E. J. FITHIAN & H. D. MURRAY.

ACTUATING MECHANISM FOR GLANDS FOR STUFFING BOXES.

APPLICATION FILED OCT. 4, 1911.

1,048,142. Patented Dec. 24, 1912.

2 SHEETS—SHEET 1.

Fig. 2.

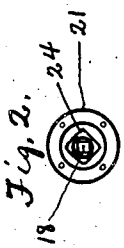

Fig. 1.

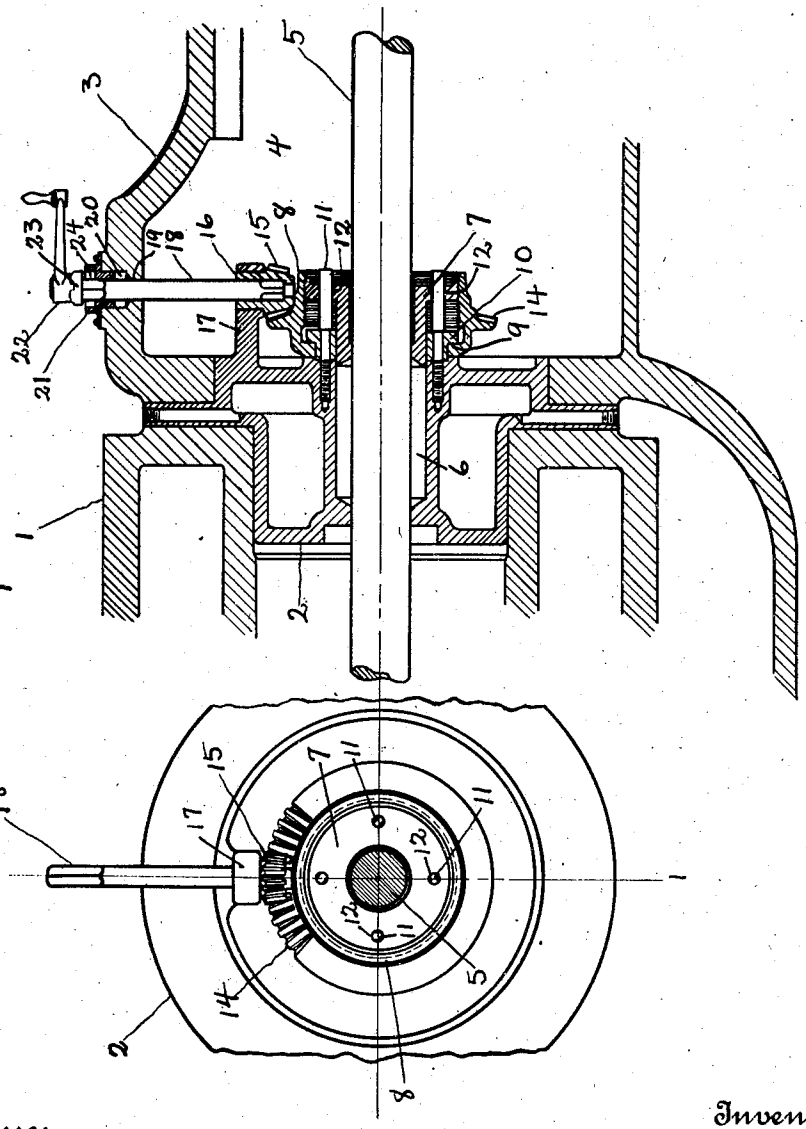

Fig. 3.

Witnesses

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Fig. 5.

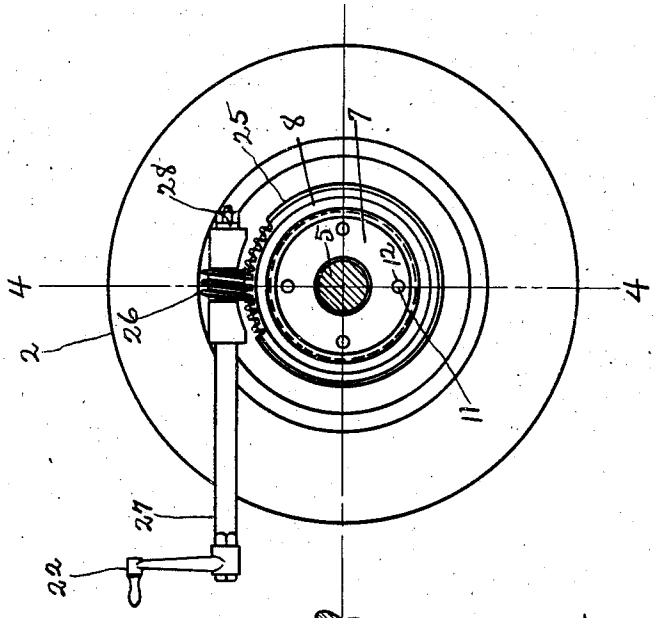
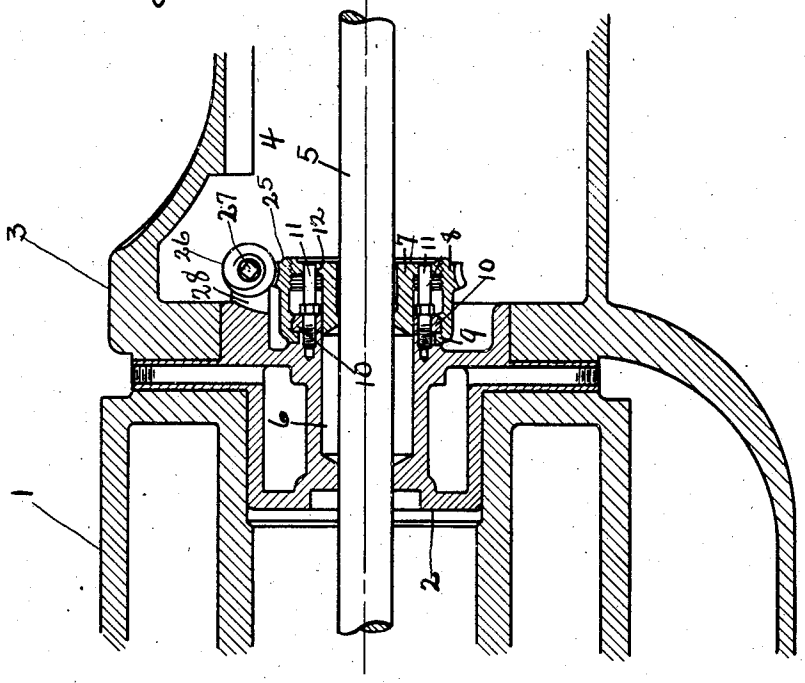


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWIN J. FITHIAN AND HARRY D. MURRAY, OF GROVE CITY, PENNSYLVANIA, ASSIGNORS TO THE BESSEMER GAS ENGINE COMPANY, OF GROVE CITY, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ACTUATING MECHANISM FOR GLANDS FOR STUFFING-BOXES.

1,048,142. Specification of Letters Patent. Patented Dec. 24, 1912.

Application filed October 4, 1911. Serial No. 652,782.

To all whom it may concern:

Be it known that we, EDWIN J. FITHIAN and HARRY D. MURRAY, citizens of the United States, residing at Grove City, in the county of Mercer and State of Pennsylvania, have invented new and useful Improvements in Actuating Mechanism for Glands for Stuffing-Boxes, of which the following is a specification.

This invention relates to actuating mechanism for glands for stuffing boxes and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

The invention is particularly adapted to adjusting the gland in stuffing boxes which are inclosed, as for instance, in the cylinder head of an engine wherein the stuffing box is inclosed by the frame. Under such conditions it is difficult to get at the gland to adjust it, and the principal object of this invention is to provide a convenient mechanism for adjusting the gland of an inclosed stuffing box.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 shows a central section (line 1—1 in Fig. 3) of a fragment of an engine including a part of the frame, cylinder, and cylinder head with a stuffing box in place thereon. Fig. 2 a plan view of the gland for the operating shaft. Fig. 3 a front elevation of the gland and adjacent parts. Fig. 4 is a central section (line 4—4 in Fig. 5) similar to Fig. 1 but showing an alternative construction. Fig. 5 is a front elevation of the gland and adjacent parts shown in Fig. 4.

1 marks the engine cylinder, 2 the cylinder head, 3 the engine frame, the engine frame being arranged to form a closure 4, 5 the piston rod, and 6 the stuffing box. These parts are of usual construction.

The gland 7 is arranged to operate in the stuffing box. It is provided with an exterior screw thread on which operates a nut 8. The nut has the inwardly extending flange 9 at the end nearest the cylinder which is engaged by a collar 10. The collar 10 is secured on the end of the stuffing box by means of studs 11. The studs 11 preferably extend outwardly into the perforations 12 so that they not only secure the collar 10 but also serve to lock the glands 7 against rotation and to operate as guides for the gland.

A beveled gear 15 meshes a beveled gear 14. The head 16 of the gear 15 is journaled in a projection 17 extending from the cylinder head. A shaft 18 is fixed in the gear 15 and extends to a perforation 19 in the frame. A stuffing box 20 is arranged in the frame and provided with a gland 21 which is secured on to the frame. A crank 22 is arranged on the shaft without the frame. The crank 22 has a squared head 23 which is adapted to drop into a square receptacle 24 in the upper surface of the gland 21.

To adjust the gland all that is necessary is to lift the crank 22 out of the socket 24 and turn the shaft 18. This turning of the shaft 18 through the gears 15 and 14 rotates the nut 8 on the gland so as to move the gland to the position of adjustment desired. When the gland is properly adjusted, the squared head 23 of the crank is allowed to drop into the receptacle 24, thus locking the shaft 18 against turning and in consequence locking the gland in adjustment.

In the alternative construction instead of using the beveled gears as shown in the preferred construction, a worm gear connection is used. The nut 8 is provided with a worm gear 25 which is engaged by the worm 26. The worm 26 is carried by a shaft 27 and the shaft is journaled in studs 28 extending from the head of the frame. The shaft 27 extends to without the frame in the same manner as the shaft 18 and is actuated by the crank in the same manner as the shaft 18.

What is claimed as new is:—

1. In an actuating mechanism for glands for stuffing boxes, the combination of a gland having a screw thread thereon; a nut on the screw thread; means for locking the gland against turning; a closure for the gland; and means for actuating the nut from without the closure.

2. In an actuating mechanism for glands for stuffing boxes, the combination of a gland having a screw thread thereon; a nut on the screw thread; means for locking the gland against turning; a closure for the gland; an actuating shaft extending without the closure; and a gear connection between the shaft and nut.

3. In an actuating mechanism for glands for stuffing boxes, the combination of a

gland having a screw thread thereon; a nut on the screw thread having an internal flange; a collar arranged on the flange for securing the nut; studs for securing the collar, said studs extending into the gland and locking the gland against turning; and means for actuating the nut.

4. In an actuating mechanism for glands for stuffing boxes, the combination of a gland; a closure for the gland; a screw for actuating the gland; a shaft extending without the closure; a gear connection between the shaft and screw for actuating the screw; and means operating on the shaft for locking the gland in adjustment.

5. In an actuating mechanism for glands for stuffing boxes, the combination of a gland; a screw for adjusting the gland; a closure for the gland; a shaft extending without the closure; a connection between the shaft and gland for actuating the gland with the shaft; a crank on the shaft; and means on the crank for locking the shaft in adjustment.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

EDWIN J. FITHIAN.
HARRY D. MURRAY.

Witnesses:
C. F. FITHIAN,
JOHN CARRUTHERS.