

M. Laemmel,

Motor

N^o 84, 632.

Patented Dec. 1, 1868.

Fig. 1.

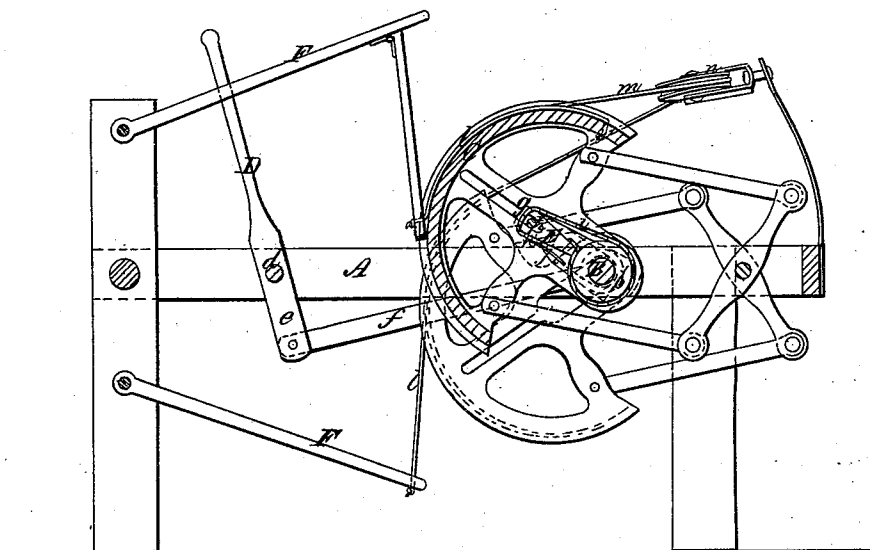
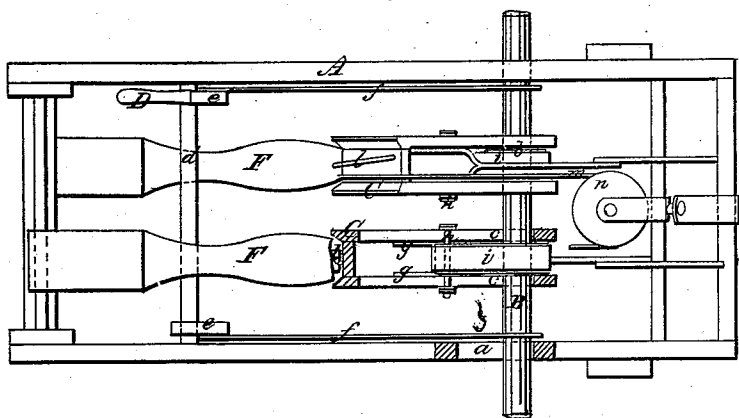


Fig. 2.



Witnesses.

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per
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MORITZ LAEMMEL, OF BAY RIDGE, NEW YORK.

Letters Patent No. 84,632, dated December 1, 1868.

MECHANICAL MOVEMENT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, MORITZ LAEMMEL, of Bay Ridge, county of Kings, and State of New York, have invented a new and improved Mechanical Motion; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention.

Figure 2 is a sectional plan or top view thereof.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of an adjustable shaft in combination with lever-segments, which connect with the shaft by clutch-pulleys or other equivalent mechanism, and to which an oscillating motion is imparted by hand or foot-power, in such a manner that by adjusting the shaft closer to or further from the peripheries of the lever-segments, the leverage of said segments can be increased or diminished as circumstances may require.

The invention consists also in the arrangement of a dog and friction-strap, in combination with a pulley mounted firmly on the shaft, and with a lever-segment mounted loosely on said shaft, in such a manner that by turning the lever-segment in one direction the friction-strap is caused to bind on the pulley, and the shaft is compelled to turn with the lever-segment, and by turning the lever-segment in the opposite direction, the friction-strap releases its pulley, and the shaft remains stationary.

A represents a frame, made of wood or any other suitable material, capable of supporting the working-parts of my mechanical motion. In the side rails of this frame are two oblong slots, *a*, which form the bearings for the shaft B to which a rotary motion is to be imparted.

On this shaft are firmly mounted two pulleys, *b*, between the arms of the lever-segment C, which turn loosely on the shaft, and which are provided with oblong slots *c*, so that the shaft can be adjusted closer to or further from their peripheries.

This purpose is effected by means of a hand-lever, D, which is secured to a rock-shaft, *d*, from which extend two arms *e*, which connect by rods *f* with the shaft B, so that by turning the hand-lever, said shaft is made to slide backward or forward in the slots *a* of the frame, and in the slots *c* of the lever-segments.

Between the arms of the lever-segments and the pulleys *b*, are the cheek-pieces *g*, which turn loosely on the shaft B, and these cheek-pieces form the bearings for the fulcrum-pins *h* of the dogs E.

From these dogs extend the friction-straps *i* round the pulleys *b*, one end of each strap being fastened to the inner, and the other end to the outer part of one of the dogs, as clearly shown in fig. 1 of the drawing, so that when one of the dogs is turned down in the direction of the arrow thereon in fig. 1, its friction-strap is caused to clutch its pulley, and the shaft B is compelled to turn with the dog, but when the dog is turned in the direction opposite to said arrow, the friction-strap releases its pulley, and the shaft B remains stationary.

Springs, *j*, serve to throw the dogs and friction-straps back to their original position as soon as the pressure on the dogs ceases.

The cheek-pieces *g* are connected at their outer ends to the lever-segments C by means of the pins *h*, which slide in slots in the arms of said segments.

Each of these segments connects, by a rope or chain, *l*, with a treadle or hand-lever, F, and said segments are connected together by a rope, *m*, which passes round a sheave, *n*, so that if one of the segments is depressed, the other rises, and *vice versa*. By alternately depressing the treadles F, therefore, a continuous revolving motion is imparted to the shaft B.

This mechanical motion is intended particularly for velocipedes, and the object of making the shaft B adjustable, is to enable the operator to increase the leverage of the segments C in going uphill, and to decrease it and increase the velocity when the velocipede is to be propelled on a level surface, and it is obvious that the adjustable shaft is applicable with any other clutch-mechanism, such as ratchet-wheels, and pawls or dogs catching in grooved pulleys, and I therefore reserve the right to change this portion of my invention as circumstances may make desirable.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of an adjustable shaft B, in combination with lever-segments C, operated alternately by treadles or hand-levers, and connected to the shaft B by clutch-pulleys, or other equivalent mechanism, substantially in the manner and for the purpose shown and described.

2. The arrangement of a dog, E, and friction-strap *i*, in combination with a pulley, *b*, lever-segment C, and shaft B, substantially as and for the purpose set forth. This specification signed by me, this 13th day of October, 1868:

MORITZ LAEMMEL.

Witnesses:

W. HAUFF,

ERNEST F. KASTENHUBER.