

W. M. DILLON & D. H. LITTLE.

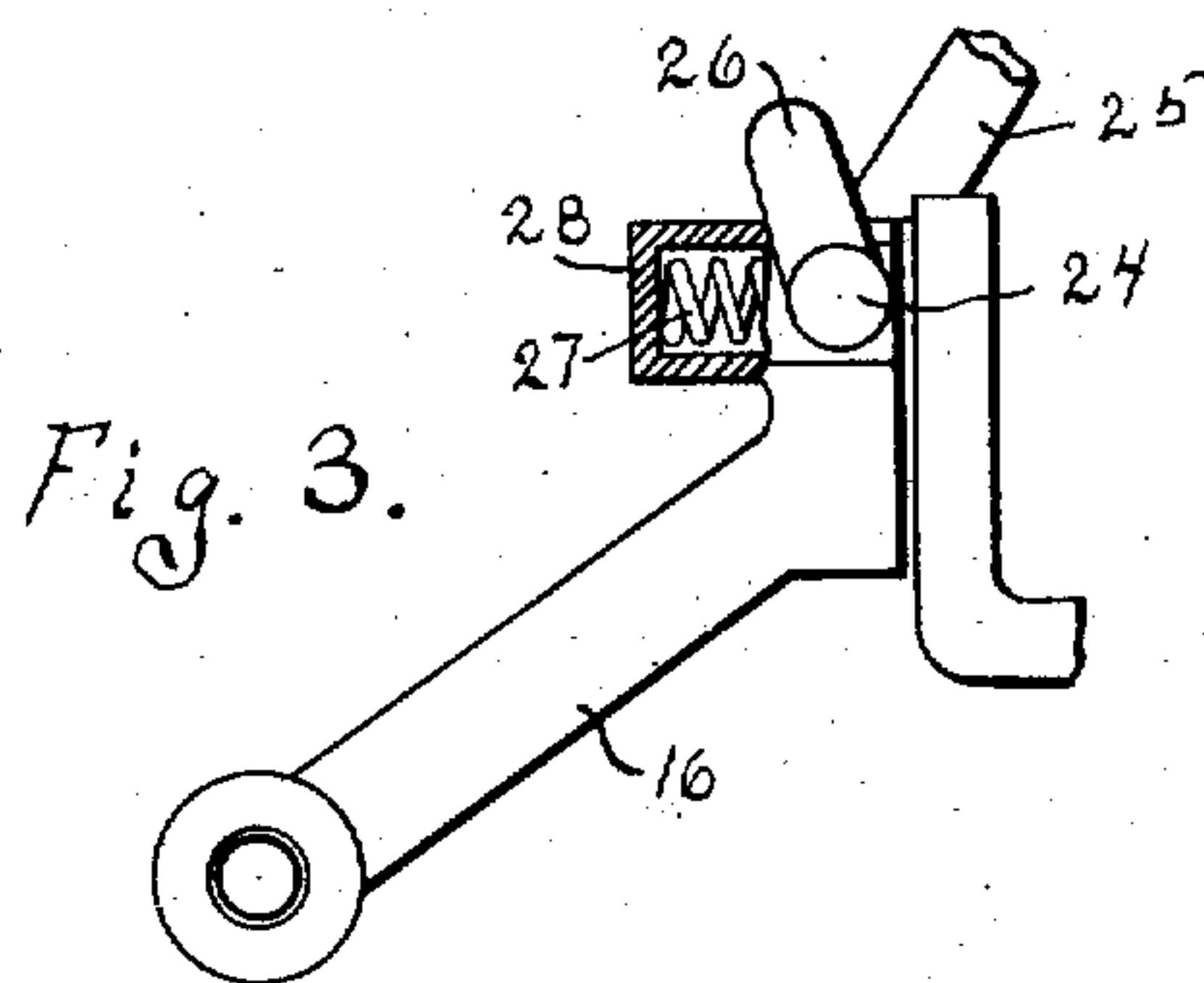
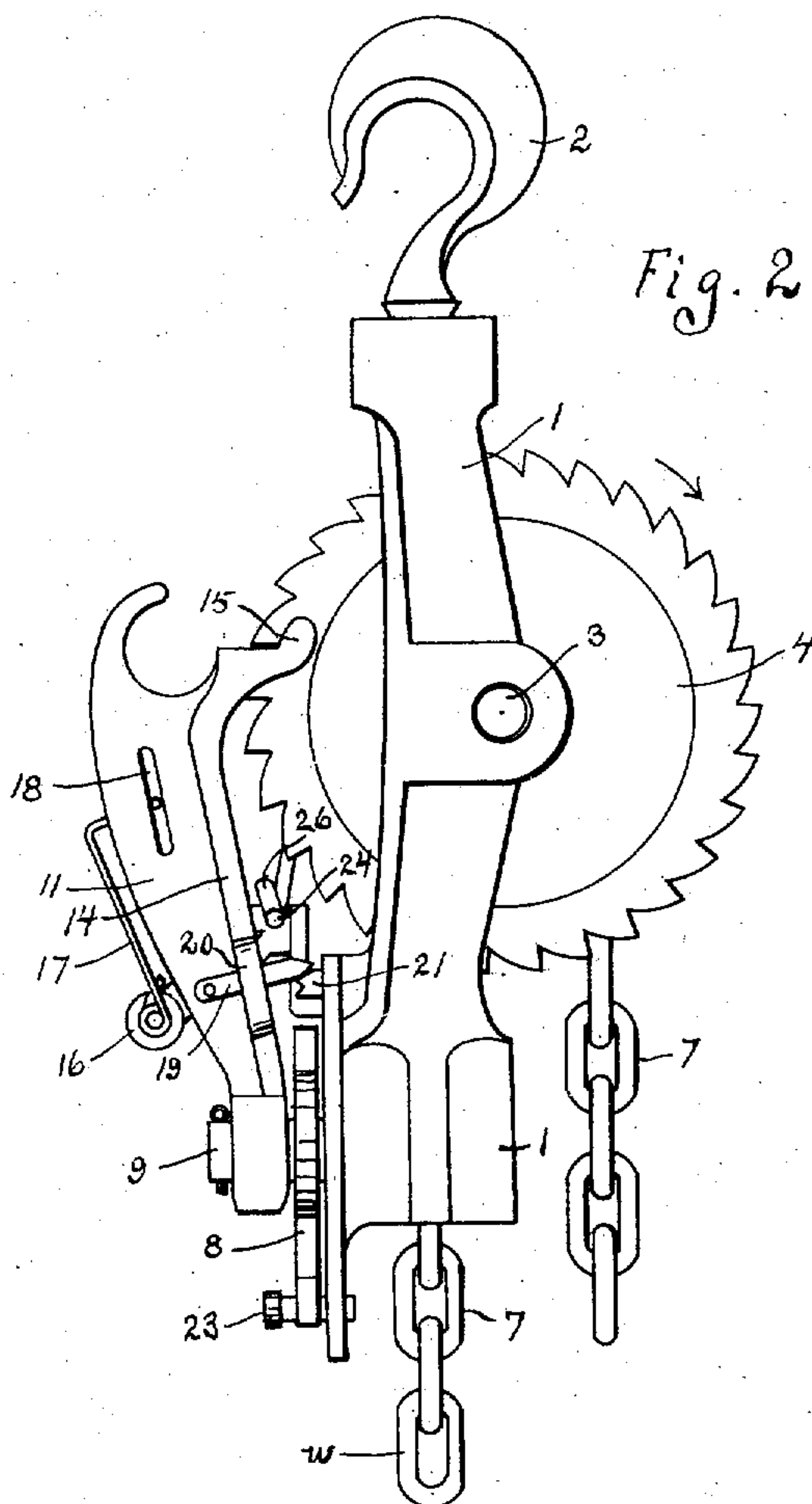
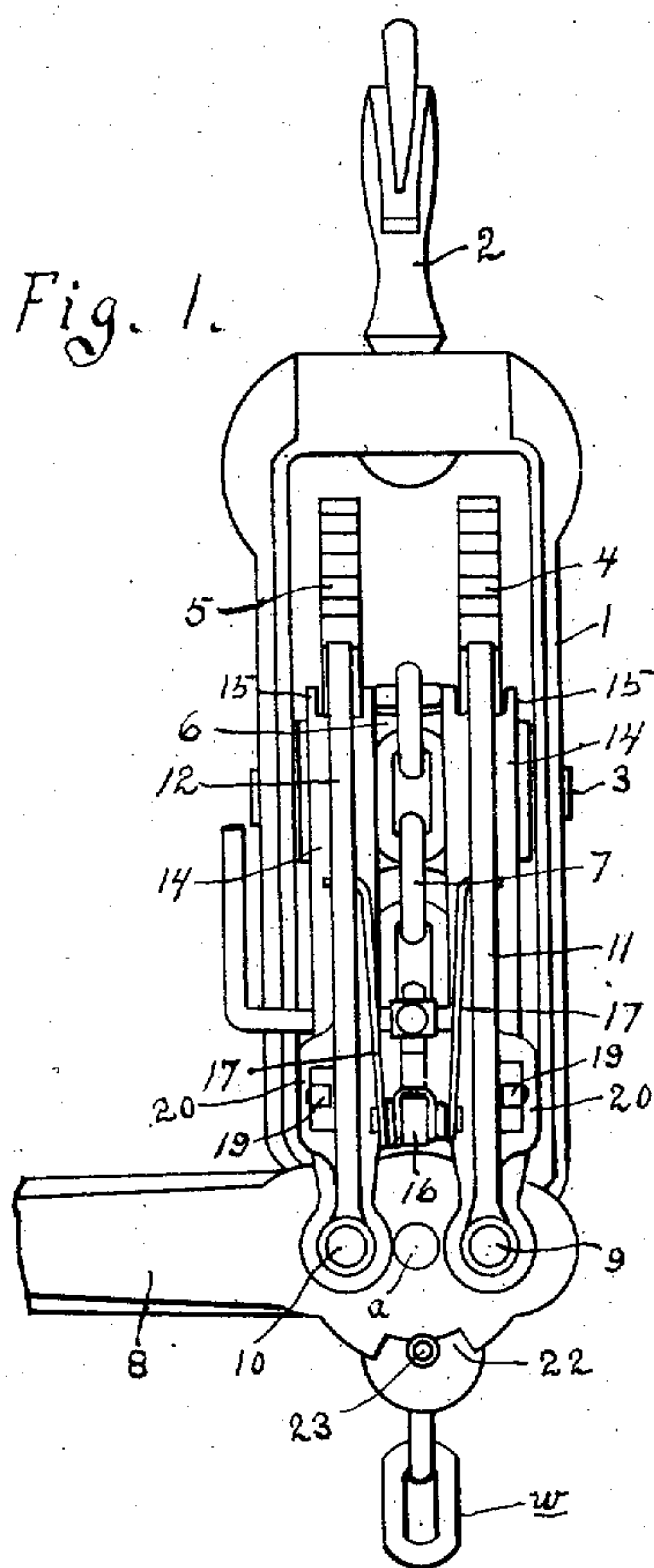
HOISTING DEVICE.

APPLICATION FILED DEC. 27, 1910.

987,348.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.



Witnesses
J. J. Ward
C. H. Woodburn

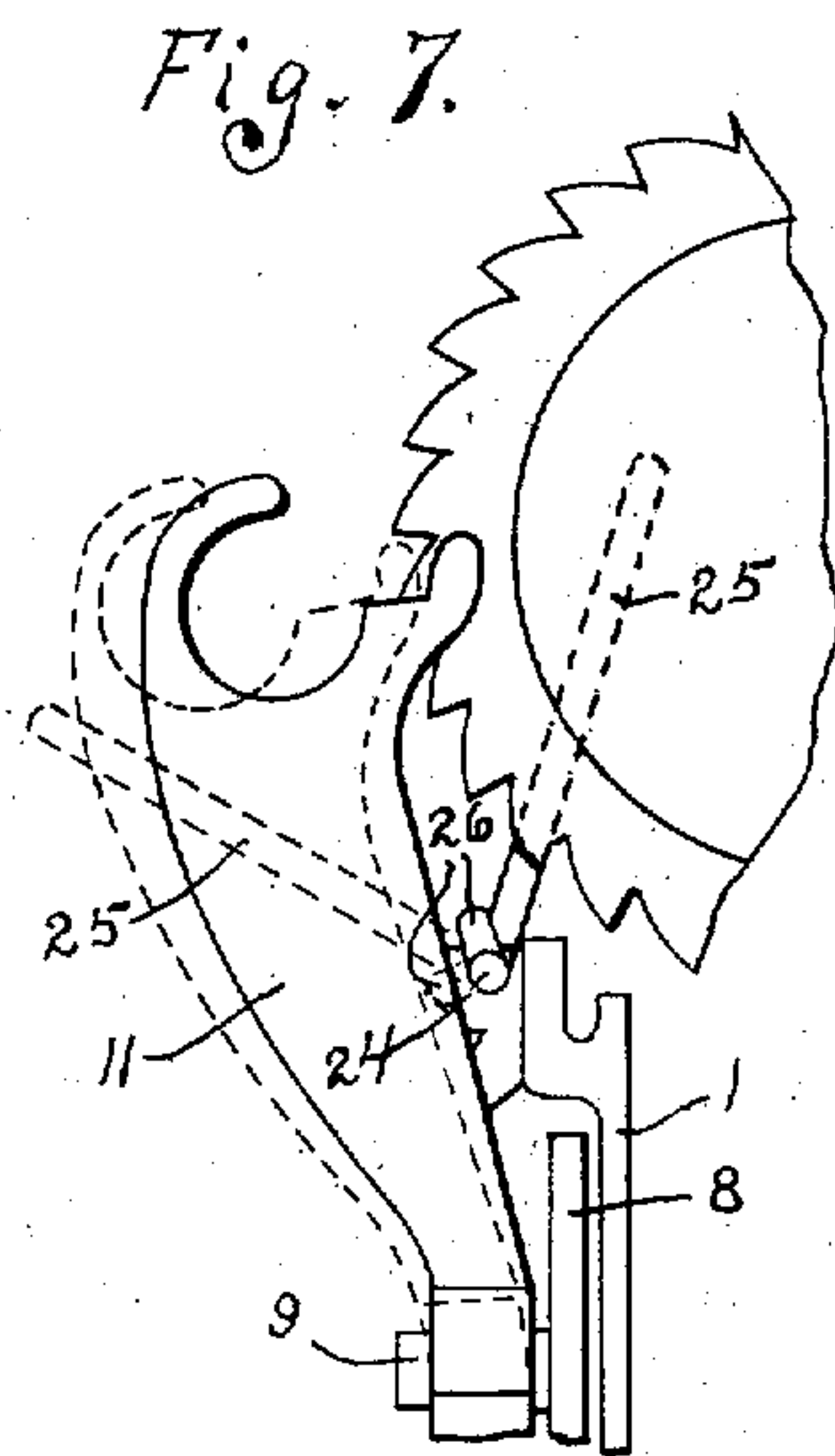
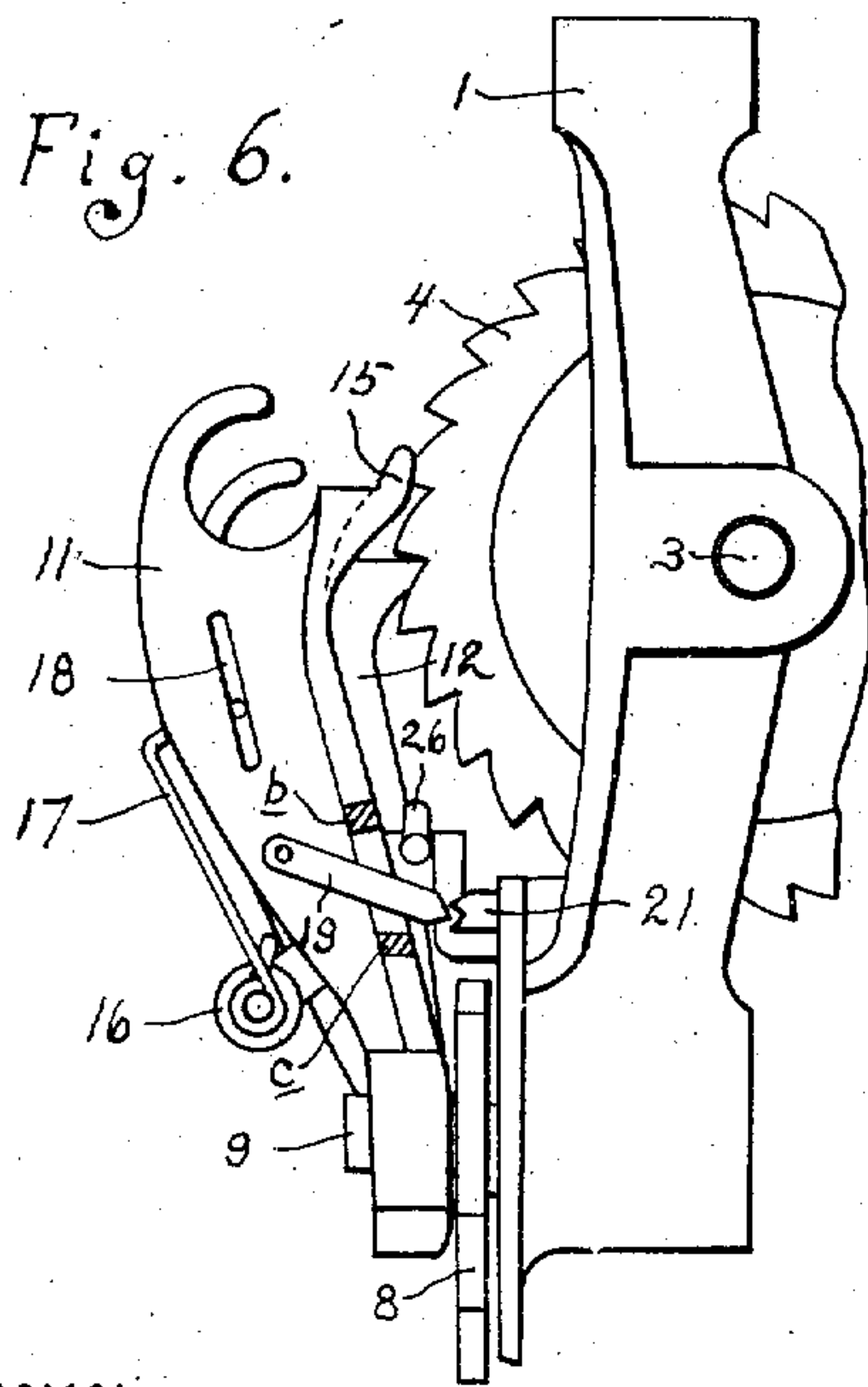
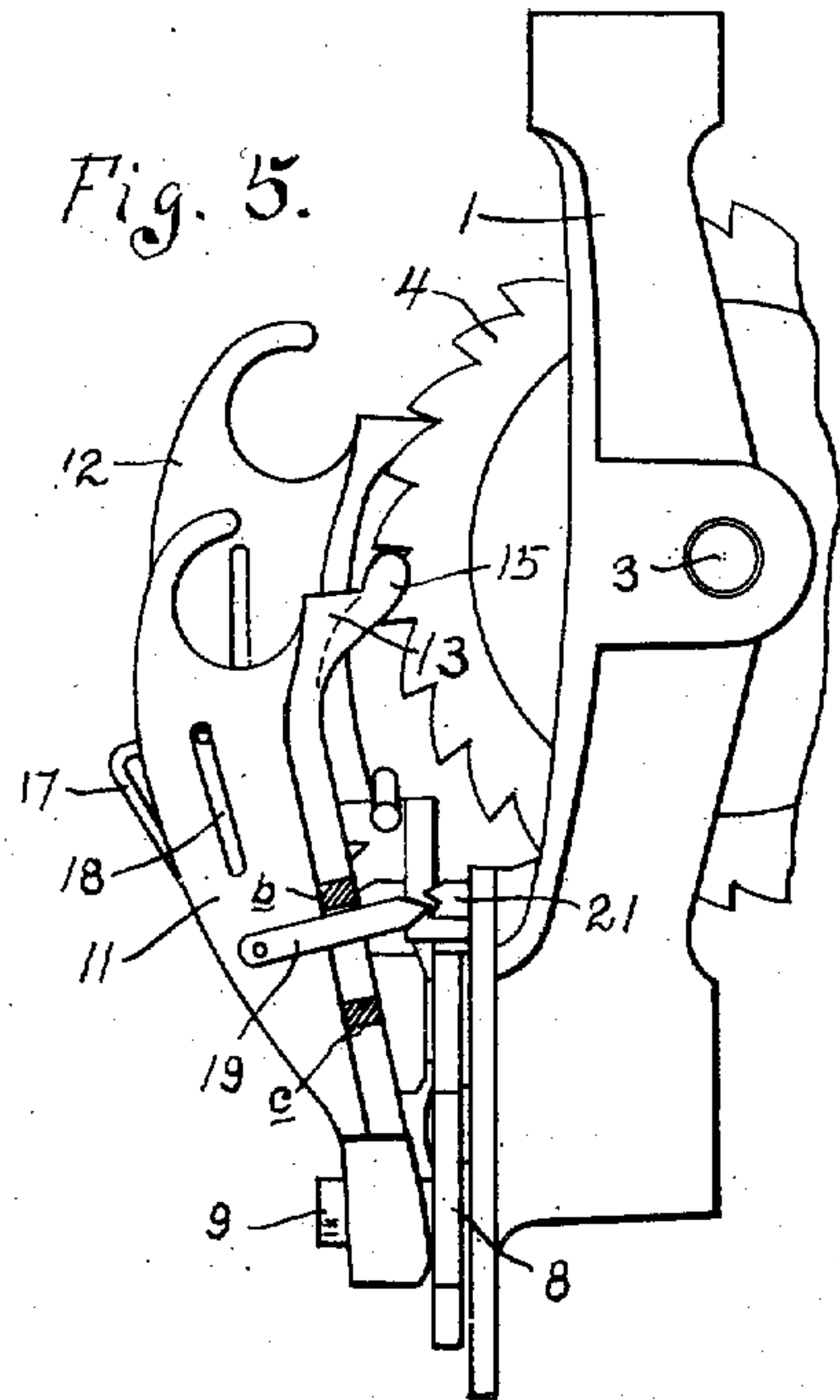
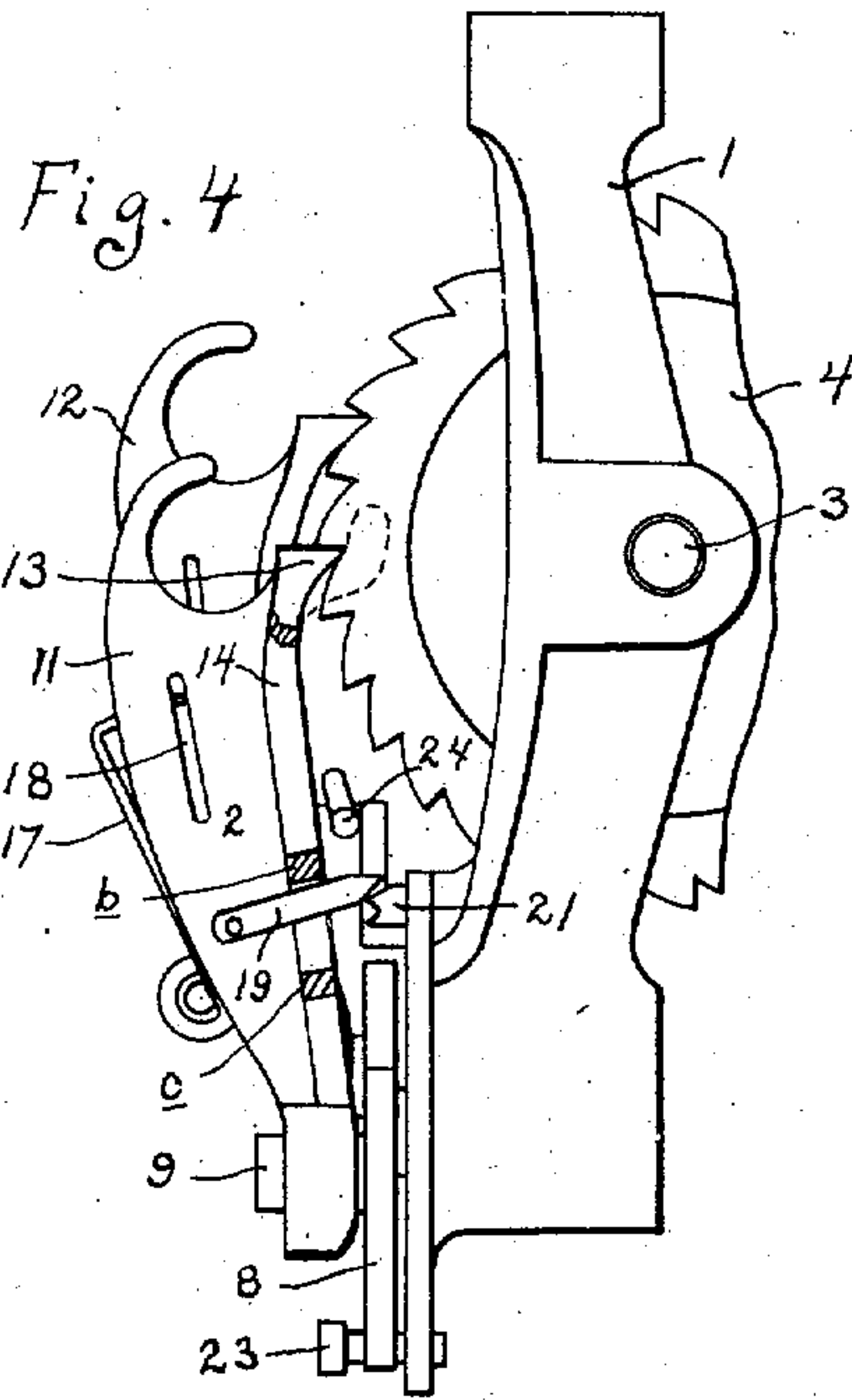
Inventors
Washington M. Dillon
and Daniel H. Little
 By *Walter N. Haskell,*
 their Attorney

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2 SHEETS-SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

WASHINGTON M. DILLON, OF STERLING, AND DANIEL H. LITTLE, OF ROCK FALLS,
ILLINOIS; SAID LITTLE ASSIGNOR TO SAID DILLON.

HOISTING DEVICE.

987,348.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed December 27, 1910. Serial No. 599,576.

To all whom it may concern:

Be it known that we, WASHINGTON M. DILLON and DANIEL H. LITTLE, citizens of the United States, residing, respectively, at
5 Sterling and Rock Falls, Whiteside county, Illinois, have invented certain new and useful Improvements in Hoisting Devices, of which the following is a specification.

Our invention has reference to hoisting
10 devices, of that class which are manually operated by means of a hand-lever, by the use of which mechanism the gradual raising of a weighty object may be accomplished.

It is frequently desirable to reverse the
15 action of the mechanism, so as to permit the load to be gradually lowered, and the device hereinafter described embodies means for enabling this to be done without any adjustment of the parts.

Our invention can also be used effectually
20 for other purposes than that just mentioned, such as the stretching of wire fencing, or in places where any great amount of resistance is desired to be overcome.

In the drawings: Figure 1 is an edge view
25 of our invention, with the operating lever partly broken away. Fig. 2 is a side elevation thereof. Fig. 3 is a detail showing the spring-support 16 and appurtenant parts.
30 Figs. 4 to 6 inclusive are partial views of the device in different operative positions. Fig. 7 is a detail, showing the means for throwing the dogs 11 and 12 out of engagement with the ratchet-wheels 4 and 5.

Similar parts are indicated by correspond-
35 ing numbers of reference throughout the several figures.

1 is the frame of the machine provided at its upper end with a swivel hook 2, by
40 means of which said frame may be suitably supported. Rotatably mounted in the frame 1 is a shaft 3, on which are fixed similar ratchet-wheels 4 and 5, between which is secured a chain-sheave 6, partially around
45 which passes a chain 7. Pivoted to the lower part of the frame, as at *a*, is a hand-lever 8, which may be formed of any desired length, and on opposite sides of the pivotal point the head of such lever is pro-
50 vided with posts 9 and 10 upon which are pivotally held dogs 11 and 12, the outer ends of which have teeth 13 adapted to engage the teeth of the wheels 4 and 5. (Fig. 4.) Each of the dogs 11 and 12 is provided
55 with ribs 14, which are projected into ears

15, which embrace the edges of the wheels 4 and 5, and prevent a lateral displacement of the dogs.

By operation of the lever 8 the dogs 11 and 12 are given an alternate reciprocating
60 movement in the direction shown by the arrow in Fig. 2. This causes the passage of the chain 7 over the wheel 6 in the same direction, and, the load being suspended on the end *w* of the chain, such load is thereby
65 gradually elevated.

Secured to the frame 1 is a support 16, on the outer end of which are held springs 17, the outer ends of which are bent outwardly, and inserted in slots 18 in the dogs 11 and
70 12. The force of the springs is such as to hold said dogs normally in contact with the teeth of the wheels 4 and 5.

On the outer face of each of the dogs 4 and 5 is pivoted a pin 19, passing through
75 an arch 20 in the flange 14, and adapted to engage a notched pin 21 fixed to the frame 1. The outer end of the pin 19 and upper face of the pin 21 are both beveled, so that a sufficient downward movement of the dog
80 carrying such pin will operate to throw the end thereof into engagement with the notched end of the stationary pin. Upon a moderate movement of the hand-lever 8 the upper end of the arch 20 will barely come
85 in contact with the pin 19, as shown in Fig. 4, and such pin will merely rest at its end upon the pin 21. The return movement of the dog 11 will then operate the wheel 4 in the usual manner, and a similar upward
90 movement of the dog 12 will actuate the wheel 5, so that the movement of said wheels will be practically continuous.

If it is desired to reverse the movement of the ratchet-wheels and chain supported
95 thereby, the length of movement of the lever 8 is increased in each direction. The continued downward movement of the pawl 11 causes the upper end *b* of the arch 20 to force the pin 19 downwardly into engage-
100 ment with the pin 21. (See Fig. 5.) The length of the pin 19 is such that when it is thus in engagement with the pin 21 it operates to hold the tooth 13 of the dog out of engagement with the teeth of the ratchet-
105 wheel 4. In the return movement of the dog 11 upwardly the pin 19 rocks on the pin 21, retaining the pawl 11 in its outward or disengaged position. Meanwhile the dog 12 is moving downwardly, and the wheel 5, which
110

is in engagement therewith, follows the movement thereof, resulting in the rearward movement of the chain 7 and consequent lowering of the load. As the dog 11 nears the end of its movement upwardly the lower end *c* of the arch 20 comes in contact with the pin 19, (Fig. 6,) and forces such pin out of engagement with the pin 21, permitting the dog 11 to again engage the teeth of the dog 4. In the downward movement of the dog 11 it is followed by the wheel 4, the dog 12 at this time moving upwardly, and being held out of engagement with the wheel 5 by the pin 19 on said dog. The operation is continued until the load is sufficiently lowered.

To limit the movement of the lever 8 so as to cause the forward movement of the ratchet-wheels the head of such lever is provided with an arc-shaped recess 22 in which a pin 23 is removably fixed in the lower end of the frame 1. The ends of the recess come in contact with such pin upon the lever being oscillated, and prevent a sufficient movement of the lever to cause the engagement of the pins 19 and 21. When it is desired to give a greater degree of oscillation to the lever, causing a rearward movement of the wheels 4 and 5, as above set forth, the pin 23 is removed.

In the inner end of the support 16 is held a rock-shaft 24, provided at one end with a handle 25. (See Fig. 7.) Opposite each of the dogs 11 and 12 on such shaft is a projection 26, adapted to engage said dogs, when the handle is thrown forward, as shown in broken lines, and throw the dogs simultaneously away from the wheels 4 and 5, permitting the free rotation of such wheels. The chain 7 can thus be moved forwardly or rearwardly without hindrance. Sufficient tension is applied to the shaft 24, to prevent its accidental turning, by means of a coiled spring 27 in a casing 28, the inner end of such spring having a bearing against said shaft.

In using our device for stretching wire fencing the hook end of the frame 1 is secured to a post or other fixed object, and the end *w* of the chain 7 is secured to the fence clamp, and the limited movement of the lever 8 operates to draw the fencing in the direction of the supporting point of the frame.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is:

1. A device of the class named, comprising a frame, a pair of ratchet wheels, rotatably supported therein, so as to operate coincidentally; a chain pulley, rigidly held between said wheels; a chain supported thereon; a hand-lever, pivoted on said frame; a pair of dogs, pivoted on said lever, and adapted to engage the teeth of said ratchet-wheels,

to alternately operate the same; means for holding said dogs normally in engagement with said wheels; pins pivoted at one of their ends on the faces of said dogs; and means for engaging the free ends of said pins to hold said dogs alternately out of engagement with said ratchet-wheels.

2. A device of the class named, comprising a frame; a pair of ratchet-wheels, jointly rotatable therein; a chain-pulley, rotatable with said wheels; a chain, supported thereby; a hand-lever, pivoted on said frame; a pair of dogs, pivoted on said hand-lever, on opposite sides of the pivot thereof, and adapted to engage the teeth of said ratchet-wheels, to alternately rotate the same; means for holding said dogs normally in engagement with said wheels; pins pivoted at one of their ends on the faces of said dogs; means for engaging the free ends of said pins to hold said dogs alternately out of engagement with said ratchet-wheels; and means for limiting the movement of said hand-lever in each direction.

3. A device of the class named, comprising a frame; a pair of ratchet-wheels, jointly rotatable therein; a pulley, rotatable with said ratchet-wheels; a hand-lever, pivoted on said frame; a pair of dogs, pivoted on said hand-lever, on opposite sides of the pivotal point thereof, and adapted to engage the teeth of said ratchet-wheels to alternately rotate the same in an operative direction upon a partial oscillation of said hand-lever; and means for alternately throwing said dogs out of engagement with said wheels, to permit a reverse movement thereof, upon an increased oscillation of said lever.

4. A device of the class named, comprising a frame; a pair of ratchet-wheels, rotatable jointly therein; a pulley, rotatable with said ratchet-wheels; a hand-lever, pivoted on said frame; a pair of dogs, pivoted on said hand-lever, on opposite sides of the pivotal point thereof; and adapted to engage the teeth of said ratchet-wheels, to alternately rotate the same in an operative direction upon a partial oscillation of the hand-lever; pins pivoted at one of their ends on said dogs; pins fixed on said frame, provided in their outer ends with means for engaging the free ends of said first-named pins upon an increased oscillation of said hand-lever, to hold said dogs alternately out of engagement with said wheels during the return movement thereof and permit a reverse movement of said wheels; and arches embracing said first-named pins, and adapted to force the same into engagement with said stationary pins at one end of the stroke of said lever, and out of engagement therewith at the end of the opposite stroke thereof.

5. A device of the class named, comprising a frame; a pair of ratchet-wheels jointly rotatable therein; a pulley, rotatable with said

wheels; a hand-lever, pivoted on said frame;
a pair of dogs, pivoted on said lever on oppo-
site sides of the pivotal point thereof, and
adapted to engage the teeth of said ratchet-
5 wheels to alternately rotate the same in an
operative direction upon a partial oscilla-
tion of said hand-lever; means for alter-
nately throwing said dogs out of engagement
with said ratchet-wheels, to permit a reverse
10 movement thereof, upon an increased oscilla-

tion of said lever; and means for throwing
said dogs simultaneously out of engagement
with said wheels.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

WASHINGTON M. DILLON.
DANIEL H. LITTLE.

Witnesses:

W. N. HASKELL,
A. L. HOGlund.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
