

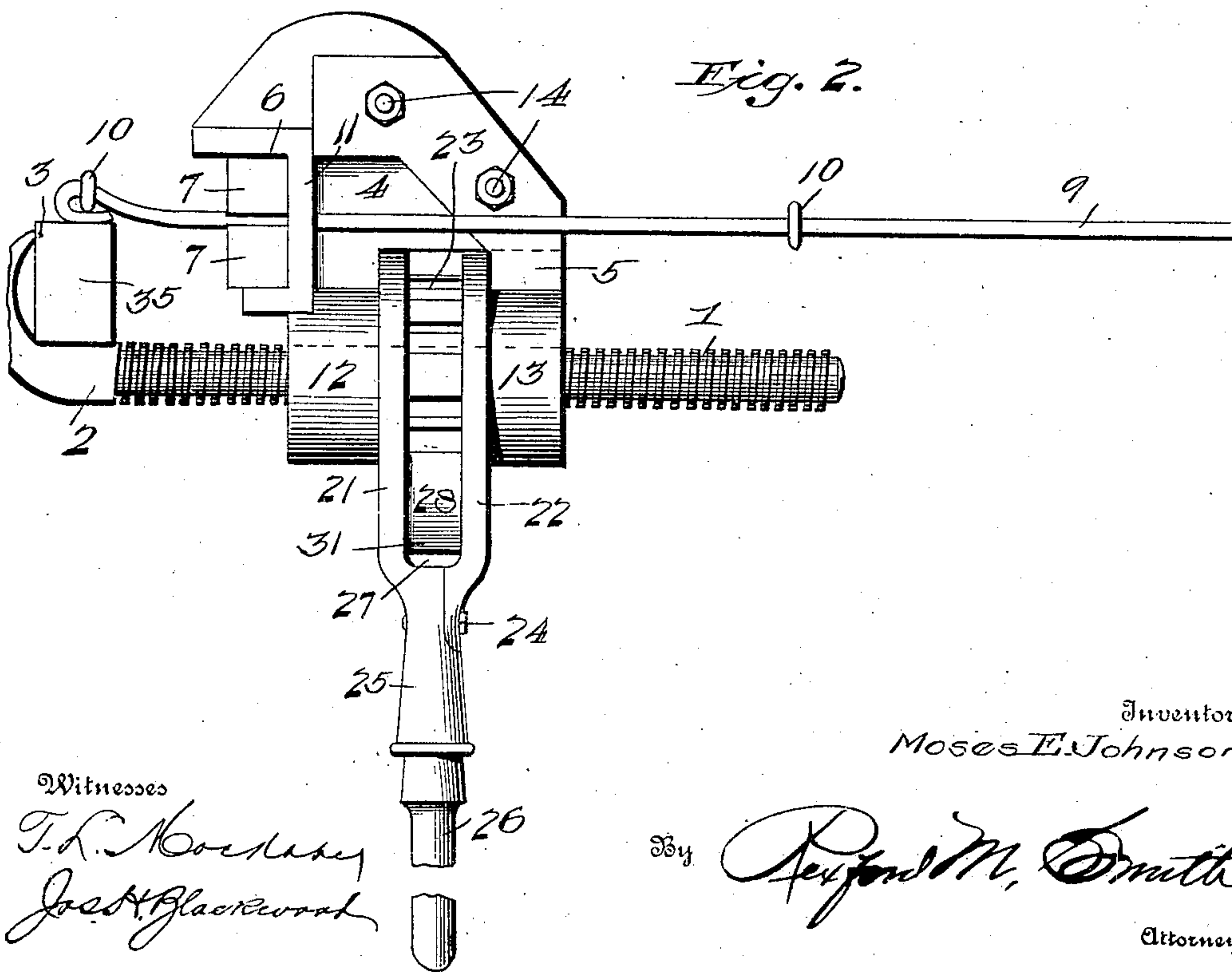
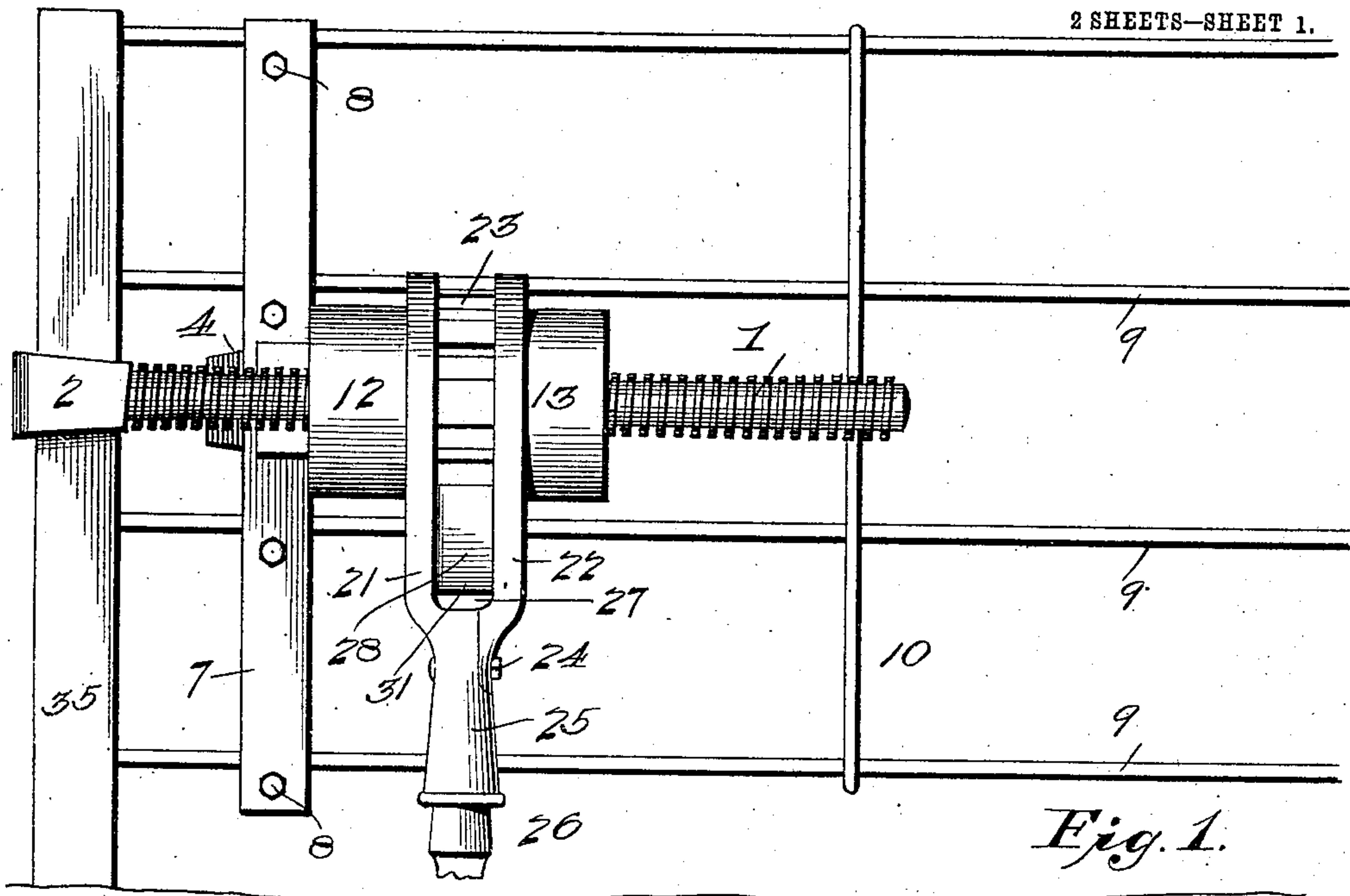
No. 848,375.

PATENTED MAR. 26, 1907.

M. E. JOHNSON.  
FENCE STRETCHER.

APPLICATION FILED JUNE 25, 1906.

2 SHEETS—SHEET 1.



Witnesses  
T. L. Mooney  
J. A. Blackwood

Inventor  
Moses E. Johnson

By *Reynold M. Smith*  
Attorney

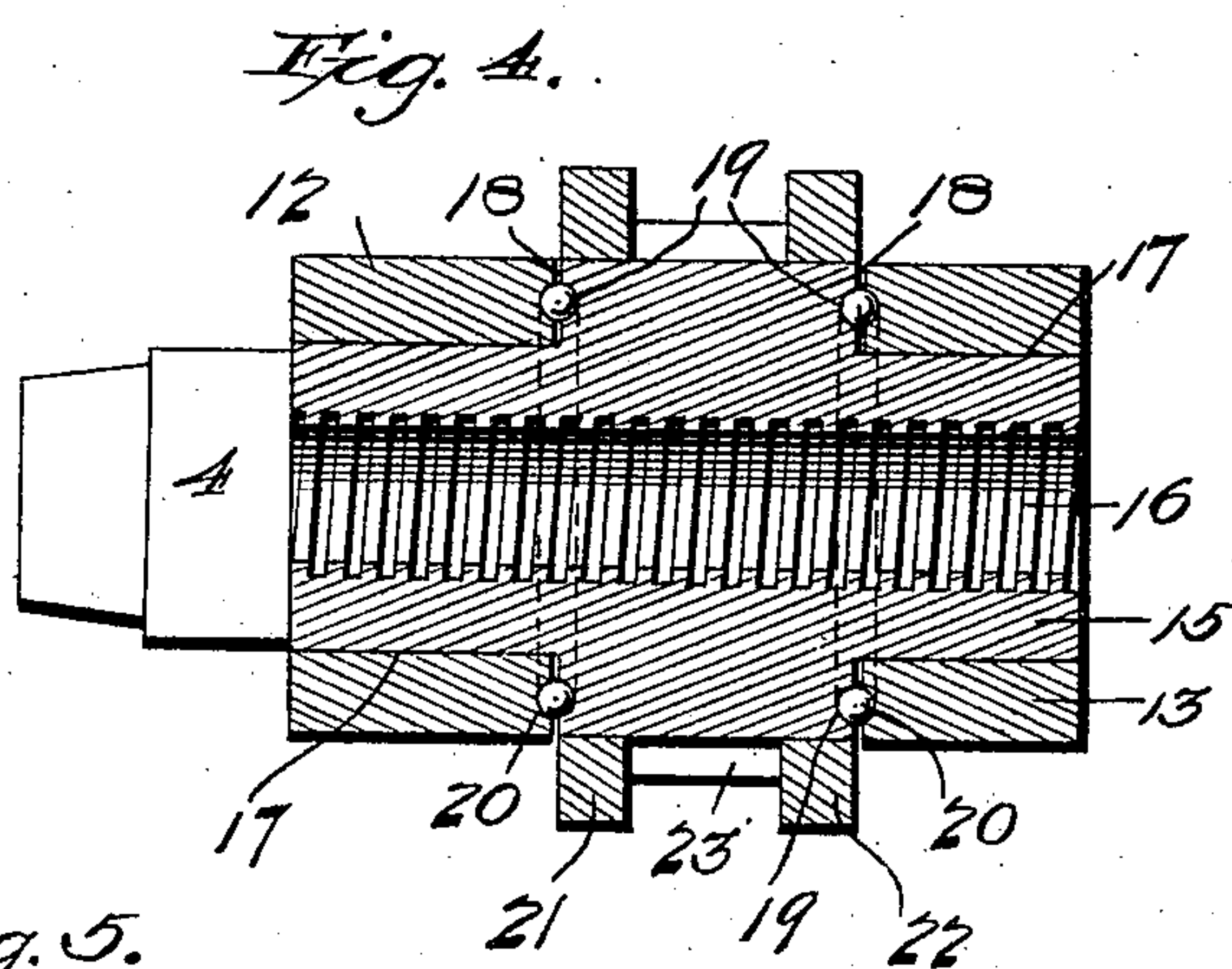
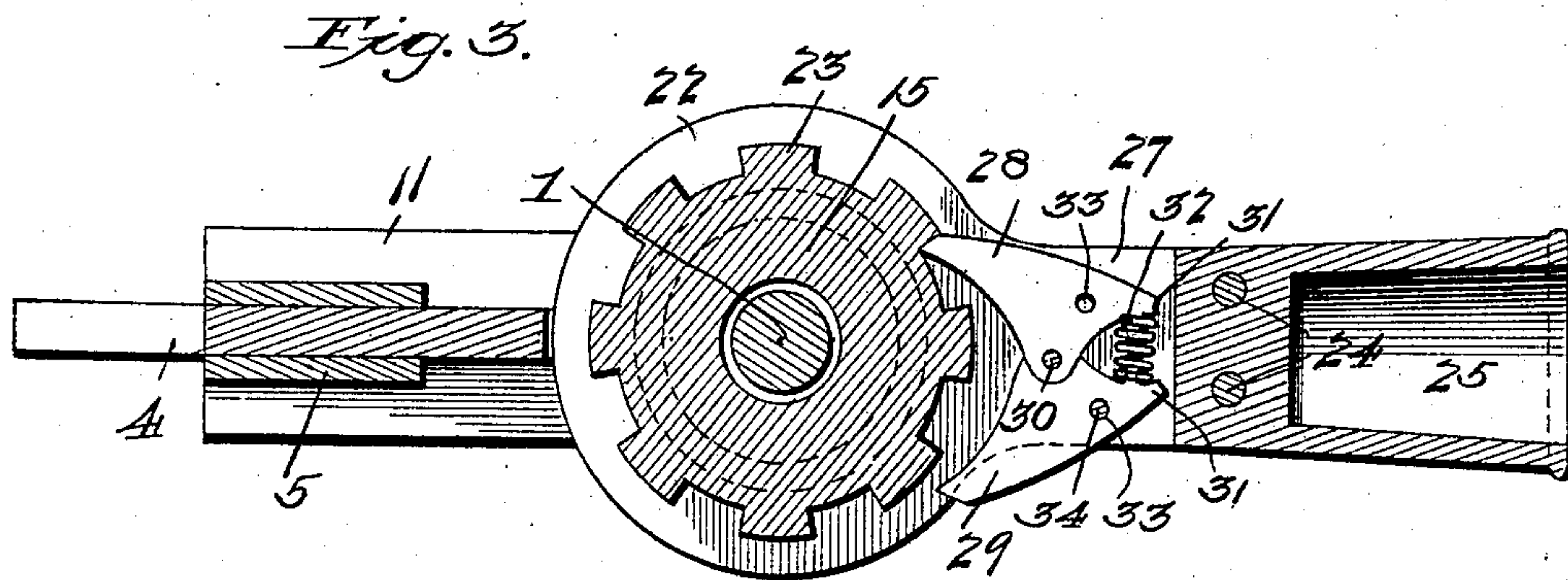
No. 848,375.

PATENTED MAR. 26, 1907.

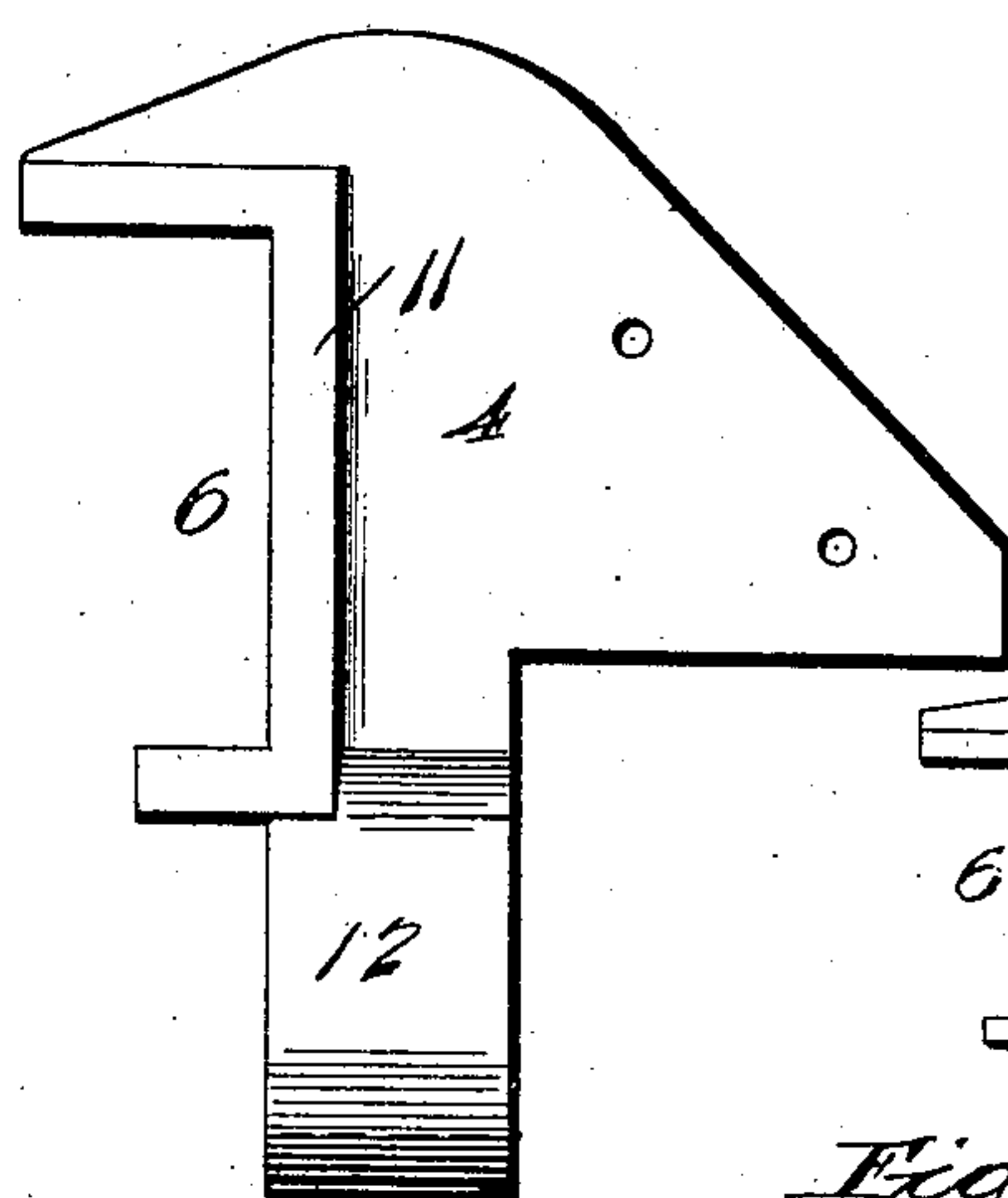
M. E. JOHNSON.  
FENCE STRETCHER.

APPLICATION FILED JUNE 26, 1906.

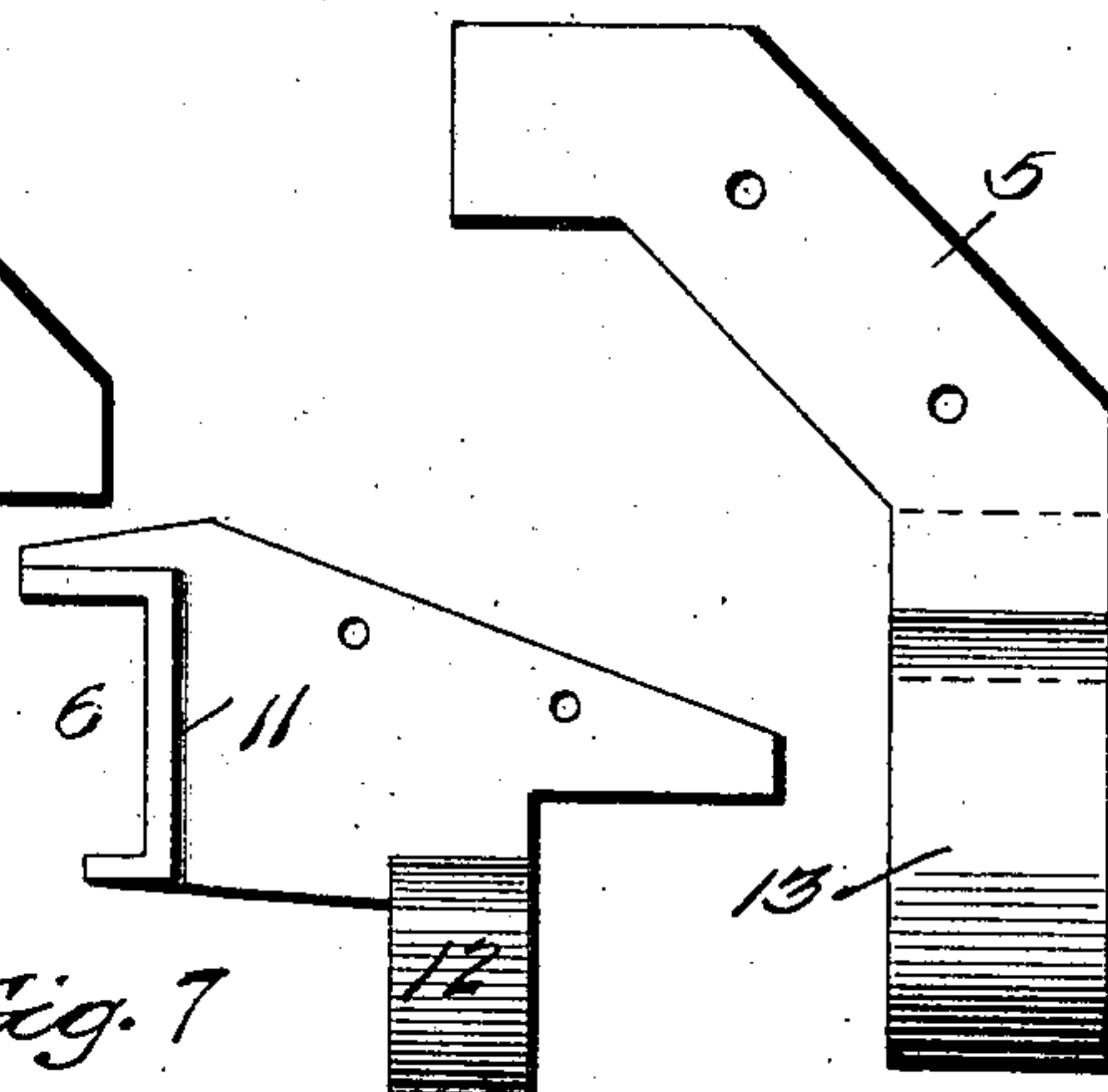
2 SHEETS—SHEET 2.



*Fig. 5.*



*Fig. 6.*



*Fig. 7.*

Witnesses  
T. L. Mochman  
J. H. Blackwood

Inventor  
Moses E. Johnson  
By  
Raymond M. Smith  
Attorney



# UNITED STATES PATENT OFFICE.

MOSES E. JOHNSON, OF PITTSBURG, PENNSYLVANIA.

## FENCE-STRETCHER.

No. 848,375.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed June 25, 1906. Serial No. 323,375.

*To all whom it may concern:*

Be it known that I, MOSES E. JOHNSON, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Fence-Stretcher, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to fence-stretchers, the object of the invention being to provide a stretcher for setting up and repairing fences which will combine simplicity and great power, enabling an unskilled operator, by means of one hand, to stretch up the heaviest fence made without liability of the same slipping or breaking away from the stretcher, the stretching device operating to pull the fence up gradually until the desired tension is imparted thereto, the fence being held by the stretcher while the staples or fasteners are driven into place to secure the fence to the posts.

A further object of the invention is to make the fence-stretcher reversible, so that after the fence has been stretched and fastened the stretcher may be readily removed therefrom, or in the case the fence has been stretched too tight or carried too far said fence may be slackened or eased off to any desired extent.

A further object of the invention is to provide means whereby the fence may be stretched up to the post or beyond the same, if necessary; furthermore, to apply the strain in a line or direction which will admit of the fence being stretched up to the post or beyond the same without liability of cramping or bending the fence.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the fence-stretcher, showing the application thereof to a fence. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged sectional view of the stretcher, taken at right angles to the axis of the screw. Fig. 4 is a section taken lengthwise of the screw or at right angles to Fig. 3. Fig. 5 is a plan view of one of the sections of the movable jaw. Fig. 6 is a similar view of the other section of the movable jaw; and Fig. 7

is a plan view of the jaw shown in Fig. 5, illustrating a slight modification in the construction thereof.

The fence-stretcher contemplated in this invention comprises, essentially, a screw 1, which may be of any desired length, said screw being provided at one end with what may be termed the "stationary jaw" of the stretcher, which jaw is in the form of an angular hook 2, having the terminal teeth 3 thereof turned backward, so as to extend substantially in a plane parallel with the body of the screw 1, as clearly shown in Fig. 2. The teeth 3 are also located in a line extending centrally through the clamp-engaging portion of the movable jaw hereinafter described, so as to bring the line of strain directly in line with the fence, whereby in stretching the fence there is no tendency to twist or bend the same laterally, thus adding materially to the smoothness of operation and effectiveness of the stretcher as a whole.

The movable jaw is of sectional construction, comprising the main section or shank 4 and the auxiliary section or shank 5. The section 4 is provided with a socket or recess 6 of sufficient size to receive and embrace a clamp consisting of one or more clamp-bars 7, extending vertically of the fence and parallel to the stays thereof and secured thereto by means of bolts 8 or their equivalent.

The fence illustrated in the drawings is shown as composed of the ordinary line-wires 9 and vertical stay-wires 10, and the bars 7 of the clamp are shown as arranged on opposite sides of the line-wires and secured thereto by the bolts 8 or their equivalent, so that said clamp moves with the fence and aids in stretching the same when acted upon by the stretching device of this invention. The shank or section 4 is preferably provided with a flange 11, which extends around the socket or recess 6 to give the requisite bearing-surface against the clamp, which is attached to the fence. The jaw-section 4 is further provided with a sleeve 12, and the shank or section 5 is provided with a corresponding sleeve 13, the purpose of which will hereinafter appear. The shank 5 is bifurcated or slotted to receive the shank 4 and is of elbow form and secured to the shank 4 by means of one or more bolts 14 or their equivalent, whereby the two sections of the jaw are held in rigid relation to each other and the sleeves 12 and 13 thereof at a sufficient dis-



tance apart to receive between them the ratchet-teeth on the ratchet-hub or nut hereinafter particularly described.

The nut or ratchet-hub shown at 15 is internally threaded, as shown at 16, to engage the screw 1, around which said hub turns, as will hereinafter appear. The opposite end portions of the nut or hub 15 are reduced, as shown at 17, to receive the sleeves 12 and 13, above described, oppositely-lying shoulders 18 being thereby formed on the hub, which shoulders are provided with annular grooves 19 to receive rows of antifriction-balls 20, which work in corresponding grooves in the inner faces of the sleeves 12 and 13, so as to take the end thrust between said sleeves and the nut or ratchet-hub 15, reducing the friction to a minimum and enabling the stretching operation to be carried on with the greatest possible ease.

In order to impart rotary motion to the nut or ratchet-hub 15, I employ a yoke embodying the oppositely-lying members 21 and 22, each of which is provided with an opening to receive the larger central portion of the nut or ratchet-hub, as shown in Fig. 4, the said members 21 and 22 lying at opposite sides of a circular series of centrally-arranged ratchet-teeth 23, extending around the hub 15, as clearly shown in Figs. 1 and 4. The members 21 and 22 are fastened together, as shown at 24, and the yoke as a whole is provided with a socket 25, adapted to receive the end of a hand-lever 26, which may be of any suitable length, according to the nature of the work required.

By constructing the yoke or head of the lever in the manner above described the members 21 and 22 thereof may be readily associated with and disassociated from the ratchet-hub by placing the same over the opposite ends of the hub and moving the same inward until they lie closely adjacent to the opposite sides of the ratchet-teeth 23. The movable jaw is made sectional for the same purpose, so that by removing the bolts or fasteners 14 the sleeves 12 and 13 may be slipped over the reduced ends of the nut or ratchet-hub 15 and brought to bear against the annular shoulders 18 to receive and bear against the antifriction-balls 20. The parts may be disassociated in the same manner.

Between the ratchet-teeth 23 and the lever-socket 25 a space 27 is left, in which are arranged a pair of pawls or dogs 28 and 29, either one of which is adapted to be thrown into and out of engagement with the ratchet-teeth 23, as shown in Fig. 3. Both dogs are mounted upon a common pivot 30, carried by and projecting between the members 21 and 22, and the heel ends 31 of said dogs are connected by a spring 32, the latter acting when one dog is held outward to force the other dog yieldingly into engagement with the ratchet-teeth 23. For this purpose each

dog is provided with an opening 33 to receive a removable pin 34, and corresponding openings are also formed in the members 21 and 22 to receive said pin 34. By inserting the pin 34 in one of said holes and through the adjacent dog said dog is held in a fixed position out of the path of the teeth 23, while the other dog is left loose and acted upon by the spring 32, so that it engages the teeth in one direction of movement of the hand-lever and snaps over and past said teeth in the reverse direction of said lever. To impart a reverse movement to the ratchet-hub, the pin 34 is removed from engagement with one dog and inserted through the other dog to hold the latter stationary, which releases the remaining dog and allows the same to cooperate with the teeth 23 in the manner just described.

By reference to Fig. 2 it will be observed that the point of engagement of the teeth 3 with the fence-post (shown at 35) is in line with the center of the clamp 7, which is also in line with the fence proper. This obviates any tendency of the movable jaw to cant or turn in the operation of stretching the fence and enables the fence to be moved up to and across the face of the post and in readiness to be secured by the usual staples or fasteners. In case it should be desired for any reason to carry the fence beyond the post 35 the socketed portion of the jaw-section 4 may be extended to any desired distance, as shown in Fig. 7, whereupon the said extended portion of the jaw will carry the clamping-bars 7 beyond the post in connection with which the stretching device as a whole is being used.

By means of the construction above described it will be seen that all chains, ropes, and other tackle are dispensed with, that the strain is brought to bear directly on the teeth of the stationary jaw and centrally of the movable jaw and in line with the fence itself, thus adding to the effectiveness and ease of operation of the stretcher as a whole. This provision for equalizing the strain on the jaws of the stretcher obviates the liability of the stretcher and the fence to work out of line with each other and ultimately slide off the post, or by cramping the fence cause the latter to rub and chafe against the posts, which would interfere with the smoothness of the stretching operation. Any desired number of teeth may be provided on the stationary jaw to insure said jaw against slipping upon the post. After the stretching operation is started the teeth of the stationary jaw become embedded in the post, and there is no tendency for said teeth to slip out of engagement therewith. By reason of the simplicity of the construction involved there is very little liability of the stretcher getting out of order, and it will be seen that a powerful stretcher is provided which will enable an unskilled mechanic or boy to stretch up a



fence of the heaviest kind now made, the stretching device also acting as a holder for the fence while fastening the same by means of the usual staples to the fence-posts.

5 I claim—

1. A fence-stretcher embodying a non-revoluble screw carrying a post-engaging jaw, a revoluble member having a threaded engagement with said screw and provided  
10 with reduced end portions forming oppositely-arranged annular shoulders, a movable fence-engaging jaw embodying sections provided with sleeves which embrace the reduced end portions of the revoluble member at opposite sides of the ratchet-teeth, and a lever-  
15 carrying ratchet mechanism for turning said revoluble member to feed the same lengthwise of the screw.

2. A fence-stretcher embodying a non-revoluble screw carrying a post-engaging jaw, a revoluble member having a threaded engagement with said screw and provided with centrally-arranged ratchet-teeth, a sectional fence-engaging jaw, the members of  
25 which are provided with sleeves embracing

the opposite ends of the revoluble member, a hand-lever embodying separable members which embrace the revoluble member at opposite sides of the ratchet-teeth, and one or more pawls carried by said lever and movable into and out of engagement with said ratchet-teeth, substantially as described. 30

3. A fence-stretcher embodying a non-revoluble screw carrying a post-engaging jaw with one or more inwardly-projecting  
35 teeth, a revoluble member having a threaded engagement with said screw, hand-operated means for turning said revoluble member in either direction to move the same lengthwise of the screw, and a fence-engaging jaw journaled on said revoluble member, the teeth of  
40 the stationary jaw being located in line with the center of the movable jaw, substantially as and for the purpose set forth.

In testimony whereof I affix my signature 45 in presence of two witnesses.

MOSES E. JOHNSON.

Witnesses:

D. W. GARRETT,  
LOUIS F. WENTZ.