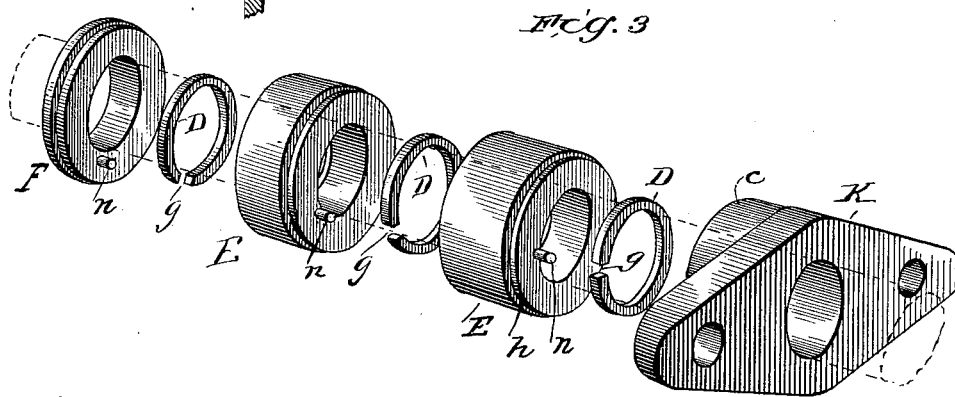
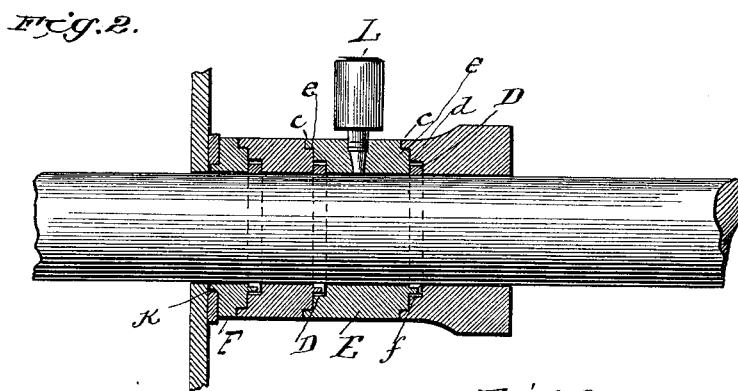
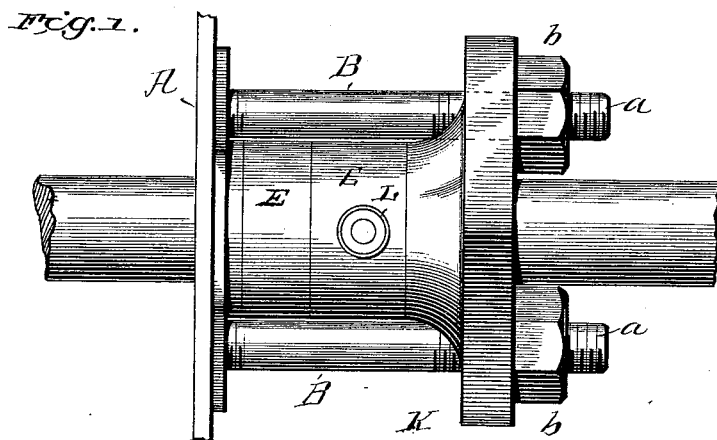


(No Model.)

J. MURRAY.
METALLIC ROD PACKING.

No. 386,786.

Patented July 24, 1888.



WITNESSES.

Edwin I. Yewell,
Jos. A. Ryan

INVENTOR,

James Murray.
By
E. Everett Ellis, Attorney.

UNITED STATES PATENT OFFICE.

JAMES MURRAY, OF WALLULA JUNCTION, WASHINGTON TERRITORY.

METALLIC ROD-PACKING.

SPECIFICATION forming part of Letters Patent No. 386,786, dated July 24, 1888.

Application filed January 16, 1888. Serial No. 260,930. (No model.)

To all whom it may concern:

Be it known that I, JAMES MURRAY, a citizen of the United States, residing at Wallula Junction, in the county of Walla Walla, Washington Territory, have invented certain new and useful Improvements in Rod-Packing; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in valve and piston rod packing for engines, pumps, and the like; and it consists, substantially, in such features of construction, arrangement, and combinations of parts, as will hereinafter be more particularly described.

Many former inventions have been heretofore devised on this subject—such, for instance, wherein an outer stuffing-box is employed, through which the valve or other rod passes, and is surrounded by packing inclosed within the box. Many of these are entirely inoperative, while such as have been found effective in use are very expensive and require considerable attention by those in charge.

The object of this invention is to provide a simplified form of anti-friction packing, which shall effectually prevent wear or cutting of the rod on which employed, and also to prevent leakage and accumulation of rust on the rod frequently experienced, and which is not prevented by many like inventions now in use.

A further object of the present invention is to provide a metallic valve or piston rod packing, which enables the old style of stuffing-box to be dispensed with; and the invention has such other objects in view, all as will more fully hereinafter appear when taken in connection with the accompanying drawings, wherein—

Figure 1 represents a side view of a valve or piston rod packing embodying my invention; and Fig. 2 is a longitudinal sectional view of the packing, showing the rod in elevation. Fig. 3 is a perspective view of the several rings employed in the practice of my invention, by which their construction or form will be more fully understood.

Reference being had to the several parts by

the letters marked thereon, A represents a portion of the steam chest or cylinder, having projecting therefrom two or more studs or bolts, B B, having their ends screw-threaded, as indicated at *a a*, for the reception of the nuts *b b*, by which the gland or follower K may be moved or adjusted to tighten the several rings constituting the packing and maintaining them tightened together for performing their proper functions and preventing the escape of steam. The gland or follower constitutes in part a portion of the packing, by virtue of the same being formed with a projecting collar or ring, *c*, provided with an inner circular flange, *d*, which constitutes or forms two grooves or channels, *e f*. Fitting next upon the rod is a small elastic ring, D, split, as indicated at *g*, so as to allow expansion thereof on entrance of the steam, and this ring slips into the recess *f*, formed in the collar of the gland. Next following on the rod is a larger ring, E, having formed in its side contiguous to the collar of the gland a groove, *h*, fitting tightly or closely against the edge of said gland-collar, as shown. The opposite side of said larger ring, E, is formed with a double groove in like manner as the collar, and another smaller ring fits around the rod within said ring, also in like manner. After this follow in the same way an additional large and small ring, and then follows a ring, F, formed with a groove to fit the ring preceding it, and a flange, *k*, entering the steam chest or cylinder, as shown.

Each of the smaller rings is split in the manner indicated, and to one side of each of the larger rings a small stud or pin, *n*, projects, designed to enter the space between the split portions of said smaller rings. One of the larger rings is formed with an opening in its side, into which is inserted a cup, L, designed to contain oil or other lubricating material for the rod, to thereby render the passage of the same easy and reduce friction.

It is evident that as many studs may be employed for holding the gland as may be desired, and also that as many more or less of the packing-rings can be employed as may best suit the purpose for which used; but for all practical purposes I have found the number herein shown to fully answer.

From the foregoing description it will be

seen that as the steam passes along the rod or stem to the first small split ring it will enter the space between its cut portion and go around the ring, and by its expansion press the said ring around the stem, and thereby act to maintain the packing perfectly steam-tight. The action of the remaining small rings will be the same, and it is evident that a very effective working of the parts will be had. The purpose of the pins projecting from the sides of the larger rings is to maintain the smaller rings in their proper places on the rod and prevent their turning, and in practice I have found that it is best for the purpose of equal wearing of the rings to so arrange them on the rod as that the positions of the pins will alternate with each other.

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

1. A metallic packing for valve and piston rods, consisting of the larger rings formed with corresponding interlocking flanges and grooves and provided on one of their sides with a pin or projection, in combination with a series of smaller split elastic rings fitting between and within said larger rings in such manner as that the pins of the larger rings will enter the spaces where they are cut, substantially as described.

2. In a metallic packing for valve and piston rods, the combination, with the studs and adjusting-nuts and the gland or follower K, having grooves *ef*, of the larger metallic rings formed with corresponding interlocking flanges and provided on one of their sides with a pin or projection, and the series of small split elastic rings having the spaces where they are cut entered by the pins of the larger rings, substantially as described.

3. In a metallic packing for valve and piston rods, the combination, with the studs and adjusting-nuts, and the gland or follower K, having grooves *ef*, of the larger metallic rings formed with corresponding interlocking flanges and provided on one of their sides with a pin or projection, and the series of small split elastic rings having the spaces where they are cut entered by the pins of the larger rings, one of the said larger rings being provided with an oil cup or receptacle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES MURRAY.

Witnesses:

NICHOLAS SHERIDAN,
V. D. LAMBERT.