S. S. Turner.

Piston-Rod Packing.

No. 72340 Patented Dec. 17, 1867.

Fig. 3

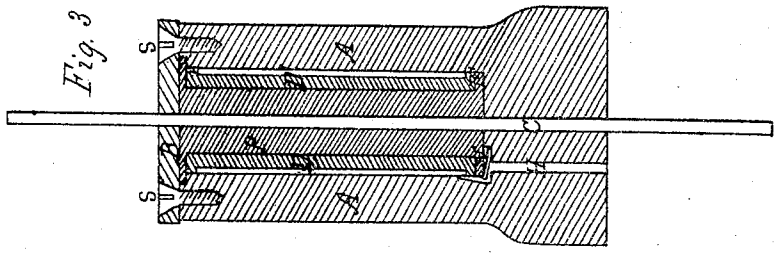


Fig. 4

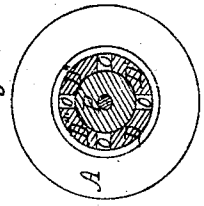


Fig. 2

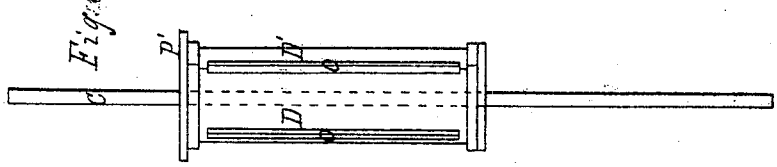
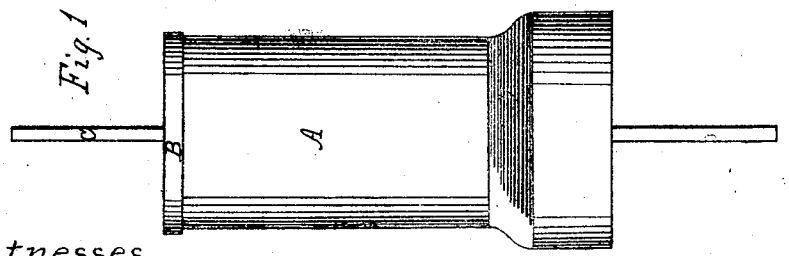


Fig. 1



Witnesses,
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SIDNEY S. TURNER, OF WESTBORO, MASSACHUSETTS.

Letters Patent No. 72,340, *dated December* 17, 1867.

IMPROVEMENT IN PISTON-ROD 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, SIDNEY S. TURNER, of Westboro, in the county of Worcester, in the State of Massachusetts, have invented certain new and useful Improvements in Packing-Boxes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in so arranging the elastic packing of piston, valve, or other rods, so that it shall be sustained by a perforated case or by bars, and be subject to the direct pressure of the steam, and thus be made to fit closely to the piston-rod.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and use. In the drawings—

Figure 1 represents an elevation of the packing-box.

Figure 2 represents an elevation of the packing and its metallic supports D D′.

Figure 3 is a vertical section of my improved packing-box.

Figure 4 is a horizontal section of the same.

I construct my improved packing-box in the following manner: A, figs. 1 and 3, represents the outside case of the box, which may be made in the form represented in the drawings, or in any suitable convenient form that the style and size of the engine may require. B is a cap or lid, which is attached to and forms a part of the packing-box. C represents the piston-rod; D D′, figs. 2, 3, and 4, represent a metallic casing, which surrounds the packing and serves to keep it in position. This casing has perforations O O, figs. 2 and 4, so that the pressure of the steam may act directly upon the packing P. The packing P is made of rubber, or any suitable material, in the form of an elongated cylinder, as shown in figs. 3 and 4, having flanges P′ P″, fig. 2, at its upper and lower end. U, fig. 3, is a passage or port, leading from the cylinder to the interior chamber of the packing-box. V, fig. 3, is a valve, closing the port U, the object of which is to prevent the escape of steam into the cylinder when that part of the cylinder is exhusting.

The advantages that I claim for my packing are, that it is simple in its arrangement, and that the pressure brought upon the piston-rod is always in proportion to the pressure in the cylinder, so that with a light pressure, the friction upon the piston is slight. The action of the pressure is this: Steam enters the packing-box through the port U, and acting through the perforations O O, figs. 2 and 4, presses upon the packing D, thus bearing it hard against the valve-stem, and thus maintaining it, so long as there is any pressure in the cylinder. This packing-box is equally applicable to water-engines, pumps, heaters, &c.

The peculiarity of my packing-arrangement is, that I hold the packing by its ends rigidly, by means of the flanges on the metallic casing D D′, (figs. 2, 3, and 4,) so that the packing is not subjected to endwise pressure at all, the steam entering into the chambers around D D′, (figs. 3 and 4,) where it gets directly in a lateral line to press the packing against the rod C.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The tubular elastic packing, confined rigidly by its ends, so arranged as to be compressible laterally against the rod by the direct action of the steam or other medium of pressure, substantially as and for the purpose set forth.

S. S. TURNER.

Witnesses:

A. HUN BERRY,

F. G. PARKER.