

J. C. STEAD.
PACKING FOR PISTON-RODS.

No. 188,433.

Patented March 13, 1877.

Fig. 1.

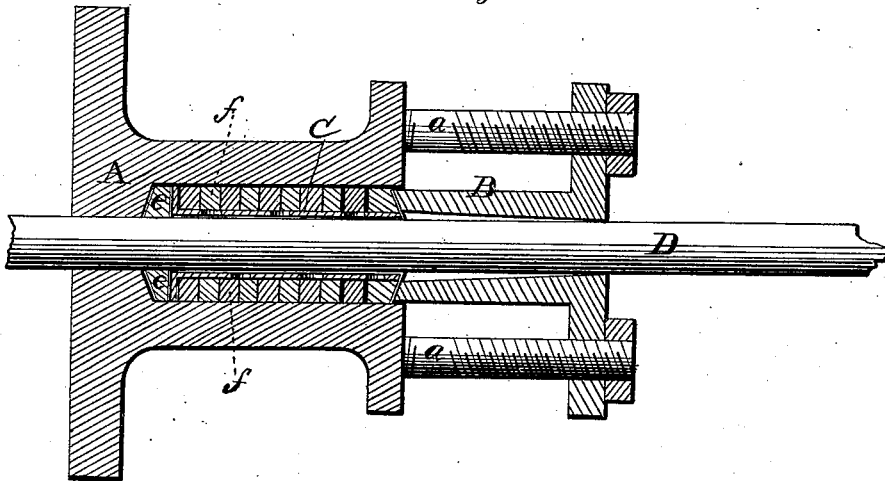
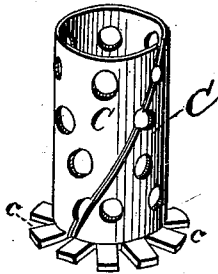


Fig. 2.



WITNESSES
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JAMES C. STEAD, OF GREEN POINT, NEW YORK.

IMPROVEMENT IN PACKING FOR PISTON-RODS.

Specification forming part of Letters Patent No. 188,433, dated March 13, 1877; application filed June 1, 1876.

To all whom it may concern:

Be it known that I, JAMES C. STEAD, of Green Point, in the county of Kings and State of New York, have invented certain new and useful Improvements in Packing for Piston-Rods for Oil, Water, or Air Cylinders, of which the following is a specification:

Figure 1 is a longitudinal central section. Fig. 2 is a perspective of the metal or composition ring or bearing.

The object of the present invention is to provide a suitable metal bearing in combination with leather, hemp, rubber, or other proper material to constitute a packing for piston-rods, valve-stems, air-pumps, and other rods for piston heads or plungers in oil or water cylinders; and to this end it consists more particularly in a metallic band, ring, or cylinder, which is perforated and flanged, and surrounded with hemp or any suitable materials, and is arranged about, and adapted to hold and carry a piston-rod, valve-stem, or rod for piston-heads, as will be more fully set forth.

In the accompanying drawings, A denotes the ordinary stuffing-box; B, the gland, which is adjustably held in place by means of the nuts on the screw-threaded rods *a a*, which pass through the flange or cross-heads of the gland. Inside the stuffing-box is placed the perforated metal band or ring C, and supported at the lower end of the chamber on a section or base of leather, *e*, or other suitable material. Upon this the flanged head or end *c* of the ring C rests, being placed in position for use around the rod or stem D. This ring is made of any suitable metal or metallic composition, and is preferably perforated in any convenient way or manner to afford apertures or crevices, and it may be slotted at an angle from end to end, as shown at *e*, or otherwise suitably divided. This ring comes next to the rod or stem, and about it, and between it and the walls of the seat, is placed a leather, hemp, or any usual packing, *f*. The inner face of the end of gland B is beveled and rests upon the upper end of this material. As the gland is moved down

by the nuts on rods or guides *a* it compacts and firmly compresses said packing into its seat.

The packing thus arranged will hold the lubricating liquid in the most serviceable manner, and the crevices or perforations in the ring will afford ample opportunity for it to exude or ooze through.

In this manner and by these means I have provided a packing which will answer every end desired or necessary, and will be very durable.

As the material about the ring wears out the gland is moved down in the chamber inside of the stuffing-box, the diameter of each being specially adapted for this purpose.

The use of different metals in the ring and rod produces the advantageous result of smooth and highly-polished surfaces on each. Thus the friction will be essentially diminished, and a proportional gain in working power attained, and, as a result, a large pecuniary saving.

The bearing thus formed is entirely easy, and is not liable to leak or to cut, and can be readily removed and renewed when desired. It is as cheap as the ordinary run of packing, so far as prime cost is concerned; but when the results in use are taken into the account it will be found an exceedingly durable packing.

It is obvious that there may be many variations in the adaptation of my invention in use, as in case where the rod is smaller in the center, in which instance the ring may be split by dovetailing or anglewise. In this way the high and low apertures or perforations will accommodate themselves to the bearing. Sometimes, on account of room, the bearing will have to be put in sections. Under some conditions it might not be necessary to cut the ring at all, and in varying forms of use it can be applied with or without removing the cross-heads or other connections.

In these and other like ways my said device may be adapted for use without, in any essential point or feature, departing from my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with a stuffing-box, A, and gland B, the open and perforated band or ring C and packing material *f*, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES C. STEAD.

Witnesses:

JAMES R. SPARROW, Jr.,
HENRY BALLOU.