

L. F. Garner,

Piston Packing.

No. 93,697.

Patented Aug. 17. 1869.

Fig. 1.

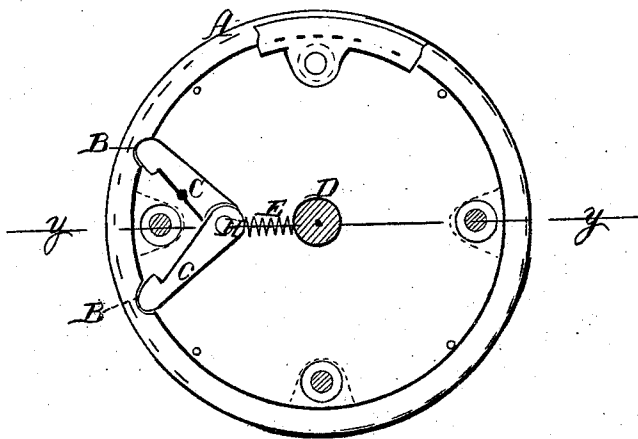
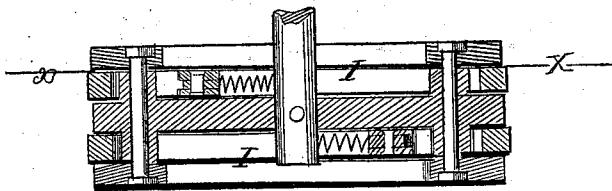


Fig. 2.



Witnesses:

Winchman
John Brooks

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United States Patent Office.

L. P. GARNER, OF ASHLAND, PENNSYLVANIA.

Letters Patent No. 93,697, dated August 17, 1869.

IMPROVEMENT IN STEAM-ENGINE-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, L. P. GARNER, of Ashland, in the county of Schuylkill, and State of Pennsylvania, 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.

This invention relates to a new and improved arrangement of piston-packing, for employing the force of the steam for pressing it out against the cylinder.

The invention consists in forming wedge-shaped recesses at the ends of the packing-rings, and the employment of wedges fitting therein, to be acted on when the cylinder takes steam, by the steam, to force them into the recesses, to spread, and thereby tighten the rings.

The direct pressure of the steam on the inner faces of the rings is also made use of, in conjunction with the said wedges, when required, all as hereinafter more fully specified.

Figure 1 represents a section of a piston-head, packed according to my improvement, the section being taken on the line $x-x$ of fig. 2.

Figure 2 represents a section of the same, taken on the line $y-y$ of fig. 1.

Similar letters of reference indicate corresponding parts.

At the meeting-ends of the packing-ring A, I form V or other-formed recesses, B, and I provide wedges, C, either singly or in pairs, so arranged that when the

cylinder takes steam, it will act on these wedges, to drive them into the recesses, and wedge the ends of the rings asunder, thereby tightening them.

These wedges may be connected to the hub D or the piston, by spiral or other-formed springs, E, to retract them. When pressure is off, the said rings may be cut in one or more places, and one or more wedges employed.

When two are employed, I prefer to hinge them together, as shown at H.

I make recesses, I, in each end of the piston, to admit the steam freely to the said wedges, and also to act directly on the inner faces of the packing-rings.

The wedges prevent the rings from turning, which they sometimes do, bringing the grooves opposite, and causing leaks.

I propose to employ two followers, one at each end of the piston, as shown in the drawings.

Having thus described my invention,

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

1. The arrangement of the wedges C C and spring H, as specified.

2. The construction and arrangement of the piston, solid in the centre, two adjustable followers, one at each end, and both open to admit the steam to pass through to the rings and jointed bars, as set forth.

L. P. GARNER.

Witnesses:

WM. LEVY,
M. M. MOCK.