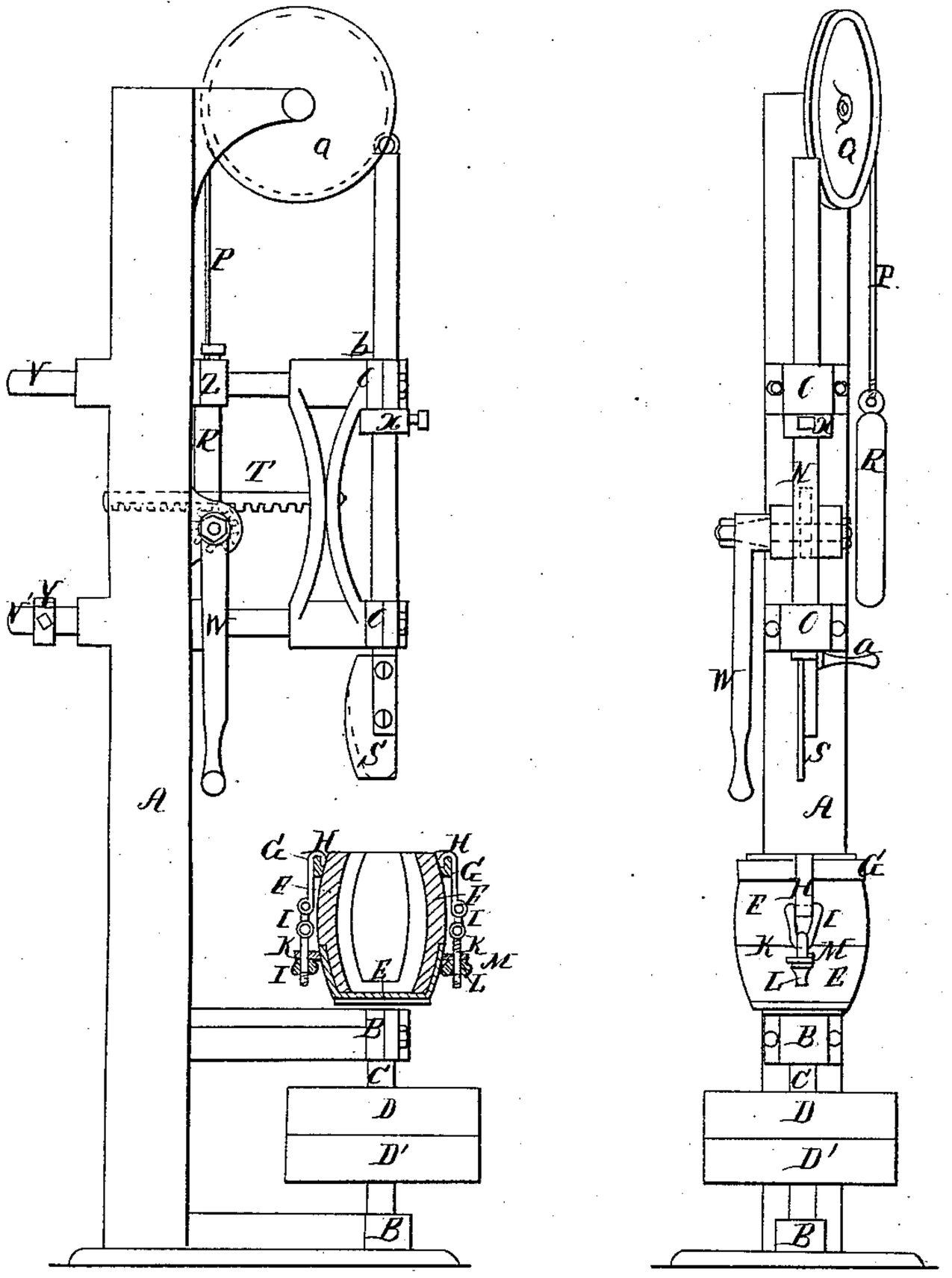
# Taylor & Straw,

## Crucible Molds,

No. 84,593, Patented Dec. 1, 1868.







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ROBERT TAYLOR AND FREDERICK STROW, OF PHILADELPHIA, PENNSYLVANIA.

*Letters Patent No.* 84,593, *dated December* 1, 1868.

## IMPROVED APPARATUS FOR MOULDING POTS AND CRUCIBLES.

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

*To all whom it may concern:*

Be it known that we, ROBERT TAYLOR and FREDERICK STROW, of the city of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in the Apparatus known to Potters as a "Jigger" for Moulding Pots and Crucibles; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, and the letter of reference marked thereon.

The nature of this invention consists in applying to that class of machines used by potters, known as "jiggers," an arrangement of mechanism which permits and controls an adjustable compound movement of the former or templet, which determines the internal form of the pot, by which means we are enabled to produce, with less labor than heretofore, more desirably-shaped pots or crucibles, with a greater accuracy and precision than have been heretofore attained.

We will now proceed to describe particularly and fully the mode of making and using this invention.

Figure 1 shows a side elevation, with the mould and the pot therein made in section.

Figure 2 shows a front elevation.

The same letters of reference apply to the several parts in the several figures.

Upon the column A, which constitutes the principal frame of the machine, we secure the bearings B B, in which rotates a shaft, C, driven by the band-wheel or pulley D'; and upon the upper part of the shaft C there is a chuck or cup, E, into which fits concentrically a mould, F, formed of plaster or other absorbent material, divided, in a vertical plane, into two equal parts, which are held together by the hoop or band G, which is secured by means of the hooks H H holding upon the raised outer rim of the hoop G, and held down by means of the links I I and screws K K, drawn through the lugs or ears M M of the bowl or chuck E by the nuts L L, thus keeping the mould F closed, and firmly held in the chuck E.

Above the mould F is a bar, N, capable of sliding vertically in guides O O, and counterbalanced by the cord P, pulley Q, and weight R, and carrying, at the lower extremity, a flat metallic block, S, with bevelled edges, technically known as a "former," which determines the shape of the interior of the pots or crucibles, in the manner hereinafter described.

The guides O O are fastened together, and are susceptible of horizontal motion, by means of the rack T, pinion U, and lever W, and are steadied and supported by the sliding bars V and V', fitting and sliding through the column A.

In forming crucibles of different internal diameters in this machine, the different positions which the former assumes would, were the lever W rigidly and permanently fastened to the spindle or shaft of the pinion U, sometimes cause the lever W to be in such positions, relatively to the mould F, as to be inconvenient to the workman. To obviate such difficulty, the lever W is fitted upon the spindle of the pinion U with a conical eye, and secured tightly to its place by means of a nut, drawing the conical eye of the lever W over the conical portion of the spindle, where it is retained by friction, so long as the nut is held tightly screwed against the lever W, thus affording an easy means of adjustment of the angular position of the lever W, to suit the convenience of the workman.

The motion of the sliding bar N is limited, by means of the adjustable collar, X, placed upon it, as is also that of the horizontal slides, by means of the adjustable collars, Y and Z, on the bars V and V'.

A handle, *a*, enables the workman to raise and lower the bar N, which is prevented from rotating by means of a feather, *b*, fitting in a spline or channel in the bar N.

The operation of this machine is as follows:

Upon laying a piece of leather or other thin material in the bottom of the bowl E, and securing the mould F in position in the bowl E, as already described, a lump of clay, or clay and plumbago, or other plastic material, slightly exceeding in weight the pot to be moulded, is placed in the mould. The mould is then caused to rotate rapidly, the collar Y having been previously adjusted on the slide V', so that it will come in contact with the column A, when the former S is over the centre of the mould. The workman grasps the lever W, and presses it toward the column A, so that the former S will enter the centre of the mould, as he presses it down by means of the handle *a*, until the requisite depth or thickness of bottom of the pot is attained, which depth is controlled and regulated by the adjustable collar, X, on the bar N, resting, when down, on the guide O'. Having reached the proper depth, the workman moves the lever W away from the column, and thus forces the former S horizontally against the clay, which, by the combined action of the centrifugal force, developed by the rotation of the mould and its contents, and the pressure of the former S, is spread upon the internal surface of the mould, and forms the sides of the pot, having an internal form corresponding with the shape of the former S.

The thickness of the sides of the pot is determined by so adjusting the collar Z upon the slide V that it comes in contact with the column A, when the proper thickness of the sides is attained. The former S is afterwards brought into central position in the pot, and raised, and the pot trimmed off smoothly on the upper edge with a knife, and is removed in the mould to dry.

We are aware that "jiggers" have been made and used in which a former with a vertical motion in right line was used; also, that they have been made in which

the former moved in an arc of a circle, in being introduced and withdrawn from the mould; and we are also cognizant of the fact that pots have been made that were of greater internal diameter than their mouths by manual skill entirely, and sometimes partially by a "jigger," and partly by manual skill; but in no case do we believe that pots have been so formed, of a determinate size, and shape, and thickness, by a machine such as we have hereinbefore described and shown.

We do not broadly claim to have invented the mode of moulding pots and crucibles in plaster moulds, such process being in general use in the British and French pottery-works, and considerably practised in this country, and has been often described in publications printed in this as well as foreign countries; neither do we claim the use of a former with an absorbent mould; but

What we do claim as our invention, and desire to secure as such by Letters Patent, is—

The arrangement, herein described, of the rack and pinion with the vertical and horizontal slides, and their adjustable collars, all in relative connection with the rotating mould, substantially as shown and set forth.

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