(Model.)

G. W. BAILEY & G. R. LEIBERSPERGER.

MOTOR.

No. 385,588. Patented July 3, 1888.

Fig. 1.

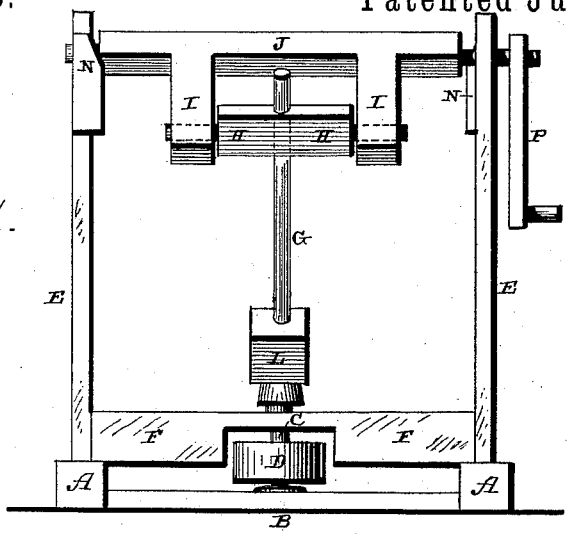


Fig. 2.

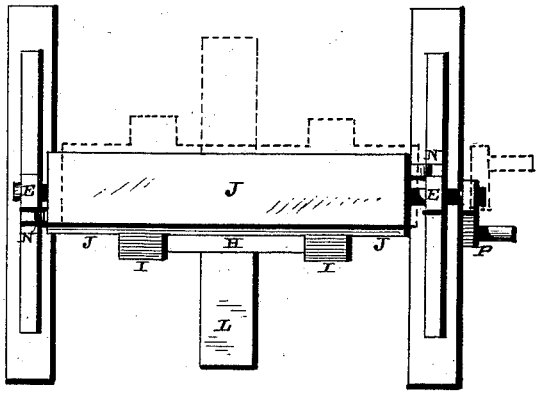
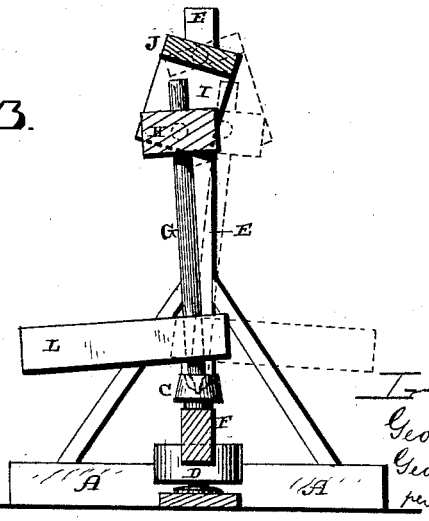


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. BAILEY AND GEORGE R. LEIBERSPERGER, OF SAEGERSTOWN, PENNSYLVANIA.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 385,588, dated July 3, 1888.

Application filed February 24, 1888. Serial No. 265,121. (Model.)

To all whom it may concern:

Be it known that we, GEORGE W. BAILEY and GEORGE R. LEIBERSPERGER, of Saegerstown, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Motors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in motors; and it consists in, first, the combination of a vertical shaft having a weight or arm secured thereto, a revolving bearing connected to the driving-pulley for the lower end of the shaft, a pivoted bearing for the upper end of the shaft, and a rocking support for the pivoted bearing; second, the combination of a suitable frame-work provided with a cam at each end, an endwise moving and rocking support for the pivoted bearing, the pivoted bearing, the vertical shaft having a weight or arm projecting beyond one side, and the revolving bearing having a pulley connected thereto, all of which will be more fully described hereinafter.

The object of our invention is to produce a motor in which the driving-power is obtained by constantly changing or moving the upper end of the shaft, so as to throw it out of a vertical position, and thus cause the weight or arm connected to the shaft to swing constantly around through a circle and impart motion both to the shaft and the driving-pulley which is driven thereby.

Figure 1 is a side elevation of a machine embodying our invention. Fig. 2 is a plan view of the same, the parts being shown in one position in solid lines and in another position in dotted lines. Fig. 3 is a vertical section taken through at one side of the center of the motor.

A represents two ground sills, which are united together at their centers by the base-piece B, which forms a bearing for the lower end of the shaft C, to which the driving-pulley D is secured. Rising from the centers of the tops of the sills A are the standards E, which are suitably braced in position, and extending across between the lower ends of the standards and the tops of the sills A is the cross-bar F, which forms a bearing for the upper end of the shaft. The upper end of this shaft C is somewhat enlarged, and in its upper end is formed a suitable recess, in which the lower end of the shaft G catches, and it is through this shaft G that the shaft C receives its motion. The lower end of the shaft G is preferably flattened or made angular, and the opening in the top of the shaft C is so shaped that the lower end of the shaft can have a slight rocking movement in the recess, but without in any manner impeding the rotary motion which is communicated to the shaft C from the shaft G. The upper bearing, H, for the shaft G consists of a suitable block, which is journaled between the hangers I on the endwise-moving support J, which is journaled in the upper ends of the two standards E. The bearing H has a slight rising and falling movement in relation to the shaft G, and at the same time it rocks as the hangers I of the support J move it from one side to the other. Secured to the shaft near its lower end is a heavy weight or arm, L, which, as the upper end of the shaft is moved from side to side by the rocking movement of the support J and bearing H, is caused to swing around through a circle, and thus impart a rotary motion to the shaft G and the driving-pulley.

Secured to diagonally-opposite edges of the two standards E are the inclines N, which are intended to alternately move the bearing J endwise as it is caused to rock by its operating-lever P, and thus move the bearing H endwise, so as to always prevent the shaft G from assuming a vertical position. When the support J is rocked in one direction, one side of one of its ends strike against the incline on one standard, and the support is moved endwise toward the other standard, and when the support is rocked in the opposite direction its end strikes against the other incline, and in this manner the support has a constant endwise movement at the same time that it is being rocked for the purpose of moving the upper

end of the shaft G out of a vertical line. As the support has an endwise movement and carries the upper bearing, H, with it, and as the bearing has a rocking motion, the upper end of the shaft is carried around through a small circle, and the inclination of this shaft causes the weight or arm to sweep around through a circle, and thus by its movement operates the shaft and the driving-pulley D. To one end of the support J the operating-lever P is applied, and by simply moving the lower end of this lever back and forth through a segment of a circle the support J is both rocked and moved endwise and the upper end of the shaft operated, so as to cause the movement of the weight or arm. In proportion to the length and weight of the arm and the rapidity with which it is caused to revolve will be the amount of power which is transmitted to the driving-pulley D.

As the amount of movement upon the lever P is very slight, and as it requires but a very slight expenditure of power to cause the support J to rock, it will be readily seen that a very cheap and powerful motor can be produced at but a very slight expense, and one in which the parts are not liable to get out of order.

Having thus described our invention, we claim—

1. The combination of the driving-shaft provided with a weight or arm, a rocking bearing for the upper end of the shaft, a rocking support for the bearing, and a shaft provided with a pulley connected to and operated by the weighted shaft, substantially as shown.

2. The combination of a suitable frame-work provided with an incline at each end, the rocking support provided with hangers, the rocking bearing journaled therein, the shaft provided with a weight or arm, and the driving-shaft provided with a pulley, substantially as set forth.

3. The combination of the shaft C, provided with a pulley, D, and having a socket in its upper end, the weighted shaft G, the rocking bearing H, through which the upper end of the weighted shaft passes, and a rocking bearing, J, provided with a crank, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE W. BAILEY.
GEORGE R. LEIBERSPERGER.

Witnesses:
JONATHAN BAILEY,
RUFUS BAILEY.