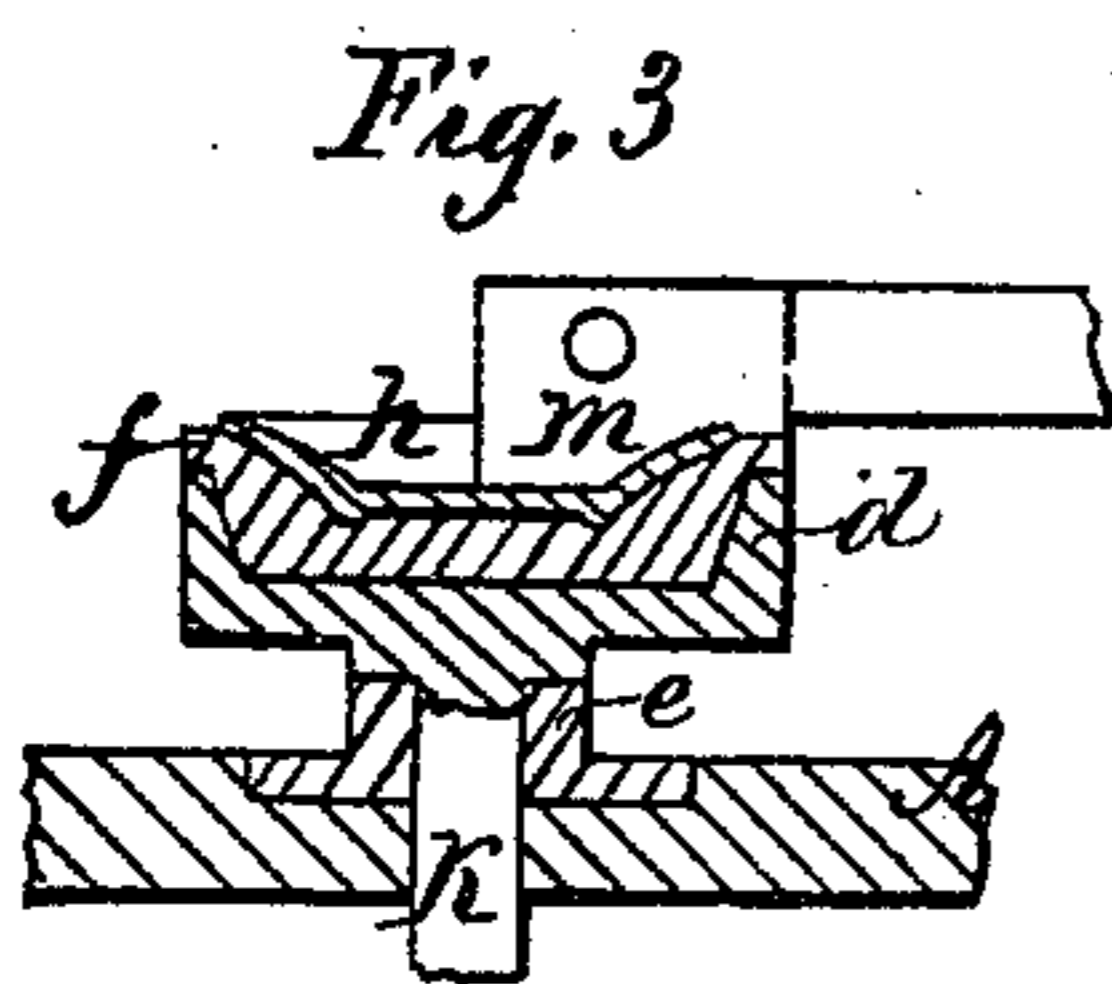
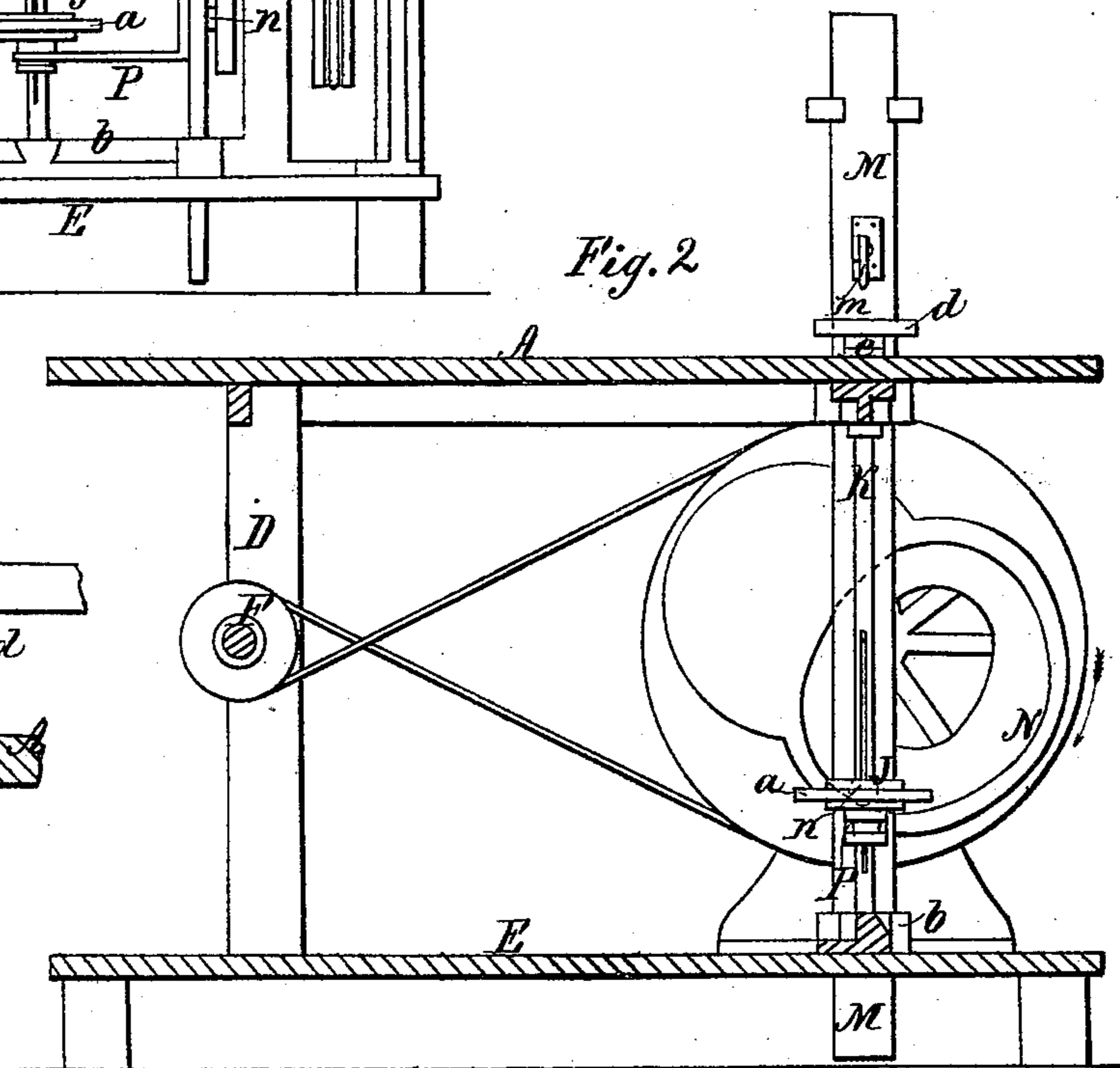
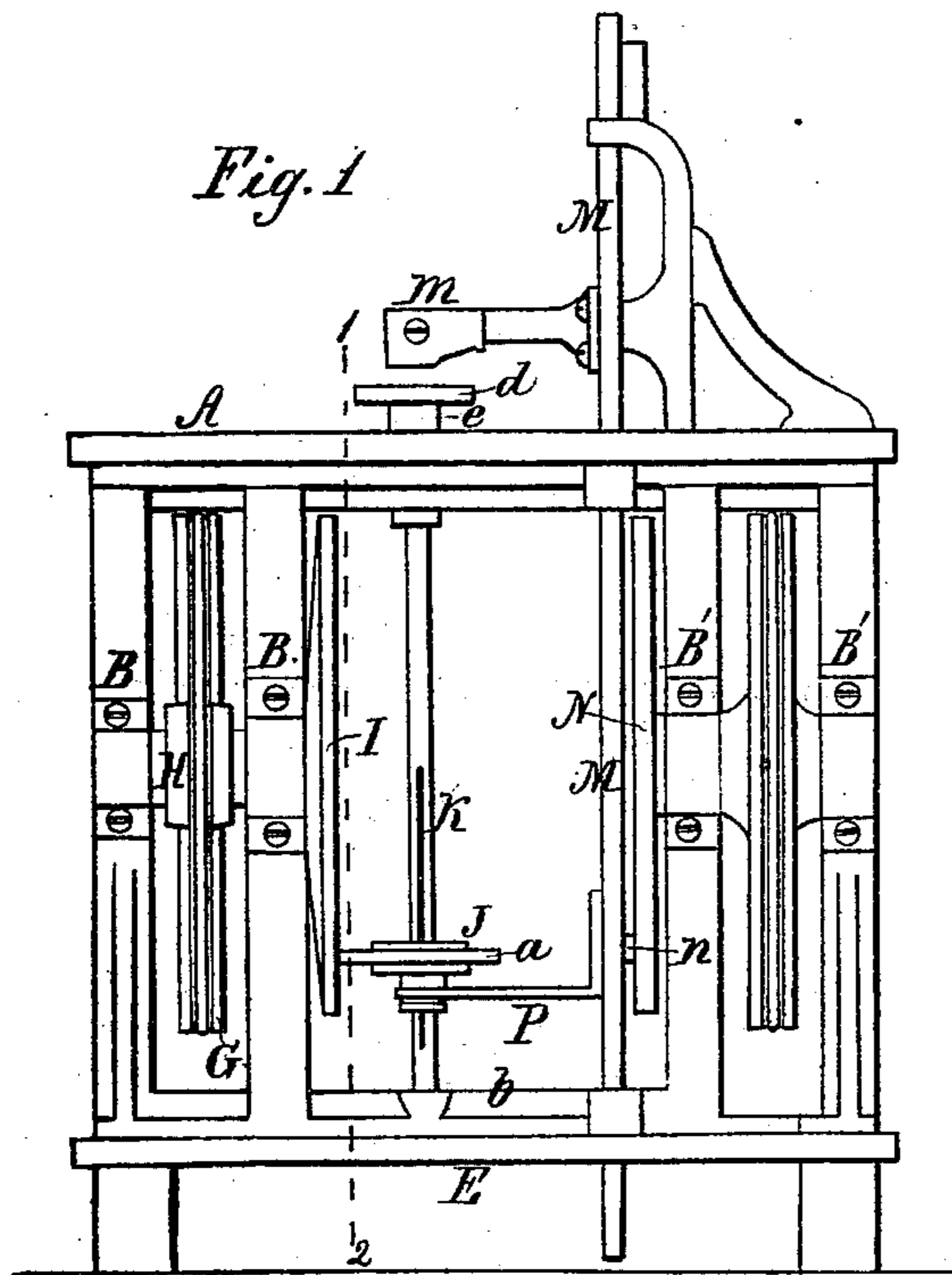


A. M. Cheeseman.

Pottery Mach.

N^o 93,966.

Patented Aug. 24, 1869.



Witnesses
Wm. A. Steel
John Parker

Inventor
A. M. Cheeseman
By His Atty
H. B. Woodward

United States Patent Office.

ANDREW M. CHEESEMAN, OF TRENTON, NEW JERSEY.

Letters Patent No. 93,966, dated August 24, 1869.

MACHINE FOR MAKING POTTERY.

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, ANDREW M. CHEESEMAN, of Trenton, county of Mercer, State of New Jersey, have invented an Improvement in Machines for Making Pottery; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in the pottery-machine known as the "Scotch jigger," the latter having a spindle, caused to revolve at varying speeds, and carrying a mould, in which the clay is formed by a tool held in the hands of the operator, or attached to a lever operated by hand; and

My invention consists of the mechanism described hereafter, or the equivalent thereto, whereby the said forming-tool is rendered automatic, and is caused to co-operate with that wheel, the movement of which controls the speed of the spindle, all of which is more fully explained hereafter.

The object of my invention is to dispense with the skilled labor required in using the above-mentioned Scotch jigger.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a front view of my improved machine for the manufacture of pottery;

Figure 2, a transverse vertical section on the line 1-2, fig. 1; and

Figure 3, a sectional view of a detached portion of the machine, drawn to an enlarged scale.

A is a platform, supported upon suitable front standards, B B and B' B', and rear standards D, the whole being secured to a suitable foundation, E.

In appropriate bearings in the rear standards turns the driving-shaft F, carrying a large grooved pulley, G, a band from which passes round a smaller pulley, H, on a shaft which turns in bearings on the front standards B B, and which carries a disk, I; and against the face of the latter bears the elastic disk *a* of the wheel J, which is so adapted to the vertical shaft K that it can slide freely thereon, but cannot turn independently of the said shaft, the latter having its lower bearing in a plate, *b*, secured to the foundation E, and the upper end of the shaft passing through the platform A, and turning in a bearing, *e*, secured to the same.

On the top of the shaft K is a flanged disk, *d*, for receiving the detachable plaster mould *f*, of the earthenware article to be formed by the machine, an ordinary dinner-plate, *h*, being shown in the present instance.

The machine, as far as I have described the same, is similar to what is known among manufacturers of

pottery as a "Scotch jigger," the operation of which may be briefly described as follows:

The operator controls the position of the wheel J on the shaft K by a treadle, and, on raising the wheel to a point near the centre of the rapidly revolving disk I, the latter ceases to impart a rotary motion to the shaft K, owing to the said disk I being recessed near the centre, and there free from contact with the periphery of the wheel J.

While the shaft K is thus in a quiescent state, the operator takes one of the plaster moulds, on which has been deposited a suitable amount of clay for conversion into the article to be moulded, and fits it to the flanged disk *d*. He then gradually depresses the wheel J, thereby bringing it into contact with the face of the disk I, and causing the shaft K to revolve at a comparatively low rate of speed in the first instance. At the same time the operator applies to the unformed revolving mass of clay, either directly with his hand, or through the medium of a lever, or other appliances operated by hand, a forming-tool, *m*. As the wheel J is depressed by the treadle, the speed of the shaft K is necessarily increased, and the operator continues to apply the forming-tool until the vessel is completed, the speed of the shaft K increasing as the vessel approaches completion.

After the article is finished, the operator releases the wheel J, which is caused to ascend, by a counter-balance-weight, or other appliance, until it approaches the centre of the disk, when the movement of the shaft K ceases, preparatory to the removal of the mould with its finished plate, and the introduction of another clay-charged mould into the disk *d*.

It is only by long experience that an operator becomes expert in manipulating the forming-tool of this Scotch jigger, even if the tool be connected to a lever. The object of my invention is to dispense with this skilled labor, and to so render the forming-tool automatic, and to cause it to co-operate with the wheel J, in the manner I will now proceed to describe.

The forming-tool *m* is secured to a heavy vertical bar, M, which is arranged to slide in guides on the frame-work of the machine.

From this bar projects a pin, *n*, into the recess of the internal cam N, secured to a horizontal shaft, which has its bearings on the standards B' B', and which derives its motion from the driving-shaft of the machine.

An intermittent reciprocating motion is imparted to this sliding bar M, the raising of which is effected by the action of the edge of the internal cam on the pin *n*, while the downward movement is caused by the weight of the bar itself, but is controlled by the edge of the cam; and this cam is of such a shape, that when the bar is at the limit of its downward

movement, that is, when the forming-tool is about completing its duty, the bar remains stationary for a short time, after which it commences to rise. On reaching the limit of its upward movement, or immediately after reaching this point, the bar commences its descent; but in this it is so controlled by the cam, that the descent of the forming-tool, in the first instance, is comparatively rapid, but decreases in speed until it arrives at its lowest point, where the bar again becomes quiescent, as before.

It will be observed that a rod, P, projects from the bar M, the end of this rod being so forked as to fit into a groove in the hub of the wheel J, the movement of which on the shaft K is consequently controlled by that of the bar M.

It will be seen, that as the forming-tool decreases in speed as it descends, the speed of the revolving mould increases; or, in other words, as the plate or other article in the mould approaches completion, the more gradual and delicate will be the action of the forming-tool on the clay.

This is one of the main ends aimed at by the machine, an end which, when the forming-tool is controlled by the hand of the operator, requires dexterity and manipulation.

I wish it to be understood that I do not desire to

confine myself to the precise mechanism herein described for driving the different shafts, nor to the precise devices whereby the wheel J is caused to co-operate with the forming-tool, as these devices may be altered and modified without departing from the main features of my invention; but

I claim—

1. The mould-carrying spindle K, its wheel J, and the disk-wheel I, of what is known as a Scotch jigger, in combination with the forming-tool *m*, and the bar M, cam N, rod P, or equivalent devices, whereby the said forming-tool is caused to co-operate with the wheel J, in producing the effect described.

2. I claim the combination of the internal cam, sliding bar M, which carries the forming-plate, and which has a rod, P, adapted to the wheel J of the mould-carrying spindle K, the whole being arranged and operating substantially as and for the purpose herein set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ANDREW M. CHEESEMAN.

Witnesses:

JOHN WHITE,
HARRY SMITH.