

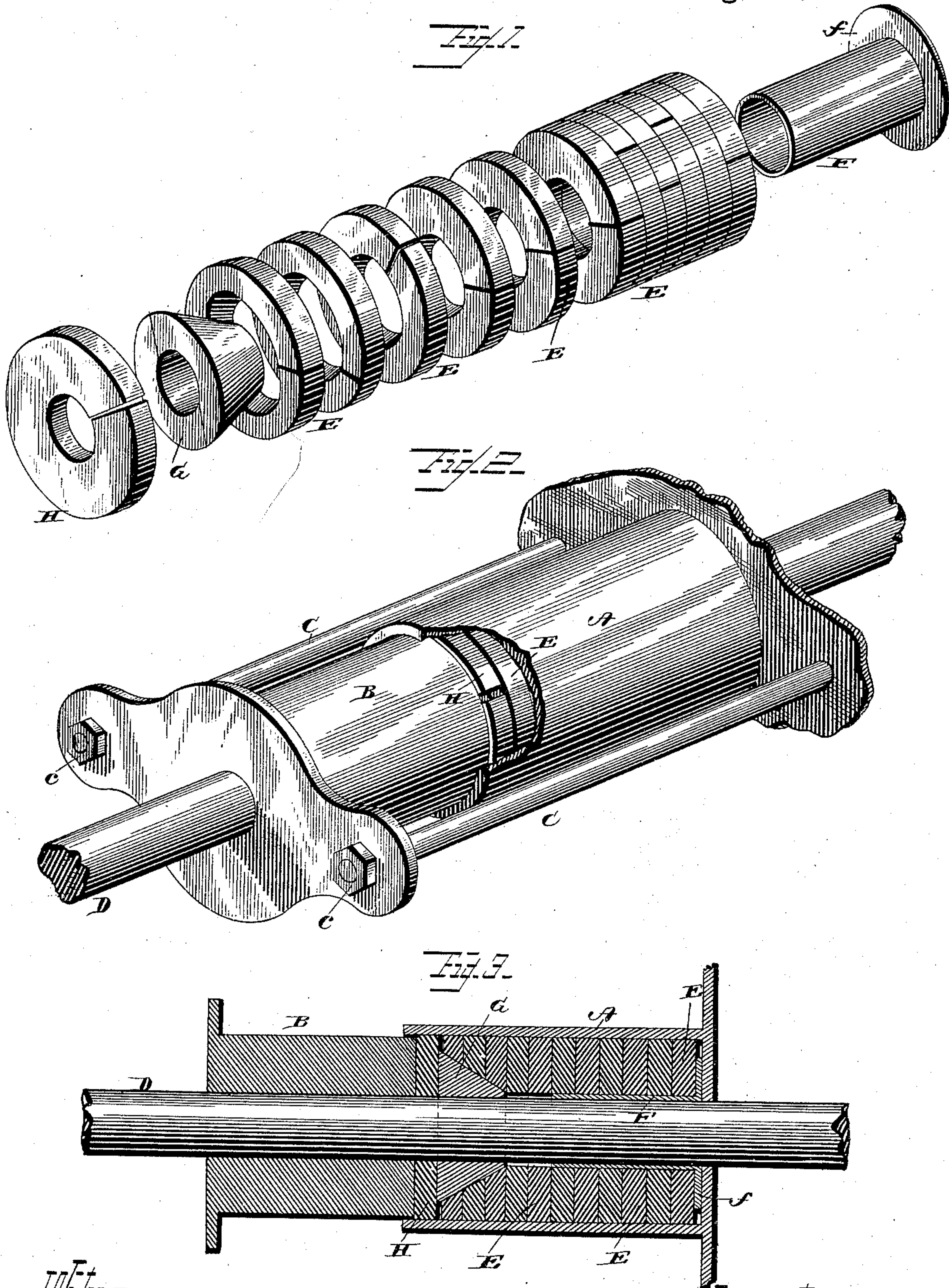
(No Model.)

R. W. KILLMER.

PISTON ROD PACKING.

No. 324,776.

Patented Aug. 18, 1885.



Witnesses
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UNITED STATES PATENT OFFICE.

REUBEN W. KILLMER, OF TERRE HAUTE, INDIANA.

PISTON-ROD PACKING.

SPECIFICATION forming part of Letters Patent No. 324,776, dated August 18, 1885.

Application filed May 18, 1885. (No model.)

To all whom it may concern:

Be it known that I, REUBEN W. KILLMER, of Terre Haute, in the county of Vigo, and in the State of Indiana, have invented certain new and useful Improvements in Piston-Rod Packing; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

10 Figure 1 is a perspective view of the parts of my packing separated from each other and from their connecting parts. Fig. 2 is a like view of the same as combined for use, a portion of the stuffing-box being removed to show
15 the arrangement of parts; and Fig. 3 is a vertical central section of said packing and stuffing-box and the gland.

Letters of like name and kind refer to like parts in each of the figures.

20 The design of my invention is to provide a simple, inexpensive, and efficient means whereby a steam or gas tight joint can be readily made and maintained around a piston-rod or valve-rod at the point where it enters such
25 pressure; and to this end said invention consists, principally, in a rod-packing composed of a sectional conical metal ring that is adapted to fit within a stuffing-box and to embrace the rod to be packed, and compressible material which is placed above, below, and around
30 the exterior of said ring, in combination with the stuffing-box, and with a gland for compressing said packing longitudinally within the same, substantially as and for the purpose hereinafter specified.

35 It consists, further, in combining with the lower or inner portion of the compressible packing an interior metal thimble, which operates to prevent contact at such point between said packing and the rod to be packed,
40 substantially as and for the purpose hereinafter shown.

It consists, finally, in the special construction and combination of parts, substantially as
45 and for the purpose hereinafter shown and described.

In the annexed drawings, A represents a stuffing-box, and B a gland which is adapted to be moved into the same by means of nuts
50 c, that travel upon threaded studs C, all of said parts being of usual construction.

Through the gland B and stuffing-box A passes the rod D which is to be packed, and around the same, within said stuffing-box, is placed a series of elastic disks, E, that loosely
55 fill the space between the inner face of the latter and said rod and extend outward nearly to the outer end of said stuffing-box. The inner half of the disks E are placed around a metal thimble, F, which at its inner end has
60 an outward-projecting flange, f, and from thence extends upward through the central openings of said disks, as shown. Said thimble has such interior diameter as to enable the rod D to pass freely through without contact
65 with the same. Above or outside of the end of the thimble F the disks E have successively-increased interior dimensions, and into the conical recess thus formed is placed a metal ring, G, which exteriorly corresponds to the
70 form of said recess, while interiorly it has a round straight opening that corresponds in diameter to the like feature of the rod D. Said ring G is preferably constructed from Babbitt metal, but may be made from brass
75 or any other metal or composition desired. It is divided into two sections by means of two cuts, which longitudinally are parallel with the axis and transversely are upon lines that are tangential to the inner periphery of
80 said ring, and, intersecting the same upon opposite sides, have parallel lines, the construction being such that the sections of said ring may be moved upon each other, so as to lessen or increase the distance between opposite
85 sides of its central opening.

Above the ring G, which preferably projects above the disks E, is placed an elastic disk, H, which has such dimensions as to enable it to fill the space laterally between the rod D
90 and the wall of the stuffing-box A, and upon the same bears the inner end of the gland B. If, now, said gland is pressed inward, the disks E and H will be compressed in such direction, and those surrounding the thimble F,
95 being unable to expand inwardly, will be expanded outwardly and caused to closely fill said stuffing-box at such point, while the divided metal ring G will be forced inwardly by its downward movement within the contiguous
100 disks E, and will be held with a yielding pressure firmly against the rod D.

The disks E, surrounding the divided ring G, are expanded by the inward movement of the latter until they closely fill the space between its periphery and the contiguous wall of the stuffing-box A, and produce at such points a perfectly-tight joint, while the outer elastic disk, H, effectually closes the joints at the outer end of said divided ring and prevents all leakage through the same. The inner faces of said divided ring have a sufficient bearing upon the rod D to prevent leakage at such point, while the bearings of the sections of ring upon each other are or by use soon become so tight as to render leakage between them practically impossible.

The thimble F operates to hold the inner disks, E, out of contact with the rod D, and thus prevent the latter from drawing the elastic material from which said washers are constructed through the bottom of the stuffing-box A into the pressure-space beyond, by which means the efficiency and durability of the packing is largely increased.

In order that the compressible portion of the packing may be easily placed in or removed from position, each disk E or H is divided upon a radial line at one point, and at such point may be readily opened outward until capable of passing over the rod D.

The packing thus constructed is capable of use in any ordinary stuffing-box of the dimensions for which it is adapted without change of either box or gland, and costs but slightly more than ordinary compressible packing, while its durability is many times that of any of the kinds commonly used.

Having thus set forth the nature and merits of my invention, what I claim is—

1. A rod-packing composed of a sectional conical metal ring that is adapted to fit within a stuffing-box and to embrace the rod to be packed, and compressible material which is placed above, below, and around the exterior of said ring, in combination with the stuffing-box, and with a gland for compressing said packing longitudinally within the same, substantially as and for the purpose specified.

2. In combination with the lower or inner portion of the compressible packing, an interior metal thimble, which operates to prevent contact at such point between said packing and the rod to be packed, substantially as and for the purpose shown.

3. The hereinbefore-described rod-packing, consisting of the elastic disks E and H, the metal thimble F, and the longitudinally-divided metal ring G, in combination with each other, with the stuffing-box A, the gland B, the rod D, and with means, substantially as shown, whereby said gland may be pressed into said stuffing box, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of April, 1885.

REUBEN W. KILLMER.

Witnesses:

WM. W. RUMSEY,
T. C. ANDERSON.