

G. R. MCGREGOR & E. PENNEY.
 Foundry Molding-Machines.

No. 151,305.

Patented May 26, 1874.

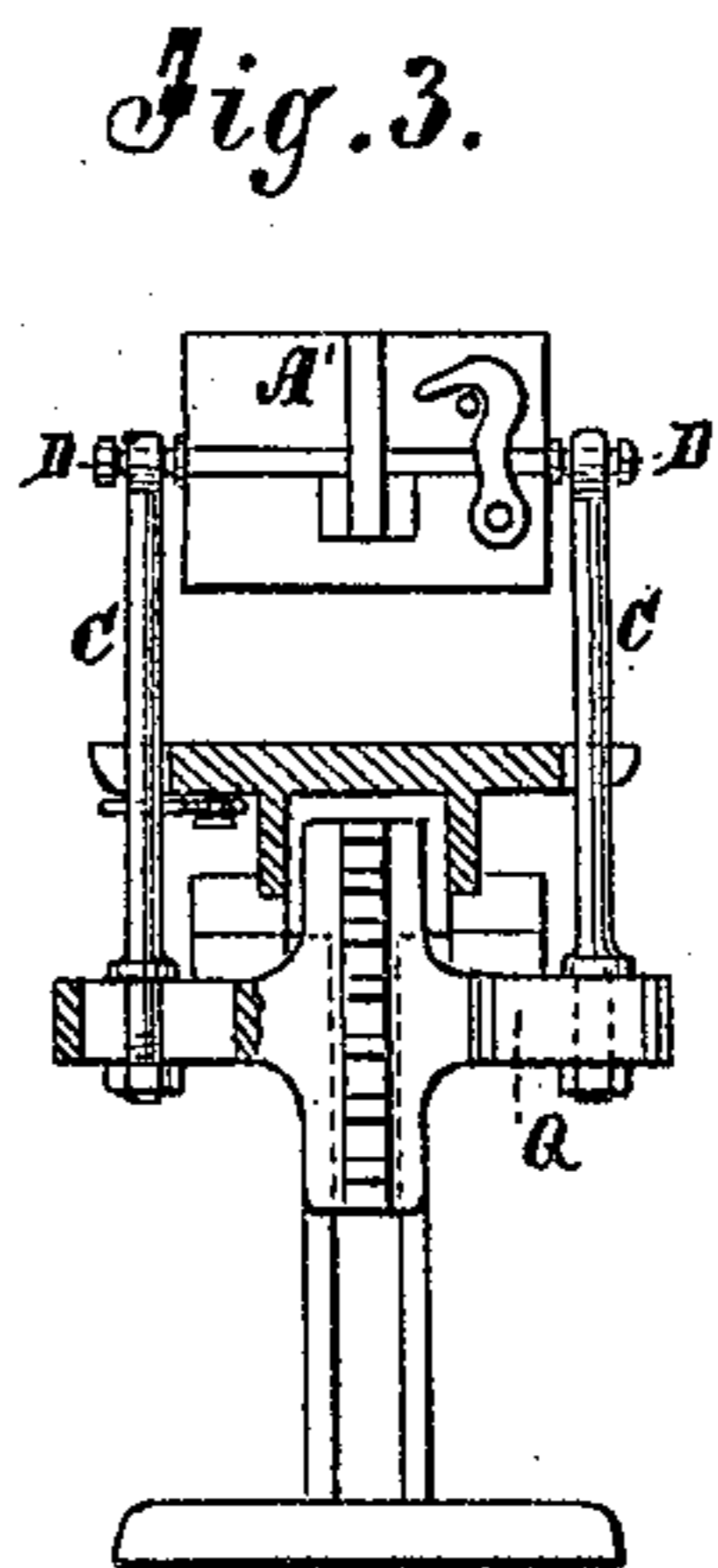
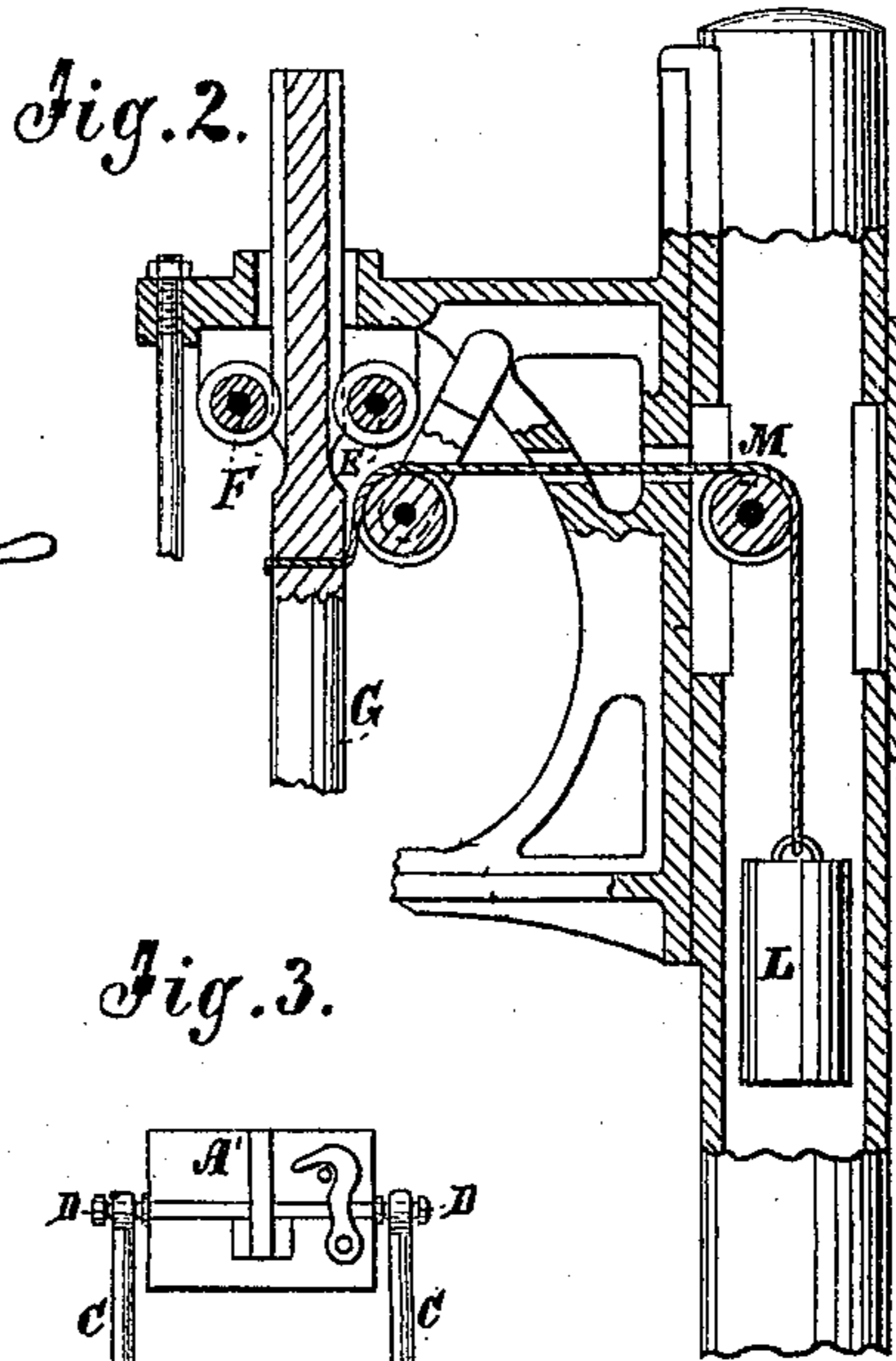
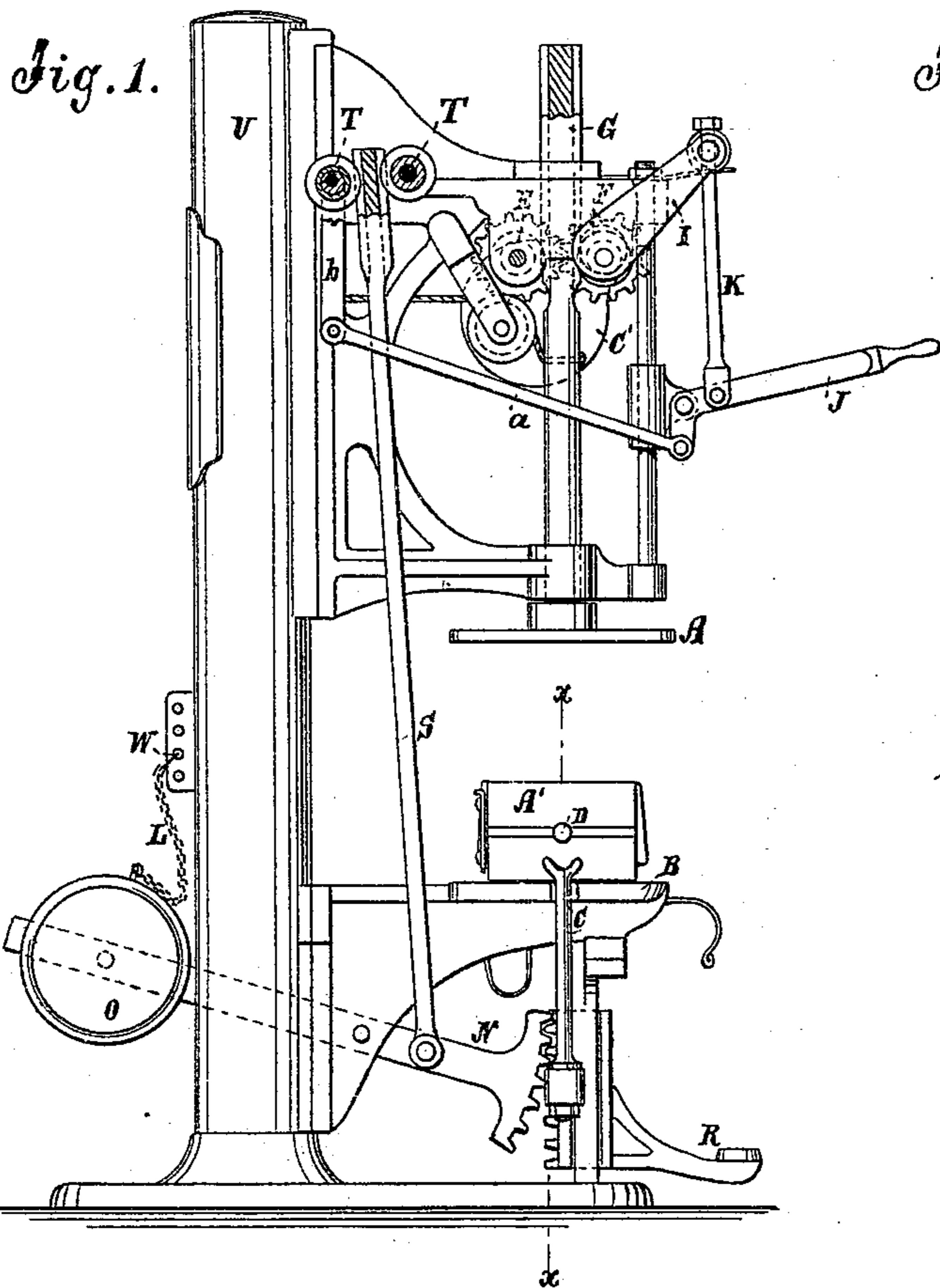


Fig. 4.

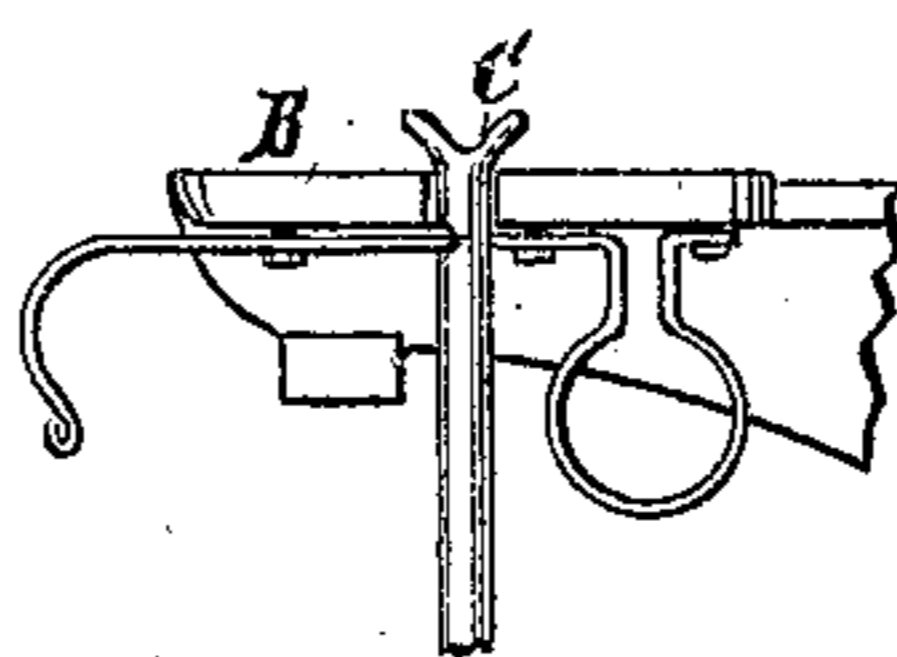
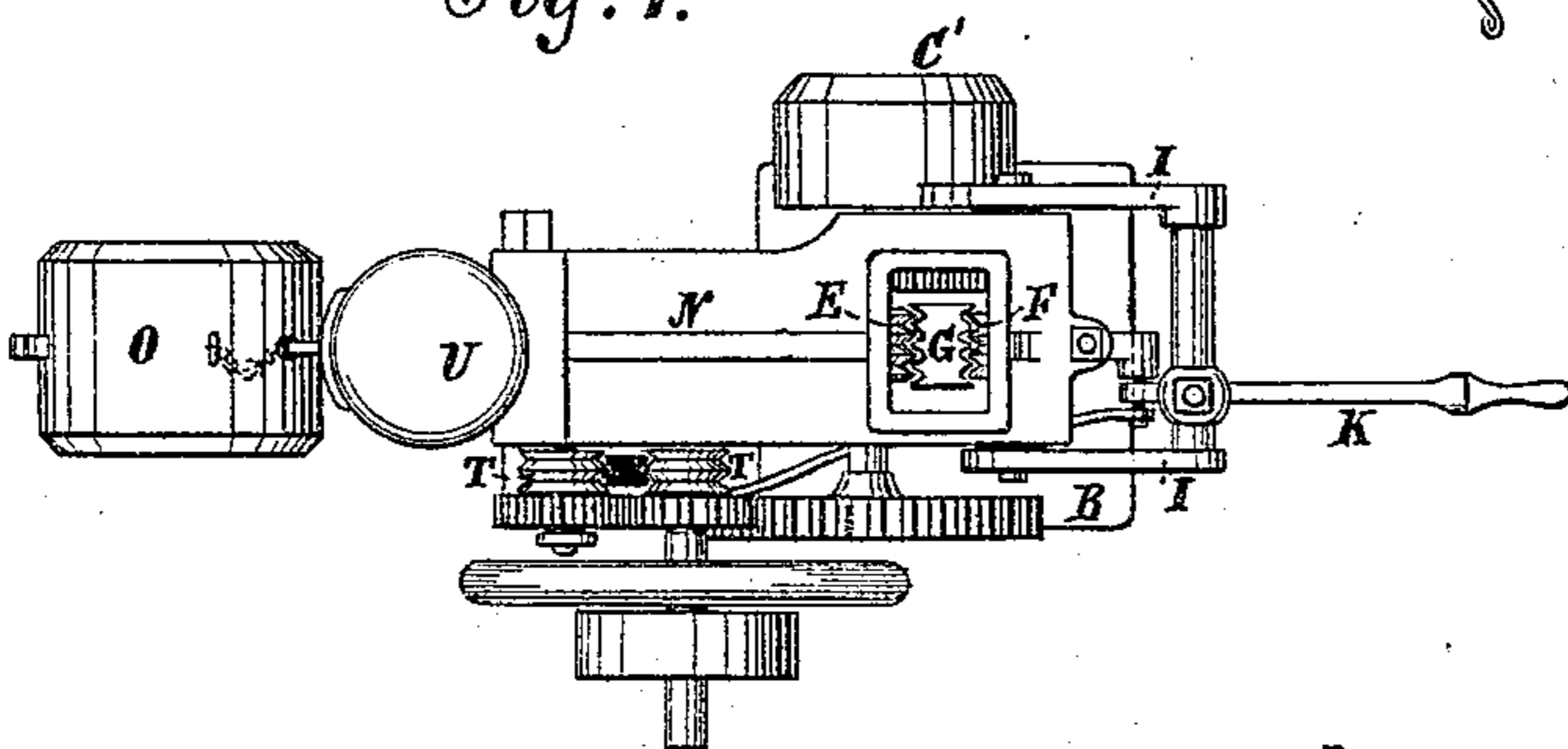


Fig. 7.

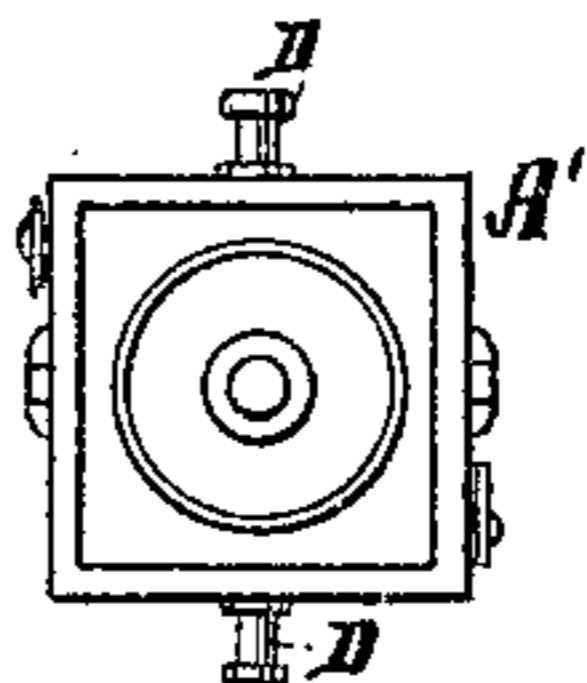
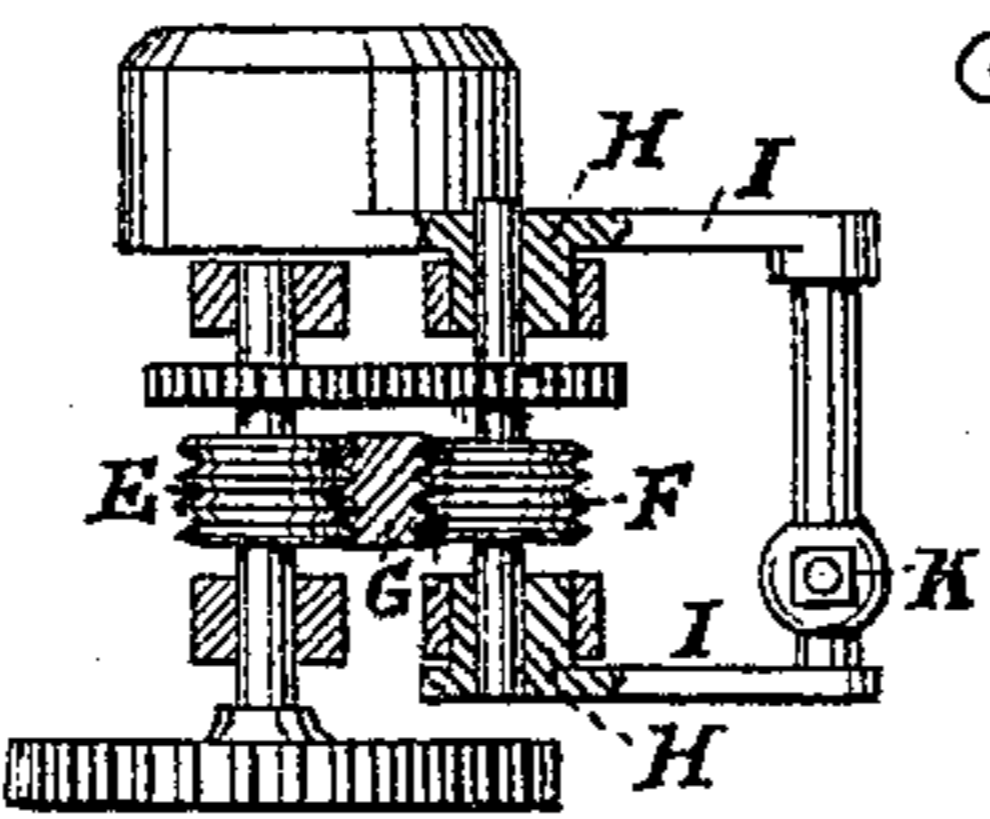


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GAVIN R. MCGREGOR AND EDGAR PENNEY, OF NEWBURG, NEW YORK.

IMPROVEMENT IN FOUNDRY MOLDING-MACHINES.

Specification forming part of Letters Patent No. **151,305**, dated May 26, 1874; application filed February 28, 1874.

To all whom it may concern:

Be it known that we, GAVIN R. MCGREGOR and EDGAR PENNEY, of Newburg, in the county of Orange and State of New York, have invented a new and Improved Foundry Molding-Machine, of which the following is a specification:

The invention relates to molding-machines; and consists in improving the same, as hereinafter described and pointed out in the claim.

Figure 1 of the accompanying drawing is a side elevation of a machine, illustrating the application of our invention. Fig. 2 is a sectional elevation. Fig. 3 is a section of part of the lower portion of the machine, taken on line *x x* of Fig. 1. Fig. 4 is a top view. Fig. 5 is a horizontal section of the upper part of the machine. Fig. 6 is a detail of the lifting contrivance, and Fig. 7 is a plan of the flask.

Similar letters of reference indicate corresponding parts.

A is a rammer or presser, to be forced down by power mechanism of any kind, to ram or press the sand in the flask A', which, together with the patterns to be molded, will be placed on the table B. C represents lifters, to be raised up from below by any suitable power apparatus, to lift the flask for turning it, the trunnions D of the flask being taken in the forked upper ends of said lifters.

These operations, being the most laborious parts of the molding of patterns, we propose to do in this manner by mechanical means, which we find by practical experiment we can do with apparatus of this kind to great advantage.

The means for forcing the rammer down consists of a constantly-revolving friction-roller, E, either grooved or plain, and a binding-roller, F, to act on the stem G of the rammer, the roller F being fixed in eccentric supports H, to be pressed against the stem by handles I J and connecting-rod K, for producing the necessary friction on roller E for driving the

rammer down. A weighted arm, C', holds the roller F out of contact with the stem. To raise the rammer up again, we have a counter-balance-weight, L, and chain M. To raise up the lifters C, we have here shown a balance-lever, N, and weight O, the lever having a toothed segment, gearing with teeth on the lower part of the stock or cross-head Q, on which the lifters are mounted. To force the lifters down when the machine is for light work, a foot treadle or pusher, R, is employed, by which the operator presses the cross-head down; but for large machines, too heavy for the operator to actuate in this manner, power may be employed by the rod S and friction-rollers T, operating on the same plan as the rollers used for working the rammer, and being put in gear by an upward movement of handle J, which works the eccentric by lever *a* and arm *b*. The upward movement of the lifter will be limited by the chain L and a pin, W, which will be shifted at the connection with the block to suit the size of the flasks.

The table and the brackets supporting all the operative parts will be mounted on the hollow cast-metal standard U. The lifters are adjustable in the cross-head Q toward and from each other, as required for flasks of different sizes.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, with a flask having side studs D D, of end-forked lifters C C, protruding through slots of table and attached to a sliding cross-head, Q, to enable the flask to be conveniently lifted otherwise than by hand when it is to be turned.

GAVIN R. MCGREGOR.
EDGAR PENNEY.

Witnesses:

ROBERT WHITEHILL,
EDWARD P. CORWIN.