No. 862,930. PATENTED AUG. 13, 1907.

W. C. NORRIS.

STUFFING BOX.

APPLICATION FILED APR. 27, 1906.

FIG. 1

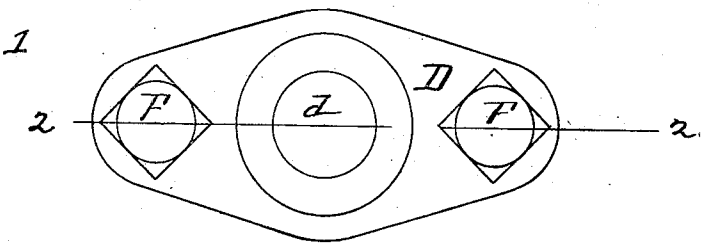


FIG. 2.

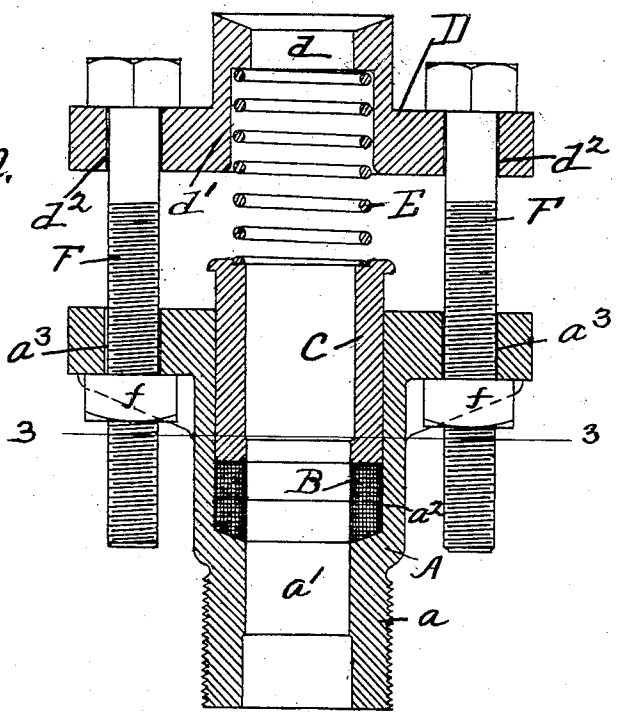
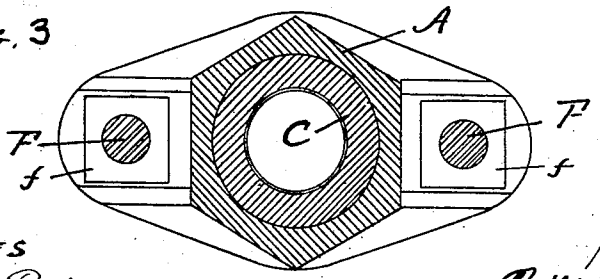


FIG. 3



WITNESSES

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WILBER C. NORRIS, OF TIONA, PENNSYLVANIA.

STUFFING-BOX.

No. 862,930. Specification of Letters Patent. Patented Aug. 13, 1907.

Application filed April 27, 1906. Serial No. 313,927.

To all whom it may concern:

Be it known that I, WILBER C. NORRIS, a citizen of the United States, residing at Tiona, in the county of Warren and State of Pennsylvania, have invented new and useful Improvements in Stuffing-Boxes, of which the following is a specification.

This invention relates to stuffing boxes for polished rods for use in oil wells and the like and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

The invention consists in an improvement in the construction shown in my former patent, dated Feb. 14, 1905.

The invention is illustrated in the accompanying drawings as follows.

Figure 1 is a plan view. Fig. 2 a section on the line 2—2 in Fig. 1. Fig. 3 a section on the line 3—3 in Fig. 2, view being from the bottom of Fig. 2.

A marks the stuffing box proper in which there is a packing cavity a^2. The polished rod works through the cavity a' and is engaged by the packing B in the cavity a^2. A follower C rests on the packing B. A cross piece D is arranged above the follower. It has the opening d through which the polished rod operates and a cavity d' in which is arranged a coil spring E. The spring rests on the follower C and follows up and exerts continuous pressure on the follower C and thus insures a tight joint. The cross piece D has the perforations d^2 at each end, and the box proper has the corresponding perforations a^3. The bolts F are passed through these perforations and secured by the nuts f.

In my former construction the spring cavity was arranged in the follower C. Two objections have developed from this construction. The coil cavity opening at the top in the follower would fill with water, and freezing, would give trouble; and where the springs have broken the pieces of the spring being trapped in the cavity have become wedged so as to stop the operation of the polished rods. With the present construction the spring cavity does not permit of the accumulation of water in it and in case of breakage of springs, the pieces will ordinarily fall out, giving no trouble.

It will be noted that the spring cavity D′ must be of sufficient depth to house the spring. I, of course, wish to make a sufficient groove on the follower C to center the spring, but no considerable cavity should be made on the follower C because of the objection noted. When anything above the stuffing box breaks so as to drop the rods, they are supported by the cross-piece D. This, of course, brings the cross-piece down into contact with the follower C and would, of course, break the spring and probably injure the rod if the cavity on the rod D′ were not of sufficient depth to completely house the spring when this happens.

What I claim as new is:

In a stuffing box for polished rods for oil wells and the like, the combination of a stuffing box proper having the packing cavity therein; a follower arranged in the cavity; a coil spring arranged on the follower; a cross piece above the follower, having a spring cavity d' for the reception of the spring; said cavity being of sufficient depth to house substantially all the spring when the spring is contracted and means for adjusting the cross piece relatively to the box proper to tension the spring.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILBER C. NORRIS.

Witnesses:
GEORGE F. HENRY,
WILLIAM R. KOPF.