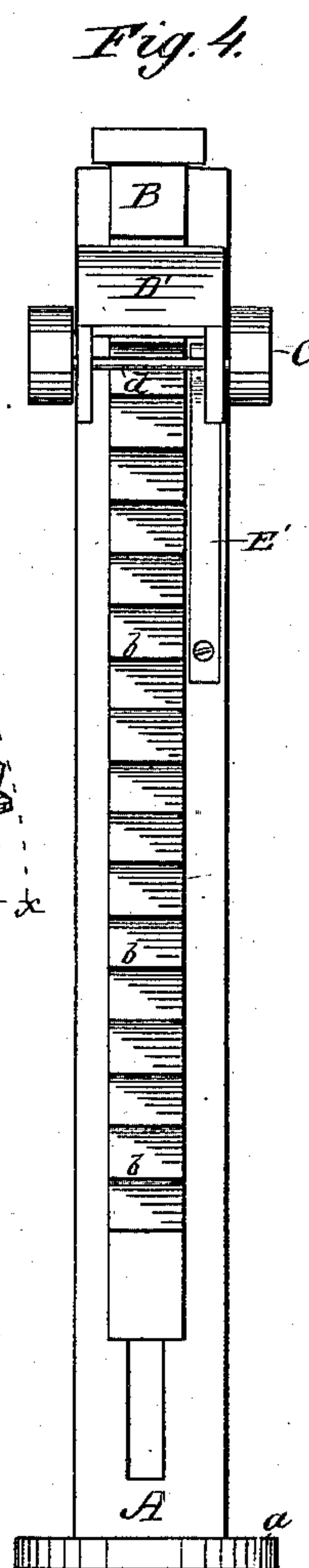
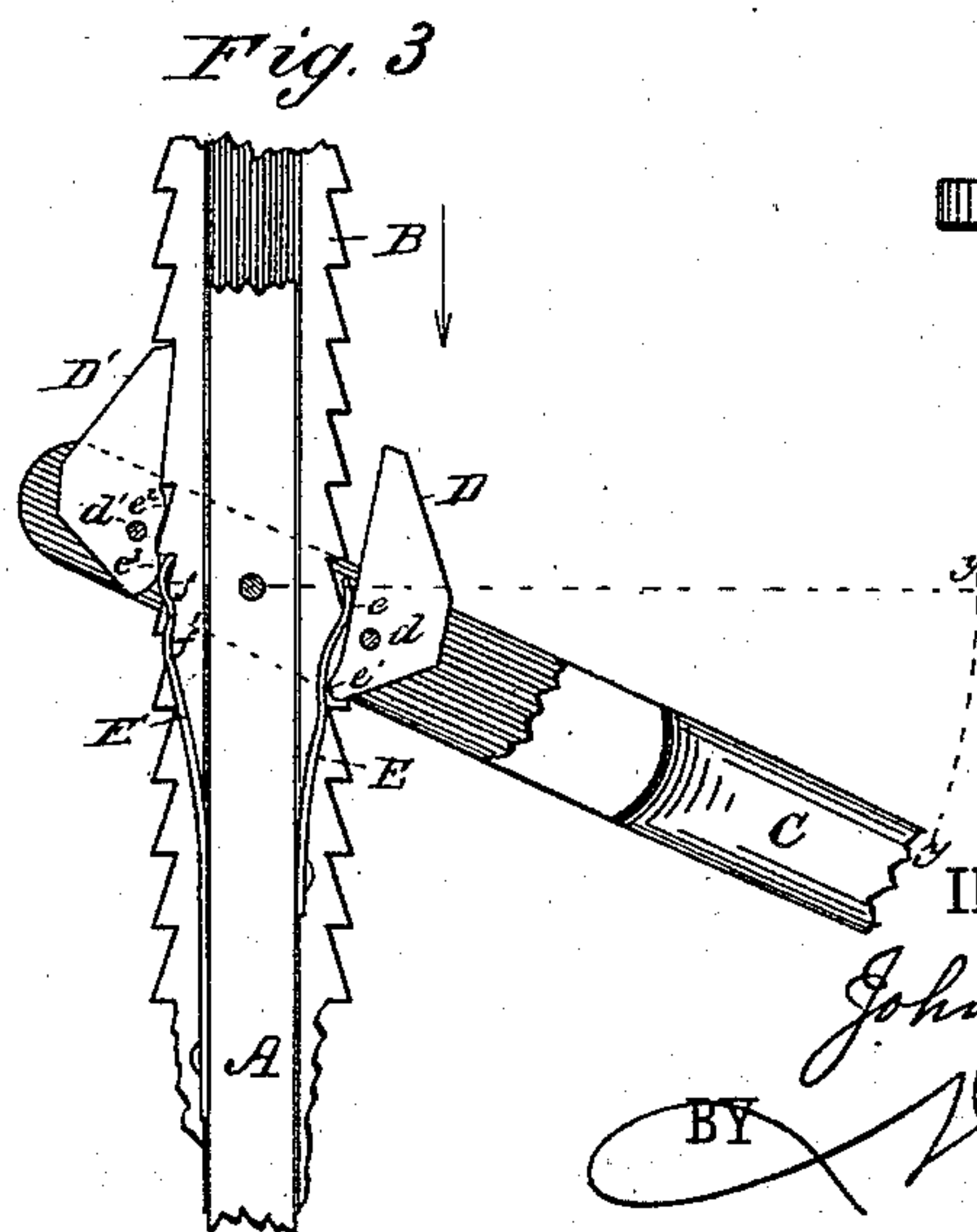
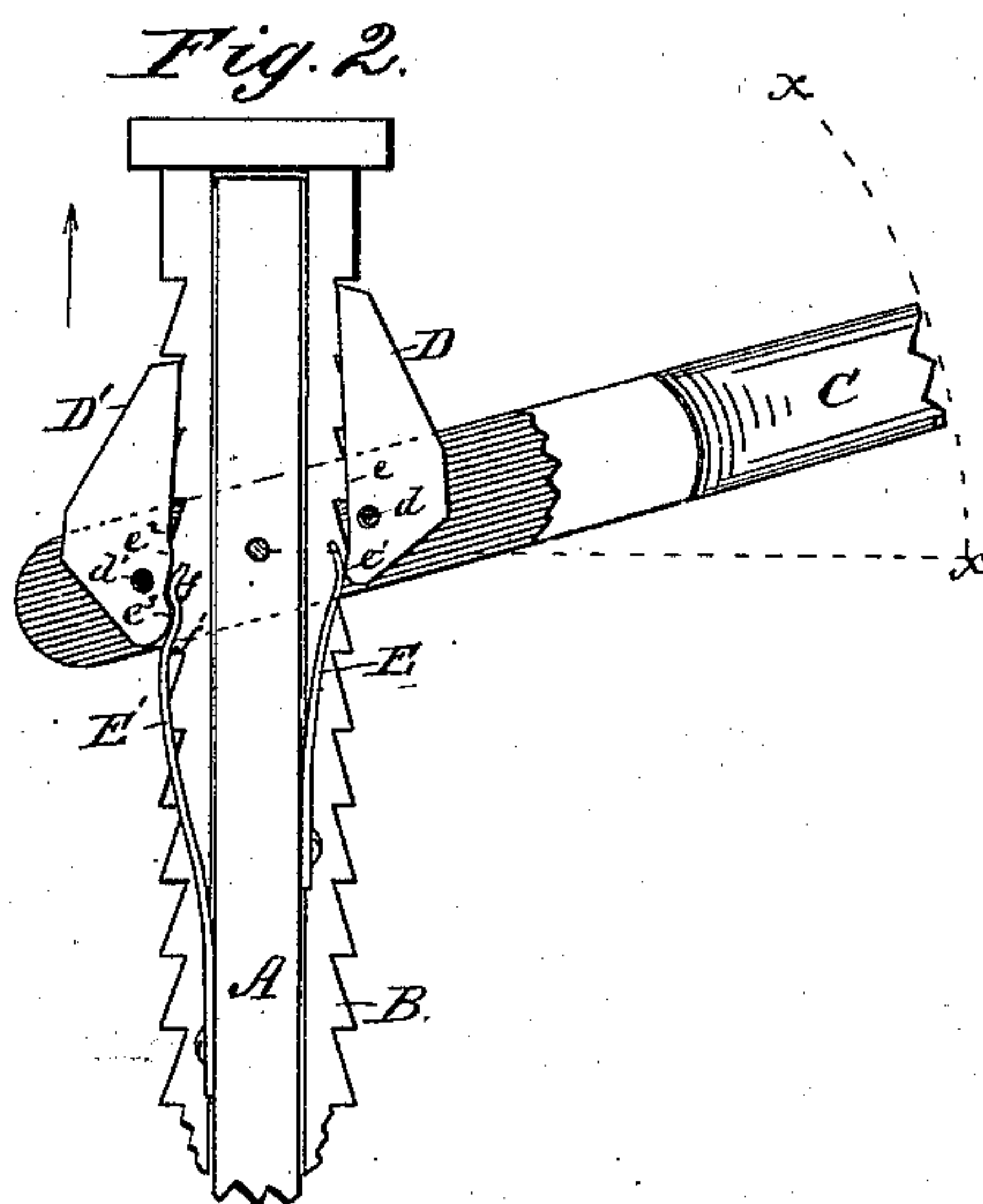
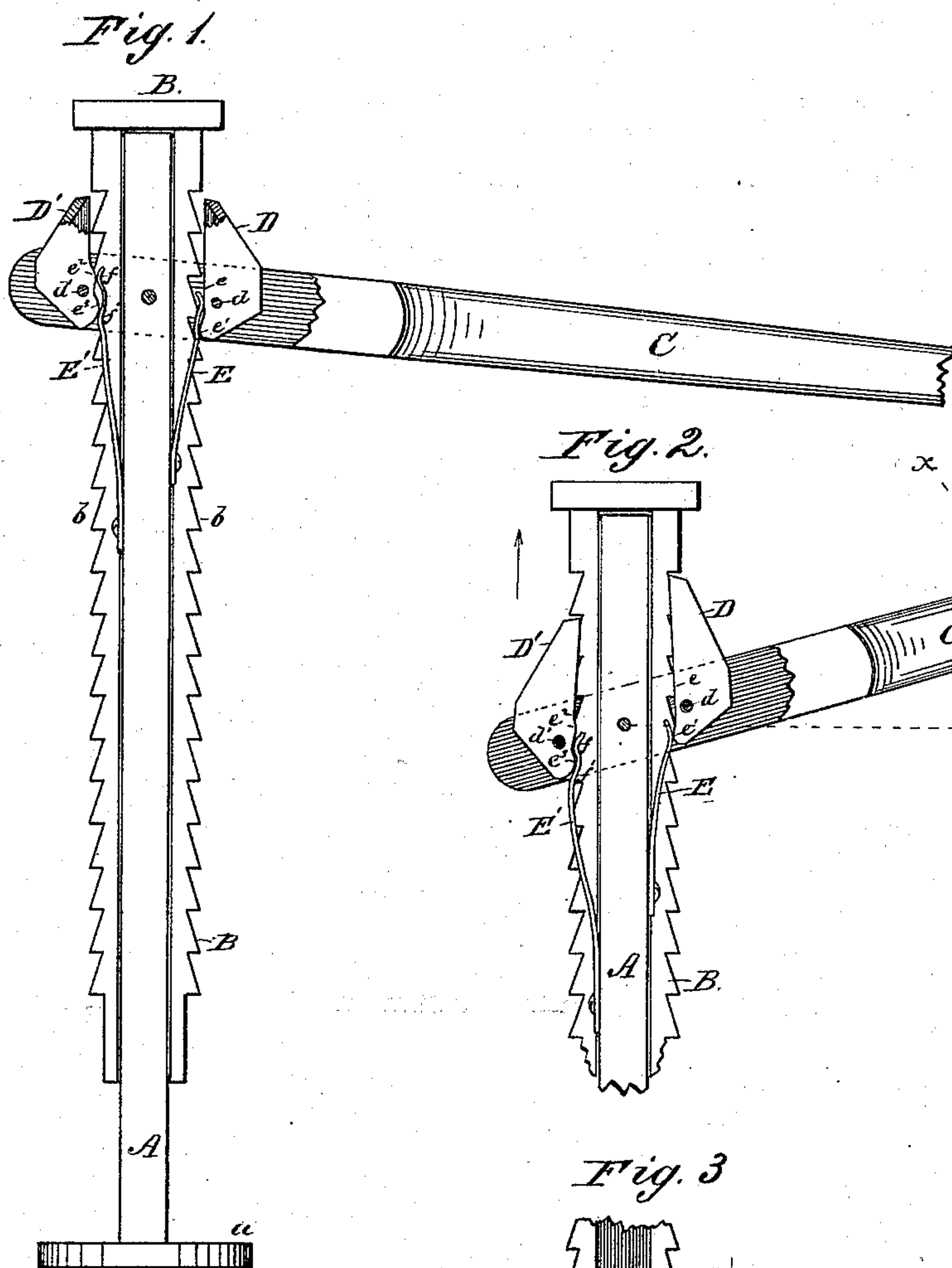


(Model.)

J. CHARLES.
Wagon Jack.

No. 229,380.

Patented June 29, 1880.



WITNESSES:

W. W. Hollingsworth
Edw. U. Byrne.

INVENTOR:

John Charles
BY *Wm. L.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN CHARLES, OF CLEAR SPRING, MARYLAND, ASSIGNOR OF ONE-HALF
OF HIS RIGHT TO LEWIS CHARLES, OF SAME PLACE.

WAGON-JACK.

SPECIFICATION forming part of Letters Patent No. 229,380, dated June 29, 1880.

Application filed May 15, 1880. (Model.)

To all whom it may concern:

Be it known that I, JOHN CHARLES, of Clear Spring, in the county of Washington and State of Maryland, have invented a new and Improved Wagon-Jack; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation with the lever-fork in section. Fig. 2 is a similar fragmental view, showing one position of the device when raising the lift-bar; Fig. 3, a similar view, showing one position of the device when lowering the lift-bar. Fig. 4 is an edge view.

My invention relates to certain improvements in that class of wagon-jacks in which a lever carrying two pawls or gripping-jaws is combined with a lifting-bar having a double set of ratchet-teeth, whereby the oscillation of the lever is made to cause the travel of the lift-bar over the main section, to which the lever is pivoted.

My improvement consists in pivoting the pawl-jaws to the lever in such relation to springs on the main bar that the lifting-bar may be made to travel either up or down without change in the adjustment by simply changing the range of oscillation of the lever, as hereinafter fully described.

In the drawings, A represents the main bar or section of the jack, which is provided with a foot, *a*, and is slotted longitudinally, so as to form two branches. Between these branches the lift-bar B slides, the said lift-bar being formed with longitudinal grooves on its opposite sides, which receive the adjacent edges of the two branches of the main bar, which act as guides. This lift-bar B is formed upon its opposite edges with ratchet-teeth *b*, pointing downwardly.

Near the top of the main bar A is fulcrumed, at *c*, the lever C, extending out transversely from the jack, and having forked branches which extend upon opposite sides of the bars. To this lever, on opposite sides of the ratchet-bar, are pivoted the pawl-jaws D D', which are fulcrumed upon pins *d d'* extending from one branch to the other of the fork in the lever. Upon one side these jaws have, near their fulcrum, two bearing-faces each. Thus the jaw D has a bearing, *e*, above its fulcrum, and another,

e', below it, and the jaw D' has also a bearing, *e²*, above its fulcrum, and another, *e³*, below it.

Fixed to the bar A are two springs, E E', whose upper ends bear against the jaws to give them a peculiar action, as follows. Thus when the lever is in a horizontal position the ends of the springs are nearly opposite the fulcrum of the jaws, and by a slight depression of lever the jaws are sufficiently opened to allow the ratchet-bar to be moved freely up or down. Now, whenever the lever is oscillated above a horizontal line, as over the range *x x*, the ratchet-bar is moved up; but when oscillated below the horizontal line, as over the range *y y*, the ratchet-bar is lowered. This is explained as follows: The spring E has a single bearing-face, which, when the lever is horizontal, rests nearly opposite the fulcrum on that side, while the other spring, E', has two bearing-faces, *f f'*, which, when the lever is horizontal, rest nearly an equal distance upon opposite sides of the fulcrum on that side, and when in such positions the jaws D are, as in Fig. 1, not pressed by the springs against the ratchet-bar on either side, and hence the said ratchet-bar can be moved freely up or down to adjust it to the vehicle or other object to be raised. Now, when the ratchet-bar is to be raised the lever is oscillated over the range *x x*, as in Fig. 2, above the horizontal position, and during this oscillation the end of the spring E presses upon bearing *e'* on that side, so as to hold the jaw engaged with the ratchet-teeth. On the opposite side the bearing *f'* of the spring E' presses upon the bearing *e³* of the jaw D' to hold jaw D' engaged with the ratchet-teeth on that side, so that when the lever is oscillated above the horizontal or through the range *x x* the lift-bar is raised by the alternate action of the jaws.

For lowering the ratchet-bar the lever is oscillated below the horizontal line over the range *y y*, as in Fig. 3, and in this movement the springs bear as follows: The end of spring E moves from the fulcrum of jaw D to the bearing *e* above, pressing on the bearing *e* above the fulcrum on the downward stroke, and just before the commencement of the upward stroke, to throw this jaw open and allow it to rise over the teeth, and resting upon bearing *e'* at the end of the upstroke, and just before the down-

stroke, to allow the jaw to go in and catch the tooth to lower the weight on the lift-bar. On the opposite side the upper bearing, f , of the spring E' presses on the lower bearing, e^3 , of the jaw at the end of the upward stroke, to throw in the jaw preparatory to descending, and at the end of the downstroke said bearing f presses against the upper bearing, e^2 , to throw open the jaw preparatory to rising to take a new hold. In other words, when raising the lift-bar the jaws alternately descend below a given horizontal line to get a lifting purchase, while in lowering the lift-bar they alternately rise above this horizontal line to get a purchase to lower said bar by. In passing from the position in Fig. 2, when raising the lift-bar, to position in Fig. 3, for lowering, it might appear that the devices would occupy the position in Fig. 1 and allow the lift-bar to

fall. This is prevented by reason of the fact that the weight on the lift-bar always holds one of the jaws engaged.

Having thus described my invention, what I claim as new is—

The combination of the main bar A, the double ratchet-bar B, the lever C, carrying pawl-jaws D D', and the springs E E', arranged upon bar A and adapted to bear upon the jaws in the relation to their fulcra, as described, whereby the ratchet-bar may be either raised or lowered without changing the adjustment and by simply varying the range of oscillation of the lever, as described.

JOHN CHARLES.

Witnesses:

SAMUEL ROBISON,
LEWIS CHARLES.