

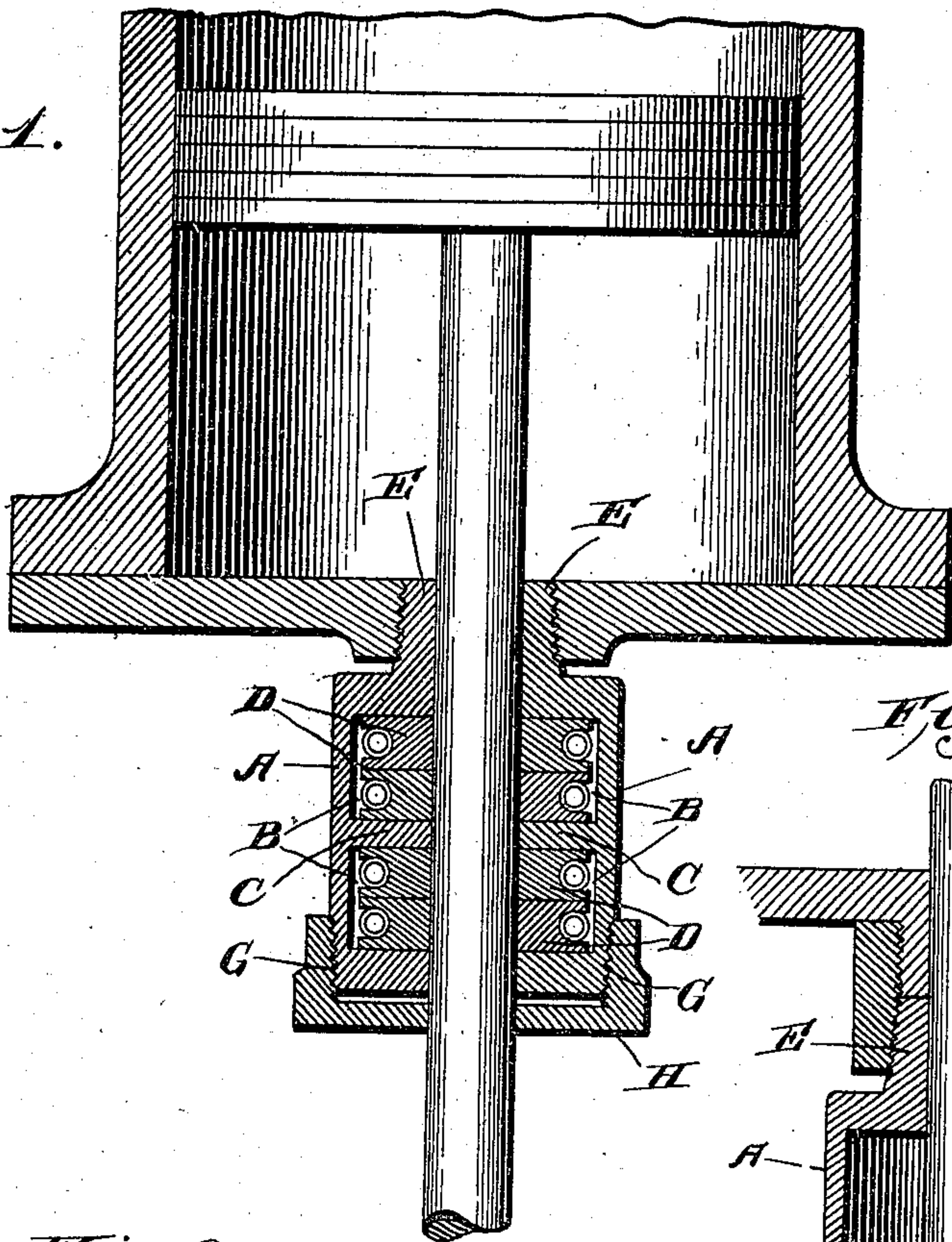
No. 725,368.

PATENTED APR. 14, 1903.

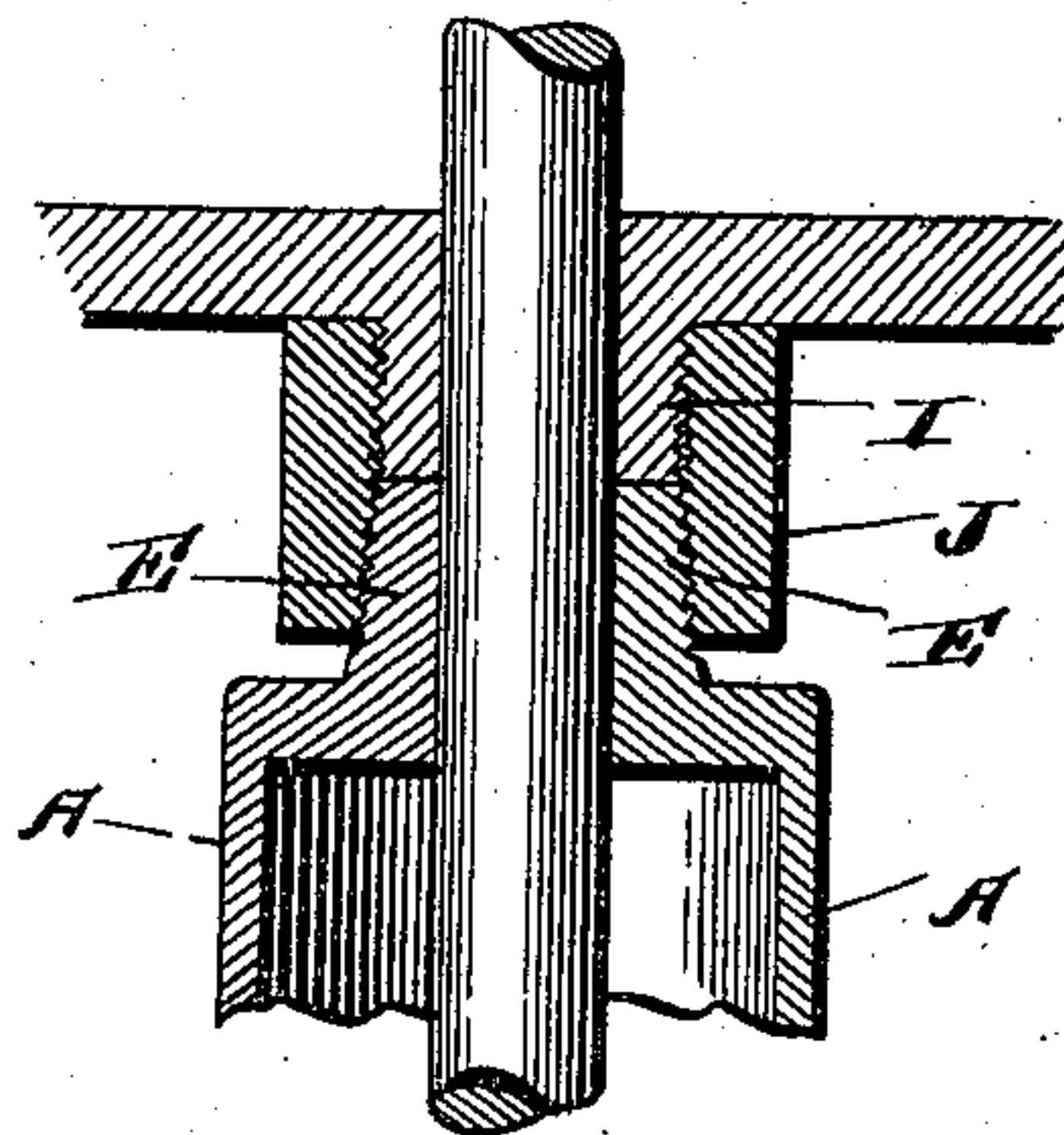
G. D. ROLLINS.  
METALLIC PACKING.  
APPLICATION FILED MAR. 7, 1902.

NO MODEL.

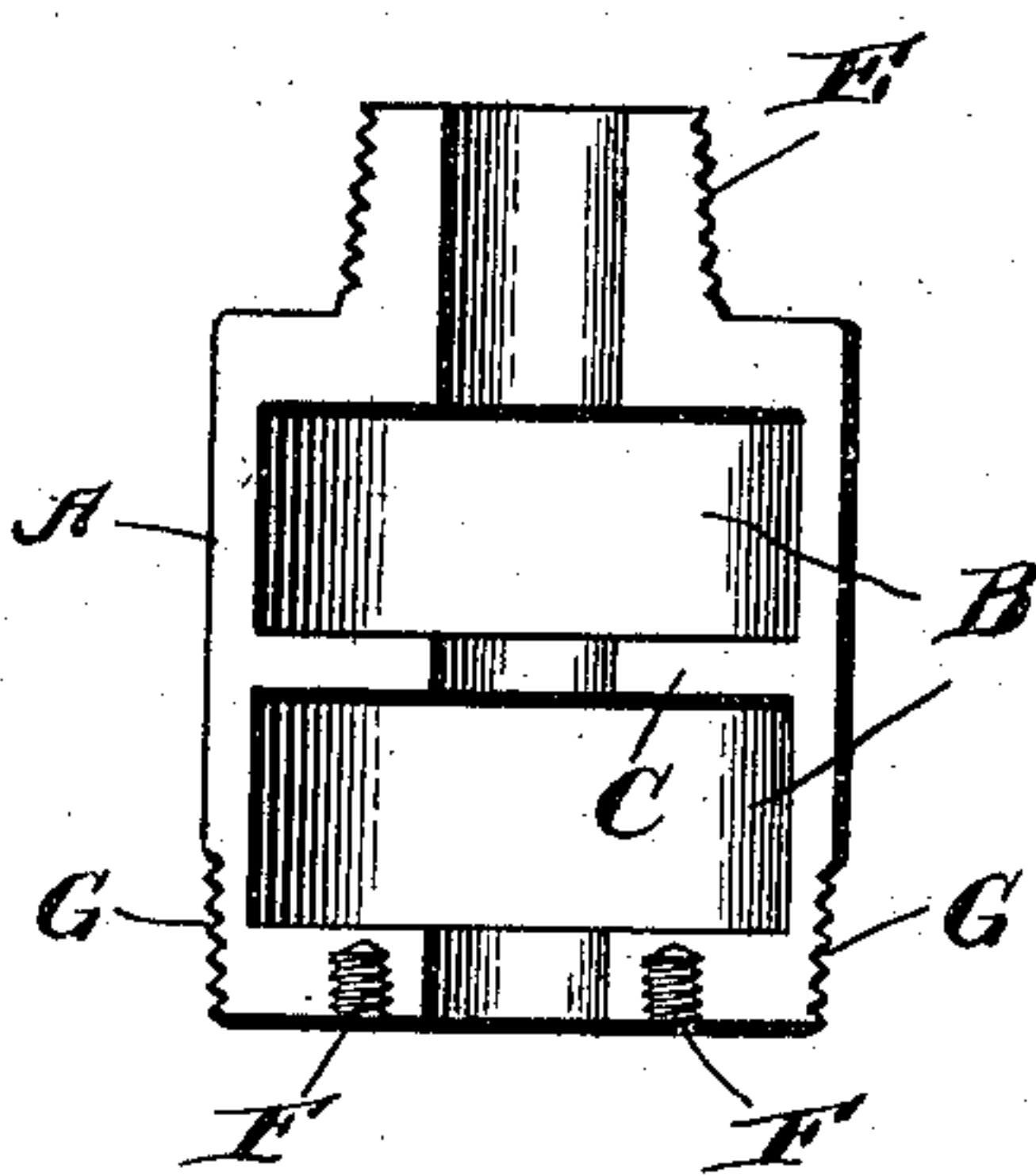
*Fig. 1.*



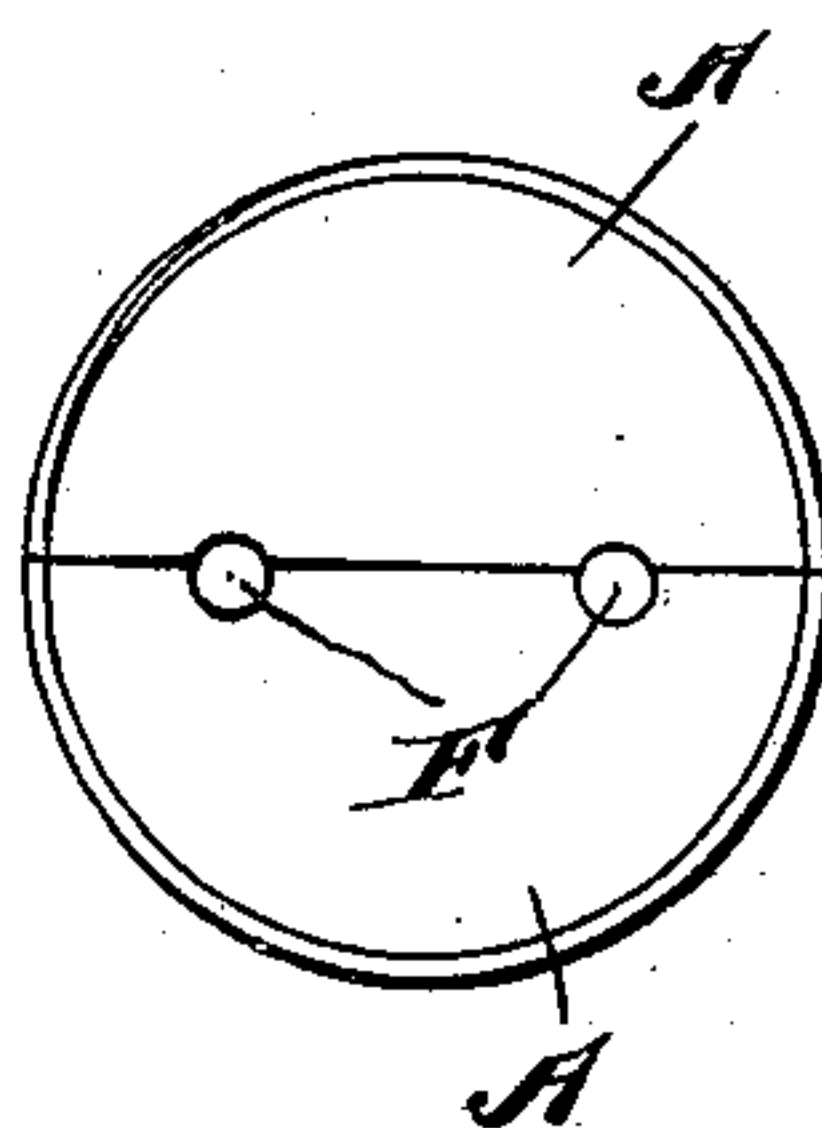
*Fig. 4.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
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By his Attorney  
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# UNITED STATES PATENT OFFICE.

GEORGE D. ROLLINS, OF PHILADELPHIA, PENNSYLVANIA.

## METALLIC PACKING.

SPECIFICATION forming part of Letters Patent No. 725,368, dated April 14, 1903.

Application filed March 7, 1902. Serial No. 97,124. (No model.)

*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 has for its object to provide a metallic packing with a divided casing which may be attached to the cylinder of the engine directly and do away with the ordinary stuffing-box which is usually used for holding the packing; and a further object of my invention is to so construct the casing of the packing that the same may be easily and quickly removed, so as to insert new packing-rings when required.

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 is a longitudinal section of the lower portion of the cylinder, showing my invention applied thereto; Fig. 2, a face view of one half of the casing; Fig. 3, a plan view of the outer end of the two halves of the casing with the outer cap removed; Fig. 4, a sectional view of a portion of the cylinder-head and metallic packing, showing how the packing may be attached to an exteriorly-threaded boss upon the cylinder-head.

I am aware that patents have been granted for metallic packing in which the packing-rings are contained in a divided casing; but in all of such patents the two halves of the casing were first secured together and then inserted within an ordinary stuffing-box upon the cylinder. In my invention the two halves of the casing are secured in the head of the cylinder and are so secured in said head that the two halves of the casing will be held together thereby. I thus do away with the stuffing-box and by this means make my metal-

lic packing adaptable to small engines, such as used in self-propelled vehicles and small marine launches. In such small engines the stuffing-box is generally screwed into the head of the cylinder, and my packing can be secured to the cylinder by simply unscrewing the stuffing-box and screwing in my packing in place of it. Thus the packing does not take up any more space than the ordinary stuffing-box—in fact, in very cramped quarters it can be made to take up very much less space.

Referring to the drawings in detail, A represents the two halves of the casing of the metallic packing, each half having formed therein a series of semicircular cavities B, which when the two halves are placed together will form a circular cavity. These cavities are divided by partitions C, and each cavity contains two spring packing-rings D, which surround the piston-rod. Each half of the casing has formed with it and extending outward at one end one half of an exteriorly-threaded tapering boss E. When the two halves of the casing are placed together with the spring packing-rings lying within the cavities, the tapering boss E, formed by the two halves, will be screwed into an interiorly-threaded tapering hole formed in the head of the cylinder surrounding the piston-rod. By reason of the boss and the opening in which it is screwed being tapering the two halves of the casing will be drawn tightly together, so as to form a steam-tight joint within the same. At the opposite or outer end of the casing screw-threaded plugs F are screwed into the two halves of the casing at the junction of the same; but these plugs are so inserted that they will be more than half in one-half of the casing—that is, they will be about three-quarters in one half of the casing and one-quarter in the other half. This is for the purpose of preventing the plugs from falling out when the two halves of the casing are separated. The function of these plugs is to hold the two halves of the casing exactly in alinement, the threads upon the plugs preventing any longitudinal movement of the two halves relative to one another and the rotundity of the plugs preventing any lateral movement of the two halves relative to one another. Of course these plugs need not nec-



essarily be inserted through the outer end, but could be inserted in the sides with equal efficiency.

5 The exterior of the outer end of the two halves of the casing is tapered for a short distance, and this tapered portion has formed thereon screw-threads, as indicated at G.

10 H is an interiorly-threaded cap, the threads upon the interior being cut upon a tapering surface to correspond with the taper of the screw-threads G. After the packing has been secured in the cylinder-head the cap H is screwed upon the outer end of the casing, and by forming the screw-threads upon a ta-  
15 pered surface the screwing of this cap upon the casing will draw the two halves together at the outer end, and thus make the division between the two halves of the casing absolutely steam-tight.

20 In Fig. 4 I have shown a slight modification showing how the packing may be attached to the cylinder-head when said cylinder-head is provided with an exteriorly-threaded boss, as is the case in some makes of engines.

25 I represents the exteriorly-threaded boss upon the cylinder-head. J is a collar or nut threaded upon the boss, and the outer end of this collar or nut is provided with a tapering threaded portion into which is screwed the  
30 tapering boss E of the packing-casing.

When the two halves of the casing are placed together, packing may be inserted between the same, or the slit may be filled with white lead or the like if it is found that the  
35 contact between the two halves is not sufficient to make the casing steam-tight.

The advantage of my invention is that it will enable metallic packing to be applied to small engines without the necessity of in-  
40 serting said packing within a stuffing-box, thus enabling the use of metallic packing without taking in any more space than is occupied formerly by the old form of stuffing-box.

45 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 my invention.

Having thus fully described my invention, what I claim as new and useful is— 50

1. In a metallic packing, a casing composed of two semicircular halves adapted to be placed together so as to surround the piston-rod and come in tight contact with one another, a series of semicircular cavities 55 formed in each half of the casing, spring packing-rings adapted to be contained in said cavities and surrounding the piston-rod, a tapering exteriorly-threaded boss protruding outward from one end of the casing, said 60 boss being divided and one half formed with each half of the casing, said boss adapted to be threaded in a corresponding interiorly-threaded tapering socket upon the cylinder-head, a tapering portion formed around the 65 periphery of the outer end of the two halves of the casing, screw-threads formed upon said tapering portion, a corresponding tapering interiorly-threaded cap adapted to be screwed upon this outer end of the casing, 70 substantially as and for the purpose specified.

2. In a metallic packing, a divided casing, cavities formed in the casing adapted to contain spring packing-rings, an exteriorly- 75 threaded tapering boss formed one half upon each half of the casing and protruding from one end thereof, said boss adapted to be threaded in a corresponding tapering interiorly-threaded socket upon the cylinder- 80 head, a tapering exteriorly-screw-threaded portion formed upon the outer end of the casing, an interiorly-threaded corresponding tapering cap adapted to be threaded upon the outer end of the casing, and means for 85 holding the two halves of the casing in alignment with one another against both longitudinal and lateral movement, substantially as described and for the purpose specified.

In testimony whereof I have hereunto af- 90 fixed my signature in the presence of two subscribing witnesses.

GEORGE D. ROLLINS.

Witnesses:

H. B. HALLOCK,  
L. W. MORRISON.