

(No Model.)

E. A. BRYANT.
ROD PACKING.

No. 525,588.

Patented Sept. 4, 1894.

Fig. 1.

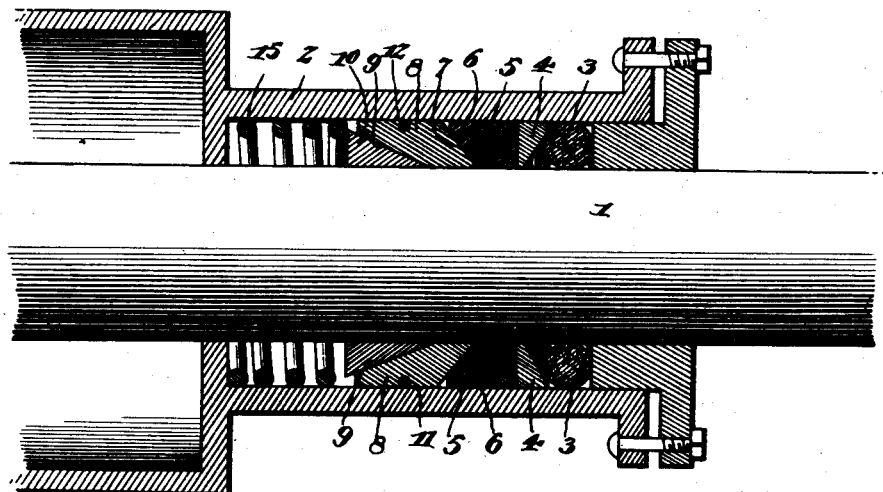


Fig. 2.

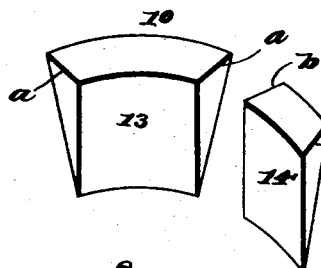
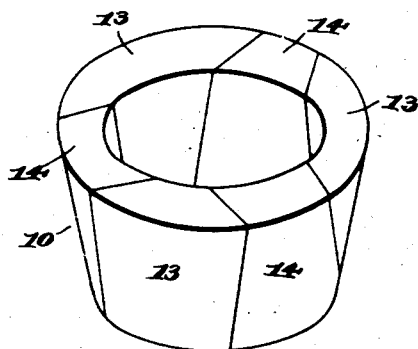


Fig. 3.

Fig. 5.

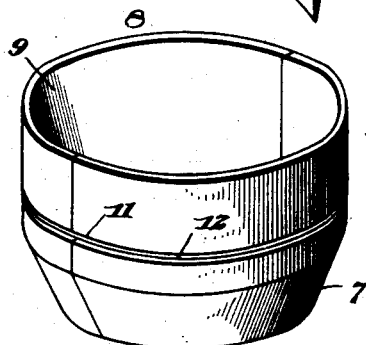
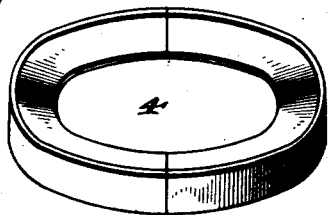


Fig. 4.

Inventor

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UNITED STATES PATENT OFFICE.

EUGENE A. BRYANT, OF MARSHFIELD, WISCONSIN.

ROD-PACKING.

SPECIFICATION forming part of Letters Patent No. 525,588, dated September 4, 1894.

Application filed April 28, 1894, Serial No. 509,358. (No model.)

To all whom it may concern:

Be it known that I, EUGENE A. BRYANT, a citizen of the United States, residing at Marshfield, in the county of Wood and State of Wisconsin, have invented a new and useful Rod-Packing, of which the following is a specification.

My invention relates to an improvement in that class of rod packing wherein conical-shaped sections are employed and arranged to retreat one within another when they wear smaller owing to the movements of the rod; and it consists in certain peculiar features of construction whereby the packing is made more effective and durable, and whereby the operation of closing up the sections is insured.

In the accompanying drawings—Figure 1 represents a longitudinal section of a stuffing box constructed after the manner of my invention; Fig. 2 a detail perspective of the inside packing section; Fig. 3 a detail of the parts composing such section; Fig. 4 a similar view of the contiguous section; Fig. 5 a detail perspective of the small beveled ring for holding the soft packing ring.

The reference numeral 1 indicates the rod to be packed, and 2 the stuffing box in which the rod aforesaid is arranged. The packing consists of the ring 3, of soft packing material, having a single coil and arranged to embrace the rod at the outer end of the box 2. Located adjacent to this ring is the beveled metallic section 4, which is beveled inwardly so that it will partially embrace the ring 3, and operate to retain it in position.

The section 4 is shaped as a ring also, and is preferably of copper, though this may be varied at will; and the section is composed of two longitudinal parts having matching engaging surfaces. The inner side of the ring 4 is formed perpendicular and is adapted to lie flush with a similar face on the rubber packing section 5.

The section 5, is formed of a rubber ring, and is formed with a bevel 6 on its interior, which extends from its outer periphery to the inner periphery, making it substantially quadrangular in cross section so that only a small portion of its inner periphery, at the outer side, will engage the rod 1. Arranged

adjacent to the inner sides of the ring 5, and having the inwardly beveled face 7, projecting into the face 6, is the metallic section 8, which is formed of two longitudinal sections having matching engaging faces.

The section 8, has the face 7, extending outwardly toward the gland and inwardly from its periphery, and it is of such a pitch that it will fit snugly in place. The inner end of the section 8, has the beveled face 9 formed thereon, and this face is inclined inwardly from the inner end of the section and terminates a short distance from the outer end thereof. By this construction a short space is left on the inner periphery of the section 8, for engagement with the rod 1, as may be seen by reference to Fig. 1.

Fitting within the beveled face 9, of section 8, is the section 10, which is also formed of metal, preferably lead, and is of such a size and shape that it will fit almost entirely within the face 9, leaving but a small portion outside thereof. This small portion is provided to facilitate the closing up of the parts or sections of the packing. Formed in the outer periphery of the section 8, and extending around its entire periphery is the groove 11, in which the securing wire 12 is arranged. The purpose of this wire is to hold the parts of section 8 in place, and owing to the groove 11, the wire is placed below the surface of the section, so that it will not interfere with the box 2.

The section 10 is formed preferably of six sections, 13 and 14, though this may be varied at will. The sections 13 are the larger or main sections, and are three in number. Each of these sections curves in the arc of a circle, and is wedge-shaped in cross section so that it will fit within the face 9, aforesaid, while the sides *a* of these sections are formed slanting outwardly at a tangent from the rod 1.

Sections 14 are adapted to fit one between the contiguous ends of the sections 13, and are shaped in cross-section the same as the sections 13, while their sides *b*, are inclined outwardly so as to match with the ends of section 13. By this construction the packing section 10 will retreat into the section 8 with great ease, and owing to the peculiar shape of the sections 13 and 14, they may move in-

dependently and fill every space which may exist in the path of one section, and not in the remaining sections.

15 indicates the usual spiral spring which 5 embraces the rod 1, and which operates to hold all the sections in position and engagement. This spring bears against the inner end of the stuffing-box and against the inner 10 end of section 10. It is understood by all acquainted in the art, that as the piston rod reciprocates the sections are worn by the friction between them and the rod, and as 15 this takes place, the spring 15 will press them into close engagement and take up the wear. By the peculiar construction of my invention, this taking up of the wear is more complete, and all leaking of the steam is prevented.

Having described my invention, what I 20 claim is—

A piston rod packing consisting of a box, a rod passing through the box, a ring of soft packing material embracing the rod and arranged in one end of the box, a metallic ring

lying adjacent to the said packing ring and 25 having a beveled face adapted to partially embrace the ring, a rubber ring adjacent to the metallic ring and having its remaining end formed with a flaring inwardly inclined face, a metallic section adjacent to the rubber 30 section and fitting within the inclined face and having a similarly inclined face on its remaining end, a second metallic section arranged adjacent to the first metallic section and fitting within the inclined face thereof, 35 said second metallic section being formed of a series of independently movable longitudinal sections, and a spring bearing against the said section and operating to keep the several sections of the packing engaged, substantially as described. 40

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

EUGENE A. BRYANT.

Witnesses:

EDW. L. REESE,
FERN. T. BRYANT.