

No. 647,194.

Patented Apr. 10, 1900.

M. MASON.

COMPOUND PACKING FOR ENGINES OR PUMPS.

(Application filed Dec. 17, 1896. Renewed Feb. 16, 1900.)

(No Model.)

Fig. 1.

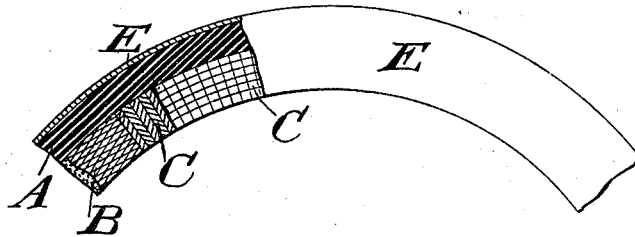
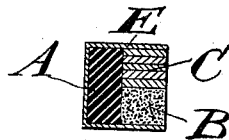


Fig. 2.



Witnesses:-

Edward Cieser.

George Barry Jr.

Inventor:-

Matthew Mason

by attorneys

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UNITED STATES PATENT OFFICE.

MATTHEW MASON, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE MARINE RUBBER COMPANY, OF SAME PLACE.

COMPOUND PACKING FOR ENGINES OR PUMPS.

SPECIFICATION forming part of Letters Patent No. 647,194, dated April 10, 1900.

Application filed December 17, 1896. Renewed February 16, 1900. Serial No. 5,542. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW MASON, of the city of New York, (Brooklyn,) in the county of Kings and State of New York, have invented a new and useful Improvement in Compound Packings for Engines or Pumps, of which the following is a specification.

The compound packing which is the subject of this invention is applicable to the various parts of engines and pumps in which packing is necessary, but especially to the stuffing-boxes of piston and valve rods, and it has special advantages for the piston-rods and valve-rods of steam-engines, the packing for which is necessarily exposed to high temperatures. The said packing is composed of asbestos, cotton-duck, or other woven vegetable fiber and india-rubber so arranged together and combined in a strip, as hereinafter described, as to utilize most advantageously for the constitution of an effective and durable packing the peculiar properties of each of said substances or fabrics, all of which have been used in various other ways in packing.

Figure 1 represents a longitudinal view, partly in section, of a piece of compound packing-strip embodying my invention; Fig. 2, a transverse section of the same.

A designates a strip of india-rubber, preferably vulcanized; B, a strip of asbestos fabric, preferably braided; C, a strip composed of several thicknesses of cotton-duck united by the interposition between them of india-rubber. The india-rubber A is of a depth equal to the whole depth and of a width equal to half (more or less) of the width of the compound strip. The strips of asbestos B and cotton-duck C are each of a width about equal to half that of the compound strip and are each of a depth about equal to half the depth of the rubber strip A, so that the said strip A laps both of the strips B C. The three

strips A B C thus arranged are united by any suitable cement, as india-rubber, and are further secured together by a strip E, of cloth or wire-gauze, which envelops them on three sides, leaving exposed the fourth side or face, which is partly composed of the asbestos strip B and the strip C of cotton-duck. A lubricant consisting of graphite or other suitable substance may be applied to the strip in any suitable manner.

The compound packing-strip thus composed is placed in a stuffing-box in several layers, with the exposed portions of the asbestos and cotton-duck next the piston-rod, so that the asbestos and the cotton-duck constitute the face or wearing-surfaces, while the rubber forms the back. When the packing is thus placed, the compression to which it is subject by the gland or follower comes directly upon the rubber, the asbestos, and the cotton-duck. The rubber, owing to its superior elasticity, forms a cushion-back and obviates the need of such excessive compression as to injuriously indurate the asbestos. The asbestos serves as the principal agent for holding the lubricant, while the cotton-duck and the rubber serve to retain the asbestos in place, the cotton-duck also serving to protect the asbestos against the disintegration to which it is subject in steam-packing by water of condensation.

What I claim as my invention is—

A compound packing-strip the face of which is composed in part of a strip of asbestos fabric and in part of a strip consisting of several layers of woven vegetable fibrous fabric, and the back of which is composed of a strip of india-rubber lapping both said strips of the face, substantially as herein described.

MATTHEW MASON.

Witnesses:

FREDK. HAYNES,
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