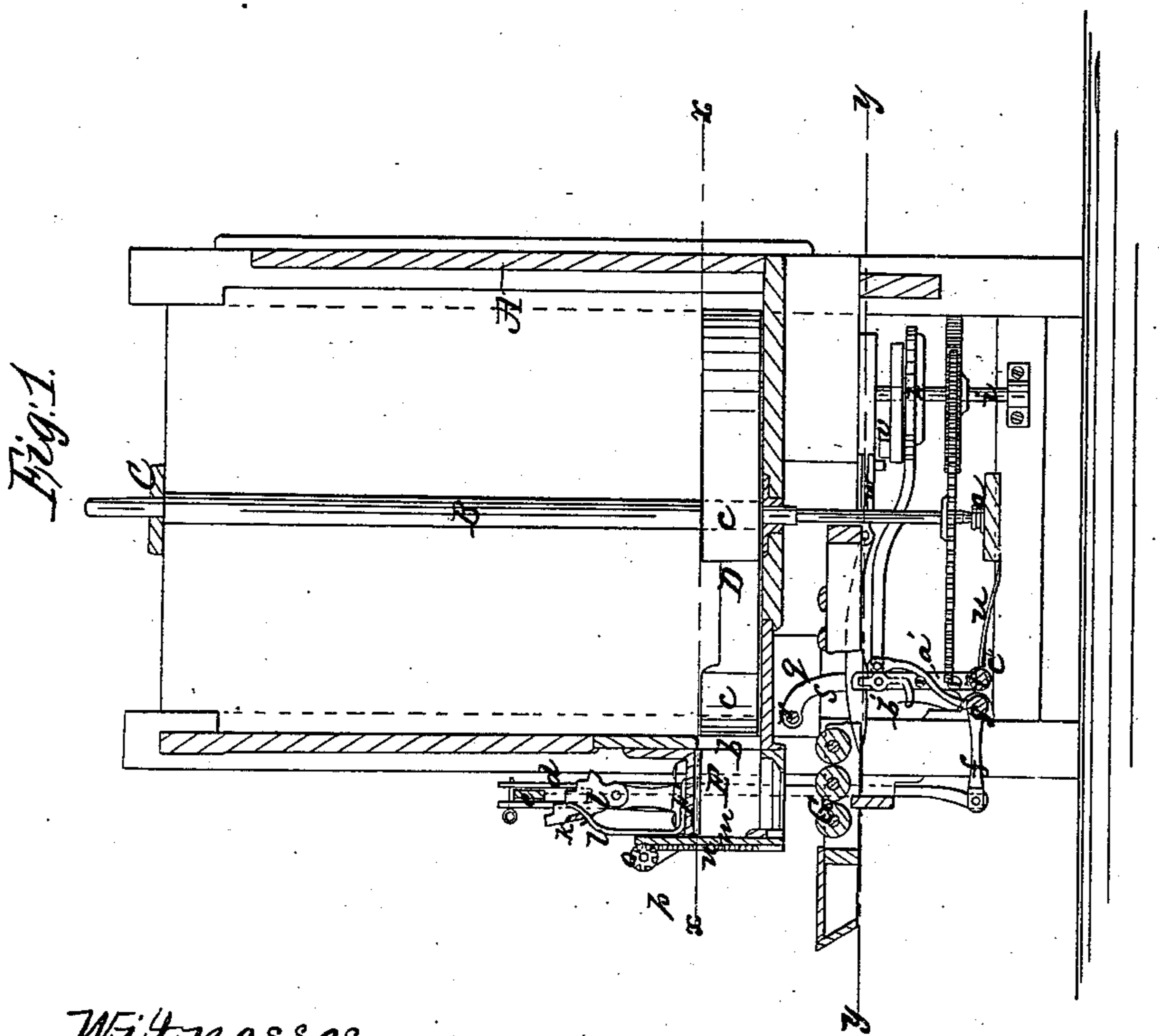
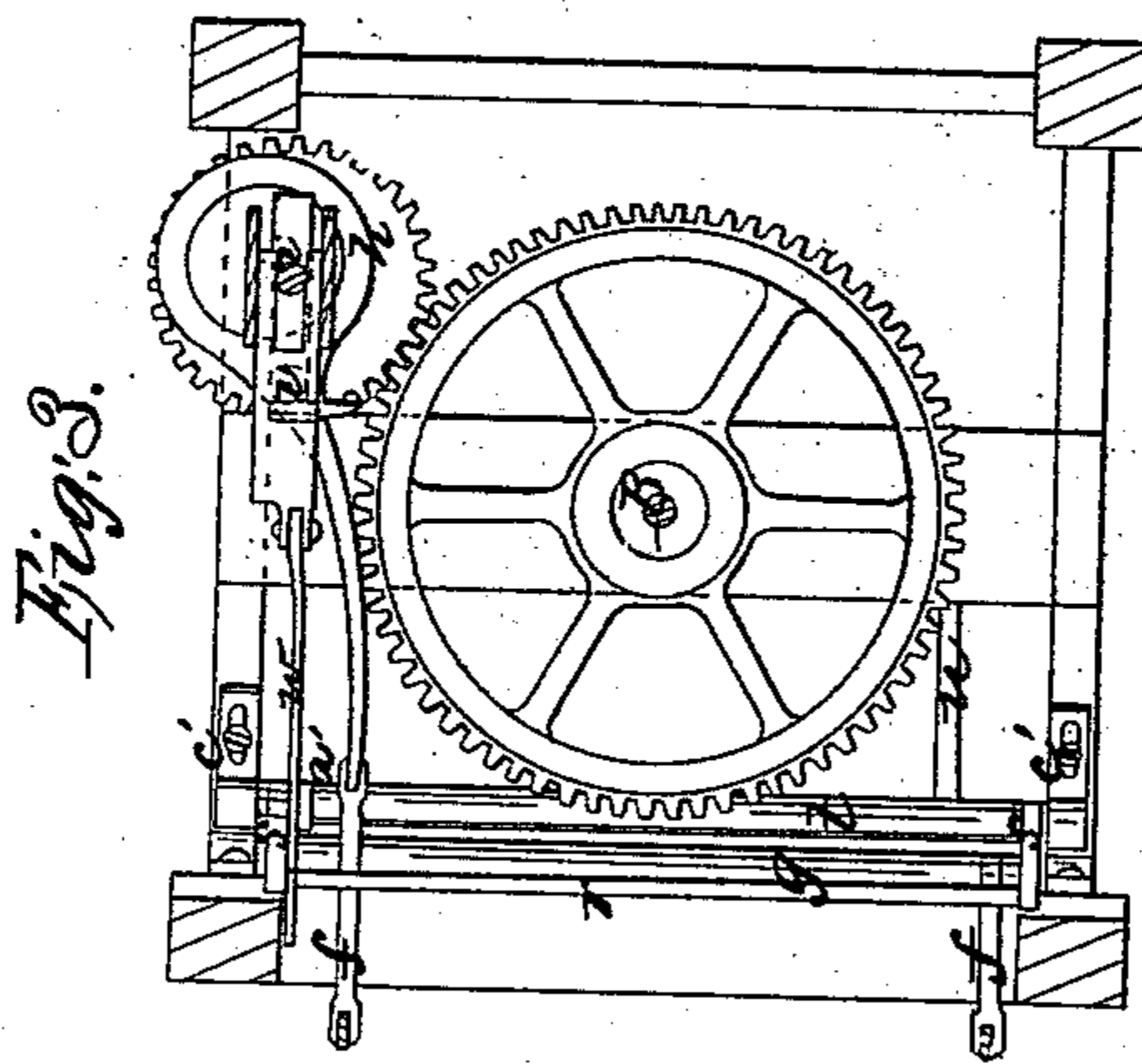
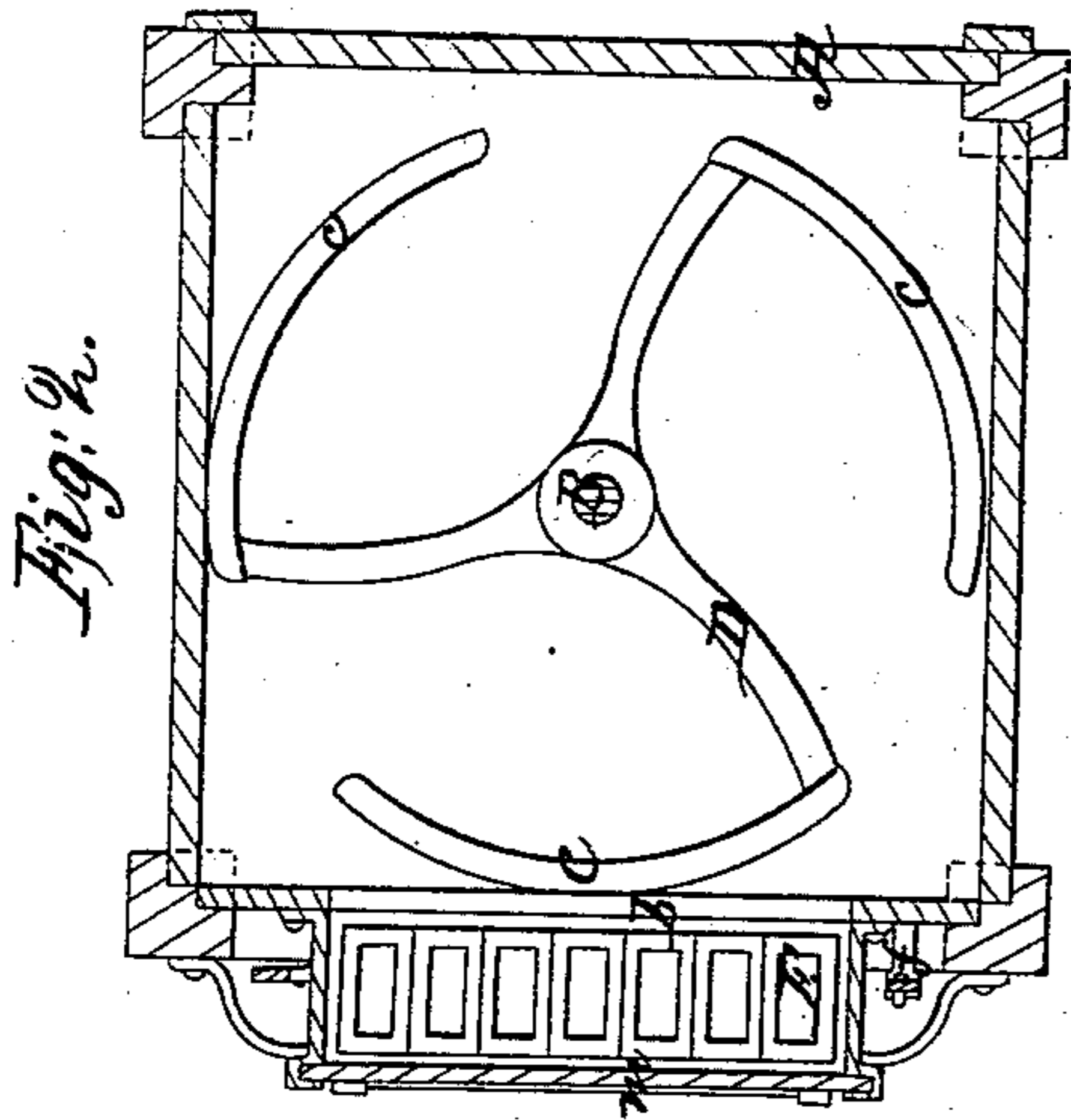


H. H. Gray,
Brick Machine,
No 84,624, *Patented Dec. 1, 1868.*



Witnesses.
Ernest F. Kastenhuber
Chas Wahler

Inventor
H. H. Gray
Per Santwood, Stamp
att

United States Patent Office.

HENRY H. GRAY, OF HAVERSTRAW, NEW YORK, ASSIGNOR TO HIMSELF AND MOSES B. PARDEE, OF NORWALK, CONNECTICUT.

Letters Patent No. 84,624, dated December 1, 1868.

IMPROVED BRICK-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY H. GRAY, of Haverstraw, in the county of Rockland, and State of New York, have invented a new and improved Brick-Machine; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention.

Figure 2 is a horizontal section thereof, in the plane indicated by the line *x x*, fig. 1.

Figure 3 is a similar section, the line *y y*, in fig. 1, indicating the plane of section.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in brick-machines, of that class in which the clay is tempered by the action of a pug-mill, and forced out into the press-box, which is provided with a grate-shaped bottom, through which the clay is forced into the moulds.

The improvement consists in the arrangement of movable stops with stair-shaped edges, in combination with the cross-bar, which imparts motion to the plunger of the press-box in such a manner that, by adjusting said stops, the throw of the plunger can be changed, and that a positive unyielding motion is imparted to said plunger in whatever position the adjustable stops may be brought.

It consists further in the arrangement of a yielding latch, in combination with the connecting-rod or pitman which imparts motion to the pusher-bar of the mould, in such a manner that, if one of the moulds meets with an unyielding obstruction, the pitman will be disengaged automatically, and injury to the working-parts of the machine is avoided.

A represents a box, made of wood or any other suitable material, through the centre of which rises the shaft B, which has its bearing on top in the bridge C, and which passes down through the bottom of the box A, and has its bearing below in a step, *a*, secured to the frame-work which supports the box A.

Secured to the shaft B, and situated close to the bottom of the box A, is the pug-wheel D, which serves to temper the clay, and to force it out into the press-box E, which communicates with the box A by means of an opening, *b*, as shown in figs. 1 and 2.

To the ends of the arms of the pug-wheel D are secured the broad wings *c*, and the speed of said pug-wheel is so adjusted that said wings form abutments on the inside of the opening *b*, and prevent the clay from being forced back from the press-box E when the plunger F descends.

By the action of this plunger the clay is forced through the grate-shaped bottom of the press-box into the moulds, which are supported by the roller-platform G.

From the upper surface of the plunger extend two bifurcated standards, *d*, which straddle the cross-bar *e*, to which a rising and falling motion is imparted by means of arms *f*, which extend from the rock-shaft *g*, that receives an oscillating motion from the eccentric-disk *h* on the upright shaft *i*.

From this description it will be understood that the stroke of the cross-bar *e* is uniform, but said cross-bar has a dead motion in the forked standards *d*, the amount of which can be regulated by stair-shaped stops *j*.

These stops are hinged to the inner edges of the standards *d*, and they are connected by a rod, *k*, which sweeps over a perforated arc, *l*. By inserting a pin behind the rod *k* into the arc *l*, the stair-shaped stops are retained in a certain position, and, as the cross-bar *e* descends, it strikes said stops, and the plunger is forced down. By changing the position of the stops *j*, therefore, the stroke of the plunger can be adjusted as circumstances may make desirable.

The front plate *m*, of the press-box, is provided with toothed racks, *n*, which gear in pinions *o* mounted on a shaft, *p*, so that, by turning said shaft, the front plate can be raised and lowered with ease and convenience, and access can be had to the interior of the press-box.

The moulds are introduced through an aperture, *q*, in the side of the frame-work supporting the box A, and they are successively pushed under the press-box by the action of a bar, *r*, which is secured in two arms, *s*, extending from a rock-shaft, *t*. This rock-shaft is turned back by the action of a spring, *u*, and it is turned forward by a cam, *v*, on the shaft *i*, which acts, at the proper intervals, on a shoulder of the rod *w*, which connects, by an arm, *a'*, with the rock-shaft *t*.

The connection between the rod *w* and the arm *a'* is effected by a yielding latch, *b'*, (see fig. 1,) which is so arranged that when the pressure against it exceeds a certain limit, it yields, and releases the rod *w*. The object of this arrangement is to prevent injury to the mechanism if one of the moulds meets with an undue resistance.

The throw of the pusher-bar *r* is adjusted by shifting the boxes *c'*, which form the bearings for the rock-shaft *t*. These boxes are provided with slots, (see fig. 3,) so that they can be moved towards and from the shaft *i*. When they are brought closer to said shaft, the pusher-bar drives the moulds further out, and, *vice versa*, and thereby the operator is enabled to adjust the mechanism so that each mould is brought exactly under the press-box.

The shaft *i* receives its motion from the shaft B of the pug-wheel, and the entire gearing is placed below the box A, so that the operator has free access to the same, and that it is not liable to become choked by the clay.

Having thus described my invention,

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

1. The stair-shaped stops *j*, in combination with standard *l*, cross-bar *e*, and plunger F, substantially as and for the purpose set forth.

2. The yielding latch *b'*, in combination with the pusher-bar *r*, substantially as and for the purpose described.

This specification signed by me, this 6th day of October, A. D. 1868.

HENRY H. GRAY.

Witnesses:

W. HAUFF,
ERNEST F. KASTENHUBER.