

(No Model.)

F. PINCH.
PACKING FOR PISTON OR OTHER RODS.

No. 483,013.

Patented Sept. 20, 1892.

Fig. 1.

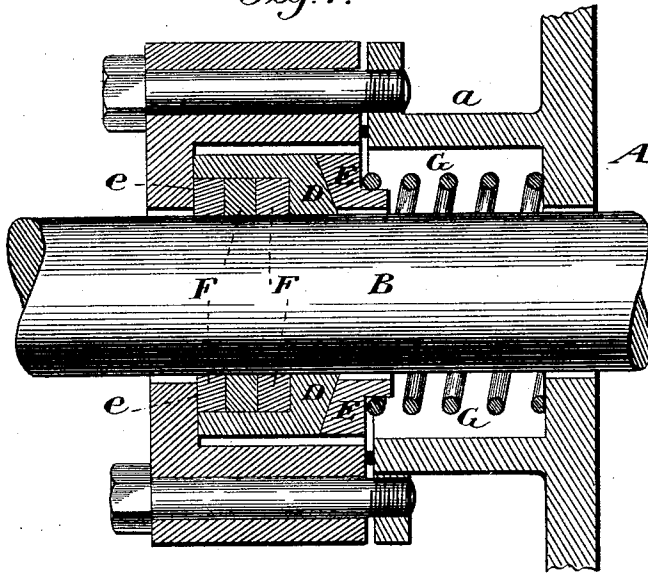


Fig. 2.

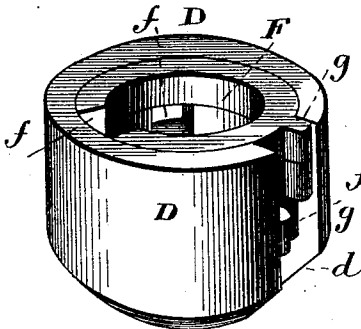


Fig. 3.

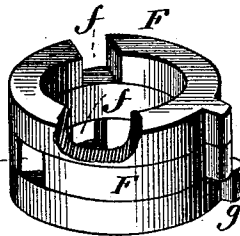


Fig. 4.

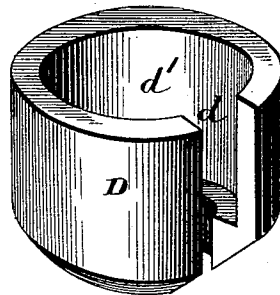
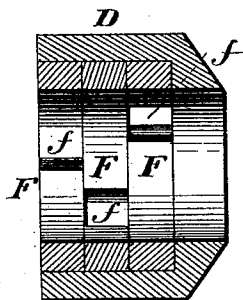


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK PINCH, OF SIDNEY, NEW YORK.

PACKING FOR PISTON OR OTHER RODS.

SPECIFICATION forming part of Letters Patent No. 483,013, dated September 20, 1892.

Application filed May 2, 1892. Serial No. 431,472. (No model.)

To all whom it may concern:

Be it known that I, FRANK PINCH, of Sidney, in the county of Delaware and State of New York, have invented certain new and useful Improvements in Adjustable Packing for Piston or other Rods, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

10 The object of this invention is to make a perfectly steam or water tight joint by means of a metallic-ring packing and to improve upon the construction shown in Patent No. 382,187, granted to me May 1, 1888.

15 In the accompanying drawings, Figure 1 is a longitudinal section of the forward end of a cylinder, showing the stuffing-box, gland, rod, and packing-ring. Fig. 2 is a perspective view of the packing-rings fitted together. 20 Figs. 3 and 4 are similar views of the same rings detached, and Fig. 5 is a vertical transverse section on the line *xx* of Fig. 2.

Similar letters of reference indicate similar parts in the respective figures.

25 A is the cylinder-head having an ordinary stuffing-box *a*.

B is the piston-rod.

C is a gland or casing fastened to the stuffing-box by bolts or studs in the usual manner.

30 D is a ring having a peripheral opening *d* and provided on its interior with a recess *d'*.

F F F represent a series of rings adapted to fit snugly within the recess of the outer ring D, the several rings being so constructed 35 that when in position the outer face of the ring D and that of the top ring F shall be flush with each other.

Each of the inner rings F is provided with a peripheral opening *f* similar to the opening 40 *d* in the outer ring D; but these openings are so formed that those of adjacent rings do not register. The openings in the several inner rings will therefore form broken joints, as clearly shown in Fig. 5. Each of the rings F 45 is also provided on its outer periphery with a lug or projection *g*, which projects outwardly into the opening *d* in the outer ring D and serves to prevent the inner rings F from turning around, so as to bring the open portion 50 of either of them in line with that of an adjacent ring or in line with that of the outer ring D. As the insides of the rings wear away, the pressure of the steam on the outside of the

ring D will gradually force the ends formed by the cuts in the peripheries of the rings toward each other, and thus always keep the 55 rings closed tightly upon the rod. By this construction I obtain a long bearing on the rod, and by breaking joints in the inner rings only small and isolated portions of the outer 60 ring are left unsupported. In practice it has been found that the lapping ends of the inner ring described in my patent, No. 382,187, are liable to break off, and when this occurs a sufficient portion of the rim of the outer ring is 65 left exposed or without any support under it, and the exterior pressure causes it to crush in. I have in my present invention obviated this defect, for the inner rings, by reason of 70 their arrangement to leave only small and isolated portions of the outer ring exposed, can be depended upon at all times to serve as a support to and prevent the crushing in of the outer ring under any high pressure to which it may be subjected. In other respects 75 my present invention resembles that set forth in my said patent, as in the use of the second beveled ring E, which is forced against the back of the outer ring D, and also in the use of the spring G within the stuffing-box and 80 surrounding the piston-rod B for the purpose of forcing the rings against the face *c*² of the casing C.

It has been found that my present improvement is of great importance in perfecting the 85 invention heretofore patented to me, as stated.

Having described my invention, I claim—

In a metallic-ring packing, the combination, with an outer ring having a peripheral opening and an interior recess, of a series of inner 90 rings fitting in said recess and each having a lug on its periphery projecting outwardly into the peripheral opening in the outer ring, said inner rings being cut or separated, the cuts being so arranged as to break joints in adjacent rings, whereby a strong support is afforded the outer ring and the crushing in thereof by pressure prevented, substantially 95 as specified.

In testimony whereof I hereunto set my 100 hand and seal.

FRANK PINCH. [L. S.]

Witnesses:

E. CRUSE,

D. G. STUART.