(No Model.)

H. WOODRING & N. C. COATS.

PISTON AND VALVE ROD PACKING.

No. 259,449. Patented June 13, 1882.

Fig. 1

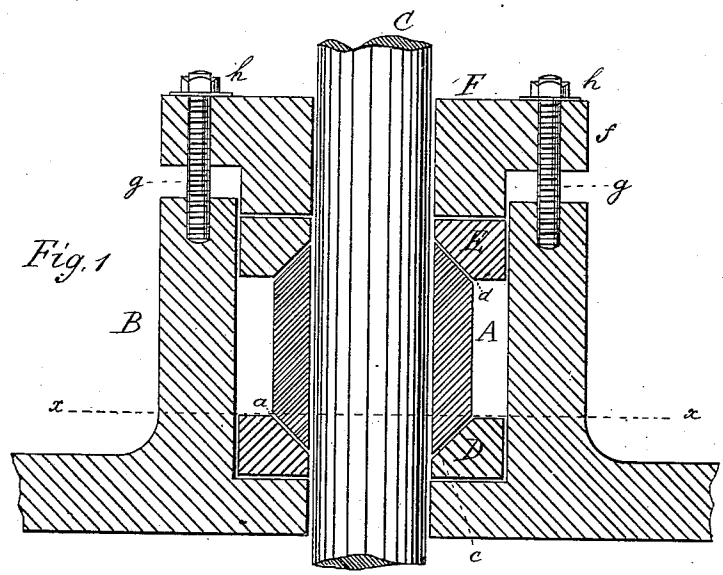


Fig. 2

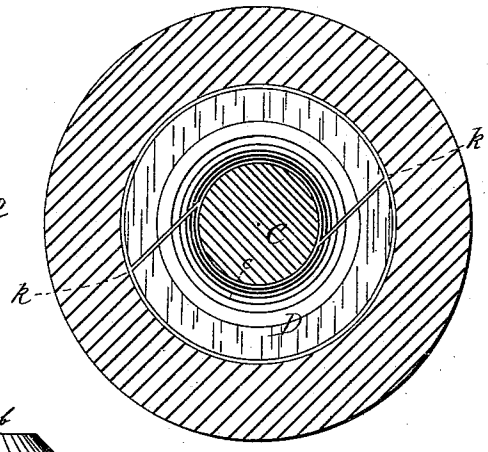


Fig. 4

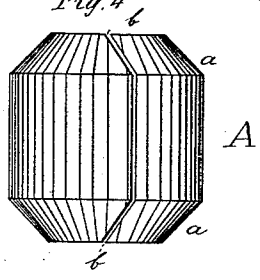
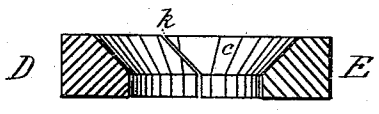


Fig. 3



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY WOODRING AND NOYCE C. COATS, OF WAVERLY, IOWA.

PISTON AND VALVE ROD PACKING.

SPECIFICATION forming part of Letters Patent No. 259,449, dated June 13, 1882.

Application filed April 1, 1882. (No model.)

To all whom it may concern:

Be it known that we, HENRY WOODRING and NOYCE C. COATS, both of Waverly, county of Bremer, State of Iowa, have invented a new and useful Improvement in Piston and Valve Rod Packing, of which the following is a specification.

The object of this invention is to provide an improved metallic packing that can be more readily and accurately set up to compensate for its wear against a piston or valve stem, whereby tight joints about the said stem may always be maintained.

The invention consists of a packing-ring having outwardly-beveled ends longitudinally split or divided into two or more bevel-edged sections held and adjustable about the piston or valve stem within a suitable stuffing-box between perforated concave top and bottom sectional plates by means of an adjustable gland.

Figure 1 is a vertical sectional elevation of the device in position about a piston rod or stem. Fig. 2 is a cross-section of the same on line *x x*, Fig. 1, with packing-ring removed. Fig. 3 is a side elevation of a top and bottom plate. Fig. 4 is an elevation of the packing-ring.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents an improved packing consisting of a ring or sleeve having its ends outwardly beveled, as shown at *a*, and longitudinally split or divided, as shown at *b*, into two sections, having beveled or lapping edges.

B represents a stuffing-box placed on or about a piston-rod, C. Centrally in the bottom of said stuffing-box B is a centrally-perforated bottom plate, D, having a conical cavity, *c*, in which rests the corresponding beveled lower end of the ring A, which is fitted about the piston-rod C, while a centrally-perforated top plate, E, having a conical cavity, *d*, in its lower face, rests upon the upper beveled end of the said ring A within the stuffing-box B. These plates D E are cut into two or more bevel-edged overlapping sections, as shown at *k k*, that they may be expanded under pressure of the gland, and thereby make tight joints where in contact with the stuffing-box B. A gland, F, having a flange, *f*, about its top, is passed over the piston-rod C, and, resting upon the upper surface of the plate E, is secured on the top of the stuffing-box B by stud bolts and nuts *g h*, respectively.

This packing is designed to be placed in position about and in contact with the piston-rod C, with its beveled edges *b b* slightly overlapping, and with its beveled ends *a a* but partially entered in the conical cavities of the plates D E. The gland F is then set in place, bearing on the plate E, and held with its flange above the top of the stuffing-box B by the bolts and nuts *g h*. As the said ring A wears because of the friction of the rod C, the nuts *h* are turned down, thus pressing the gland F and plate E down with the effect of contracting said ring A and forcing the sections thereof closer together about said piston-rod C, and at the same time the plates D E are expanded laterally to make tight joints where their edges are in contact with the stuffing-box B, and the ends of the said ring A being beveled alike, and being held between opposite and corresponding concaved plates, its contraction about the piston-rod C under the pressure of the gland F is alike at all points of its interior surface. When desired, we fill up the space between the ring A and the walls of the stuffing-box B with hemp or other elastic packing.

We do not confine ourselves to a ring made in but two longitudinal sections, as it is manifest that a ring may be constructed of more than two such sections without departing from our invention.

We are aware that split packing-rings having conical ends fitting into solid rings having conical recesses are not new; and we do not claim such invention, our device being preferable over the same, in not only contracting the split ring having conical ends against the rod, but in also expanding the split rings having conical recesses against the stuffing-box.

What we claim is—

The combination, with the stuffing-box B and the gland F, of the diagonally-split ring A, having both ends conical, and the two split rings D E, each having a conical recess to receive the conical ends of the ring A, whereby the pressure of the gland F will contract the split ring A and expand both of the split rings D E, substantially as specified.

HENRY WOODRING.
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Witnesses:
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