

No. 669,980.

Patented Mar. 19, 1901.

L. F. CUTTEN.  
HAMMOCK SWINGER.

(Application filed May 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

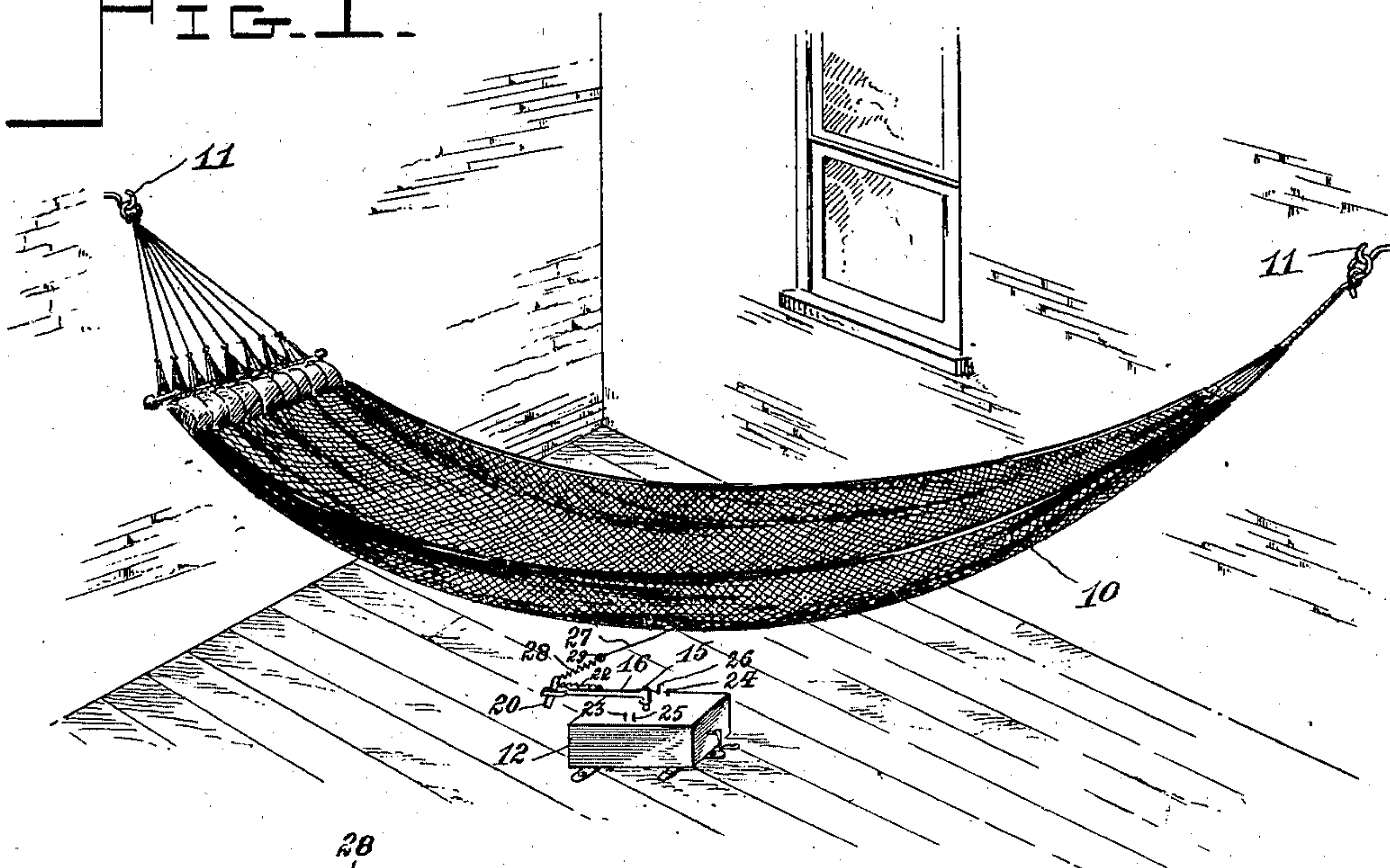


FIG. 4.

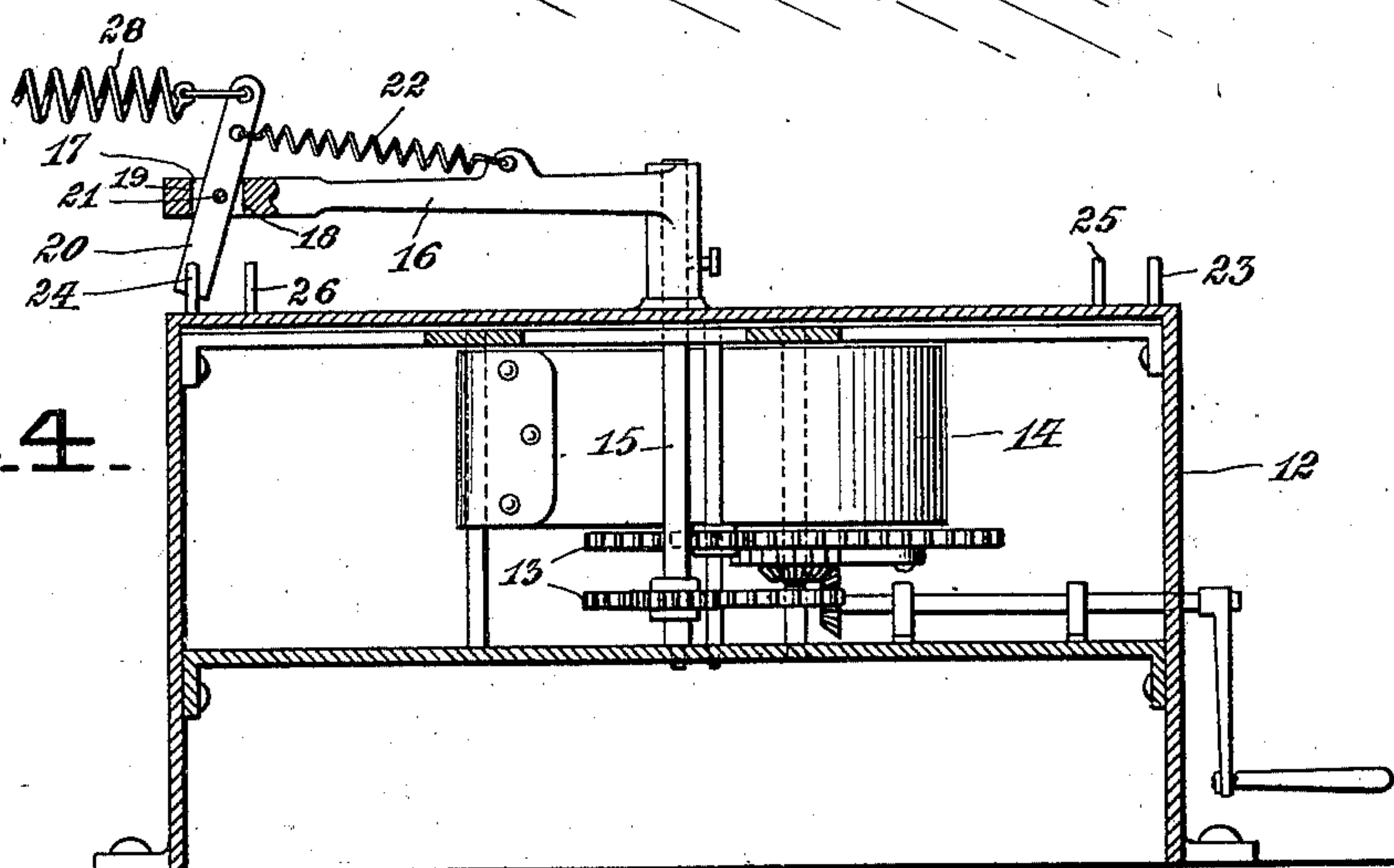


FIG. 5.

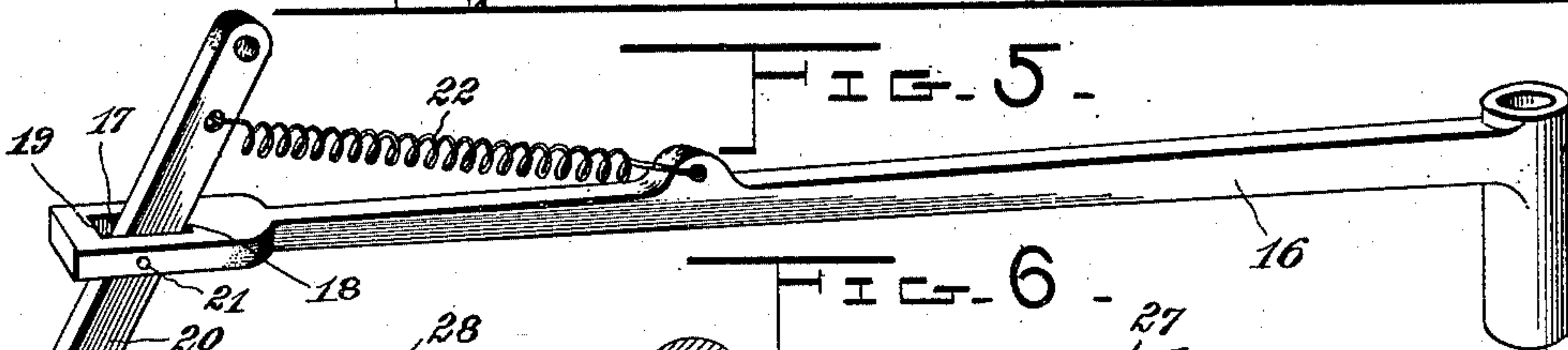
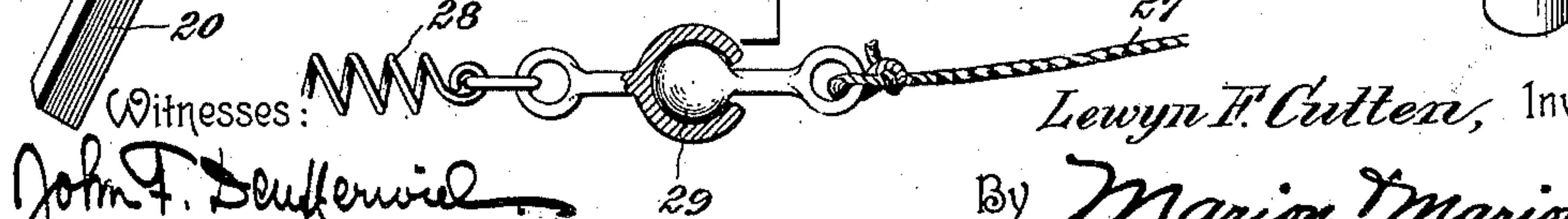


FIG. 6.



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2 Sheets—Sheet 2.

FIG. 2.

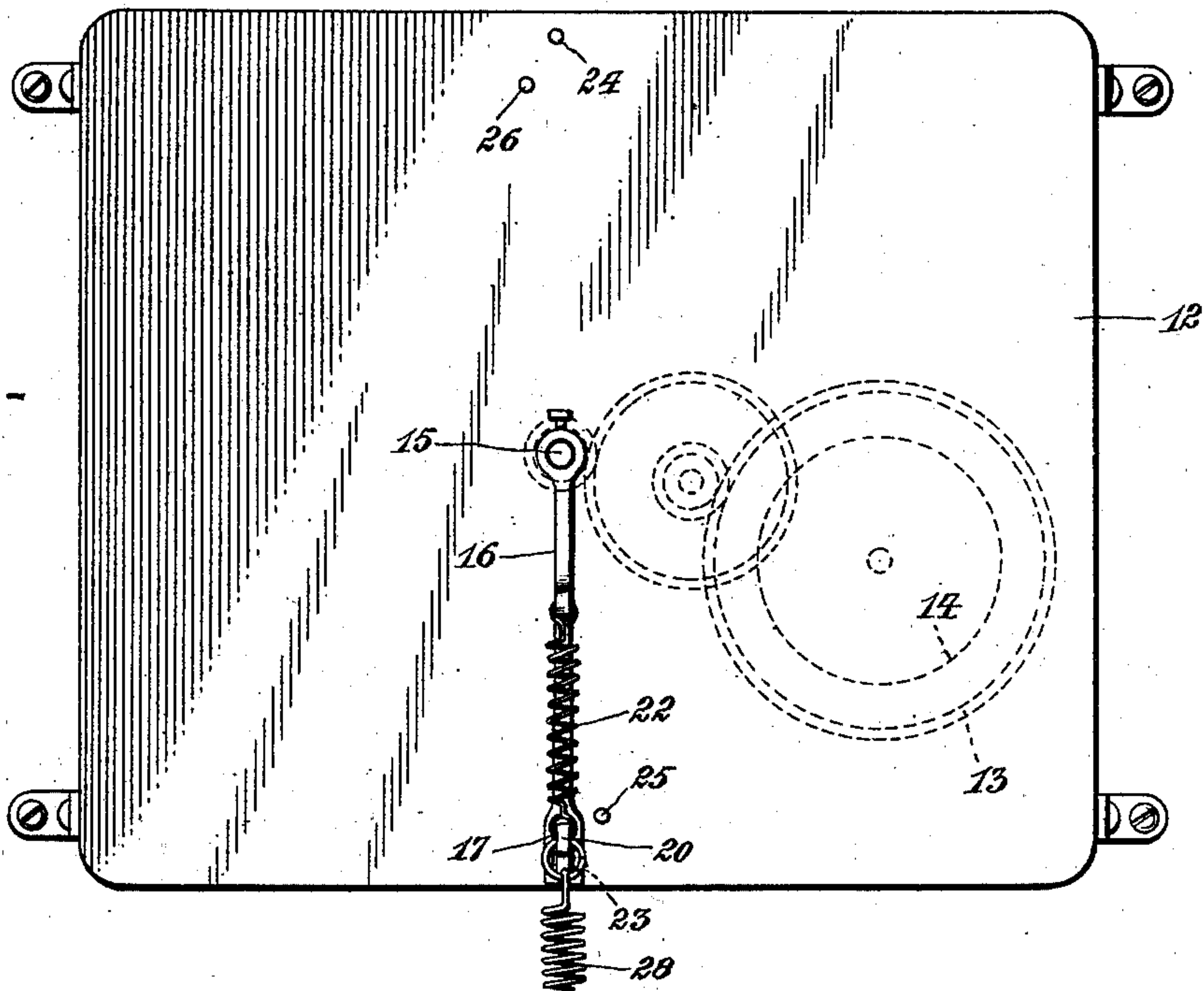
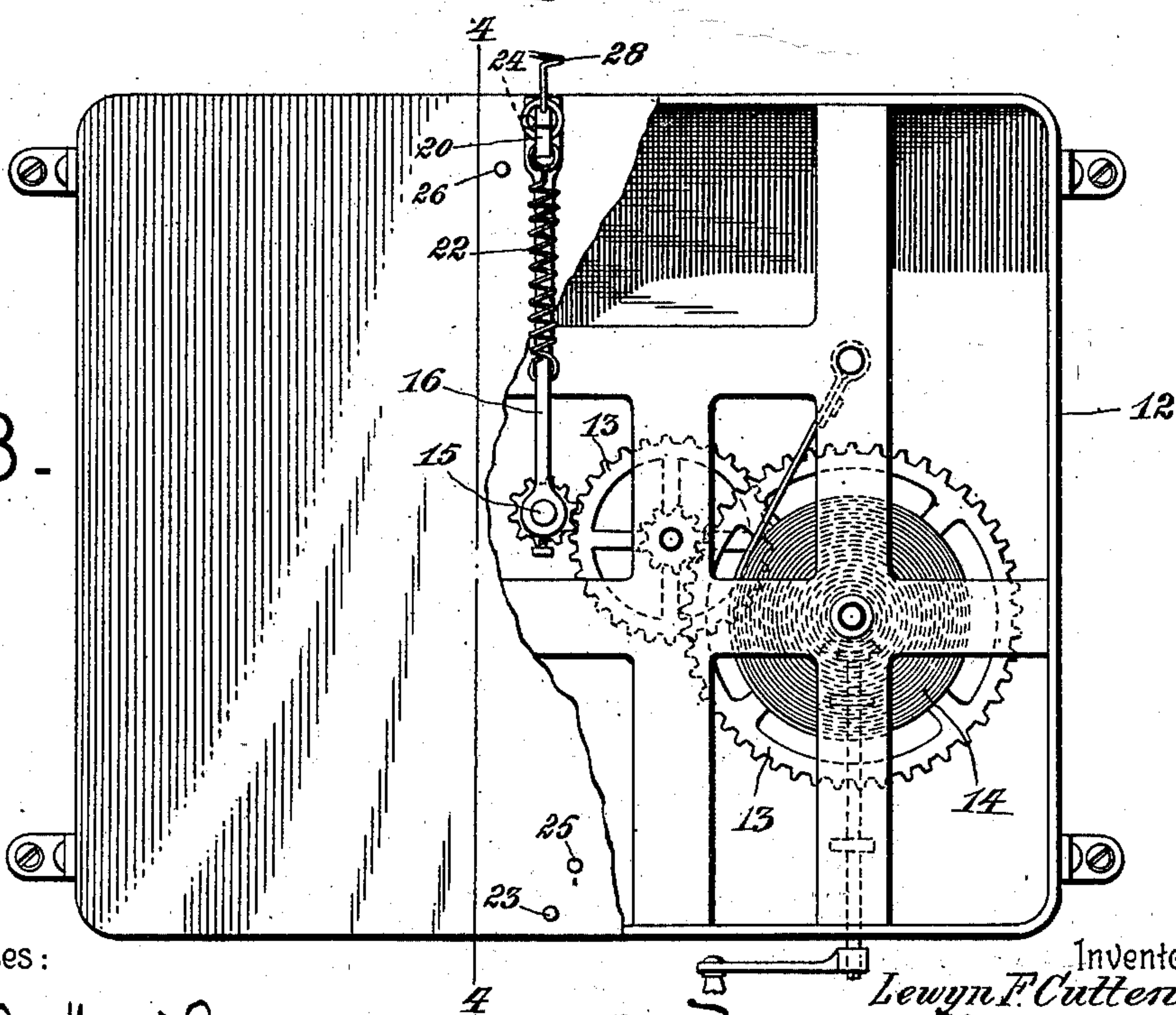


FIG. 3.



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# UNITED STATES PATENT OFFICE.

LEWYN FRANK CUTTEN, OF BOISSEVAIN, CANADA.

## HAMMOCK-SWINGER.

SPECIFICATION forming part of Letters Patent No. 669,980, dated March 19, 1901.

Application filed May 21, 1900. Serial No. 17,326. (No model.)

*To all whom it may concern:*

Be it known that I, LEWYN FRANK CUTTEN, a subject of Her Majesty the Queen of Great Britain, residing at Boissevain, county of Turtle Mountain, Province of Manitoba, Canada, have invented certain new and useful Improvements in Hammock-Swingers; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to means for swinging hammocks without any effort on the part of the occupant; and the primary object is the provision of a simple contrivance which may be used in connection with any hammock and which is wholly automatic in operation.

A further object is to provide the mechanical swinger with means that work in unison with the back-and-forth movement of a swaying hammock, so as to impel the latter and also to prevent twisting of the flexible connection between the swinger mechanism and the hammock.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty in the combination of devices and in the construction and arrangement of parts will be defined by the claims.

In the drawings, Figure 1 is a perspective view illustrating my mechanical swinger in operative relation to an ordinary hammock. Figs. 2 and 3 are plan views of the mechanical swinger, illustrating the rotating arm in different positions. Fig. 4 is a sectional elevation taken in the plane of the dotted line 4 4 on Fig. 3. Fig. 5 is an enlarged detail view of the revoluble arm and the trip carried thereby. Fig. 6 is a detail view of the flexible and elastic connection between the hammock and the trip of the revoluble arm, which form elements of the mechanical swinger.

The same numerals of reference are used to indicate like parts in each of the several figures of the drawings.

10 designates an ordinary hammock, which is suspended in any suitable way—as, for example, from the hooks 11.

The automatic mechanical swinger of my invention is designed to be placed and se-

cured on the floor or ground below the hammock, at the middle portion thereof, and to occupy such relation thereto that the hammock may sway back and forth above the swinger. Some of the operating parts of the swinger mechanism are housed or contained in a suitable casing 12, the same being of any suitable material and of any desired shape.

I employ a prime-motor mechanism of any suitable character for the purpose of propelling the revoluble arm, presently described, continuously in one direction, and this motor mechanism in the embodiment shown in the drawings is a train of gearing 13, actuated from a strong coiled spring 14 and having a prime shaft 15, which projects through the casing. On the protruding end of this power-driven shaft is secured one end of the revoluble arm 16, which is exposed above the casing and is adapted to rotate in a horizontal plane. This arm is provided at a point intermediate of its length with a short slot 17, the ends of which are beveled to produce the shoulders 18 19. (See Fig. 5.) The arm carries a trip 20, which passes through the slot 17, so as to lie between the shoulders, and said trip is pivoted at a point intermediate of its length to the slotted arm by the transverse pin 21. The trip normally lies in a position at right angles to the arm, so as to have its opposite ends projected beyond said arm. A retracting-spring 22, preferably of the coiled variety, is fastened at one end to the arm and at its other end to the trip, the energy of this spring being exerted on the trip, so as to hold the latter between the shoulders in a position at right angles to the axis of the arm. In connection with this revoluble arm and the yieldable trip carried thereby I employ the stop-posts 23 24, which are fastened to the casing in the vertical plane of the power-actuated shaft 15 and on opposite sides of the latter. The auxiliary posts 25 26 are secured to the casing at points adjacent to the stop-posts 23 24; but the post 25 is arranged on one side of the line drawn through the shaft 15 and the stop-posts 23 24, while the other post 26 is on the opposite side of said line. The arm and the trip are arranged to rotate in such relation to the series of posts that normally the lower end of the yieldable trip 20



will strike against one or the other of the stop-posts 23; but when this trip is moved on its pivot by swaying of the hammock in one direction the lower end of said trip is withdrawn from the stop-post and is moved to a position where it will pass through the space between the pair of posts 23 25 or 24 26, as will hereinafter appear.

The mechanical swinger has a pliable or flexible and an elastic connection with the swaying hammock. The flexible or pliable connection is afforded by the rope or cable 27, while the elastic connection is in the form of a tension-spring 28, although an elastic band of rubber may be used in lieu of this spring. The spring or elastic 28 is attached to the upper end of the yieldable trip 20, and between the spring and the rope is arranged a swivel 29, which permits the rope to turn or move freely without twisting. This rope is designed to be attached in any suitable way to the middle portion of the hammock, and said rope is of such length that when the hammock reaches the limit of its movement in either direction the rope will pull on the spring 28 and the trip 20, so as to place the spring under tension and overcome the resistance afforded by the trip retracting-spring 22, thereby releasing the trip from engagement with one stop-post and permitting the arm to be propelled by the prime motor through an arc of one hundred and eighty degrees or until the trip engages with the other stop-post.

This being the construction of my mechanical swinger, the operation thereof may be described as follows: The swinger having been properly installed on the floor or ground below the middle portion of the hammock and the rope 27 secured firmly to the hammock, the spring of the prime motor is placed under tension in any suitable way—as, for instance, by a key or crank applied to a polygonal end of the spring-arbor. The trip 20 is held by its spring at right angles across the revoluble arm for engagement with one of the stop-posts—say the post 23—as shown by Fig. 2. The hammock is now started, and as it approaches the limit of its movement in one direction the rope 27 pulls on the spring 28 to place the latter under tension and move the trip 20 on its pivot in a direction for the lower end of the trip to clear the stop-post 23. The reaction of the spring 28 starts the hammock on its return movement, and during this movement the prime motor impels the arm 16 and the trip in a direction from the post 23 toward the other post 24, the trip 20 passing freely through the space between the posts 23 25. This operation takes place while the hammock is moving in a backward direction, so that the position of the arm 16 is reversed for its trip to engage with the post 24. Now as the hammock approaches the limit of its movement in the opposite direction the trip and the arm are held against movement

by the post 24, and the rope pulls on the spring 28, so as to place the latter under tension, the reaction of which spring again starts the hammock in its backward movement. At this period the trip is again pulled by the rope and the spring for its lower end to clear the post 24 and enable the same to pass between the posts 24 26, whereby the prime motor again impels the arm 16, so as to bring the trip again into engagement with the post 23. It will be observed that the positions of the rotating arm and its trip are reversed on each back or forth movement of the hammock, and this is for the purpose of engaging the trip alternately with the posts 23 24, so that fixed points of resistance will be provided for the spring or elastic 28 to pull against as the hammock approaches the limit of its movement in either direction. The trip is automatically released from engagement with one post or the other by the pull of the tension-spring or elastic and the hammock-rope at or about the period that the hammock reaches the limit of its movement or begins its return movement, and said trip is so controlled by the tension-spring that it will pass between the pair of posts 23 25 or 24 26 before its retracting-spring can return the trip to its right-angular position with relation to the revoluble arm by which it is carried. During the sway of the hammock in one direction the tension of the spring 28 and the pull of the rope 27 are relaxed, so that the spring 22 will exert its force on the trip 20 during the period that the arm is moving from one post to the other, whereby the trip is restored to its proper position during the travel of the arm in a semicircular path and the trip is again adapted to engage with the stop-post, so as to arrest the motion of the arm which is impelled by the prime motor.

The mechanical swinger of my invention is wholly automatic in operation after having its prime motor placed under tension, and the operation of the swinger is controlled by the movement of the hammock. The hammock may be swung back and forth without any effort on the part of the occupant. The swinger mechanism is comparatively simple in construction, it may be easily installed and used in connection with any hammock, and it is capable of manufacture at a moderate cost.

I do not desire to strictly confine myself to the use of the slotted arm with the shoulders nor to the exact form of spring-motor shown by the drawings. It is evident that other means may be used for impelling the arm 16, and that an arm with pins or studs in lieu of the slot and shoulders may be employed to carry the trip.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts while their essential features are retained and the spirit of the invention is embodied. Hence I do not de-



sire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described my invention, what I claim as new is—

1. The combination with a hammock, of a swinger mechanism having a reversible element arranged to automatically change its position at each swing of the hammock, the radius of movement of which element is less than the arc of movement of the hammock when in motion, and an elastic connection between said reversible element and the hammock, said elastic connection being extended by a pull of the hammock as it reaches the limit of movement in either direction, as set forth.

2. The combination with a hammock, of a mechanical swinger having a revoluble arm, means for impelling said arm, a trip mechanism for intermittently arresting the motion of said arm, and an operative connection between the arm and the hammock, substantially as described.

3. The combination with a hammock, of a mechanical swinger having a revoluble arm carrying a trip, means for impelling said arm in one direction, stops in the path of said trip to arrest the movement of the arm intermittently, and an operative connection between the trip and the hammock, substantially as described.

4. The combination with a hammock, of a mechanical swinger having an automatically-reversible element, trip devices for intermittently arresting said reversible element, and

a yieldable connection between the hammock and said trip devices for the swinger element, substantially as described.

5. The combination with a hammock, of a mechanical swinger having a reversible element and stops therefor, a cord or rope, a tension-spring, and a swivel between the spring and said cord or rope, substantially as described.

6. A mechanical swinger for hammocks, and the like, comprising a prime motor, a revoluble arm actuated thereby, a movable trip on the arm, stops for intermittently arresting the arm through said trip, and means for releasing said trip and the arm and placing the latter under the control of the motor, as set forth.

7. A mechanical hammock-swinger comprising a prime motor, a revoluble arm actuated thereby, a trip carried by said arm, stops in the path of said trip, and means for releasing the trip, substantially as described.

8. A mechanical hammock-swinger, comprising a prime motor, a revoluble arm provided with stops, a trip pivoted to said arm and disposed between the stops, a spring connected to the arm and the trip, stop-posts in the path of the trip, and means for releasing said trip, substantially as described.

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

LEWYN FRANK CUTTEN.

Witnesses:

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N. P. BUCKINGHAM.