(No Model.)

R. WALSH.

STUFFING BOX PACKING.

No. 464,657. Patented Dec. 8, 1891.

Fig. 2.

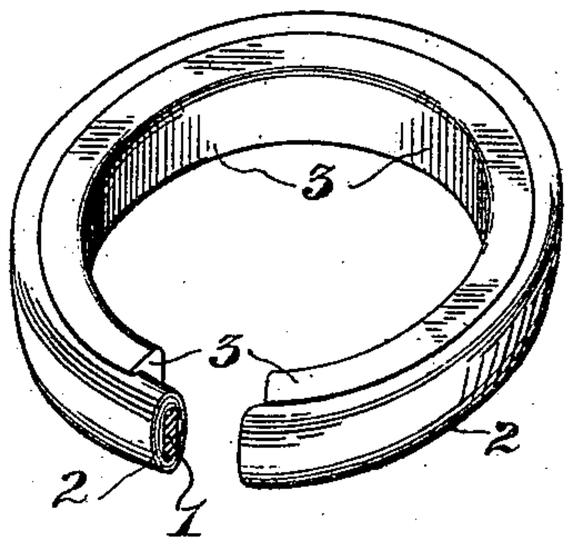


Fig. 1.

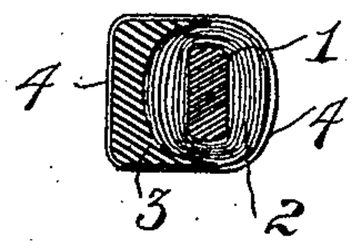


Fig. 1a.

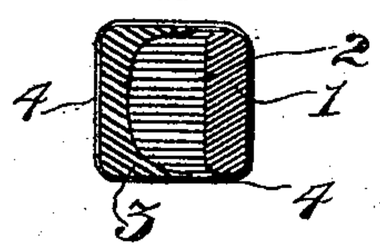


Fig. 3.

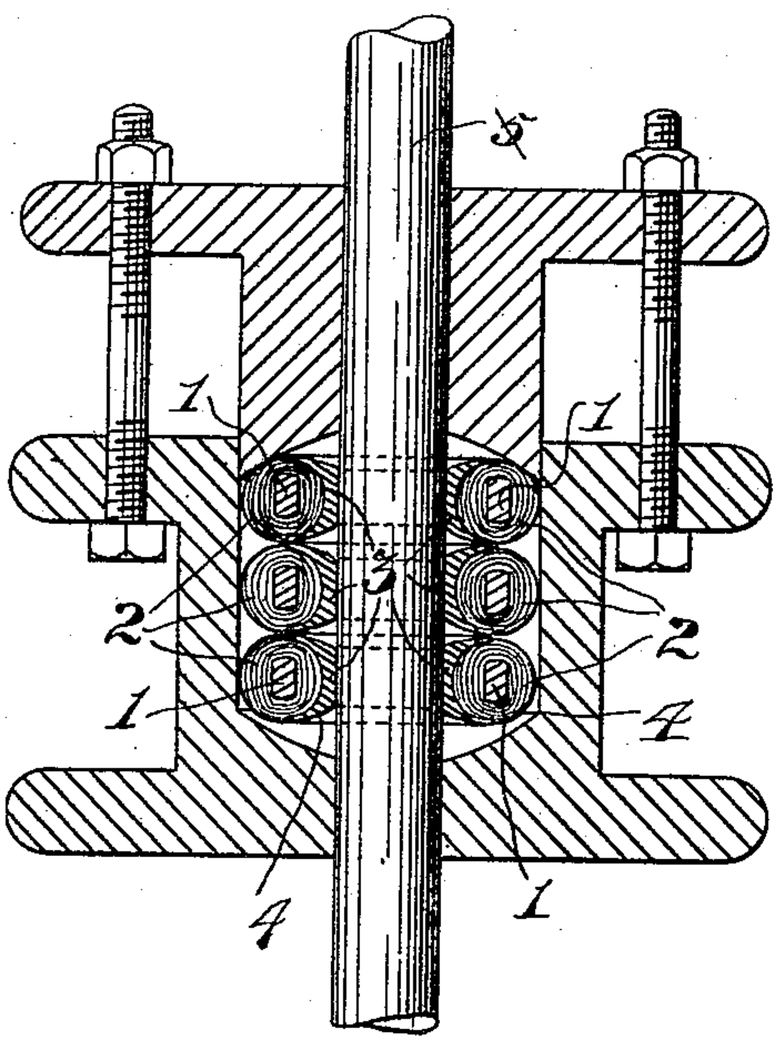
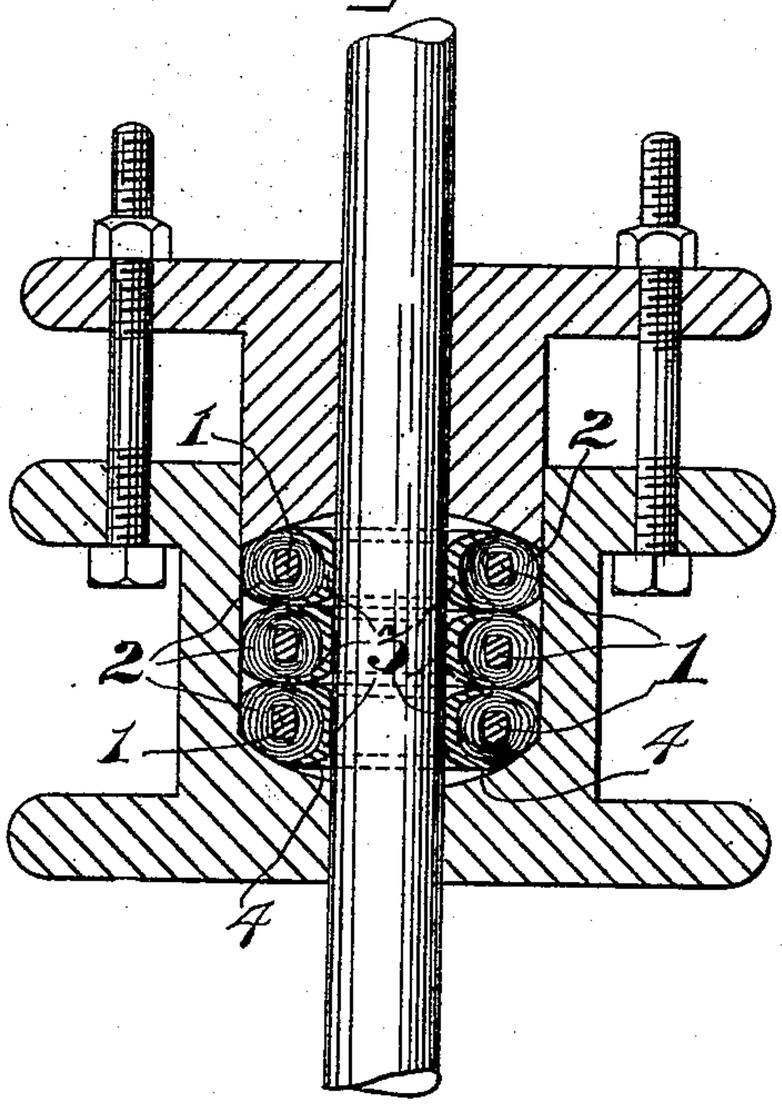


Fig. 4.



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STUFFING-BOX PACKING.

SPECIFICATION forming part of Letters Patent No. 464,657, dated December 8, 1891.

Application filed May 16, 1891. Serial No. 393,049. (No model.)

To all whom it may concern:

Be it known that I, RICHARD WALSH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Stuffing-Box Packings; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to packings for stuffing-boxes, and has for its objects the increased durability of such packings and greater convenience in their application to use; and it relates more especially to that class of packings in which a metallic facing-strip is pressed against the moving rod or plunger by an elastic cushioning.

This invention consists in a grooved strip of ductile metal, having outwardly-projecting flanges in the groove, in which the elastic cushioning is placed and is prevented from passing between the different layers of packing by the flanges or rims of the metallic strip.

The construction and application of this invention to use is hereinafter fully described and illustrated in the accompanying drawings, in which—

Figure 1 shows a transverse section of the improved packing; Fig. 1ª, a modification thereof; Fig. 2, the same as cut and bent in rings to apply to a stuffing-box; Fig. 3, a stuffing-box in section as fitted with it, and Fig. 4 a section of a stuffing-box filled with and compressed into position for use.

Referring to the drawings, 1 represents a strip of elastic material—such as caoutchouc—enveloped in a wrapper 2, of textile material, cut bias or diagonally to the warp and woof threads. 3 is a strip of ductile metal, lead, or alloys of lead and tin answering the purpose. The strip of metal 3 is grooved on the side toward the textile part of the packing and is flat on the opposite and upper and lower surfaces. The whole is enveloped in a wrapper of textile fabric and preferably saturated with a lubricant fusible at low temperatures.

As shown in Fig. 1, the textile and elastic parts of the packing are made like the well-known Tuck packing, and, as shown in Fig. 1ª, these parts are made like the McBurney or Gately packings. It will be seen that the upper and lower edges of the metallic strip 3 partially cover the soft part of the packing.

In bending the packing into rings the upper and lower edges of the metallic strip incline upwardly and downwardly, so that they come into contact and protect the softer part of the packing from contact with the rod, the enveloping layer of canvas being merely an expedient for holding the parts together in cutting and applying the packing.

To apply the packing, it is cut in lengths to form rings, as shown in Fig. 2, and bent of a size to fit the rod around which it is to work. After the stuffing-box is filled with rings of packing the gland is applied and pressed down upon the packing. The flanges or edges of the rings of the metallic strips meet and prevent the soft packing from making contact with the rod, and compression applied to the soft part causes it to press inwardly against the rings and compels intimate contact of the inner metallic surface of the packing with the rod. At the same time the elastic or soft part of the packing is free to act elastically and permit slight vibrations of the metallic ring or lining conforming to any deviation of the rod from exact central position in the stuffing-box without straining and without leaking.

I am aware that packing of textile and other fibrous fabrics combined with an elastic cushioning-strip have been protected with metal facings partially enveloping them to relieve them of wear from the friction of the rods working through them; also, that such protecting metallic strips have been made which rested upon their outer edges against the interior of the stuffing-box and others with grooves and ridges opposed to the rods. The first of these is objectionable because the softer part of the packing is not sealed against the fluids and lubricants used against the rod and the second because the packing when applied is rigidly held in the stuffing-box, and these forms of packing are disclaimed as forming no part of this invention; but,

Having described this invention and the operation thereof, what I claim is—

A stuffing-box packing consisting of a strip

of elastic material and an envelope of woven fabric, in combination with a ductile metallic strip having one grooved and one flat side and having the concave side applied to the elastic strip, and the edges, covering only the inner portion of the elastic strip, adapted to meet when applied in a stuffing-box without contact with the side of the box and seal said elastic strip from the lubricants and fluids in contact with the flat surface of the strip and rod, substantially as set forth.

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