

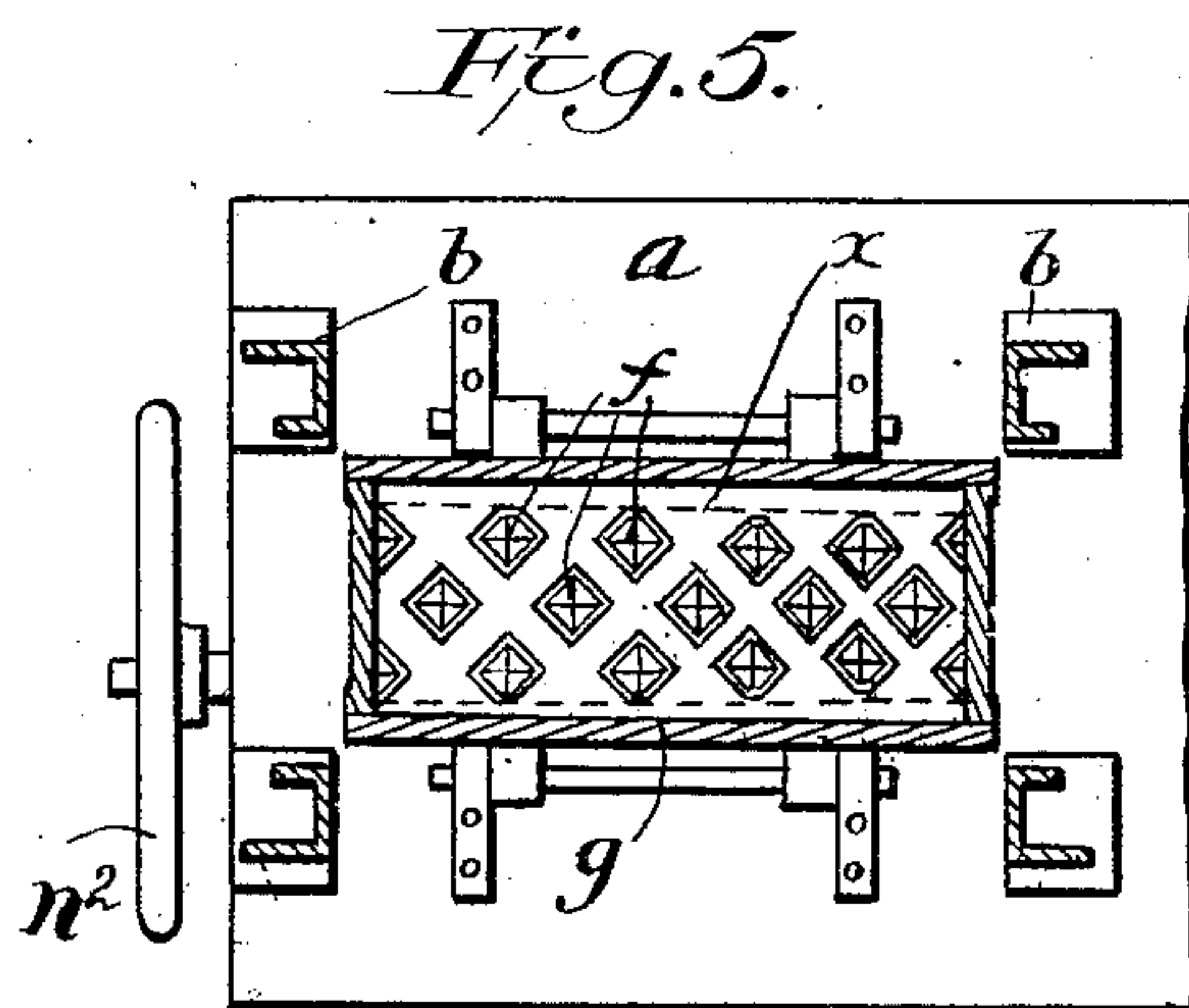
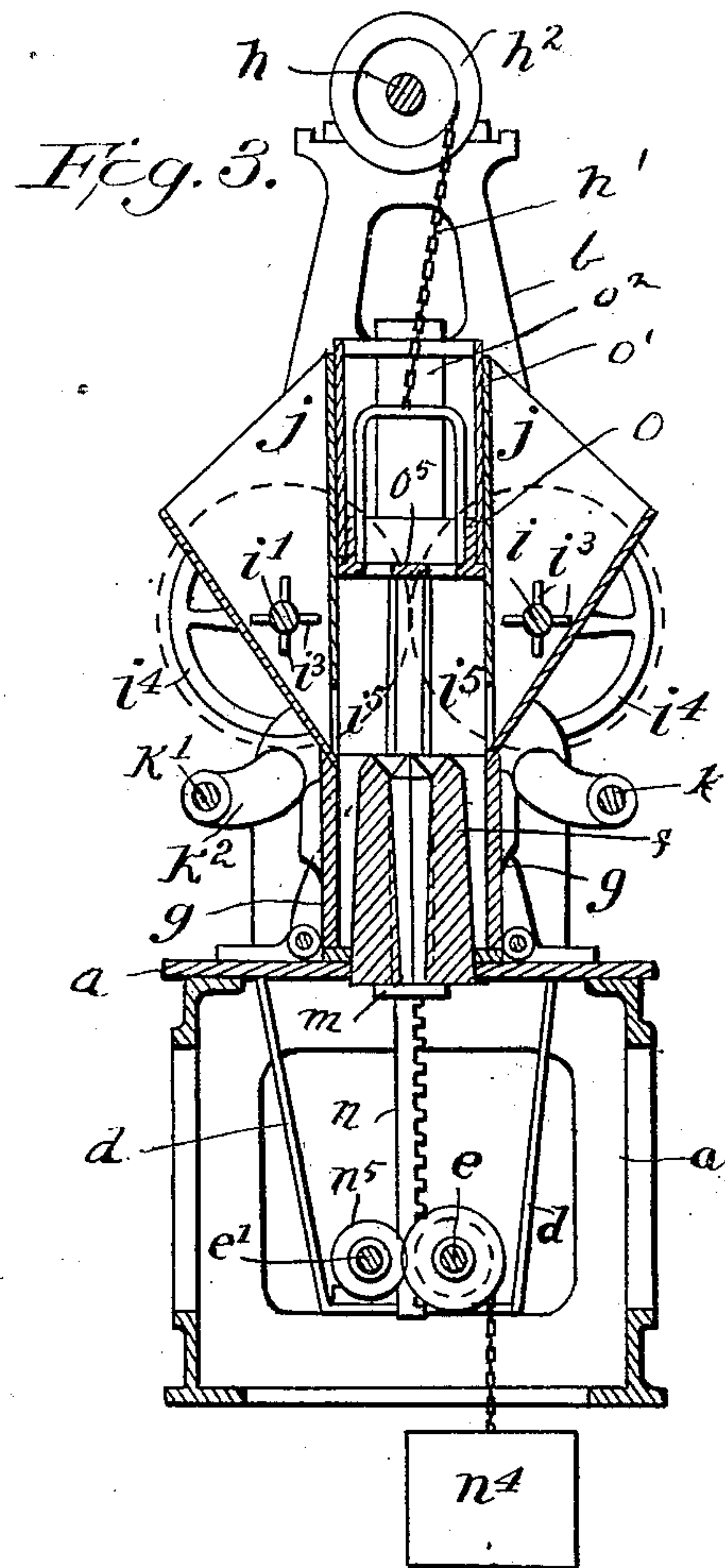
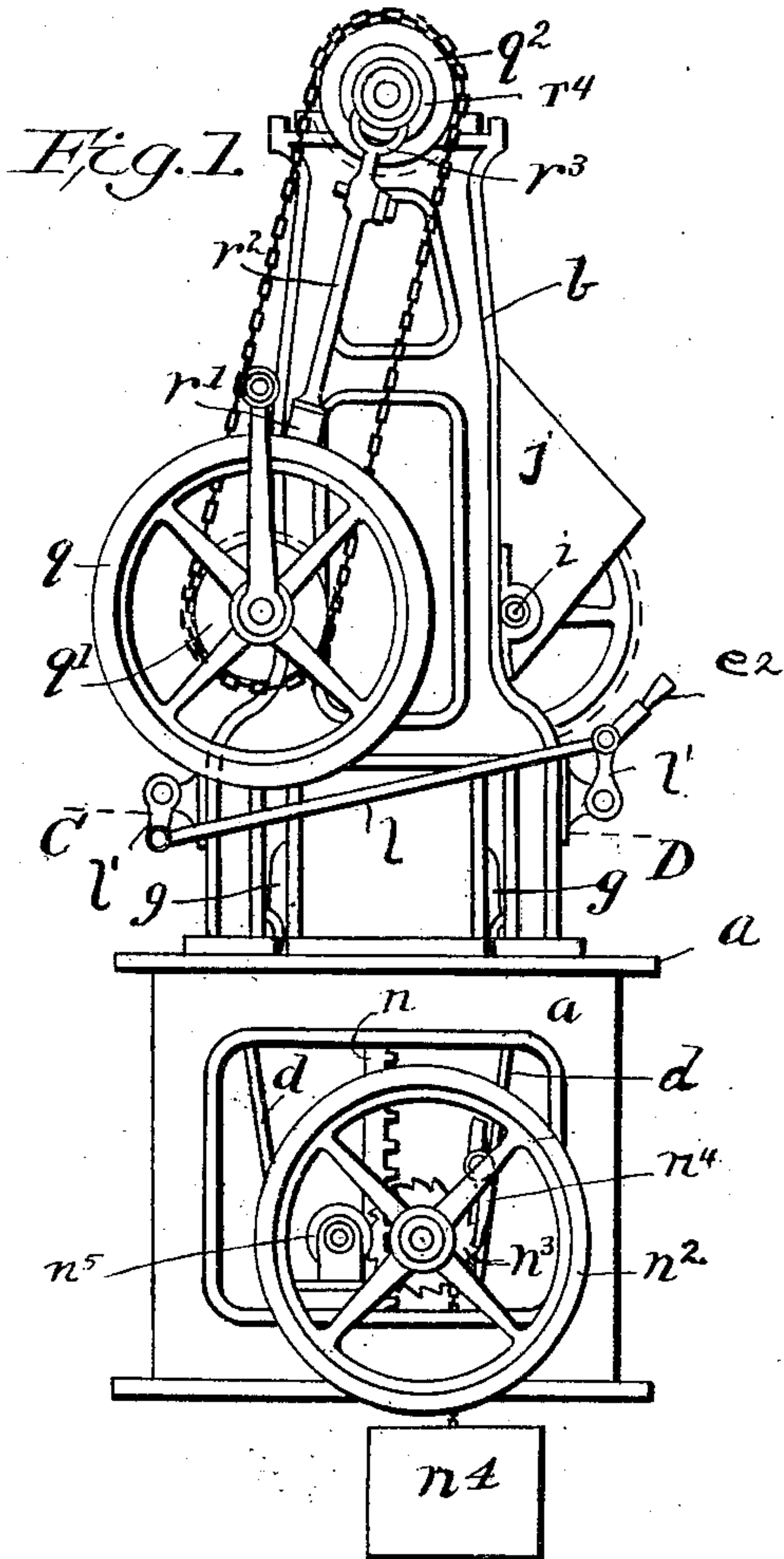
W. G. BAILEY.
MACHINE FOR MAKING CONCRETE BLOCKS FOR BUILDINGS.

APPLICATION FILED FEB. 29, 1908.

921,659.

Patented May 18, 1909.

2 SHEETS—SHEET 1.



Witnesses

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Inventor

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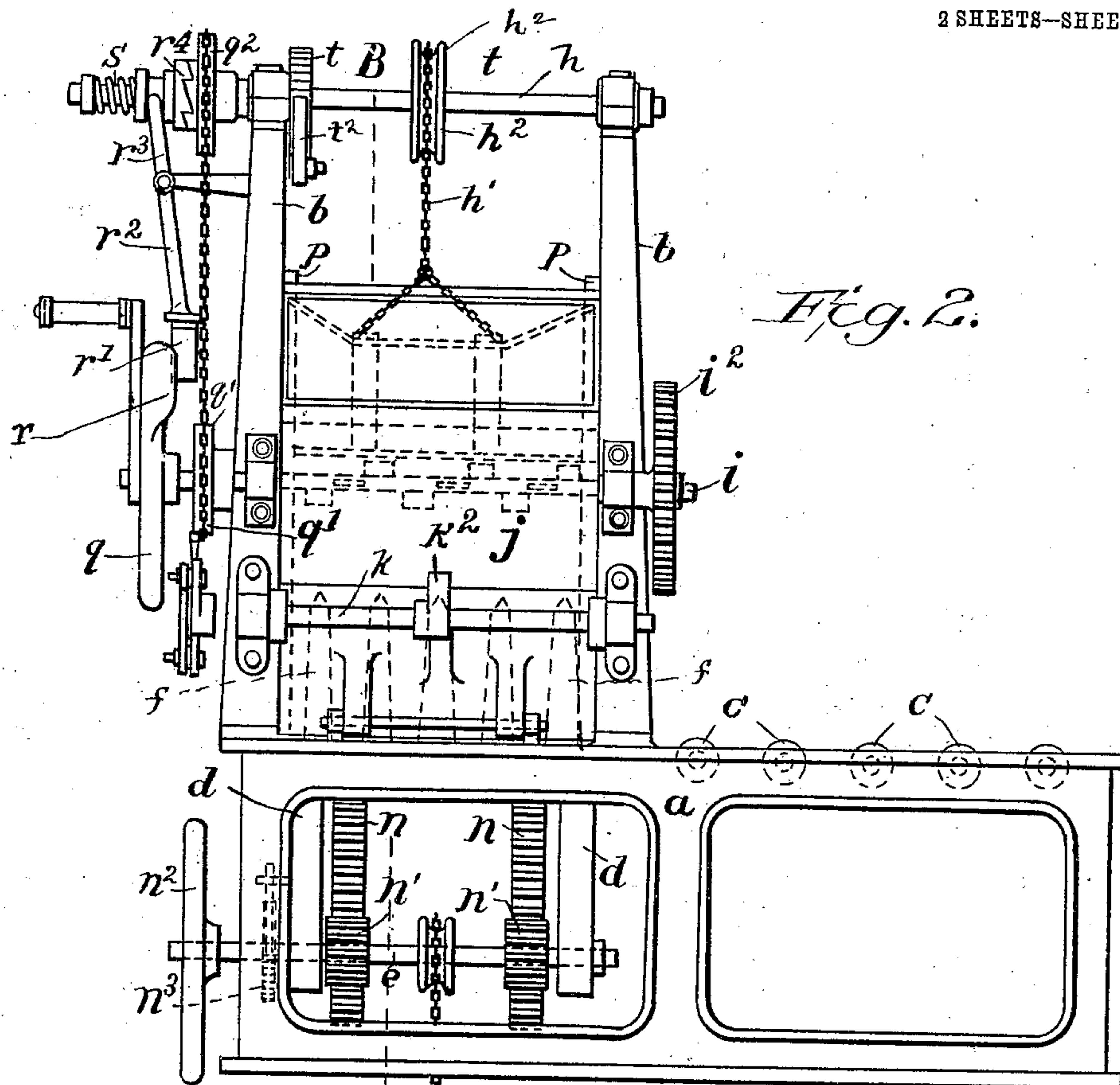


Fig. 2.

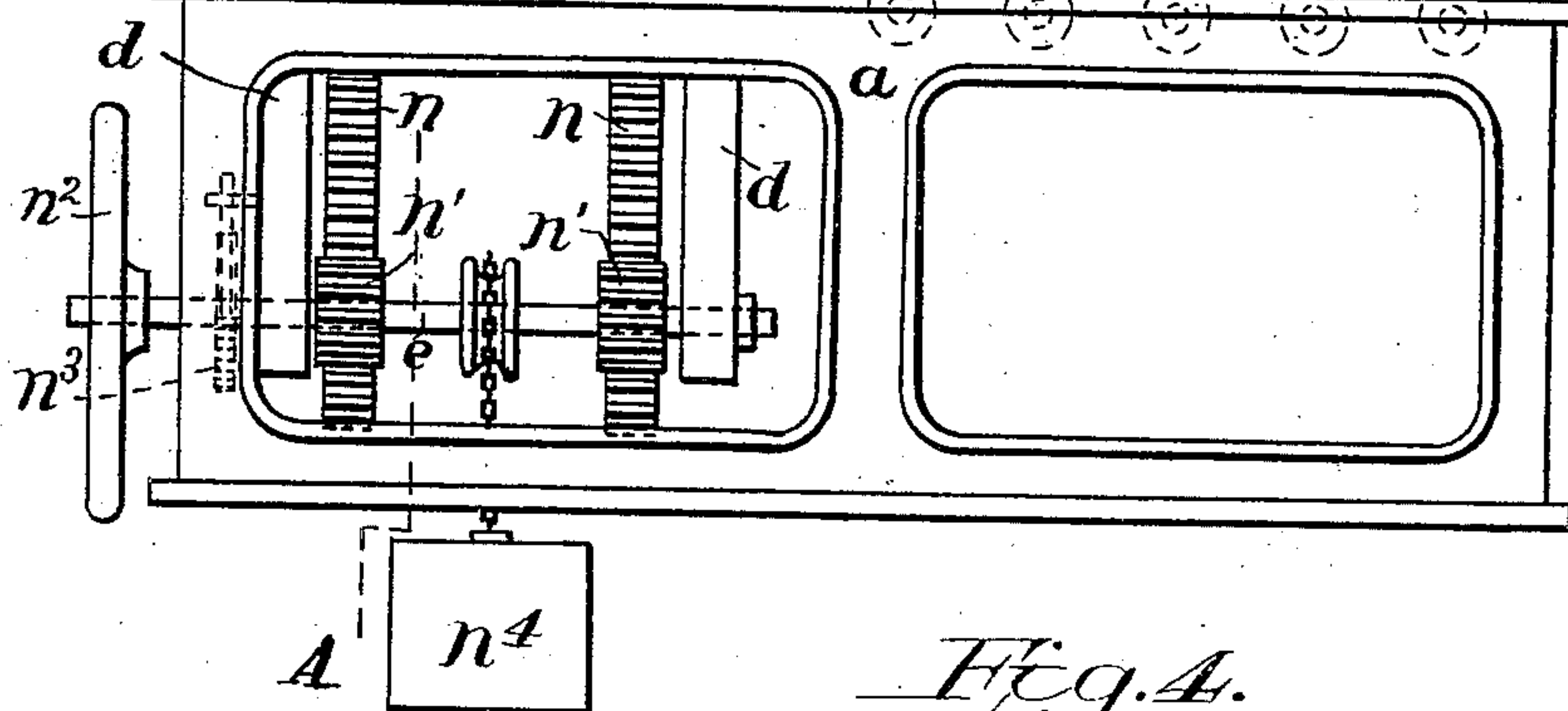
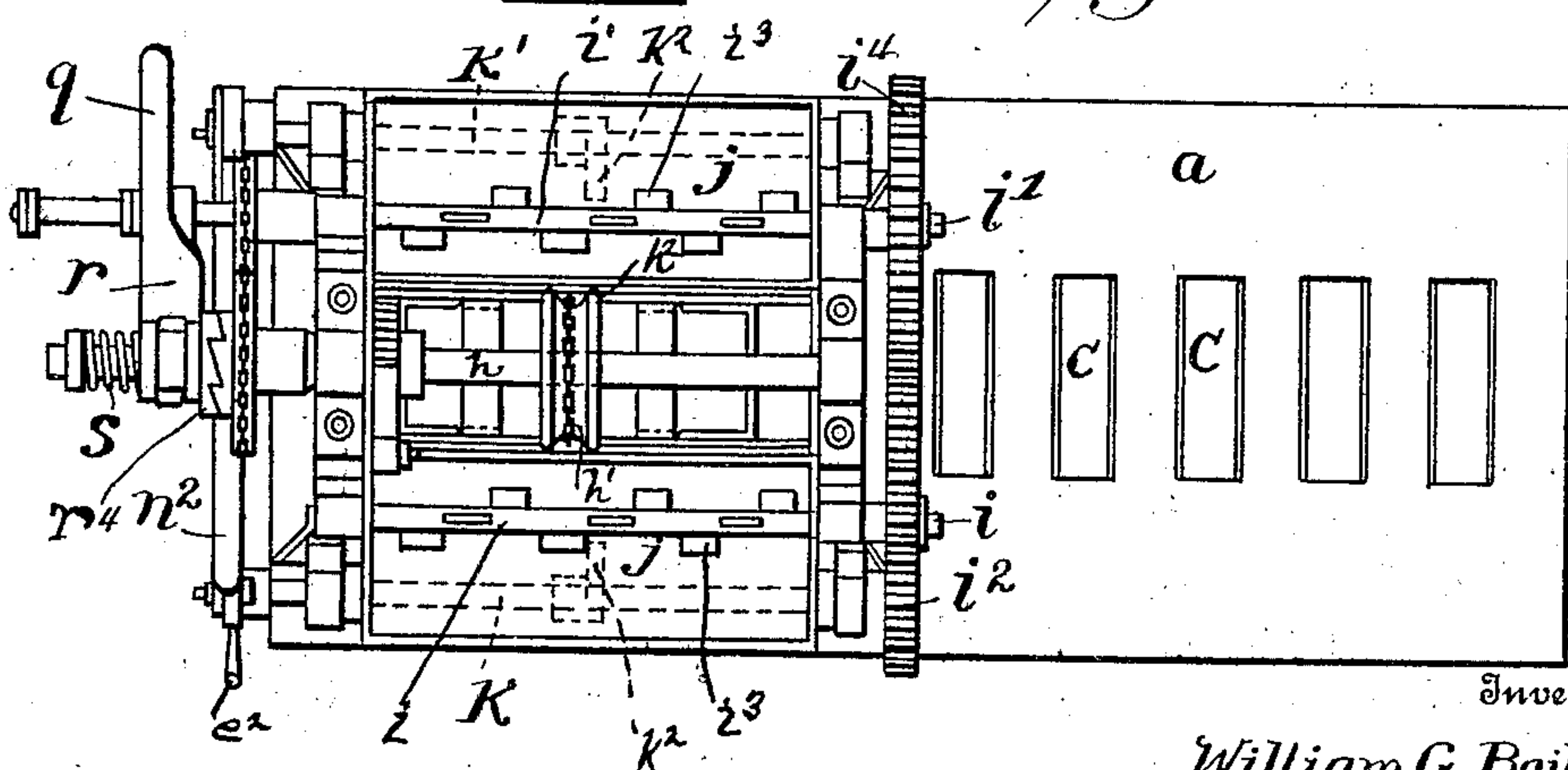


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM GEORGE BAILEY, OF DUBLIN, IRELAND.

MACHINE FOR MAKING CONCRETE BLOCKS FOR BUILDINGS.

No. 921,659.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed February 29, 1908. Serial No. 418,511.

To all whom it may concern:

Be it known that I, WILLIAM GEORGE BAILEY, a subject of His Majesty the King of the United Kingdom of Great Britain and Ireland, residing at Cherryfield, Sandford Road, Dublin, in the county of Dublin, in that part of the United Kingdom called Ireland, have invented an Improved Machine for Making Concrete Blocks for Buildings, &c., of which the following is a specification.

This invention relates to an improved machine for making concrete blocks for buildings etc.

In carrying my invention into effect I proceed substantially as hereinafter described with reference to the accompanying drawings wherein:—

Figure 1, is an end view of the complete machine. Fig. 2, a side view. Fig. 3, is a vertical section through A, B, Fig. 2. Fig. 4, is a plan. Fig. 5, is a horizontal section or line C, D, Fig. 1.

I provide a table *a* of any suitable form and dimensions and carrying standards *b* the table being provided with openings through which protrude rollers or slides *c* for delivering the finished blocks from the mold as will be hereinafter described.

On the under side of the table *a* are hangers *d* carrying the shafts *e*, *e'* and in the table *a* openings for the passage of the cores *f*, and also for hinges of the hereinafter mentioned doors.

The standards *b* are provided with suitable means for carrying the driving shafts *h* and also the shafts *i* and *i'* which pass through the hoppers *j* and *j'* and carry the beaters or mixers *i³* for distributing the material which is fed evenly from the hoppers into the mold. The said standards *b* also carry the cam shafts *k* and *k'* connected by the rod *l* and the cranks *l'*, one of the cranks being above and the other below the rod *l*, and a handle *e²* being also provided for manipulating the said rod *l*. I provide also a suitable rise and fall table or die *m* with such ends formed thereon, or attached thereto, as will form the ends of the block at the required distance apart. The said table or die *m* is provided with suitable shaped cores *f* to form the required spaces in the blocks and is further furnished with suitable racks *n* with which gear the pinions *n'* carried by the shaft *e* which can be rotated by the hand wheel *n²* for raising and lowering the table or die *m*. A ratchet

wheel *n³* and pawl *n⁴* retain the die *m* in its required position and a balance weight *n⁴* is attached by a chain to a pulley on the shaft to facilitate the working of the die *m*. The racks *n* are guided vertically by rollers on the shaft *d* and the doors *g* are hinged to the table so as to fall outward to enable any desired facing to be placed upon their inner faces and to allow the free withdrawal of the block after formation. The doors *g* are retained in their working position or released by the cams or wipers *k²* operated by the connecting rod *l* and handle *e²*.

The rammer or plunger *o*, for compressing the material is formed of a pallet or plate *o⁵* having in it openings to register with the cores *f* to allow of their free passage; the sides *o'* and ends *o²* of the plunger *o* run in suitable guides *p* attached to the frames *b*. A plate or pallet *x* similar to the plate *o⁵* of the rammer, is placed on top of the table *a* and forms a foundation for each block and is removed from the machine with it. The rammer or plunger *o* is raised or lowered by chain *h'* and pulley *h²* carried by the shaft *h*. The shaft *h* is operated by the wheel *q* and a chain passing over the sprocket wheels *q'* and *q²*. When the wheel *q* is rotated the shafts *i* and *i'* are caused to work in opposite directions by means of the wheels *i²* and *i⁴* attached thereto. This causes the material to be fed from the hoppers into the mold by the mixers *i³*. The driving wheel *q* is provided with a cam *r* which strikes the rollers *r'* at each revolution and the said roller *r'* is carried by a suitable vibrating lever *r²* which operates the sliding clutch *r⁴* on a feather on the shaft *h* pressed into position by a spring *s*.

The ratchet *t* and pawl *t²* on the shaft *h* is for the purpose of retaining the plunger *o* in any desired position.

The machine is used as follows:—The pallet *x* is put into position on the machine level with the top of the table, the die raised into position and the side doors closed and locked by the cams. The material for the block is put in the hoppers from both sides or from one side of the machine, the fly wheel is then moved to operate the mixers in the hoppers and move the material to the mouth of the hoppers so as to gradually fill the mold. At the same time it moves the top shaft which lifts the tamper or plunger by means of the chain. The cam on the fly-wheel actuates the arm of the

fork, which in turn operates the clutch so as to cause the plunger or tamper to fall at each revolution of the fly-wheel and to close the mouths of the hoppers and prevent any material going into the mold. On its upward stroke the mouths of the hoppers are re-opened and a quantity of material again ejected into the mold. When all the material in the hopper has been discharged and the block "tampered" sufficiently to form it into a homogeneous mass, the machine is stopped, the doors opened and die lowered and the block pushed forward on the pallet across the rollers on the table end of the machine and then removed to be tempered and dried.

Claims.

1. A molding apparatus comprising a table, a platform movable therethrough and provided with cores, a mold surrounding said portion of the table through which the platform moves, standards carried by said table, a shaft in the upper-portion thereof, hoppers carried by the standards and delivering material into said mold, a rammer slidably mounted between said standards and having a connection with said shaft, shafts extending through said hoppers and carrying stirrers, mechanism for rotating the upper shaft to raise said rammer and to release said shaft when a predetermined point has been reached, and a connection between said shaft operating mechanism and the shafts of the hoppers whereby material is forced therefrom when the rammer is raised.

2. A molding machine comprising a table, a platform vertically movable therethrough and carrying cores, a molding frame surrounding the portion of the table through which said platform moves, standards carried by the table, a power shaft mounted in the standards, hoppers carried by the standards, a rammer slidably mounted between said standards and having a connection with the power shaft, shafts extending through the hoppers, an operating wheel mounted on the end of one of the hopper shafts and provided with a cam surface, a connection between the shaft carrying the operating wheel and the power shaft, and a trip lever which is actuated by the cam surface of the operating wheel to break the connection between the power shaft and the said hopper shaft carrying the operating wheel.

3. A molding machine comprising a mold, a core-carrying platform vertically movable therethrough, a power shaft, a rammer having a connection with said shaft, hoppers for delivering material to said mold, shafts extending through said hoppers and carrying stirrers, and a connection between one of said hopper shafts and the power shaft whereby the said rammer is dropped when a predetermined height has been reached.

4. A molding machine comprising a mold having a hinged side, a core-carrying platform vertically movable therethrough, a rammer cooperating with said mold, hoppers for delivering material to said mold, a power shaft having a connection with said rammer, clutch mechanism carried by the power shaft, shafts extending through the hoppers, a connection between one of the hopper shafts and said clutch mechanism which permits the shaft to be rotated to raise said rammer, and cam actuated lever mechanism for operating said clutch mechanism to break the connection between the hopper shaft and the power shaft to cause said rammer to fall by gravity.

5. A molding machine comprising a mold frame, a core-carrying platform vertically movable therethrough, a power shaft arranged above said mold frame, a vertically movable rammer cooperating with said mold frame and having a cable connection with the power shaft, hoppers for delivering material to said mold frame, shafts extending through said hoppers, an operating wheel mounted on one of the hopper shafts and provided with a cam surface, clutch mechanism having one member fast on the power shaft and the other loose thereon, a trip lever having one end in engagement with the fast member of said clutch and its other end adapted for engagement with the cam surface of the operating wheel, and a connection between the loose member of the clutch mechanism and the shaft of the operating wheel, whereby the power shaft is released when the rammer has reached a predetermined height.

6. A molding machine comprising a table, a core-carrying platform vertically movable therethrough, standards carried by said table, a power shaft mounted in the upper ends of said standards, a clutch thereon consisting of a loose member and a slidable member, hoppers for delivering material to the mold platform, shafts extending through said hoppers and carrying stirrers, an operating wheel carried by one of the hopper shafts and provided with a cam surface, a trip lever carried by one of the standards and having one end in engagement with the slidable member of the clutch and its other member normally in the path of movement of the cam surface of the operating wheel, a rammer slidably mounted between the standards and having a cable connection with the power shaft, and a connection between the shaft of the operating wheel and the loose member of the clutch, whereby when the cam surface of the operating wheel contacts with the trip lever the clutch members will be disengaged and permit the power shaft to revolve freely and thereby allow the rammer to drop.

7. A molding machine comprising a mold-

ing table, a molding platform movable therethrough and carrying cores, standards carried by said table, a power shaft mounted in the upper portion of the standards, clutching members mounted on said power shaft, one of said clutching members being a loose one and the other a spring pressed slidable one normally held in engagement with the loose member, hoppers for delivering material to the molding platform, and having shafts extending therethrough carrying stirrers, an operating wheel carried by one of the hopper shafts and provided with a peripheral cam surface, a trip lever carried by one of the standards and having one end in engagement with the spring pressed slidable clutch member and the other end in the path of movement of the cam surface of the operating wheel whereby the slidable member is disengaged from the loose member when the said cam surface of the operating wheel contacts with one end of the trip lever, a chain connection between the operating wheel shaft and the loose member of the clutch, and a rammer slidably mounted between the standards and having a cable connection with said power shaft.

8. A molding machine comprising a table, a platform vertically movable therethrough and provided with cores, a molding frame surrounding the portion of said table through which said platform moves, stand-

ards carried by said table, a power shaft mounted in the upper portion of said stand- 35
ards, a rammer slidably mounted between said standards and having a cable connection with said power shaft, clutch mechanism carried by the power shaft and composed of a loose member and a spring 40
pressed slidable member normally held in engagement with the loose member, hoppers for delivering material to the molding frame, stirrer shafts extending through said hoppers, an operating wheel mounted on one of 45
said stirrer shafts and provided with a peripheral cam surface, a connection between the operating wheel shaft and the loose member of the clutch, and a trip lever carried by one of the standards and having one 50
end in engagement with the slidable member of the clutch and its other end held in the path of movement of the cam surface of the operating wheel, whereby contact between 55
said trip lever and the cam surface of the operating wheel will disengage the clutch members and permit the power shaft to freely revolve.

In testimony whereof I have signed my name to this specification in the presence of 60
two subscribing witnesses.

WILLIAM GEORGE BAILEY.

Witnesses:

C. F. HENRY,
M. G. STEWART.