

A. S. Cameron,

Piston Packing.

No. 112,685.

Patented Mar. 14, 1871.

Fig. 1.

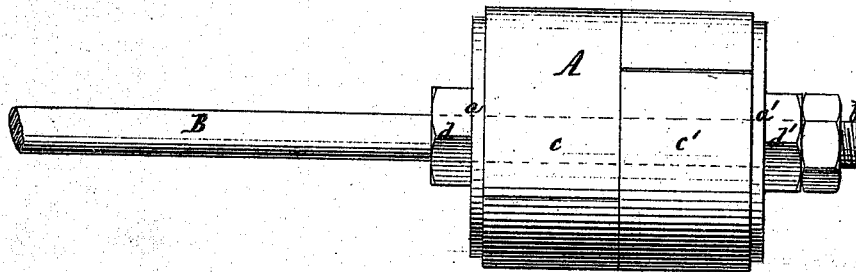


Fig. 3.

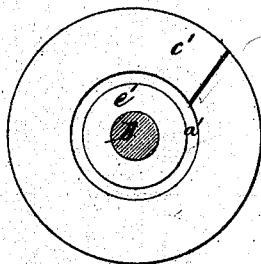
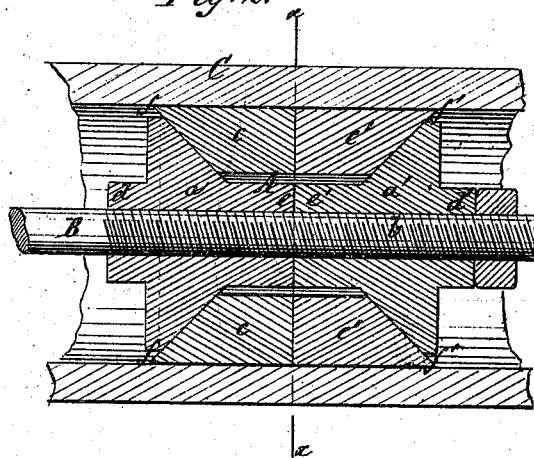


Fig. 2.



Witnesses:
C. Wahlers.
E. F. Kastenhuber

Inventor:
A. S. Cameron
Per Santvoord, Atty.

UNITED STATES PATENT OFFICE.

ADAM S. CAMERON, OF NEW YORK, N. Y.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. **112,685**, dated March 14, 1871.

To all whom it may concern:

Be it known that I, ADAM S. CAMERON, of the city, county, and State of New York, have invented a new and Improved Piston-Packing; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a side view of this invention. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a transverse section of the same, the line *x x*, Fig. 2, indicating the plane of section.

Similar letters indicate corresponding parts.

This invention relates to a piston-packing which is composed of two screw-wedges which are tapped to fit on a screw-thread cut on the piston-rod, and the inner conical surfaces of which act on corresponding surfaces of split rings, so that by screwing up said screw-wedges the split rings are expanded. From the inner ends of the screw-wedges extend suitable projections, of such a length that when the split rings are expanded exactly to the desired degree said projections bear against each other, and as the split rings wear away the projections are gradually filed off, so that the packing can always be kept tight without crowding too hard against the inner surface of the cylinder. The outer edges of the split rings project beyond the screw-wedges, so as to form bearing-surfaces for the fluid acting on or being acted on by the piston, and to enable said fluid to assist in keeping the split rings expanded sufficiently to prevent leakage past the piston.

In the drawing, the letter A designates a piston, the body of which is composed of two cones or wedges, *a a'*, bored out and tapped so as to fit on a screw-thread, *b*, cut on the piston-rod B, the conical surfaces of said screw-wedges being so arranged that they face each other, as shown in Fig. 2.

The packing consists of two split rings, *c c'*, the inner edges of which are turned off square, while their edges are turned out conical to correspond to the cone-surfaces of the screw-

wedges. By screwing up the screw-wedges, therefore, the split rings are expanded and caused to bear tight against the inner surface of the cylinder C.

Suitable square or hexagonal shoulders *d d'* on the outer surfaces of the screw-wedges give a chance to apply a screw-wrench for the purpose of turning said screw-wedges in or out.

From the inner surfaces of the screw-wedges extend projections *e e'*, the length of which is so regulated that they bear against each other when the split rings are expanded just far enough to fit close against the inner surface of the cylinder. If either the split rings or the inner surface of the cylinder wear off, the projections *e e'*, or either of them, is filed off a little, to allow the screw-wedges to close up and to expand the split rings sufficiently to compensate for the wear.

The outer edges of the split rings project beyond the edges of the screw-wedges, so as to form annular bearing-surfaces *f f'*, and to enable the fluid acting on or being acted on by the piston to assist in expanding the split rings sufficiently to prevent leakage past the piston.

If the split rings are made without these annular bearing-surfaces, the fluid is liable to pass in between the outer surfaces of the split rings and the inner surface of the cylinder, thus acting so as to compress said split rings, whereby the piston becomes leaky and its useful effect is partially destroyed.

My packing is intended particularly for small pistons, and it can be used with advantage for packing pistons of pumps or steam-cylinders.

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

The screw-wedges *a a'*, fitted to screw on the piston-rod, and provided with shoulders or stops *e e'*, in combination with the split rings *c c'*, all constructed and operating substantially in the manner and for the purpose herein shown and described.

A. S. CAMERON.

Witnesses:

W. HAUFF,

C. WAHLERS.