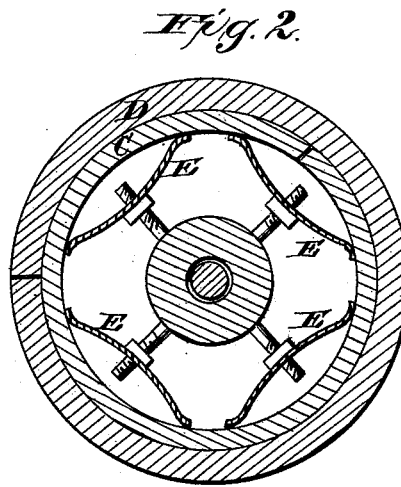
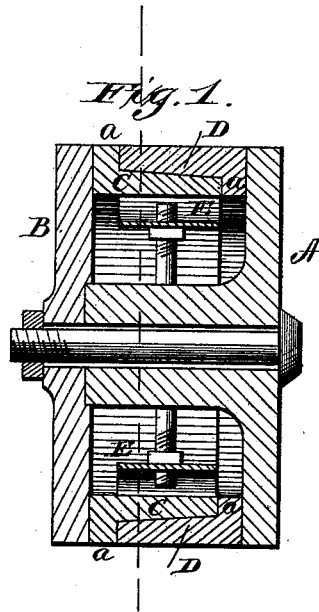


J. HARPER.
Packing-Ring for Piston-Heads.

No. 215,121.

Patented May 6, 1879.



WITNESSES
F. L. Conrad
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UNITED STATES PATENT OFFICE.

JOHN HARPER, OF DUNCANNON, PENNSYLVANIA.

IMPROVEMENT IN PACKING-RINGS FOR PISTON-HEADS.

Specification forming part of Letters Patent No. **215,121**, dated May 6, 1879; application filed March 25, 1879.

To all whom it may concern:

Be it known that I, JOHN HARPER, of Duncannon, in the county of Perry, and in the State of Pennsylvania, have invented certain new and useful Improvements in Packing-Rings for Piston-Heads; and 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, making a part of this specification.

The nature of my invention consists in the construction of packing-rings for piston-heads, whereby a side pressure is obtained as well as an outward pressure, for the purpose of keeping the joints tight between the packing-rings and the piston and the follower, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a front view of a piston-head embodying my invention. Fig. 2 is a central section of the same.

A represents the piston, and B the follower, connected together in any known and usual manner. Between these are the packing-rings C D, which are forced outward by means of springs.

As I lay no claim to the arrangement of the springs, I have simply shown a series of springs, E; but I do not confine myself thereto, as one or more springs may be used in any of the known and usual ways.

The packing-rings C D fit one within the other, the inner ring, C, being tapering on the outside, and the outer ring, D, correspondingly tapering on the inside, and each ring formed with a flange, *a*, to overlap the edge of the other ring, as shown.

It is of great importance in a piston-head that the packing-rings should be forced outward to fit the cylinder; and it is equally if not more important that the packing-rings should have a certain amount of side pressure, so as to keep the joints tight between them and the piston and follower.

This is the object of my invention, and the same is fully accomplished by the tapering form of the adjacent faces of the packing-rings, for the interior spring-pressure not only expands the rings against the cylinder, but also has a tendency to force them apart sidewise, and keep them tight against the piston and follower.

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

1. In a piston-packing operated by means of interior spring-pressure, the packing-rings C D, fitting one within the other, and their adjacent faces made tapering or inclined, and each ring provided with an overlapping flange, substantially as and for the purposes herein set forth.

2. The combination of the piston A, follower B, and the packing-rings C D, constructed substantially as described, and provided with overlapping flanges *a a*, whereby any pressure from the inside will expand the rings, and also force them sidewise, for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of March, 1879.

JOHN HARPER.

Witnesses:

JOSEPH SMITH,
CHARLES JONES HOLLAND.