

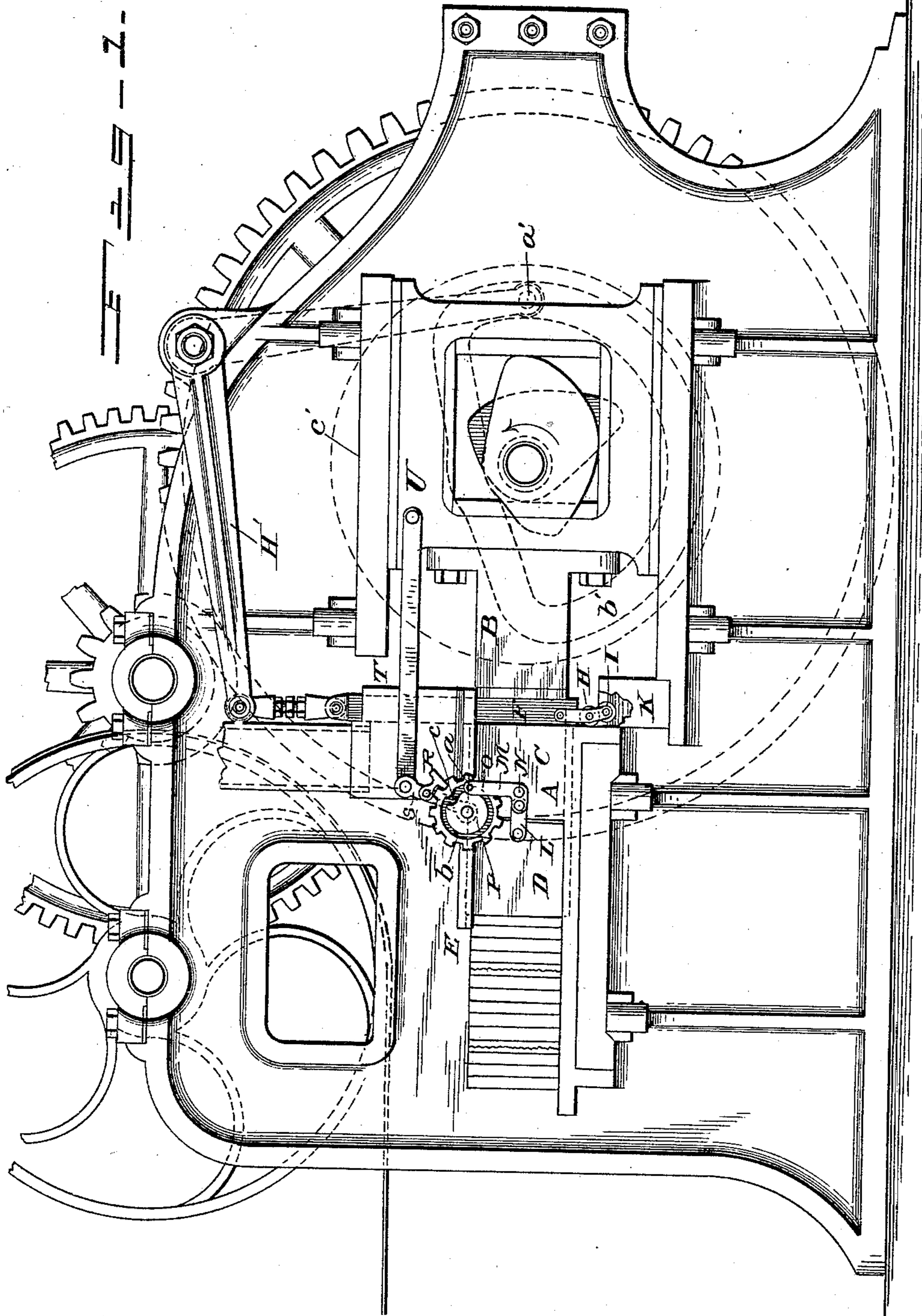
(No Model.)

2 Sheets—Sheet 1.

J. C. ANDERSON.
MACHINE FOR MAKING BUILDING BLOCKS.

No. 411,413.

Patented Sept. 24, 1889.



Witnesses,
Henry Frankfurter,
H. W. Atwood

Inventor,
J. C. Anderson
BY
E. M. Furabaugh
att'y.

(No Model.)

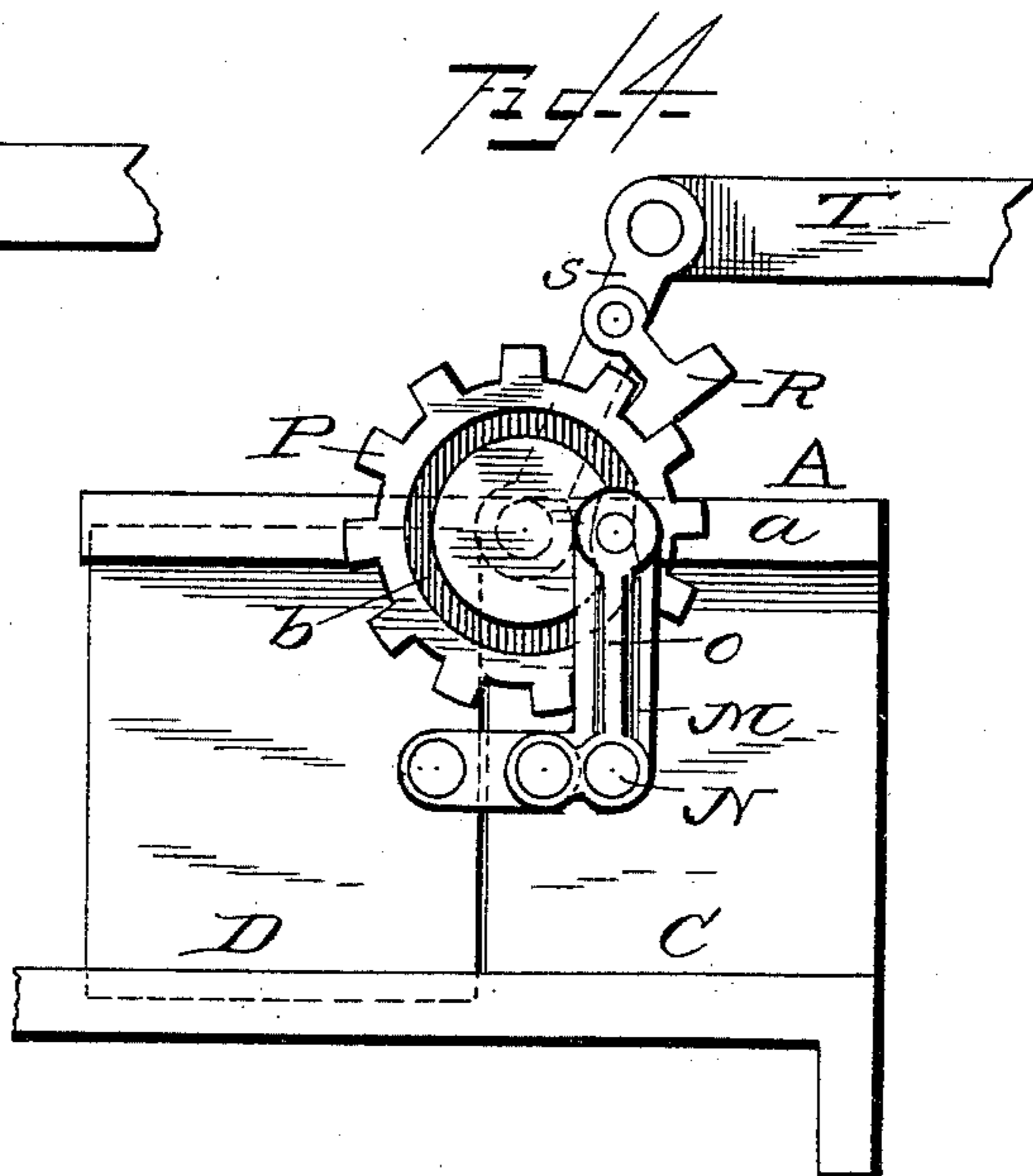
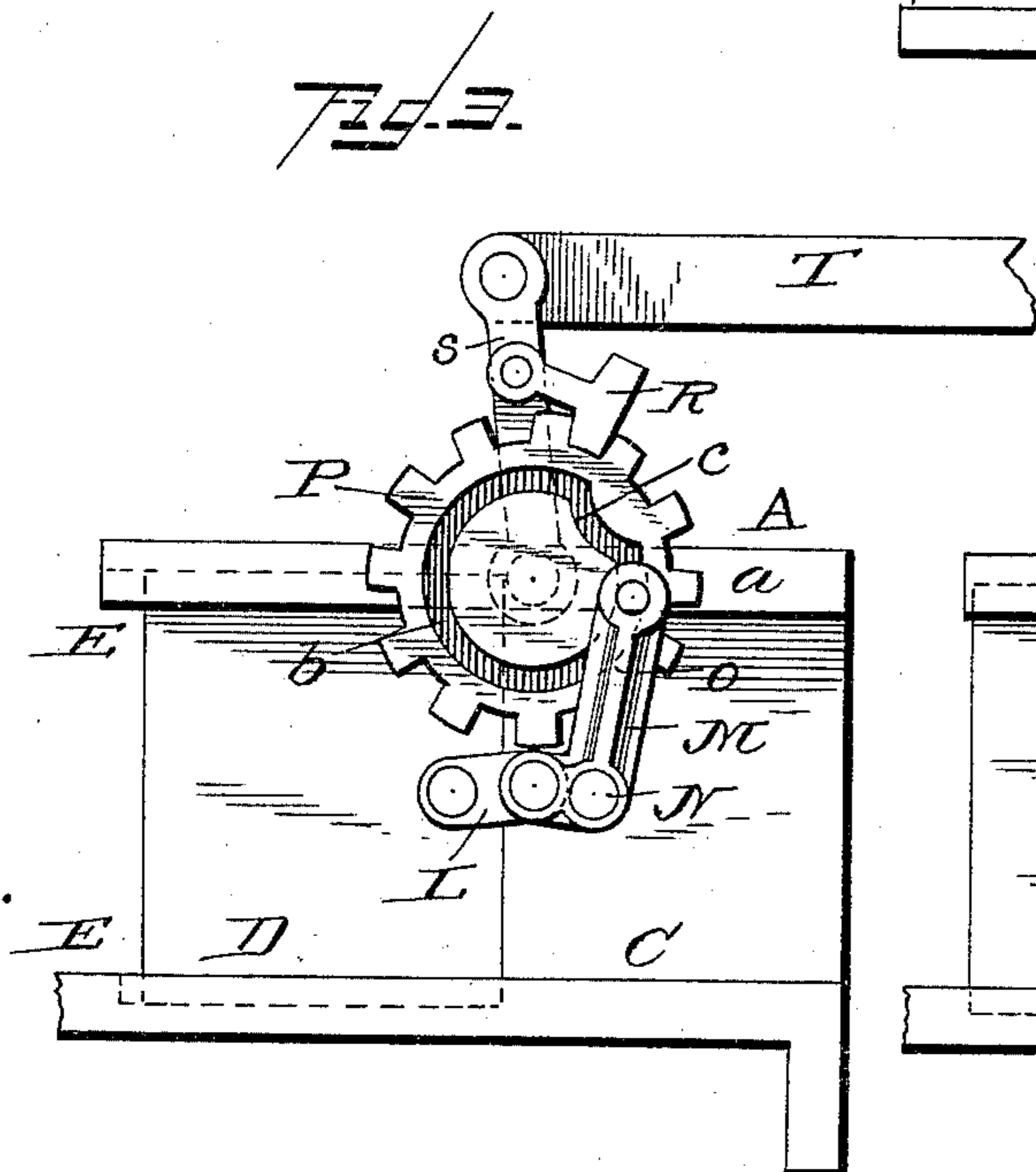
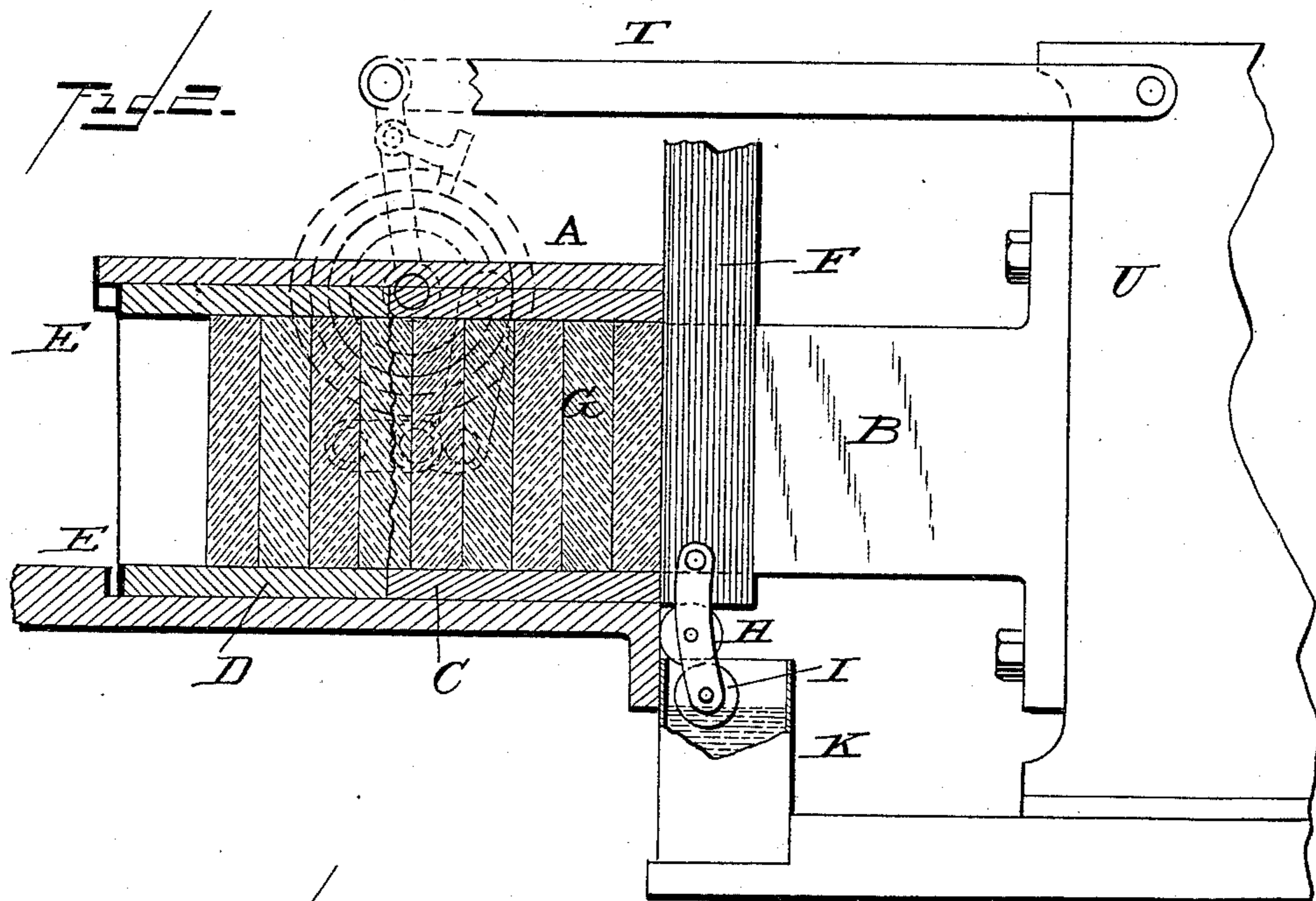
2 Sheets—Sheet 2.

J. C. ANDERSON.

MACHINE FOR MAKING BUILDING BLOCKS.

No. 411,413.

Patented Sept. 24, 1889.



Witnesses
F L Ourand

H. M. Sterling

Inventor
J. C. Anderson

BY
E. M. Ginsburgh
Attorney

UNITED STATES PATENT OFFICE.

JAMES C. ANDERSON, OF HIGHLAND PARK, ILLINOIS.

MACHINE FOR MAKING BUILDING-BLOCKS.

SPECIFICATION forming part of Letters Patent No. 411,413, dated September 24, 1889.

Application filed December 4, 1888. Serial No. 292,582. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. ANDERSON, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented new and useful Improvements in Machines for Making Clay Building-Blocks; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in machines for making blocks and bodies of clay for building and other purposes, in imitation of stone.

The object of my invention is to provide a machine which will produce blocks or bodies from clay, having a roughened or granulated surface, representing the natural cleavages of stone as well as the natural colors.

My invention consists in the arrangement of parts and details of construction, which will be fully hereinafter described, and pointed out in the claims.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a longitudinal sectional view of the mold-box in which the bricks are formed, and a side view of the mold charger and plunger. Fig. 3 is a side view of the mold-box, showing the movable section in its forward or closed position. Fig. 4 is also a side view of the mold-box, showing the movable section in an opened position.

In an application filed by me April 19, 1888, Serial No. 271,193, I have shown, described, and claimed a machine for making large bodies or blocks of clay, said bodies or blocks being made up of thin slabs or layers of clay, the same being caused to adhere together by means of a slip or welshed surface.

In the machine above referred to the die or mold-box is open at one end, and as each layer of clay is pressed onto the previously pressed and compacted body the said body is forced through the mold-box and has its exit at or through the open end of the mold-box.

In carrying out my invention I use essentially the same machine with the shafts, wheels, cams, levers, &c., for operating the plungers, clay-charger, and other portions of

the machine, and only such parts are shown here as serve to carry out my method.

A indicates the mold-box in which the articles are compressed by the plunger B, said mold-box being divided into two sections C and D, the section C being firmly secured to the frame of the machine, while the section D is capable of a slight longitudinal movement, and is guided in said movement by suitable guides or ways E, so as to prevent said section from moving in a transverse direction.

The plunger B works through the charger F to press the clay therefrom onto the previously-formed clay body. Said charger, when it returns to its upper position to receive its charge from the clay-box, carries with it the slip-rolls H and I, which moisten or deposit a layer of slip onto the clay-slab last pressed, the rolls H and I receiving the slip or moisture from the tank K. The clay-charger F and the slip-depositing rolls H and I are operated by the bell-crank lever H', one arm of which is connected to the upper portion of the charger, while the other arm is provided with a stud *a'*, which projects into the cam-groove *b'* on the side of the wheel C'. (Shown in dotted lines in Fig. 1.)

I will now proceed to describe the devices by which the clay bodies are torn into blocks of the desired size, so as to form the roughened or fractured surface. The section D of the mold-box is connected to the section C by means of links L and bell-crank lever M, one on each side, the point of union between the links L and levers M forming a toggle-joint. The bell-crank levers M are pivoted to the side of the sections C of the mold-box, as shown at N, while the long arm O of said lever projects upward and is provided with a stud *a*, which extends out to one side and enters the groove *b* in the ratchet-wheel P. The ratchet-wheel P is mounted in suitable bearings and provided with ratchet-teeth adapted to receive the pawl R, said pawl being pivoted to the rocking levers S. The lower end of the lever S is pivoted to the axis of the ratchet-wheel or to any other suitable point, while its upper end is secured to the end of the pitman T, the other end of the pitman being secured to the yoke U, to which

the plunger B is attached and by which the plunger is operated.

The lever S may be extended upward and provided with holes to receive a bolt for connecting the pitman T thereto at any desired point, so as to regulate the throw of said lever and cause the pawl to pass over one or more of the notches or teeth in the ratchet-wheel at one operation or thrust of the plunger.

The groove *b* in the ratchet-wheel P is concentric with the axis of said wheel, except at the point *c*, where an offset is formed on the outer wall of said groove, which, coming in contact with the stud *a* on the bell-crank lever, causes the same to rock back and forth, moving the section D toward and from the section C to tear or sever the clay body at that point. A slab of clay is pressed upon the previously-formed slab at each forward movement of the plunger and caused to adhere to the same by means of the layer or coating of slip or moisture deposited by the rolls H and I, so that the block produced is practically a solid one. The connections between the ratchet-wheel and yoke U are such that at each backward movement of the plunger the ratchet-wheel is moved one or more teeth. The pin *a* on the lever M, traveling in the plane or circular portions of the groove *b*, allows or admits the clay slabs to be formed or compacted together; but when the stud *a* reaches the point *c* in the slot the upper end of the bell-crank lever is thrown forward, as shown in Fig. 4, and causes the links L and the portion of the bell-crank lever connected to it to assume a horizontal line. This forces the section D away from the section C, and tears the clay body apart on the line with the end of the section C, thus causing a fracture between the portions severed representing the natural cleavage of stone. After the stud *a* has passed the point or short curve *c* in the groove *b*, the upper end of the lever is thrown back, bringing the section D in contact with the section C and pressing the fractured faces of the clay bodies together again, so as to press the granules of clay which have become loosened by the fracture into the faces of the blocks and giving to the same a firm texture or skin and at the same time presenting the full granular roughened surface, and when the burning has taken place the granules become so firmly fixed that no possible disintegration can take place by thermal changes or osmotic action.

The ordinary clay for making red brick

may be used; but I prefer to use a pure clay mixed with metallic oxides, which will give the desired color to imitate brownstone, gray-stone, granite, or any of the plain-colored stones, and by the use of clays of different color I produce an imitation of onyx, jasper, and, in fact, all kinds of variegated stones.

It will of course be understood that the frictional contact and resistance of the sides of the clay body on the mold-cavity are stronger than the power necessary to break or tear the body apart, and that a clean fracture is made at the point where the sections C and D join each other. In making large bodies of clay to represent stone window and door caps and sills the section may be divided longitudinally and hinged together, so as to fracture or tear the body in two lengthwise and at right angles to the points where the small slabs of clay are cemented together.

In applications filed of even date herewith, Serial Nos. 292,583 and 292,584, I have claimed the process of making brick with faces in imitation of stone, and also the article, and such I do not claim in this application.

What I claim is—

1. A machine for making clay blocks having a face representing the natural fracture of stone, consisting of an elongated open-ended molding-chamber, in which the clay bodies are formed by a series or successive layers of clay, said mold-box being in two parts and adapted to break the clay body into blocks or slabs, as set forth.

2. In a machine for making clay blocks with a face representing the natural fracture of the stone, a mold-box divided into two parts, one part being adapted to be moved away from the other to break or tear the clay body into two parts.

3. In a machine of the character described, the movable mold-section D, connected to the section C by means of the link L and bell-crank lever M, in combination with the ratchet-wheel P, having the groove *b*, as set forth.

4. In a machine of the character described, the pitman T, lever S, pawl R, pinion-wheel P, having the groove *b*, in combination with the bell-crank lever M, link L, and mold-sections C and D, as set forth.

In testimony whereof I affix my signature in the presence of two subscribing witnesses.

J. C. ANDERSON.

Witnesses:

L. W. SINSABAUGH,
H. M. STERLING.