

C. ZEITLER.

Improvement in Mechanical Movement.

No. 124,712.

Patented March 19 1872.

Fig. 1.

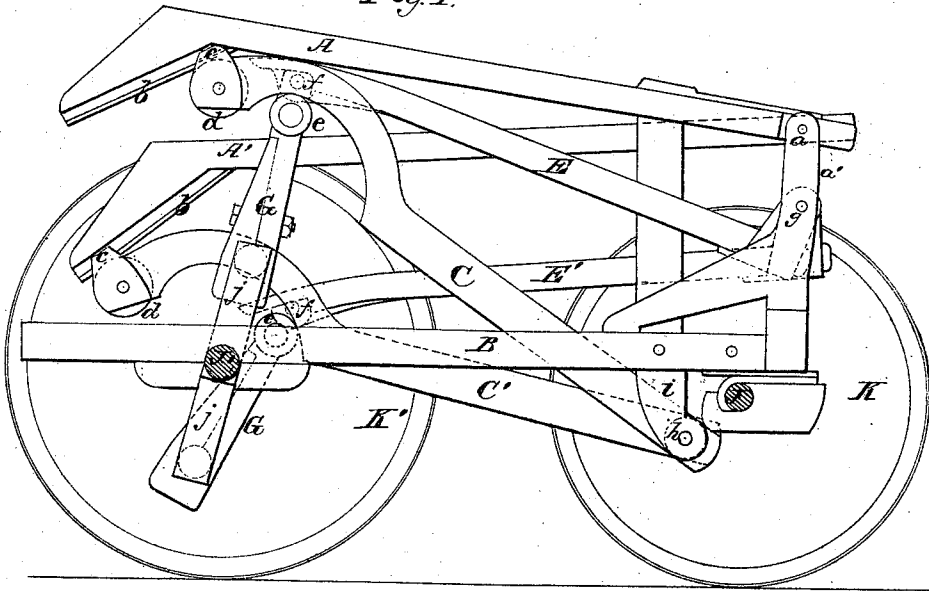
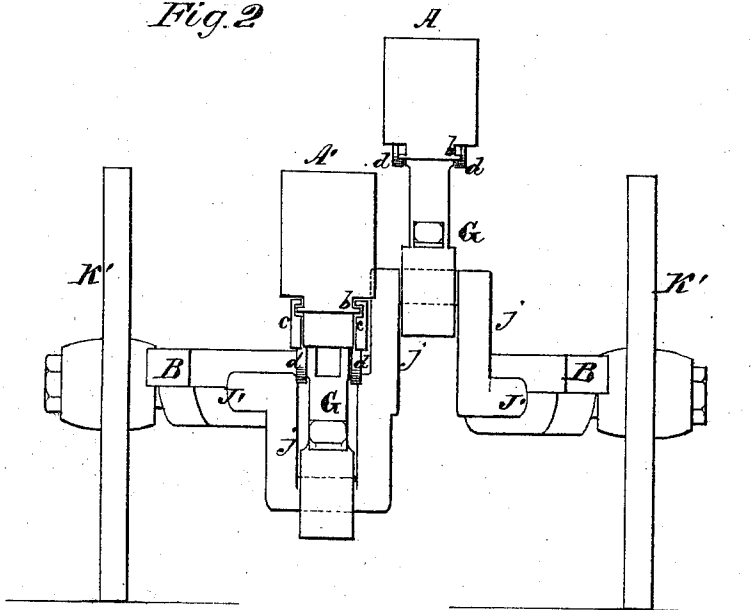


Fig. 2.



Witnesses.
R. J. Campbell
J. A. Campbell.

Inventor
Christopher Zeitler
by his Atty.
Mason Fenwick Lawrence

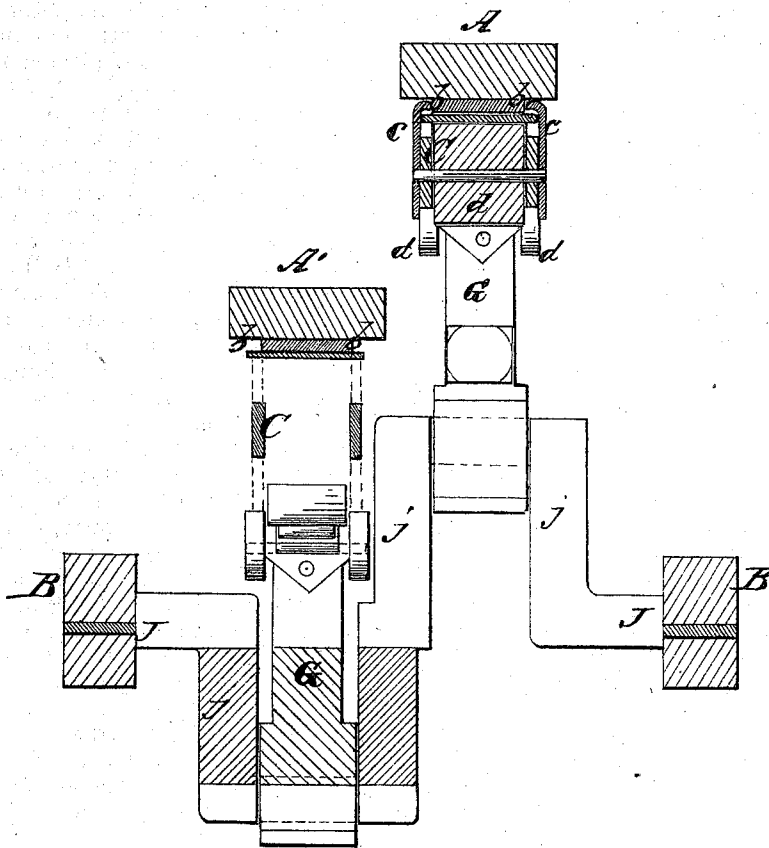
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Fig. 3



Witnesses.
R. Campbell.
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Inventor
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UNITED STATES PATENT OFFICE.

CHRISTOPHER ZEITLER, OF BENTON'S PORT, IOWA.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. 124,712, dated March 19, 1872.

To all whom it may concern:

Be it known that I, CHRISTOPHER ZEITLER, of Benton's Port, in the county of Van Buren and State of Iowa, have invented a new and Improved Mechanical Movement; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is an elevation of one side of the improved mechanical movement when employed as a velocipede. Fig. 2, Plate 1, is an elevation of the rear end of the same. Fig. 3, Plate 2, is a section taken vertically and transversely through the mechanical movement.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved mechanical movement, which is applicable to velocipedes, sewing-machines, and other machinery which it is desired to operate by manual power, as will be hereinafter explained.

The following description will enable others skilled in the art to understand it.

In the accompanying drawing I have represented my improved mechanical movement mounted upon a frame, B, which is supported upon two front wheels and two rear wheels, the latter being driving-wheels, and applied fast on the ends of a double-cranked axle, J, so that motion applied to the cranks *jj* will propel the machine. The machine is propelled by an attendant, either sitting or standing upon the machine, with his feet upon two long levers, A A', which levers he operates by an alternate up-and-down movement of the two feet. The levers A A' are pivoted at *a* to standards *a'*, rising from and rigidly secured to the carriage-frame B, and these levers extend back as far as the rear end of frame B, to a convenient position for the feet of the attendant, who will be provided with a seat, which is not shown in the drawing. The rear ends of the two levers or A A' turn downward at obtuse angles, and have grooves *b b* formed in their sides, which grooves receive the hooped ends of jaws *c c*, that are applied to two levers, C C. Each lever or treadle has two jaws, *c' c*, secured to its rear arched end, the hooked ends of which slide freely in the grooves *b b* as the lever vibrates. The levers C C are forked at their rear ends, and between the forked ends of each lever is an anti-friction roller, *d*, and

also the rear end of a lever which is pivoted at *g* to the standards *a'*. To the two levers E E' the upper ends of pitmen-rods G G are pivoted at *ff*, and just below the pivots *f* anti-friction rollers *e e* are applied to the sides of the pitmen-rods, on which bear the concave edges of the arched portion of the levers C C. The lower ends of the pitmen-rods are connected to the cranks *jj* of shaft J, so that pressure applied upon the rear ends of lever or treadles A A' will be received upon the cranks *jj*, through the medium of the levers E E' in such manner that the vertical linear range of the axis of the anti-friction rollers *e e* is always forward of the axis of the crank-shaft J; and as each lever or treadle is depressed, the hooked jaws *c c* slide backward in their grooves *b b*, while the rollers *e e* move forward and downward against the concave edges of their lever C or C', thus obtaining a very short stroke of the treadle, and a comparatively long crank stroke.

In this way great speed can be obtained without the use of multiplying gearing, and a continuous forward rotary motion is obtained from an alternate vibrating motion of two treadles. It will also be seen that the motion transmitted to the crank-shaft J will be forward unless a treadle is depressed at the wrong time, and even in this case the backward movement will be very slight. For this and other reasons the improved mechanical movement will be found very useful for driving sewing-machines, lathes, and other light machinery, as well as for velocipedes, as above shown.

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

1. Levers A A', combined with the crank-shaft J through the medium of levers E E' C C', and pitmen-rods G G, substantially as described.

2. The levers C C', connected to levers A A' by means of hooked jaws *c c* and grooves *b b*, substantially as described.

3. The pitmen-rods G, pivoted to the levers E E', and provided with rollers *e e*, on which rest the curved edges of the concave portions of levers C C', substantially as described.

CHRISTOPHER ZEITLER.

Witnesses:

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