

No. 721,515.

PATENTED FEB. 24, 1903.

C. HAMMOND.
BARRACK JACK.

APPLICATION FILED OCT. 30, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

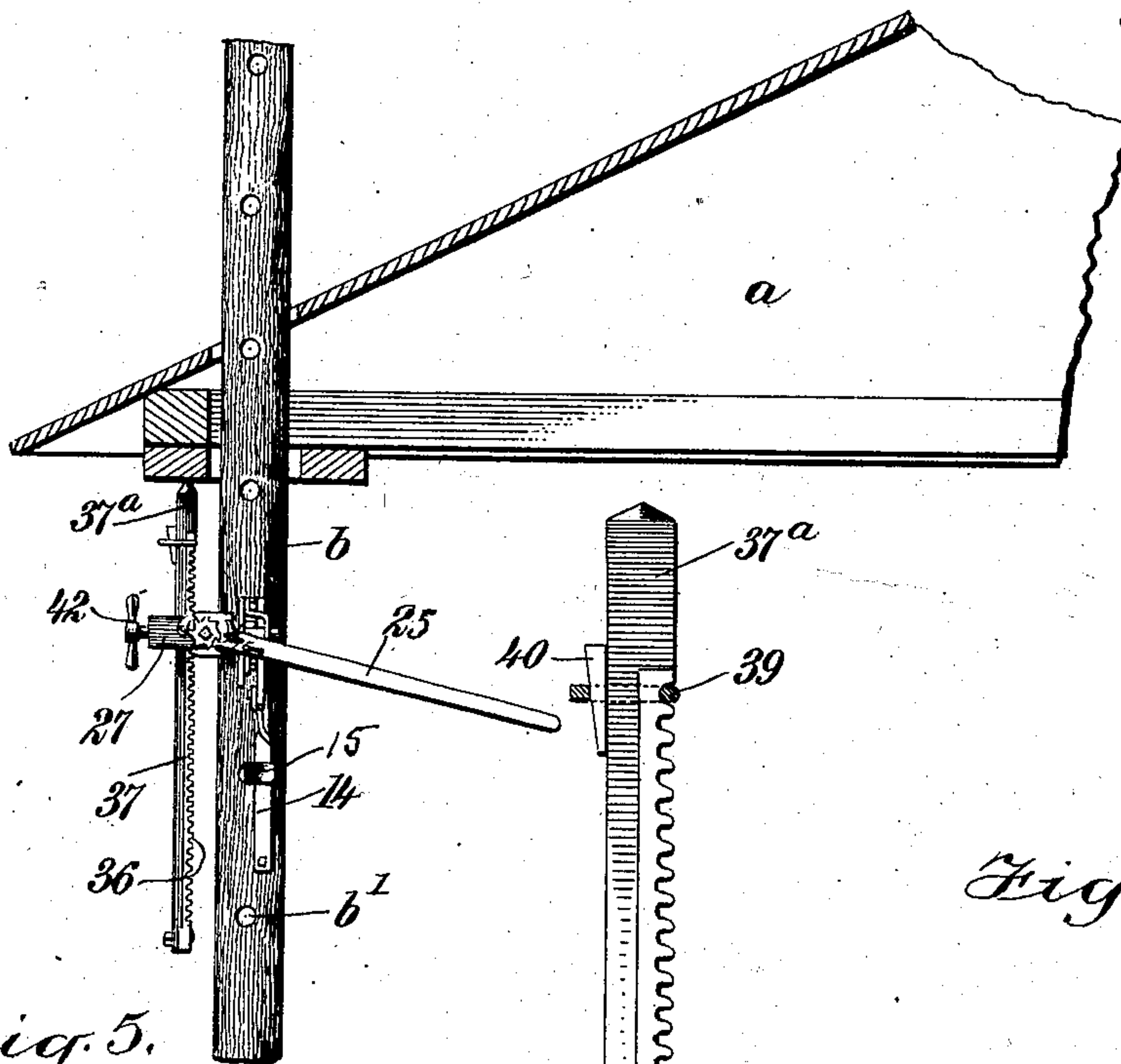
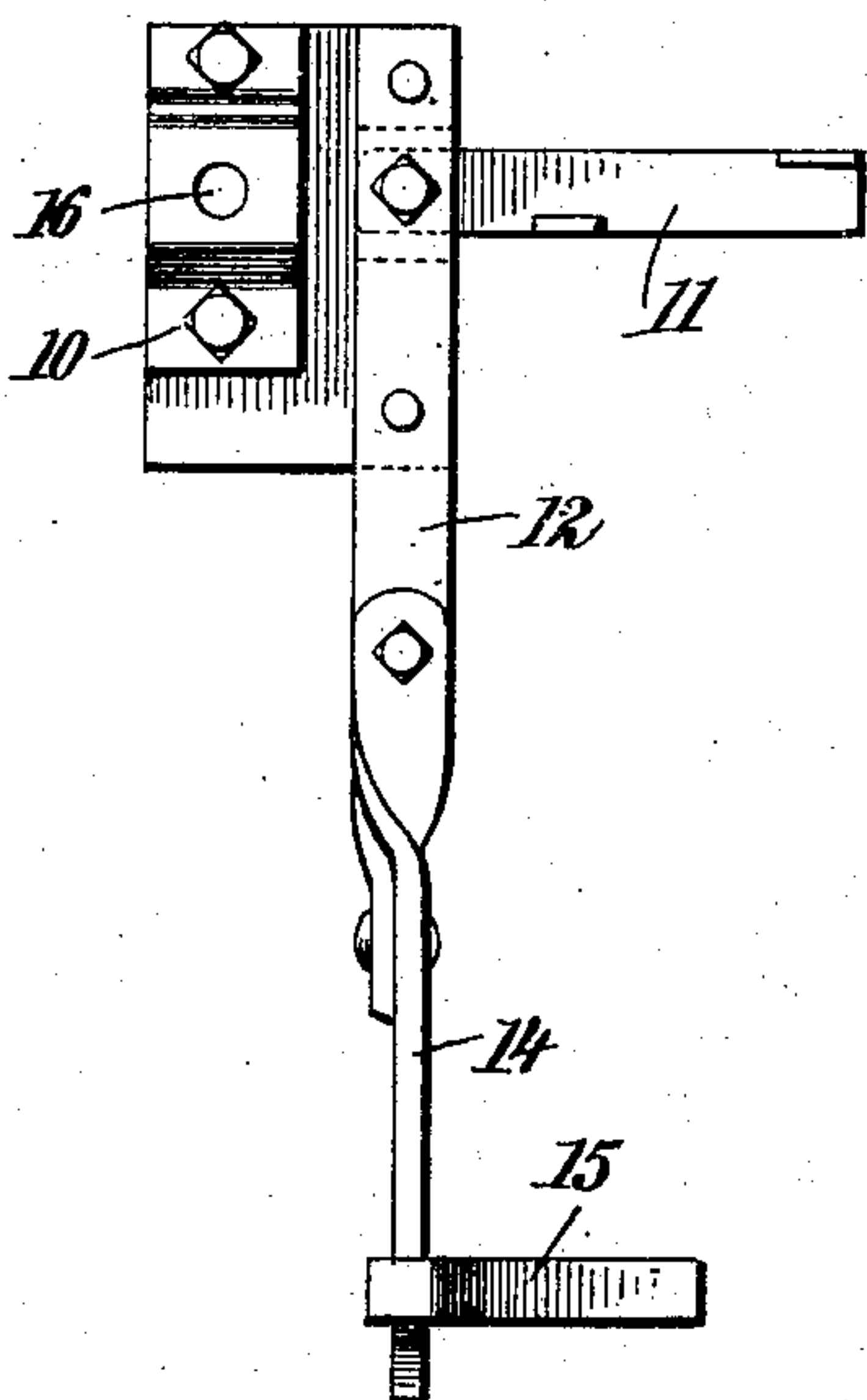
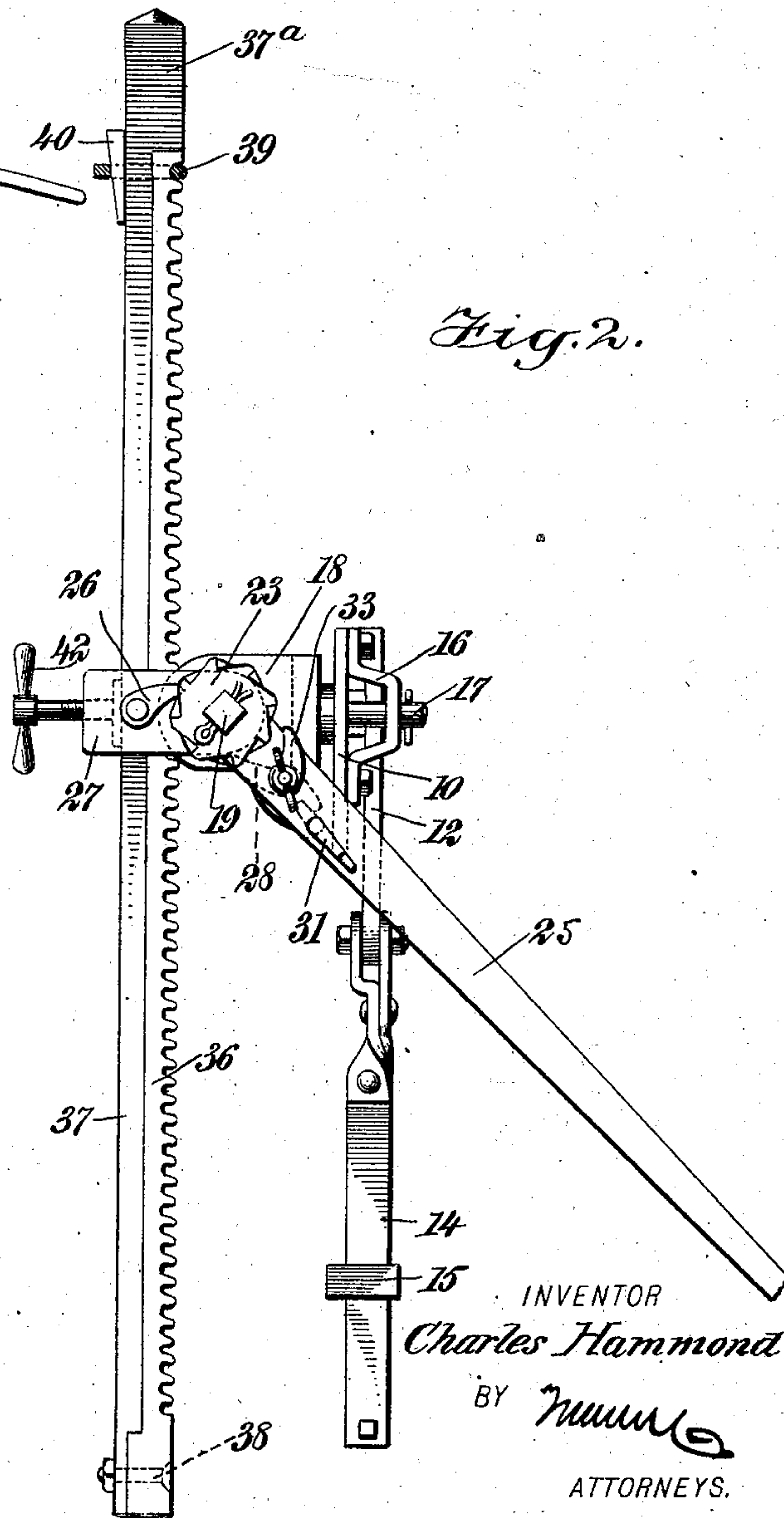


Fig. 2.



WITNESSES:

Geo. W. Maylor.

Naac B. Owens.

INVENTOR
Charles Hammond
BY *Mumma*
ATTORNEYS.

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2 SHEETS—SHEET 2.

Fig. 3.

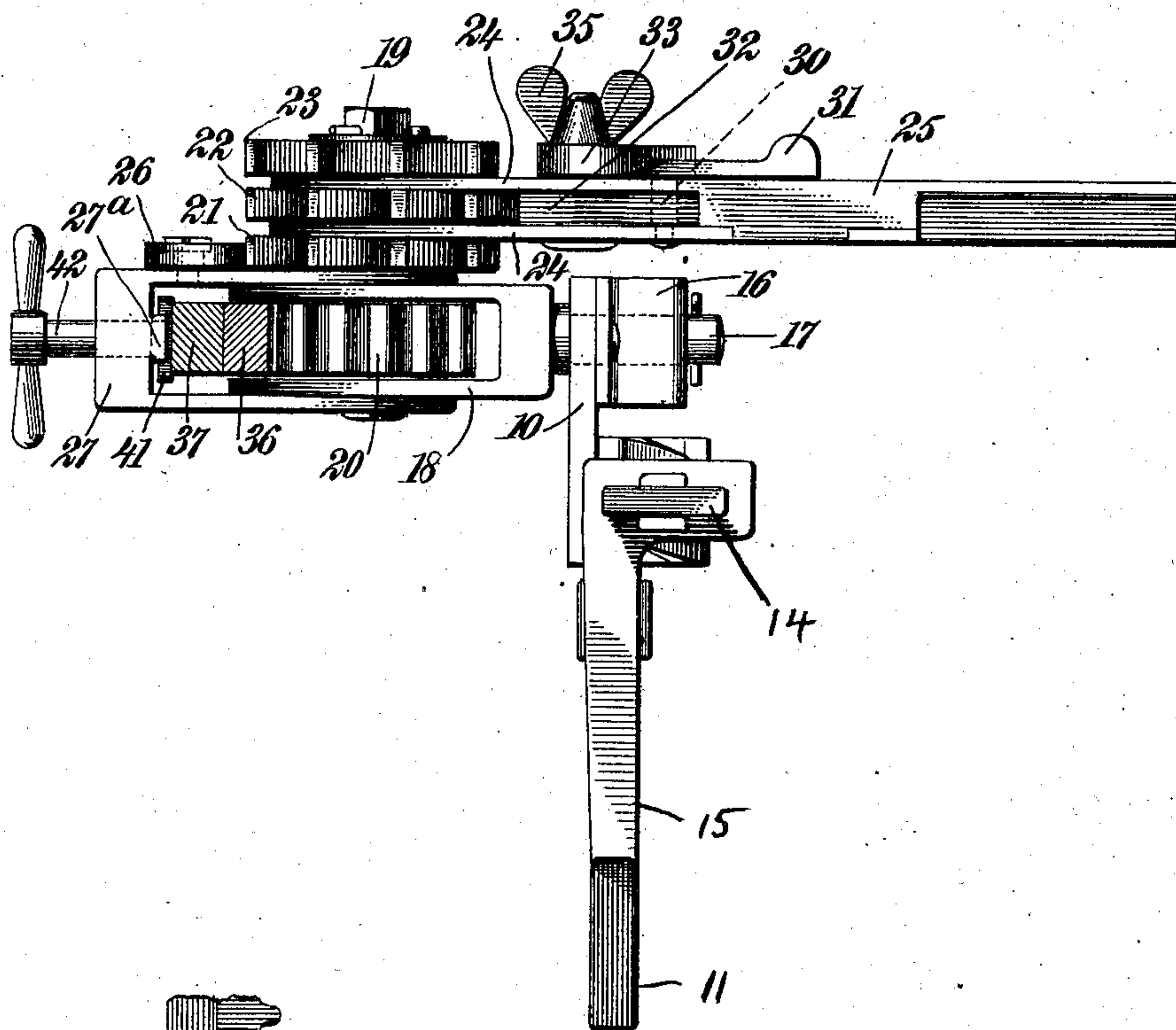
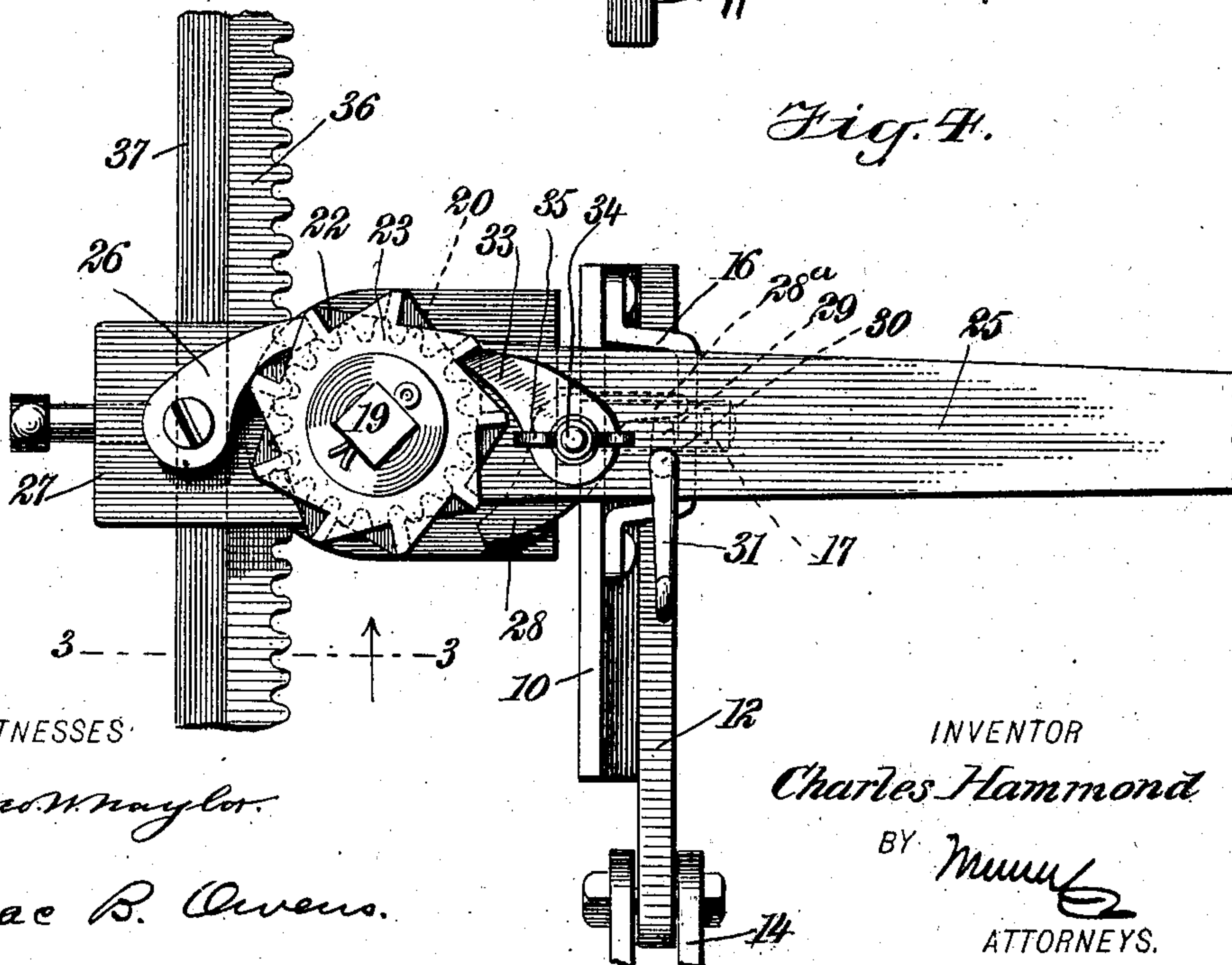


Fig. 4.



WITNESSES

Geo. W. Maylor.

Isaac B. Owens.

INVENTOR

Charles Hammond

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES HAMMOND, OF WOODCLIFF, NEW JERSEY.

BARRACK-JACK.

SPECIFICATION forming part of Letters Patent No. 721,515, dated February 24, 1903.

Application filed October 30, 1902. Serial No. 129,410. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HAMMOND, a citizen of the United States, and a resident of Woodcliff, in the county of Bergen and State of New Jersey, have invented a new and Improved Barrack-Jack, of which the following is a full, clear, and exact description.

This invention relates to a device intended especially for raising the roof of hay-barracks, although it should be understood that the invention is not limited to this use, since, obviously, it could be employed in many other connections.

Farm-barracks for hay and other products are generally built with a roof and several poles or posts on which the roof is supported, the roof being slidably mounted on the poles and held at any desired elevation by pins placed in orifices formed in the poles at different points along their length.

One of the important features of my invention lies in an arrangement by which the jack is mounted at any desired height on the pole, as contradistinguished from on the ground. Specifically, this is effected by providing the jack with a shank, and on this shank are arranged two studs which may be entered into any two contiguous holes in the post. This enables a very compact jack to be used and avoids using a long connection between the ground and the elevated roof.

The invention involves various other novel features, all of which will be fully pointed out hereinafter.

This specification is an exact description of one form of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a view of the invention, showing it in use. Fig. 2 is an enlarged side elevation of the jack. Fig. 3 is an enlarged bottom plan view with the lifting-rack in section on the line 3 3 in Fig. 4. Fig. 4 is an enlarged side elevation showing the hand-lever and the ratchets and pawls, and Fig. 5 is a detail view of the body.

In Fig. 1, *a* indicates the roof of the jack, and *b* one of the supporting poles or posts in which the holes *b'* are formed. This view

does not illustrate the pins which are placed in the holes *b'* and on which the roof turns. The body 10 of the rack has a stud 11 projecting therefrom, and from the body a rigid shank-section 12 projects downward. This shank-section is formed of flat metal and is placed edgewise with respect to the pole. The lower end of the section 12 is pivotally connected with the lower shank-section 14, this section being also of flat metal, but being disposed sidewise with respect to the pole *b*. A stud 15 is vertically adjustable on the lower shank-section 14. These parts 12 and 14 are so peculiarly disposed to the pole for the purpose of effectively enduring the strains which will be placed on the shank. The section 12 of the shank will bear at the shank-joint against the post, and being disposed edgewise to the post the greatest strain-resisting effect is attained. Also as the body of the jack tends to turn around the longitudinal axis of the stud 11 this movement will be counteracted by the parts 14 and 15, and since the part 14 is disposed sidewise to the pole it is arranged in the most effective manner for resisting the strain. The stud 15 is adjustable, so that the jack may be fitted to the post irrespective of the position of the holes therein.

On the body of the jack is formed a bearing 16, and in this bearing is placed loosely a stub-shaft 17, this stub-shaft projecting rigidly from a gear-mount 18, so that the gear-mount is arranged on the body to turn around the axis of the shaft 17. In the gear-mount 18 is mounted a transversely-disposed shaft 19, which carries a gear-pinion 20 and which projects beyond the gear-mount, so that three ratchet-wheels 21, 22, and 23 may be fastened thereon. These wheels are spaced from each other by the forked arms 24 of a hand-lever 25, which arms are arranged to turn loosely around the shaft 19.

26 indicates a pawl which engages the ratchet-wheel 21 and which is mounted loosely on the rack-guide 27, to be more fully described hereinafter. The ratchet-wheel 22 is engaged by a pawl 28, which is mounted between the arms 24 of the lever 25 and is in the form of a lever, its shank 28^a (see dotted lines in Fig. 4) being engaged by a crank 29 on the inner end of a short shaft 30, mounted

to rock in the hand-lever and provided on its outer end with a thumb-piece 31, by which it may be manipulated.

32 (see Fig. 3) indicates a spring which is fastened to the hand-lever and presses the pawl 28 inward, thus tending to keep the pawl in active position. When, however, the thumb-latch is thrown into the position shown in Fig. 4, the parts 28^a and 29 are engaged and the dog 28 is thrown outward out of engagement with the ratchet 22.

33 indicates a pawl which is mounted on the outside of the hand-lever 25 to swing around the center of a shaft 34, on which shaft the pawl 28 is also mounted.

35 indicates a thumb-nut which is threaded on the shaft 34, and by means of which the pawl 33 may be clamped in any position desired.

The rack-guide 27 is arranged to swing around the center of the shaft 19 and serves to hold the lifting-rack in proper engagement with the gear 20. The lifting-rack is formed of two sections 36 and 37, these sections being joined rigidly together alongside of each other, as shown best in Fig. 2, by a bolt 38 at their lower ends and a link 39 and key 40 at their upper ends. The portion 37^a of the rack-section 37 is projected above the section 36 and is pointed to engage the barrack-roof, while the section 36 is toothed to form the rack proper, and this is meshed with the gear 20. Now it will be observed that the gear-mount 18 is free to turn on the body around the axis of the shaft 17 and that the rack, owing to the peculiar manner of arranging the rack-guide 27, is free to roll on the gear 20, the rack-guide moving meanwhile around the center of said gear. This allows a decided play of all parts of the jack and enables the jack to accommodate itself to the irregular movements of the barrack-roof.

41 indicates a friction-plate which is placed between two lugs 27^a on the rack-guide 27 and engaged by a hand-screw 42, this friction-plate serving to lock the lifting rack or racks in raised position and also to enable a certain frictional braking pressure to be applied to the rack when the same is to be lowered with a load imposed thereon. The pawl 26, acting with the ratchet-wheel 21, serves to prevent backward or downward movement of the lifting-rack, and according to the adjustment here shown, the pawl 28, acting on the ratchet-wheel 22, serves to enable the gear 20 to be turned in such a manner as to turn the lifting-rack. The pawl 33, acting with the ratchet-wheel 23, enables the gear 20 to be turned in the reverse direction, if so desired, and by engaging both pawls 28 and 33 with their respective ratchet-wheels the lever 25 may be rendered fast on the shaft 19. In connection with the several pawls and ratchet-wheels it should be understood that any one of the pawls and ratchet-wheels can be thrown into independent action whenever it is desired.

In the use of the invention the jack is adjusted to the position shown in Fig. 1 and the supporting-pin of the roof is then withdrawn. Upon the operation of the hand-lever 25 the lifting-rack is given an upward movement, which raises the roof, as will be understood. When one corner of the roof has been raised, a pin is placed in the proper hole in the post, and then the jack is taken to the other corner of the roof, where the above-described operation is repeated. This is continued until the roof is at the desired elevation. To drop the roof, the pawl 26 may be disengaged from its ratchet-wheel and the hand-lever 25 turned reversely, or, if desired, the pawls of the hand-lever may be disconnected from their ratchet-wheels and the fall of the rack regulated by the friction of the shoe 41, controlled by the hand-screw 42. By means of the construction described the roof of the barrack may be conveniently raised to any desired elevation, the peculiar construction and arrangement of the parts especially adapting the apparatus to this work. The jack is, however, useful in various other connections, as will be fully apparent.

Various changes in the form, proportions, and minor details of my invention may be resorted to at will without departing from the spirit and scope thereof. Hence I consider myself entitled to all such variations as may lie within the intent of my claims.

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

1. In a barrack-jack, the combination of the jack proper, and means for adjustably mounting the same on the barrack-pole, said means comprising two spurs, one of which is adjustable relatively to the other.
2. In a barrack-jack, the combination of a jack proper, a jointed shank connected thereto, and a spur on each section of the shank, for the purpose specified.
3. In a barrack-jack, the combination with a body, of a gear-mount arranged to rock therein, a gear, a rack, a rack-guide arranged to swing on the gear-mount, and means for operating the gear.
4. In a barrack-jack, the combination with a body, of a gear-mount arranged to rock therein, a gear, a rack, a rack-guide arranged to swing on the gear-mount, and means for operating the gear, the said gear-mount and rack-guide moving on crossing axes.
5. In a barrack-jack, the combination with a body, of a gear-mount arranged to rock therein, a gear, a rack, a rack-guide arranged to swing on the gear-mount, and means for operating the gear, the said means for operating the gear comprising a ratchet, a pawl and a hand-lever swinging around the ratchet and carrying the pawl.
6. In a barrack-jack, the combination with a body, of a gear-mount having a stub-shaft arranged to turn in the body, a gear, a rack, a U-shaped rack-guide arranged to swing on

the gear-mount and inclosing the rack, and means for operating the gear.

7. In a jack, the combination of a body, an operated lifting member, and means for mounting the said lifting member to swing on the body in two crossing directions independently of its lifting action.

8. The combination of a body, a lifting member mounted thereon, and means for operating the lifting member, said means comprising a shaft, three ratchets thereon, a hand-lever swinging around the shaft, two

pawls on the hand-lever, and a third pawl mounted independently of the lever, said pawls respectively releasably engaging the ratchets.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES HAMMOND.

Witnesses:

ISAAC B. OWENS,

EVERARD BOLTON MARSHALL.