

W. HARTLEY.
PISTON ROD PACKING.

No. 110,035.

Patented Dec. 13, 1870.

Fig. 1

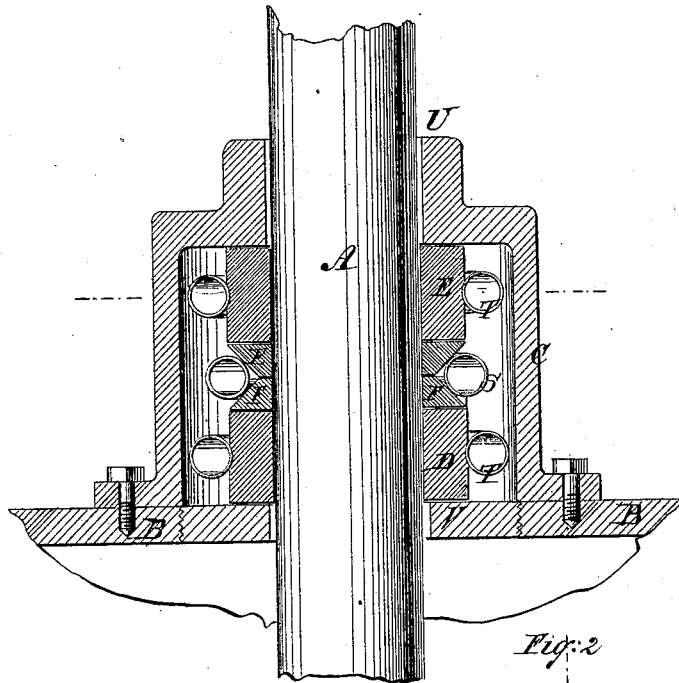


Fig. 2

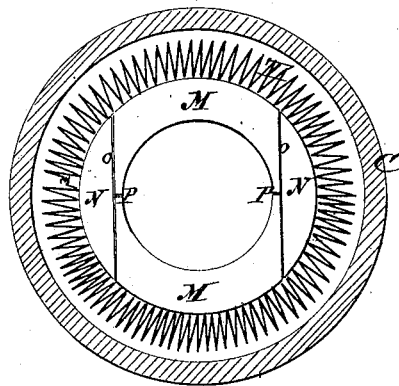
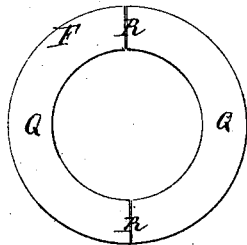


Fig. 3



Witnesses:

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United States Patent Office.

WILLIAM HARTLEY, OF ROCKFORD, ILLINOIS.

Letters patent No. 110,035, dated December 13, 1870.

IMPROVEMENT IN PISTON-ROD PACKINGS.

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, WILLIAM HARTLEY, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and improved Piston Rod Packing; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in piston-rod packing, and consists in an arrangement of sectional metallic rings and binding springs in a hollow cylinder attached to the cylinder-head, through which the rod works, the said arrangement being such that the rings will be caused to bear upon the piston rod and against the ends of the cylinder, to which they are nicely fitted and make steam-tight joints, while allowing the piston-rod to vibrate laterally as much as may be necessary for any inaccuracy in the working of the rod.

Figure 1 is a longitudinal section through the packing-cylinder and the cylinder-head of the engine;

Figure 2 is a transverse section; and

Figure 3 is an elevation of one of the rings.

Similar letters of reference indicate corresponding parts.

A represents the piston-rod;

B, the cylinder-head; and

C, the cylinder attached to the cylinder-head for holding the packing, which consists of the sectional metallic rings D, E, and F, and the springs S T.

The rings D and E are composed of two sectional pieces, M, and the two pieces N, the first nearly encircling the rod, and the latter having a plane side, O, fitting upon the ends of the pieces M, across the joint P, the said ends being made perpendicular to the said joint, so as to completely close up the passages, from the center outward, between the said pieces M, while allowing them to be clamped down tightly upon the rod.

The ends of these rings are made true, to fit steam-tight against the inner ends of the cylinder C and the

rings F, which are to press them against the said cylinder-ends.

The rings F are composed of the two semicircular pieces Q, having oblique peripheries, as shown clearly in fig. 1, and they are placed with the widest sides against the rings D E, and, preferably, so that the joints R will be about midway between the ends of the pieces M, so that they prevent the steam from escaping at the ends of the rings D or E.

The said rings F are placed side by side between the rings D E so that the two oblique faces form a groove, in which is placed the packing-spring S, which, acting on the said oblique faces, has a tendency to move the rings F from each other, thereby imparting an end pressure on the rings D E, which presses them against their respective ends of the packing-cylinder.

The rings D E are confined around the rod by the springs T, as clearly as shown.

It will be seen that, by this arrangement of the packing-rings and springs, the steam will be effectually prevented from escaping through the end U of the packing-cylinder; also, that the said packing offers no material resistance to the lateral vibration of the piston-rod.

The packing-cylinder may be attached to the cylinder-head in any approved way. The inner end V should be made removable to admit the packing, which may be put in before the packing-cylinder is attached to the cylinder-head, the said detachable end V being also first applied, but after the packing is. The said end V may be screwed in or otherwise secured.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination, with the packing-cylinder C and piston-rod, of the sectional metallic rings D, E, and F, and the springs S and T, all substantially as specified.

Witnesses:

WILLIAM HARTLEY.

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