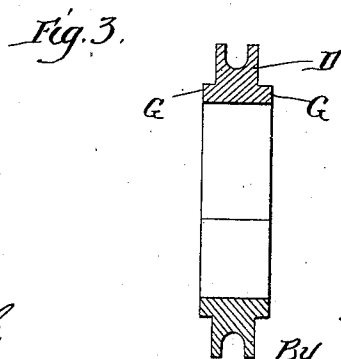
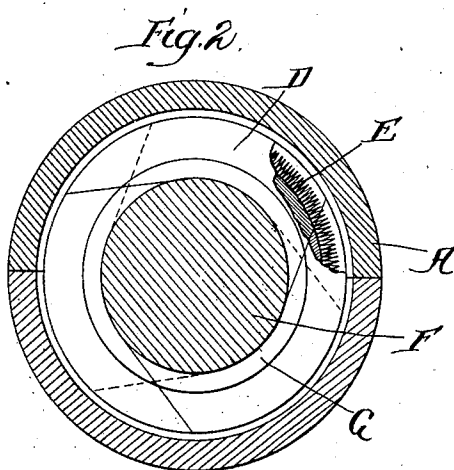
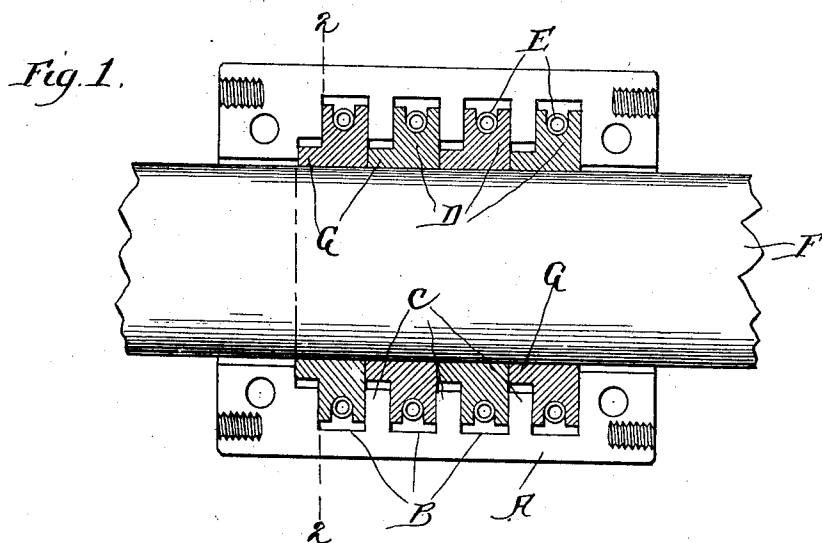


No. 830,530.

PATENTED SEPT. 11, 1906.

G. D. ROLLINS.
METALLIC PACKING.
APPLICATION FILED MAY 11, 1905.



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UNITED STATES PATENT OFFICE.

GEORGE D. ROLLINS, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC PACKING.

No. 830,530.

Specification of Letters Patent.

Patented Sept. 11, 1906.

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To all whom it may concern:

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

My invention relates to a new and useful improvement in metallic packing, and relates to that class of packing in which sectional rings surround the rod, each ring being held in contact with the rod by a spring or other elastic means surrounding the ring and said rings being held within a longitudinally-divided casing, annular cavities being provided in the casing for the reception of the rings. As ordinarily made each cavity is provided with two rings, and each set of rings is divided from the next set a distance equal to the width of the partitions between the cavities. Thus each ring has a very narrow bearing-surface upon the rod, and when the packing is used to pack rods which rock instead of reciprocate, such as valve-rods for Corliss engines, these narrow rings are apt to cut into the rod; and the object of my present invention is to obviate this disadvantage and still provide an effective, if not more effective, packing than heretofore.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal section through my improved packing; Fig. 2, a cross-section taken on the line 2 2 of Fig. 1; Fig. 3, a cross-section through a modified form of ring.

A represents the usual longitudinally-divided casing, which is provided with the usual cavities B, separated by the partitions C.

D represents the rings, which are made in sections, preferably three in number, they being divided tangentially or angular—that is, being cut upon any line other than radial. In this construction only one ring lies in each cavity, and each ring is provided with a larger angular groove formed in its periphery, in which lies a spring E for holding the sections

of each ring tight against the rod F. Each of the rings D is provided upon one side with the projecting flange G, which surrounds the rod F. This flange G projects from the side of the ring D a distance equal to the width of the partitions C, so as to abut against the next succeeding ring, the partition C being cut away or shortened sufficiently to allow the flange to come against the next ring. In this way a continuous bearing of the rings upon the rod is formed from one end of the rings to the other with no space in between, and therefore by the increase of the bearing-surface the rod F will not be cut into by the rings and a more effective packing is also obtained. Each alternate ring is divided into sections upon the same angle; but the other rings are divided upon the opposite angle, as shown in full and dotted lines in Fig. 2, so that the division between the two sections of two succeeding rings can never come in alignment with one another. In this manner the joints are broken and a steam-tight connection is made. Another important advantage of this construction is that it reduces the cost of manufacture, and as there is only one ring in each cavity the springs surrounding the rings can be made stronger, and therefore will be more positive in holding the sections of the ring against the rod. When this form of packing is used in connection with the reciprocating rod, it is also of advantage, as the number of rings being reduced and the spaces between the rings being done away with reduces the number of cutting edges which might be formed tending to reduce the diameter of the rod.

In Fig. 3 I have shown a modified form of ring in which the annular flange projects from each side of the ring, and these flanges would come in contact with one another instead of the flange upon one ring coming in contact with the body of the other ring.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of the invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a metallic packing, the combination of the rod to be packed with a casing surrounding the rod, said casing being provided with a number of internal annular cavities, a sectional ring located in each cavity, each ring being in sections upon an angular line, elastic means surrounding each ring to hold

the sections against the rod, an annular flange immediately surrounding the rod extending outward from one side of each ring and abutting against the next succeeding ring.

5 2. In a metallic packing, the combination of the rod to be packed with a longitudinally-divided casing provided with a plurality of internal annular cavities, a sectional ring located in each cavity, each ring being divided
10 into two or more sections upon an angular line—that is, any line other than radial, each alternate ring being divided upon the same angle, the other rings being divided upon an opposite angle, elastic means surrounding
15 the rings tending to force the sections of the rings against the rod, an annular flange immediately surrounding the rod formed with and projecting from one side of each ring and abutting against the next succeeding ring, as
20 specified.

3. In a metallic packing, the combination with a rod to be packed with a longitudinally-divided casing surrounding the rod, the parts of which are adapted to be secured together,
25 said casing provided with a plurality of internal annular cavities, a sectional ring located in each cavity and surrounding the rod, these rings being divided tangentially, each alternate ring being divided upon the same
30 angle, the other rings being divided upon an opposite angle, annular grooves formed in the periphery of each ring, an annular helical spring lying within the groove tending to force the sections of the rings against the rod,
35 an annular flange immediately surrounding the rod formed with and extending outward from one side of each ring and abutting against the next succeeding ring, as and for the purpose specified.

40 4. In a metallic packing, the combination of the rod to be packed with a longitudinally-divided casing provided with a plurality of internal annular cavities, sectional rings located in said cavities, elastic means sur-

rounding the rings tending to force the sections against the rod, annular flanges formed on the rings to bridge across the space between the rings occupied by the partitions between the cavities so that a continuous bearing-surface upon the rod is formed from one end of the rings to the other.

5. In a metallic packing, the combination of a rod to be packed with a longitudinally-divided casing surrounding the rod provided with a plurality of internal annular cavities,
55 a sectional ring located in each cavity, each ring being divided into two or more sections upon an angular line—that is, any line other than radial, elastic means surrounding the rings tending to force the sections of the
60 rings against the rod, an annular flange immediately surrounding the rod and formed with and projecting from each side of each ring, said annular flanges abutting against each other to form one continuous bearing
65 upon the rod, as specified.

6. In a metallic packing, the combination of the rod to be packed with a longitudinally-divided casing provided with a plurality of internal annular cavities, sectional rings located in said cavity, elastic means surrounding
70 the rings tending to force the sections against the rod, annular flanges immediately surrounding the rod formed upon each side of each alternate ring and adapted to bridge
75 across the space between the rings occupied by the partitions between the cavities, the annular flanges abutting against the rings without flanges, so that a continuous bearing-surface upon the rod is formed from one end
80 of the rings to the other.

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

GEORGE D. ROLLINS.

Witnesses:

M. E. HAMER,
L. W. MORRISON.