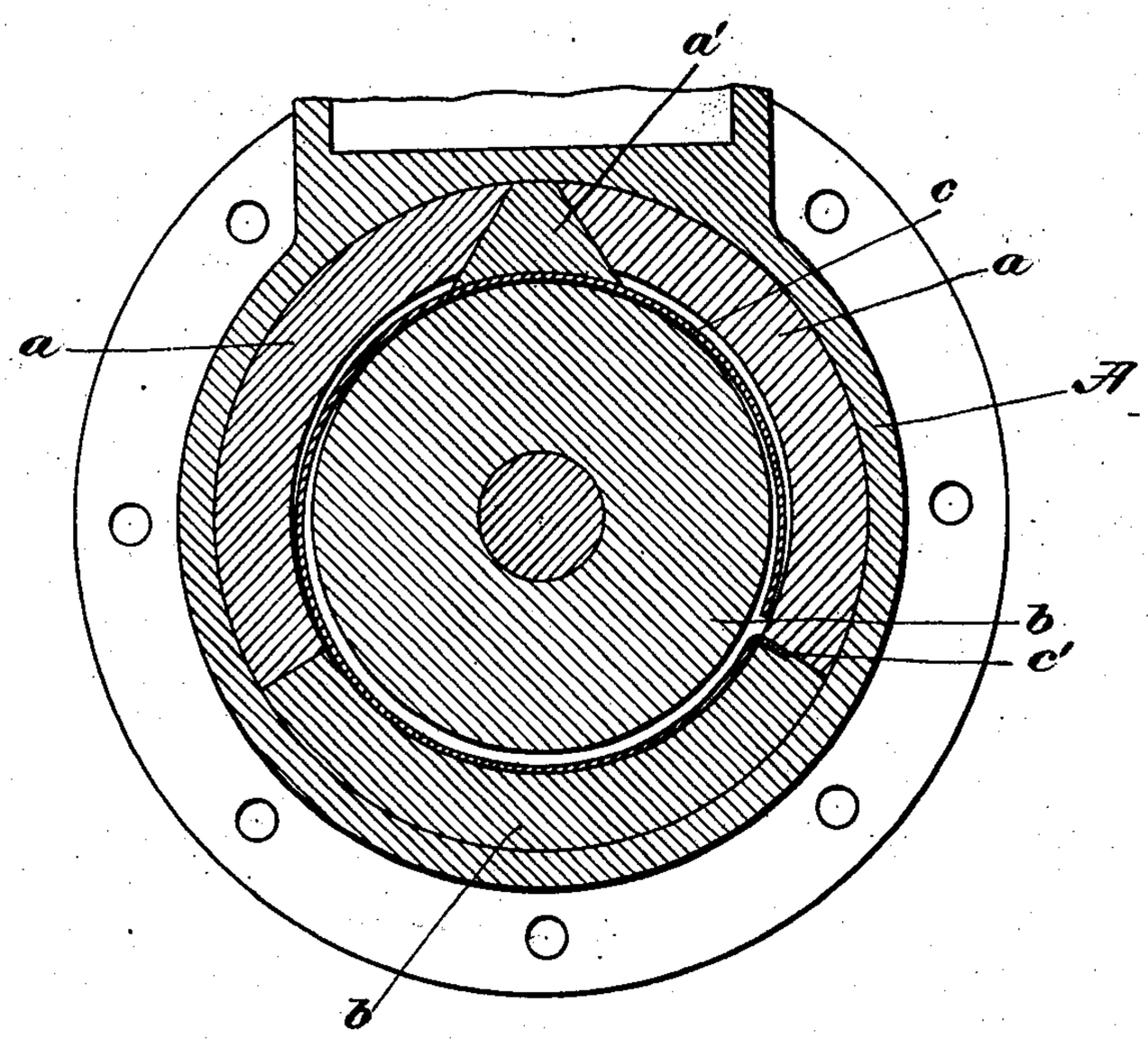
No. 742,097. PATENTED OCT. 20, 1903.

T. OFFICER.

PISTON PACKING RING.

APPLICATION FILED SEPT. 10, 1902.

NO MODEL.



Witnesses:
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No. 742,097. Patented October 20, 1903.

UNITED STATES PATENT OFFICE.

THOMAS OFFICER, OF CLAREMONT, NEW HAMPSHIRE, ASSIGNOR TO SULLIVAN MACHINERY COMPANY, OF CLAREMONT, NEW HAMPSHIRE, A CORPORATION OF NEW HAMPSHIRE.

PISTON PACKING-RING.

SPECIFICATION forming part of Letters Patent No. 742,097, dated October 20, 1903.

Application filed September 10, 1902. Serial No. 122,815. (No model.)

To all whom it may concern:

Be it known that I, THOMAS OFFICER, a citizen of the United States, residing at Claremont, in the county of Sullivan and State of New Hampshire, have invented an Improvement in Piston Packing-Rings, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

My invention has for its object to provide a novel and improved packing-ring particularly adapted for pistons, piston-valves, &c.

The nature of my invention will best be understood from a description of one embodiment thereof.

The accompanying drawing, in section, shows a cylinder containing a piston equipped with a ring illustrating my invention.

Referring to the drawing, A indicates any usual cylinder, and *b* a contained piston. This piston may be grooved circumferentially to receive the packing-ring in usual manner, the said ring, as here shown, comprising a plurality of segmental members *a a b*. (Shown as three in number.) The number of these segmental members may, however, be varied according to the size of the ring, any multiplication of members being by the use of further members like *b* rather than by members like *a*. The member *b* is provided with square ends—that is, ends radial with reference to the axis of the piston—and the adjacent ends of the members *a* are likewise made square to have a proper bearing thereon. The members *a* at their adjacent ends, however, are undercut or beveled, as shown, to receive the single wedge-shaped expanding member *a'*, having correspondingly tapered or inclined side walls. Suitable yielding means—as, for instance, the coil flat spring *c*—is employed to press outwardly the wedge-shaped member *a'*, which in turn acts upon the member or members *b* and maintains the entire ring fully extended within the cylinder to form a close and tight working fit therewith. Preferably the members *a* and *b* will be annularly grooved to receive the spring *c* and retain the latter against displacement, although other equivalent means may be employed, if desired and necessary. The spring is here shown as held in position by inserting its overturned end *c* in a slot in the ring, here shown as formed between abutting ends of the members *a* and *b*. The wedge-shaped member *a'* is preferably of softer material than the other members of the packing-ring to permit it to wear away more readily than said other members, and thus exert constantly a wedging or spreading effect upon the coöperating members of the ring. Said wedge-shaped member is therefore preferably made deeper than the other members to provide for such additional wear.

The piston-ring described is simple in that it requires the use of a single wedge-shaped member only, and two coöperating inclined faces upon the adjacent members of the ring and all other abutting surfaces between the several members of the ring may be square or radial, as shown, or of any other shape, I having found that the wedging action applied at any one point in the ring serves to retain the entire ring sufficiently extended in diameter to maintain a proper working fit.

My invention is not restricted to the specific construction here shown and described, but may be varied within the spirit and scope of the invention.

I claim—

1. A piston packing-ring comprising a plurality of segmental members, the adjacent ends of some of the said members presenting wedging-faces, the adjacent ends of remaining members presenting non-wedging faces, and means acting between the wedging-faces to enlarge said ring.

2. A piston packing-ring comprising a plurality of segmental members, the adjacent ends of some of the said members presenting wedging-faces, the remaining adjacent ends of said members being non-wedging, a wedging member arranged between the said wedg-

ing-faces and means to move said wedging member outwardly.

3. A piston packing-ring composed of three or more segmental members, and a single expanding device inserted between adjacent ends of two of said members to enlarge the diameter of said ring.

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

THOMAS OFFICER.

Witnesses:

ALBERT BALL,

GEO. E. LYNCH.