

No. 888,064.

PATENTED MAY 19, 1908.

J. S. CHAMBERS.
STEAM TIGHT JOINT FOR ROTARY RODS.
APPLICATION FILED FEB. 19, 1907.

Fig. 1.

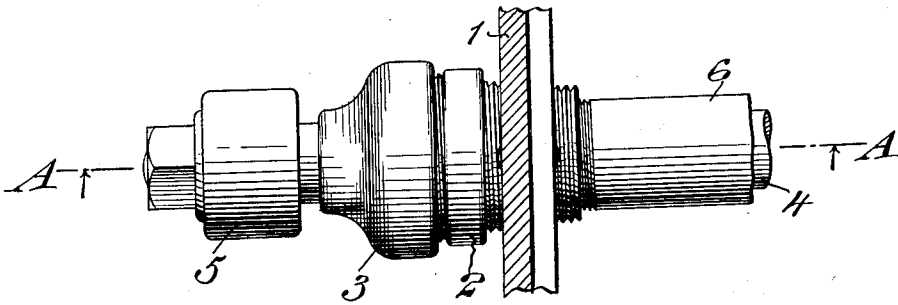


Fig. 2.

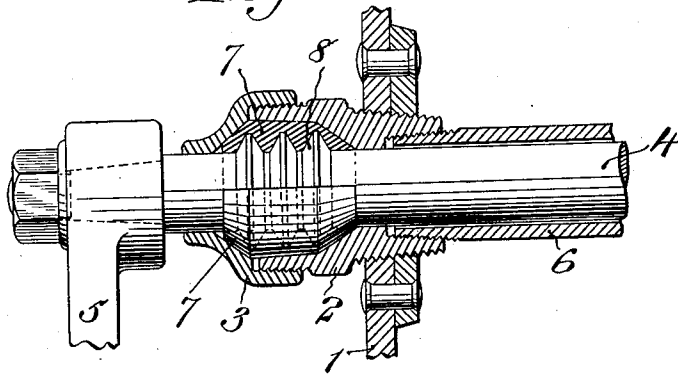
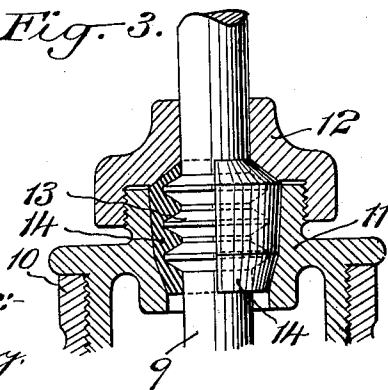


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN S. CHAMBERS, OF WILMINGTON, NORTH CAROLINA.

STEAM-TIGHT JOINT FOR ROTARY RODS.

No. 888,064.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed February 19, 1907. Serial No. 358,324.

To all whom it may concern:

Be it known that I, JOHN S. CHAMBERS, a citizen of the United States, and resident of Wilmington, in the county of New Hanover and State of North Carolina, have invented a new and useful Improvement in Steam-Tight Joints for Rocking or Rotary Rods; of which the following is a specification.

The object of my invention is to provide a steam-tight joint for rocking or rotary rods, the said joint being so constructed as to take up end thrust on the said rod and to form an extended bearing for the rod within the packing box.

My invention consists more particularly in providing the rocking or rotary rod with a plurality of annular shoulders formed by one or more circumferential flanges on the rod embedded in the metal filling of a packing box for producing the results above set forth.

Practical embodiments of my invention are represented in the accompanying drawings in which—

Figure 1 represents in side elevation my novel steam-tight joint applied to the operating rocking rod of a throttle valve at that point where the rod passes through the side wall of the steam dome. Fig. 2 represents the steam-tight joint and its adjacent parts in longitudinal central section, the metal filling being shown in half section, and Fig. 3 represents my steam tight joint applied to the rotary operating rod of a globe valve, certain of the parts being shown in vertical central section, the metal filling being shown in half section.

In Figs. 1 and 2 the wall of the steam dome is denoted by 1 and into this wall is screwed the hollow plug 2 of a packing box, the removable cover of which plug is denoted by 3. The operating rocking rod 4 of the throttle valve extends through the packing box 2, 3, and it is provided with a lever arm 5 exterior to the steam dome. A tube 6 surrounds the rocking rod 4 within the dome and the said tube has its end adjacent to the wall of the dome screwed into the plug 2 of the packing box 2, 3. A metal filling 7 surrounds the rocking rod 4 within the packing box 2, 3, which filling is Babbitt metal or other suitable metal composition or metal, and may be made solid or in sections as desired.

The rocking rod 4 is provided with a plurality of annular shoulders engaging the metal filling within the packing box for forming a steam-tight joint at this point. This

arrangement also prevents all longitudinal movement of the rod under the influence of endwise thrust and also gives to the rod an extended bearing within the packing box. The plurality of annular shoulders on the rocking rod may be formed by providing the rod with one or more tapered circumferential flanges 8. In the present instance three of these flanges are shown as embedded in the metal filling 7.

In Fig. 3, I have shown the steam-tight joint applied to the rotary rod 9 of a globe valve 10, which rod extends through the plug 11 and cover 12 of a packing box and has the circumferential tapered flanges 13 which form the annular shoulders, embedded in the metal filling 14 of the said packing box 11, 12.

The bore of the plug of the packing box is made flaring and the bore of the removable cover is also made flaring as shown, so that by screwing in the cover, the metal filling may be forced inwardly around the shaft to take up any wear at this point.

What I claim is:

1. A steam-tight joint for a rocking or rotary rod comprising a metal filling surrounding the rod and annular shoulders on the rod embedded in said metal filling.
2. A steam-tight joint for a rocking or rotary rod comprising a packing box through which the rod extends, a metal filling for the box, surrounding the rod, and annular shoulders on the rod embedded in said metal filling.
3. A steam-tight joint for a rocking or rotary rod comprising a metal filling surrounding the rod and a circumferential flange on the rod embedded in said metal filling.
4. A steam-tight joint for a rocking or rotary rod comprising a packing box through which the rod extends, a metal filling for the box, surrounding the rod, and a circumferential flange on the rod embedded in said metal filling.
5. A steam-tight joint for a rocking or rotary rod comprising a metal filling surrounding the rod and a tapered circumferential flange embedded in said metal filling.
6. A steam tight joint for a rocking or rotary rod comprising a packing box through which the rod extends, a metal filling for the box, surrounding the rod, and a tapered circumferential flange embedded in said metal filling.
7. A steam-tight joint for a rocking or rotary rod comprising a metal filling surround-

ing the rod and a plurality of circumferential flanges embedded in said metal filling.

8. A steam-tight joint for a rocking or rotary rod comprising a packing box through
5 which the rod extends, a metal filling for the box, surrounding the rod, and a plurality of circumferential flanges on the rod embedded in said metal filling.

9. A steam-tight joint for a rocking or
10 rotary rod comprising a metal filling surrounding the rod and a plurality of tapered circumferential flanges on the rod embedded in said metal filling.

10. A steam-tight joint for a rocking or
15 rotary rod comprising a packing box through which the rod extends, a metal filling for the box, surrounding the rod, and tapered circumferential flanges on the rod embedded in said metal filling.

20 11. A steam-tight joint for a rocking or rotary rod comprising a packing box composed of a hollow plug and cover, said plug having a flaring bore, and a metal filling for the box, surrounding the rod, the cover of
25 the box being arranged to force the metal filling inwardly to take up wear at this point.

12. A steam-tight joint for a rocking or rotary rod comprising a packing box composed of a hollow plug and cover having oppositely

flaring bores and a metal filling for the box, 30 surrounding the rod, the cover of the box being arranged to force the metal filling inwardly to take up wear at this point.

13. A steam-tight joint for a rocking or rotary rod comprising a packing box composed
35 of a hollow plug and cover, said plug having a flaring bore, a metal filling for the box, surrounding the rod and annular shoulders on the rod engaging said metal filling, the cover of the box being arranged to force the metal
40 filling inwardly to take up wear at this point.

14. A steam-tight joint for a rocking or rotary rod comprising a packing box composed
45 of a hollow plug and cover having flaring bores, a metal filling for the box, surrounding the rod and annular shoulders on the rod engaging said metal filling, the cover of the box being arranged to force the metal filling inwardly to take up wear at this point.

In testimony, that I claim the foregoing 50 as my invention, I have signed my name in presence of two witnesses, this 14th day of February, 1907.

JOHN S. CHAMBERS.

Witnesses:

C. M. BUTLER,
J. P. WENGO, Jr.