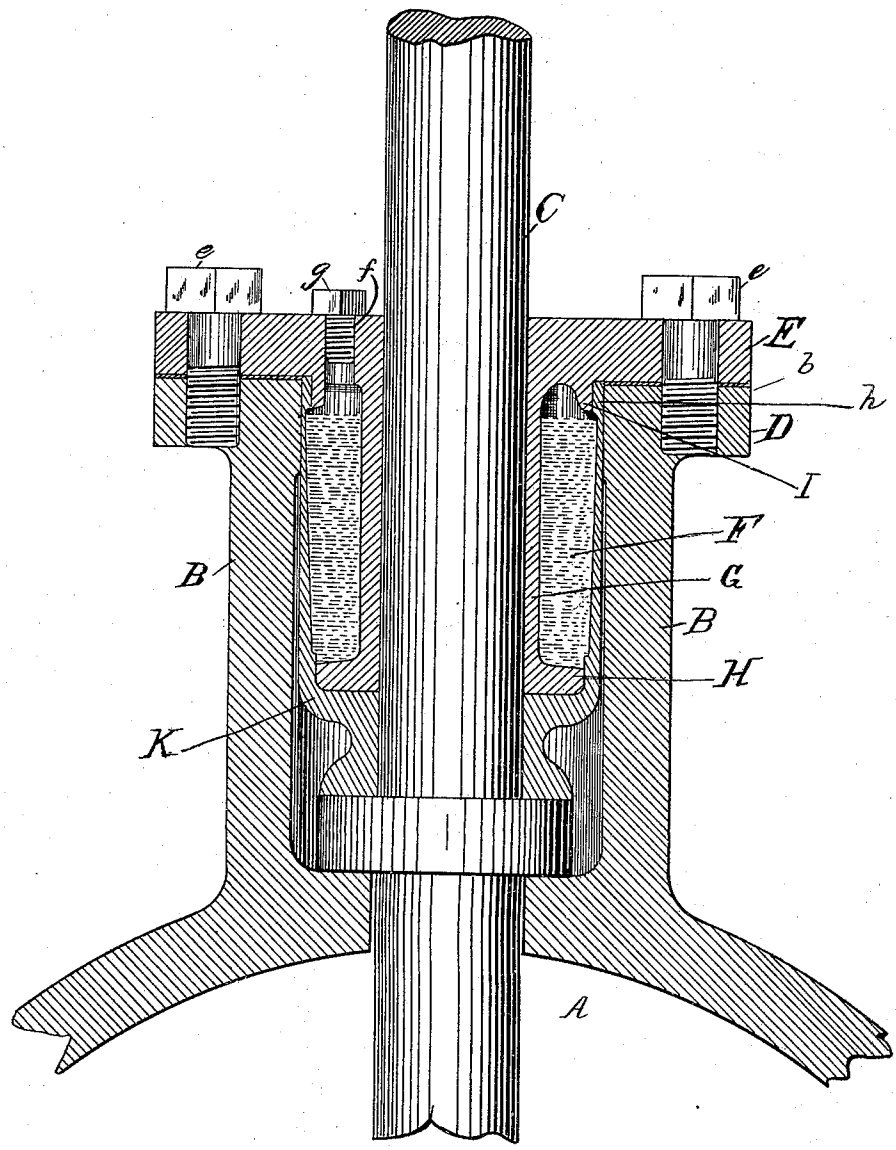
(No Model.)

J. SCHINNELLER.

PISTON ROD PACKING.

No. 343,923. Patented June 15, 1886.



WITNESSES:

A. D. Moore,

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BY

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UNITED STATES PATENT OFFICE.

JACOB SCHINNELLER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JUNIUS A. McCORMICK, OF SAME PLACE.

PISTON-ROD PACKING.

SPECIFICATION forming part of Letters Patent No. 343,923, dated June 15, 1886.

Application filed March 15, 1886. Serial No. 195,303. (No model.)

To all whom it may concern:

Be it known that I, JACOB SCHINNELLER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Piston-Packings; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawing, which form part of this specification.

This invention has relation to packing-boxes for valve-rods, and has for its object the provision of novel means for rendering said boxes absolutely tight against leakage of fluids—such as gas, steam, and the like—which usually find an escape around the valve rod or stem and through the interstices between the portions of the box fittings.

My improvement relates to the employment of a fluid or semi-fluid packing or seal, so disposed within the confines of the gland or packing-box that it will form an obstacle to the passage of the gas or other fluid, preventing the same from finding an outlet, except through the sealing-fluid.

My invention consists in the novel construction and combination of parts, as hereinafter described, having special reference to the employment within the packing-box of a cup secured to the valve-rod, and adapted to contain a sealing-fluid, which shall be interposed in the line of any outlet for gas or other fluid finding its way around the valve-rod and up and into the box.

In the accompanying drawing, illustrating a packing-box embodying my invention, the figure shown represents a packing-box in section, with the parts constituting my invention in proper relative position.

A designates the valve chest or casing, or the same may be a section of conduit adapted for the reception of a gate or valve.

B designates the stuffing or packing box of the usual form, and C the valve rod or stem adapted to turn therein. The packing-box is flanged at D, to receive the cap E, secured thereto by bolts *e e*, as shown. Secured tightly to or shrunk upon the valve-rod, and turning with the same, is a cup, K, of substantially the form shown, the base or lower portion being contracted at its point of attachment to the rod, while its upper or recessed portion, which extends to the top of the box-cavity, is enlarged to form an annular bowl, F, designed to contain a sealing-liquid—such as oil, glycerine, tar, or the like. The general shape or outline, however, of the cup is immaterial, and it may consist of a cylindrical sleeve of uniform external diameter, instead of being of the goblet or urn shape shown in the drawing. The cup is, however, shaped and of such dimensions as to be capable of turning freely within the box with the rod. The cap E is formed with an elongated sleeve or boss, G, which encircles the rod, and which depends within the cup. This sleeve is of such thickness as to leave a space between its outer surface and the inner surface of the cup for the reception of a sufficient quantity of fluid to serve the purposes of my invention. At its lower end the sleeve G is flanged outwardly, as shown at H, and forms a close joint with the bottom of the cup, the fluid contents of the cup being above the flange. An opening, *f*, closed by a plug, *g*, is formed in the cap E, for the purpose of filling the cup with the sealing-liquid.

I designates a flange formed on the inner surface of the cap and of sufficiently smaller diameter than the inner surface of the box B to leave an annular space at *h*, into which the rim or edge of the cup fits, forming a close joint, which will preclude as far as possible the escape of fluid therethrough. Between the upper edge of the box and the lower surface of the cap the space *b* is closely packed or otherwise formed to prevent the escape of gas. Now, the parts being constructed and arranged as described and shown, any gas leaking from the valve-chest A up and around the collar of the valve-rod must eventually lead to and through the space between the outer surface of the cup and the inner surface of the box, until it reaches the cavity above the sealing-fluid. It can therefore find no outlet except downward through the fluid, which, however, forms an obstacle to its passage, and therefore constitutes an effective seal, practically preventing any escape of gas from the valve-chest, as by the shrinking of the cup up-

on the valve-rod the passage of the gas between the base of the cup and the rod is rendered impossible.

While I have described the cup as being secured to or made integral with the valve-stem, I may, without departing from the spirit of my invention, construct the cup and cap in one piece, so that the valve-rod may be free to revolve without the cup turning therewith.

Having described my invention, I claim—

1. In a packing-box for valve rods or stems, the cup surrounding the valve-rod and adapted to contain a sealing-fluid, substantially as described.

2. The combination, with the packing-box B and the cap E, having the internal sleeve or boss, G, of the cup surrounding the valve-rod and adapted to contain the sealing-fluid, substantially as described.

3. The combination, with the packing-box B and the cap E, having the internal depending sleeve, G, and the annular flange H, of the cup K, surrounding the valve-stem and adapted to contain a sealing-fluid, substantially as described.

4. In a packing-box for valve rods or stems, the cup K, attached to or made integral with the valve-rod and adapted and designed to contain a sealing-fluid, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of February, 1886.

JACOB SCHINNELLER.

Witnesses:
LOUIS MOESER,
IG. STAUFFER.