

(No Model.)

2 Sheets—Sheet 1.

O. CROSBY.
PAWL AND RATCHET.

No. 587,300.

Patented Aug. 3, 1897.

FIG. 2.

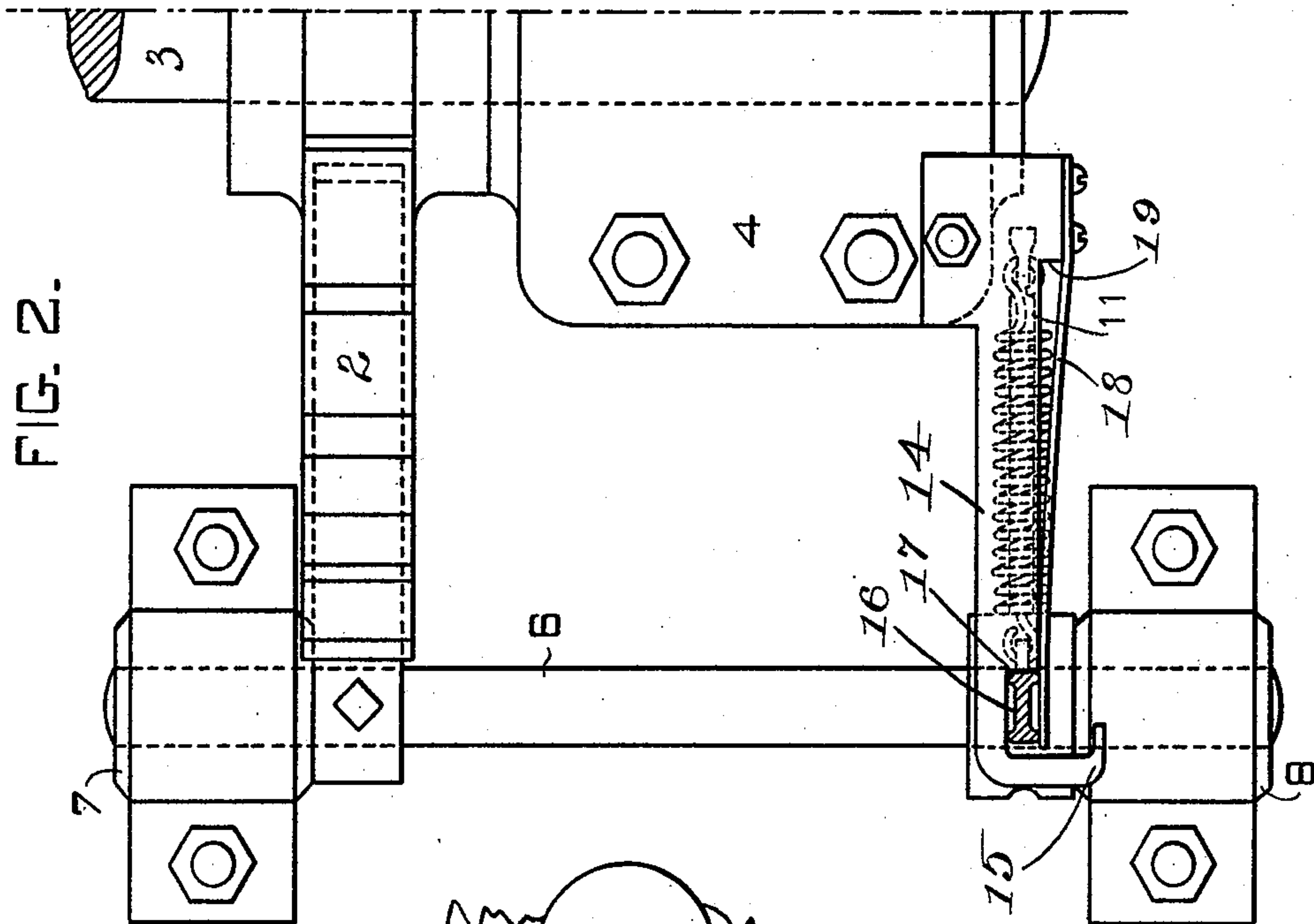
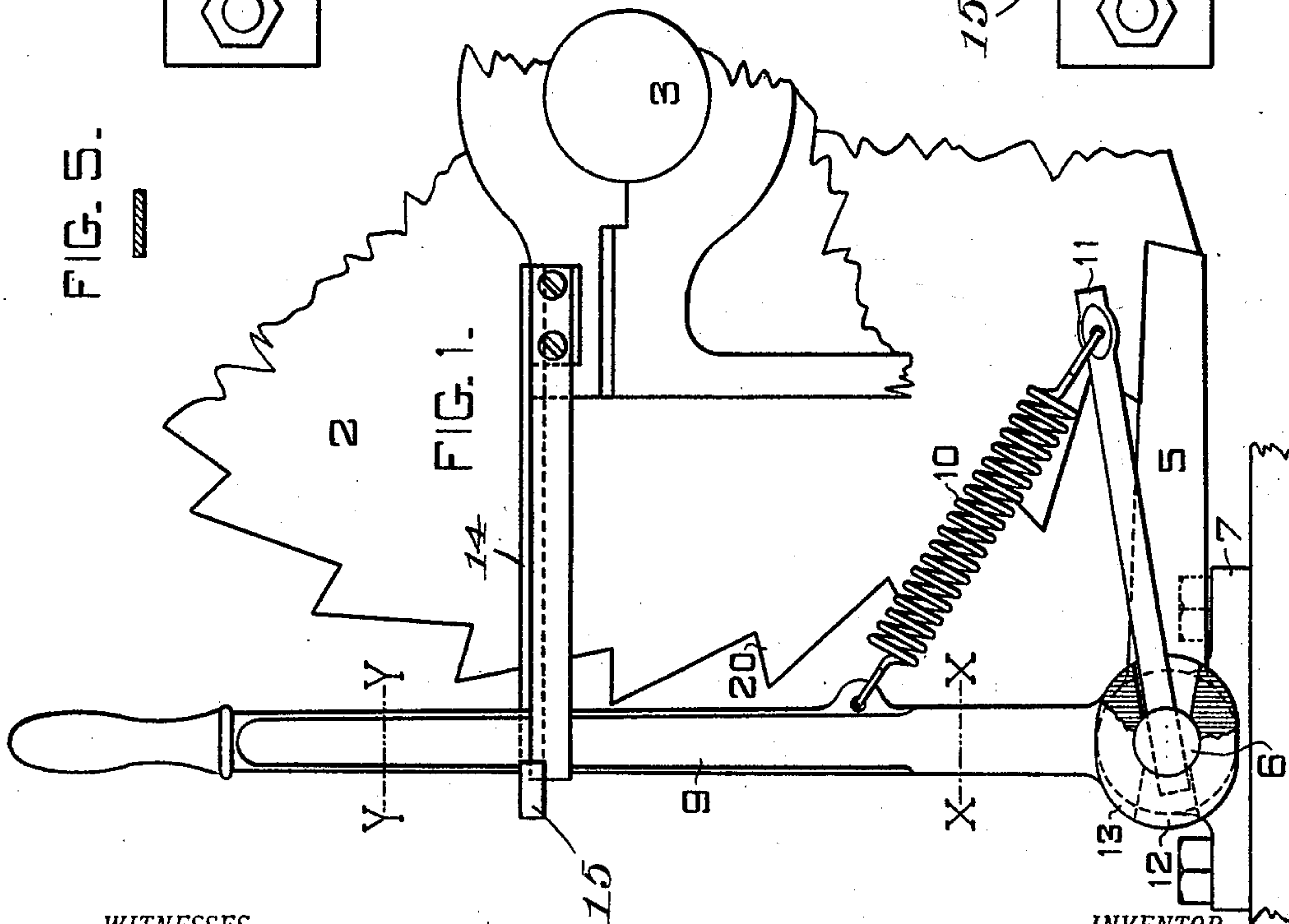


FIG. 5.



WITNESSES:

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ATTORNEY

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FIG. 4.

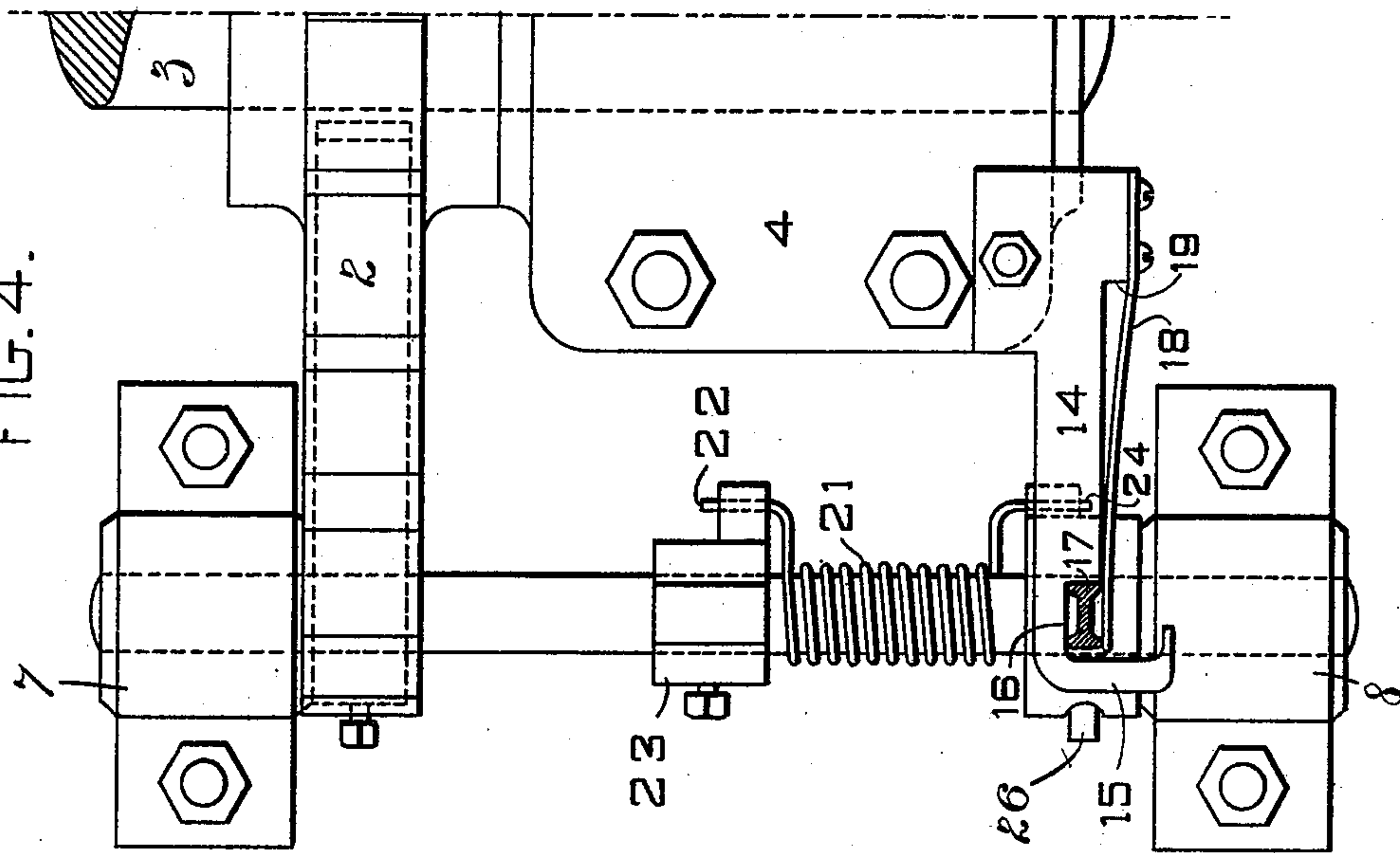
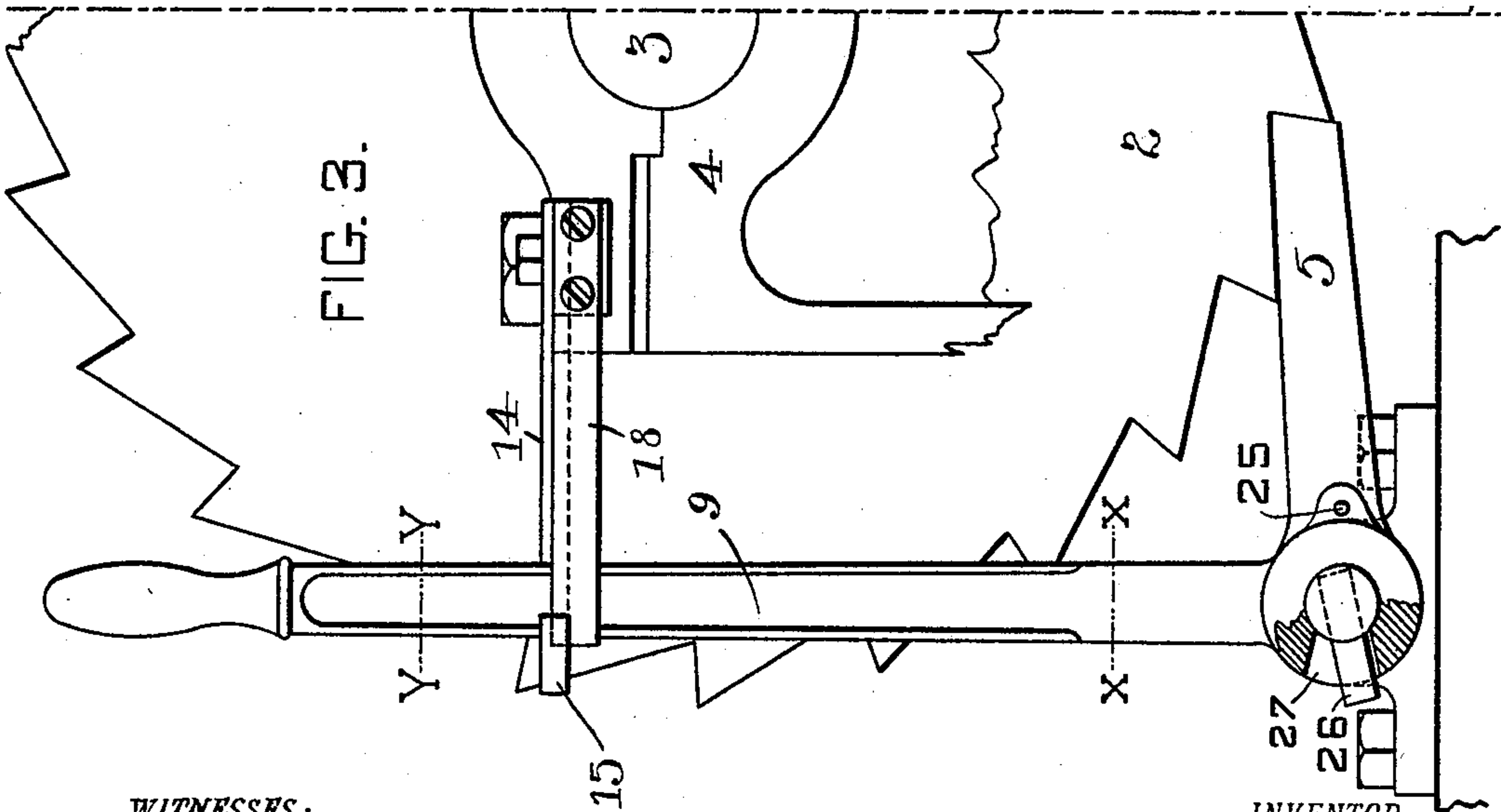


FIG. 3.



WITNESSES:

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INVENTOR

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ATTORNEY

UNITED STATES PATENT OFFICE.

OLIVER CROSBY, OF ST. PAUL, MINNESOTA.

PAWL AND RATCHET.

SPECIFICATION forming part of Letters Patent No. 587,300, dated August 3, 1897.

Application filed May 28, 1896. Serial No. 593,444. (No model.)

To all whom it may concern:

Be it known that I, OLIVER CROSBY, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Pawls and Ratchets, of which the following is a specification.

My invention relates to improvements in the construction of pawls and ratchets, its object being to provide an improved form of spring-controlled and gravity-released pawl, together with means for mechanically throwing the spring of the pawl out of action, so as to permit the pawl to be disengaged from the ratchet; and to this end it consists in the features of construction hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is an end elevation of my improved attachment with a portion of the connected ratchet. Fig. 2 is a plan view of the same. Fig. 3 is an end elevation of a modified construction. Fig. 4 is a plan view of the same; and Fig. 5 is a detail cross-section of the operating-lever, taken on line *x x* of Figs. 1 and 3, the cross-section on line *y y* of said figures being shown in Figs. 2 and 4.

In the drawings, 2 represents the ratchet, adapted to be connected to any suitable apparatus; 3, its shaft; 4, the journal-box for the shaft; 5, the gravity-released pawl, fitted to said ratchet and mounted upon the shaft or pivot 6, journaled in bearings 7 and 8.

Mounted loosely upon the shaft or pivot 6 is the hand-lever 9, connected by means of the tension-spring 10 with the arm 11, which arm is secured to the shaft 6, projecting through the same, lying in the segmental slotted opening 12 of the hub 13 of the lever 9. By this means the lever is permitted limited movement upon the shaft 6. The walls of the slotted opening 12 engage the arm 11 to move and rock the shaft 6. When the lever is in normal or vertical position, the spring 10 applies sufficient tension to the arm 11 to hold it in the position shown by full lines in Fig. 1 and support the pawl 5 against its own gravity in engagement with the ratchet.

The lever 9 is locked in normal position by means of the notched guide-arm 14, rigidly secured to the bearing 4 and having a hooked

end 15 to prevent disengagement of the lever therefrom. The lever stands normally in the notch 16 in this arm, and bears against the shoulder 17, and is held in said notch by the flat spring 18. The lever, however, may be swung laterally against the tension of the spring 18, so as to clear the shoulder 17 and swing along the side of the arm 14 until stopped by its shoulder 19, in which position the tension upon the spring 10 is released, so that the arm 11 falls, permitting the pawl to drop out of engagement with its ratchet. The limited relative movement between the arm 11 and the lever 9 against the tension of the spring 10 permits the pawl to ride over the teeth 20 of the ratchet in its step-by-step action.

In the modified construction shown in Figs. 3 and 4 the torsion-spring 21 is substituted for the tension-spring 10, one end 22 of the spring engaging the collar 23 upon the shaft 6 and the other end 24 engaging the eye 25 upon the lever-hub, the shaft 6 being provided with a spur 26, which projects through a segmental slot 27 in the hub of the lever, thereby serving the same function as the arm 11 in the other construction. The function of the two constructions is the same.

The lever 9 may be mounted sufficiently loosely upon the shaft 6 to permit its swinging to clear the shoulder 17 or constructed so as to bend slightly, as illustrated in the drawings, the lower part being flat, as indicated by Fig. 5, while the upper part is in the form of an I-beam, as shown in Figs. 2 and 4.

I claim—

1. The combination with the ratchet, of the spring-pressed, gravity-released pawl therefor, its pivot-shaft, the lever mounted on said shaft, the spring connecting said lever with said shaft, and means for locking said lever in normal position, so as to apply tension to said spring and hold said pawl in engagement with the ratchet.

2. The combination with the ratchet, its gravity-released pawl, and the pawl-pivot shaft, of the lever mounted on said shaft, the spring connection between said lever and shaft, and the spring-lock for holding said lever in normal position to apply tension to said spring and hold the pawl in engagement with the ratchet.

3. The combination with the ratchet, its gravity-released pawl and pawl-pivot, of the lever mounted loosely upon said pivot, the arm fixed to said pivot and working loosely
5 in the hub of said lever, the spring connecting said lever in position to apply tension to said spring and hold the pawl in engagement with the ratchet, but permitting the lever to

be released so as to disconnect the pawl from the ratchet.

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

OLIVER CROSBY.

Witnesses:

T. D. MERWIN,
MINNIE L. THAUWALD.