

No. 612,493.

Patented Oct. 18, 1898.

W. HARBINGER.  
METALLIC PACKING FOR PISTON RODS.

(Application filed Dec. 29, 1897.)

(No Model.)

Fig. 1.

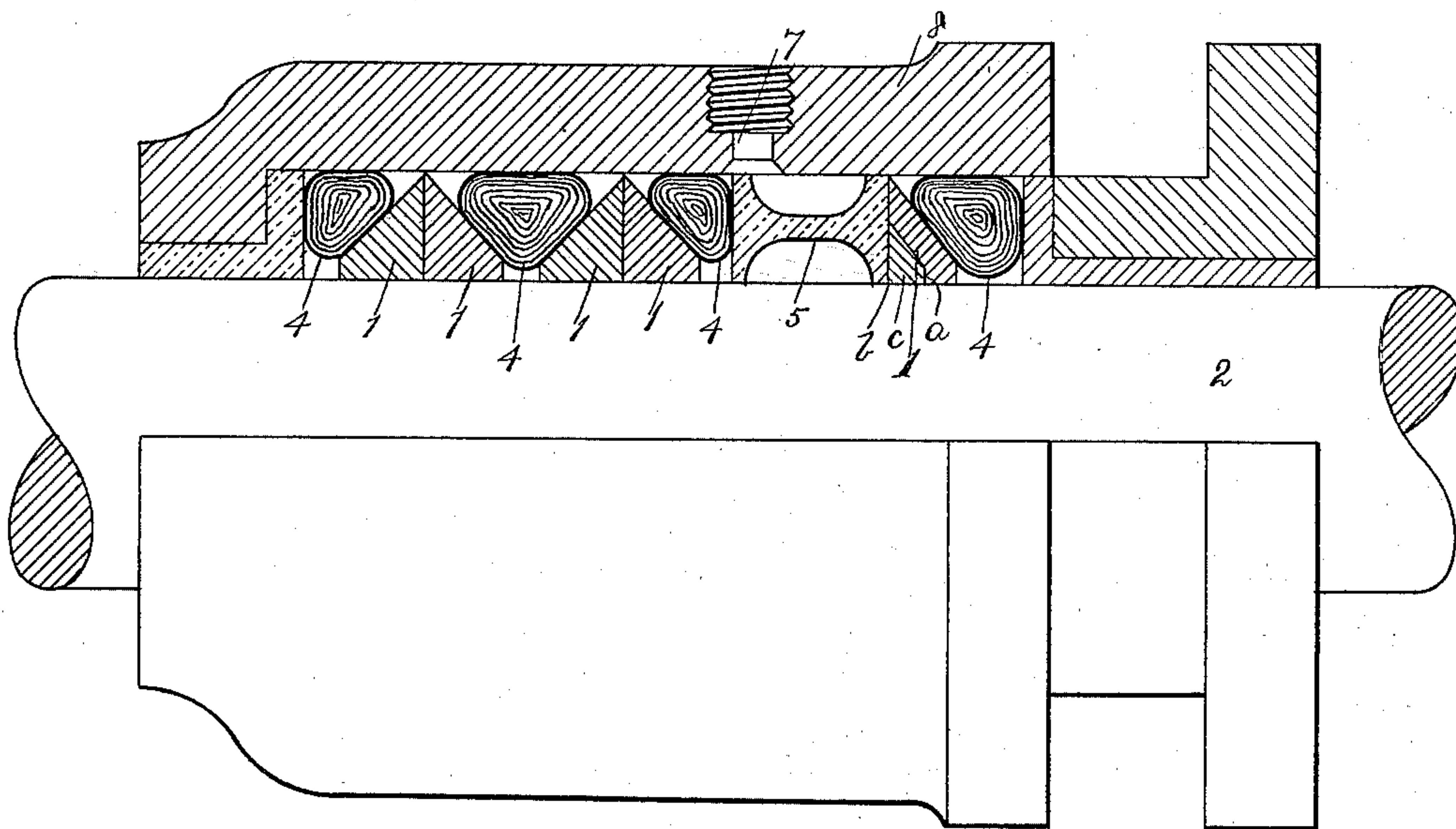


Fig. 2.

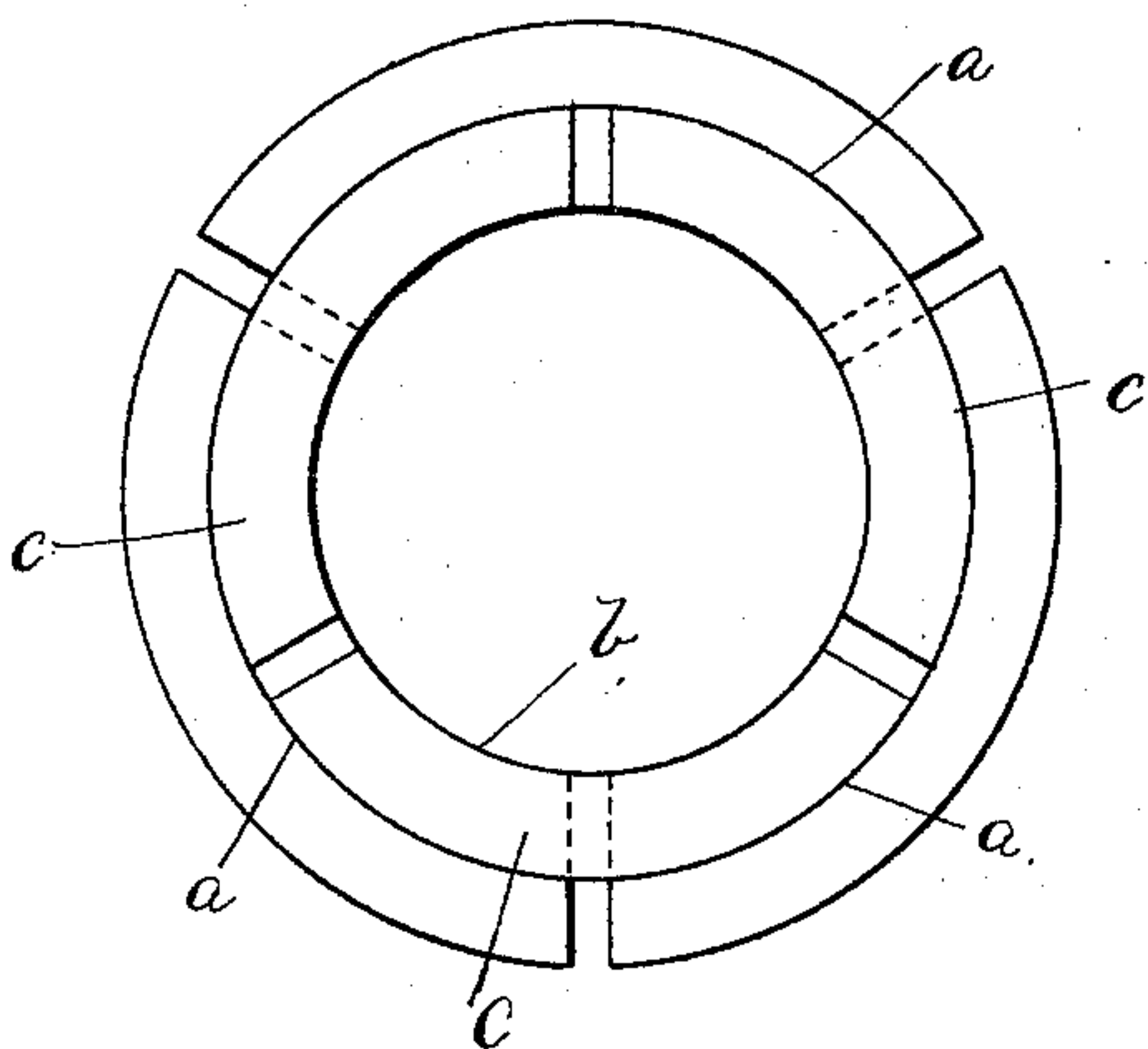
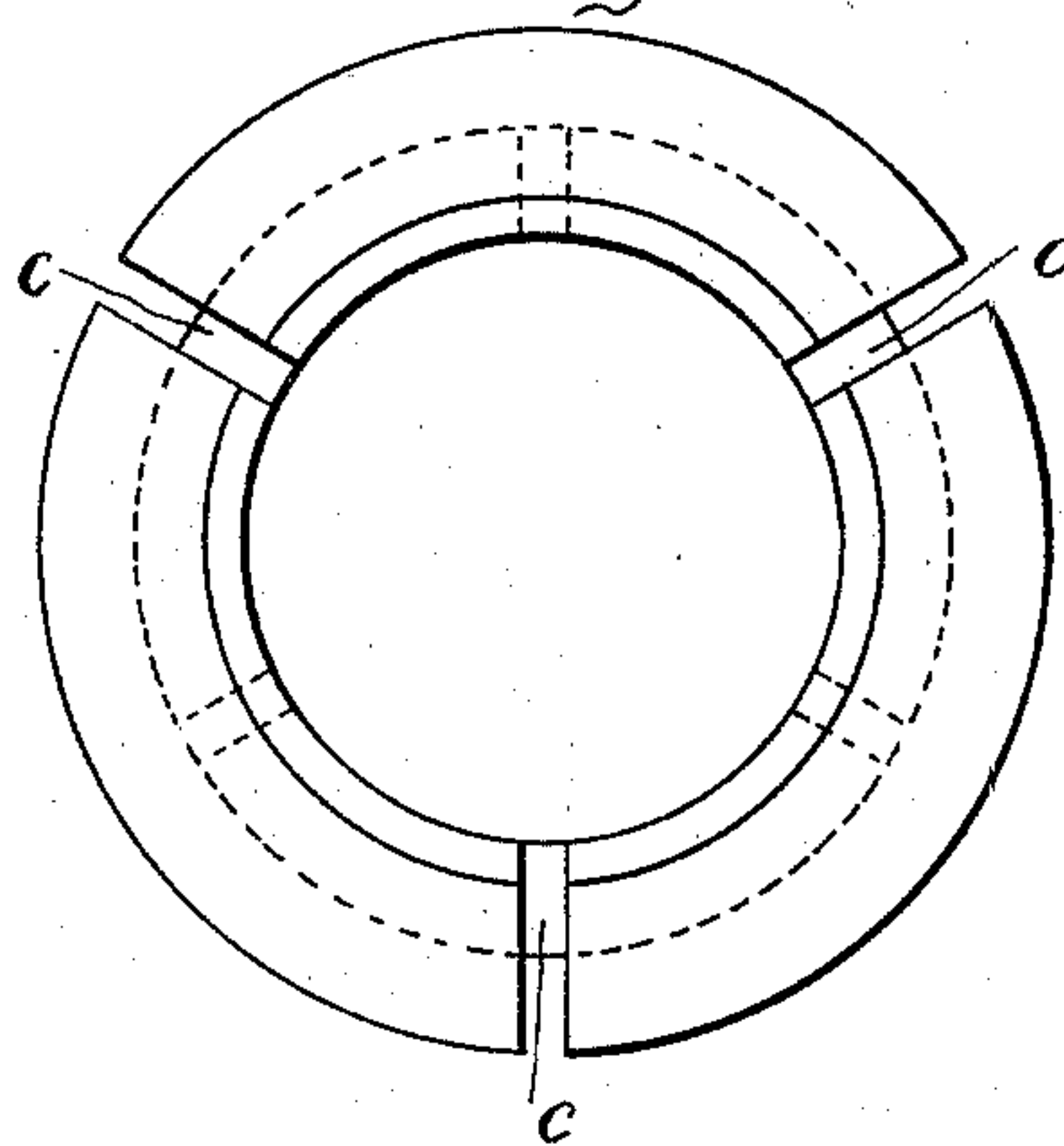


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## METALLIC PACKING FOR PISTON-RODS.

SPECIFICATION forming part of Letters Patent No. 612,493, dated October 18, 1898.

Application filed December 29, 1897. Serial No. 664,191. (No model.) Patented in England February 11, 1896, No. 3,053.

*To all whom it may concern:*

Be it known that I, WALDEMAR HARBINGER, a subject of the Queen of Great Britain, residing at South Shields, in the county of Durham, England, have invented certain new and useful Improvements in Metallic Packings for Piston-Rods and the Like, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to metallic bearings for piston-rods, spindle-rods, pump-rods, and hydraulic rams, and is the same as that for which Letters Patent were granted in Great Britain February 11, 1896, No. 3,053.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same numerals and letters of reference in each of the views, and in which—

Figure 1 is a view of a rod-packing partially in elevation and in section. Fig. 2 is an end elevation of the steam-locked ring from the inner end thereof, and Fig. 3 is a similar view from the other end thereof.

In the practice of my invention I employ a plurality of metallic rings 1, approximately triangular in cross-section, with an extended base or inner periphery, and one side at right angles thereto. The said rings are composed of a plurality of sections, so as to fit around the rod 2. The number of rings 1 employed varies, of course, and they can be arranged in pairs or singly, as shown at opposite sides of the box shown in Fig. 1. These metallic rings are held in position by means of flexible rings 4, which are composed of a core of wire-gauze, rolled into the shape or configuration shown in cross-section in the drawings, and surrounded with one or more layers of asbestos. One of said metallic rings 1 is steam-locked—that is to say, the sections of one of said rings 1 are provided with grooves *a*, extending outwardly from its periphery at its straight side, and the auxiliary ring *b*, formed of sections *c*, fitting within said groove, and, in conjunction with grooved sections, forms the metallic ring 1 of the usual shape. The sections of the grooved ring 1 and the auxiliary ring *b* break joints, as shown in Figs. 2 and 3, and thus provide the steam-locking feature of this invention.

Between the upright side of the steam-

locked ring 1 and the adjacent flexible ring 4 is a ring 5, having channels in its outer and inner peripheries, said channels receiving the waste steam or water that may leak from the rod, and communicating by means of an outlet 7, formed in the casing of the stuffing-box 8, which in practice is provided with a cock-and-pipe connection with a condenser.

The stuffing-box is secured in the usual way, and the whole of the parts composing the packing are held in position and act in such a manner as to permit the leakage from the rods to be collected and conveyed away, and as the packing is flexible and resilient is not readily affected by the working and vibration of the rods.

Having fully described my invention, its construction, and operation, I claim as new and desire to secure by Letters Patent—

1. In a packing of the character specified, a plurality of metallic and flexible rings, one of said metallic rings being steam-locked, and an annular chamber between said steam-locked ring, and the adjacent flexible ring communicating with an outlet-port.

2. In a packing of the kind specified, a plurality of metallic and flexible rings, said metallic rings being in sections and one of which is steam-locked, and a metallic ring between said steam-locked ring and the adjacent flexible ring and having annular chambers communicating with an outlet-port, substantially as described.

3. In a packing of the kind specified, a plurality of metallic and flexible rings, said metallic rings being approximately triangular in cross-section, and said flexible rings bearing against the inclined outer side of said metallic rings, one of said metallic rings being composed of a ring having an inner groove in which an auxiliary ring is situated, said ring and auxiliary ring having sections and breaking joints, and an annular chamber situated next to said metallic ring composed of the outer and inner rings and said annular chamber communicating with an outlet-port.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 29th day of November, 1897.

WALDEMAR HARBINGER.

Witnesses:

JAMES DAVISON,  
WILLIAM DIXON.