

D. ZAIDEN.
MECHANICAL MOTOR.
APPLICATION FILED OCT. 13, 1919.

1,373,786.

Patented Apr. 5, 1921.

Fig. 1.

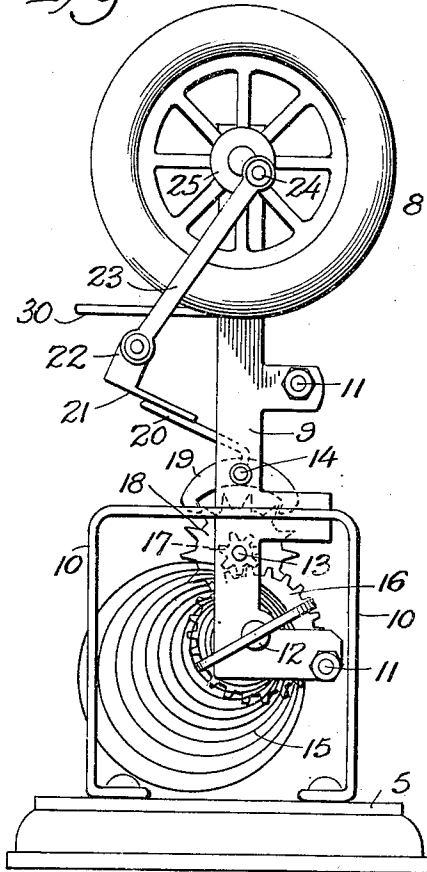
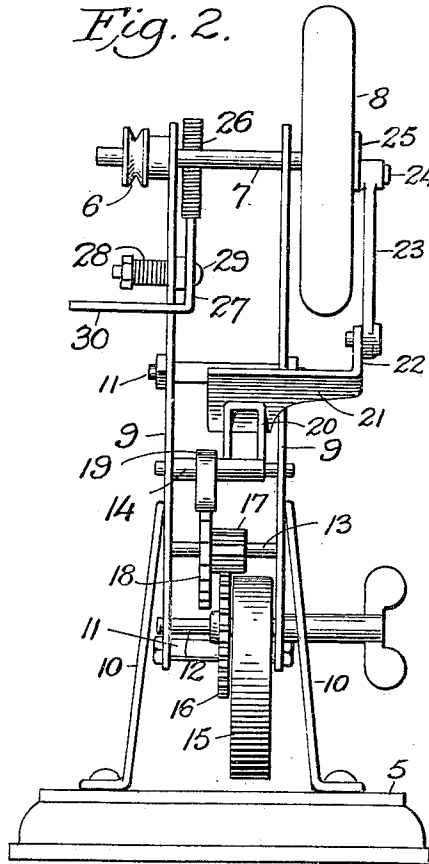


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID ZAIDEN, OF NEW YORK, N. Y.

MECHANICAL MOTOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID ZAIDEN, a citizen of the Russian Government, and residing at New York, New York county, New York State, have invented certain new and useful Improvements in Mechanical Motors, of which the following is a specification.

This invention relates to mechanical motors and its object is to utilize spring power and secure a greater number of revolutions for a driven wheel and cause the wheel to run a longer time than if it was driven by the ordinary train of wheels, and a further object of the invention is to eliminate a number of the gear wheels generally used. These and other objects and details of the invention are more fully described in the following specification, set forth in the appended claims and illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of the motor, Fig. 2 is an end view of the same.

For convenience of illustration, the motor is shown mounted on a base 5, and adapted to impart motion by means of a pulley 6, on the shaft 7, of the fly wheel 8, but it is evident that if applied to some toy car or applied to the operation of some light machinery, other frame work and driving means may be utilized.

The frame 9, which carries the mechanism is mounted on the legs 10, and has the tie bars 11, and shafts 12, 13, 14 and 7 to unite the two sides of the frame, the latter carrying the pulley and fly-wheel as above stated.

The shaft 12, carries the spring 15, the only gear wheel 16, and the usual ratchet and pawl which are not seen on account of the spring. The gear wheel 16, meshes with the pinion 17, on shaft 13, and which also carries the escapement wheel 18, while shaft 14, carries the escapement 19, whose dogs alternately engage the teeth of the wheel 18 and thereby limit the release of the spring 15.

Arms 20, are carried by the escapement and support a cross piece 21, with a lug 22, to which is loosely attached the pitman 23, and whose upper end is penetrated by a pin or stud 24, extending from the hub 25, of the fly wheel 8.

When the fly wheel is given a start, it releases one of the dogs of the escapement and the tooth at the other dog, acting on its rounded surface, pushes down the other dog. The impetus of the wheel causes a continuous movement and the force of the spring on the escapement wheel causes the dogs to rise

and fall and the pitman 23 to propel the fly wheel. With the release of each tooth, the wheel 8 revolves once and as the spring 15 may be of such length and strength as to rock the escapement, it follows that there will be many revolutions of the said wheel and its impetus increases its speed until it rotates very fast.

Adjacent the shaft 7 is a brake consisting of a stiff coil spring 26 at the upper end of a lever 27 that is pivoted to the upper end of frame 9 on the stud 29 provided with a tension spring 28 to retain the lever in any desired position after it has been set by the handle 30. While the shaft 7 is rotating the pressure of the spring head 26 thereon with sufficient force will finally completely check the movement of the wheel and shaft, and stop the motor.

To start the motor after the spring has been wound, the lever 27 may be oscillated and the friction of the head 26 on the shaft 7 will be sufficient to start the device in the desired direction.

It is obvious that other arrangements or modifications may be resorted to without departing from the essential features above described or from the scope of the appended claims.

What I claim is:

1. In a mechanical motor, the combination of power means, a gear wheel driven by the latter, a shaft with a pinion to mesh with the gear wheel, an escapement wheel on the shaft, an escapement dog, an arm projecting from the upper side of the dog, a fly wheel, a pitman connecting the arm and the fly wheel, and a flexible brake adapted to operate on the shaft of the fly wheel.

2. In a mechanical motor, the combination of a power spring, a gear wheel driven by the same, a shaft with a pinion that meshes with the gear wheel, an escapement wheel on the shaft, dogs pivoted above the escapement wheel, an arm projecting from the dogs and tangential to their pivot, a fly wheel, a pitman connecting the arm and the fly wheel, and a brake lever with a flexible head to impinge the shaft of the fly wheel.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 27th day of September, 1919.

DAVID ZAIDEN.

Witnesses:

DAVID SNYDER,
JAMES F. DUHAMEL.