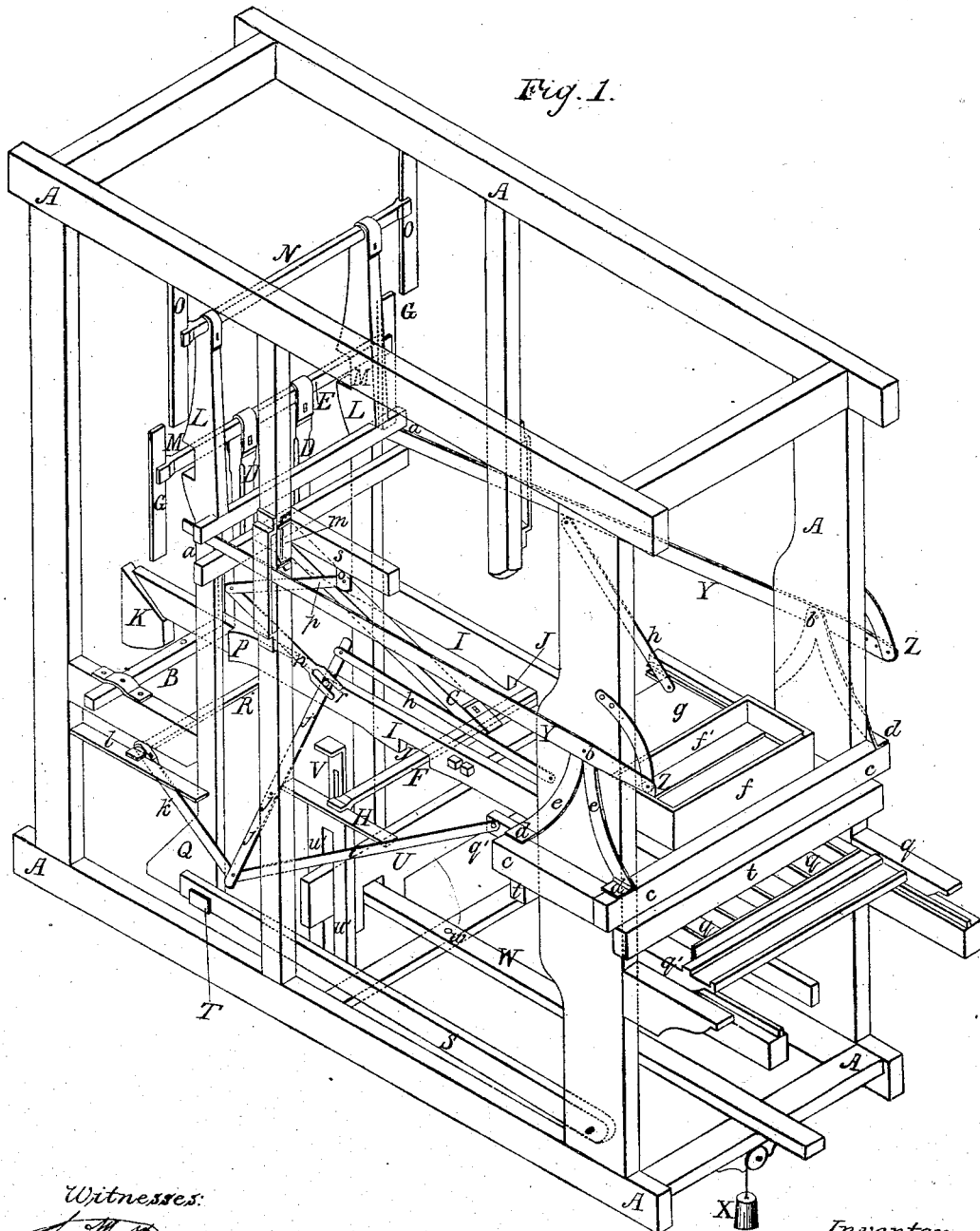


D. CARPENTER.

BRICK MACHINE.

No. 1,263.

Patented July 26, 1839.



Witnesses:  
*[Signature]*  
*George S. Halsted*

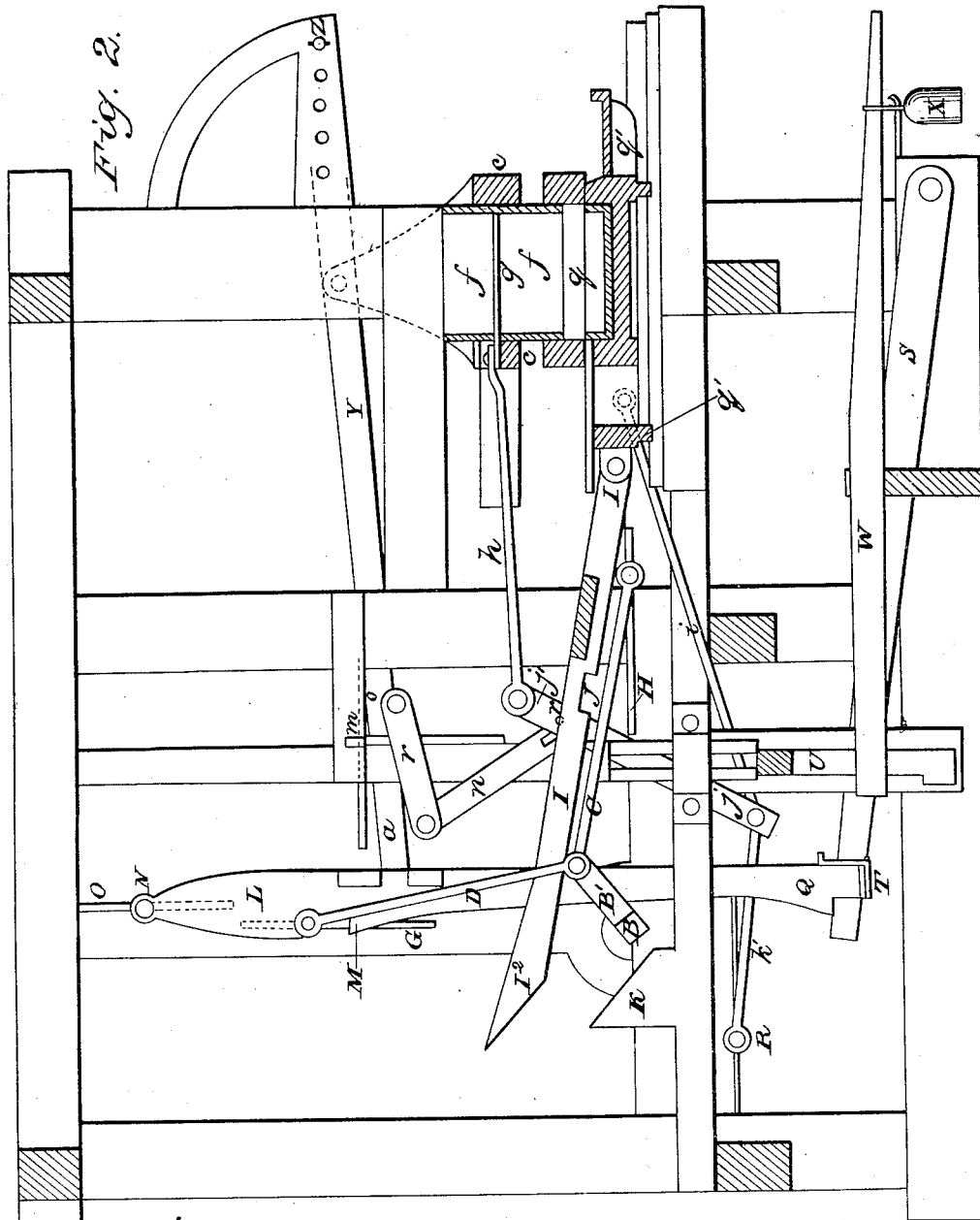
Inventor:  
*Daniel Carpenter*

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Inventor:

*Daniel Carpenter*

# UNITED STATES PATENT OFFICE.

DANIEL CARPENTER, OF COURTLAND, NEW YORK.

## BRICK-MACHINE.

Specification of Letters Patent No. 1,263, dated July 26, 1839.

*To all whom it may concern:*

Be it known that I, DANIEL CARPENTER, of Courtland, in the county of Westchester and State of New York, have invented a new and useful Machine for the Purpose of Manufacturing Brick, and which I denominate the "Self-Regulating Brick-Machine;" and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawings Figure 1 is a perspective view of the machine, and Fig. 2, a section thereof in a vertical direction, from front to back.

In both these figures like parts are designated by the same letters of reference.

A, A, represents the frame-work of the machine, strongly framed together, of wood, although it may be made of iron if preferred.

B, is the main shaft to which the power is to be applied to operate the respective parts of the machine, B', being the crank which works the two connecting rods C, and D, the former carrying a slide in a horizontal, and the latter one in a vertical direction.

E, is a cross-head carried by the connecting rods D, and guided by the slides G, G, attached to the frame of the machine, the uprights to which they are attached, as well as some other portions of the frame being omitted in the drawing for the purpose of showing parts which would otherwise be obscured.

H, is one of the slides of the cross-head F. This cross-head is intended to work the mold carriage backward and forward, which it does by its being received within the notches *j, j*, of the mold shafts J, J, which mold shafts are attached by joint pins at J', to the mold carriage, thus allowing them to rise and fall when required in the operation of the machine. The back ends I<sup>2</sup>, of the mold shafts, are beveled off, as shown in the drawing, and when the mold carriage has been drawn back to the proper point for the press to operate and fill the molds with clay, the shafts come into contact with the stationary, inclined pieces K, which are attached to the frame-work of the machine, and these raise the mold shafts so as to relieve them from the action of the cross head F, until such time has elapsed as is necessary to fill the molds with clay, when they are again thrown into gear.

The cross head E, which slides vertically carries the two pieces L, L, which I denomi-

nate the pitmen, upon which pitmen it operates by means of the notches M, M. The pitmen are connected, at their upper ends, with the cross head N, which is guided by the slides O, O, attached to the frame of the machine; by this arrangement, when the cross head E, is within the notches M, M, the pitmen L, L, will move up and down with it in a direction nearly perpendicular. Each of the shafts of the mold carriage has on it a cleat, or projection P, which when the shafts are drawn back is brought into contact with the pitmen, and causes them to engage with the cross head E, which enters the notches M, M. At the lower end of each of the pitmen there is a projecting piece Q, having its edge, regularly inclined, as shown in the drawing; these pieces, at the time when the pitmen are to be thrown out of gear with the cross head E, come into contact with the cross head R, which is operated in a manner to be presently described.

At T, the pitmen are connected each to a bar, or lever S, which levers work on a joint pin at their opposite ends. To these bars, or levers, the pitmen are connected at T, by means of a hook, or clip, which allows them to slide back and forth upon the levers as they are thrown into, and out, of gear. The levers S, rise and fall with the rise and fall of the pitmen, but it is necessary to provide for the easy throwing the machine out of, and into, gear, which is done by the foot of the workman, by means of the apparatus to be now described.

A piece of wood, or other material, marked U, in the drawing, crosses the machine, and has its lower edge resting on the levers S, S, and rises and falls with them; upon the upper side of the piece U, rest the lower ends of two pieces V, V, which I denominate lifters, one under each of the shafts I, I; which lifters serve to throw the machine out of gear by raising said shafts, and freeing them from the cross-head F, thereby allowing the cross head to slide backward and forward without carrying the shafts and their appendages. The piece U, which I call the drop, slides up and down, and is also capable of being moved endwise, between guide pieces *u', u'* permanently attached to the frame, one on each side thereof.

W, is a lever moving laterally, and having its fulcrum at *w*. A spring, or weight, as at X, serves to throw the machine out of gear, and by moving this lever back, which

may be done by the foot of the attendant, it is at once thrown into gear, by the lateral motion of the drop U; when the machine is in gear the lifters V, V, do not rest upon the drop U, there being vertical grooves made in this piece which admit the legs or shank V, V, of the lifters, and allow the piece U, to traverse up and down without raising them.

Y, Y, are levers, one end of each of which is worked up and down by the action of the pitmen L, L, their ends being received between two pieces attached to said pitmen, as shown at *a, a*; these levers have their fulcrum at Z, Z, which may be made adjustable for the purpose of increasing or decreasing the pressure.

*b, b*, are joint pins by which the pressing frame *c, c*, is attached to the levers, being firmly secured by bolts at *d, d*, on the lower ends of the arms *e, e*. To receive the prepared clay for the purpose of filling the molds, a box *f, f*, open at top and at bottom, is firmly attached to, and constitutes a part of, the pressing frame *c, c*; a sliding plate *g*, guided by grooved pieces *h*, attached to the press frame passes through a slot along the back piece *f'*, of the box, and is within the said box at the period of the descent of the pressing frame, when the molds *q, q*, are to be filled. The sliding table *q', q'*, upon which the molds are placed are operated by the shafts I, I, as before described.

The following is the arrangement of the apparatus employed by me for working the sliding plate *g*: A rod or lever *i*, is connected by a joint pin with the sliding table *q'*, by one end, and at the other to a lever *j*, having its fulcrum at *j'*. The upper end of this last rod, or lever, is jointed to the rod *h*, which at its opposite end carries the plate *z*, passing it into the pressing frame at the required period. This apparatus is similar on each side of the machine.

When the machine is thrown out of gear, and the press levers Y, Y, are raised, it is necessary to sustain them, and the pressing frame, for which purpose I employ a latching apparatus, marked *m*, in the drawing; when the latch part *m* is pushed out it catches under, and holds, the levers Y, Y; and when it is drawn in it allows them to pass up and down freely.

*s*, is a sliding box within which there is a wedge formed slide, operated by the piece *o*, which is attached to it, and forces the latch piece *m* back as it advances, when the machine is in gear; said latch piece is forced forward by a spring or weight, when not counteracted by the wedge-formed slide. As the action of the combined levers for working the plate *g* is effected by that of the sliding table *e'*, and as the rods *n, n*, and *p, p*,

which operate the latch slide, by means of the pin *r*, receive their motion from that of the lever *j*, the latches will remain out, and sustain the levers Y, Y, when the machine is not in gear.

The cross head R, the office of which has been already explained, is operated by the levers *k'*, from the movement of the levers *j*. Slides *l*, attached to the frame, serve to guide this cross head.

Within the stationary part of the pressing apparatus, *t, t*, immediately over the mold, and within which the box of the press works I place a grating through which the tempered clay will readily pass, but which will keep back such stones, or other articles, as by entering the mold, would injure the brick.

In the machine above described, the arrangement of the respective parts, with the exception of the mold, and mold frame. I believe to be new, and of my invention; the mode of using it is to put the prepared clay into the box *f, f*, to remove the filled molds, and to substitute empty ones in their places; and to throw the machine into gear, as soon as the molds have been changed, by placing the foot upon the lever W; these are all the operations which the attendant is required to perform, as in all other particulars the machine is, as I have denominated it, self regulating.

I claim as my invention—

1. The general arrangement and combination of the pressing apparatus, consisting principally of the pitmen and their appendages, with the manner of throwing them into, and out of gear with the cross head by which they are operated; and as combined with and dependent thereon, the manner of working the press for filling the molds.

2. I claim the manner of combining and arranging the shafts of the mold carriage, so as to be operated on by means of the cross head F, and to be thrown out of gear therewith by means of its inclined ends, and the stationary inclined pieces with which they come into contact, as set forth.

3. I claim the general arrangement of the levers as combined with the other parts of this machine for working the plate *g* backward and forward, so as to be in place within the box *f*, at the right time for filling the molds, the proper motion being given to it by the motion of the sliding table.

4. I claim the manner of combining the drop U, the lifters V, and the levers W, so as to operate in the manner, and for the purposes, set forth.

DANIEL CARPENTER.

Witnesses:

BENJ. WARD,  
WM. CARPENTER.