

W. W. St. JOHN.

PISTON-PACKING.

No. 174,317.

Patented Feb. 29, 1876.

Fig. 1

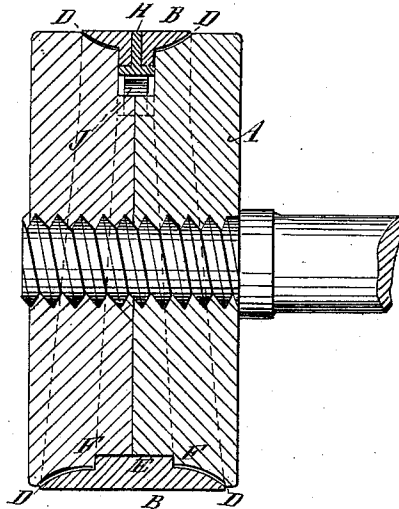


Fig. 2

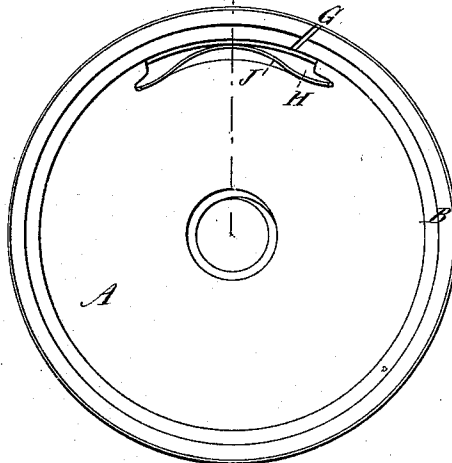
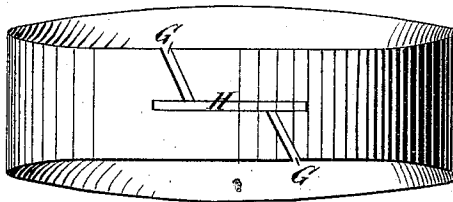


Fig. 3



WITNESSES:

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BY

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UNITED STATES PATENT OFFICE.

WILLIAM W. ST. JOHN, OF PISGAH, MISSOURI.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. **174,317**, dated February 29, 1876; application filed October 2, 1875.

To all whom it may concern:

Be it known that I, WILLIAM W. ST. JOHN, of Pisgah, in the county of Cooper and State of Missouri, have invented a new and improved Piston-Packing, of which the following is a specification:

My invention consists of a piston-packing wider on the under side than elsewhere, for the purpose of bearing the weight of the piston and piston-rod, in addition to the packing pressure, without greater wear than in the other parts.

Figure 1 is a section of the piston on the line *xx* of Fig. 2, having my improved packing. Fig. 2 is a side elevation; and Fig. 3 is a top view of the packing-ring.

Similar letters of reference indicate corresponding parts.

A is the piston-head, and B the packing-ring. This ring, which is of suitable width at the top for packing properly, gradually widens from the top or thereabout, down to the under side of the piston, to increase the area of wearing-surface in about the same measure that the weight of the piston tends to increase the wear, thus equalizing the wear throughout the whole surface of the packing. The under side of the packing is curved or rounded up to sharp edges, as shown at D, for admitting the steam under it to pack it to the cylinder. The packing-ring is provided with a rib, E, on its under side, which is graduated in width correspondingly to the outer or wearing surface of the ring, the rib being widest opposite the point where the area of wearing-surface is greatest, and narrowest where it is least. This rib E fits in a groove,

F, in the piston-head, thus preventing any movement of the ring on the latter. The joint G of the packing is closed by a T-shaped piece, H, the head or cross piece of which fits close against the under side of the packing, and is held thereto by a spring, J, to prevent the steam from leaking between it and the under side of the packing and escaping around the ends, and so leaking through the joint. The other or vertical part of said piece H enters the coincident open slots cut in the contiguous or meeting ends of the packing-ring B, and thus keeps said ends in the same relative position, whatever be the expansion of the ring under varying pressures of steam. (The packing is cast to the piston-head and also to the packing-piece H.)

I am aware it is not new to construct a piston-head with a projecting peripheral rib made narrower at the bottom than the top, for the purpose of relieving the piston of part of the friction due to its weight by means of the lifting action of the steam against the inclined sides of the rib. My invention is an entirely different conception as to object to be attained and mode or principle of operation, besides involving a different construction.

What I therefore claim is—

The combination, with a grooved piston-head, of the packing-ring B, graduated in width, and so applied that its broadest portion is on the under side of the piston-head, as shown and described, for the purpose specified.

WM. W. ST. JOHN.

Witnesses:

J. W. SCHOLL,
J. L. JOHNSON.