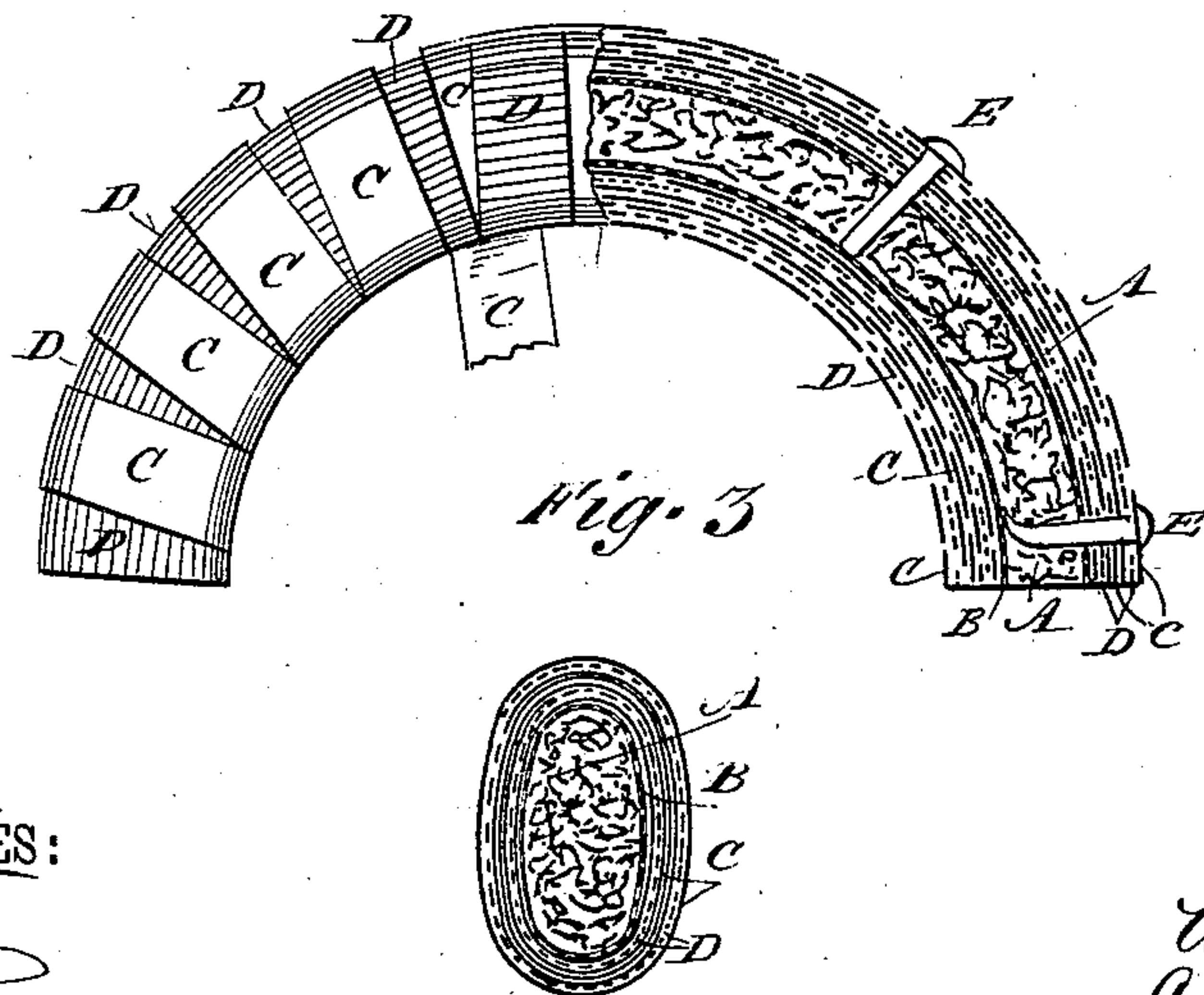
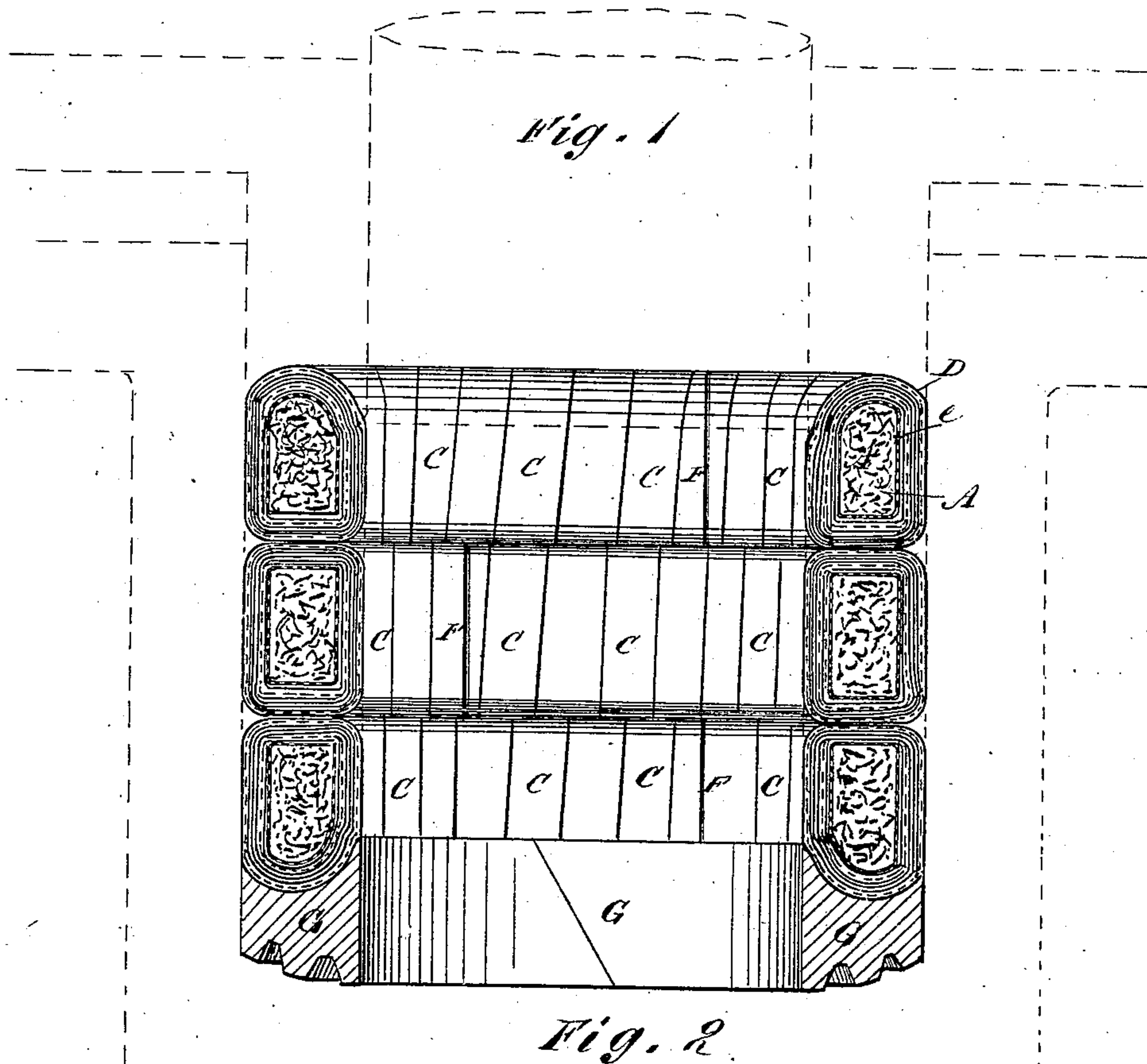


W. P. & C. H. WOODRUFF.
Metallic Steam-Packing.

No. 226,644.

Patented April 20, 1880.



WITNESSES:

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WILLIAM P. WOODRUFF AND CHARLES H. WOODRUFF, OF NEW YORK,
N. Y., ASSIGNORS TO TENNANT & HATTERSLEY, OF SAME PLACE.

METALLIC STEAM-PACKING.

SPECIFICATION forming part of Letters Patent No. 226,644, dated April 20, 1880.

Application filed September 3, 1879.

To all whom it may concern:

Be it known that we, WILLIAM P. WOODRUFF and CHARLES H. WOODRUFF, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Metallic Steam-Packing, of which the following is a specification.

Figure 1 is a sectional elevation, showing a number of our improved packing-rings. Fig. 2 is a plan view of a portion of one of the packing-rings, partly in longitudinal section. Fig. 3 is a cross-section of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved elastic packing for piston-rods and other rods that slide through stuffing-boxes, which shall be so constructed as to retain its elasticity when pressed down by the gland.

The invention consists in a packing formed of a central core of metallic turnings surrounded by a layer of cloth and alternate layers of anti-friction metal and brass in the form of narrow strips wound spirally upon the cloth-covered core, and in the combination, with such packing-rings, of an anti-friction metal seat having a large ring-groove in its upper side and two or more small concentric ring-grooves in its lower side, as will be hereinafter fully described.

The packing is made in rings of different diameters, according to the size of the rods to which packing is applied. The interior A of the rings is formed of turnings of anti-friction metal and of brass, to give elasticity to the packing. The turnings A are covered and bound together by a strip or layer, B, of muslin or other fabric. Around the cloth-covered core A B are wrapped spiral strips C, of thin anti-friction metal, and strips D, of brass. In the smaller sizes the layers C D alternate with each other; but in the larger sizes two or three layers, C, of anti-friction metal may be used in connection with each layer D of brass. The outer layer or layers must be anti-friction metal, and must be so arranged as to form a smooth surface upon the inner side of the rings.

The layers C D may be secured in place by nails E, driven into the rings from the outer side, as shown in Fig. 2, and which may be

made with slender points, and of such a length as to pass through the turnings A, and be bent or clinched in the said turnings by striking against the inner surface of the inner layer of strips upon the forward side of the rings.

The packing is made in oval form, as shown in Fig. 3, so that it may be pressed down by the gland to set it against the rod without destroying its elasticity, and is then cut into half-rings to allow it to be passed around the rod when inserting it in the stuffing-box. In inserting the packing care should be taken to break joints, as indicated by the lines F in Fig. 1.

At the bottom of the stuffing-box is placed a seat, G, made of anti-friction metal, in the form of two half-rings with beveled or inclined ends, as shown in Fig. 1. The upper side of the seat G has a ring-groove formed in it to receive the lower side of the lower packing-ring.

In the lower side of the seat G are formed two or more small concentric ring-grooves to cause it to fit more snugly upon the bottom of the stuffing-box should there be any inequalities in the said bottom. These grooves also receive steam, which condenses and forms a water-seal in the bottom of the stuffing-box.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A metallic steam-packing formed of a central core, A, of metallic turnings surrounded by a layer, B, of cloth, and alternate layers C D of anti-friction metal and brass in the form of narrow strips wound spirally upon the cloth-covered core, all constructed and arranged substantially as herein shown and described.

2. The seat G, made of anti-friction metal, with a large ring-groove in its upper side and two or more small concentric ring-grooves in its lower side, in combination with the ring-packing A B C D, substantially as herein shown and described.

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Witnesses:

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