

(No Model.)

W. W. ST. JOHN.  
PACKING RING FOR PISTONS.

No. 355,730.

Patented Jan. 11, 1887.

Fig. 3.

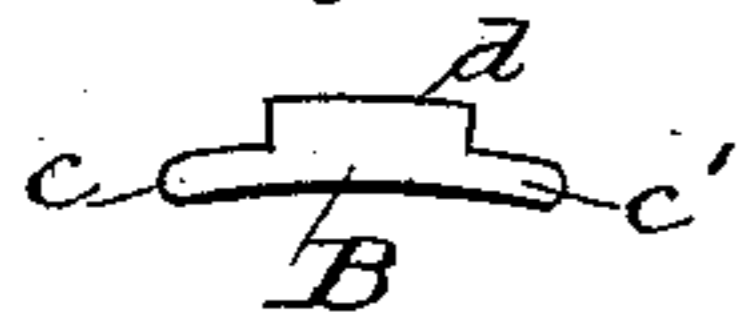


Fig. 1.

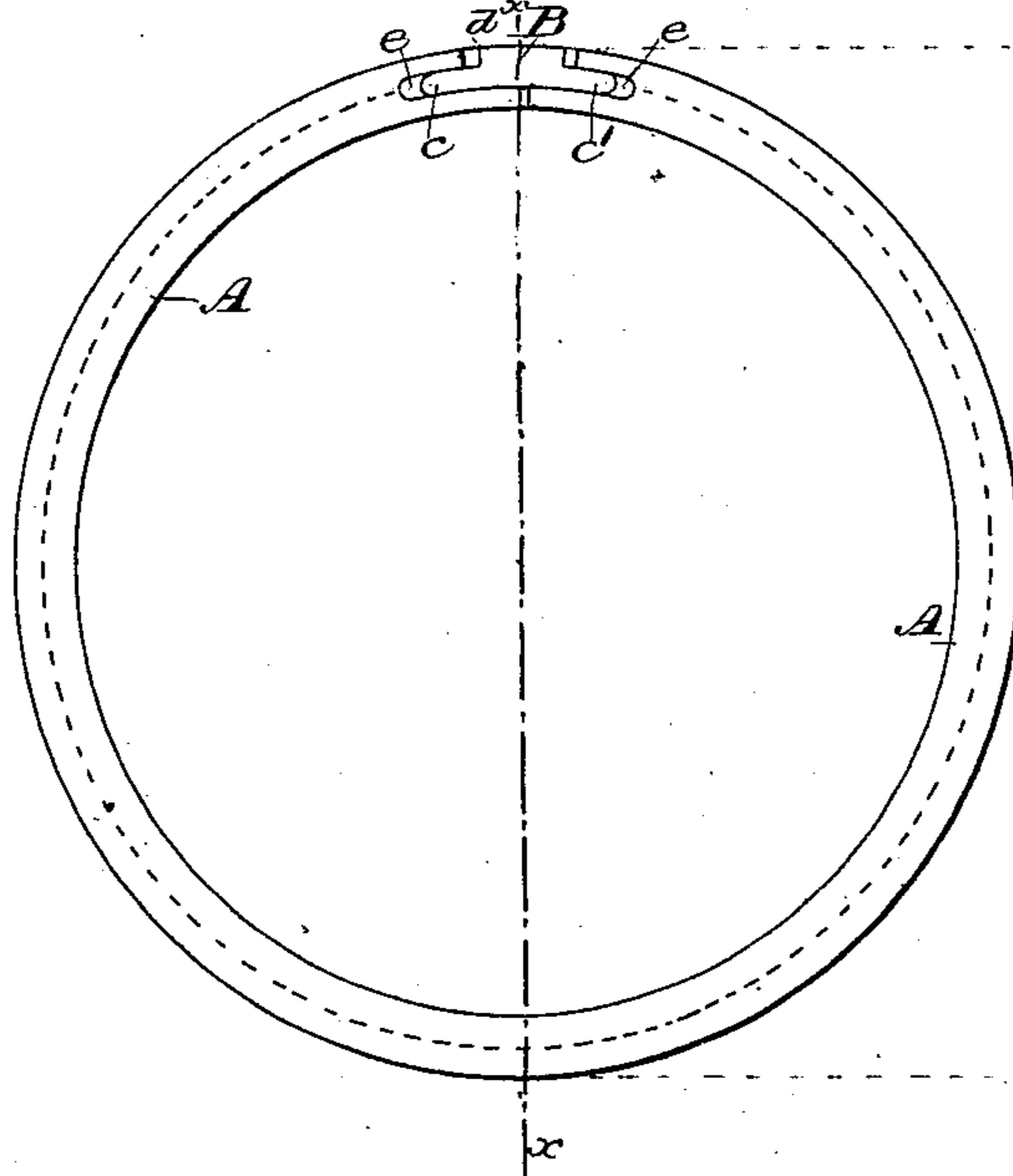


Fig. 2.

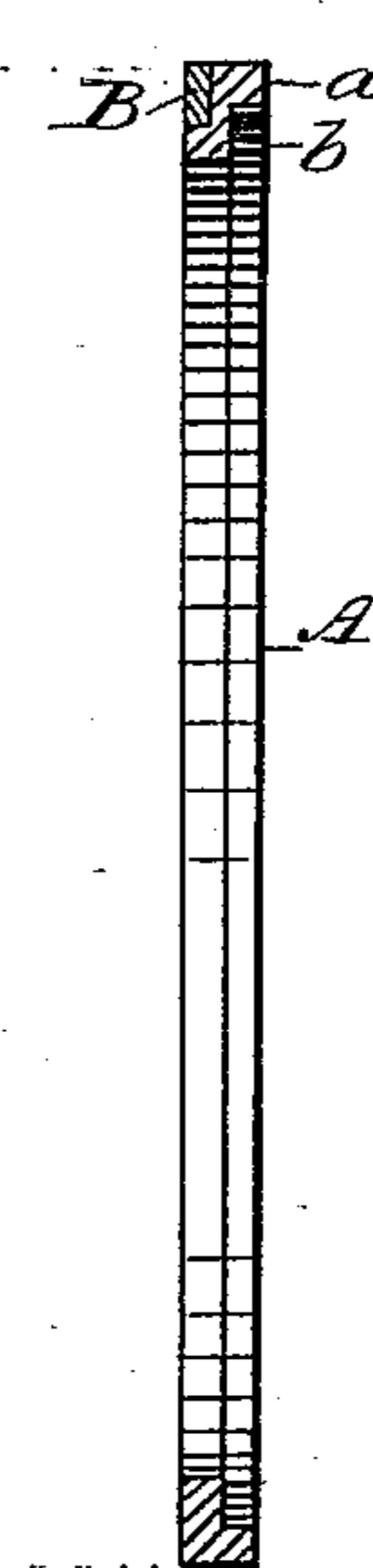


Fig. 5.

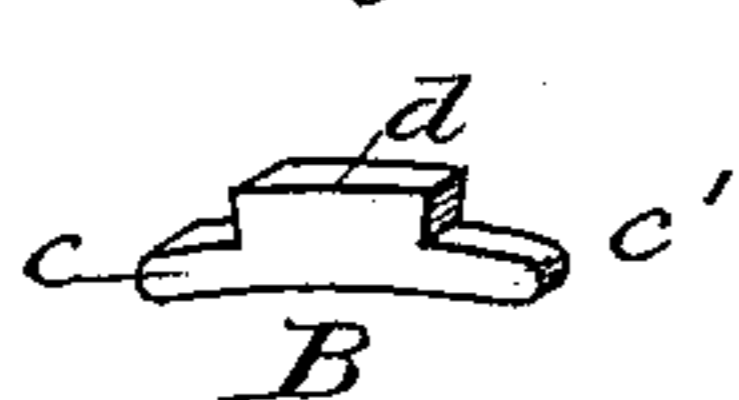


Fig. 4.

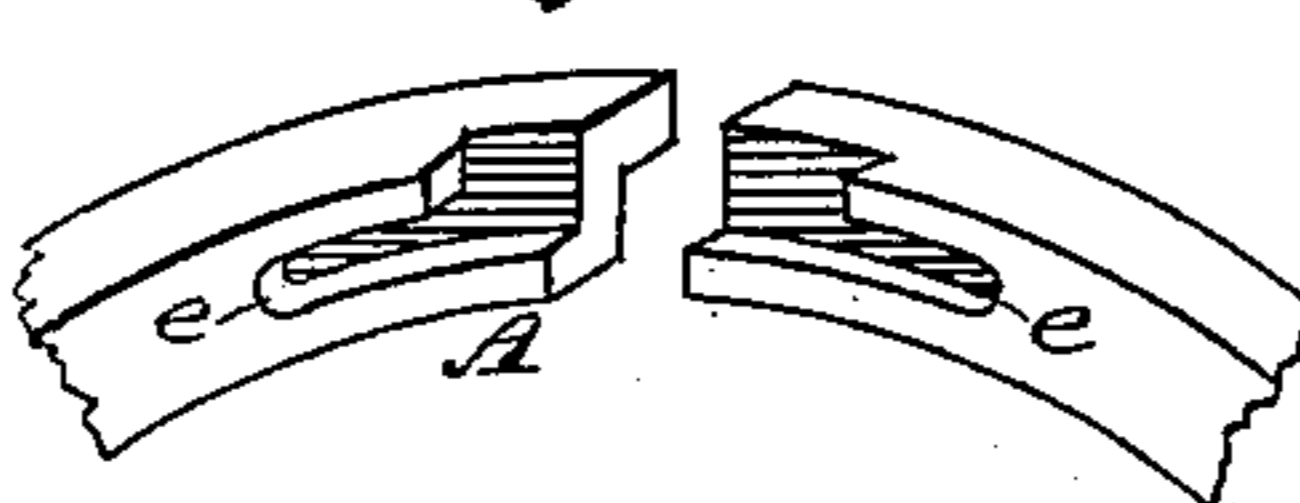


Fig. 6.

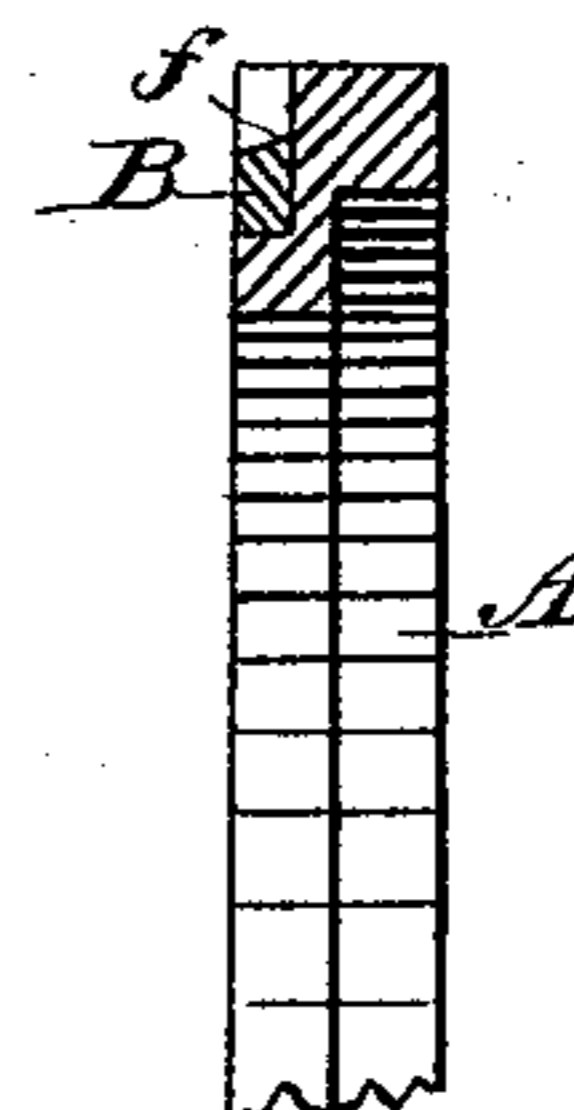
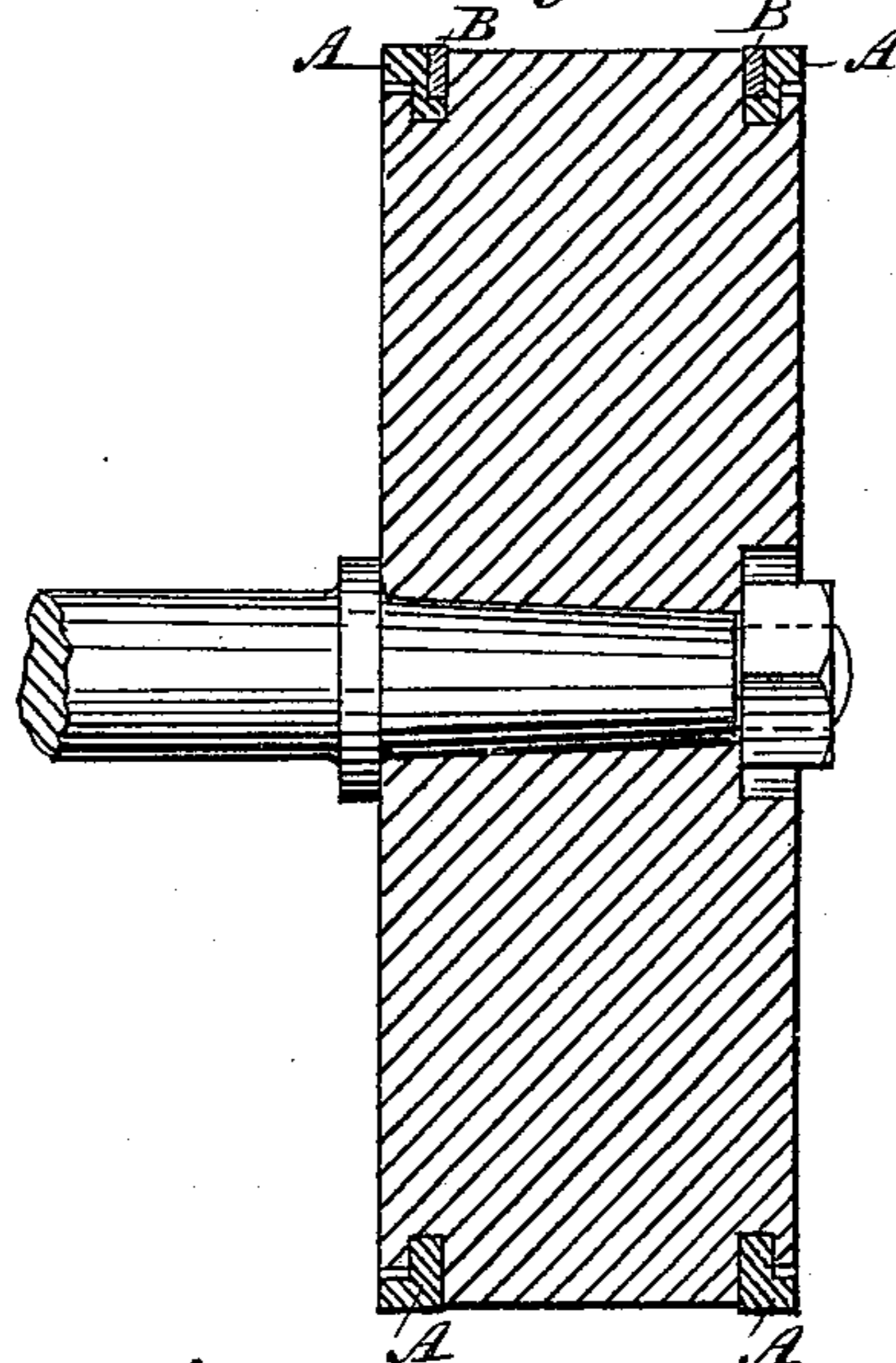


Fig. 7.



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM W. ST. JOHN, OF BROOKLYN, NEW YORK.

## PACKING-RING FOR PISTONS.

SPECIFICATION forming part of Letters Patent No. 355,730, dated January 11, 1887.

Application filed July 23, 1885. Renewed October 29, 1886. Serial No. 217,520. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. ST. JOHN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Packing-Rings for Pistons; and I do hereby 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.

My invention relates to improvements in packing-rings for pistons of engines, pumps, &c., and the object is to produce a packing-ring that can be easily applied to solid pistons, especially in an easy and convenient manner; also, to produce these rings as an article of manufacture, so that they can be kept on hand and on sale in the market, to be applied to different kinds of pistons; also, by a packing-joint in the ring to prevent leakage of steam, and thereby to increase the efficiency of the machine, engine, or pump, and, furthermore, to produce these rings at a very low cost and in a very simple manner.

The invention consists in the construction and arrangement of parts and details, as will be more fully described hereinafter, and more specifically described in the claims, reference being had to the accompanying drawings and the letters of reference marked thereon.

Like letters indicate similar parts in the different figures of the drawings, in which—

Figure 1 represents a side view of my improved packing-ring for pistons. Fig. 2 is a cross-section on line *xx* of Fig. 1. Fig. 3 is a detail view of the filling-piece. Fig. 4 is a detail perspective view of the ends of the ring. Fig. 5 is a detail perspective view of the filling-piece. Fig. 6 is a section of a modified form of joint. Fig. 7 is a section of a piston with the rings in place.

In the drawings, A represents the packing-ring, made of the cross-section shown in Fig. 2, and the vertical part or side, *a*, thereof is made deeper than the face *b*, so that the steam against it will tend to set the ring out against the interior of the cylinder. This ring is cut at one side and a filling-piece, B, of peculiar construction is fitted into recesses *e*. This filling-piece has the ends *c c'*, which fit snugly into the said recesses *e*, and a T-piece, *d*, which

fits into a recess at the upper side of the ring, and the joint is thus securely closed by the filling-piece, at the same time allowing the ring freely to expand and contract. The recesses *e* are formed by a milling-tool, and can thus be produced in an expeditious manner, and allow for expansion.

In some instances I bevel the edges of the filling-piece B, as shown at *f*, Fig. 6, and form the recesses to correspond therewith to prevent said filling-piece from dropping out, while at the same time not interfering with the free expansion and contraction of the ring.

In Fig. 7 is shown a solid piston-head having the rings in position, and these are especially well adapted for locomotive-engines. The piston in this instance is merely turned out at the edges, and the rings are sprung in place, being then free to expand and form a perfect packing against the cylinder. The filling-piece is in this case of the same construction as in the other cases, and applied in a similar manner to prevent leakage.

It will be readily seen by those skilled in the art that this packing-ring can be easily applied to the pistons of engines, pumps, &c., in which especially solid pistons are employed; that they can be readily applied to old as well as new pistons with very little trouble and at a very small expense; that it will obviate any leakage of steam, as the steam will pass against it as well as under it, and expand it against the interior face of the cylinder in a uniform manner without permitting any leakage whatever. It can be produced and kept on hand in shops or stores as an article of manufacture, and can be ordered according to the size required, being enumerated according to the diameter of the cylinder of the engine, forming thus a commodity to the public. In case of breakage it can be readily removed and replaced by a new one at very small cost and without any inconvenience. It does not require careful fitting, as ordinary rings do, but can be applied by any ordinary mechanic.

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

1. The combination of a piston-head with a split ring, A, of the cross-section shown, and having a filling-piece, B, provided with ends *c c'* and central part, *d*, and fitting into cor-

respondingly-shaped recesses in the adjoining ends of the ring, as and for the purpose specified.

2. As a new article of manufacture, a split  
5 packing-ring of the cross-section shown, and provided with a filling-piece having ends and a central part fitting into correspondingly-shaped recesses in the adjoining ends of said

packing-ring, all arranged as shown and herein specified. 10

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

WM. W. ST. JOHN.

Witnesses:

• T. C. BRECHT,  
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