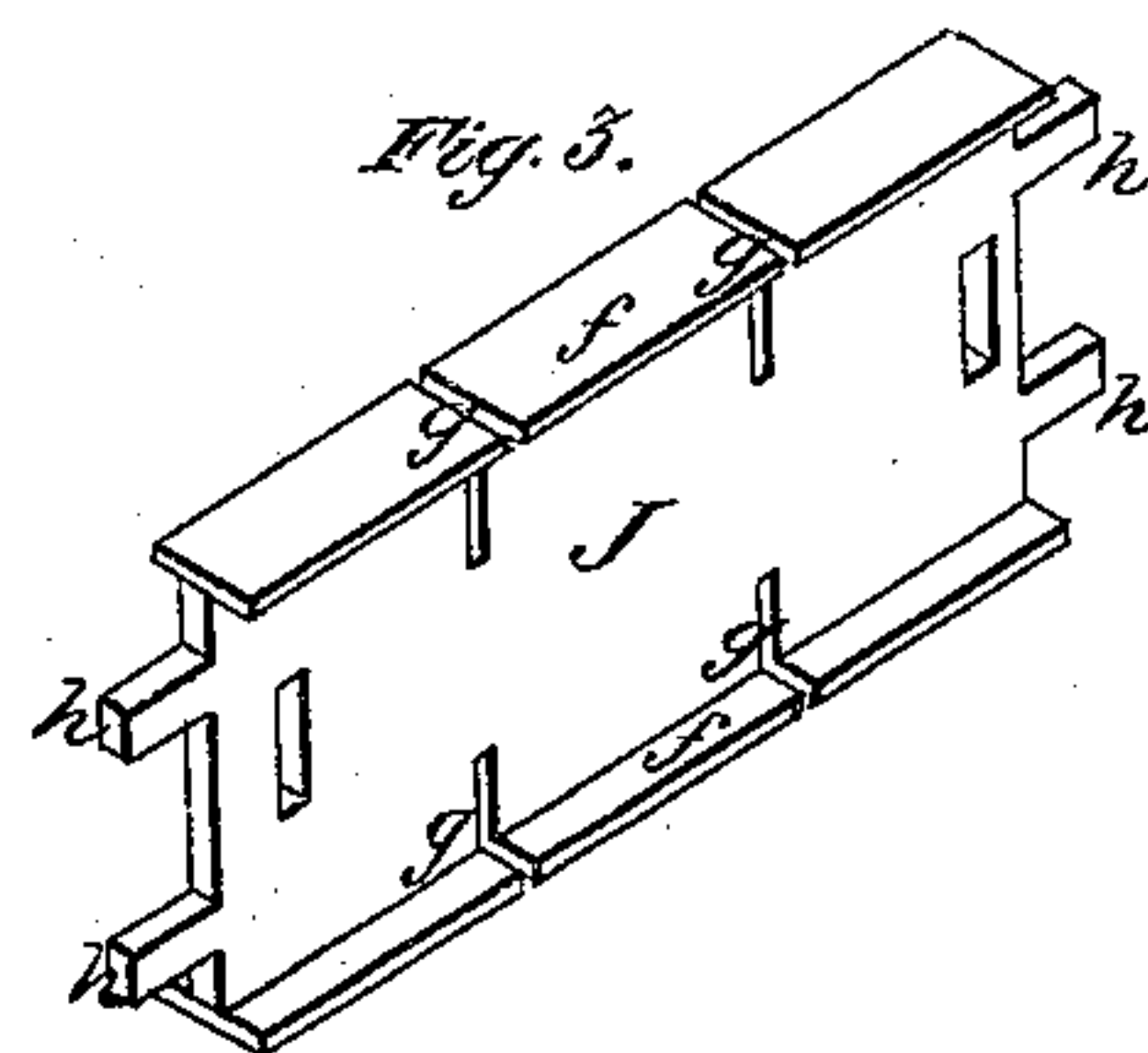
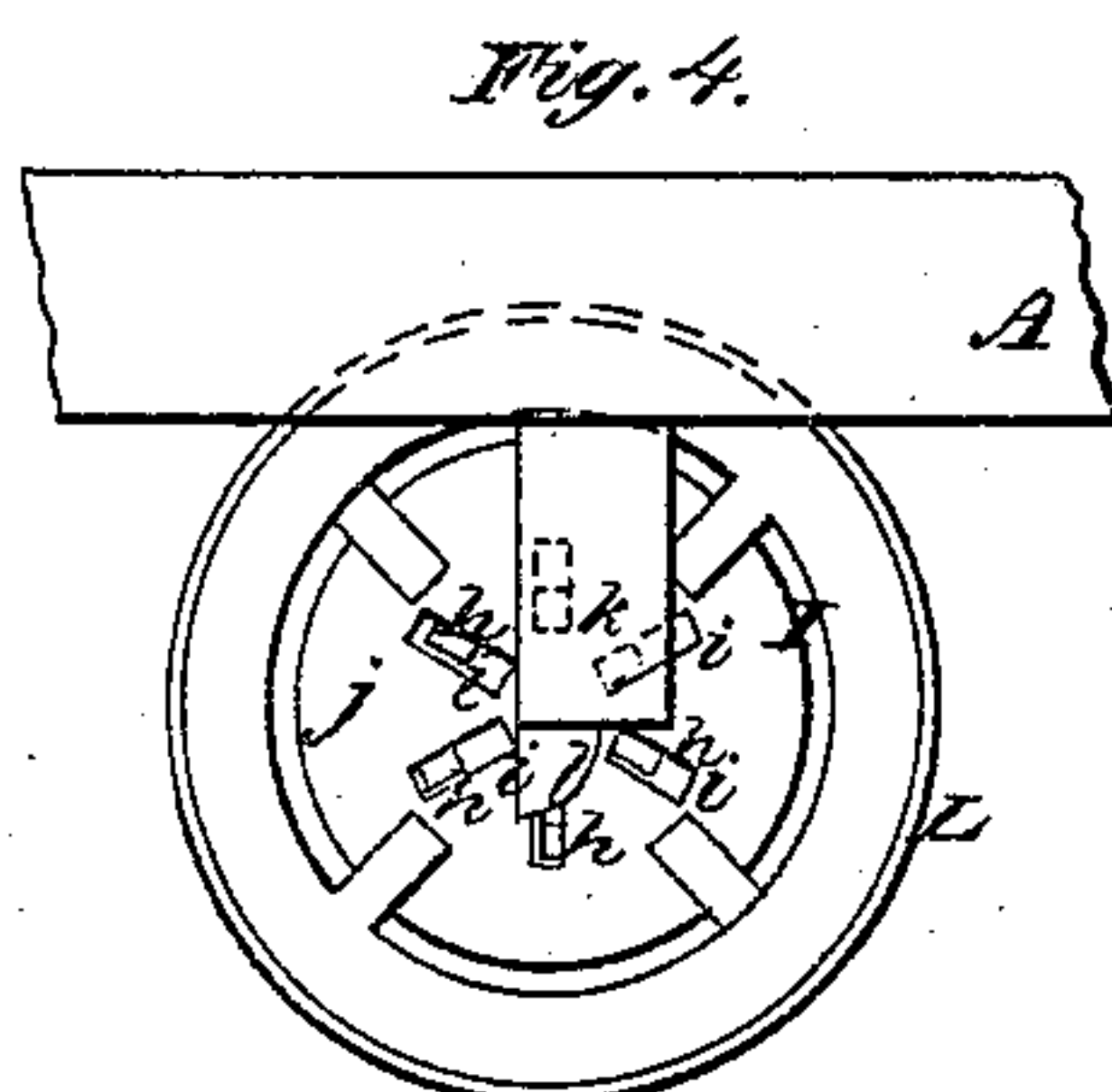
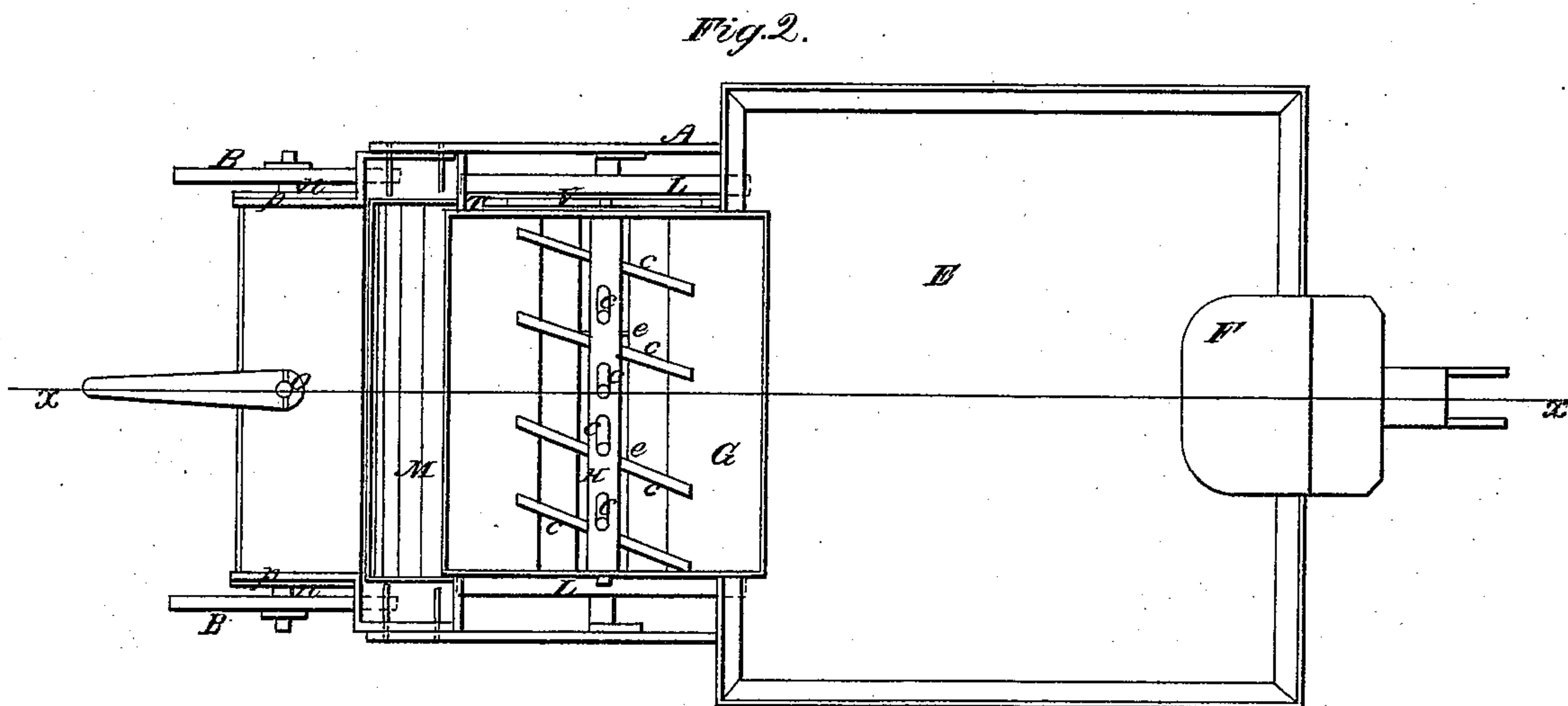
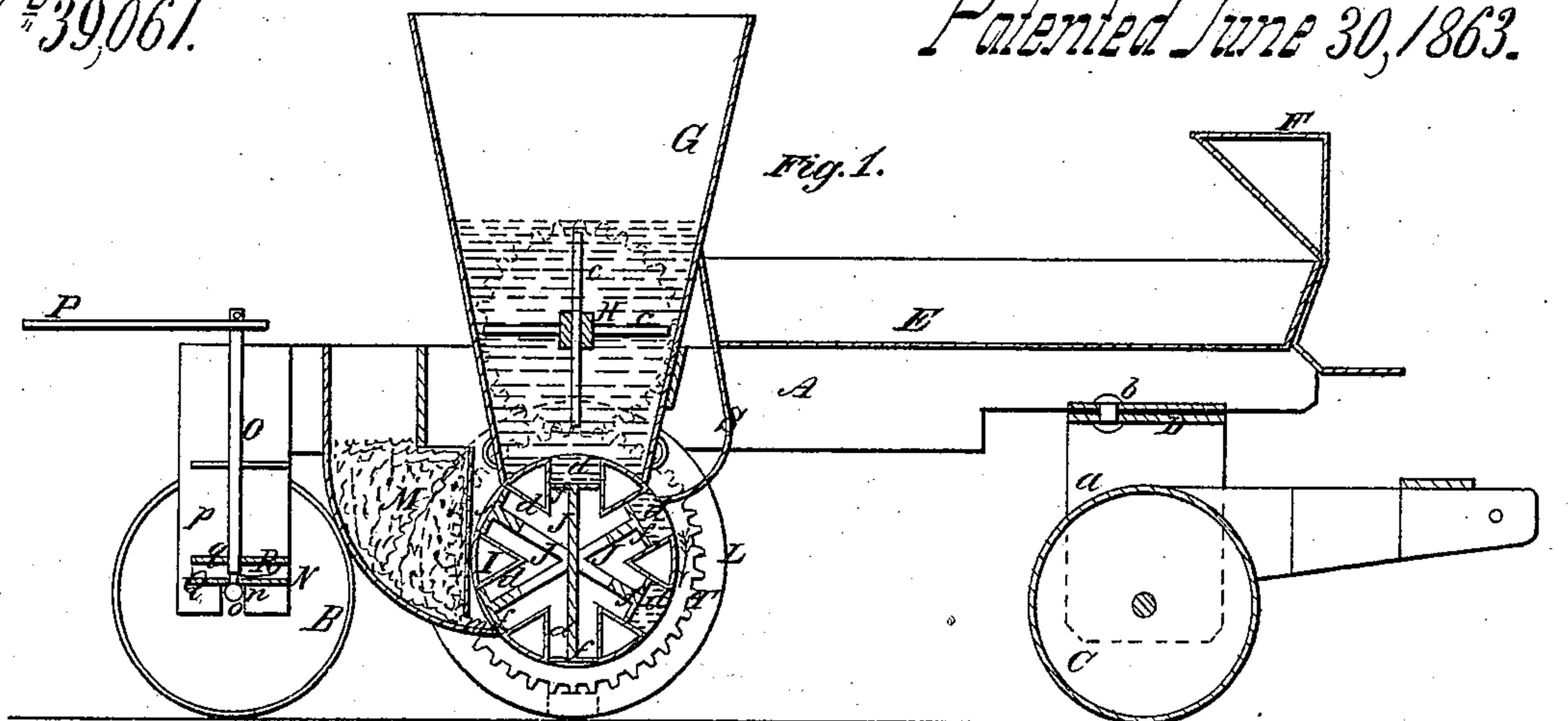


J. N. Newell, Brick Machine.

N^o 39,061.

Patented June 30, 1863.



Witnesses.
J. C. Coombs
G. W. Reed

Inventor.
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Attorneys

UNITED STATES PATENT OFFICE.

J. N. NEWELL, OF DES MOINES, IOWA.

IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. 39,061, dated June 30, 1863.

To all whom it may concern:

Be it known that I, J. N. NEWELL, of Des Moines, in the county of Polk and State of Iowa, have invented a new and Improved Brick-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same; Fig. 3, a detached perspective view of one of the sliding plungers of the cylindrical mold; Fig. 4, an end view of the cylindrical mold.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment or use of a cylindrical mold provided with sliding plungers and fitted in a mounted frame, on which a mixing or tempering device, scraper, saw-box, and frame-elevating device are placed, the several parts being arranged in such a manner that the machine may be used either stationary for mixing or tempering and pulverizing the clay and molding the same into bricks, or be drawn along and operated by traction, so that the above-named work may be performed and the molded bricks also properly distributed or laid upon the yard.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, which is mounted on two wheels, B B, and a roller, C, the latter being at the front part of the frame A and fitted between pendants *a a*, attached to a bolster, D, which turns or works on a king-bolt, *b*, the draft-pole being attached to the bolster.

E is a box, placed on the frame A, and designed as a clay-receptacle.

F is the driver's seat attached to the front part of the box E, and G is a hopper, which is attached to the frame A just back of the clay-box E. Within the hopper G there is placed horizontally a shaft, H, which has rods *c* passing through it obliquely, as shown clearly in Fig. 2. There are two rows of these rods passing through the shaft H, the two rows being at right angles to each other, as shown clearly in Fig. 1.

Directly underneath the hopper G there is

a cylinder, I, which may be constructed of metal, and with a series of radial rectangular chambers, *d*, extending its whole length. These chambers *d* are subdivided by partition *e* into compartments the size of the brick to be molded, and within the cylinder I there are placed slides J, each edge of which has a flat plate, *f*, attached to it at right angles. These plates *f* are slotted transversely, as shown at *g*, Fig. 3, to receive the partitions *e*, the plates *f* forming plungers for the chambers *d*, which constitute the brick-molds. Each slide being provided with two plungers, it will be seen that just one-half the number of slides are used as there are molds. The slides J may be arranged in any proper way so as to admit of them working through each other. Each slide J is provided at each end with two projecting ears or lips, *h h*, which extend through slots *i*, made radially in the ends *j* of the cylinder I, and the journals of the cylinder I are fitted in bearings *k*, which depend from the frame A, each bearing having a stationary cam, *l*, attached to it. (See Fig. 4.) To each end of the cylinder I there is attached a wheel, L, and these wheels rest upon the ground when the machine is operated by traction.

M is a box, which is placed in the framing A directly back of the hopper G. The lower end of the box is in contact with the periphery of the cylinder I, and it is provided at its lower end with a narrow slit or opening, *m*, which extends its whole length, the length of the box being equal to the length of the cylinder. The box M contains the sand for sanding the molds. The wheels B B, which support the back part of the frame A, are placed on separate or independent axles, *u u*, which are attached rigidly or permanently to a plate, N, the axles *u u* being fitted in vertical slots *o* in pendants *p p*, attached to the back part of the frame A.

O is a vertical rod or arbor, which is placed in the frame A, and has a lever, P, on its upper end. On the lower end of the rod O there is placed a cam, Q, which, as the rod O is turned, acts against a stationary cam, R, at the under side of a horizontal plate, *g*, in the frame A. The cams Q R are simply wedge-shaped or taper plates, which serve, as the rod O is turned, to raise the back part of the frame A and elevate the wheels L L at the ends of the cylinder I, above the surface of the ground.

S is a scraper, which is formed of a bent or curved plate, which extends the whole width of the cylinder I, and has its lower end bearing against the front side of the cylinder, as shown in Fig. 1.

To the inner side of one of the wheels L of the cylinder I there is attached concentrically a toothed wheel, T, which gears into a wheel, V, on one end of the shaft H. By means of this gearing the shaft H is rotated from the cylinder I.

When the machine is operated by traction, it is drawn along by the team, the clay, properly moistened, being thrown into the hopper G, the rods *c*, by their rotation, properly mixing and tempering it. The cylinder I is rotated by the wheels L L, which rest upon the ground, and as the molds *d* pass underneath the hopper G they are filled with clay, the rods *c* pressing the clay into the molds. As the molds pass underneath the hopper G the plungers *f* are lowered in consequence of the lower lips or projections, *h*, of the slide, J coming in contact with the stationary cams *l*, and, as the upper plunger, *f*, of each slide is lowered to give the mold *d*, under the hopper B, its full capacity, the lower plunger, *f*, is, of course, forced down and drives out the molded clay from the mold *d*, at the bottom of the cylinder. This will be fully understood by referring to Fig. 1. The scraper S takes off the superfluous clay from the exterior of the cylinder I, and the molds are sanded as they pass the slit *m* at the bottom of the sand-box M. Thus it will be seen that the clay is tempered, forced into the molds, and spread upon the ground for drying as the machine is drawn along.

I would remark that the roller C serves to level and smooth the ground to receive the molded bricks, and that the machine may be rendered inoperative at any time by simply turning the rod O in such a direction that

the cams Q R will elevate the back part of the frame A and raise the wheels L above the surface of the ground.

It will be seen that the machine may be used stationary by simply having the wheels L L elevated from the ground and having the mold-cylinder I driven by any convenient power. The oblique rods *c* thoroughly temper the clay, acting upon it in the most efficient manner to effect that result and also to force it into the molds.

I do not claim, broadly, a rotating mold-cylinder provided with sliding plungers, for they have been previously used; but

I do claim as new and desire to secure by Letters Patent—

1. The rotating mold-cylinder I, provided with sliding plungers *f f*, when used in connection with the traction-wheels L L, and fitted in a mounted frame, A, provided with a frame elevating or adjusting mechanism, and all arranged in such a manner as to admit of the mold-cylinder being rotated either by traction or any extraneous power, as herein set forth.

2. The combination of the mold-cylinder I, hopper B, provided with rotating rods *c*, sand-box M, and scraper S, all fitted or placed in a mounted frame, A, and arranged for joint operation, as and for the purpose specified.

3. The rod O, provided with the cam Q, in combination with the fixed cam R and the adjustable plate N, to which the axles *u u* of the wheels B are attached, all being arranged, as shown, to admit of the adjustment of the frame A, as and for the purpose specified.

4. The rotating oblique rods *c*, when used in combination with a rotating mold-cylinder I, for the purpose set forth.

J. N. NEWELL.

Witnesses:

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THOMAS CAVANAGH.