No. 741,056. PATENTED OCT. 13, 1903.

M. MONTGOMERY.

PISTON PACKING.

APPLICATION FILED APR. 18, 1903.

NO MODEL.

FIG. 1

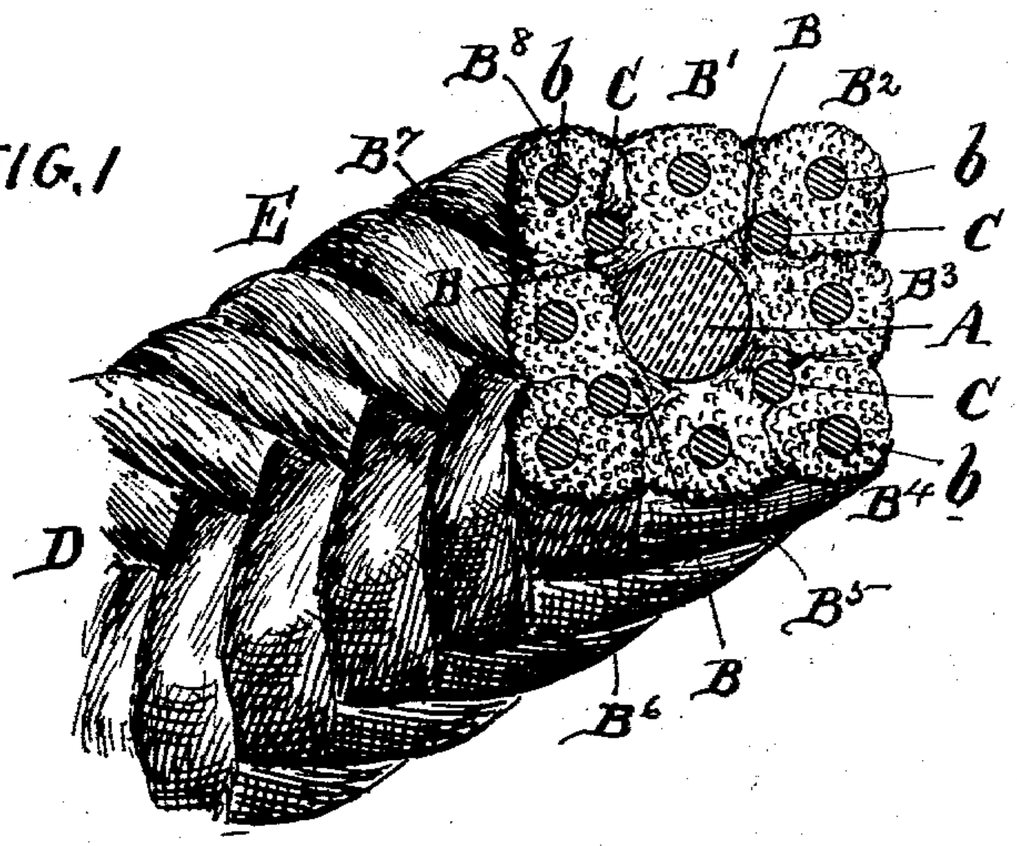


FIG. 2.

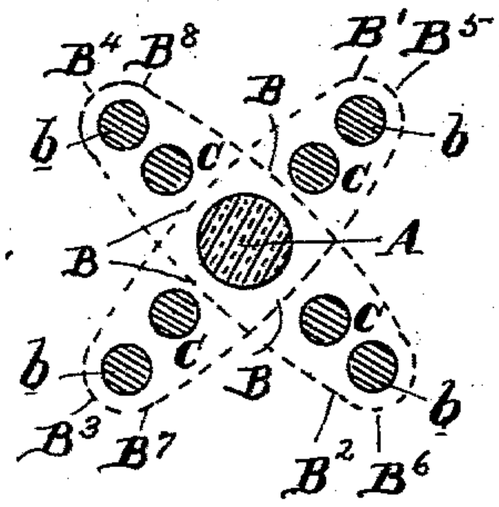
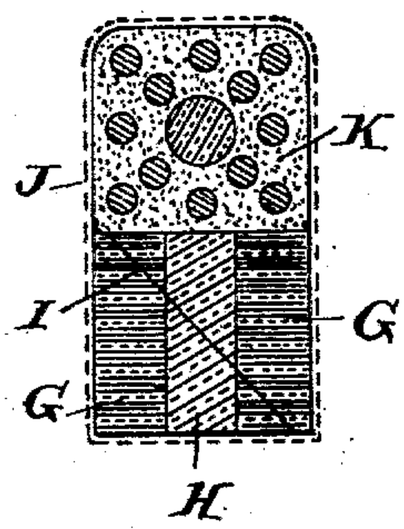


FIG. 3.



Attest

R. M. Tilly
M. J. Cafre

Inventor

Marshall Montgomery

By his atty

No. 741,056. Patented October 13, 1903.

UNITED STATES PATENT OFFICE.

MARSHALL MONTGOMERY, OF PHILADELPHIA, PENNSYLVANIA.

PISTON-PACKING.

SPECIFICATION forming part of Letters Patent No. 741,056, dated October 13, 1903.

Application filed April 18, 1903. Serial No. 153,150. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL MONTGOMERY, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Piston-Packing, of which the following is a specification.

My invention has reference to packing for piston-rods and other purposes; and it consists of certain improvements which are fully set forth in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a construction of packing which shall have in its construction great elasticity and combined soft ductile metal and textile, the former to give it body and capacity for holding its shape and the latter for holding the lubricant and insuring the packing qualities.

In carrying out my invention I provide a central core of rubber about which are plaited a series of strands, each consisting of a central core of ductile metal, such as lead, and a covering of textile material, such as cotton, flax, or jute. This plaiting is so formed that it makes the outer shape of the packing-strip rectangular. In addition to the above construction I introduce four longitudinal metal strands intermediate of the crossing flax or jute strands at the corners, whereby it is protected from the outside and acts as an adjustable means for insuring the packing remaining in the coiled position which may be given to it.

My invention further comprehends the above construction combined with a second body bound to it within a textile sheath, the said second body being formed of three upright bars, the outer ones being of rubber and fabric layers and the middle one being of soft rubber, and the said three bars being further cut diagonally in the direction of their length to give lateral adjustability.

My invention also comprehends details of construction which, together with the above-mentioned features, will be better understood by reference to the drawings, in which—

Figure 1 is a perspective view of a packing-strip embodying my invention. Fig. 2 is a diagram indicating an end view of same, showing the arrangement of the strands; and Fig. 3 is a perspective view of the packing with the second strand incased together.

A is a central strand of rubber about which is plaited eight strands B′ to B⁸. Each of these eight strands is formed of a core *b* of ductile metal, such as lead, covered by flax, jute, or other textile fiber. The diagram Fig. 2 shows how the several strands arrange themselves about the rubber core A. Interposed between the loops of one-half of the strands and the inner side portions of the other half of the strands B′ to B⁸ I arrange longitudinal lead or other metal wires C, which are preferably larger in cross-section than the wires *b*. These wires C, assisted by the wires *b*, cause the packing-strip to retain its shape when bent. Furthermore, the wires C being arranged adjacent to the four corners of the packing cause it to assume a rectangular or square form in cross-section, as clearly indicated in the drawings. This form of packing is self-supporting and requires no additional outer casing or sheath. It may be saturated with any of the well-known lubricants in use for packing separately or in combination with plumbago.

The elastic core A gives the necessary lateral elasticity to insure the packing adapting itself to the stuffing-box and compensating for wear.

In those cases where greater adjustability is necessary I provide the strip K (shown in Fig. 1) with a second parallel strip F and combine the two within a common sheath or casing J, as shown in Fig. 3. In this case the strip F is formed of two side bars G G, of alternate layers of rubber and canvas, and a middle strip H, of soft rubber. These three strips are united together and then split diagonally throughout their entire length, the diagonal cutting being as shown in Fig. 3 at I. In this construction the diagonal cutting enables the two parts to slide over each other to widen the packing under adjustment of the gland of the stuffing-box, and the soft rubber by expanding causes the packing to spread to compensate for wear in the outer faces of the parts G G. This latter construction F may be employed alone, if so desired.

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

1. In a packing-strip, the combination of a central core of soft rubber, a series of strands

of textile material having ductile-metal cores plaited about the soft-rubber central core.

2. In a packing-strip, the combination of a central core of soft rubber, a series of strands of textile material having ductile-metal cores plaited about the soft-rubber central core, and longitudinal ductile-metal strands interposed between the crossing strands of textile material to insure the cross-section of the packing being rectangular and whereby said metal strands are wholly shielded.

3. In a packing-strip, the combination of a central core of soft rubber, a series of strands of textile material having ductile-metal cores plaited about the soft-rubber central core, a second strip arranged parallel to the above strip and composed of two outer bars of rubber and canvas and a middle bar of soft rubber the said bars being cut diagonally as at I, and an inclosing sheath for both strips.

4. In a packing-strip, the combination of a central core of soft rubber, a series of strands of textile material having ductile-metal cores plaited about the soft-rubber central core, longitudinal ductile-metal strands interposed between the crossing strands of textile material to insure the cross-section of the packing being rectangular and whereby said metal strands are wholly shielded, a second strip arranged parallel to the above strip and composed of two outer bars of rubber and canvas and a middle bar of soft rubber the said bars being cut diagonally as at I, and an inclosing sheath for both strips.

5. In a packing, a strip of textile material inclosing metal strands combined with a second strip arranged parallel to the above strip and composed of two outer bars of rubber and canvas and a middle bar of soft rubber the said bars being cut diagonally as at I, and an inclosing sheath for both strips.

6. A packing-strip consisting of two outer bars of rubber and canvas and a middle bar of soft rubber the said bars being cut diagonally as at I.

In testimony of which invention I hereunto set my hand.

MARSHALL MONTGOMERY.

Witnesses:
R. M. KELLY,
R. M. HUNTER.