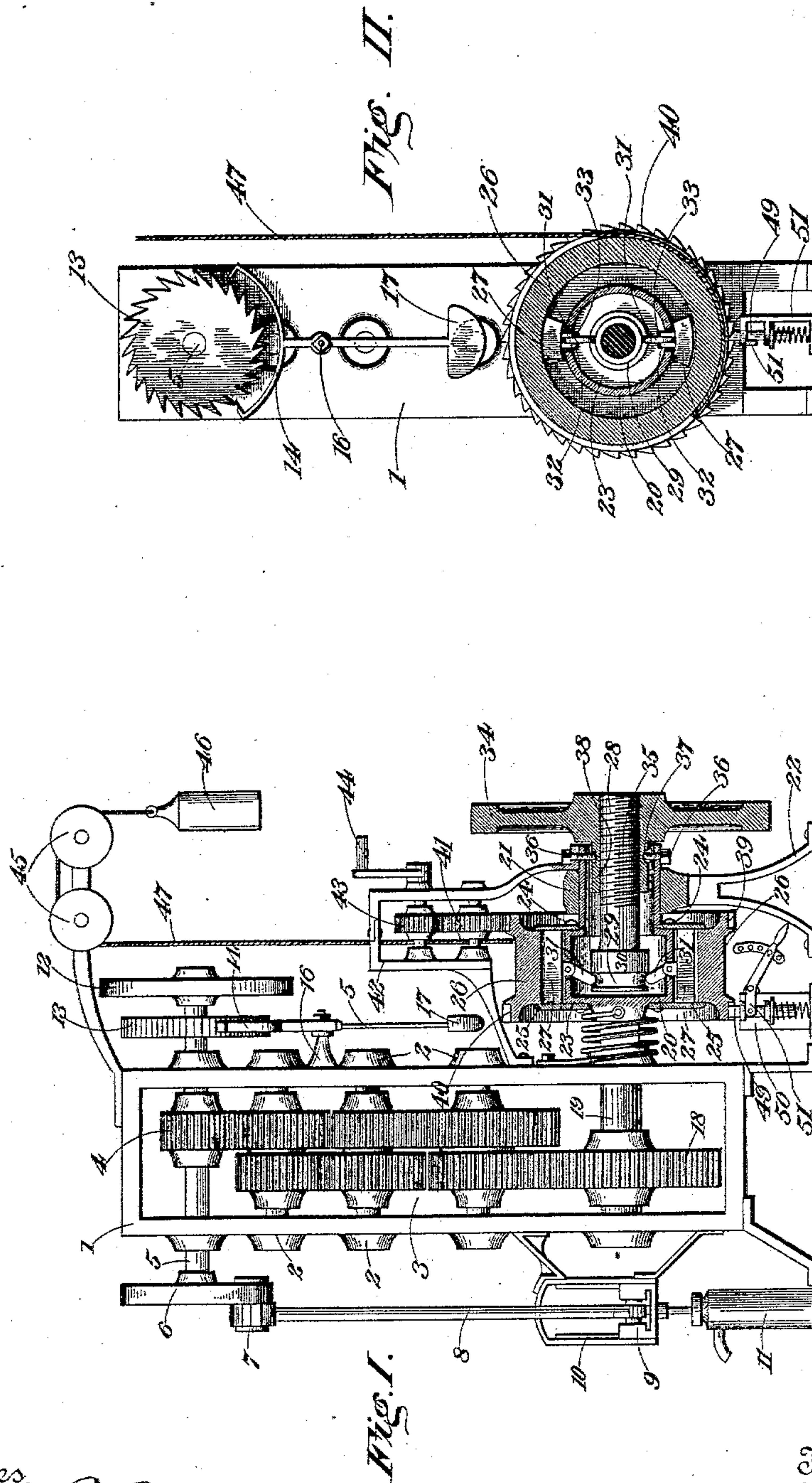


(No Model.)

F. P. BISHOP.
MECHANICAL MOTOR.

No. 565,200.

Patented Aug. 4, 1896.



Witnesses

M. C. Fowler
S. M. Mackey

Fig. I.

Inventor

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UNITED STATES PATENT OFFICE.

FRANK P. BISHOP, OF MARION, OHIO.

MECHANICAL MOTOR.

SPECIFICATION forming part of Letters Patent No. 565,200, dated August 4, 1896.

Application filed June 17, 1895. Serial No. 553,089. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. BISHOP, of Marion, county of Marion, State of Ohio, have invented certain new and useful Improve-
5 ments in Mechanical Motors, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved mechanical motor which can be
10 constructed at comparatively small cost, can be operated conveniently, and can be used for running all kinds of light machinery. It is shown as applied to the operation of a pump, but I do not confine its use thereto.

15 In the accompanying drawings, Figure I is a side elevation of my motor. Fig. II is a view taken at right angles thereto, partially in section.

I indicates the frame of my machine, which
20 is preferably made of metal and of oblong rectangular shape, designed to accommodate, in suitable boxes 2, a train of gears 3. One of the last gear-wheels 4 that is comprised in the train of gear, preferably the uppermost
25 one, has its shaft 5 prolonged to accommodate on one end an eccentric wheel 6, to which, as by a wrist-pin 7, a pitman 8 is secured. The other end of the pitman drives a block 9 in ways 10, and is designed to im-
30 part motion, as to a pump 11. The opposite end of the shaft 5 carries a fly-wheel 12 and an escapement ratchet-wheel 13. The movement of the escapement-ratchet is controlled by a tappet 14, which is actuated by
35 a pendulum-bar 15, pivoted to a stud 16, the pendulum-bar being provided, as usual, with a bob 17. The terminal gear-wheel 18, at the opposite end of the train 3 from the wheel 4, is the main driving-gear of the train.
40 Its shaft 19 carries a hollow cylindrical head 20, which revolves within a box 21, supported by a standard 22. Between the box 21 and the main frame 1 of the machine the head 20 is provided with an annular interior
45 channel 23, to the exterior of which are secured, as by bolts 24, annular flanges 25. These flanges are designed to revolubly confine a sheave-rim 26.

27 indicates brake-shoes carried between
50 the exterior of the head and the rim and which are designed by being forced against the interior of the rim to firmly secure it to

the head. When the shoes are thus forced against the interior of the rim, the rim revolves with it and becomes a part of the
55 head. When the action of the brake-shoes is relieved, the rim revolves freely around the head within the flanges 25.

For operating the shoes I prefer to employ a screw-bolt 28, having an annular groove 29
60 in its head 30, which engages with and actuates the end of toggle-levers 31, that are respectively pivotally carried upon the shoes, as between bearing-jaws 32 and 33.

34 indicates a hand-wheel which screws on
65 the screw-threaded end 35 of the bolt 28 and which, being confined by abutment-screws 36, working in a groove 37 in the periphery of an internal flange 38 thereon, is designed to force the bolt longitudinally in and out and
70 thereby to actuate the shoes.

39 indicates a cog-boss on one side of the rim 26, and 40 a cog or ratchet boss on the other side thereof.

41 indicates a gear carried in a frame 42 and
75 meshing with the boss 39.

43 indicates a drive-pinion designed to be actuated by a hand-crank 44 and to impart motion to the gear 41. The pinion 43 is mov-
80 able in the usual manner to and from the gear 41, so as to be coupled with or uncoupled from it.

45 indicates guide-pulleys, 46 a weight, and
47 a flexible connecting-piece, as, for instance, a rope secured at one end to the weight
85 and passing over the pulleys 45 and secured at one end to the rim 26.

49 indicates a spring-actuated pawl carried in a case 50 in operative relation to the cog-
90 boss 40, and adapted to prevent the unwinding of the machine or to secure the fixed portion when required. The pawl may be actuated by adjustable lever 51, as illustrated.

In operation, the bolt 28 being driven inwardly, the brake-shoes release the rim 26,
95 which through the operation of the pawl sustains the weight 46. The operator next throws the pinion 43 into mesh with the gear 41 and by means of the crank 44 winds the rope upon the rim 26. The pinion is then thrown
100 out of gear. The bolt 28, through the hand-wheel 34, is caused to actuate the shoes, and the rim is thereby secured to the head 20. The pawl is then disengaged from the boss

40, and through the power of the weight 46 motion is imparted to the machine, the same being timed and regulated by the vibration of the pendulum in the usual manner of escapement mechanism.

What I claim is—

In a mechanical motor, the combination, with a frame, driving-shaft, driven shaft and intermediate gearing, of a hollow cylindrical head secured to the driving-shaft and provided with an enlarged cylindrical chamber, a sheave-rim revolvably carried upon the exterior of the cylindrical chamber and provided upon its periphery with a cog-boss and a ratchet-boss, a ratchet engaging with the ratchet-boss, a cog-wheel meshing with the cog-boss, means for applying power to the cog-wheel for actuating the sheave independ-

ently of the driving-shaft, brake-shoes intermediate of the sheave-rim and the cylindrical chamber of the hollow head, toggle-levers operatively connected with the brake-shoes and projecting into the cylindrical chamber, a screw-bolt concentric with the driving-shaft and provided with a head having an annular groove for the reception of the toggle-levers, and a revoluble hand-wheel screwing upon the outer extremity of the screw-bolt and designed to actuate the same, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

FRANK P. BISHOP.

Witnesses:

C. W. LEFFLER,

WM. H. SCHUTZ.