

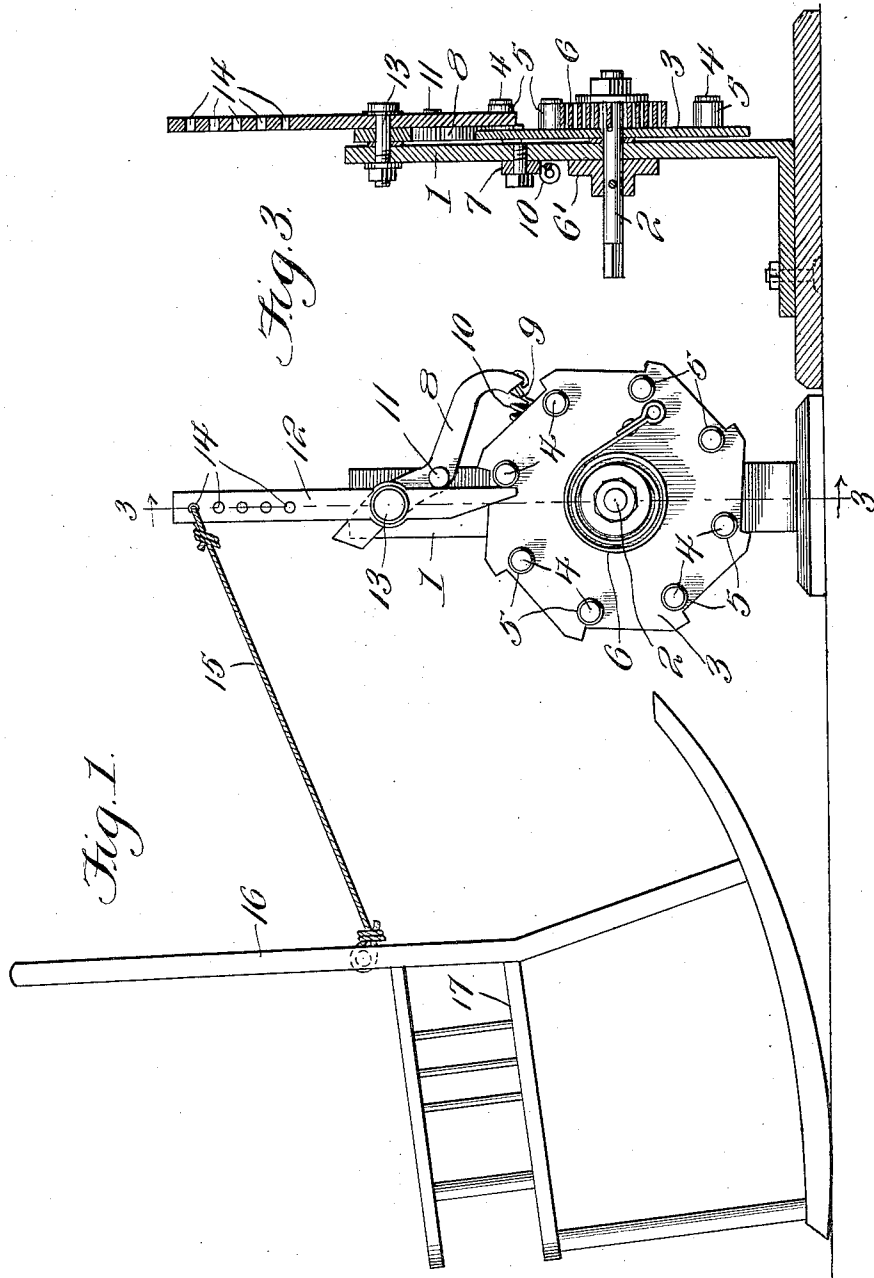
J. BEDNAREK.
MOTOR.

APPLICATION FILED MAY 19, 1911.

Patented Apr. 1, 1913.

3 SHEETS—SHEET 1.

1,057,520.



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Witnesses

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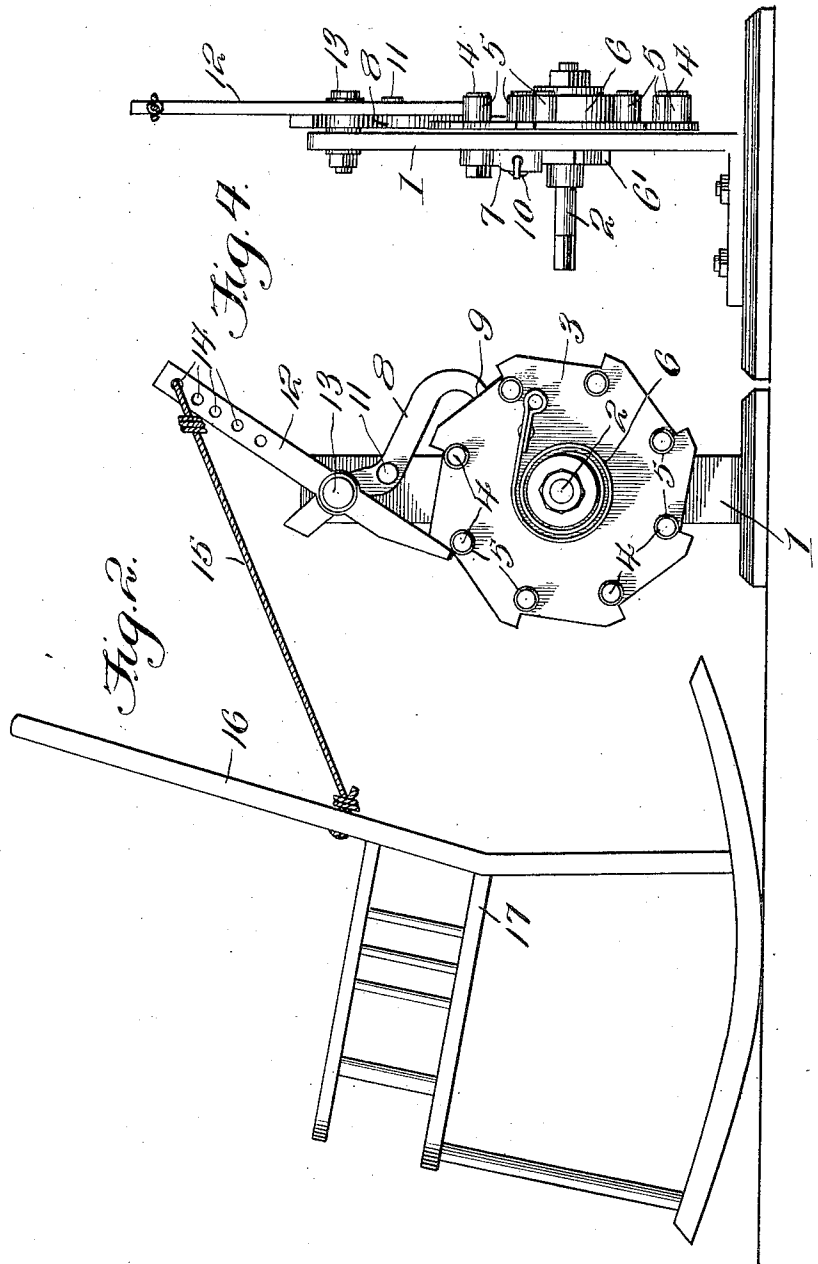
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3 SHEETS—SHEET 3.

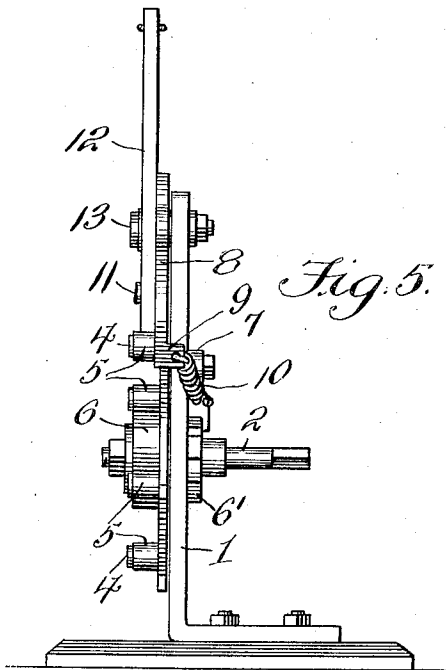


Fig. 5.

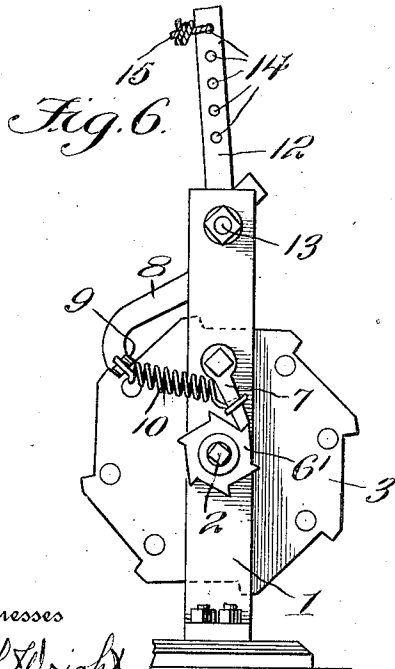


Fig. 6.

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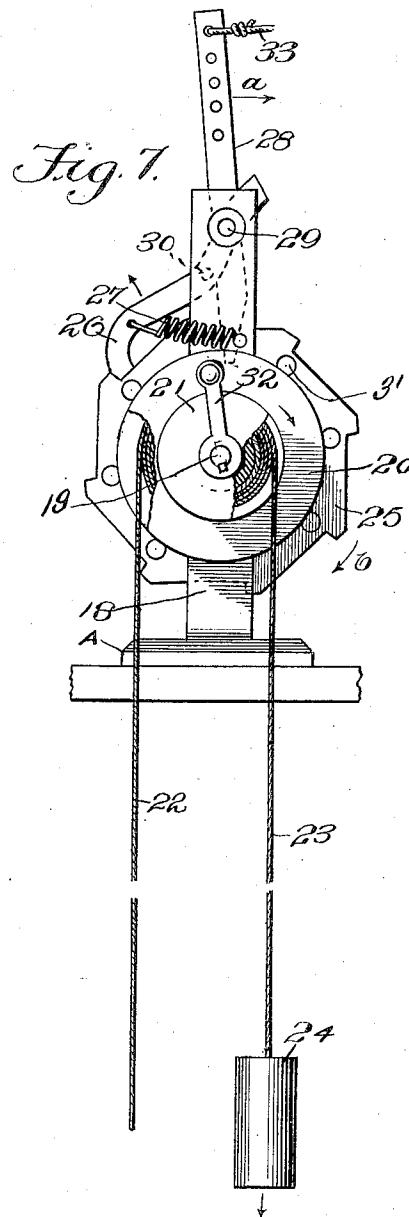


Fig. 7.

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UNITED STATES PATENT OFFICE.

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MOTOR.

1,057,520.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH BEDNAREK, a citizen of the United States, residing at Little Falls, in the county of Morrison and State of Minnesota, have invented new and useful Improvements in Motors, of which the following is a specification.

This invention relates to improvements in motors, and the primary object of the invention is to impart a return stroke to an oscillatory member which, through its own momentum, or by a weight connected therewith, is permitted to make a stroke in one direction.

The device is susceptible for use in connection with pivoted churns, rocking chairs, baby carriages, for the ringing of a swinging bell and many other devices or structures, and the invention resides in the novel construction and combination of parts which will hereinafter be fully described and claimed.

In the drawings accompanying this specification, there has been illustrated a simple and preferred embodiment of the improvement, it being understood, however, that the showing therein is merely illustrative, and that changes in the minor details of construction, as to size, shape, proportion, etc., which fall within the scope of the appended claims, may be resorted to if desired.

In the drawings,—Figure 1 is a front elevation of my improvement showing the same attached to a rocking member, the said rocking member having completed its stroke in one direction. Fig. 2 is a similar view illustrating the parts of the motor after the same has returned the rocking member to its initial position. Fig. 3 is a central vertical transverse sectional view taken through the motor and its frame. Fig. 4 is a side elevation of the improvement. Fig. 5 is a similar view but looking toward the opposite side of the improvement. Fig. 6 is a rear elevation of the improvement. Fig. 7 is a rear elevation of a slight modification.

In the accompanying drawings, the numeral 1 designates the frame or support for the motor. This frame preferably comprises a substantially L-shaped member, the same having its off-set or foot portion formed with a plurality of openings which are adapted for the reception of securing elements whereby the said frame is retained

at a proper position in relation to a rocking member with which the mechanism carried by the frame is to cooperate.

The numeral 2 designates a shaft which passes through the frame. The shaft has loosely mounted thereon a ratchet wheel 3. This wheel 3 is provided upon its outer face with a plurality of pins 4, the same equaling in number the teeth of the wheel. Each of the said pins is preferably provided with an anti-frictional roller 5.

The numeral 6 designates a spiral spring which has one of its ends connected with the shaft 2 and its opposite end secured to the ratchet wheel 3. The shaft 2 has secured thereon and to the rear of the frame 1, a toothed wheel 6' and the said frame is provided with a pivoted dog 7 which is adapted to engage with the teeth of the wheel 6'. The teeth of the said wheel 6' are arranged at a pitch opposite to the teeth of the ratchet wheel 3.

The numeral 8 designates a pawl which is pivotally connected to the outer face of the frame 1, adjacent the top thereof. This pawl 8 comprises a substantially S-shaped member and is formed at its lower end with an off-set tooth 9, the latter adapted to engage with the teeth of the ratchet wheel 3. The off-set tooth 9 is provided with a perforation, and the dog 7 is likewise provided with a perforation, the said perforations adapted to receive the opposite ends of a helical spring 10, whereby the dog is normally sustained in engagement with the toothed wheel 6' and the tooth 9 of the pawl 8 is normally retained in engagement with the teeth of the ratchet wheel.

The numeral 11 designates a stud which is formed upon the outer face of the pawl 8, and the numeral 12 designates what I will term the operative arm of the device. This arm 12 is pivotally connected with the frame through the medium of the pivot 13 which also connects the pawl 8 with the said frame. The arm 12 is adapted to normally lie between the spaced pins 4, and the said arm extends a suitable distance above the frame and is provided with a plurality of spaced openings 14.

The numeral 15 designates a flexible member such as a chain or light cable which has one of its ends secured with one of the

openings 14, and its opposite end connected with a rocking member 16. This member, as heretofore stated, may comprise any swinging element, such as the body of a pivoted churn, a swinging bell, a rocking chair, or the like, the element illustrated in the drawings being that of a rocking chair. It will be noted that the weight of the person occupying the chair 17 rocks the said chair in one direction. When the said chair has gone the limit of its swing in rocking movement, the flexible member 15 will be drawn taut so that the arm 12 will contact with the stud 11 of the pawl 8 raising the said pawl away from the tooth of the ratchet wheel 3, which movement permits of the expansion of the coiled spring, and which in turn rotates the ratchet wheel 3 and which, through the medium of the flexible member 15, rocks the chair in an opposite direction. It will be noted that the pressure or exertion of the flexible member 15 causes the lower portion of the arm 12 to contact with one of the rollers 5 provided upon the pins 4 of the ratchet wheel, and that the movement of the ratchet wheel will permit of the end of the pawl being swung upon its pivot to allow the said arm to slide over one of the rollers 5 and to be brought into contact with the following roller, so as to permit of the wheel moving only a distance equaling the distance between two of the teeth of the ratchet wheel. The shaft 2 has one of its ends angular whereby a crank or key may be attached to the said shaft for winding the spring when desired.

In Fig. 7, there is shown a mechanism provided with a weight which falls within the scope of my improvement. In this figure, the device is illustrated as being provided with a base A upon which is arranged a frame 18, the same being substantially L-shaped in cross section, having its longitudinal arm secured to the base and its vertical arm provided with an opening for the reception of a shaft 19. Arranged upon what may be termed the outer face of the vertical arm of the frame 18 and keyed to the shaft 19 is a pair of grooved wheels 20 and 21 respectively, the wheel 21 being of a lesser circumference than the wheel 20. Wound upon each of the wheels 20 and 21 are cables 22 and 23, the cable 23 of the grooved wheel 21 being provided with a weight 24.

The numeral 25 designates a ratchet wheel which is carried by the shaft 19, and pivotally secured to the upper portion of the vertical member of the frame 18 is a pawl 26. This pawl is adapted to engage with the teeth of the wheel 25 to normally prevent the rotation of the shaft 19 and the resultant winding and unwinding of the cables 22 and 23. The pawl 26 is normally sustained in engagement with the teeth of the

wheel 25 through the medium of a helical spring 27, the same being also connected with the frame 18.

The numeral 28 designates the operating arm for the device. This arm is pivoted to the frame 18, as designated by the numeral 29, the said pivot 29 also receiving the pawl 26. The pawl 26 is provided with a stud or projection 30, the same being arranged within the path of the pivoted arm 28, and the ratchet wheel 25 is also provided with pins 31, each of which being arranged adjacent one of the teeth of the said wheel and being further arranged within the path of the lower extremity of the arm 28, which is adapted to contact with the said pins when the arm is moved in the direction of the arrow *a*. The shaft 19 may be and preferably is provided with a handle 32, whereby the grooved or sheave wheels may be rotated to wind the weighted cable 23 and unwind the cable 22.

Briefly stated the operation of the device is as follows: The cable 33 is drawn, through the medium of a suitable rocking member, such as an arm chair in the direction of the arrow *a*. This movement, it will be noted causes the arm 28 to contact with the stud 30 to raise the engaging teeth of the pawl 26 out of contact with one of the teeth of the wheel 25 and permits of the said pawl riding upon the periphery of the member 25 until contacted by the succeeding tooth, it being understood that the shaft 19 is propelled through the medium of the weighted cable 23 in the direction of the arrow *b*. One of the pins 31, in the mean time contacting the said arm 28 will swing the arm in a reverse direction to that indicated by the arrow *a*.

From the above description taken in connection with the drawings it is thought the simplicity of the device, as well as the operation thereof will be apparent to those skilled in the art to which such inventions appertain without further detailed description.

Having thus fully described the said invention, what I claim is:—

1. In combination with a rocking body, of a standard, a spring actuated motor upon the standard, said motor including a ratchet wheel provided with pins adjacent its teeth, a pivot pawl connected with the standard, a stud upon the pawl and the lever also pivoted upon the standard and having its lower extremity positioned between two of the pins of the ratchet wheel, said lever being also arranged within the path of the stud of the pawl, and a flexible connection between the rocking element and the lever whereby the lever is swung to wind the spring when the swinging member is actuated in one direction, and whereby the said lever is brought into contact with the

stud of the pawl to raise the same and to permit the spring actuated motor to rotate in an opposite direction to return the swinging body to its initial position.

5 2. In a device for the purpose set forth, a standard, a shaft upon the standard, a toothed wheel secured upon the shaft, a dog pivoted to the standard and engaging with the teeth of the wheel, a ratchet wheel upon
10 the shaft, means for rotating the shaft and ratchet wheel, a substantially S-shaped pawl having an offset head which engages with the teeth of the ratchet wheel, a resilient connection between the pawl and the dog,
15 the ratchet wheel being provided with a plurality of pins, an actuated lever pivotally

connected with the pawl and with the standard, said lever having its lower portion adapted to normally lie between the pins and within the path of the stud of the pawl, 20 said lever being provided with a plurality of openings, a flexible element for one of the openings, and a rocking body also connected with the flexible member, substantially as and for the purpose set forth. 25

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

JOSEPH BEDNAREK.

Witnesses:

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VICTOR SCHALLERN.

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