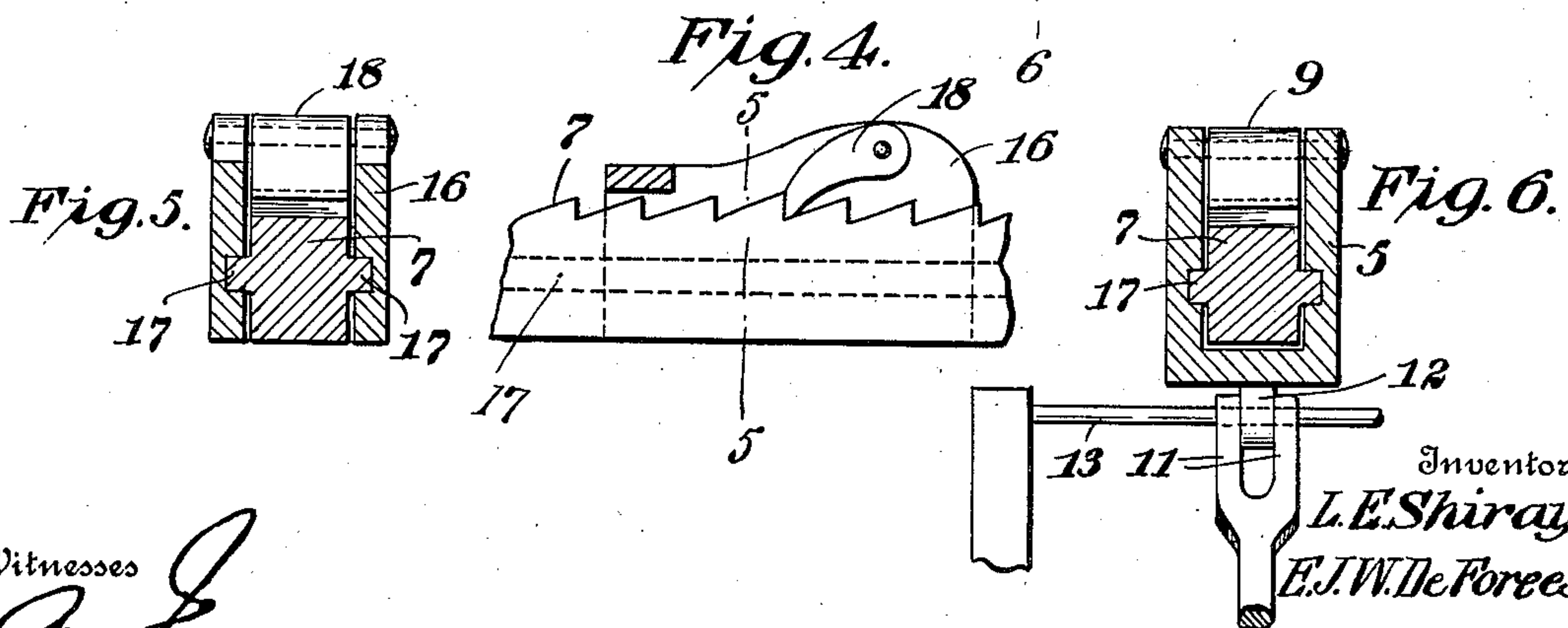
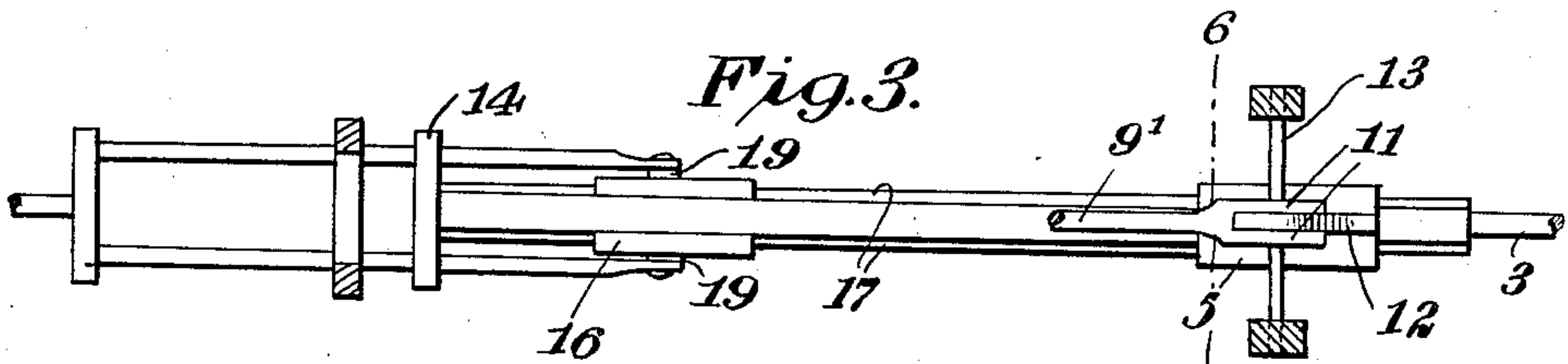
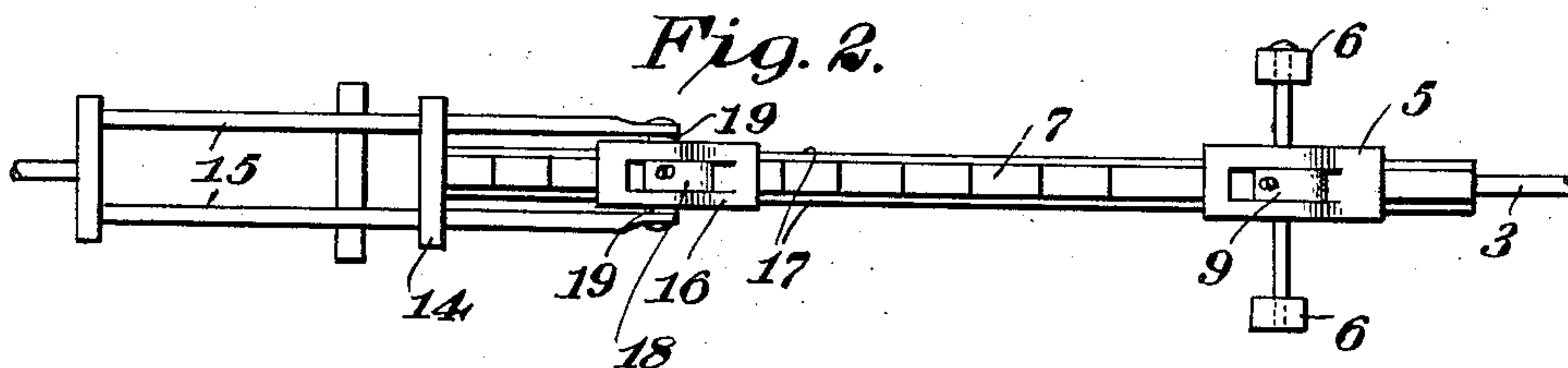
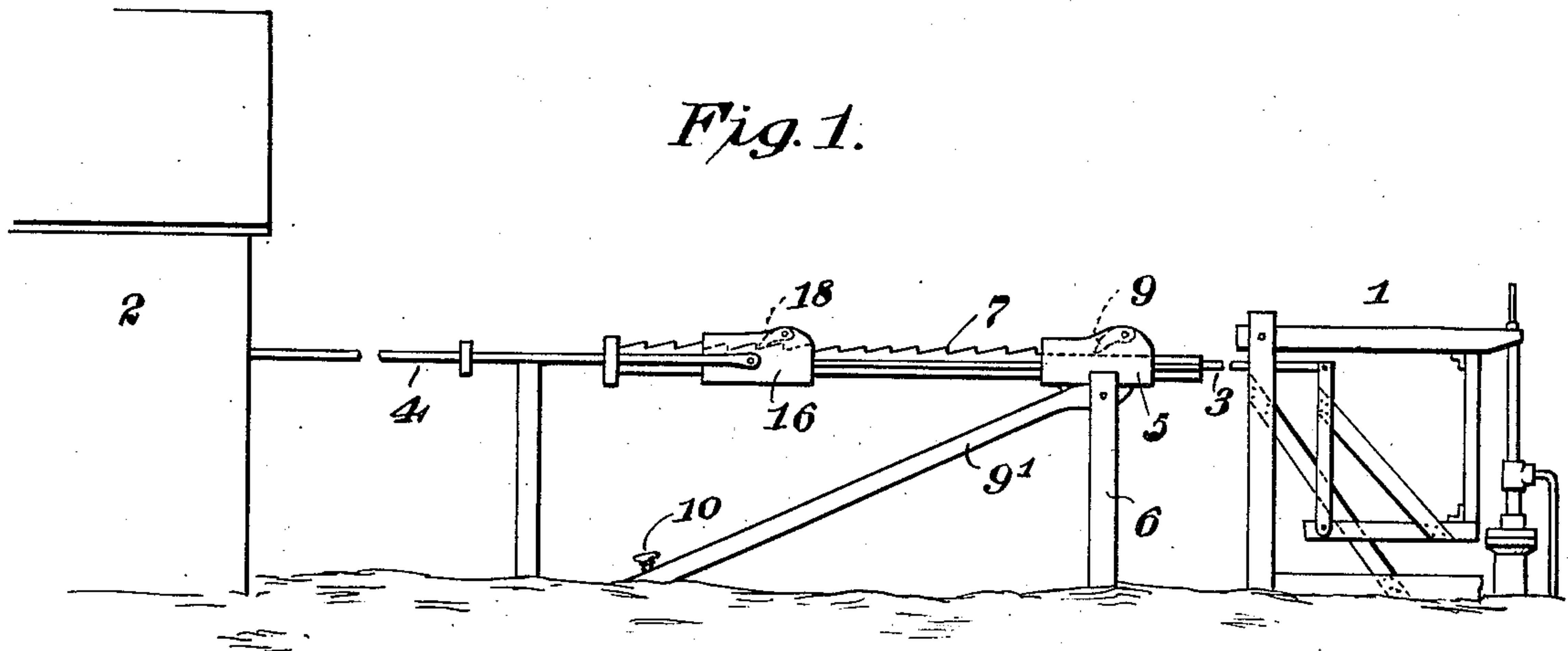


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 COUPLING FOR OIL WELL POWER TRANSMITTING MECHANISMS.
 APPLICATION FILED OCT. 26, 1908.

928,805.

Patented July 20, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS E. SHIRAY AND EARL J. W. DE FOREEST, OF ROBINSON, ILLINOIS.

COUPLING FOR OIL-WELL POWER-TRANSMITTING MECHANISM.

No. 928,805.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed October 26, 1908. Serial No. 459,539.

To all whom it may concern:

Be it known that we, LOUIS E. SHIRAY and EARL J. W. DE FOREEST, citizens of the United States, residing at Robinson, in the county of Crawford and State of Illinois, have invented certain new and useful Improvements in Couplings for Oil-Well Power-Transmission Mechanisms, of which the following is a specification.

In oil well districts it is common to operate a series of pumps from a centrally located power. It frequently happens that one or more pumps require to be repaired and to disconnect the same from the power is generally attended with risk to the person besides being difficult and inconvenient to accomplish.

The present invention provides means located in the length of the rods by means of which power is transmitted to the pumps for operating the same and which means will admit of any one of a series of pumps being disconnected without incurring or exposing the operator to danger, the coupling being easily and quickly engaged by simply throwing pawls into and out of operative position.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the construction and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a detail view in elevation, of a line of rods or transmission devices between a pump and the power, embodying the invention. Fig. 2 is a top plan view of the coupling means on a larger scale. Fig. 3 is a view of the coupling means as seen from the bottom side, parts being broken away. Fig. 4 is a longitudinal section of the slide. Fig. 5 is a cross section on the line 5—5 of Fig. 4, Fig. 6 is a section on the line 6—6 of Fig. 3 looking to the right, the parts being on a larger scale, the right hand post being omitted and the left hand post broken away.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The numeral 1 indicates a pumping jack located at each well for operating the pump. The numeral 2 designates the power house, which is usually centrally located with reference to the series of pumps to be operated. The jack line is indicated at 3 and the power line at 4, these parts, together with the coupling means, constituting the power transmission. A guide 5 is mounted upon a post or support 6 and receives a rack bar 7 which is coupled to the jack line 3. The guide 5 consists of a box which is provided in its top side with an opening in which operates a pawl 9.

A rod or stay 9¹ forms anchoring means for the guide 5 and is pivoted at its upper end to said guide and has its opposite anchored to the ground by means of a pin 10. The upper end of the rod 9¹ is forked, as shown at 11, and embraces opposite sides of a lug 12 provided at the bottom side of the guide 5. A pin 13 connects the forked members of the rod 9 with the lug 12 and also forms a support for the guide by having its end portions let into openings near the upper ends of the support 6, which preferably consists of a pair of uprights or posts. The rack bar 7 has a cross head 14 at the end remote from the jack line 3 and the end portions of said cross head are apertured to receive rods 15, which are connected to the power line 4 and to a slide 16. Ribs 17 are provided at opposite sides of the rack bar 7 and operate in the vertical walls of the slide 16 and the guide 5. The ribs 17 serve to centralize the rack bar in the guide 5 and the slide 16, thereby preventing the teeth of the rack bar from engaging with the upper wall of said parts 5 and 16.

The slide 16 is similar in construction to the guide 5 except that the bottom is open. Said slide embraces the top and opposite sides of the rack bar having an opening in its top side in which a pawl 18 operates and is adapted to engage with the teeth of the rack bar. The rods 15 extend along opposite sides of the rack bar and are connected to lugs 19 projected from opposite sides of the slide 16.

When the transmission or power transmitting line is in operation the pawl 9 is thrown out of action and the pawl 18 serves to connect the slide 16 with the rack bar 7. When it is required to throw the pump out of operation for repairs or other purposes, the pawl 9 is thrown into position to engage

with the rack bar, and the pawl 18 is thrown out of engagement with said rack bar being caught on its forward stroke, that is, away from the power house, thereby permitting the slide 16 to travel backward and forward upon the rack bar without imparting any movement thereto and without necessitating stoppage of the power. After repairs have been completed or when it is required to again throw the pump into operation the pawl 18 is moved into position to engage with the rack bar and the pawl 9 is thrown out of engagement with the rack bar so that after the parts have been properly coupled the power may be transmitted to the jack for operating the pump in the manner well understood.

Having thus described the invention, what is claimed as new is:

1. Coupling means for power transmission for oil well pumps, the same consisting of a rack bar having a cross head, a power slide arranged upon the rack bar, rods or bars arranged upon opposite sides of the rack bar and having connection at one end with said power slide, a pawl mounted upon the power slide and adapted to cooperate with the rack bar and a guide held in fixed position and arranged to have said rack bar operated therein, said guide being provided with a pawl to make engagement with the rack bar and hold same inactive when the power slide is disconnected therefrom.

2. In coupling means for power transmis-

sion of the character specified, the combination of a rack bar having longitudinal ribs at opposite sides, a fixed guide arranged to receive said rack bar and having grooves in opposite sides to receive the ribs of the rack bar, a pawl mounted upon the guide and arranged to engage with the teeth of the rack bar, a power slide mounted upon the rack bar and having opposite sides grooved to receive the longitudinal ribs thereof, and a pawl carried by said power slide and arranged to cooperate with the teeth of the rack bar.

3. In coupling means for power transmission of the character specified, the combination of a support, a guide provided with a pawl, an anchoring rod, means for connecting said anchoring rod with the guide and the latter with said support, a rack bar mounted in the guide, a power slide mounted upon the rack bar and provided with a pawl adapted to cooperate therewith, said rack bar having a cross head and rods or bars at opposite sides of the rack bar and having connection with the power slide and engaging with the cross head of the rack bar, to form a support therefor.

In testimony whereof we affix our signature in presence of two witnesses.

his
LOUIS E. X SHIRAY. [L. s.]

mark
EARL J. W. DE FOREEST. [L. s.]

Witnesses:

R. D. STEWART,
IRA E. SHIPMAN.