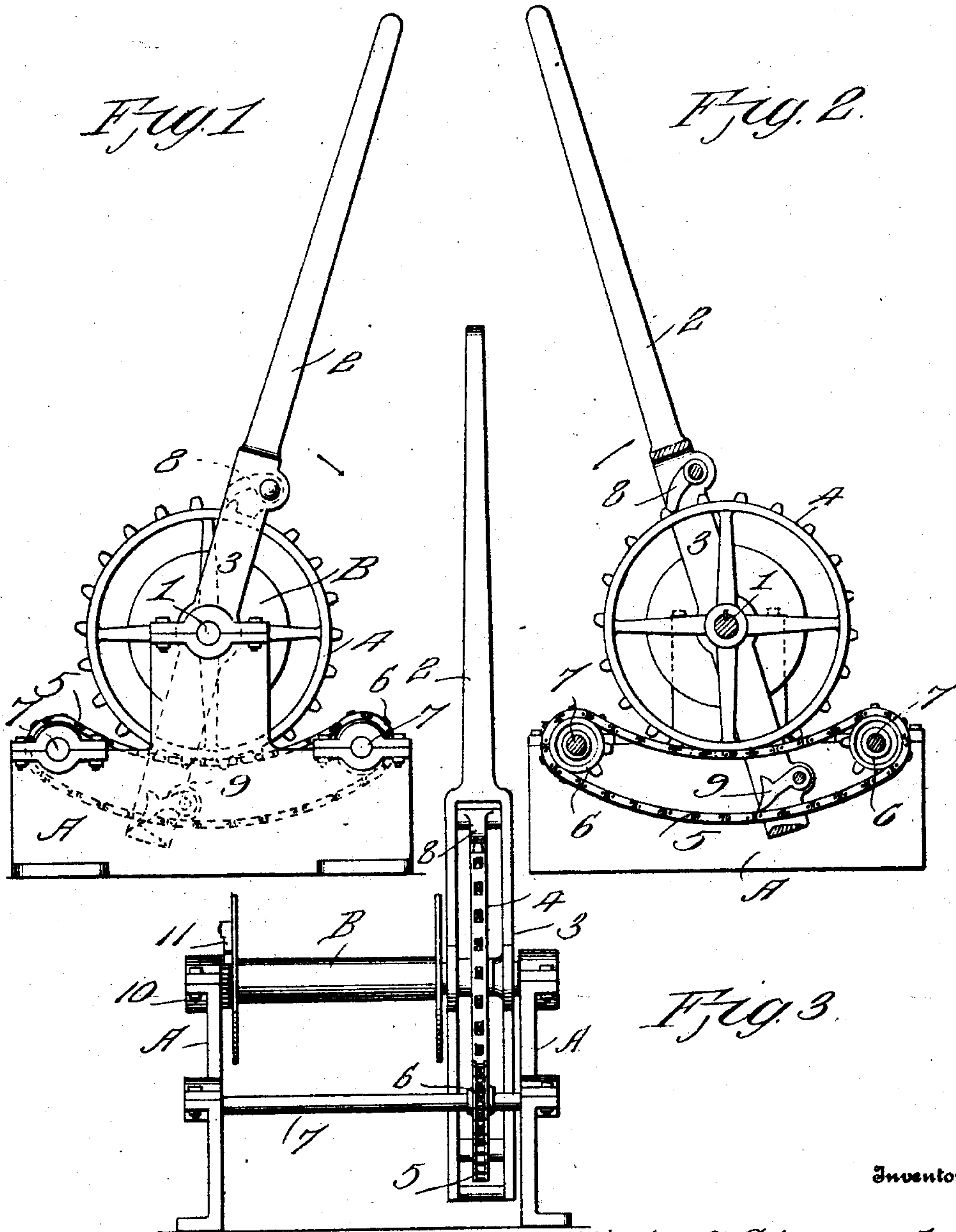


C. S. SHUGART.
MECHANICAL MOVEMENT.
APPLICATION FILED APR. 22, 1908.

906,947.

Patented Dec. 15, 1908.



Witnesses

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UNITED STATES PATENT OFFICE.

CLINTON S. SHUGART, OF JONESBORO, INDIANA.

MECHANICAL MOVEMENT.

No. 906,947.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CLINTON S. SHUGART, a citizen of the United States, residing at Jonesboro, in the county of Grant and State of Indiana, have invented new and useful Improvements in Mechanical Movements, of which the following is a specification.

This invention relates to hand-operated winding drums for hoisting and similar mechanisms whereby the drum is operated by a ratchet mechanism so designed as to impart a continuous rotary movement to the drum by the oscillatory movement of the lever.

The invention has for one of its objects to improve and simplify the construction and operation of mechanisms of this character so as to be comparatively easy and inexpensive to manufacture, reliable in use, and composed of comparatively few parts.

Another object of the invention is the provision of a ratchet mechanism including a rotary element coöperating with an endless element which is alternately actuated by an oscillatory member, so as to coöperate to produce continuous rotary movement of a shaft.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one object of the invention, Figure 1 is a front view of the apparatus. Fig. 2 is a longitudinal section thereof. Fig. 3 is an end view.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates a frame of any suitable construction on which is mounted a shaft 1 which, in the present instance, is provided with a winding drum B. On the shaft is an operating lever 2 which may be actuated by hand or any other suitable mechanism whereby an oscillatory movement is imparted thereto. The lower end of the lever is formed into a yoke 3 in which is arranged a sprocket wheel or rotary element 4 that is keyed or otherwise suitably secured to the shaft 1. Meshing with the teeth of the sprocket wheel is a chain 5 that passes over pulleys 6 mounted on shafts 7 suitably journaled in the frame A, the chain

passing through the yoke 3 of the lever. The lever has a pawl 8 that is arranged to engage with the teeth of the sprocket wheel 4 and with a second pawl 9 arranged to engage with the bottom run of the chain 5. On the shaft 1 is a ratchet wheel 10 with which co-operates a pawl 11 secured to the drum so that the drum can rotate with the shaft.

In practice, the oscillatory movement of the lever 2 causes continuous rotary movement of the shaft 1, whereby power can be derived from the latter. In moving the lever from the position shown in Fig. 1 to that shown in Fig. 2, the pawl 8 engages the sprocket wheel and causes the latter to turn in an anti-clockwise direction so as to rotate the shaft 1, together with the drum B. Simultaneously with this movement, the pawl 9 rides over the chain 5 until the movement of the lever is arrested, when the said pawl engages the chain and causes the latter to impart rotation to the wheel 3 as the lever 2 is reversed. During the reverse movement of the lever, the pawl 8 rides freely over the sprocket wheel 4 so as not to interfere with the rotation thereof. It will thus be seen that the lever first operates through the sprocket wheel 4 and then through the chain 5 of the sprocket wheel 4 to impart continuous rotary movement to the shaft 1. If desired, power can be derived from the shafts 7 since they are also continuously rotated. While the apparatus shown is intended as a hand-operated device it is to be understood that any suitable means may be employed for oscillating the pawl-carrying element or lever 2, and also the apparatus may be used for any other appropriate service than for hoisting mechanisms.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the appended claims.

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

1. The combination of a lever, a ratchet

wheel, a pawl on the lever engaging the wheel, an endless flexible element operatively related with the wheel, and a member on the lever for gripping the element and co-
5 operating with the other pawl to produce continuous rotary movement.

2. The combination of a shaft, a sprocket wheel secured thereto, an endless chain meshing with the sprocket wheel, an actuating member on the shaft, means on the mem-
10 ber operating alternately on the chain and wheel for producing continuous rotary movement to the shaft.

3. The combination of a lever, a sprocket
15 wheel, a pawl engaging the sprocket wheel, an endless chain meshing with the sprocket wheel, a pawl arranged to engage the chain for moving the latter in the same direction that it is moved by the wheel, and a member

driven continuously in one direction by the
coaction of the chain and sprocket wheel. 20

4. The combination of a chain, parallel shafts mounted thereon, a lever on one of the shafts, a sprocket wheel on the shaft, means on the lever for driving the wheel as the lever
25 is moved in one direction, an endless chain meshing with the sprocket wheel, sprocket wheels on the other shafts for supporting the chain, and means engaging the chain for moving the first-mentioned sprocket wheel
30 as the lever is moved in reverse direction.

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

CLINTON S. SHUGART.

Witnesses:

JOSEPH E. CARTER,
JOHN A. CARTER.