Aug. 26, 1924. 1,506,420

F. J. FLASPOEHLER ET AL

PACKING RING

Filed July 7 1921

Fig-1-

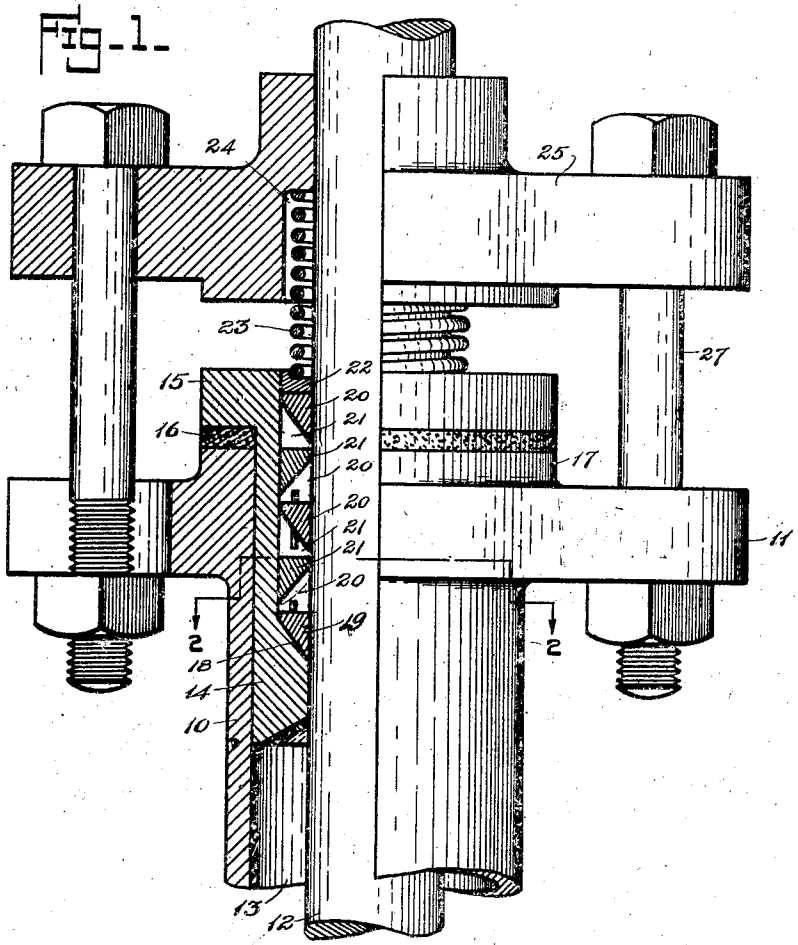


Fig-2-

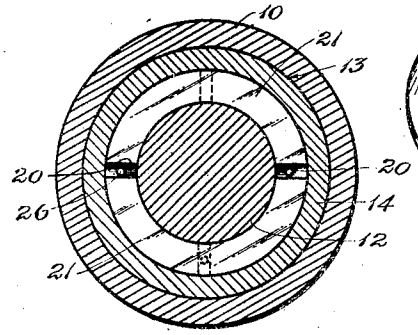


Fig-4-

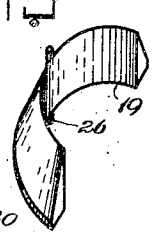
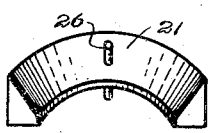


Fig-3-



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UNITED STATES PATENT OFFICE.

FRED J. FLASPOEHLER, WILLIAM A. STIEGLITZ, AND FRANK A. FLASPOEHLER, OF LOUISVILLE, KENTUCKY.

PACKING RING.

Application filed July 7, 1921. Serial No. 483,112.

To all whom it may concern:

Be it known that we, FRED J. FLASPOEHLER, WILLIAM A. STIEGLITZ, and FRANK A. FLASPOEHLER, citizens of the United States of America, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Packing Rings, of which the following is a specification.

This invention relates to packings and piston rods and the like. More particularly the invention relates to a sectional metallic packing.

One object of the invention is to improve the general construction of devices of this character.

A second object of the invention is to provide a metallic packing having sectional rings peculiarly arranged to prevent rotation of one ring with respect to the other and thereby prevent aligning of the gaps between the ring sections.

A third object of the invention is the provision of a novel stuffing box and packing ring arrangement in such devices.

With the above and other objects in view, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically claimed.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—

Figure 1 is a side elevation partly in section showing the end of a cylinder, a piston rod and the improved packing.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a detail perspective view of one of the outer wedge ring segments or sections.

Figure 4 is a detail perspective view of one of the inner wedge ring sections or segments.

In the embodiment of the invention herein illustrated there is disclosed a boss 10 having flange 11 therearound. This boss is the usual boss found on the front end of a cylinder and is provided with an opening through which passes the piston rod 12, the dimensions of the opening and piston rod being such that space is left between the inner wall of the opening and the piston rod as indicated at 13. In the space 13 is fitted a removable stuffing box 14 having a flange 15 which rests on a packing 16 supported on a seat 17 formed on the end of the boss 10. This stuffing box is recessed to provide an annular space between the rod into inner wall of the box and terminates at the bottom in a surface 18 which is inclined inwardly toward the rod 12 as clearly seen in Figure 1. In the bottom of this annular recess is seated a plurality of seat ring sections 19 similar in shape to those shown in Figure 4. On these sections are seated other sections 20 of the same formation while sections 21, best seen in detail in Figure 3, the sections 21 and 20 cooperating to form a ring which is substantially rectangular in cross section. Similar pairs of sections 20 and 21 are arranged above the last mentioned sections so as to form other rings which are substantially rectangular in cross section. On the outermost sections 20 is a recess closure ring 22 and in the recess of this ring is seated one end of a coil spring 23 which surrounds the rod 12 and passes up to a recess 24 in a gland or plate 25, the spring being seated at its outer end in the bottom of said recess. It will be observed from Figure 2 that each of the rings is preferably composed of 2 wedge ring segments which are not quite 180°. Each of the ring segments of sections carries a pin 26 the ends of which pins lie in the gaps or spaces between the ends of the cooperating ring sections as clearly seen in Figure 2. By this means these rings are prevented from so rotating as to bring the spaces between the ends of the sections into alignment with each other thus permitting the escape of steam or the like.

At 27 are adjusting bolts by means of which the tension on the spring 23 can be regulated and it will be observed that pressure on this spring will force the rings 20 inward and the rings 21 outward so that a tight packing is at all times obtained. It is obvious that this pressure can be varied by properly manipulating the bolts 27 so as to compress the spring to a greater or less degree as may be desired.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of the

invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope claimed.

Having thus described the invention, what is claimed as new, is:—

1. The combination with a cylinder and a piston rod passing through an opening in said cylinder, of a stuffing box fitted between the rod and the wall of the opening, said stuffing box being arranged to form an annular recess around the rod having a bottom bevelled inwardly toward the rod, a sectional seat ring fitted in said recess against the bottom, other sectional cylindrical rings arranged in pairs with their inclined faces abutting and their cylindrical faces bearing respectively on the piston and the wall of the opening, the inner ring of the first pair bearing on the sectional seat, pins each projecting from the several rings into the spaces between adjacent sections of the cooperating rings, and means to force said rings inward of the stuffing box.

2. The combination with a cylinder and a piston rod passing through an opening in said cylinder, of a stuffing box fitted between the rod and the wall of the opening, said stuffing box being arranged to form an annular recess around the rod having a bottom bevelled inwardly toward the rod, a sectional seat ring fitted in said recess against the bottom, other sectional cylindrical rings arranged in pairs with their inclined faces abutting and their cylindrical faces bearing respectively on the piston and the wall of the opening, the inner ring of the first pair bearing on the sectional seat ring, pins each projecting from the several rings into the spaces between adjacent sections of the cooperating rings, a plate mounted in spaced relation to the end of the stuffing box and movable to and from the box, means to hold the plate in adjusted position, and a spring interposed between the plate and the outermost of said rings.

In testimony whereof we affix our signatures.

FRED J. FLASPOEHLER.
WM. A. STIEGLITZ.
FRANK A. FLASPOEHLER.