

J. GATES.
PISTON PACKING.

No. 108,999.

Patented Nov. 8, 1870.

Fig. 1.

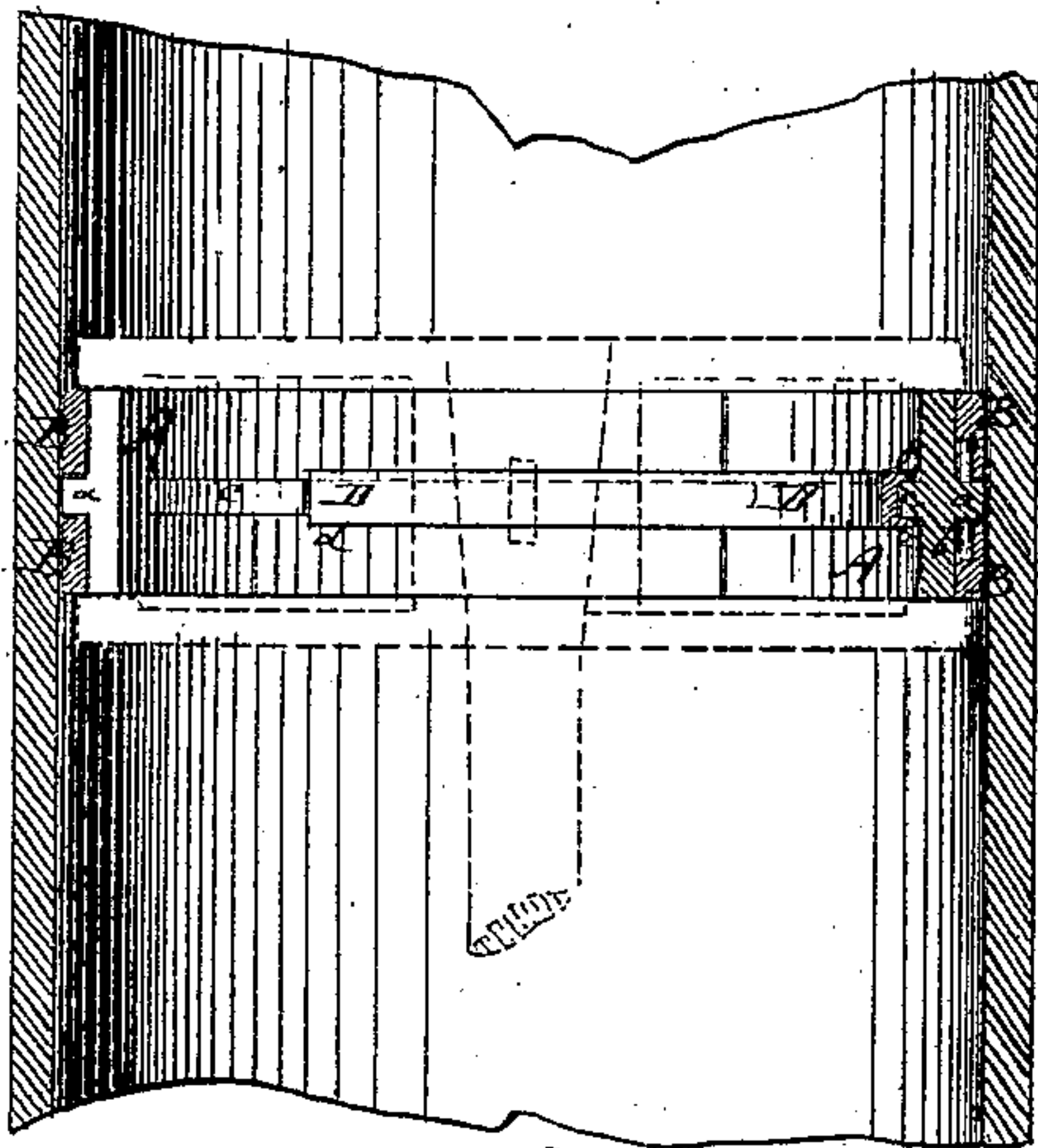


Fig. 2.

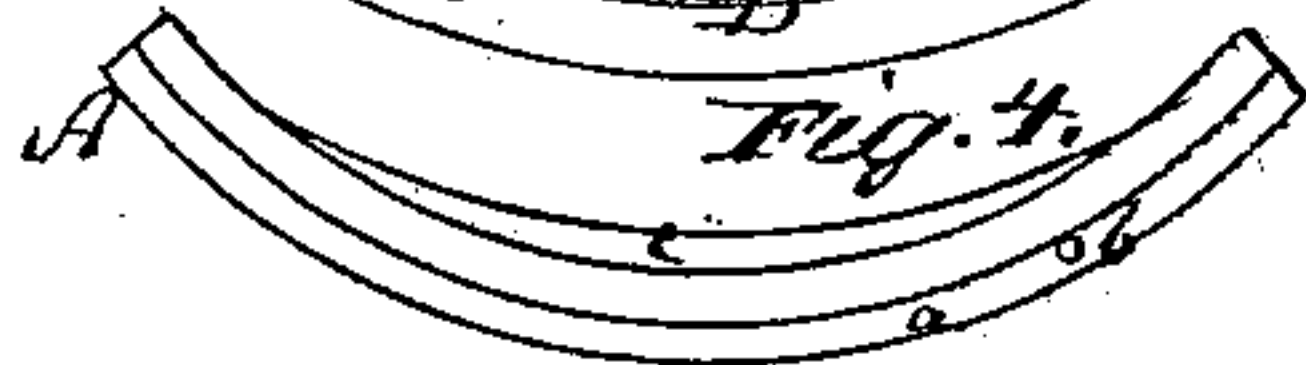
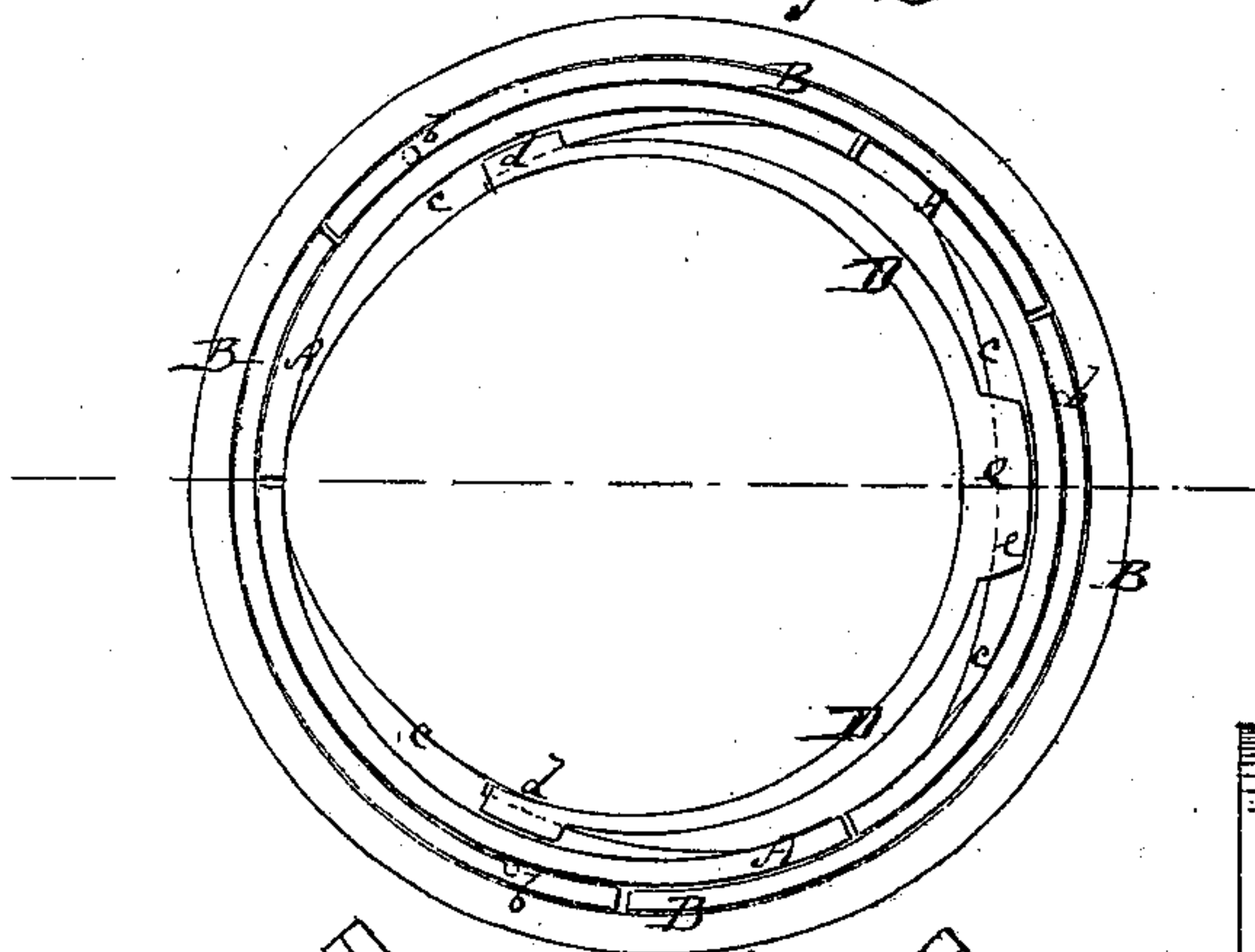


Fig. 4.

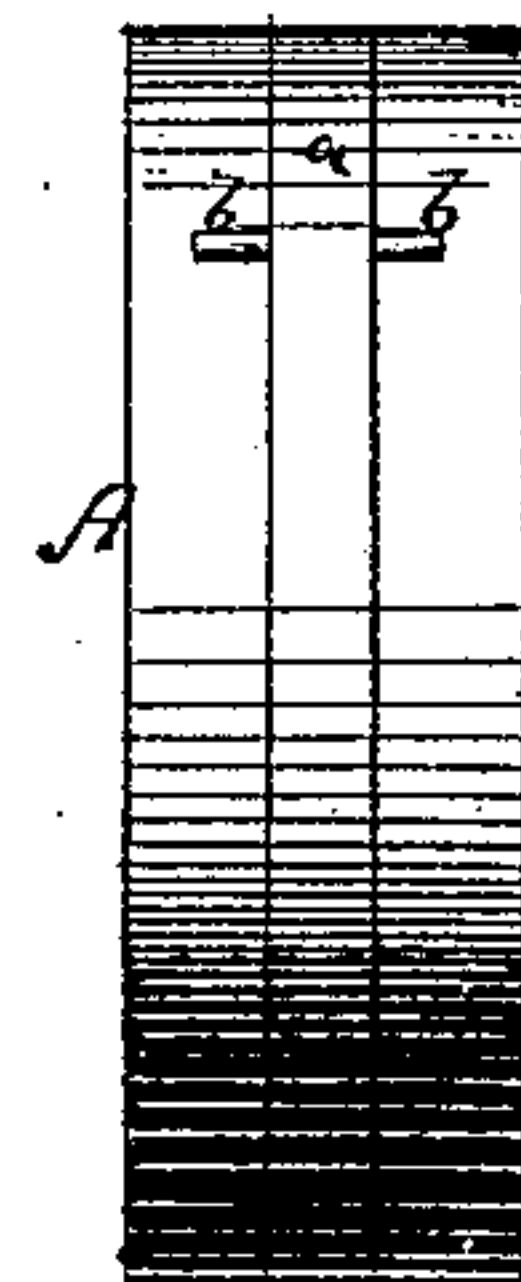


Fig. 5.



Fig. 6.

Fig. 3.



Witnesses:

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PER

United States Patent Office.

JOHN GATES, OF PORTLAND, OREGON.

Letters Patent No. 108,999, dated November 8, 1870.

IMPROVEMENT IN PISTON-PACKINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOHN GATES, of Portland, in the county of Multnomah and State of Oregon, have invented a new and improved Piston-Packing; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a transverse section of my improved piston-packing.

Figure 2 is a plan or end view of the same.

Figure 3 is an edge view of the inner ring.

Figures 4, 5, and 6, are detail side views of the sections which comprise the inner ring.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an elastic and steam-tight piston-packing which is composed of sectional rings in such manner that the same may be spread apart by means of an inner spring.

The invention consists in the arrangement of webs and dowel-pins on the inner ring, and of ears on the spring, and notches on the outer ring, all for the purpose of producing a simple and efficient elastic packing.

The interior ring A is composed of three or more sections, and has the full width of the piston-packing, so as to receive the end plates of the piston on its edges.

Each of the outer rings B is composed of three or more sections.

There are two outer rings, B, placed against opposite sides of a rib, *a*, that projects from the outer face of the inner ring.

The sections of B are held in place on the ring A by means of dowel-pins *b b*, that extend through and project from the rib *a*, as shown in figs. 1 and 3. These pins fit into notches that are cut into the inner sides of the sections B, and prevent the latter, therefore, from being displaced on the rib.

The joints of the several sections of the two sets of rings are broken.

The pins *b* are fitted through the rib *a*, and are,

therefore, much longer than they would be if fitted into the rib separately from both sides.

One pin holds, therefore, two sections of outside rings, and, if it gets loose, it cannot work out, while the longer fiber makes it more tough and tenacious than the short ones; still the pins can be readily taken out, if desired, for grinding the edges of the rings, and similar purposes.

From the inner face of the ring A project ribs or webs *c c*, which are tapering toward the ends, as shown in figs. 4, 5, and 6.

D is the spring for forcing the rings apart. It has ears *d d* at its ends, which straddle the webs *c c*, on two sections of the ring A, and other ears *e*, in the middle, which straddle the web *c* of the third section of A.

The spring serves thus to press against the middle portion of each section of the ring A, and to thereby apply uniform pressure to every portion of the piston-packing.

The webs that receive the ends of the spring are notched, to retain said ends, and to prevent the spring from slipping on said webs, and to balance the spring, so that the rings may be free to move on the piston.

By having the webs *c* made tapering, the same are adapted to springs of different sizes, and they make the whole packing tighter.

The rings, it will be seen, are free to rotate on the piston, which causes the rings and cylinders to wear more smoothly.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The sectional ring A, provided with the outer rib *a*, projecting double dowel-pins *b*, and tapering webs *c*, as set forth, for the purposes specified.

2. The spring D, having the ears *d* and *e*, to straddle the webs of the sectional ring A, as set forth for the purpose of holding said ring in place, as specified.

3. The duplicate sectional rings B, in combination with the rib *a* of the ring A, and the dowel-pins *b*, substantially as shown and described.

Witnesses :

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