

E. C. Atkins.

Polishing Metal Plates.

No 78,915.

Patented June 16, 1868.

Fig. 3

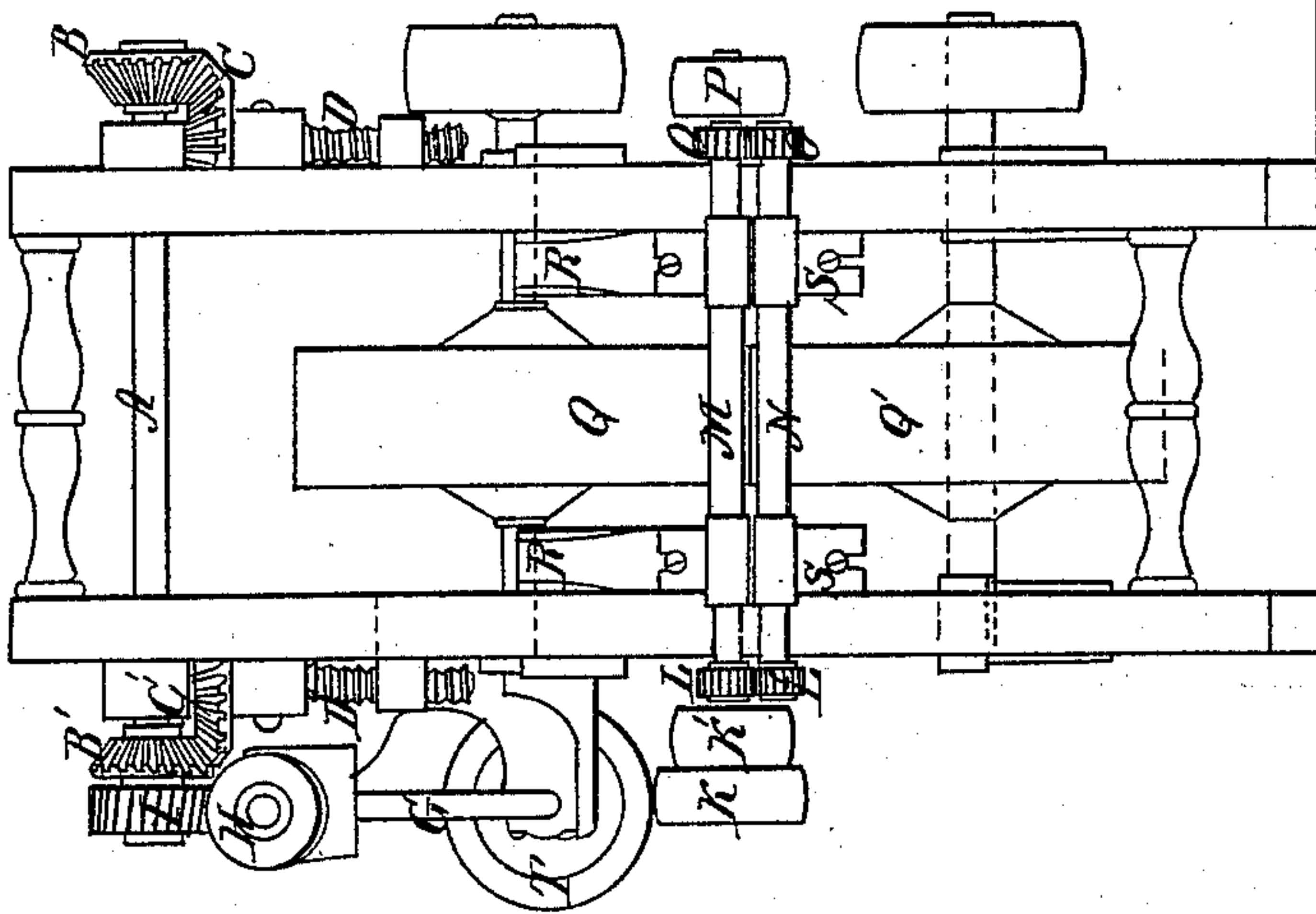


Fig. 4

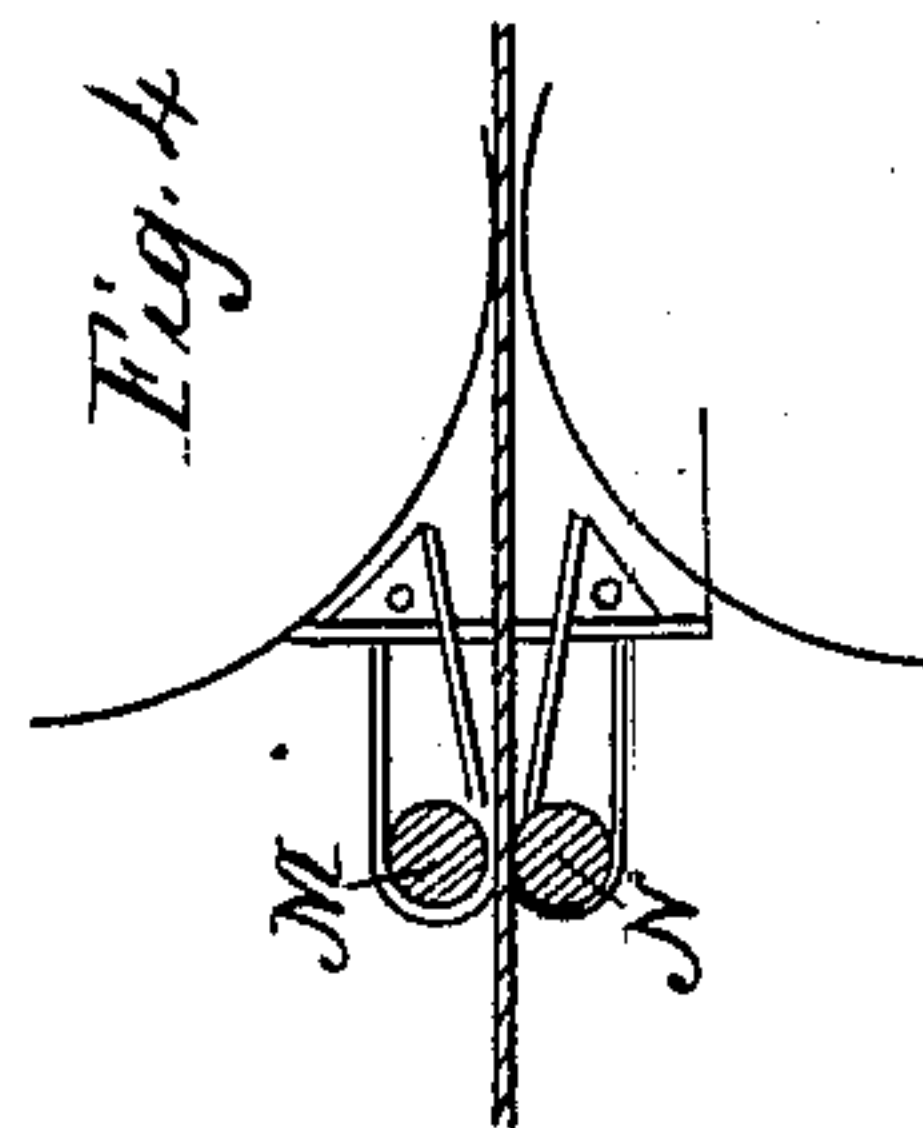


Fig. 2

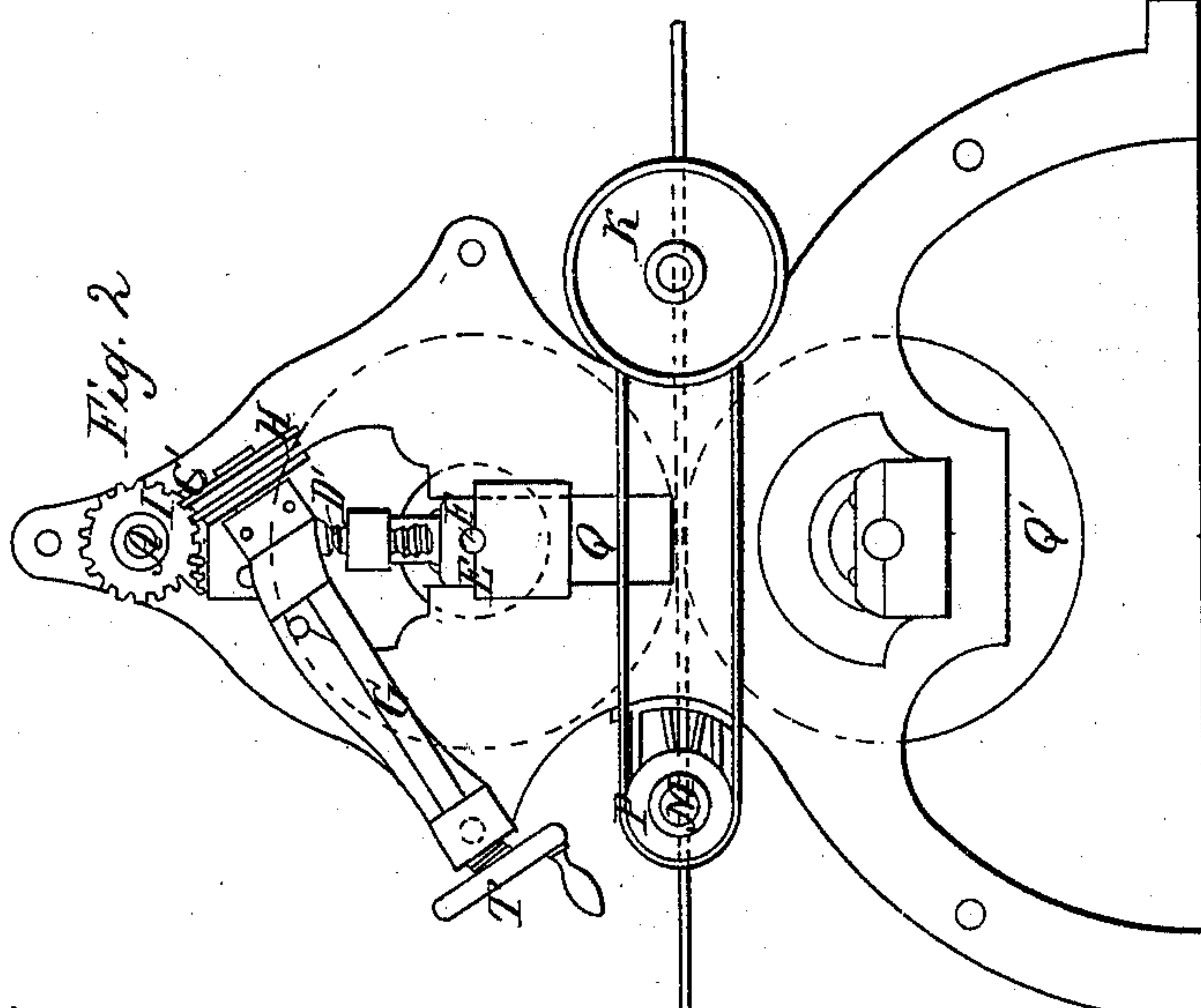
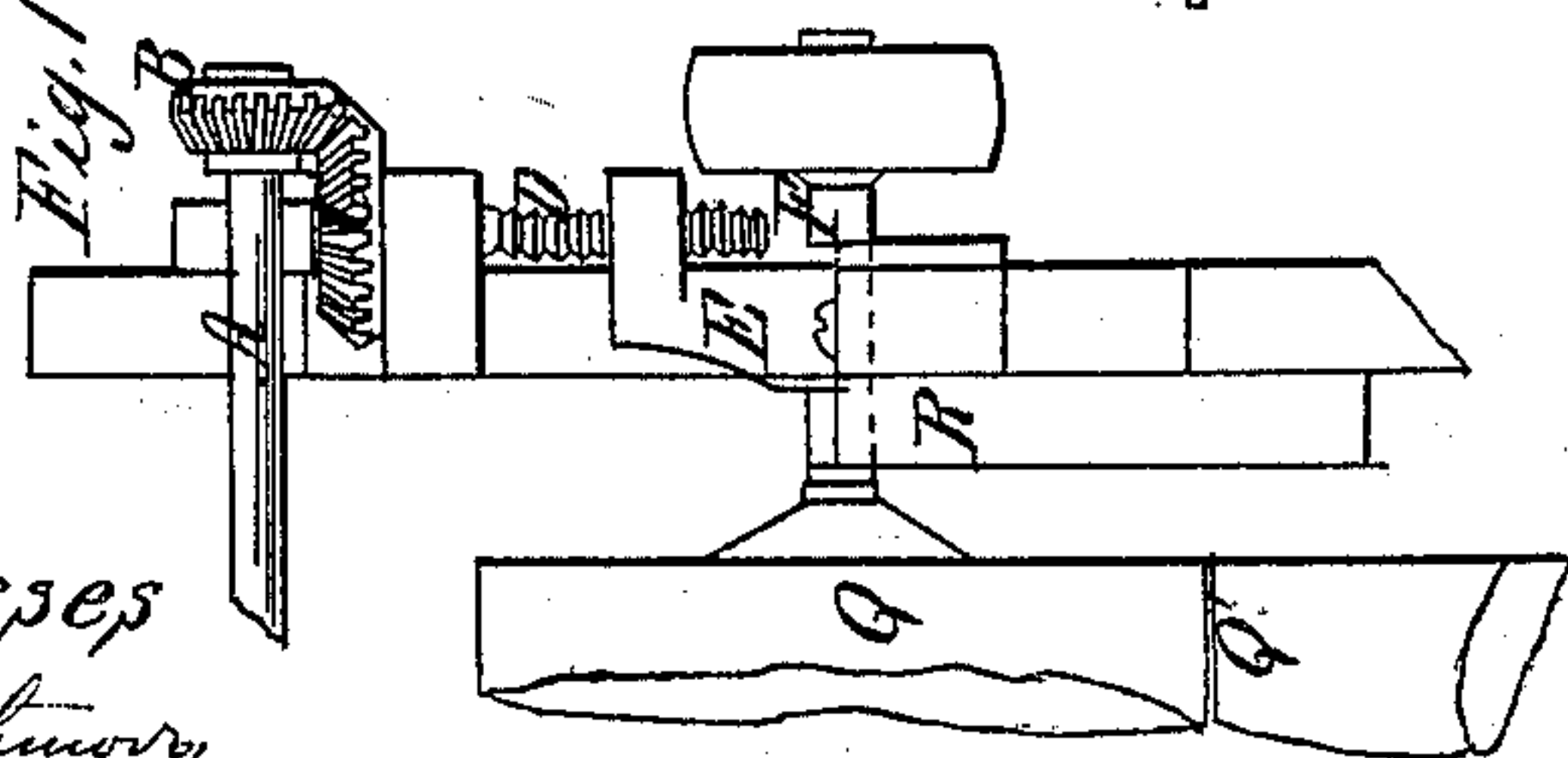


Fig. 1



Witnesses
Jno. L. Smith
Henry R. Hubner

Inventor
Elias C. Atkins.

United States Patent Office.

ELIAS C. ATKINS, OF INDIANAPOLIS, INDIANA.

Letters Patent No. 78,915, dated June 16, 1868.

IMPROVEMENT IN MACHINES FOR POLISHING METAL PLATES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ELIAS C. ATKINS, of Indianapolis, in the county of Marion, and State of Indiana, have invented a new and useful Improvement on "Reuben Cave's Machine" for Grinding and Polishing Metal Plates, patented February 1, 1859; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 2 represents a side view,
Figure 3 a front view, and
Figures 1 and 4 sections.

In the construction of Reuben Cave's machine, as patented, no facilities are furnished by which the operator can regulate or control the movement of the metal plate during the process of grinding or polishing, which is the main defect in the machine, as developed in its practical operation. To overcome this difficulty is the object of my improvement.

The friction of the rollers M N and M' N' upon the surface of the metal plate passing between them, prevents its too rapid progress through the machine. It also imparts a regular motion, enabling the operator to grind the plate to a uniform thickness and polish perfectly all its parts at a single operation.

For a practical operation, it becomes necessary that the rollers should be elevated and depressed in the same ratio as the upper grinder, so that the metal plate may pass horizontally through between the stones. To secure this object the yokes R R are attached to and form a part of the lower boxes, upon which the shaft of the upper stone, Q, rests; and that the metal plate, in passing through the machine, may always be at right angles to a perpendicular line drawn through the centre of the stone Q, the plates S S, to which the rollers M N and M' N' are attached, are slotted at the ends, so as to be adjustable.

The rollers M N and M' N' run in bearings formed of tempered steel plates, which also compress the rollers together with sufficient force to regulate the movement of the metal plates. These springs are fastened to the slotted plates S S, which are firmly bolted to the yokes.

A is a shaft for the horizontal bevelled pinion-wheel B.

C is a perpendicular bevelled pinion-wheel, which gears into the wheel B. The axle of this wheel is threaded, (D,) and rests on the adjustable sliding block E, which is connected with the yoke R.

F is the shaft of the upper grinding-stone.

Q is the upper grinding-stone; Q' is the lower one.

G is an oblique shaft, with a crank-wheel, T, on one end, and a screw, H, on the other end. This screw H works into the cog-wheel I on a common axle with the bevelled pinion-wheel B.

K is the feed-pulley; K' and P are driving-pulleys.

L L' and O O' are little cog-wheels on the rollers M and N, gearing the rollers into each other.

S S are the adjustable plates.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of the stone, Q, running adjustably upon the yoke R, adjustable plates S, attached to the latter, and the rollers M and N and spring-bearings therefor, attached to the plates S, said parts being arranged in relation to each other substantially as and for the purpose set forth.

ELIAS C. ATKINS.

Witnesses:

JNO. L. SMITHMYER,
HENRY R. HUEBNER.