No. 718,607. PATENTED JAN. 20, 1903.

G. M. COSTELLO.

PACKING.

APPLICATION FILED AUG. 13, 1902.

NO MODEL.

Fig. 1.

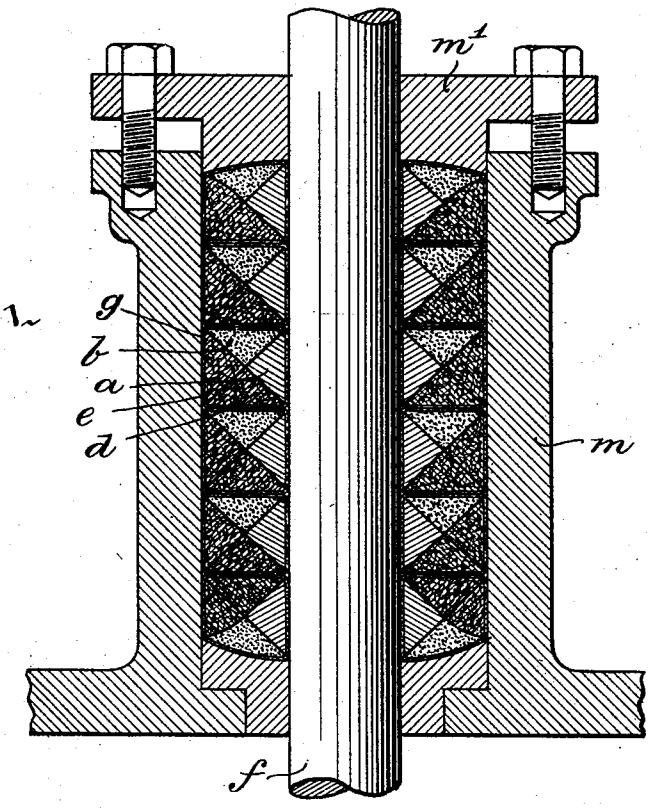


Fig. 2.

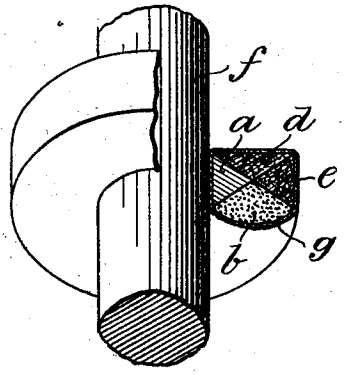
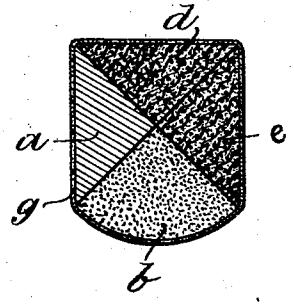


Fig. 3.



Witnesses:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE M. COSTELLO, OF PHILADELPHIA, PENNSYLVANIA.

PACKING.

SPECIFICATION forming part of Letters Patent No. 718,607, dated January 20, 1903.

Application filed August 13, 1902. Serial No. 119,484. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. COSTELLO, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Packing, of which the following is a specification.

My invention has relation to a composite packing for stuffing-boxes, glands, or the like, and in such connection it relates to the construction and arrangement of such a packing.

The principal object of my invention is to provide a packing consisting of a series of sections, one of said sections being arranged adjacent to the part to be packed and constituting the bearing-section, another of the sections being the composite section, composed of a glutinous or yielding material containing a lubricating or cylinder oil and a covering of fibrous material coated with plumbago or the like, and the said section arranged at right angles to the axis of the part to be packed and constituting the lubricating or cushioning section, and the other sections being composed of elastic or yielding material and forming the support for the bearing and lubricating or cushioning section.

My invention consists of a packing for stuffing-boxes, glands, or the like constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a vertical sectional view of a stuffing-box for a piston-rod with packing embodying characteristic features of my invention operatively arranged therein. Fig. 2 is a perspective view of a rod or shaft and of a packing-ring encircling the same, the packing being broken away or sectioned; and Fig. 3 is an enlarged cross-sectional view of the packing.

Referring to the drawings, the compound packing-strip is substantially quadrilateral in cross-section and divided by crossing diagonal lines into four triangular sections *a*, *b*, *d*, and *e*. Of these triangular sections the section *a* is the bearing-section and is arranged adjacent to the rod or stem *f* to be packed. The section *b* is arranged in a plane at right angles to the section *a* and is the lubricating and cushioning section. The sections *d* and *e* are elastic or yielding and are the supporting-sections and occupy the outer half of the packing. The bearing-section *a* by preference is a triangular strip of soft metal, such as phosphor-bronze, lead, or other preferred material. The lubricating and cushioning section *b* is of a composite nature, consisting, preferably, of a body composed of fibrous material—such as hemp, asbestos, or jute and wax or other glutinous or yielding material—saturated with cylinder or lubricating oil and also containing plumbago and lead in fine particles or other form blown into and through the mass. The supporting-sections *d* and *e* are each built up of alternate diagonal layers of rubber or cauotchouc and fibrous textile or pilous material, such as flax, asbestos, and plumbago, rawhide, or other materials. The triangular sections have their apices meeting at the center of the packing and are bound together by an inclosing or incasing envelop *g*, of fibrous material, preferably flax or hemp, or a thin phosphor-bronze wire-gauze, into the fibers of which covering, in either form, blown lead is worked, as well as a coating or covering of lead or plumbago in powdered form or the like. The compound packing thus constructed is arranged in the stuffing-box or gland *m*, so that the bearing-section *a* rests against the rod *f* to be packed and lubricated, and the lubricating and cushioning section *b* projects at right angles to the axis of the rod *f*. The two remaining sections *d* and *e* are interposed between the wall of the gland and the two sections *a* and *b* to properly support said sections. When the cap *m'* of the stuffing-box *m* is screwed or clamped down, the cushioning and lubricating section *b* will be more or less compressed and move inward along the inclined surface of the adjacent supporting-section *d*, forcing the bearing-section *a* toward the rod or stem *f*. The lubricating and cushioning section *b* has its inner angle also forced toward the shaft *f*, and thus either gives to the shaft the proper lubricant or absorbs any excess of the lubricant on the rod or shaft, whereby is in-

sured always under due regulation the proper packing and lubrication of the rod or shaft without wasteful expenditure of the oil caused by the oil vehicle or section *b*.

Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A compound packing, consisting of a series of sections, one of said sections being arranged adjacent to the part to be packed and constituting the bearing-section, another of the sections, being the composite section, composed of a glutinous or yielding material containing a lubricating or cylinder oil, and a covering of fibrous material coated with plumbago or the like, the said section arranged at right angles to the part to be packed and constituting the lubricating or cushioning section, and the other sections being composed of elastic or yielding material and forming the support for the bearing and lubricating or cushioning section, substantially as and for the purposes described.

2. A sectional packing provided with a composite section composed of a glutinous or yielding material, such as wax or the like, containing a lubricating or cylinder oil, and a covering of fibrous material, such as asbestos, hemp or flax coated with plumbago or the like, and means for holding said composite section in operative position in the packing, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

GEO. M. COSTELLO.

Witnesses:

J. WALTER DOUGLASS,

THOMAS M. SMITH.