

(No Model.)

J. F. BLAKE.
AIR COMPRESSOR.

No. 534,192.

Patented Feb. 12, 1895.

Fig. 1.

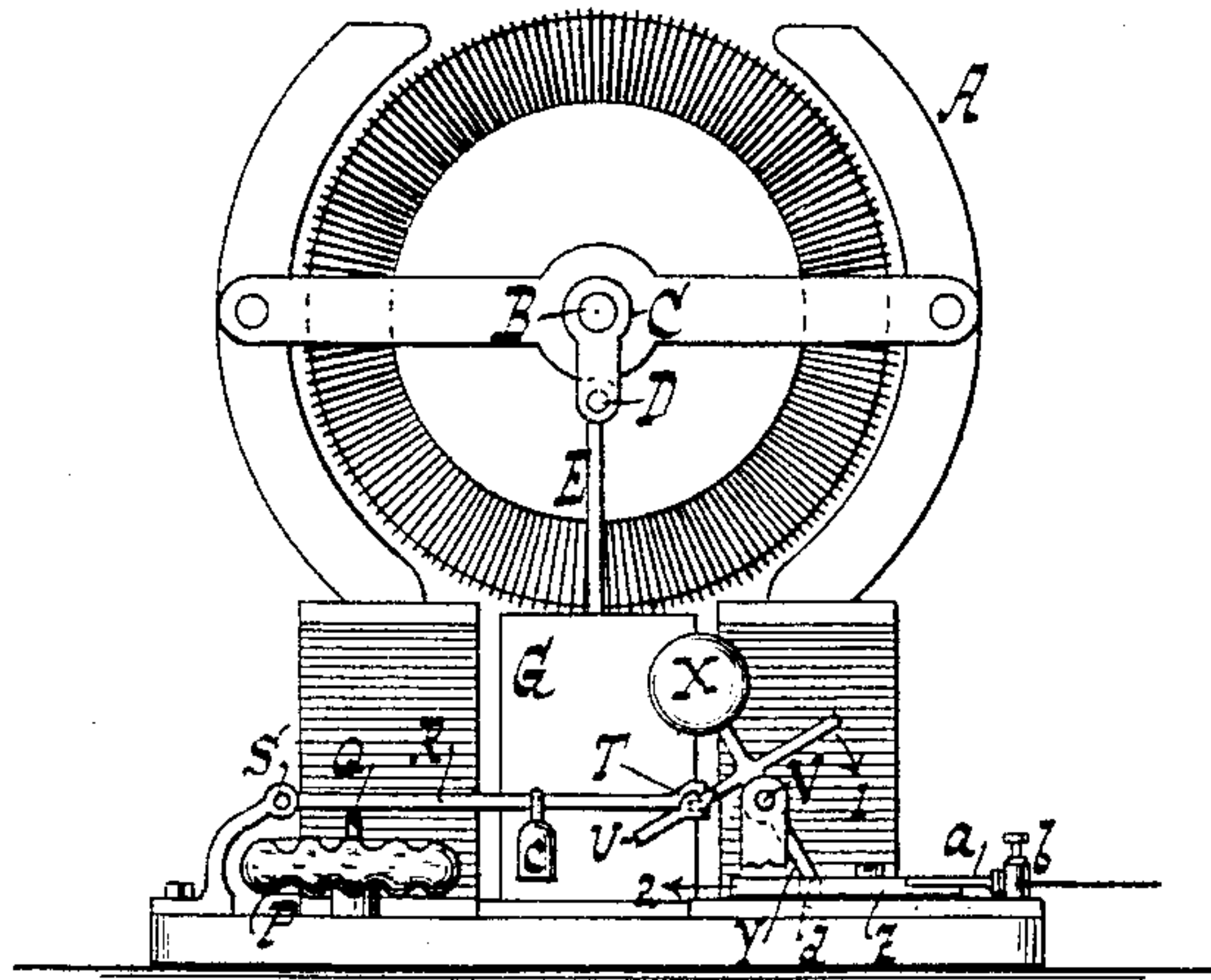


Fig 2

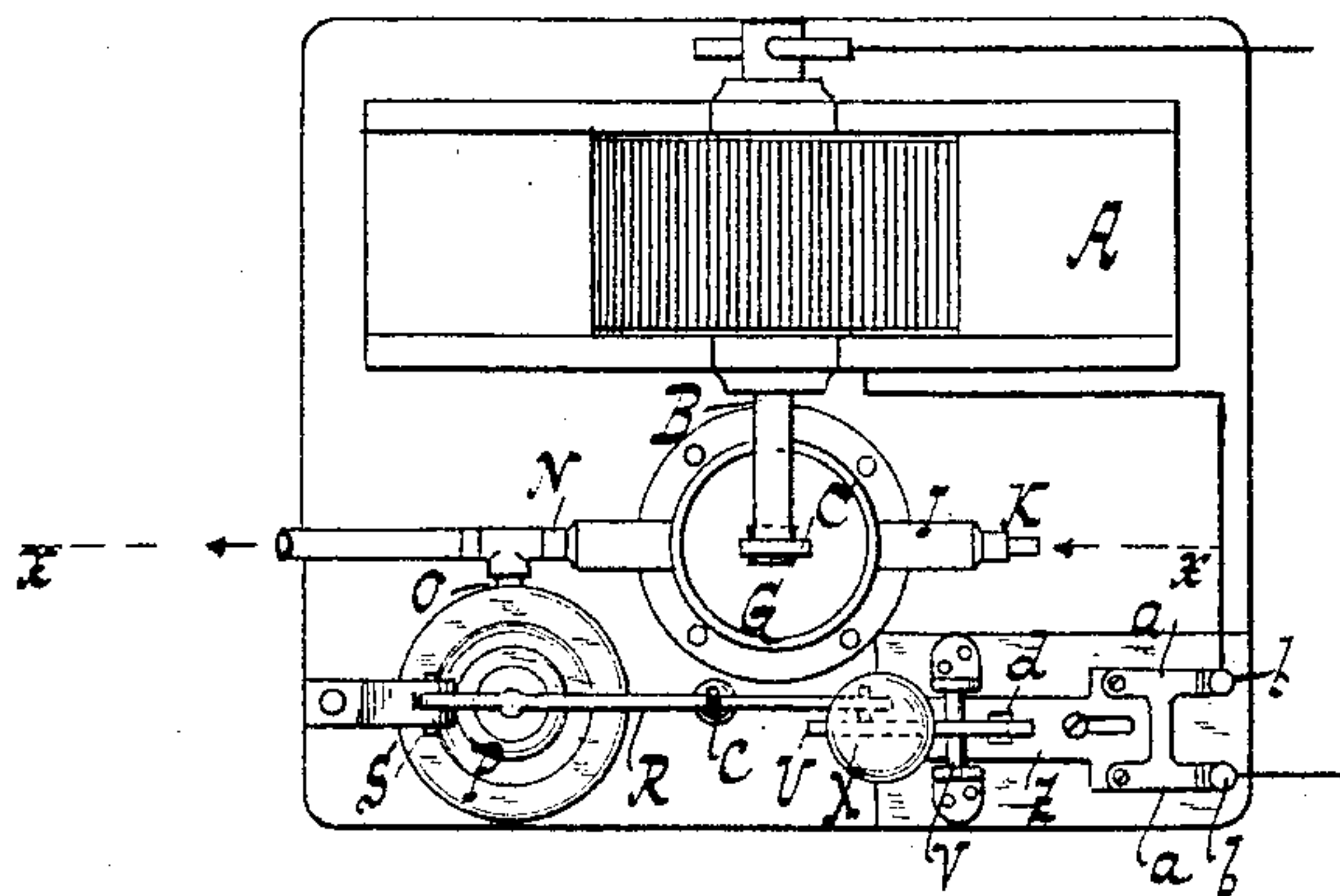
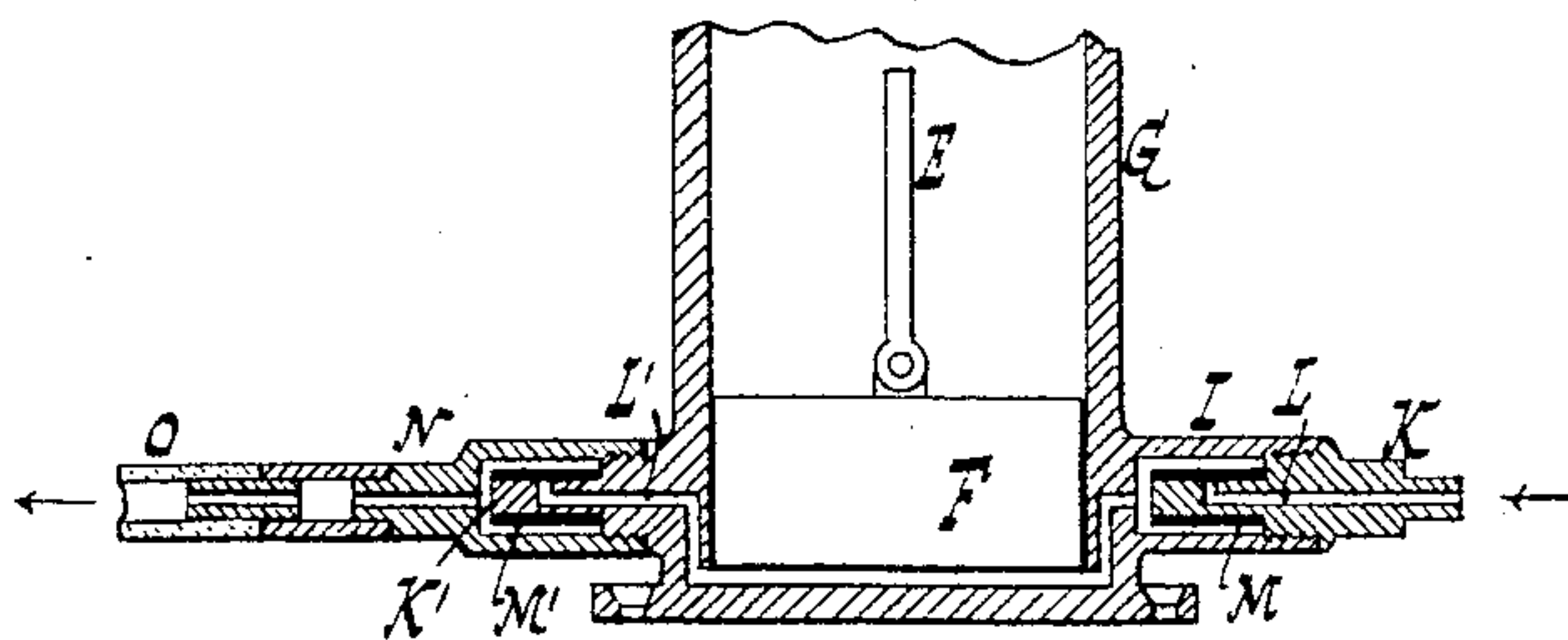


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN FEGGETTER BLAKE, OF NEW HAVEN, CONNECTICUT.

AIR-COMPRESSOR.

SPECIFICATION forming part of Letters Patent No. 534,192, dated February 12, 1895.

Application filed October 18, 1894. Serial No. 526,292. (No model.)

To all whom it may concern:

Be it known that I, JOHN FEGGETTER BLAKE, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Air-Compressors, of which the following is a specification.

The object of the invention is to provide an air compressor which will automatically stop working when a certain supply or pressure of air has been obtained and which will automatically commence working when the supply or pressure is diminished or exhausted and the invention consists in the novel features set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of the compressor. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a detail sectional view of the pump cylinder.

An electric motor A imparts rotation to shaft B and crank C whose pin D reciprocates link E and plunger or piston F. Said piston works in the cylinder G having an inlet I into which is secured a nipple K having a laterally opening outlet or passage L. About the nipple is slipped a flexible tube M. When the plunger F rises, air enters through passage L and between tube M and nipple K to fill the vacuum created in cylinder G. On the descent of the plunger the air in cylinder G is compressed and the flexible tube M is compressed about nipple K to close the mouth of passage L.

The outlet of cylinder G is formed by a nipple K' having a laterally opening passage L' and provided with a flexible tube M' which when the plunger F descends will be sufficiently expanded to allow the air from cylinder G to pass out between tube M' and nipple K' but when a vacuum is caused in the cylinder by the rise of the plunger the tube M' will be compressed about nipple K' so as to close the channel L'.

To the escape or outlet nipple K' is secured a nozzle N connecting with tube or hose O through which the air is forced to the diaphragm or air receptacle P. As the air receptacle or bag P is filled it expands and its finger Q actuates a lever R fulcrumed at S so that the forked end T of lever R will swing

the lever or arm U about its fulcrum V in the direction of arrow 1. The lever U carries an arm W provided with weight X and the arm W and weight X are swung in the direction of arrow 1 until the weight is carried in said last named direction past the dead center. The weight X will then drop so that the arm Y extending from lever U and engaging slide Z will move the latter in the direction of arrow 2.

The slide Z carries a contact *a* and the motion of slide Z in the direction of arrow 2 will carry the contact *a* away from the terminal or conductor *b* so as to break the current actuating the motor A. The motor thus stops and the pumping ceases when the bag or receptacle P has received the proper charge or pressure.

On the receptacle P becoming exhausted the weight *c* on lever R will actuate the latter so as to move the arm U and slide Z in the direction opposed to arrows 1 and 2 so that the contact *a* again establishes the current from terminal *b* and the weight X is restored to the position shown in Fig. 1. The weight *c* must be manifestly made of sufficient intensity and adjusted so as to swing the parts, including weight X to the position shown in Fig. 1. The connection between arm Y and slide Z can be readily made by passing arm Y into a suitable slot or eye *d* in the slide, said eye *d* being shown in Fig. 2.

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

1. The combination with an electric motor and a pump, of an expansible air receptacle connected to the pump, a weighted lever pivoted at one end and forked at its other end, said lever being actuated by said receptacle, a vertical oscillatory lever engaged by the fork of the first named lever, a sliding contact engaged by one end of the oscillatory lever, and a weight carried by the other end of said last named lever and operating to throw the contact in opposite directions to make and break the motor circuit as said weight is moved by the expansible receptacle to one or the other side of the pivotal center of the oscillatory lever, substantially as described.

2. The combination with an electric motor and a pump, of an expansible air receptacle connected to the pump, a forked lever actu-

ated by said receptacle, a weighted lever engaged by the fork of the first named lever, and a contact actuated by said weighted lever, said forked lever being provided with a restoring weight for the weighted lever substantially as described.

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In testimony whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

JOHN FEGGETTER BLAKE.

Witnesses:

CHARLES F. BOLLMANN,
GEORGE R. COOLEY.