

No. 626,605.

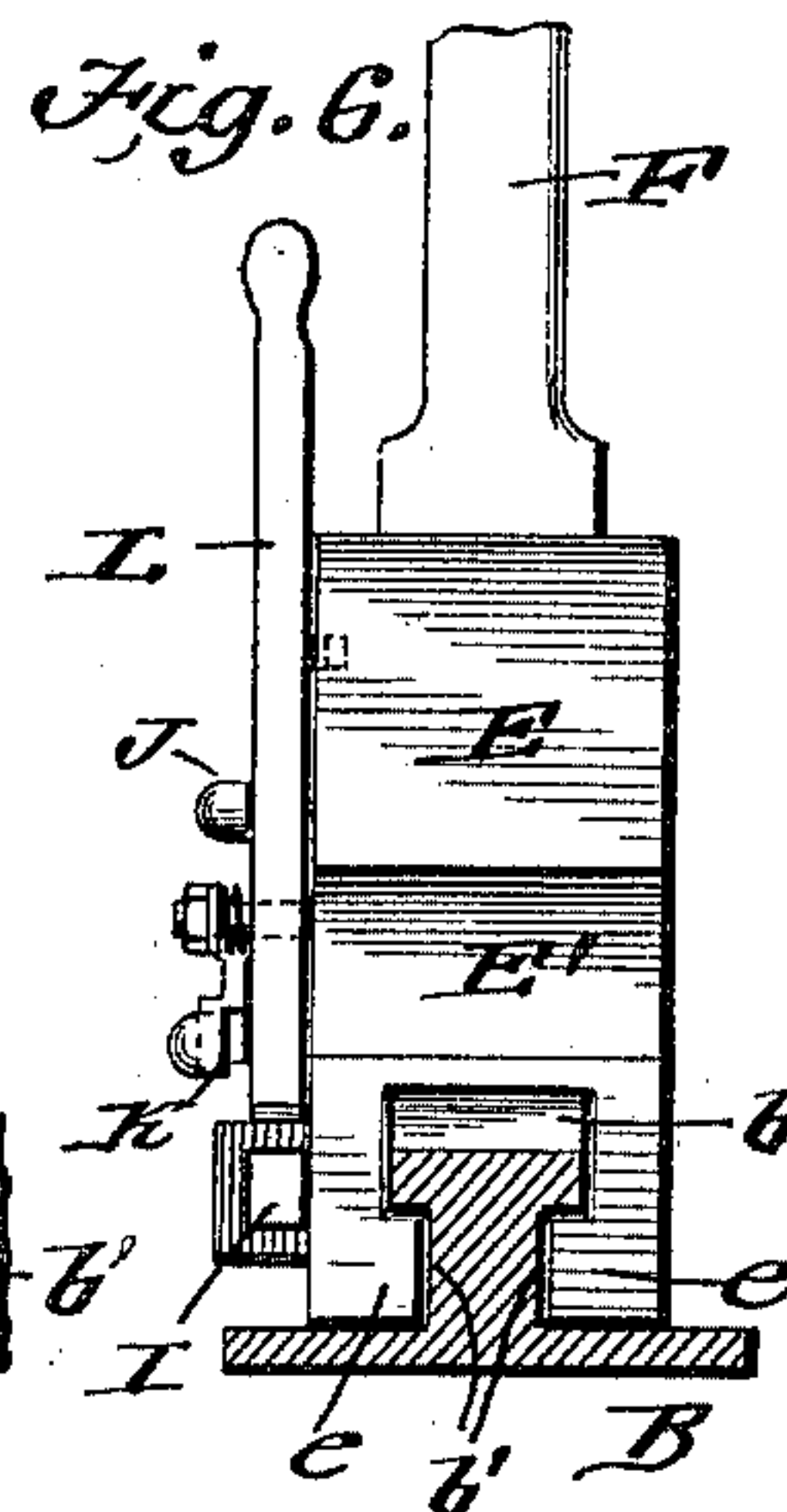
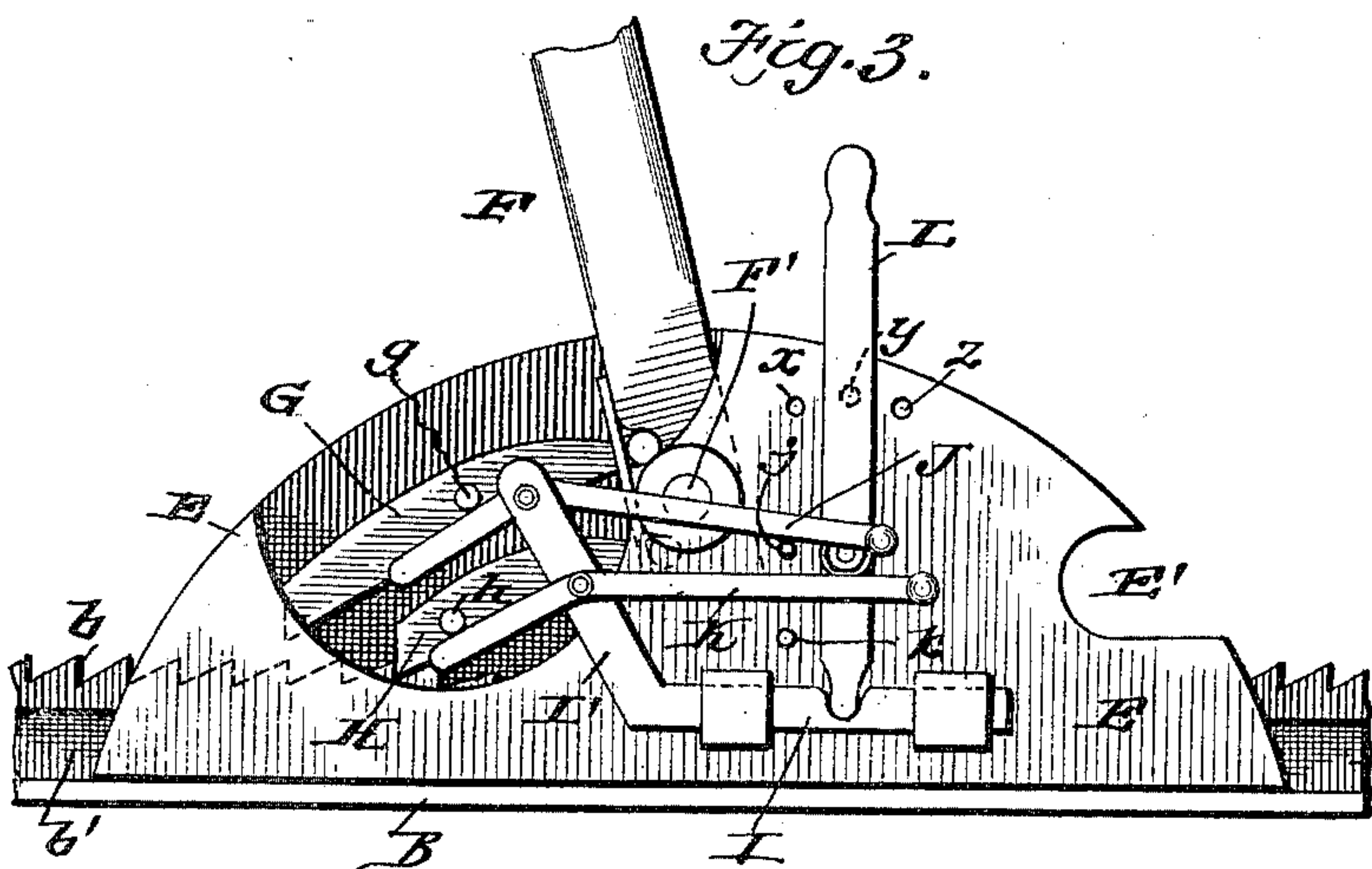
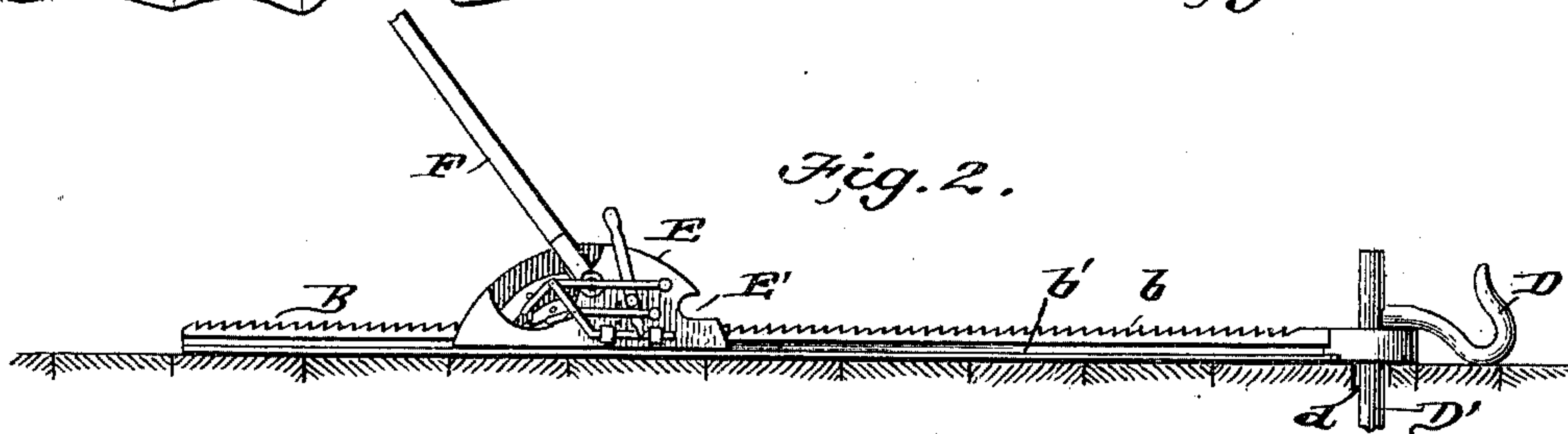
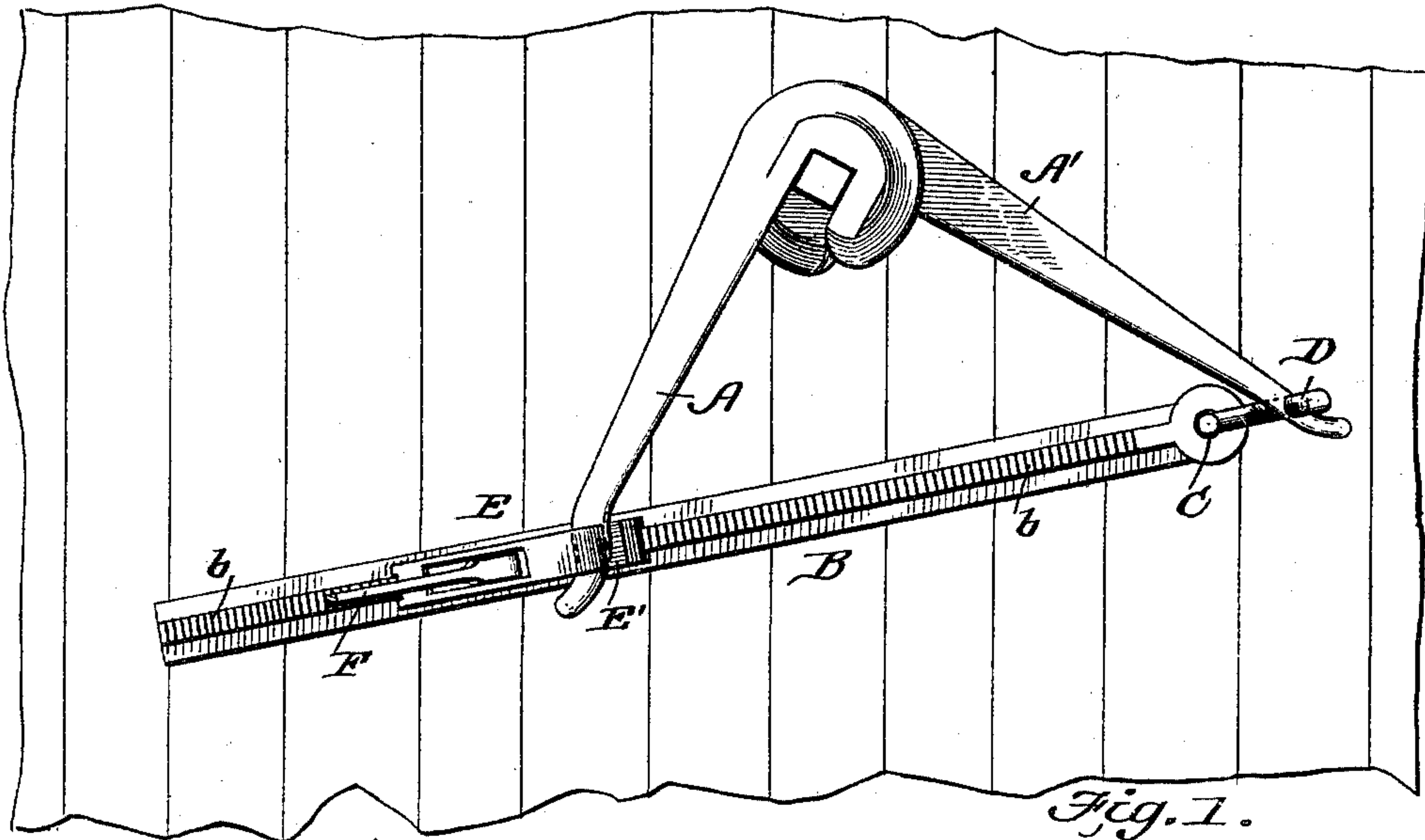
Patented June 6, 1899.

G. B. GALLAGHER.
JACK.

(Application filed Dec. 9, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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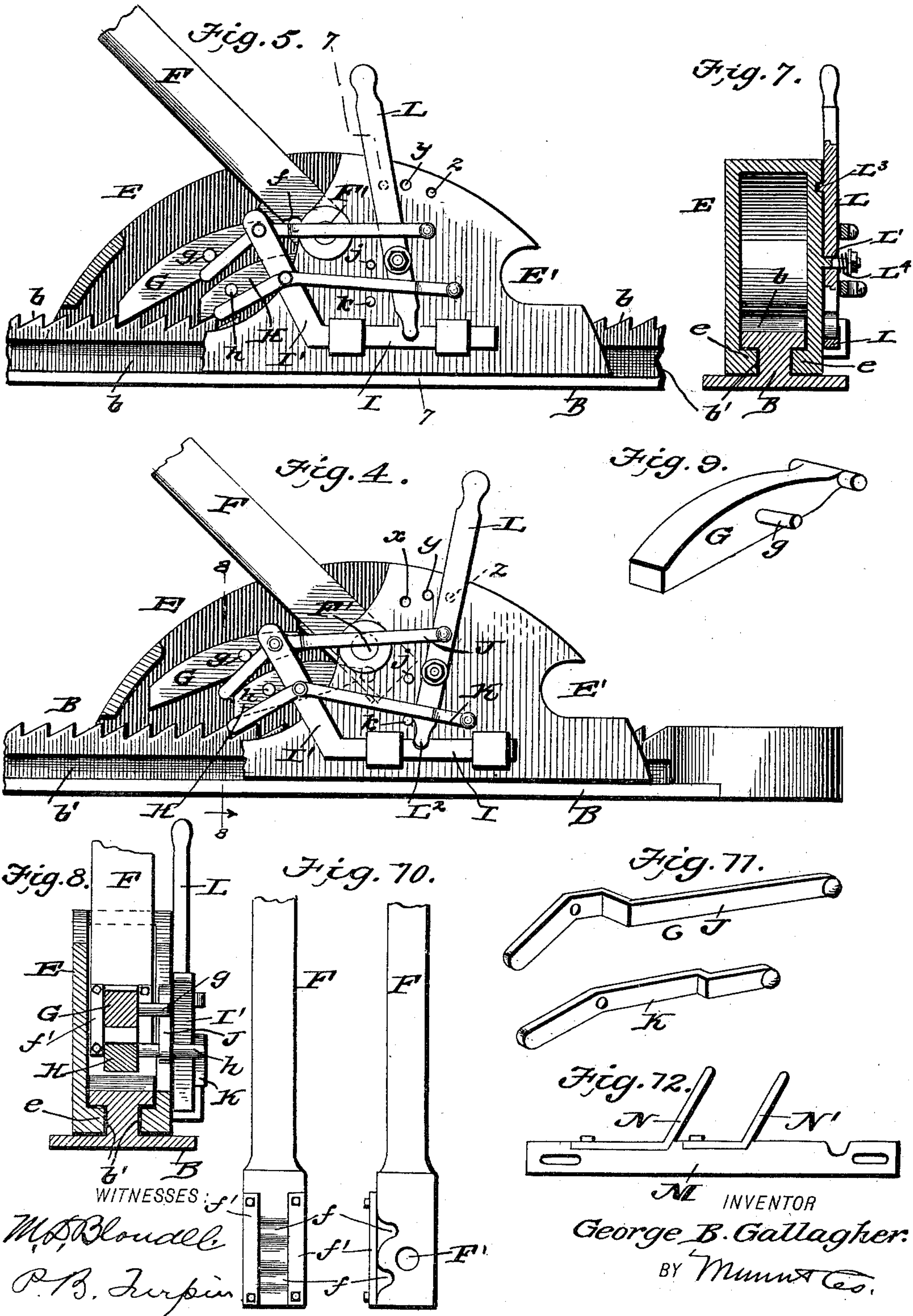
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(No Model.)

2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

GEORGE BYRON GALLAGHER, OF ST. MARY'S, OHIO, ASSIGNOR OF ONE-HALF
TO THE AUGLAIZE MACHINE COMPANY, OF SAME PLACE.

JACK.

SPECIFICATION forming part of Letters Patent No. 626,605, dated June 6, 1899.

Application filed December 9, 1898. Serial No. 698,731. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BYRON GALLAGHER, residing at St. Mary's, in the county of Auglaize and State of Ohio, have made certain new and useful Improvements in Jacks, of which the following is a specification.

My invention is an improvement in jacking mechanism, having for an object to provide improvements in jacks for general use, and particularly in jacks of the class known as "oil-well" jacks, for use in screwing up and unscrewing oil-well-tool joints, although it should be understood the invention is by no means limited to such use.

Among other objects my invention seeks to provide improved mechanism operating, in connection with the pawls of the jack, to liberate or release such pawls from the teeth of the track-bar either singly or doubly and independently of the jack handle or lever; also, to permit the track-bar to swing to conform to the path of the wrench-handle, whereby to always retain a straight line of pressure on the traveler and track.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a top plan view of my invention as in use. Fig. 2 is a side view thereof. Fig. 3 is an enlarged side view of the traveler with the lever for operating the slide-bar in its intermediate position. Fig. 4 is a side view of the traveler, part in section, with the lever for operating the slide-bar adjusted to position to cause the levers on the slide-bar to release the pawl. Fig. 5 is a view similar to Fig. 4 with the lever for operating the slide-bar adjusted to position to cause the levers to free the pawls. Fig. 6 is an end view of the traveler, the track-bar being shown in section. Fig. 7 is a detail cross-section on about line 7 7 of Fig. 5. Fig. 8 is a cross-section on about line 8 8 of Fig. 4. Fig. 9 is a detail view of one of the pawls. Fig. 10 illustrates in detail the jack handle or lever. Fig. 11 is a detail view illustrating the pawl-releasing levers, and Fig. 12 illustrates a modification of the slide-bar.

By my invention I seek to construct a jack so it may be conveniently operated to work

the wrench-handles A and A', one of which is hooked to the square of the drilling-bit and the other on the square of the drilling-stem, and to so support the jacking mechanism that it can be easily handled in transportation, can be readily moved out of the way to enable the drillers to get about their work, and can swing at one end, so it will conform to the path of the wrench-handles without affecting the straight-line operation of the jack.

In the construction shown the track-bar B is provided with the rack-teeth *b* and has at one end the pivot-hole C, through which projects the pin D' on the hook D, such pin D' passing through the hole C and into a socket *d* in the flooring, thus anchoring one end of the bar B, so such bar may swing at its other end to conform to the path of the wrench-handles. The hook D forms a seat for the wrench-handle A', which seat may swing on the pivot D' in the operation of the device.

The carrier E slides upon the track-bar B, being provided with portions *e*, which operate in the grooves *b'* in the opposite sides of the track-bar. This carrier is slidable to and from the hook D and is provided in its end next to said hook with a recess E', forming a seat for the wrench-handle A, as will be understood from Fig. 1.

The jacking lever or handle F is pivoted at F' to the carrier and is provided on opposite sides of said pivot with the pawls G and H, which operatively engage the track-bar as the lever F is reciprocated and operate to force the traveler E along the track-bar toward the hook D. By this means the outer ends of the wrench-handles are adjusted forcibly toward each other, as desired.

In pivoting the pawls G and H to the jacking-lever F it is preferred to provide said pawls with pivot-studs, which are secured in recesses *f* in the lever F and are secured by the overlying plates *f'*, as is best shown in Figs. 3 and 10.

In connection with the described devices I prefer to provide means whereby to release the pawls from engagement with the track-bar for the purpose of permitting the traveler to slip backward one step to free or loosen the wrench-handles when the joints have been screwed up to the desired point and there is

great pressure on said wrench-handles and also to remove the traveler entirely from the track when desired. To this end I provide the pawls with lateral pins *g* and *h* and means for engaging said pins to free such pawls. In the construction shown in Figs. 2, 3, 4, and 5 such means includes a slide-bar I, fitted in loops on it, so it is held to and movable along the traveler-frame, and provided with an upwardly-extending portion I', to which are pivoted levers J and K, which are pivoted between their ends to said portion I', have their forward arms arranged for engagement by the pins *g* and *h*, and their rear arms weighted to overbalance such forward arms and stopped in their downward movement by the stops *j* and *k*. These levers J and K are adjusted into and out of position for operative engagement by the pawls by the longitudinal sliding of the bar I, which is preferably accomplished by means of the lever L, which is pivoted at L', has its lower end engaged at L² with the slide-bar I, and is provided with a pin L³, operating as a detent in the holes X, Y, and Z and pressed into such holes by the spring L⁴, operating upon the pivot of such lever, as shown in the drawings.

In the operation when the parts are adjusted to the position shown in Fig. 5 the lever L is held in the hole X and the levers J and K are set so they will not interfere with the engagement of the pawls with the track-bar, so the said pawls will alternately engage with the track-bar as the lever F is reciprocated, and will thus operate to force the traveler toward the hook D. If the joints have been screwed up to the desired point, great pressure will be exerted on the wrench-handles, and to release them the lever L is set into the hole Y, which will adjust the slide-bar to bring the disengaging-levers J and K into requisition alternately as the handle C is worked up and down to raise each pawl as it becomes loosened, lifting it clear of the teeth *b* and allowing the traveler to slip backward one notch or step until the wrenches become free and loose, such operation being illustrated in Fig. 3. To remove the traveler entirely from the track, the lever L should be moved in the hole Z, thus moving the slide-bar to cause the levers J and K to disengage both of the pawls from the teeth of the track-bar, leaving the traveler entirely free, so it may be stripped from the track-bar.

In Fig. 12 I show a modification of the slide-bar I, such modified bar M being provided with two flat spring-blades N and N', which may be used in place of the slide-bar shown in Figs. 2, 3, 4, and 5.

In the operation of the construction the blades N and N' will engage beneath the pins *g* and *h* and lift the pawls G and H, as will be understood from Figs. 6 and 12.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A wrench-operating jack comprising the track-bar, a support therefor, a pivot connecting one end of said bar with the support, the other end of the bar being free whereby such bar may swing on its pivot, and step-by-step mechanism operating on said bar, bearings being provided for the wrench-handles substantially as set forth.

2. In a jack the combination of the track-bar having at one end a pivot-hole, the step-by-step mechanism operating on said bar and having a seat for a wrench-handle the hook forming a seat for another wrench-handle and a pin fitting in the hole of the track-bar substantially as set forth.

3. The combination of the track-bar, the lever, the pawls thereon engaging the bar, the slide-bar and the levers made heavier at one end, connected with and carried by the slide-bar, and supported independently of the pawls and arranged for engagement by the said pawls substantially as set forth.

4. The combination in a jack of the track-bar, the traveler, the jacking-lever, the pawls having projecting pins, the slide-bar and the levers pivoted thereto weighted at one end and arranged at their other ends to engage the pins of the pawls substantially as set forth.

5. An improved jack comprising the track-bar, the hook, a pin forming a pivot for one end of said bar, the bar being free to swing at its other end, the traveler on said track-bar, the jacking-lever and its pawls whereby to engage said bar, and the slide-bar provided with weighted levers by which to release said pawls substantially as set forth.

GEORGE BYRON GALLAGHER.

Witnesses:

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L. HENDERSON.