S. Goodfellow,

Piston Packing.

No. 51,449. Patented Dec. 12, 1865.

Fig. 1.

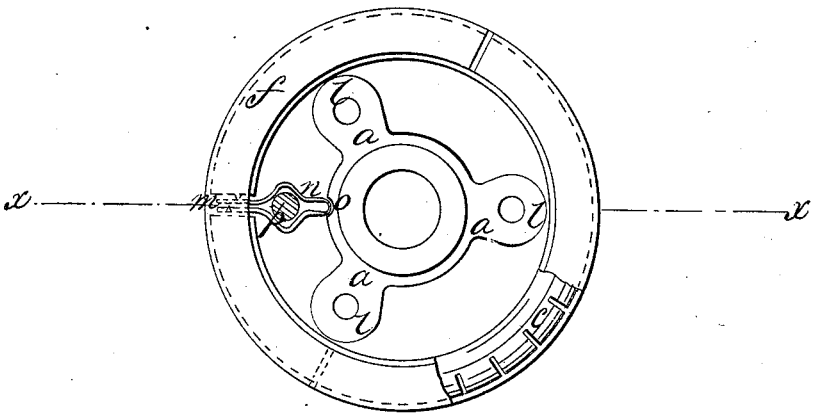


Fig. 2.

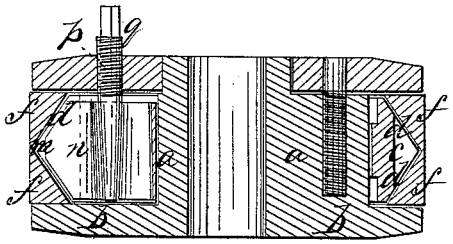
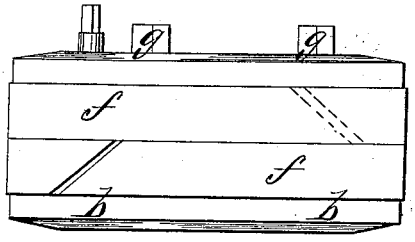


Fig. 3.



Witnesses:

Wm. Drewin

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Attys

UNITED STATES PATENT OFFICE.

SIMEON GOODFELLOW, OF TROY, NEW YORK.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. **51,449**, dated December 12, 1865.

To all whom it may concern:

Be it known that I, SIMEON GOODFELLOW, of Troy, in the county of Rensselaer and State of New York, 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 drawings, forming part of this specification.

The present invention relates to the construction and arrangement of the parts composing a piston and its packing, whereby its side or edge can be expanded, as it were, when desired, to the requisite degree to fit the bore of the cylinder with sufficient tightness to prevent any possible leakage of steam between it and the cylinder.

In accompanying plate of drawings my improvement is illustrated, Figure 1 being an end view of a piston with one of its head-plates removed and a portion of one of its rings broken away; Fig. 2, a central section of the same, taken in the plane of the line *x x*, Fig. 1, and Fig. 3 an edge view.

a a in the drawings represent the central frame or spider of the piston, secured at one end to and forming a part of the head-plate *b*. Over and around the frame *a* the inner expansible and split ring, *c*, is placed, made with its outer edge or periphery of an angular shape, over each inclined side *d* of which fits an outer split concentric ring, *f*, with its inside periphery of a beveled shape corresponding to the incline side *d*, the three rings being arranged so as to break joints, and in substantially the same manner as those now in general use, and for which Letters Patent were granted to Benjamin Goodfellow by the English government in the year 1839, and are held together and in place by means of screw-nuts *g g*, passing through its head-plates *b* and *h* and the ends of the spider-arms *l l*, as in ordinary pistons; but in order to expand the bearing or friction surface of the piston within its cylinder, I insert in and between the two head-plates of the piston, and extending in a radial line, or nearly so, from the spider-frame *a* toward and into the split or opening *m* of the inner ring, *c*, a lever plate or frame, *n*, the inner end, *o*, of which has a bearing in the spider-frame, and turns upon it as a fucrum, when the screw-bolt or lever-rod *p*, interlocked with the plate *n* at an intermediate point between its inner and outer ends, as plainly shown in Fig. 2, and projecting beyond the head-plate *h*, is turned by means of a wrench or any other suitable tool applied to its outer end, *q*. By turning this lever-plate *n* to the right or left, as has been above explained, its outer end, *r*, is thus caused to be brought to bear against either one or the other of the sides of the split *m*, as the case may be, thus causing the ring *c* to be proportionally extended in length, and through it the expansion of the outer rings, *f f*, to the requisite degree.

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

The combination and arrangement of the tapering pin *p*, formed with screw-thread and key-square, the lever-spring *n*, and rings *c f f*, all constructed and applied in the manner and for the purpose specified.

The above specification of my invention signed by me this 16th day of June 1865.

SIMEON GOODFELLOW.

Witnesses:

M. M. LIVINGSTON,

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