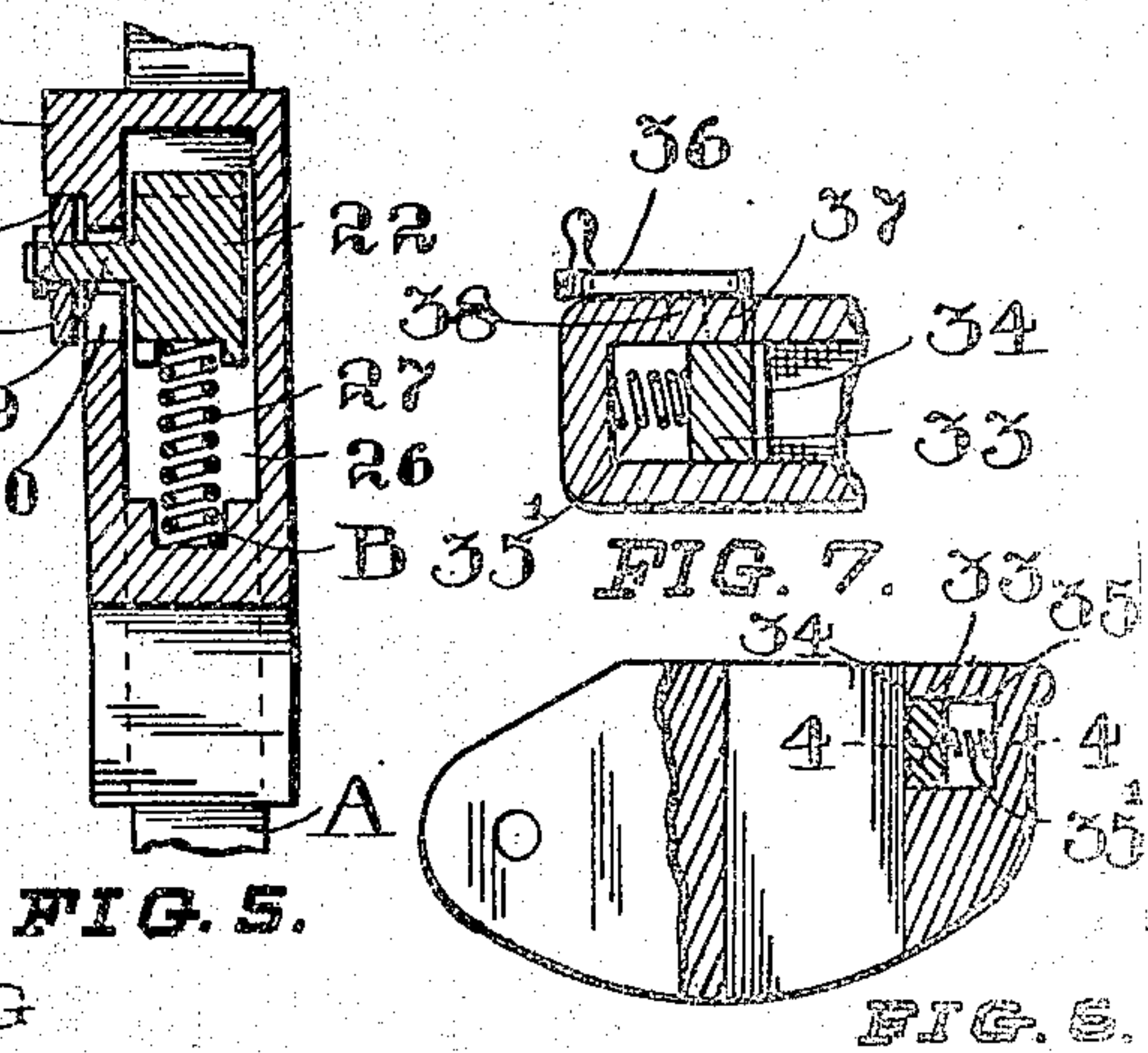
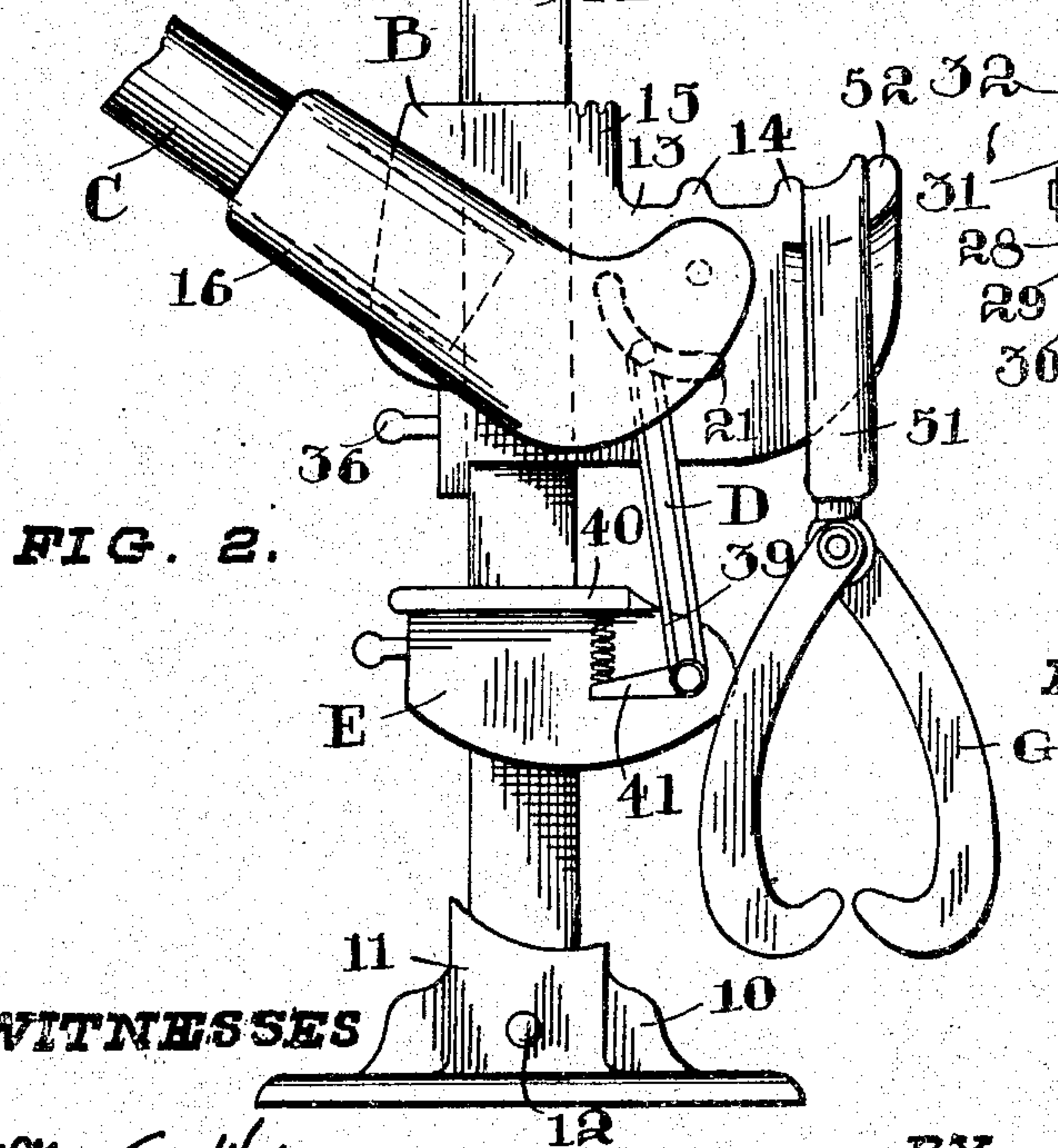
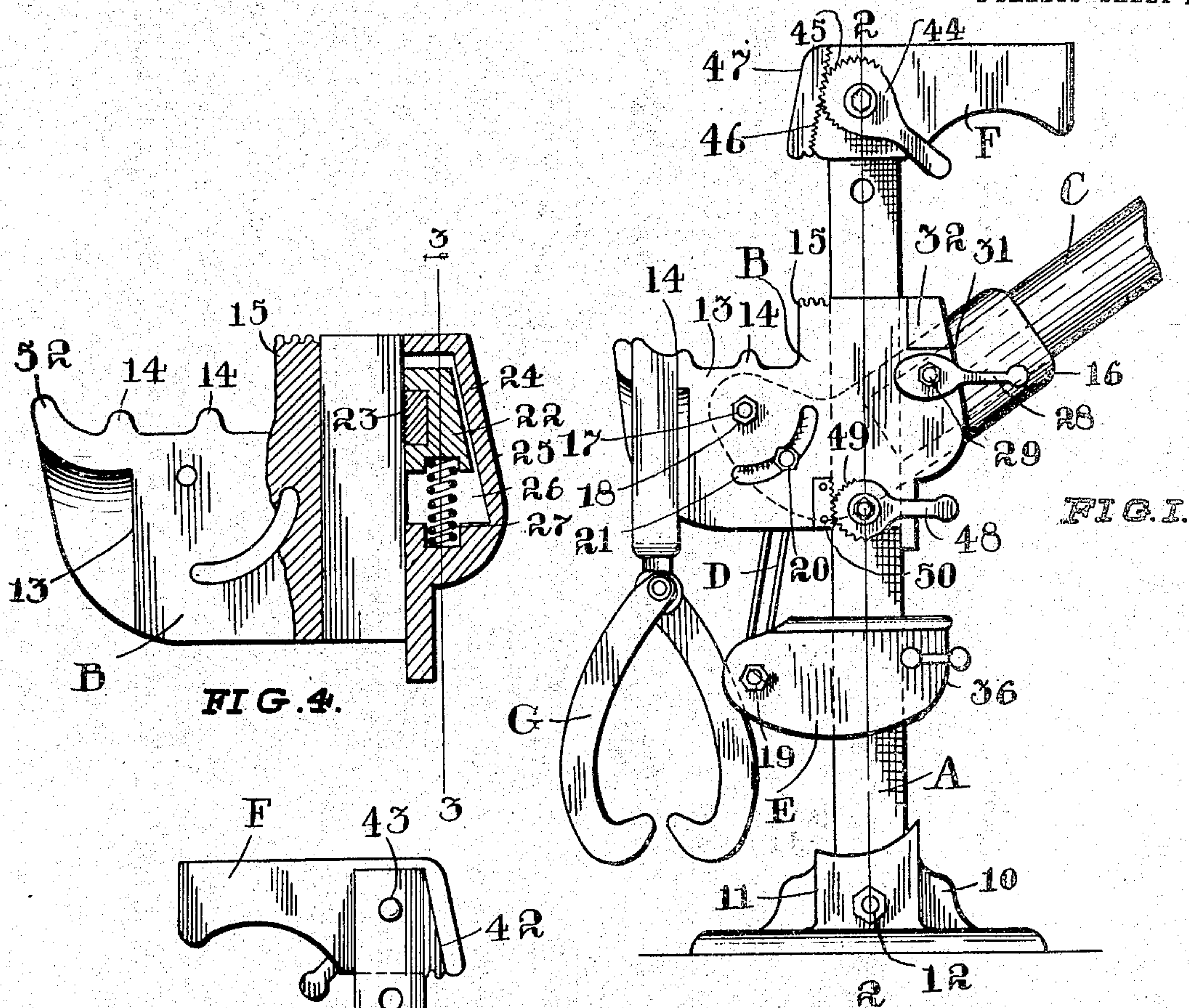


W. E. ALLGEO.
LIFTING JACK.
APPLICATION FILED JUNE 15, 1908.

911,638.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.



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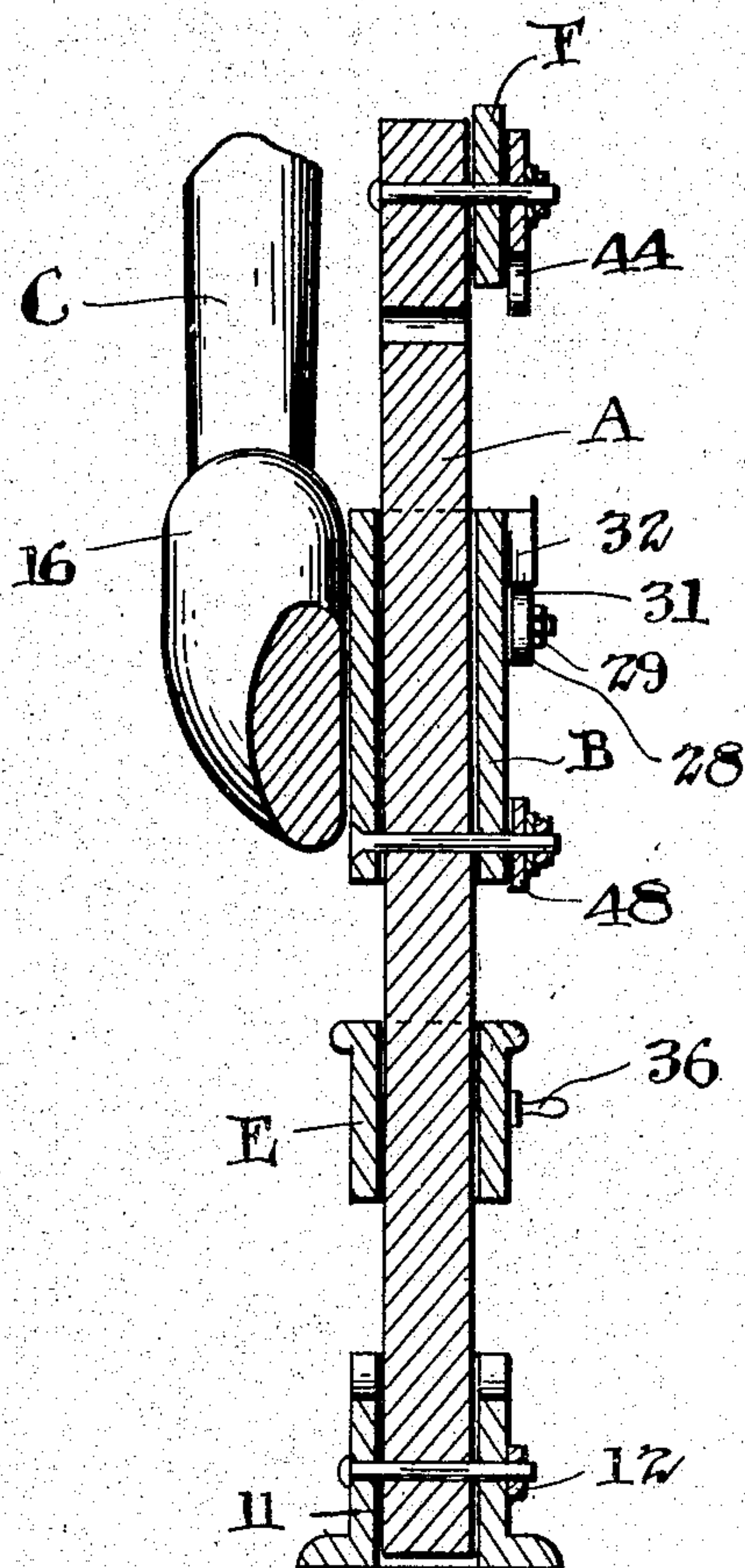


FIG. 5.

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UNITED STATES PATENT OFFICE.

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LIFTING-JACK.

No. 911,638.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed June 15, 1908. Serial No. 438,669.

To all whom it may concern:

Be it known that I, WILLIAM EDWARD ALLGEO, of Port Huron, in the State of Michigan, United States of America, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification.

My invention relates to improvements in lifting jacks, for general purposes, and the objects of my invention are to provide an exceedingly simple and easily-operated device which might be used for a great variety of purposes, and which will, on reciprocation of a lever, either raise or lower the load by a step-by-step movement, the details of the invention and the specific features of novelty therein being hereinafter set forth and described in the accompanying specification and drawings.

In the drawings,—Figure 1 is an elevation of one side of the lifting jack. Fig. 2 is an elevation of the reverse side. Fig. 3 is a vertical section along the line 2—2, Fig. 1. Fig. 4 is a sectional detail through the adjustable head. Fig. 5 is a section on the line 3—3, Fig. 4. Fig. 6 is a sectional detail of the lower engaging member. Fig. 7 is a sectional detail along the line 4—4, Fig. 6.

In the drawings, like letters of reference indicate corresponding parts in each figure.

Referring to the drawings, A represents the shank of suitable form provided with a base 10, which may be detachably connected thereto, this, in the embodiment illustrated, being accomplished by the formation of a socket 11 in the base, into which the end of the shank extends, being retained therein by a bolt 12.

Slidably mounted on the shank is the head B which has a projection 13 on one side thereof formed on its upper edge with engaging ribs 14 serving to prevent slipping when the projection is engaged with the side of the load. It will be observed that this projection does not extend to the top of the head, whereby a short surface 15 will be formed on the top of the head adapted to prevent the shank from engaging or injuring the beam, post or other article which is being engaged and raised by the projection.

C represents the operating handle which is preferably formed with a wooden shank and a metallic head 16 which latter is pivoted to the head, as by means of a trunnion 17 formed

therein extending through the head, being retained in position by a nut 18 engaging the extremity thereof.

The lever on the inner side of the fulcrum has a link bar D pivoted thereto, the opposite end of which has pivotal connection with the engaging member E through the medium of the bolt 19, the pivotal connection between the lever and the link bar being effected through the medium of a pin 20 formed on the lever, which extends through the link bar and through an arcuate slot 21 formed in the head. The engaging member E is slidably mounted on the shank and adapted to cooperate with the head to effect the step-by-step movement as hereinafter described. To further assist the step-by-step movement, spring dogs are provided both on the head and engaging member adapted to grip the side of the shank and prevent retrograde movement.

The dog 22 located in the head is formed with teeth 23 adapted to engage the side of the shank, and an inclined rear surface 24 which engages a correspondingly inclined surface 25 which constitutes the bottom of a recess 26 within which the dog is located, the said dog being normally pressed upwardly by means of a compression spring 27 extending between the side of the dog and the side of the recess. The teeth formed on the dog are so designed that they will prevent backward or retrograde movement and the spring co-acts with the inclined surfaces to normally force the teeth against the side of the shank.

To release the dog, a lever 28 is provided being connected to a pin 29 formed on one side of the dog which extends through a slot 30 in the side of the head, the said lever having a cam surface 31 formed thereon adapted to co-act with the projection 32 on the head whereby when the lever is tilted upwardly, the pin 29 will be forced down, carrying the teeth and dog out of engagement with the side of the shank. The dog 33 on the engaging member is formed with like gripping teeth 34 and is located in a recess 35 and normally pressed outwardly by a spring 35', the said dog being adapted to be retracted by means of a lever 36 connected to a pin 37 which extends through a slot 38 in the side of the engaging member. To release the dog 13, the end of the lever

36 is pulled outwardly causing the pin 37 to slide in the slot 38, and bringing the teeth 34 out of engagement with the shank.

To retain the link bar D in position and assist the step-by-step movement of the head and engaging member, a spring 39 is provided, extending between a projection 40 on the engaging member and an arm 41 formed integral with the end of the link and extending from a lower pivoting point thereon. In order that additional support may be conveniently provided for the shank in case of heavy loads, a removable top member F is provided having a slot 42 therein, into which the end of the shank fits, being retained therein by a bolt 43 and in order to enable the device to be used conveniently to tighten fence wires, wire grips are provided on the member F and on the head, that on the member F consisting of a lever 44 pivoted on the bolt 43 having teeth 45 adapted to engage corresponding teeth 46 provided on a projection 47 on the member F, and that on the head consisting of a pivoted lever 48 having teeth 49 engaging like teeth provided on a projection 50.

In order to enable the lifting jack to be used conveniently for lifting railroad tracks, leveling them, or pulling telegraph posts and like purposes, a pair of tongs G are provided having an oval member 51 at their top which is adapted to engage with a hook 52 formed on the extremity of the projection 13.

In operation, to raise the head on the shank the operating lever C is reciprocated. Each time it is raised, the engaging member is raised through the medium of the link bar D, this being assisted by the action of the spring 39 and each time the lever is lowered, the dog 33, preventing downward movement of the engaging member, causes the head to be moved upwardly. To lower the load, the spring dogs 22 and 23 are alternately released and the load allowed to lower under the action of gravity by a step-by-step movement. When used as a wire stretcher, the wires are engaged in the wire gripping means hereinbefore described and on a reciprocation of the operating lever C will be drawn closer together. It will be observed that the provision of the spring dogs on the head and on the engaging member automatically locks these members in adjusted

position in such a manner, however, that they are free to move upwardly when acted on by the lever.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the spirit or scope thereof, it is intended that all matter contained in these specifications and drawings shall be interpreted as illustrative and not in a limiting sense; it is also to be understood that the language of the following claims is intended to cover such generic and specific features of the invention herein described which, as a matter of language might be said to be included thereby.

What I claim as my invention is:

1. In a tool of the class described, the combination with the shank, head slidable thereon having a recess therein formed with an inclined surface, an engaging member, an operating lever on the head, means actuated by tilting thereof for effecting the step-by-step movement between the head and the engaging member, of a spring-actuated dog located within the recess in the head and co-acting with the inclined surface thereof to normally engage and grip the shank, a pin on the dog, extending normally to the head, a lever on said pin having a cam surface formed thereon and a projection on the head adapted to coöperate with the cam surface to release the dog, when the lever is tilted.

2. In a tool of the class described, the combination with the shank, the head and engaging member slidable thereon, a lever pivoted to the head and means for causing reciprocation of the lever to impart a step-by-step movement to the head and engaging member, of a projection protruding laterally from the head, the top surface of the projection being some distance below the top of the head whereby a protecting face will be provided on the head adjacent to the shank adapted to prevent the shank from injuring the article or body being raised.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM EDWARD ALLGEO.

Witnesses:

JENNIE MAITLAND,
GEORGE S. CLARKE.