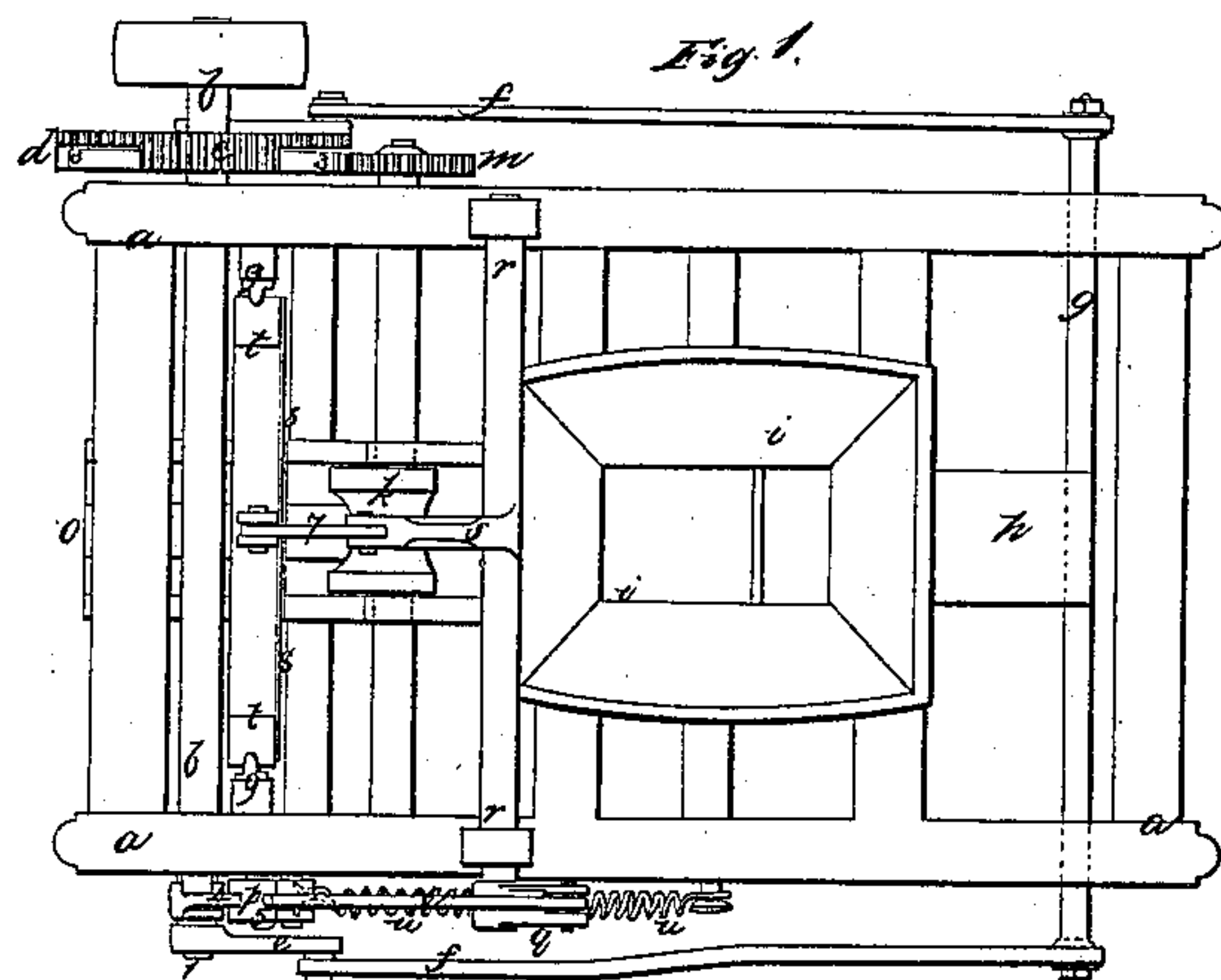
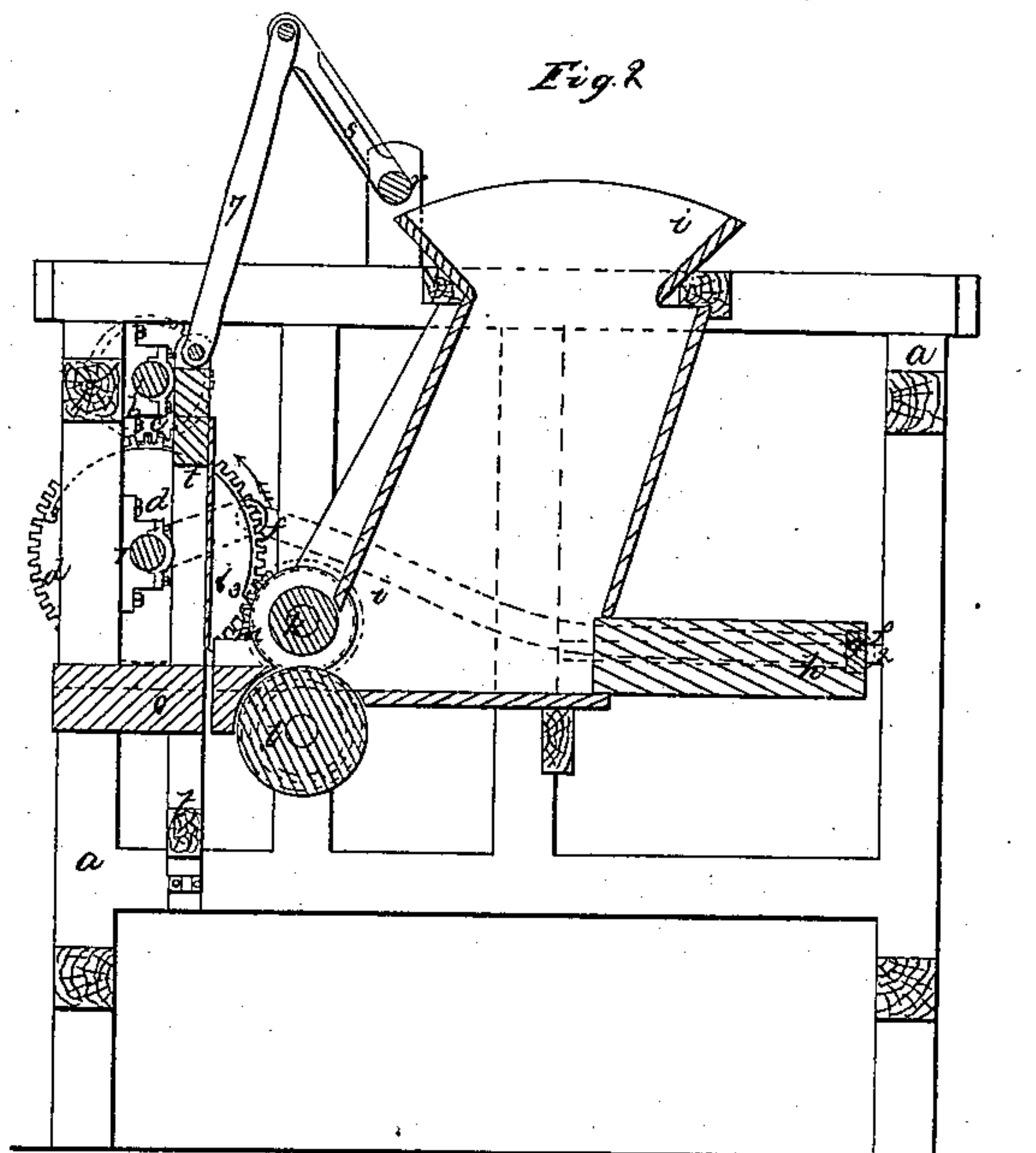
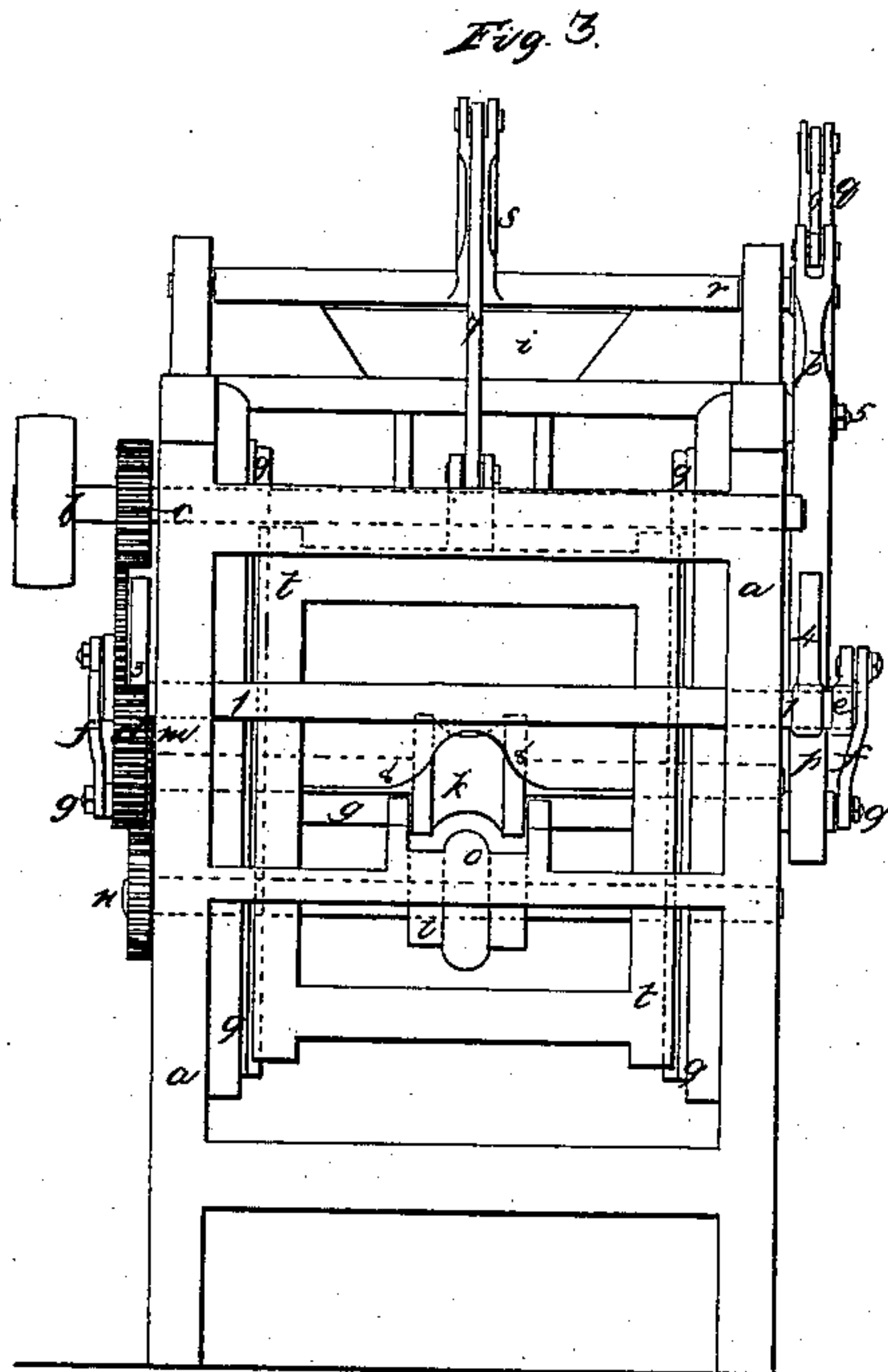


J. Foster,
Tile Machine.

N^o 16,672.

Patented Feb. 17, 1857.



Witnesses
Samuel H. Perrell

Inventor.
Junius Foster

UNITED STATES PATENT OFFICE.

JUNIUS FOSTER, OF BROOKLYN, NEW YORK, ASSIGNOR TO J. HERBOLD, GEO. KUHN, AND JUNIUS FOSTER.

TILE-MACHINE.

Specification of Letters Patent No. 16,672, dated February 17, 1857.

To all whom it may concern:

Be it known that I, JUNIUS FOSTER, of Greenpoint, Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use certain new and useful Improvements in Machinery for Making Tiles and Similar Articles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1, is a plan of the machine complete, Fig. 2, is a vertical longitudinal section, and Fig. 3, is an end elevation.

Similar marks of reference denote the same parts.

In the manufacture of tiles for draining and similar purposes, it is usual to form the same by hand which is both tedious and expensive; it has also been sought to make the same by pressure through a die but the friction of the clay when made stiff enough for handling (when in the form of a large thin tile or drain pipe) is such as to render the same difficult and expensive.

The nature of my said invention consists in supplying clay to a pair of rollers or rolling die by means of a plunger that presses the clay into and through said rollers, and then said rollers remain stationary at the time the plunger recedes to take a fresh supply of clay from the hopper, and simultaneously the tile is cut off while stationary ready to be taken away for drying.

In the drawing *a*, is a framework of the desired character, receiving the parts.

b, is the main driving shaft propelled by competent power.

c, is a pinion driving a wheel *d*, on a cross shaft 1.

e, is a crank on the other end of the shaft 1, with a crank pin on the same plane as another crank pin on the wheel *d*. These crank pins receive connecting rods *f*, *f*, to a cross head *g*, moving on slides 2, and carrying the plunger *h*, that travels in a casing or trunk at the lower end of the hopper *i*; and into this hopper *i*, the clay is to be placed after having been properly tempered in any suitable mill; and as this plunger continues to move alternately backward and forward, the clay is supplied interruptedly to rollers *k* and *l*, at the mouth of the hopper, consequently these rollers require an intermitted

rotary motion, which is given by the wheel *d*, being formed with a blank part as at 3, which is properly placed relatively with the cranks and goes half around said wheel *d*, and the wheel *m*, is of such a size as to receive one revolution for every revolution of the wheel *d*, and then remain stationary for the required length of time while the plunger *h*, recedes.

n, is the gear of the roller *l*.

o is the sliding trough over which the tile, as formed, is forced.

4, is a cam on the shaft 1, acting on a lever *p* set on the fulcrum 5, and 6, is a connecting rod to the crank arm *q* on the cross shaft *r*, connected with an arm *s*, and rod 7 to a frame *t* sliding on slides 9, and carrying a knife 8, or wire. The parts are so timed that this wire or knife comes down and cuts off the tile when stationary, and said knife or wire is drawn back by means of a spring *u*, when the cam 4, clears the lever *p*. The length of the trough *o*, from the rollers *k* and *l*, to the knife or wire 8, should correspond to the length of tile formed at each revolution of the machinery, so that the tile will be cut off at the point where the motion of the rollers is arrested; and a movable board may be provided with ribs to fit the underside of the tiles onto which each tile is slid when formed just previous to being cut off, and on this board the tiles may remain until dry. This device of the plunger, rollers and cutter may be applied to forming various articles of clay such as drain pipes, and some characters of bricks.

I do not claim the plunger *h*, in itself, neither do I claim cutting off the clay or tile with a knife or wire, but

What I claim as my invention and desire to secure by Letters Patent is—

The combination of the reciprocating plunger (*h*) with the rollers *k* and *l*, slide or trough *o*, and knife or wire 8, when the said parts are arranged for joint operation substantially in the manner and for the purposes specified.

In witness whereof I have heretunto set my signature this twentieth day of January 1857.

JUNIUS FOSTER.

Witnesses:

LEMUEL W. SERRELL,
THOMAS G. HAROLD.