F. J. Roth,

Piston Packing.

No. 77,533. Patented May 5, 1868.

Fig. 1.

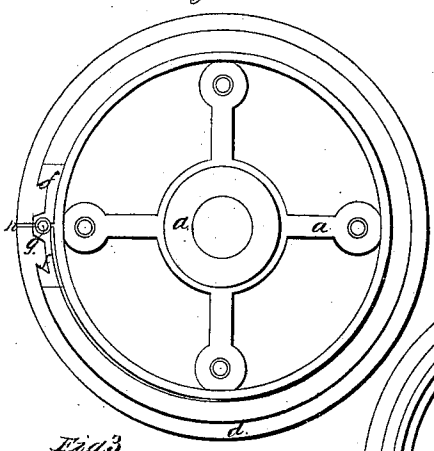


Fig. 2.

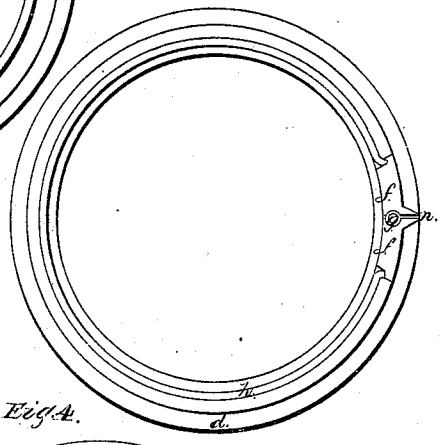


Fig. 3.

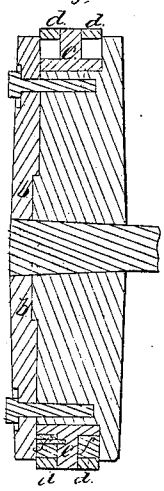
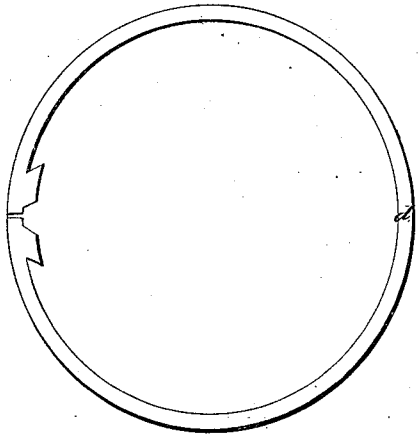


Fig. 4.



Witnesses:
John Adlis,
Jas. White.

Inventor:
Frank J. Roth
by J. H. Alexander
Attorney

United States Patent Office.

FRANK J. ROTH, OF SCHENECTADY, NEW YORK.

Letters Patent No. 77,533, *dated May* 5, 1868; *antedated April* 22, 1868.

IMPROVEMENT IN PISTON-PACKING.

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, FRANK J. ROTH, of Schenectady, in the county of Schenectady, and State of New York, have invented certain new and useful Improvements in Piston-Packing; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is an end view of piston, with follower removed.

Figure 2 is an end view of the reverse side of piston, showing a modification of the invention, as hereinafter described.

Figure 3 is a diametrical section of piston and packing, and

Figure 4 a view of the packing-ring, exhibiting the mode of constructing the same.

The nature of my invention consists in packing the cylinder of an engine by steam acting upon the cut ends of the packing-rings, and thereby expanding the packing to the inner surface of the cylinder, without entering the interior of the piston, or under the packing-rings.

To enable others skilled in the art to make and use my invention, I will now describe its construction and operation.

In fig. 1 of the annexed drawings, *a* represents the spider, *b* the follower, *c* the central ring, *d* packing-rings, *f f* break-joints, and *g* dowel-pin.

The packing-rings *d d* are made somewhat larger than cylinder. Sufficient has to be cut out of them to be sprung into cylinder, and still leave a little play. Upon the ends of these rings are formed lugs, as fully shown in fig. 4.

The pieces or break-joints *f f* are cast in one piece, fitted neatly on the lugs of rings *d d*, turned, and faced to fit in annular recess of piston, formed by both flanges of piston, and centring, then cut, as represented in fig. 1. A modification of this arrangement is seen in fig. 2, where the pieces *f f* are held in contact with the bevelled ends of packing-rings *d d* by means of the wire spring or loop *h*, the ends of which pass into holes for their reception in pieces *f f*. I prefer, however, the arrangement previously described.

The advantage I claim in this packing over others is the simplicity of construction, while the pressure of steam against packing-rings being much less than any other steam-packing, it is more durable, and also gains more power of engine.

The operation of my invention is as follows: The action of steam between the two pieces *f f*, at *n*, presses said pieces against bevelled ends of ring *d*, and at the same time against ring *c*, and thereby cutting off all steam from the interior of the packing.

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

The central ring *c*, break-joints *f f*, and packing-ring *d*, when combined, substantially in the manner herein set forth and described.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

FRANK J. ROTH.

Witnesses:

CHARLES ROTH,

ANDREW SCHINNERER.