C. R. P. POOL.

PRESS HEAD OPERATING APPARATUS.

APPLICATION FILED FEB. 7, 1913.

1,089,008.

Patented Mar. 3, 1914.

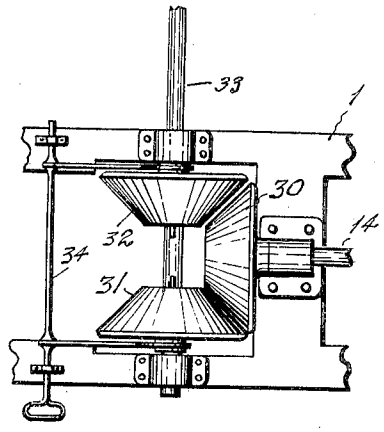


Fig. 3

Fig. 1.

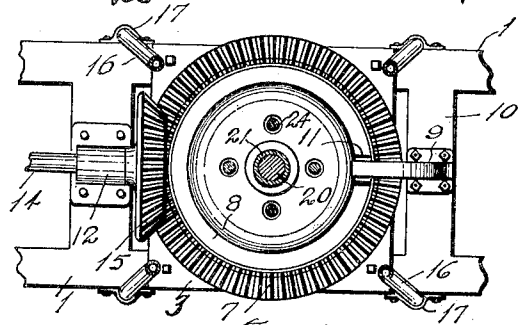


Fig. 2.

WITNESSES:

J. L. Bowling

Helen Schley

INVENTOR

C. R. P. Pool,

BY Jack R. Schley.

ATTORNEY

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES R. P. POOL, OF DALLAS, TEXAS.

PRESS-HEAD-OPERATING APPARATUS.

1,089,008. Specification of Letters Patent. Patented Mar. 3, 1914.

Application filed February 7, 1913. Serial No. 746,741.

To all whom it may concern:

Be it known that I, CHARLES R. P. POOL, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Press-Head-Operating Apparatuses, of which the following is a specification.

This invention relates to new and useful improvements in press head operating mechanism.

The object of the invention is to provide such a mechanism comprising a pair of oppositely threaded members, one held against longitudinal movement and the other arranged to move longitudinally in combination with a connecting member having screw threaded engagement with the threaded members and adapted to travel longitudinally with and in relation to the screw threaded member.

Another object is to provide means for rotating the connecting member and also means for retaining the parts in their relative positions.

A still further object of the invention is to provide a device of the character described that will be strong, durable, efficient, and simple and comparatively inexpensive to construct and maintain, also one in which the several parts will not be likely to get out of working order.

With the above and other objects in view the invention has relation to certain novel features of construction and operation, an example of which is described in the following specification and illustrated in the accompanying drawing, wherein:

Figure 1 is a view in elevation showing the invention, certain parts being illustrated, Fig. 2 is a cross sectional view on the line —s of Fig. 1, and Fig. 3 is a plan view of the transmission gearing.

In the drawings the numeral 1 designates a pair of parallel beams disposed over a press box 2. On the beams a base plate 3 is fastened so as to span the space therebetween. This plate has a central opening 4 and an annular track 5 having an inverted V-shaped bearing ring fitting in a correspondingly shaped groove 6 in the under face of a horizontally disposed beveled gear 7.

This gear has an annular track 8 on its upper face. A bracket 9 mounted on a cross beam 10 overhangs the gear and supports a roller 11 which bears on the track 8. Bearing standards 12 support a driving shaft 14 on one of which a beveled pinion 15 is secured. This pinion meshes with the gear 7 and the roller 11 off-sets any tendency of the gear becoming displaced from the track which forms its bearing.

Four uprights 16 rise from sockets 17 on the sides of the beams 1. These uprights incline toward each other and are fastened at their upper ends in a cap plate 18. The upper end of a screw 19 is confined in the cap plate and depends centrally of the support formed by the upright 16 and is positioned over the center of the gear 7. A second screw 20 is alined with the screw 19 and disposed thereunder. A tubular housing 21 incloses the screws. The screws are oppositely threaded and the housing 21 passes smoothly through the hub of the gear 7 and the opening 4 of the base plate. This screw 20 has its lower end confined in a bearing 22 fixed on a press head 23 which is carried by the screw 20 and works in the press box 2. Surrounding the screws 19 and 20 is a turn buckle consisting of four equi-distant rods 24 rigidly connecting the heads 25, one mounted on each screw. The tubular housing 21 is disposed between these heads and is supported by the lower one. The rods 24 pass through apertures in the gear 7 and thus the turn-buckle is rotated thereby. Normally the screws are practically together when the press head is raised as shown in Fig. 1. By imparting motion to the shaft 14 the gears are rotated and a rotary motion imparted to the turn-buckle. The turn-buckle is carried downward on the screw 19 and the screw 20 being oppositely threaded is displaced downward or longitudinally from the turn-buckle and is at the same time carried downward by the said turn-buckle, thus being displaced longitudinally twice the distance it is moved longitudinally by the rotation of said turn-buckle. By reversing the direction of rotation of the shaft 14, the turn-buckle is rotated in a reverse direction whereby the parts are returned to their normal positions. The press head being mounted on the lower end of the screw 20 is lowered when the screws are separated and raised when they are brought together. By employing the longitudinally movable turn-buckle and the lower screw movable longitudinally of the turn-buckle, an extremely rapid press head operating means is provided and one which at the same time affords ample power for pressing.

On the outer end of the shaft 14, a beveled friction gear 30 is mounted between like gears 31 and 32 splined on a power shaft 33 suitably supported. A shifting yoke 34 has connection with the gears 31 and 32 whereby they are alternately shifted into contact with the gear 30 and rotate the shaft 14 in either direction.

It is obvious that the press head operating means may be duplicated or disposed in any desirable position.

What I claim, is:

1. In a press head operating apparatus, a base plate, a support above the base plate, a screw fixed in the support, a second screw passing freely through the base plate, said screws being oppositely threaded, a turn-buckle engaging both screws, a rotation member connected to the turn-buckle, and a press head attached to the second screw.

2. In a press head operating apparatus, a pair of alined and oppositely threaded screws, one of said screws being fixed against longitudinal movement relative of the other screw which latter is capable of longitudinal movement relatively of the first named screw, a turn-buckle rotatably mounted on the screws and having movement longitudinally of the screws, and a rotating member engaging the turn-buckle.

3. In a press head operating apparatus, a pair of alined and oppositely threaded screws, one of said screws being fixed against longitudinal movement relative of the other screw which latter is capable of longitudinal movement relatively of the first named screw, a press head connected to one of the screws, a turn-buckle rotatably mounted on the screws and having movement longitudinally of the screws, a rotating member engaging the turn-buckle, and a housing incasing the screws.

4. In a press head operating apparatus, a pair of alined and oppositely threaded screws, one of said screws being fixed against longitudinal movement relatively of the other screw which latter is capable of longitudinal movement relatively of the first named screw, a press head connected to one of the screws, a turn-buckle rotatably mounted on the screws and having movement longitudinally of the screws, and a gear engaging with the turn-buckle.

5. In a press head operating apparatus, a base plate, a support above the base plate, a screw fixed in the support, a second screw passing freely through the base plate, said screws being oppositely threaded, a turn-buckle comprising heads connected in relative fixed relation, one head being threaded on one screw and the other head being threaded on the other screw, a rotating member connected to the turn-buckle, and a press head attached to the second screw.

6. In a press head operating apparatus, a pair of alined and oppositely threaded screws, one of said screws being fixed against longitudinal movement relatively of the other screw which latter is capable of longitudinal movement relatively of the first named screw, a turn-buckle rotatably mounted on the screws and having movement longitudinally of the screws, and a rotating member engaging the turn-buckle, in combination with means for imparting motion to the rotating member and capable of reversing the direction of said motion.

7. In a press head operating apparatus, a base plate, a gear supported on the base plate, supports, a cap member at the end of the support opposite to the base plate, a screw secured to the cap member between the supports, a second screw passing loosely through the gear and the base plate and oppositely threaded with relation to the first screw, turn-buckle heads threaded on the screws, rods connecting said heads in relative fixed relation, said rods passing through the gear, a tubular housing fitting on the screws between the heads, means engaging the gear for rotating the same, and a press head connected to one of the screws.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES R. P. POOL.

Witnesses:
JACK A. SCHLEY,
J. C. LEDBETTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."