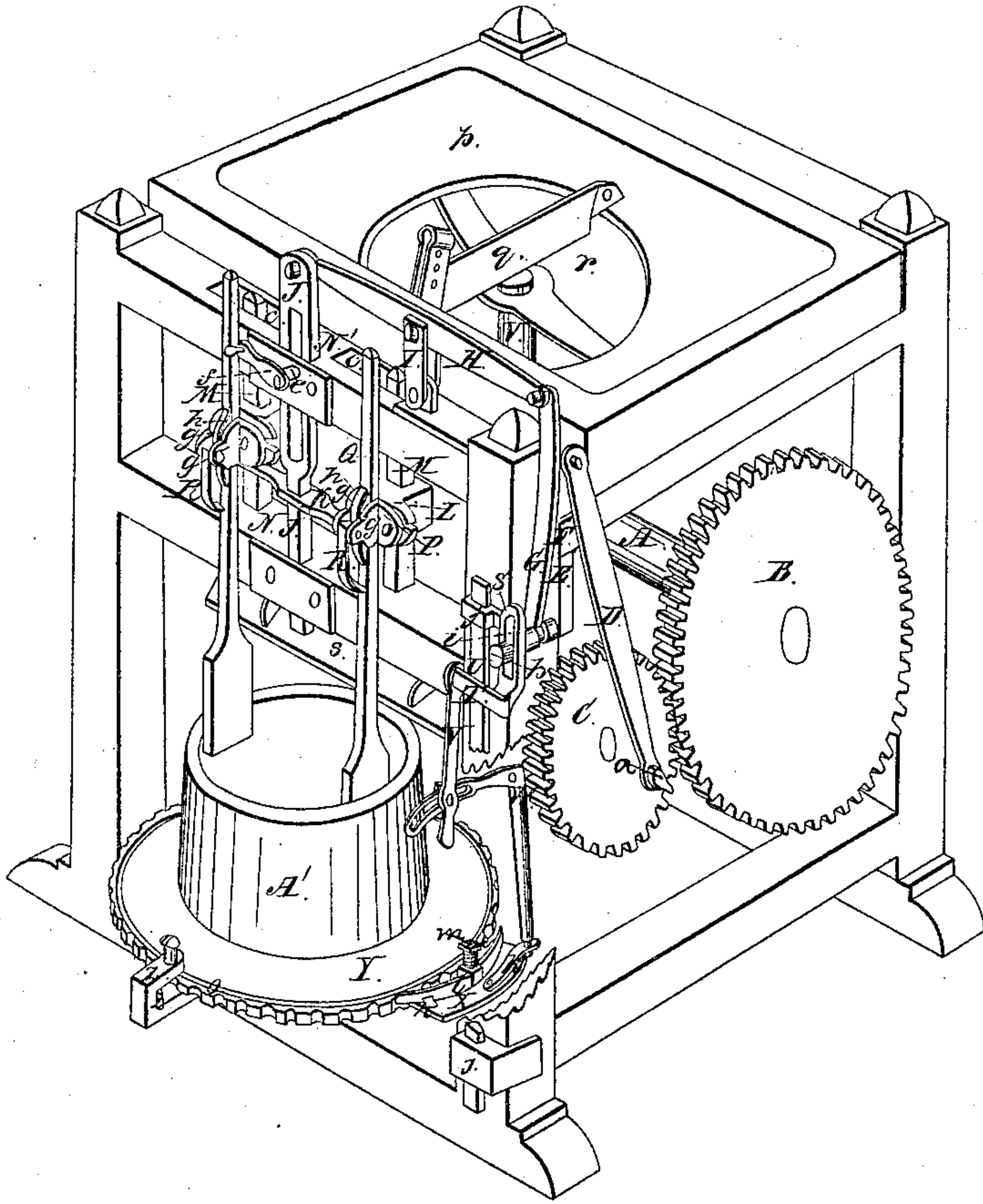


*L. A. Orcutt,*  
*Making Pottery.*

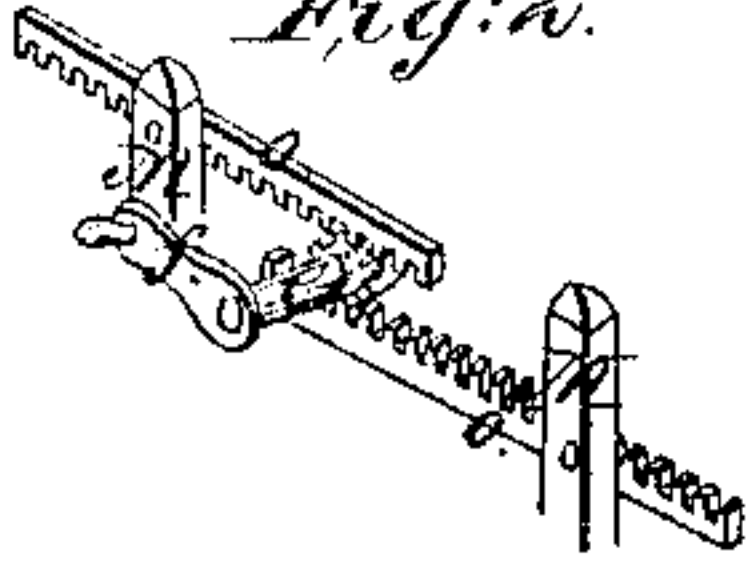
N<sup>o</sup> 9,612.

*Patented Mar. 8, 1853.*

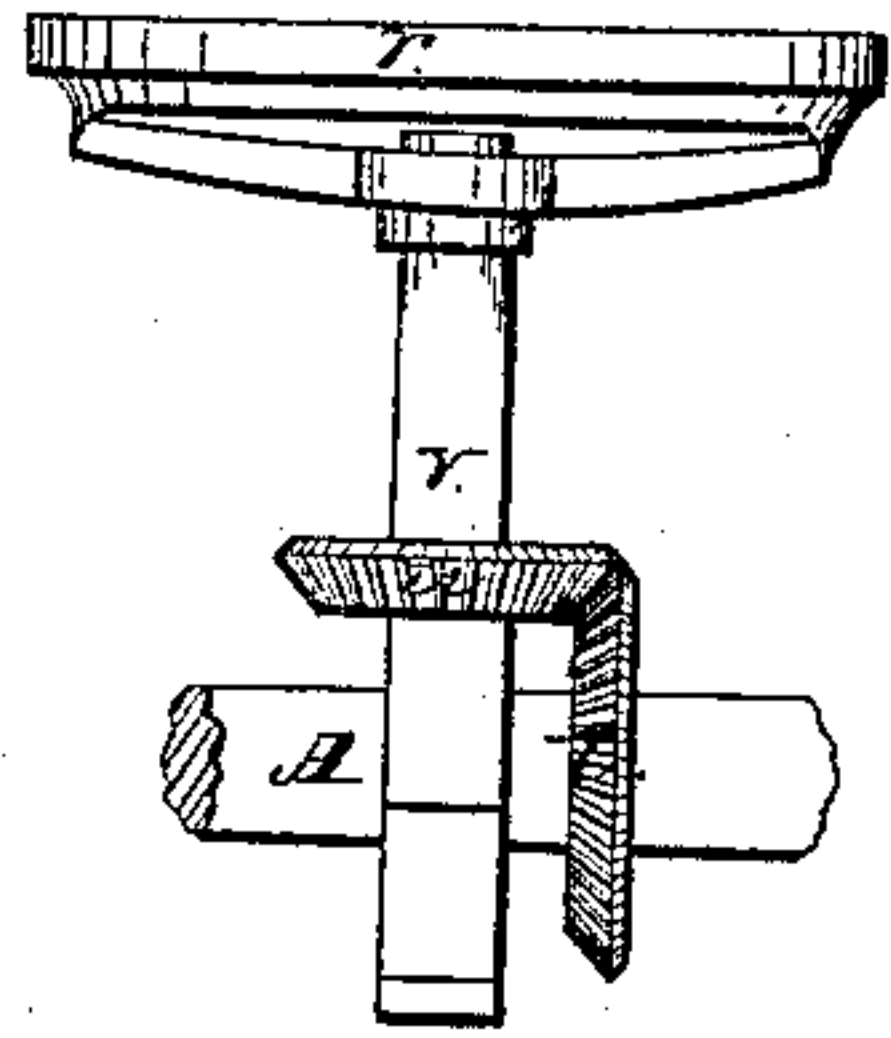
*Fig:1.*



*Fig: 2.*



*Fig:3.*





# UNITED STATES PATENT OFFICE.

LYSANDER A. ORCUTT, OF ALBANY, NEW YORK.

## MACHINE FOR MOLDING IN FLASKS.

Specification of Letters Patent No. 9,612, dated March 8, 1853.

*To all whom it may concern:*

Be it known that I, LYSANDER A. ORCUTT, of Albany, in the county of Albany and State of New York, have invented certain  
5 new and useful Improvements in Machines for Molding Hollow Ware and other Materials or Things; and I do hereby declare the following to be a full, clear, and exact  
10 description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a perspective view of the machine complete, and Figs. 2 and 3, represent detached portions not clearly  
15 seen in Fig. 1.

Similar letters in the several figures denote like parts.

The nature of my invention consists in combining with a molding machine so constructed as to give the flask a continuous  
20 rotary, or a reciprocating rotary motion under the rammers, as the character of the work to be molded may require, the rammers, which have both vertical and horizontal  
25 adjustment, the first being automatic, the latter at the will of the operator, so that they rise as the flask becomes filled, and can be made to operate in any portion of the flask, without stopping the machine.

30 To enable others skilled in the art to make and use my invention I will proceed to describe the same with reference to the drawings.

The machine may be driven by any suitable first moving power applied to the shaft  
35 A, on which is arranged the master wheel B, working into a smaller cog wheel C, on another shaft parallel to that which carries the wheel B. To a wrist pin *a*, on the  
40 wheel C, is attached a connecting rod D, the upper end of which is similarly connected to a sliding bar E, which bar by its connections receives a reciprocating motion through a guide piece F, attached to the  
45 frame. In the lower end of the sliding bar E, is fixed a screw or pin *b*, which may however, be a permanent part of said bar, standing at right angles thereto, and on  
50 this screw or pin is arranged a pitman G, the upper end of which is attached to one end of the walking beam H, hung in the standard I. To the other end of the walking beam is connected a slotted bar J, the  
55 lower part of which carries a crosshead K, which may be made adjustable thereon. This cross-head near its extremities passes

into ears or lugs on the slides L, L, so arranged that said slides may slide along on said cross head, for a purpose to be hereafter described.

60 Two guide bars M, M, are hung to the cross piece N, of the frame, by pins on which they may freely move, and their upper ends project through slots *c, c*, in the top cross piece N', of the frame. The  
65 tops of each of these guide bars M, M, are attached by a screw, pin, or otherwise, to the rack bars O, O, as seen in Fig. 2, and a spur wheel *d*, on a shaft *e*, which passes through the slot in the bar J, and to which  
70 is attached a crank *f*, operates these two racks, and through the racks, the guide bars attached to them. The slides L, L, before referred to, are so fixed upon these guide  
75 bars, as to have a free vertical sliding motion thereon, and as these guide bars may be arranged at any desired angle, by the operation of the rack bars O, O, it is manifest that, the slides on them, will also stand  
80 at the same or a corresponding angle. Horizontal slots or grooves are made in the faces of the slides L, L, in which are arranged the rammer holders P, P, which  
85 may be made adjustable in said slides. The shanks Q, Q, of the rammers, which are square to prevent them from turning  
around therein, set in between the jaws  
90 *g, g*, of the rammer holders, and against the faces of these shanks, semi-elliptic or other springs *h, h*, are pressed, by means  
of a short cam lever R, so that as the flask becomes filled, the rammers may rise automatically against the action of said springs,  
95 which should at all times hold them with a sufficient degree of firmness to ram the sand perfectly solid, and which can be increased or diminished by the force or power of the spring applied to them. I have here  
described and represented two rammers,  
100 which as a general thing may be used at the same time. One of them may be removed at any time when the character of the work to be done may require it, and a single one used.

The screw *b*, before referred to, passes  
105 through a slot *i*, in a vertical arm S, said arm being permanently fixed or attached to a horizontal bar T, which in turn is permanently fixed to a guide bar U, moving vertically through the guides *j, j*, attached  
110 to the frame of the machine. On the end of the horizontal bar T, is attached one end



of a connecting rod V, the other end being connected by a pin and set screw to one of the arms of an L-shaped lever W, the connection being made through a slot in said arm, by which means the motion of the lever W, (which through its several connections, operates the rack or flask wheel, and the flask on it), may be regulated. The lever W, is hinged at its angle to the frame, and its lower leg or arm, rests on an arm *k*, attached to a plate X, which plate carries the double pawl *l*, for rotating the flask-wheel Y. The double pawl *l*, is connected to the plate X, by a pin *m*, on which it may vibrate, and is held down against said plate, and prevented from moving too easily, by a coiled spring *1*, pressing against it, and on said plate are two small inclined projections *n* (one only being seen in the drawing) over which the pawl is forced when the rotation of the flask wheel and flask is to be reversed, and said projections after the pawl is forced over them, aid in holding the pawl into the rack on the flask wheel. The top part of the flask wheel Y, has in it near its periphery a groove *o*, running entirely around the wheel, and an adjustable clamp Z, (any suitable number of which may be used—one only being seen) is attached to the rim of said flask wheel, by a set screw passing through one of the arms of the clamp, and passing into the groove *o* before mentioned, and which serves for a permanent guide for the setting of the clamp, so as to insure its tripping of the pawl. This clamp Z, is provided with a small inclined plane *2* one on each side thereof, which when it approaches the pawl from either direction, strikes against its outer side, forces it over the projections *n*, and throws that end of the pawl into, and the other end out of action, and reverses the motion of the flask wheel, and the flask A', upon it. The object of this particular device is that, when molding anything with handles, lips, spouts, ears, or other similar projecting parts, the rammers shall not strike against such part and break or destroy it.

Consequently when any such piece of work is to be molded, the adjustable clamp Z, is set upon the wheel Y, precisely opposite the point where such projection lies in the flask, and when that part of the flask comes around near to the rammer, the clamp throws out the end of the pawl which was in action, and into gear the other end of the pawl, and the flask wheel travels back again; and by entirely removing the clamps, a continuous rotary motion may be had, in either direction as the pawl may be set, or by setting them at any points upon the flask wheel, a reciprocating rotary motion between those points may be had.

The top of the machine is provided with a hopper *p*, into which the molding sand is thrown, and across said hopper is fixed an adjustable gate *q*, for regulating the quantity to go into the flask. To the bottom of the hopper is placed a rotary wire screen *r*, for screening the sand as it passes through, and after passing through the screen it falls upon the chute *s*, and runs into the flask. A bevel gear wheel *t* on the shaft A, (Fig. 3,) meshes into a similar bevel wheel *u*, on a vertical shaft *v*, and on this vertical shaft is arranged the screen *r*, and by means of it receives its rotary motion.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent is,—

In combination with a flask having a continuous or reciprocating rotary motion, the rammer or rammers, so arranged as to be made, at any time during their operation, to work in any portion of the flask, while at the same time they have an automatic adjustment, so as to rise as the flask is filled and rammed, and adjust themselves vertically in regard to the flask, the whole being accomplished substantially in the manner described.

L. A. ORCUTT.

Witnesses:

J. J. JOHNSON,  
JOHN A. SICKELS.