

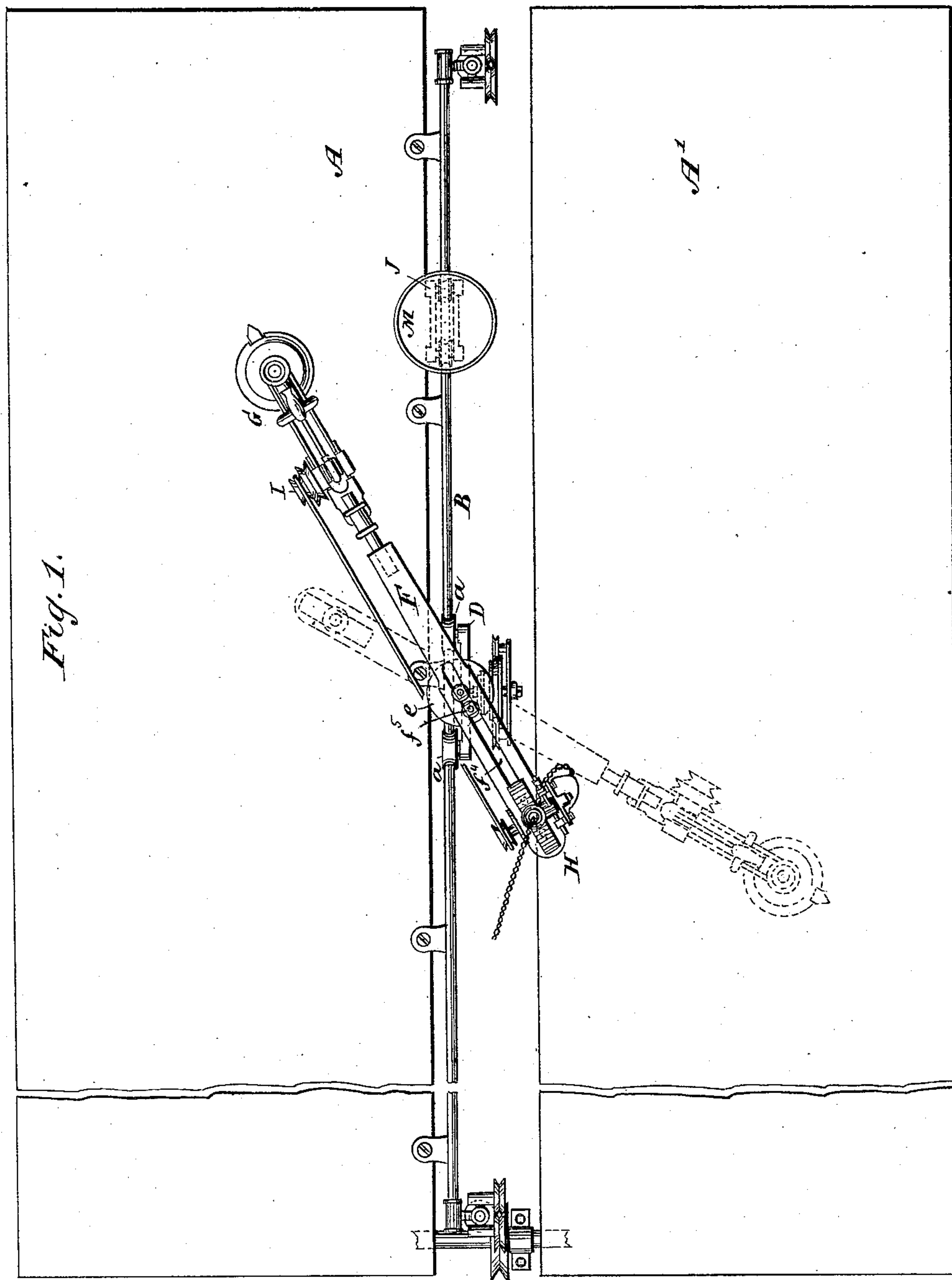
(No Model.)

3 Sheets—Sheet 1.

A. WARTH.
MECHANICAL MOVEMENT.

No. 444,284.

Patented Jan. 6, 1891.



WITNESSES:

Edward Wolff
William Miller

INVENTOR:

Albin Warth.
BY *Van Santvoord & Hauff*
ATTORNEYS

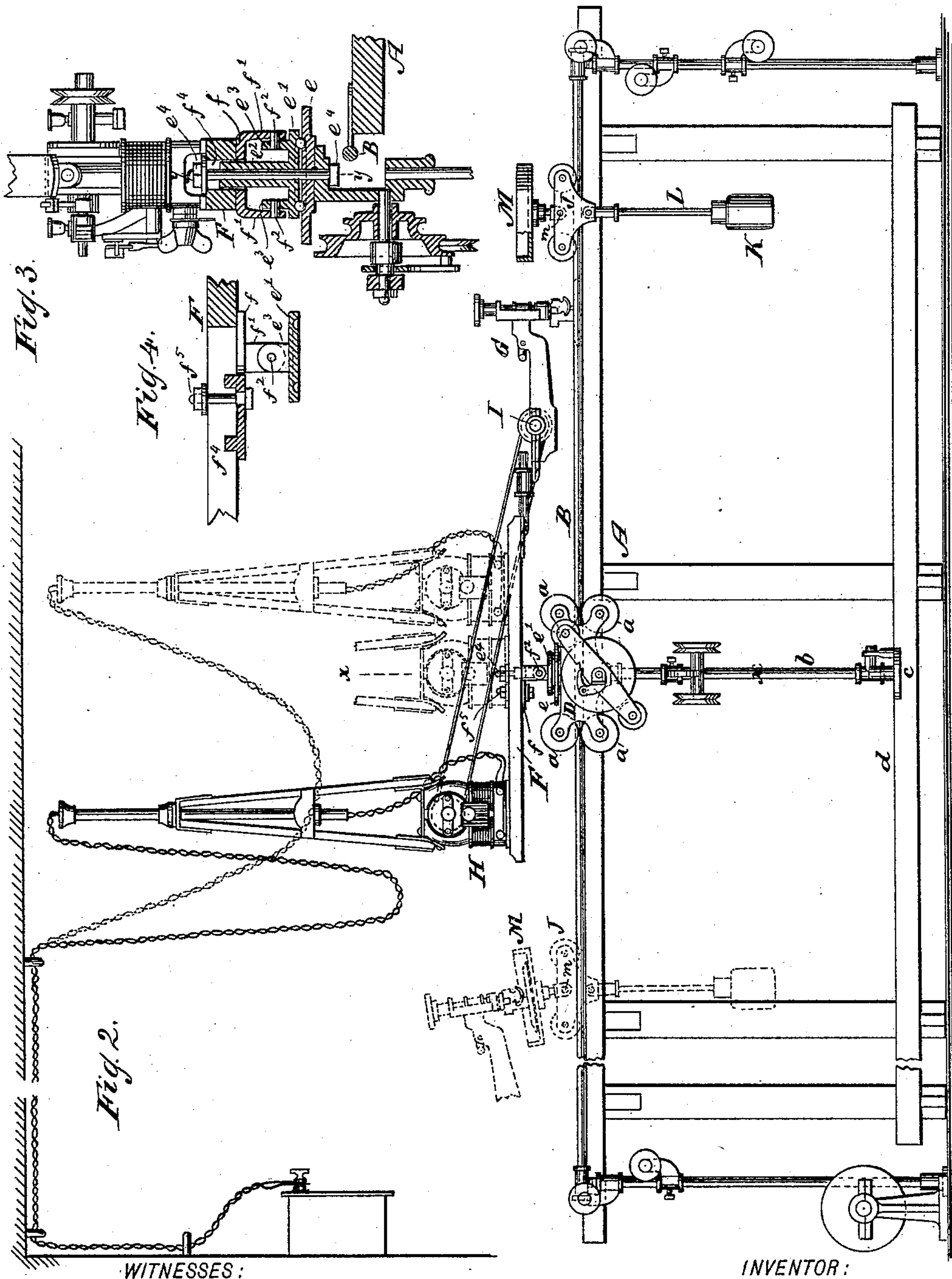
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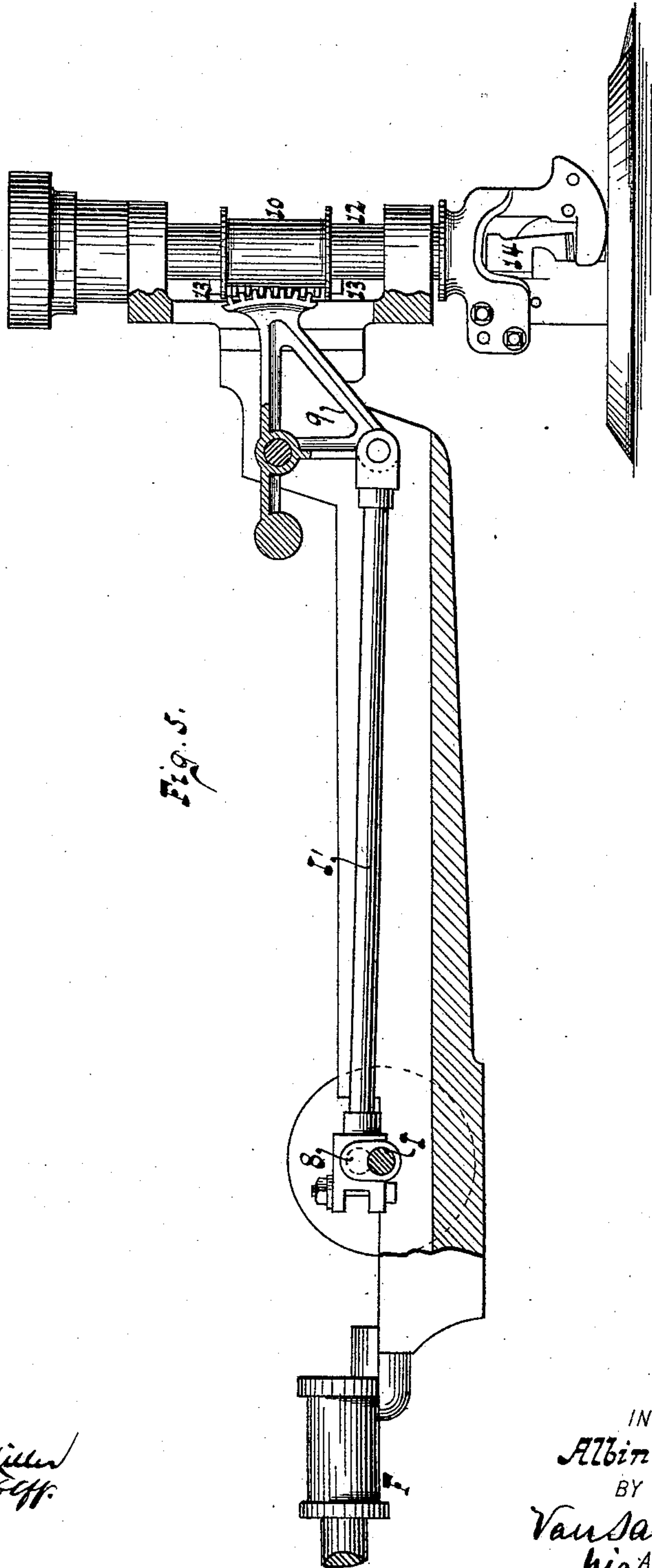


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBIN WARTH, OF STAPLETON, NEW YORK.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 444,284, dated January 6, 1891.

Application filed September 4, 1890. Serial No. 363,883. (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.

This invention relates to certain improvements in that class of mechanical movements which I have described in Letters Patent No. 390,926, granted to me October 9, 1888, and the object of which is to impart motion to a tool or implement which while in action has to be moved from one place to another—such, for instance, as a polishing or grinding wheel for polishing large panes of glass or a cutter for cutting out garments.

The improvements which form the subject-matter of this present application for a patent are pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a plan or top view. Fig. 2 is a side view. Fig. 3 is a vertical section in the plane xx , Fig. 2, on a larger scale than the previous figures. Fig. 4 is a section in the plane yy , Fig. 3. Fig. 5 is a sectional view of a cutting-tool, such as may be used in connection with my invention, on a larger scale than the previous figures.

In the drawings, the letters $A A'$ designate two tables, which are intended to support the work to be operated upon. Between these tables is situated a rail B , which may be secured to one of the tables or to the floor or walls, as circumstances may require. This rail forms a guide for a carriage D , which is provided with two pairs of wheels $a a'$, fitting the rail B , and which may be sustained on the rail in an upright position by any suitable means.

In the example illustrated in the drawings the carriage is provided with a downwardly-extending arm b , which carries two wheels c , and these wheels are brought to act upon the opposite sides of a flat rail d , which runs parallel with the rail B . By these means the carriage D is free to move from one end of the rail B to the other, it is always kept in an upright position, and it leaves the entire surface of the table or tables free for the adjustment of the work.

On the carriage D is mounted the balance-arm F in such a manner that it can swing in a vertical as well as in a horizontal plane. In order to effect this purpose, the carriage is provided with a raised platform e , on which rests a bracket e' , from which rises a tubular projection e^2 , and which is provided with two lugs e^3 . The balance-arm F rests upon a plate f , which is provided with lugs f' , Figs. 3 and 4, which straddle the lugs e^3 , and are connected to the same by pivots f^2 . The tubular projection e^2 extends into a slot f^4 in the balance-arm, and through this tubular projection extends a screw-bolt e^4 , and when the nut of this bolt is screwed up tight the balance-arm is retained in position. Through the plate f and through the slot f^4 extends a screw-bolt f^5 , whereby the balance-arm can be adjusted in the direction of its length. Between the platform e and the bracket e' may be placed anti-friction rollers, so that the balance-arm can be moved in a horizontal plane round the screw-bolt e^4 without creating undue friction. On one end of the balance-arm is secured a tool G , and at or near the opposite end of said balance-arm is placed a motor H , which may be an electromotor or a pneumatic motor. From this motor motion is transmitted to a shaft I by means of a belt or otherwise, and this shaft is in engagement with the tool G , so that the required motion can be transmitted from the motor to the tool.

J is a truck which rests upon the rail B , and is held in an upright position by means of a weight K , secured to a rod L , which extends downward from the truck. On this truck is secured a tray M , and the connection between the truck and the tray is effected by a pivot m , so that said tray can assume an upright position, as shown in full lines in Fig. 2, or in an inclined position, as shown in dotted lines in said figure.

From the foregoing description it will be readily seen that the tool G can be carried over the entire surface of either of the tables $A A'$, and at the same time the weight of the tool can be more or less balanced by adjusting the balance-arm F in the direction of its length, the motor H acting as a counter-balance for the tool G . If the tool is not used, it can be placed into the tray M , as indicated in dotted lines in Fig. 2, and then the sur-

faces of both tables A and A' are free and unobstructed. In view of the movements of the arm F it is desirable that the carriage D shall be provided with two pairs of wheels *a* *a'*, which engage the rail B on opposite sides (see Fig. 2,) so that they prevent the carriage from being thrown out of engagement with the rail when the arm F is swung or moved on the carriage.

10 A shaft E* may be provided which is connected to the carriage D by belts, as fully described in an application for a patent filed by me September 4, 1890, Serial No. 363,882, so that in case the motor II becomes inoperative
15 the tool can be operated by any suitable power capable of imparting motion to the shaft E*.

The tool illustrated in the drawings is a knife for cutting out garments such as shown and described in Letters Patent Nos. 380,962
20 and 380,963, granted to me April 10, 1888, and a reciprocating motion is imparted to this knife by means of a pitman I'. (See Figs. 1 and 5.) This pitman engages a crank 8, formed on the shaft I, and it connects with a bell-
25 crank lever 9, which engages a sleeve 10, fitted upon a pillar 12 and engaging lugs 13, which project from the bar of the knife 14. A tool may, however, be used which requires a revolving motion, and the means for transmitting such motion to the tool from the shaft I
30 will readily suggest themselves to any ordinary machinist.

I do not claim in this application for a patent anything claimed in my applications for patents, serially numbered 363,882 and 363,884,
35 bearing even date with this.

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

1. The combination of a fixed guide or rail
40 B, a traveling carriage D, fitted on said guide, a balance-arm F, secured to the traveling carriage and constructed to swing both in a horizontal and in a vertical plane, a tool G, attached to the balance-arm on one side of its
45 fulcrum, a motor II, secured to said balance-arm on the opposite side of its fulcrum, and suitable means for connecting the tool with the motor.

2. The combination of a fixed guide or rail B, a traveling carriage D, fitted on said guide, 50 a platform *e*, secured to said carriage, a bracket *e'*, with a tubular projection *e*², supported by said platform, the plate *f*, connected to the bracket *e'* by pivots *f*², the balance-arm F, attached to the plate *f*, a tool G, secured to the
55 balance-arm on one side of its fulcrum, a motor II, secured to said balance-arm on the opposite side of its fulcrum, and suitable means for connecting the tool with the motor.

3. The combination of a fixed guide or rail 60 B, a traveling carriage D, fitted on said guide, a balance-arm F, secured to the traveling carriage and constructed to swing both in a horizontal and in a vertical plane, means, substantially as described, for adjusting the balance-
65 arm in the direction of its length, a tool G, attached to the balance-arm on one side of its fulcrum, a motor II, secured to said balance-arm on the opposite side of its fulcrum, and suitable means for connecting the tool with
70 the motor.

4. The combination of a fixed guide or rail B, a traveling carriage D, provided with two pairs of wheels *a* *a'*, constructed to engage the guide B from opposite sides, a balance-
75 arm F, secured to the traveling carriage and constructed to swing both in a horizontal and in a vertical plane, a tool G, attached to the balance-arm on one side of its fulcrum, a motor II, secured to said balance-arm on the op-
80 posite side of its fulcrum, and suitable means for connecting the tool with the motor.

5. The combination of a fixed guide or rail B, a traveling carriage D, fitted on said guide, 85 a balance-arm F, secured to the carriage and constructed to swing both in a horizontal and in a vertical plane, a tool G, attached to the balance-arm, and suitable means for imparting motion to the tool.

In testimony whereof I have hereunto set 90 my hand in the presence of two subscribing witnesses.

ALBIN WARTII.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.