J. M. SEARLE.

Piston-Rod Stuffing-Box.

No. 168,189. Patented Sept. 28, 1875.

Fig. 1

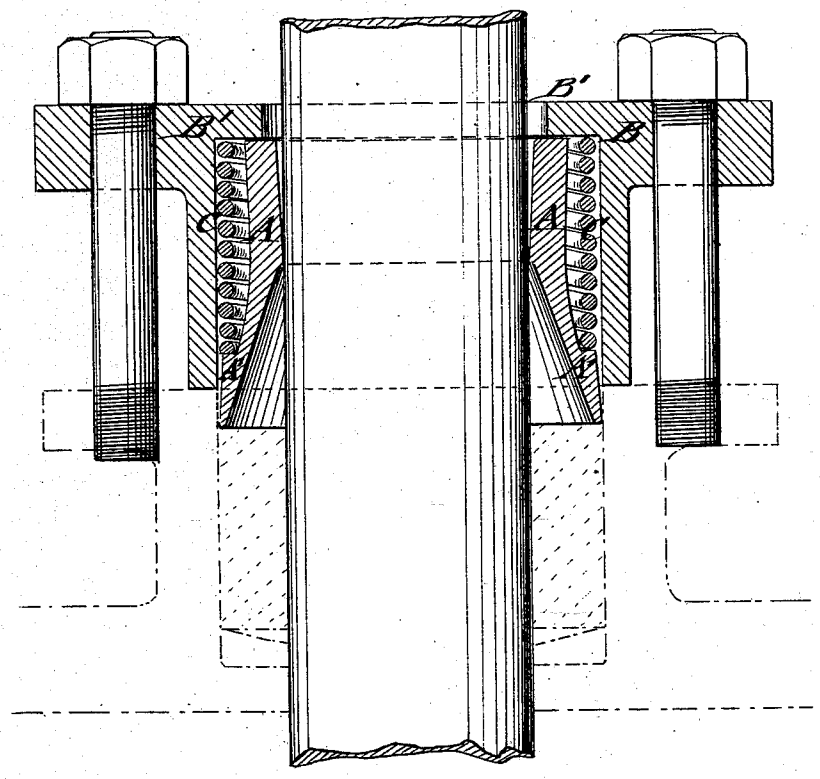
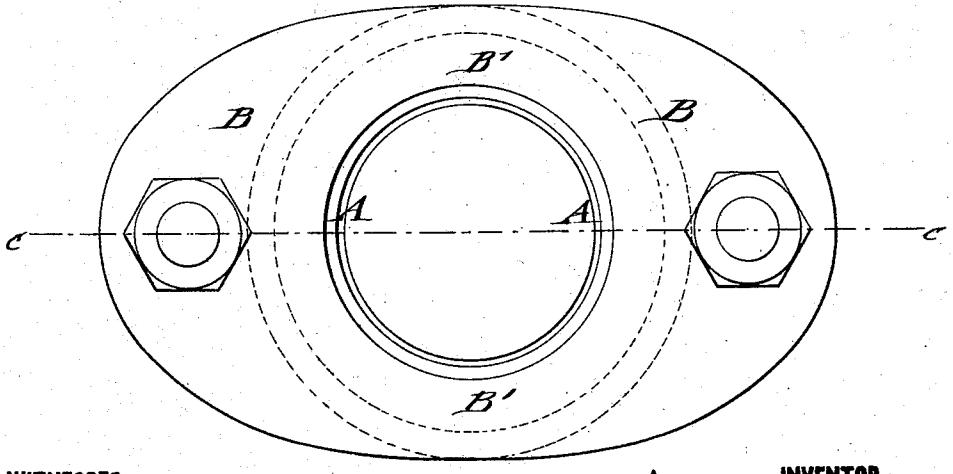


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH M. SEARLE, OF STANHOPE, NEW JERSEY.

IMPROVEMENT IN PISTON-ROD STUFFING-BOXES.

Specification forming part of Letters Patent No. **168,189**, dated September 28, 1875; application filed July 31, 1875.

To all whom it may concern:

Be it known that I, JOSEPH M. SEARLE, of Stanhope, in the county of Sussex and State of New Jersey, have invented a new and Improved Piston-Rod Stuffing-Box, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section on the line *c c*, Fig. 2, of my improved stuffing-box for piston-rods, and Fig. 2 represents a top view of the same.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved stuffing-box for the piston-rods of steam-cylinders, being constructed in such a manner at the cylinder-heads as to be self-adjustable, without requiring the continual screwing up of the box to prevent the leaking of the same. The packing may be used as long as a single circular strand remains around the piston-rod, it keeping the stuffing-box perfectly steam-tight.

This invention is an improvement on that described in Letters Patent No. 154,613, and relates to the arrangement of a conically-recessed cup and a spring, the latter causing said cup to act on the packing against or oppositely to the steam issuing from the piston-cylinder, in the manner hereinafter described.

In the drawing, A represents a cylindrical cup, which is fitted accurately to the piston-rod, so as to hug the same, and made of conically-tapering shape toward the packing, placed in the stuffing-box of the cylinder-head in the usual manner.

The cup A is applied to the stuffing-box of the cylinder-head by a gland, B, that is screwed by strong bolts to the flange of the same, and rigidly seated thereon. An interior shoulder or flange, B′, at the end of gland B, retains the cup in such position that its tapering end projects into and slides in the stuffing-box. A spiral spring, C, is interposed between the shoulder B′ and an outer collar or rim, A′, of the cup, being of such strength that it presses the cup tightly on the packing as soon as the steam is shut off, but does not overcome the pressure of the steam, which causes the packing to press against the tapering or concave surface of the cup, and hug thereby the piston or valve-stem tightly, preventing the blowing through of the steam after the packing gets worn and does not entirely fill the stuffing-box.

The interposition of the packing prevents the speedy corrosion of the spring by cutting off access of steam to it. The arrangement of parts also enables the flange B′ to be fitted loosely to the piston-rod, thus avoiding friction at that point.

What I claim is—

The arrangement of the spring-encircled cup A, with its conical-recessed end toward the cylinder-head, whereby it is adapted to act on the interposed packing, as shown and described.

J. M. SEARLE.

Witnesses:
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