(No Model.)

T. H. HOLMES.

ROD PACKING.

No. 602,328. Patented Apr. 12, 1898.

FIG. 1

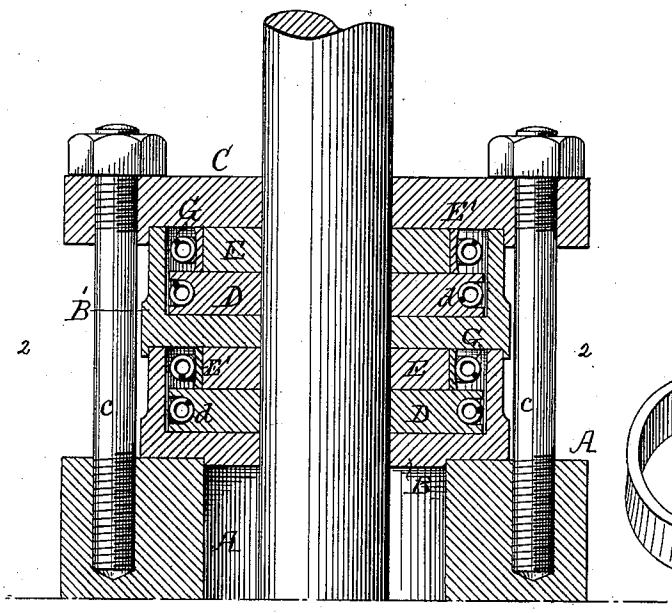


FIG. 3.

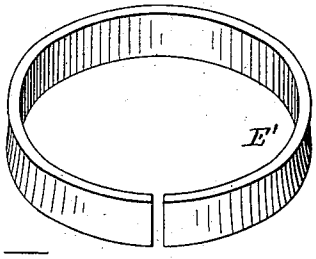
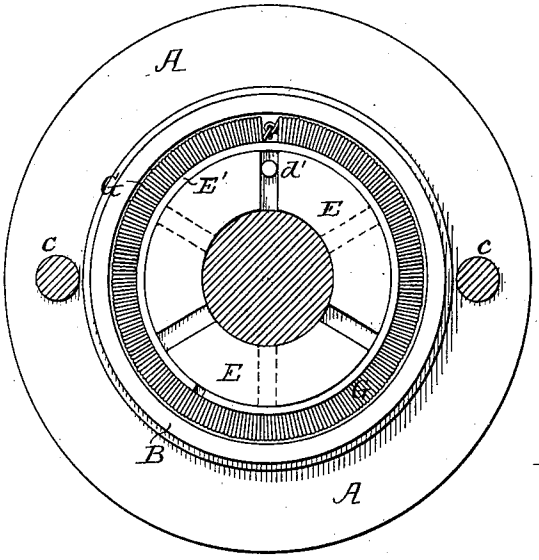
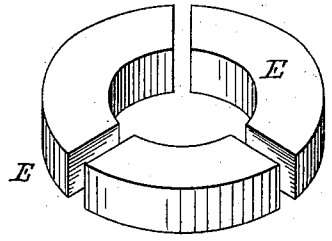


FIG. 2.





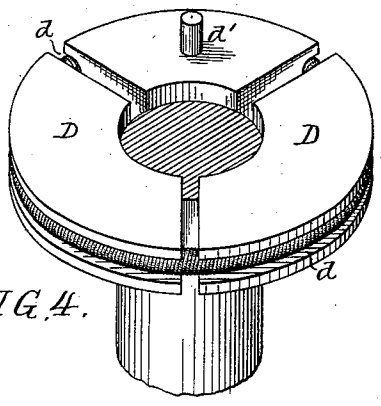


FIG. 4.

Witnesses.
Charles De Cour
Wm. A. Baur

Inventor
Thomas H Holmes.
by his attorneys.
Howson & Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS H. HOLMES, OF WILKES-BARRÉ, PENNSYLVANIA.

ROD-PACKING.

SPECIFICATION forming part of Letters Patent No. 602,328, dated April 12, 1898.

Application filed June 3, 1897. Serial No. 639,221. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. HOLMES, a citizen of the United States, and a resident of Wilkes-Barré, Pennsylvania, have invented certain Improvements in Rod-Packing, of which the following is a specification.

The object of my invention is to construct metallic packings for piston-rods, valve-stems &c., which will prevent the escape of steam and which will allow the rod or valve-stem to move freely therein.

My improved metallic packing can be adapted to or placed inside of the ordinary stuffing-box or can be mounted on the outside, as shown in the drawings, in which—

Figure 1 is a sectional view of my improved metallic packing, showing a piston-rod in place. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a detached perspective view of my improved packing-ring and band of yielding material, and Fig. 4 is a perspective view of the mate to the ring shown in Fig. 3.

A is a portion of the ordinary stuffing-box, on which is mounted a shell B, and in this shell is a set of packing-rings consisting of the two rings D and E, and, as illustrated in the drawings, beyond the shell B is a second shell B′, also containing a set of rings. These shells, with their rings, are held in place by a cap C and bolts *c c*. Other means of fastening the shells in place may be resorted to without departing from my invention, and in some instances I may use only one set of rings or more than two, the number of rings depending upon the engine to which the packing is applied. The shells and caps may be made as shown or be made in two parts, so that they can be applied to the rod without disconnecting the cross-head.

In the present instance the ring D, which is next the cylinder, is made in three sections, and the periphery of the ring is grooved for the reception of a spring *d*, which tends to force the sections or segments tightly against the piston-rod, so as to form a steam-tight joint between the rod and the segments. The ring E is divided also into three sections, and the ring E fits tightly against the ring D, and the joints of the ring E break with the joints of the ring D, as shown. A pin *d′* on one or more of the segments of the ring D enters the space between two of the segments of the ring E, so as to keep the rings from shifting.

Surrounding the segments of the ring E is a band E′ of non-elastic soft metal, such as lead or a soft alloy, and surrounding this band in the present instance is an endless coiled spring G, which tends to force the soft-metal band tightly against the segments of the ring E, and consequently also tends to bind the segments tightly against the piston-rod, so as to prevent leakage of steam at the several points.

I have found that in segmental metallic packing-rings, as they wear away by the movement of the piston-rod, the periphery of the segments becomes uneven and does not retain the true circle as when first applied, so that an unyielding ring will not fit tightly or be in close contact on the segments and will allow the escape of steam through the space between the ring and the segment and between the segments to the atmosphere, whereas by my construction the steam which would gain access to the box surrounding the ring E, as well as the spring, would tend to keep the flexible metallic ring always against all parts of the periphery of the segmental ring E, and particularly at the joints of the segments, so that, as the faces of segmental rings and the flexible rings are in close contact with faces of cases, it will be impossible for steam to escape past the ring E.

The yielding ring E′ may be made in segments or may be made a split ring, as shown, without departing from my invention. I can use in combination with this ring a different style of spring from that shown, and I may use the ring without a spring, relying upon the steam-pressure to hold the yielding ring tightly against the segments.

I claim as my invention—

1. The combination in a rod-packing, of a segmental ring surrounding the rod, with a ring of non-elastic yielding soft metal mounted on the periphery of the segmental ring, with means for holding the said non-elastic yielding ring tightly against the segmental ring, substantially as described.

2. The combination in a rod-packing, of the segmental ring D, a spring for holding the segments together on the rod, a segmental

ring E mounted against the ring D and having the joints between the segments staggered, a non-elastic yielding soft-metal ring mounted on the periphery of the ring E and a spring tending to hold the soft-metal ring against the segments making a steam-tight joint between the segments and the ring, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS H. HOLMES.

Witnesses:
JOS. H. KLEIN,
HENRY HOWSON.