

P. ESTES.

Improvement in Piston-Packings.

No. 114,427.

Patented May 2, 1871.

Fig. 1.

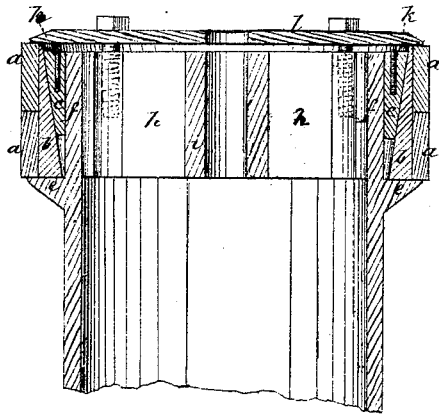


Fig. 2.

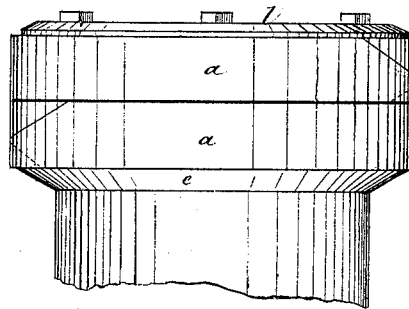
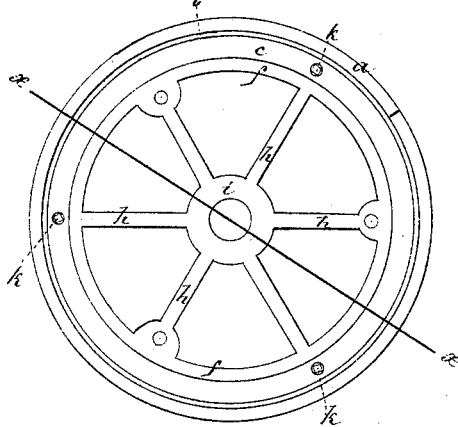


Fig. 3.



Witnesses:

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PHILIP ESTES, OF LEAVENWORTH, KANSAS.

Letters Patent No. 114,427, dated May 2, 1871.

## IMPROVEMENT IN PISTON-PACKINGS.

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, PHILIP ESTES, of Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and useful Improvement in Piston-Packing; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a transverse section;  
Figure 2 is a side elevation; and  
Figure 3 is a sectional plan.

This invention relates to piston-heads provided with expansible packing-rings; and

It consists in the means employed for forcing said packing-ring outward whenever it may be necessary, in order to the preservation of a steam-tight joint between the piston and cylinder.

Referring to the drawing—

*a* are ordinary-parted expansible packing-rings inclosing a piston-head.

*b* is a parted ring, wedge-shaped in cross-section, placed next within the rings *a*, having its straight side in contact with them.

*c* is a second parted ring, also wedge-shaped in cross-section, of less width than the first and placed within it, with its inclined side next to the inclined side of the other, the ring *c* being inverted with respect to the ring *b*, and an empty space being left between its lower edge and the flange *e*, which backs the ring *b*.

*f* is the annular base of the piston-head, and  
*h* the radial braces which connect the annular base with the central hub *i*.

*k* are screws entered in the upper side of the ring *c* and projecting a little outside of the ring *a*.

*l* is the follower, the same being attached by screws to the radial brace *h*.

When it becomes necessary to tighten the joint between the piston-head and the cylinder this is done by turning the follower-screws still further into the braces *h*, by which operation the follower *l* is pressed against the projecting pins *k*, the ring *c* consequently forced inward toward the flange *e*, and the ring *b* and the packing-rings expanded.

Having thus described my invention,

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

The follower *l* and its screws, the braces *h*, base *f*, rings *b* *c*, pins *k*, and packing-rings *a*, arranged as shown and described, whereby, when the follower-screws are tightened, the pins *k* are caused to force the ring *c* inward, for the purpose specified.

To the above specification of my invention I have signed my name this 19th day of December A. D. 1870.

PHILIP ESTES.

Witnesses :

OLON C. KEMON,  
A. W. HART.