

A. WARTH.
MECHANICAL MOVEMENT.

No. 179,375.

Patented June 27, 1876.

Fig. 2

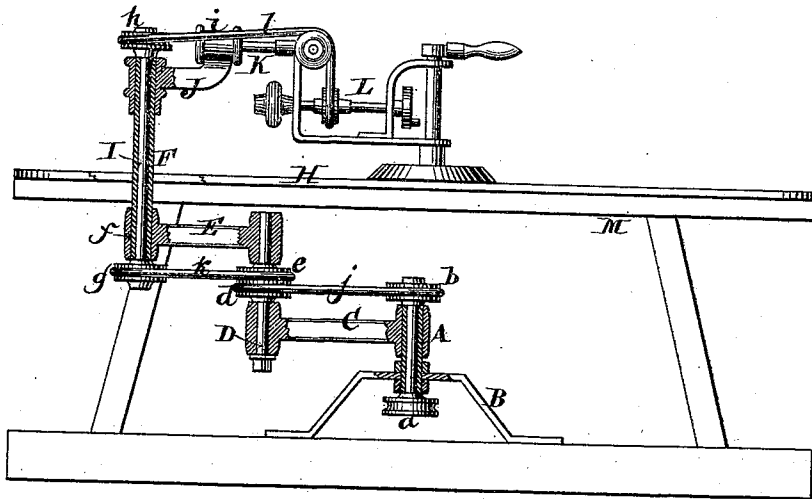
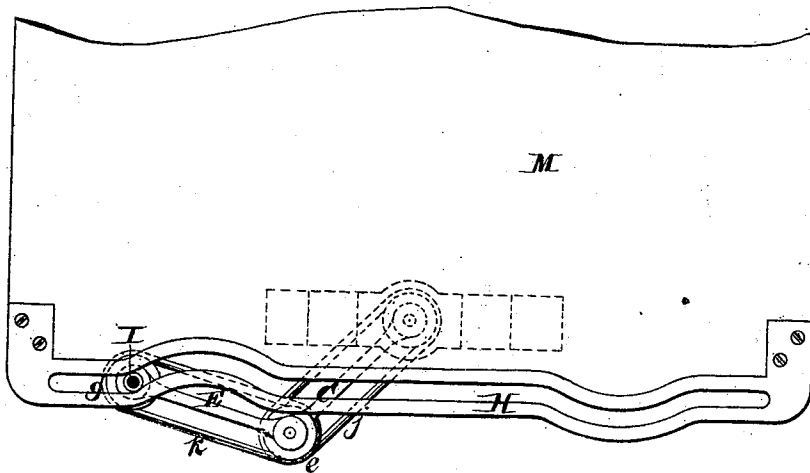


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **179,375**, dated June 27, 1876; application filed May 24, 1876.

To all whom it may concern:

Be it known that I, ALBIN WARTH, of Stapleton, in the county of Richmond and State of New York, have invented a new and Improved Mechanical Movement, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a front view of my movement. Fig. 2 is a similar view of a modification thereof. Fig. 3 is a plan or top view of the same.

Similar letters indicate corresponding parts.

This invention consists in the combination of two or more jointed arms with the driving-shaft of a machine and with a guide-bar, a swivel-arm, a rod which supports said swivel-arm, and suitable pulleys for transmitting the motion to a working-machine, which is secured to the swivel-arm, so that said working-machine can be freely moved in any desired direction without throwing it out of gear with the driving-shaft.

In the drawing, the letter A designates the driving-shaft of my movement, which stands in a vertical direction, being supported in a bar, B, which is fastened overhead, as shown in Fig. 1, or which may be fastened to the floor, as shown in Figs. 2 and 3. On this shaft are mounted two pulleys, *a* *b*, the former to impart motion to said shaft, and the latter to transmit this motion, as will be presently explained.

Above the pulley *b* is situated an arm, C, which swivels on the shaft A, and in the outer end of which is firmly secured a rod, D. This rod forms the bearing for two pulleys, *d* *e*, and for an arm, E, said pulleys and arm being free to revolve on the rod in either direction. The outer end of the arm E is provided with a sleeve, *f*, which embraces a tubular rod, F, that is secured in a carriage, G, which moves on a stationary guide-bar, H. (See Fig. 1.) The carriage G may, however, be dispensed with, and in this case the tubular rod F is fastened in the sleeve *f* of the arm E. (See Fig. 2.)

Through said tubular rod extends a shaft, I, on the ends of which are firmly secured pulleys *g* *h*, one above and the other below the tubular rod. J is a swivel-arm, which turns freely on the tubular rod, and which is provided

with a socket, *i*, in which is firmly secured a rod, K, that carries the working-machine L. The pulleys *b* and *d* are connected by a belt, *j*, the pulleys *e* and *g* by a belt, *k*, and the pulley *h* connects by a belt, *l*, with the working machine.

The guide-bar H, shown in the drawing, is provided with a slot through which passes the tubular rod F, and this slot is either rectilinear or curved.

Instead of using a slotted guide-bar, however, I can also make a solid guide-bar, either square, triangular, or of any other suitable cross-section, and in this case a suitable slide must be secured to the tubular rod F, said slide being made to embrace the guide-bar.

By combining with my mechanical movement a curved guide-bar, I am enabled to impart to the working-machine a certain definite motion, and if I connect to the mechanical movement a machine for cutting out patterns for garments, the guide-bar can be so formed that the cutting mechanism will follow the desired lines.

If the carriage G is used in combination with a guide-bar having a rectilinear slot, the tubular rod F is compelled to move in a right line, and the motion of the working-machine must be controlled entirely by the operator.

The working-machine L is supported on a table, M, and, by means of my mechanical movement, I am enabled to move said working-machine on the table in any desired direction, without throwing it out of gear with the driving-shaft.

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

The combination, with the swivel-arm J, which carries a working-machine, L, of a shaft, I, which is guided by a bar, H, and which connects by links E C with the driving-shaft A, from which motion is transmitted to the working-machine by means of suitable belts and pulleys, all constructed and operating substantially as herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 20th day of May, 1876.

ALBIN WARTH. [L. s.]

Witnesses:

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