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E. E. SWITZER

1,574,412

METALLIC PACKING

Filed Sept. 3, 1925

Fig. 1.

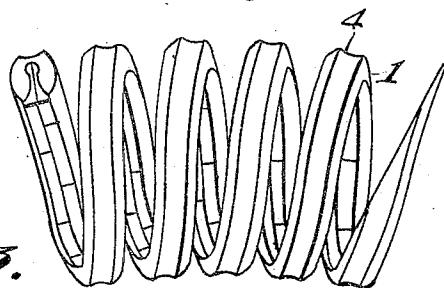


Fig. 3.

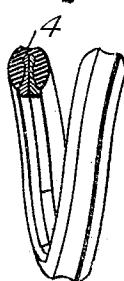


Fig. 4.

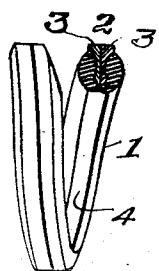
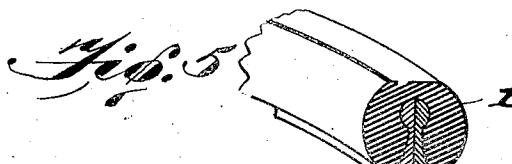
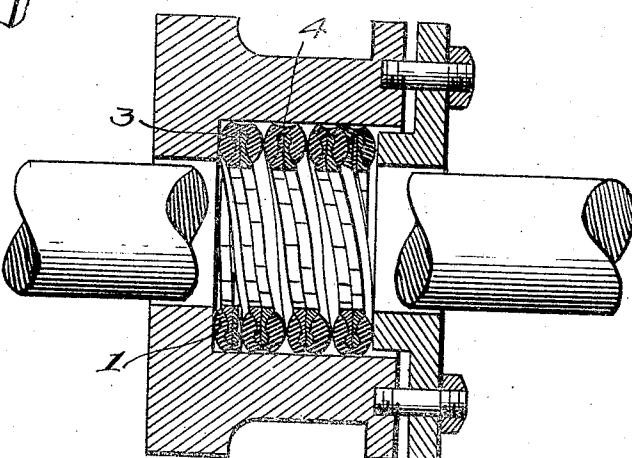


Fig. 2.



INVENTOR.

E. E. Switzer.

BY

E. C. Groonan & Co.,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ELMER E. SWITZER, OF BEAUMONT, TEXAS, ASSIGNOR TO GEORGE D. SWITZER,
RICHARD E. SWITZER, AND THOMAS T. SWITZER, ALL OF BEAUMONT, TEXAS.

METALLIC PACKING.

Application filed September 3, 1925. Serial No. 54,243.

To all whom it may concern:

Be it known that I, ELMER E. SWITZER, a citizen of the United States, residing at Beaumont, in the county of Jefferson and State of Texas, have invented certain new and useful Improvements in Metallic Packings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a metallic spiral packing, and the object of the invention is the construction of a simple and efficient packing which is adapted chiefly for use on centrifugal pumps or plunger pumps, inside pump packing, rods of all kinds, including steam, air, or any piston rods.

With this and other objects in view, my invention comprises certain novel combinations, constructions and arrangements of parts as will be hereinafter described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a perspective view of a metallic spiral packing to be used on the shaft of a centrifugal pump, steam turbine or anything that rotates.

Figure 2 is a longitudinal, sectional view of a centrifugal pump with my metallic spiral packing in position.

Figure 3 is a view partly in perspective and partly in section of my rubber crown metallic packing, to be used on a piston rod or an outside packed pump plunger.

Figure 4 is a view partly in perspective and partly in section of one of the rings reversed to adapt the same to be applied for an inside packing for an inside packed pump.

Figure 5 is an enlarged, fragmentary view, partly in perspective and partly in section of my packing.

Referring to the drawings by numerals, 1 designates the rubber crown or casing which partly surrounds the two rings 2. Each of the rings 2 comprises a body having a flat, inner face. These inner faces of the ring 2 fit snugly together as shown in the drawings, and their outer faces are angular, as shown, with their outer edges 3 projecting slightly beyond one face of the casing 1, so that the sharp, square edges of the metallic rings, when engaging a rod, forms

a perfect joint with a very light friction; 55 with a little tension on the rubber "crown" or casing it will automatically take care of the slightest wear on the metallic rings.

It is to be noted, upon referring to Figs. 1 to 3, that these rings are made up of sections all going to produce a continuous spiral ring within the rubber "crown" or casing 1.

Referring to Fig. 4: In this modification the metallic rings project beyond the outer face of the casing 1, instead of inwardly, as in Figs. 1 to 3. This ring is particularly adapted for an inside packing for an inside packed pump.

It is to be noted that the casing 1 is grooved, 70 at 4; this groove of the outer edge of the "crown" or casing produces a better fit in the gland or stuffing box.

I have found from practical use that my packing is especially designed for ammonia 75 pumps, since the packing takes care of the expansion that often suddenly occurs; further, it also takes care of the sudden drop in temperature as the rubber "crown" or casing automatically contracts when the temperature is lower. It is to be understood that my packing may be readily installed without dismantling the rod. When the gland is taken up enough to admit another ring the mere installing of the extra ring is 80 almost similar to an entire new set of packing.

It is also to be understood that with my packing, if for any cause it becomes necessary to take the rod out it will only be necessary to loosen the gland nuts and pull the rod out of the packing; when the work is finished, replace the rod, tighten the gland nuts and this reassembling is complete.

While I have described the preferred embodiments of my invention, and have illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates, during the 100 extensive manufacture of the same and I, therefore, reserve the right to make such alterations or changes as shall fairly fall within the scope of the appended claims.

What I claim is:

1. As a new article of manufacture a packing comprising a spiral rubber casing having an outer grooved continuous edge and

an inner open edge, a pair of sectional metallic inserts extending into said open edge, said inserts being provided with inner flat engaging faces and with outer angular 5 faces, the sections of one insert being arranged in staggered relation to the sections in the other insert, and having the outer faces of said inserts projecting beyond one face of the rubber casing and provided 10 with flat outer faces and with side flanges producing exposed sharp square edges to

bear on a rod to form a perfect joint, substantially as shown and described.

2. A packing comprising a rubber casing having an outer grooved face, and sectional 15 metallic inserts in said casing and projecting beyond the inner face of the casing for producing a metallic bearing surface for engaging a rod or piston.

In testimony whereof I hereunto affix 20 my signature.

ELMER E. SWITZER.