

(No Model.)

G. B. WIGGINS.
MOTOR.

No. 546,723.

Patented Sept. 24, 1895.

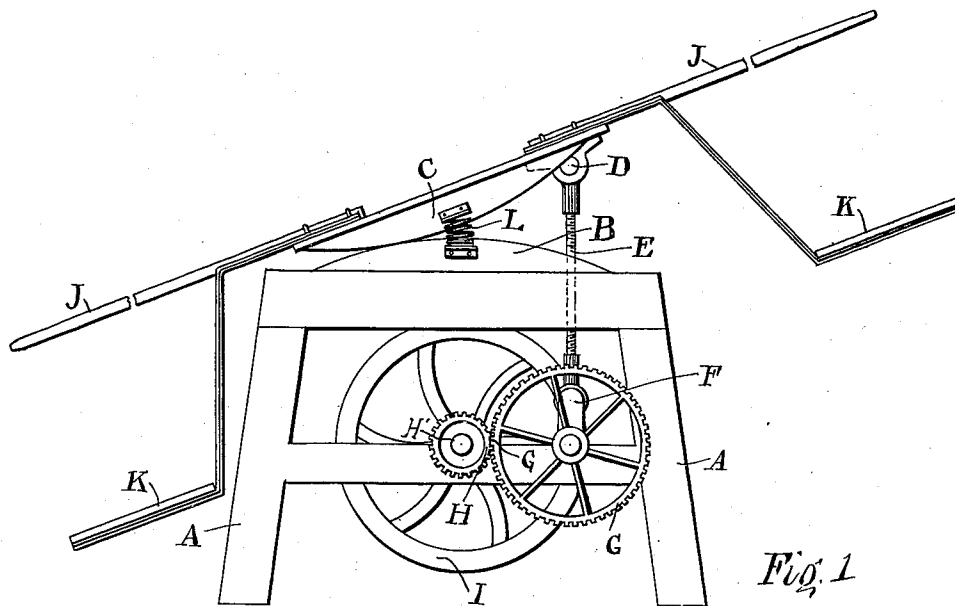


Fig. 1

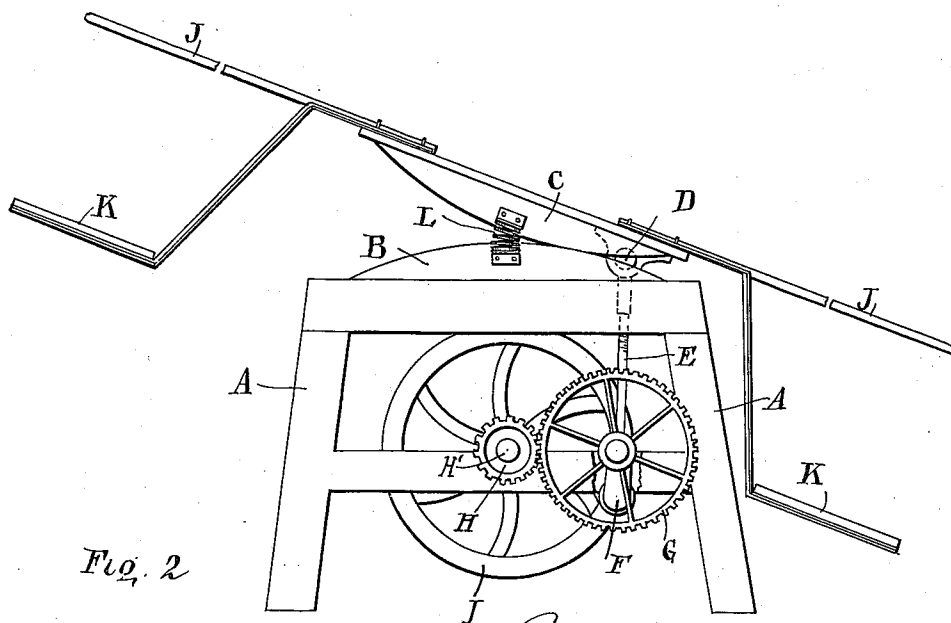


Fig. 2

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MOTOR.

SPECIFICATION forming part of Letters Patent No. 546,723, dated September 24, 1895.

Application filed June 14, 1895. Serial No. 552,781. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. WIGGINS, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Motors; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention is a motor for hand use, its object being to produce a machine by means of which greater power can be had with the same muscular force than has heretofore been possible. The arrangement of leverage is such that I am able to utilize the operator's weight, if necessary, as well as his strength, which adaptability makes the machine desirable for a multitude of purposes. It can be applied to all kinds of machines having a rotary motion or a reciprocating action. Therefore I do not limit myself to the particular form and construction of machine shown and described, for such changes may be made as ordinary mechanical skill would suggest in applying the motor principle to particular machines. In motors heretofore used it has been customary to use a crank or lever having a fixed fulcrum. It will be seen in my machine that the fulcrum-point is constantly changing over a given surface, and therefore the leverage is also changing, and that as the leverage is shortened on one side it lengthens on the other, so that as one side reaches its minimum leverage the other lever is ready to take up its work at its maximum leverage, thus preventing any lost motion and consequent power.

Figure 1 is a side elevation of the motor as applied to a simple gearing. Fig. 2 is a side elevation showing the levers in different positions.

A is the framework supporting the motor and gearing and may be of any style and form.

The motor consists, primarily, in the use of two or more rockers B and C, segments of the same sized circle, and may be of any suitable material, wood being sufficient for ordinary

use. These rockers are placed, as shown, with their rounded surfaces opposite and abutting and in the same plane, in which position they are held by a spiral spring L on each side thereof, one end of each spring being secured to the upper rocker and one end to the lower. These springs L should not be too strong, so as to prevent the free rocking of the rockers one upon the other, as desired. This feature of the machine is illustrated in the common chair-rocker known as the "patent rocker," except that in said rocker the under surface is straight and horizontal. These springs serve the double purpose of keeping the rockers together and drawing them to their normal or rest position, thus assisting the lever upon the opposite side, as will be hereinafter seen.

To the top surface of the upper rocker I secure the long bar J, extending equal distance on each side, although one side is sufficient if operated by one person. It is obvious that pulling down or pushing upon this rod J will rock the rockers C, the base-rocker B being secured to the top of the frame A, which gives to the rocker C all the more action.

Pivoted to one side of the rocker C and near the end thereof is the pitman E, connected at its other end to the wrist-pin F of the gear-wheel G, meshing into the pinion H on shaft H', which carries the fly-wheel I. It is obvious that this pitman and gearing may be connected to any machinery desired in any way desired—such as pulleys and belts, or sprocket-wheels and chains. If it is desired to have a reciprocating motion, I place another crank on the shaft, to which the connection can be made. Speed can be obtained by multiplying the gearing in the usual way.

In the drawings I have shown a platform K, upon which the operators may stand, which platform, being connected and supported by the bar J, gives the operator the benefit of his own weight in operating the rockers for a part of the distance, the leverage being more than sufficient to overcome the weight of the opposite operator, and vice versa. For, as previously stated, the fulcrum is constantly changing as the rocker C is operated, and when it is the shortest on one side it is the longest on the other, and by lifting as his end goes up and pulling as it goes down the op-

erators work together and get the benefit of the change of fulcrum. By duplicating the rockers means may be provided for working larger force, and consequently greater power obtained. It is obvious that platforms and seats for the operator may be arranged in various ways so as to give the operator the benefit of his weight, after the machinery is in motion, to keep up the motion. It will be apparent that the rocker B may rest upon the floor with the rocker C above it, with the pitman E extending upward and connected to the machinery, in which position it would be necessary to elevate the bar J and platform. For heavier work it may be necessary to have the curved surfaces of the rockers B and C corrugated transversely in order to prevent their slipping one upon the other. This I claim the right to do. It would be possible to make a power, and, perhaps, it has been done, with a rocker on a straight surface, as a floor; but by the use of a curved base-rocker, as described, I am enabled to get greater leverage and consequently more effective power.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a motor, a lever having a rolling fulcrum movably secured to and rolling over a

curved base, and thereby giving a rocking motion to the lever, and means for converting the rocking motion to a rotary motion, substantially as and for the purpose set forth.

2. In a hand motor a rocker having secured to each end thereof a bar extending laterally, the rocker being movably secured to and rocking upon a convex base, and means secured to the rocker for converting the reciprocating motion of the rocker to a rotary motion comprising a pitman and disk, substantially as and for the purpose set forth.

3. In a motor, one or more parallel rockers having laterally extending arms supporting platforms, a convex base under the rockers and forming the base for the rockers, a coiled spring connecting the rockers to the base at the middle of their curved surfaces, whereby the rockers may be held on the base as they rock, a pitman, disk and shaft for conveying and converting the reciprocating motion of the rockers to a rotary motion of machinery, substantially as and for the purpose set forth.

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

GEORGE B. WIGGINS.

Witnesses:

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