(No Model.) 4 Sheets—Sheet 1.

A. WARTH.

MECHANICAL MOVEMENT.

No. 390,926. Patented Oct. 9, 1888.

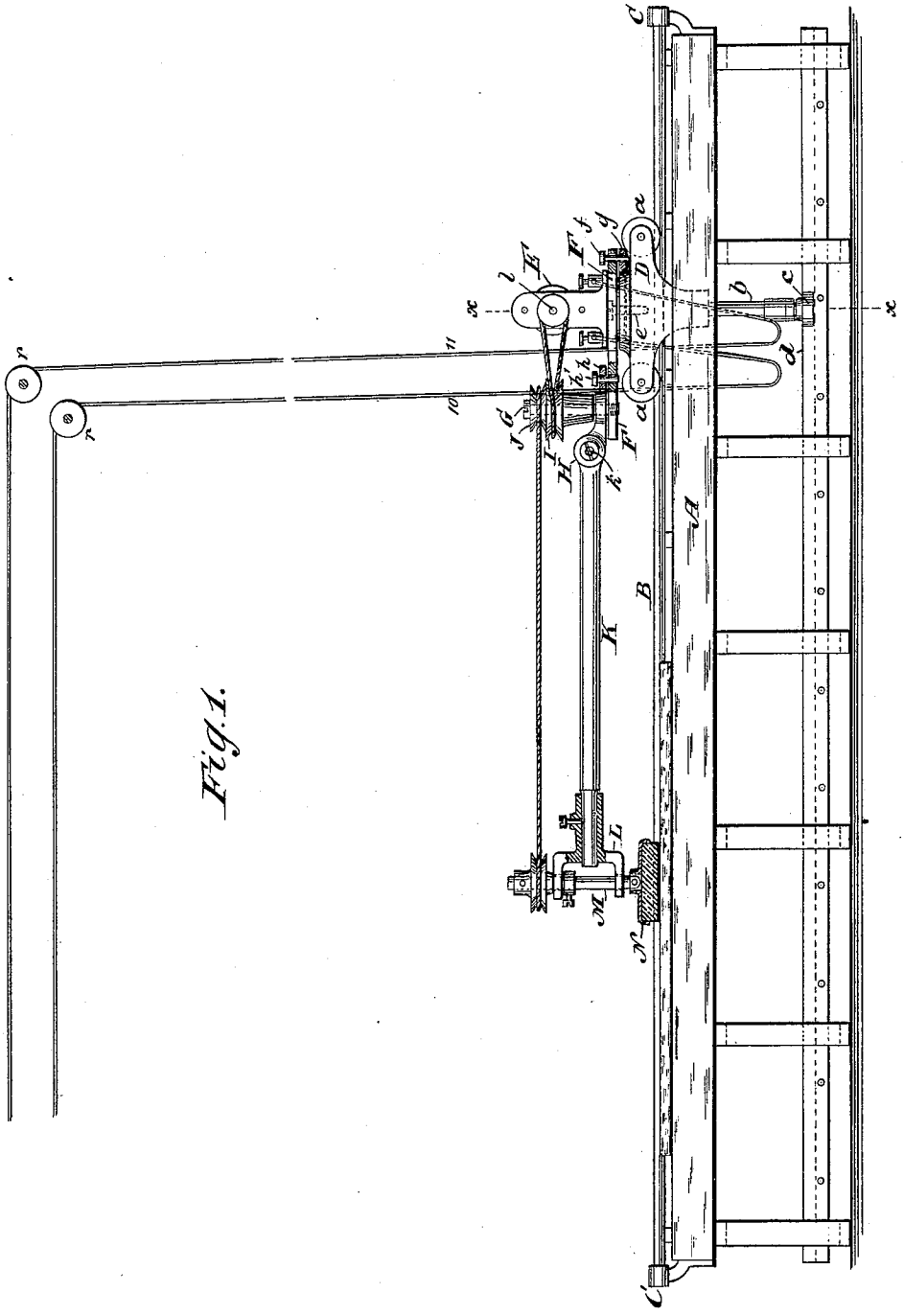


Fig. 1.

Witnesses:
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William Miller.

Inventor:
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his Attorneys.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 4 Sheets—Sheet 2.

A. WARTH.

MECHANICAL MOVEMENT.

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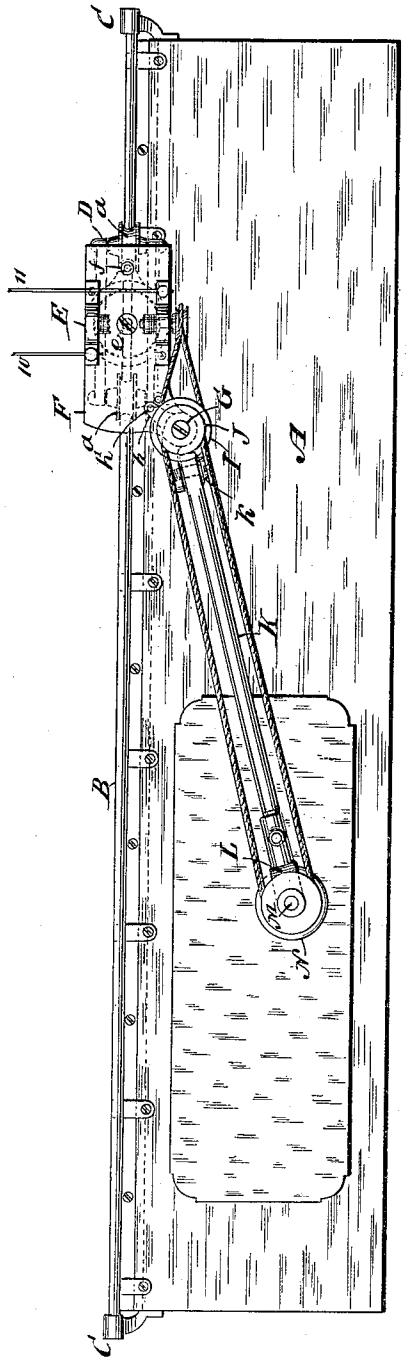


Fig. 2.

Witnesses:
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A. WARTH.

MECHANICAL MOVEMENT.

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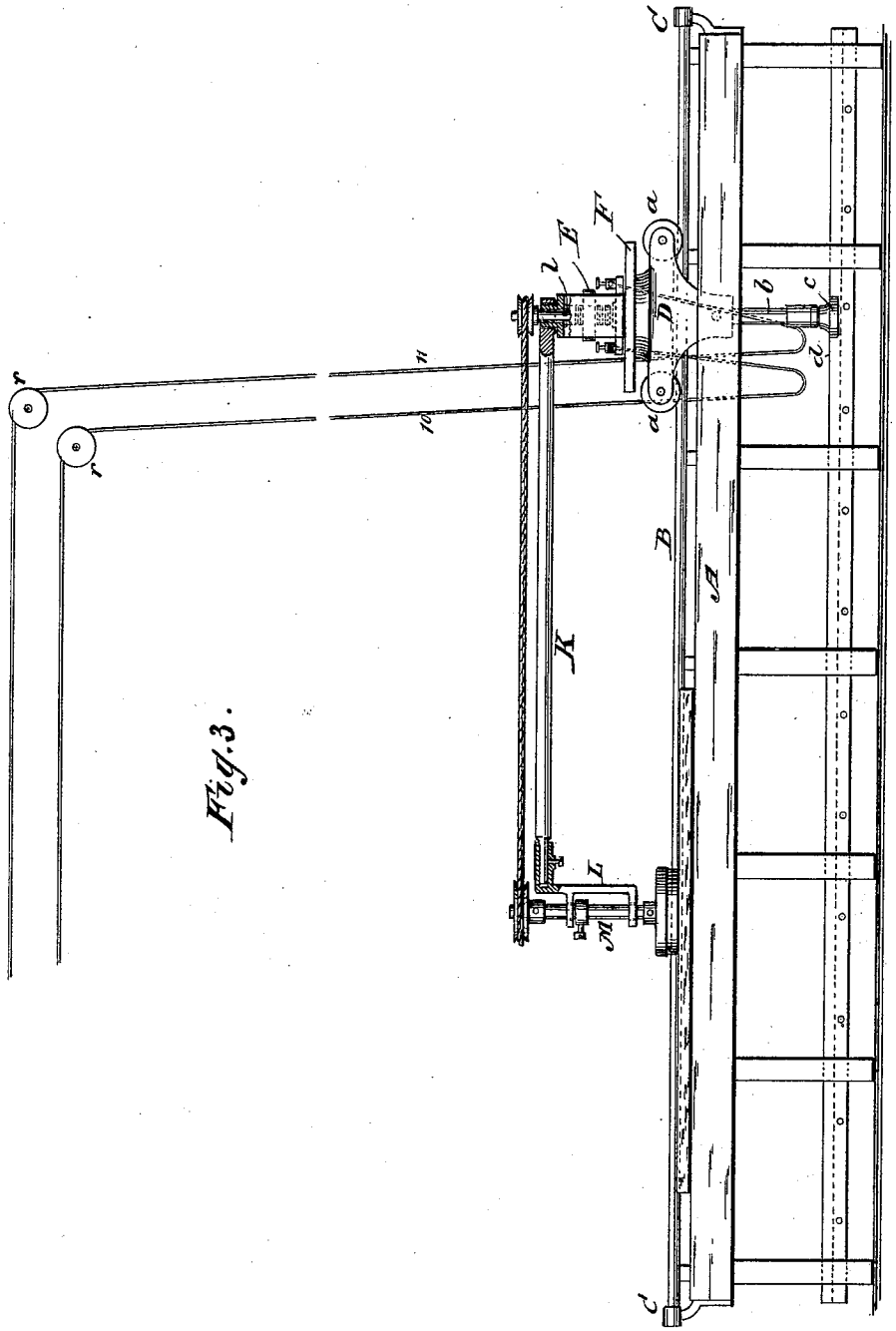


Fig. 3.

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William Miller,

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A. WARTH.

MECHANICAL MOVEMENT.

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Fig. 5.

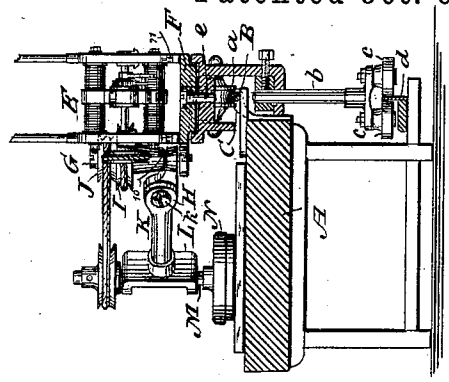
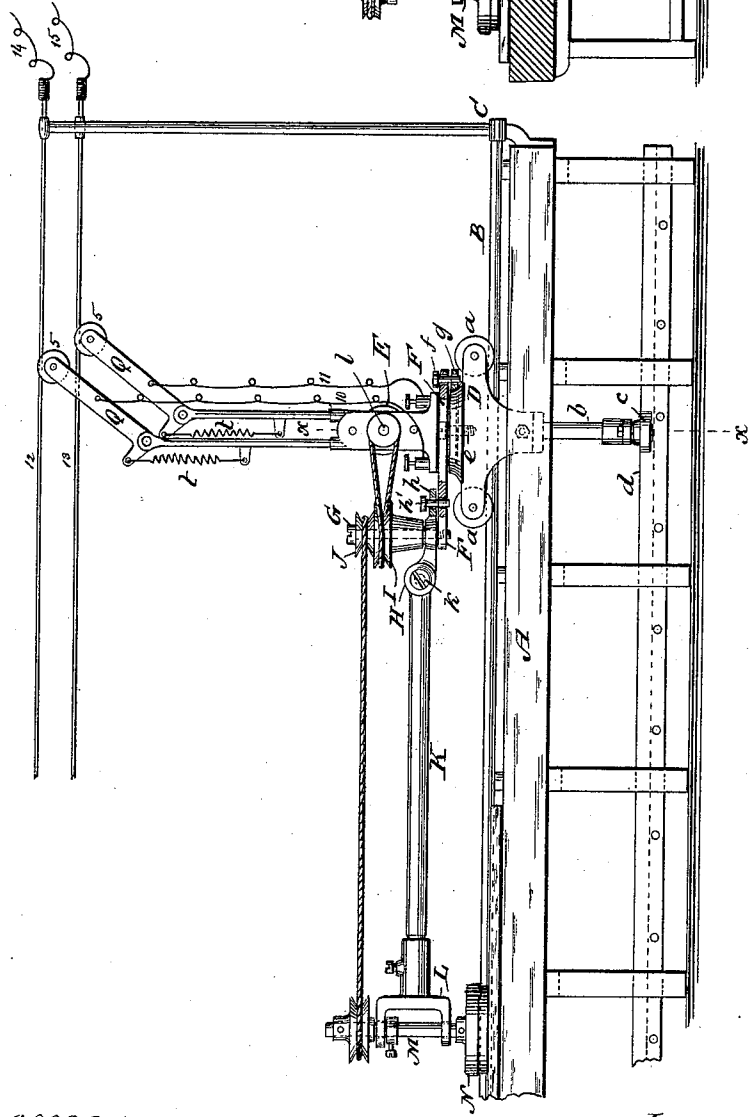


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALBIN WARTH, OF STAPLETON, NEW YORK.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 390,926, dated October 9, 1888.

Application filed May 10, 1888. Serial No. 273,399. (No model.)

To all whom it may concern:

Be it known that I, ALBIN WARTH, a citizen of the United States, residing at Stapleton, in the county of Richmond and State of New York, have invented new and useful Improvements in Mechanical Movements, of which the following is a specification.

The object of this invention is to impart motion to a tool or implement which while in motion has to be moved from one place to another.

The peculiar and novel combination of parts which I use for the above purpose is set forth in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation partly in section. Fig. 2 is a plan or top view. Fig. 3 is a side view of a modification. Fig. 4 is a partial side elevation showing a different connection for the electrical conductors from that shown in the previous figures. Fig. 5 is a transverse section in the plane *x x*, Figs. 1 and 4.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a platform or table which is intended to support the work to be operated upon. On one side of this table above its top is secured a rail, B, the ends of which are supported by any suitable means—such, for instance, as standards C C, Fig. 1. On the rail B is placed the carriage D, and in the example shown in the drawings this carriage is provided with only two wheels, *a a*, which are grooved so as to fit the rail B, and in order to retain the carriage on the rail in an upright position I secure to its under side an arm, *b*, Figs. 1, 3, and 5, which carries two wheels, *c c*, and these wheels are brought to act upon the opposite sides of a flat rail, *d*, which is secured to the table A below its top. By these means the carriage D is free to move from one end of the table A to the other, it is always kept in an upright position, and it leaves the entire surface of the table practically free for the adjustment of the work.

On the carriage D is placed the base-plate F, comprising a part of the frame E, which latter may be of any well-known construction—such, for instance, as that known as "Edison's electromotor," and which connects with a battery or other source of electricity by wires 10 and 11. The base-plate F of the electromotor may be firmly secured to the carriage, but I prefer to make the connection by means of a pivot, *e*, so that the electromotor can be freely swiveled round in either direction, and for the purpose of locking the base-plate a pin, *f*, is used, which can be inserted into a hole in the base-plate, and into a corresponding hole formed in a lug, *g*, which projects from the carriage D. (See Fig. 1).

In the base-plate F is firmly secured a vertical arbor, G, on which are fitted the standard H, and also two pulleys, I J. These pulleys are firmly connected together, so that if motion is imparted to one of them the other has to follow. The standard H swivels freely round the arbor G, and it is provided with an extension, *h*, which is provided with a hole through which a pin, *h'*, can be passed into a corresponding hole in the base-plate F whenever it is desired to lock said standard in position.

From the standard H extends an arm, K, which may be rigidly connected to said standard; but in the example shown in the drawings said arm swings on a pivot, *k*, which has its bearings in the standard H, so that its free end can be moved up or down. On the free end of said arm K is secured a bracket, L, which forms the bearings for a shaft, M, carrying the tool or implement N to which motion is to be imparted.

In the example shown in Figs. 1, 2, 4, and 5 the swinging arm K is swiveled to a part of the electromotor-frame, which part is the base-plate F.

In the example shown in Figs. 1 and 4 the shaft *l* of the electromotor E occupies a horizontal position; but the electromotor can be secured upon the carriage in the position shown in Fig. 3, so that its shaft *l* occupies a vertical position. In this case the arm K swivels directly to a part of the electromotor-frame consisting of a portion which extends upward around the shaft *l*, and the base-plate of the electromotor E is firmly secured to the carriage D. The shaft *l* of the electromotor E is geared together with the shaft M by any suitable means—such as belts and pulleys—so that if the electromotor is started motion is imparted to the shaft M, and since the electromotor is supported by the carriage D the tool

or implement carried by the shaft M can be moved over the entire surface of the table.

In the example shown in the drawings the implement N consists of a polishing or grinding wheel such as is commonly used for polishing large panes of glass; and it will be readily seen that by means of the devices above described this polishing-wheel can be readily moved over the entire surface of a large pane of glass placed upon the table A, and at the same time the required rotary motion is imparted to said polishing-wheel.

In Figs. 1 and 3 the wires 10 and 11 which supply electricity to the electromotor extend over guide-rollers *r r*, and they are made of such length that they do not interfere with the movements of the carriage D; but the connections between the source of electricity and the electromotor can be arranged as indicated in Fig. 4, where the wires 10 and 11 connect with levers Q Q, which carry rollers *s s*, and which are exposed to the action of springs *t t*, by means of which the rollers *s s* are held in contact with fixed wires 12 and 13. These wires connect by wires 14 and 15 with the source of electricity.

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

1. The combination of a table, A, a traveling guided carriage, D, a base-plate, F, secured to and traveling with the carriage for supporting and carrying a motor, E, a swiveled swinging arm, K, a shaft, M, carried by the arm, and gearing for connecting the motor on the base-plate with the shaft to rotate the latter, substantially as described.

2. The combination of a table, A, a traveling guided carriage, D, a base-plate, F, swiveled on the carriage to support and carry a motor, E, a swinging arm, K, a shaft, M, carried by the arm, and gearing for connecting the motor on the base-plate with the shaft to rotate the latter, substantially as described.

3. The combination of a table, A, a traveling guided carriage, D, a base-plate, F, swiveled to the carriage for supporting and carrying a motor, E, a pin, *f*, for locking the base-plate, a swivel-standard, H, on the base-plate, a pin, *h'*, for locking the swivel-standard, an arm, K, supported by the swivel-standard, a shaft, M, on the arm, and gearing for connecting the motor on the base-plate with the shaft to rotate the latter, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ALBIN WARTH. [L. S.]

Witnesses:
J. VAN SANTVOORD,
E. F. KASTENHUBER.