No. 806,489. PATENTED DEC. 5, 1905.

J. M. PECK.

STUFFING BOX.

APPLICATION FILED JUNE 6, 1905.

Fig. 1.

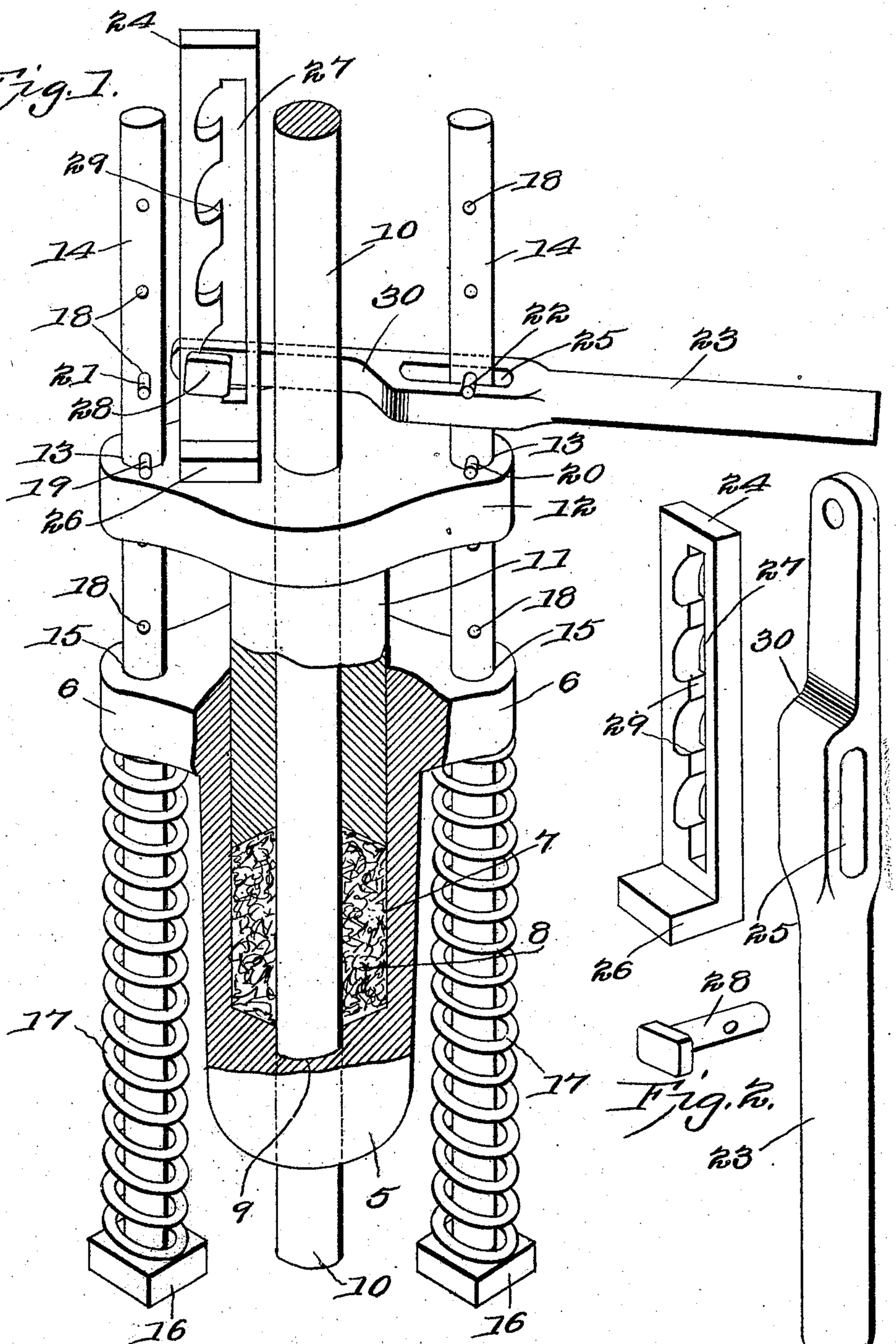

Fig. 2.

Witnesses

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STUFFING-BOX.

No. 806,489. Specification of Letters Patent. Patented Dec. 5, 1905.

Application filed June 6, 1905. Serial No. 264,008.

To all whom it may concern:

Be it known that I, JOHN M. PECK, a citizen of the United States, residing at Warren, in the county of Huntington and State of Indiana, have invented a new and useful Stuffing-Box, of which the following is a specification.

This invention relates to stuffing-boxes for the polish-rods of oil-wells, pistons, and the like, and has for its object to provide a durable and efficient device of this character in which the gland is yieldably supported in contact with the packing material, so as to exert a constant pressure on the latter.

A further object of the invention is to provide means for regulating the tension of the pressure-springs whereby the stuffing-box may be tightened to prevent leakage and any desired pressure exerted on the packing material in order to compress the same when the latter becomes worn from constant use.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a stuffing-box constructed in accordance with my invention. Fig. 2 is a similar view of the rack-bar and lever for adjusting the tension of the pressure-springs.

Similar numerals of reference indicate corresponding parts in both the figures of the drawings.

The stuffing-box 5, which may be of any desired size or form, is provided at its upper end with oppositely-disposed flanges 6 and with a longitudinal chamber 7 for the reception of the packing material 8, there being an opening 9 formed in the bottom of the box and communicating with the chamber 7, through which the polish-rod 10 passes. The rod 10 projects through a gland 11, slidably mounted in the chamber 7, said gland being provided with a cross-head 12, having openings 13 formed therein for the passage of bolts or rods 14, which also extend through corresponding openings 15 in the flanges 6, as shown. Mounted on the rods or bolts 14 and interposed between the terminal heads 16 of the latter and the flanges 6 are coil-springs 17, the normal tendency of which is to exert a downward pressure on the cross-head of the gland 12 and force the latter in contact with the packing material. The rods 14 are provided with a series of adjusting-openings 18 for the reception of pins 19, 20, 21, and 22, the pins 19 and 20 being adapted to engage the cross-head of the gland 12 to prevent displacement of the rods, while the pins 21 and 22 preferably engage the openings in the rod immediately above the pins 19 and 20, as shown. It will thus be seen by reason of the pressure exerted by the coil-springs on the cross-head of the gland 12 the latter will be yieldably supported in contact with the packing material, thereby tending to compress said packing and force the same in contact with the polish-rod.

As a means for regulating the tension of the springs 17 to vary the pressure exerted on the packing material there is provided a mechanism comprising an operating-lever 23, one end of which is pivotally connected to a rack-bar 24, while the intermediate portion thereof is formed with an elongated slot 25 for the reception of the rods or pins 14. The rack-bar 24 is provided with a terminal laterally-extending flange or base 26, adapted to bear against the cross-head 12, said bar being formed with a vertical slot 27, whereby the lever 23 may be adjusted vertically to permit the pivoted pin 28 to engage any one of the teeth 29. The pivoted end of the lever 23 is cut away or reduced, as indicated at 30, to permit said lever to clear the polish-rod 10, so that when the rack-bar is properly positioned on either side of the rod 10 and an upward pressure exerted on the free end of the lever the rods 14 will be elevated and the springs 17 compressed to increase the pressure exerted on the packing material.

In operation when it is desired to regulate the tension of the coil-springs the rack-bar and operating-lever are placed in position on the cross-head, as clearly shown in Fig. 1 of the drawings, and an upward pressure exerted on the free end of said lever, thereby causing the latter to engage the pin 21 and elevate the rod 14. After the rod 14 has been elevated sufficiently to compress the adjacent spring to the desired degree the pin 20 is inserted in the opening 18 immediately above the cross-head 12, which securely locks the rod in elevated position by engagement of the pin with said cross-head. In order to compress the

opposite spring, the pins 22 are removed and the position of the rack-bar and lever reversed, so that the slot 22 will engage the rod on the opposite side of the stuffing-box, after which the pins 22 are replaced and the operation above referred to repeated. It will thus be seen that by reversing the position of the operating-lever and rack-bar the springs on both sides of the stuffing-box may be compressed, while by adjusting said lever vertically of the bar any desired leverage may be obtained.

Having thus described the invention, what is claimed is—

1. In a device of the class described, the combination with a stuffing-box, of a gland longitudinally adjustable, rods connecting the stuffing-box and gland, means for yieldably supporting the gland within said box, means for adjusting the rods to vary the pressure exerted by the supporting means, and means for locking said rods in adjusted position.

2. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the stuffing-box and gland and provided with adjusting-pins, means carried by the rods for yieldably supporting the gland within the box, and means carried by the gland and adapted to engage said pins for varying the pressure exerted by the supporting means.

3. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the stuffing-box and gland and provided with a plurality of laterally-extending adjusting-pins, springs carried by the rods for yieldably supporting the gland within the box, and means carried by the gland for adjusting the tension of said springs.

4. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and stuffing-box, springs carried by the rods for yieldably supporting the gland within the box, and an operating-lever adapted to engage the rods for adjusting the tension of said springs.

5. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box, springs carried by the rods for yieldably supporting said gland within the box, and a reversible operating-lever carried by the gland and adapted to engage the rods for adjusting the tension of the springs.

6. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of transverse openings, springs carried by the rods for yieldably supporting the gland within the box, an operating-lever adapted to engage the rods for adjusting the tension of the springs, and pins seated in the openings in the rod for locking the springs in adjusted position.

7. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of laterally-extending pins, springs carried by the rods for yieldably supporting the gland within the box, and a vertically-adjustable lever carried by the gland and adapted to engage the pins on the rods for adjusting the tension of the springs.

8. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of transverse openings, springs carried by the rods for yieldably supporting the gland within the box, a plurality of spaced pins detachably engaging the openings in said rods, and a reversible operating-lever adapted to engage one of the pins on said rods for adjusting the tension of the springs.

9. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of spaced laterally-extending pins, springs carried by the rods for yieldably supporting the gland within the box, a rack engaging the gland, and a lever pivotally mounted on the rack and adapted to engage the pins on the rods for adjusting the tension of the springs.

10. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box, springs carried by the rods for yieldably supporting the gland within said box, a rack engaging the gland, and an operating-lever pivotally mounted on the rack and provided with a longitudinal slot adapted to receive the connecting-rods, said lever being adapted to engage the pins on the rods for adjusting the tension of the springs.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN M. PECK.

Witnesses:
BERT BOXELL,
WILLIAM G. SUTTON.