

O. B. ROSS.
Gang Cheese Press.

No. 201,838.

Patented March 26, 1878.

Fig. 1.

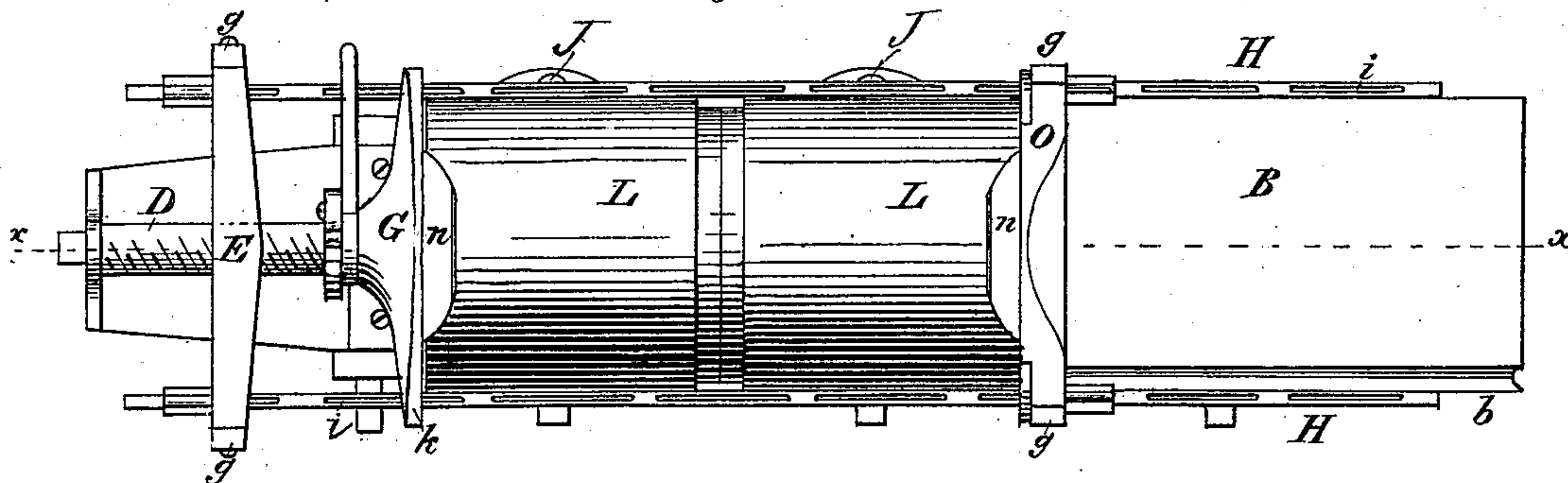


Fig. 2.

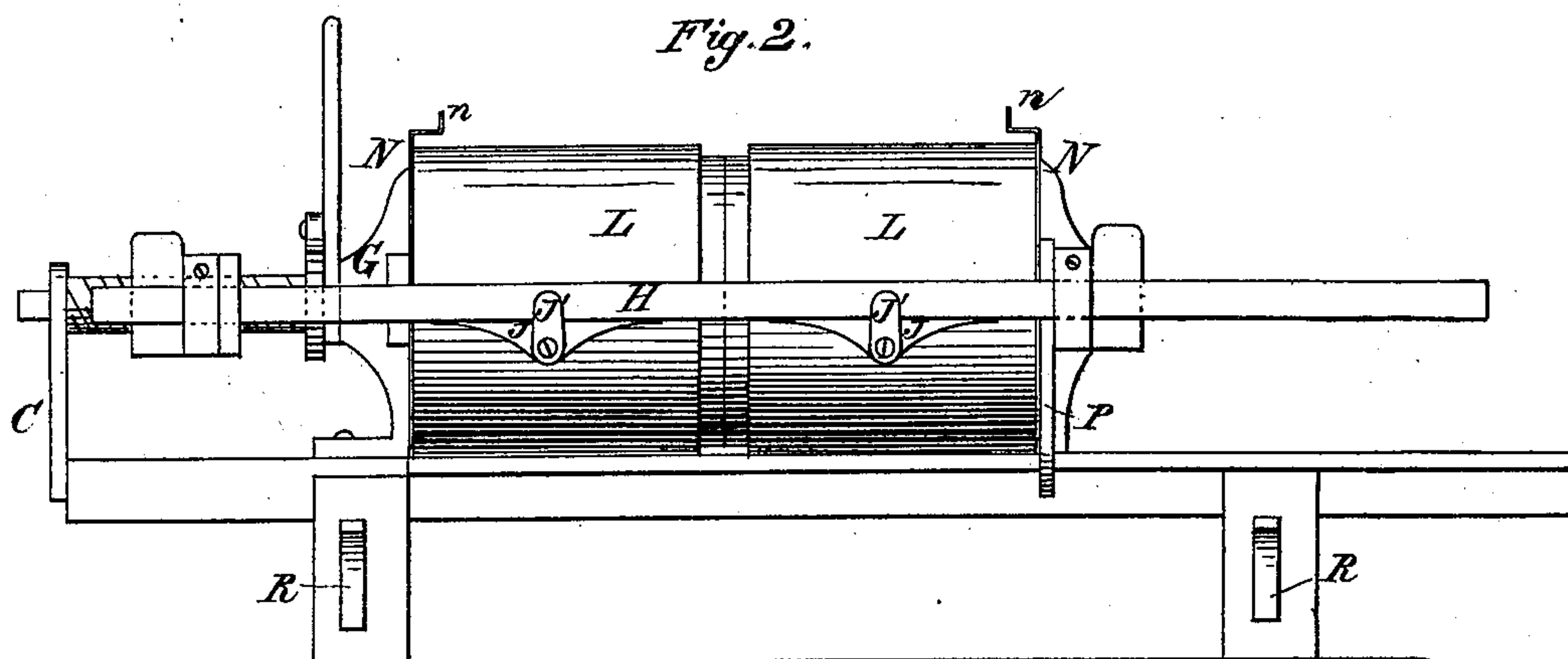


Fig. 3.

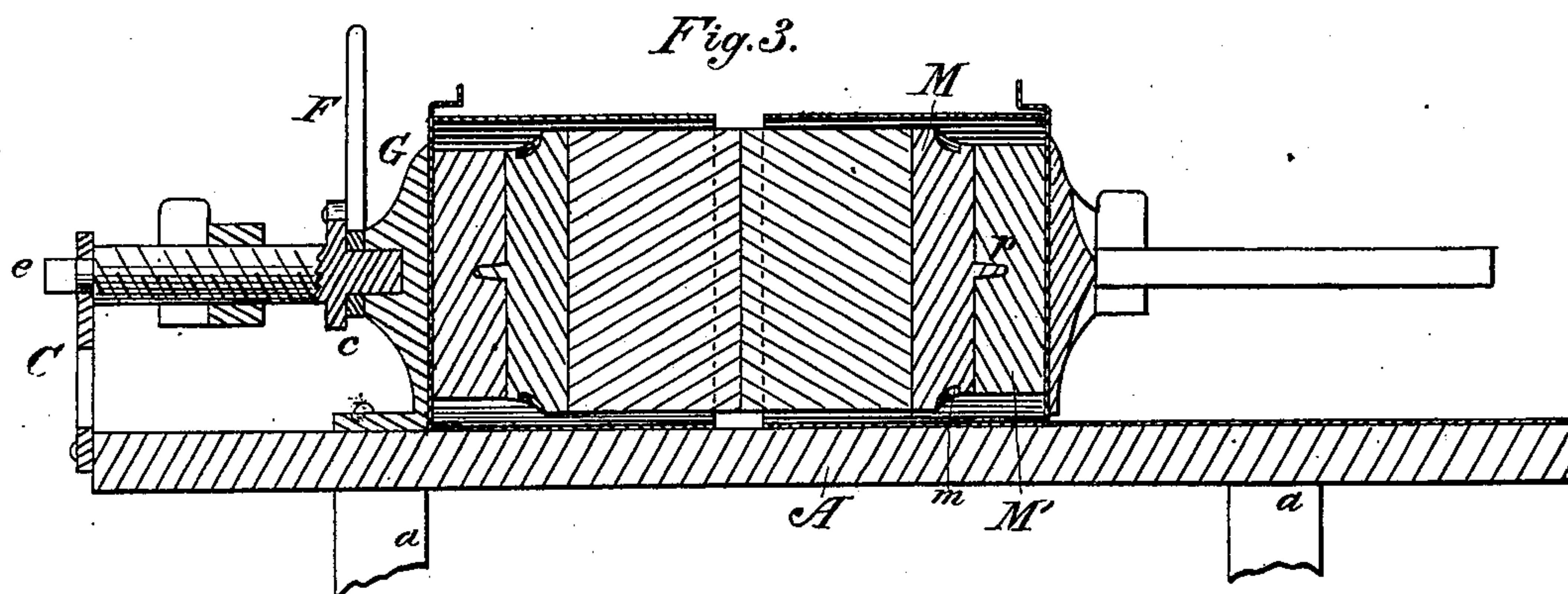
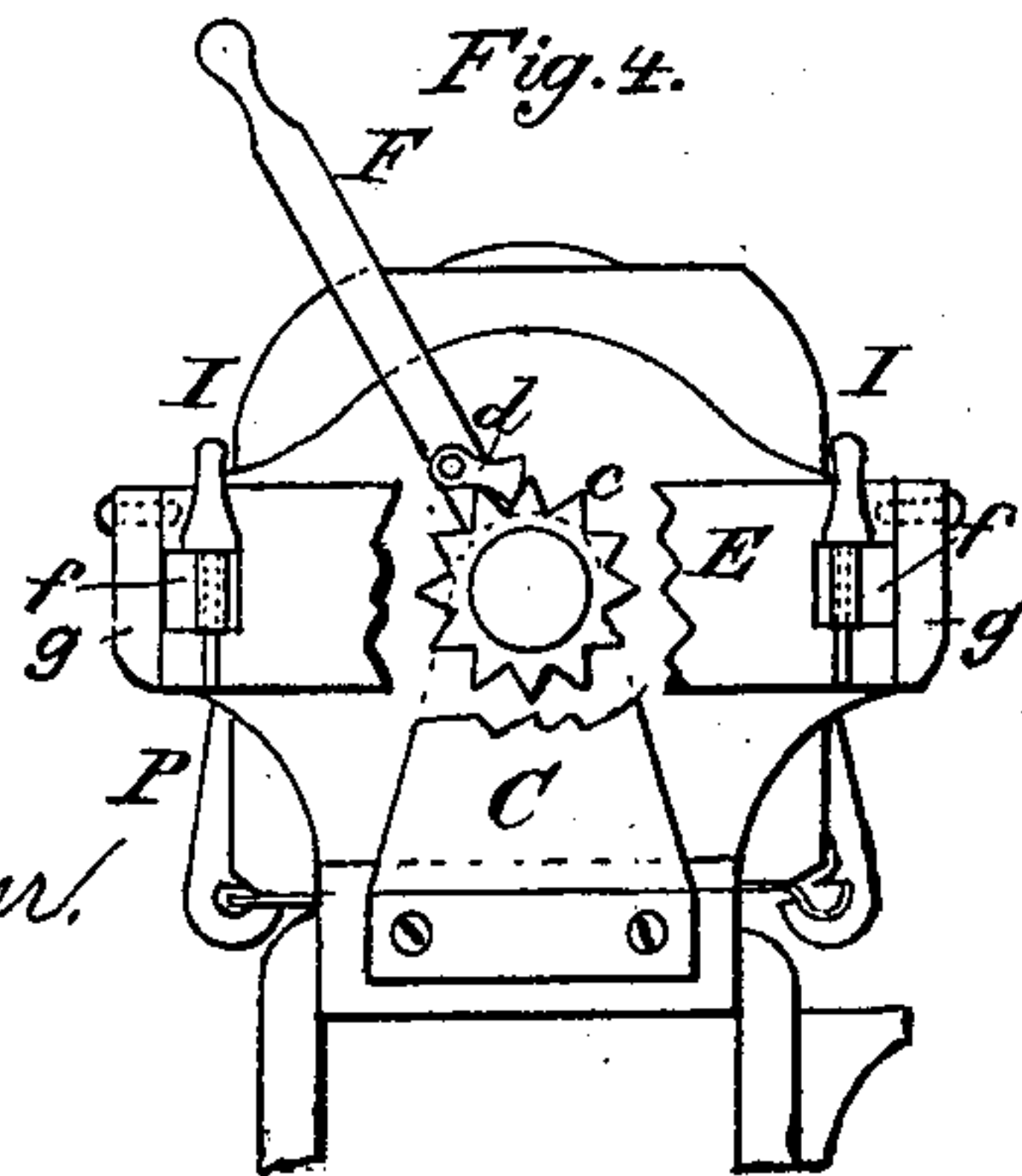


Fig. 4.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN GANG CHEESE-PRESSES.

Specification forming part of Letters Patent No. **201,838**, dated March 26, 1878; application filed January 29, 1878.

To all whom it may concern:

Be it known that I, OLIVER B. ROSS, of Monticello, in the county of Jones and State of Iowa, have invented certain new and useful Improvements in Gang Cheese-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in that class of cheese-presses usually denominated "gang-presses," in which a series of hoops, each furnished with its own follower, are placed upon suitable ways or supports, between an adjustable foot-block and a screw, so that the pressure which is applied to the first of the series by the screw is transmitted to the whole; the object being to so improve the construction and arrangement of the various parts of the press as to render them much more convenient to the operator than others of the class heretofore in use, as well as possessing greater durability, from the fact that nearly all the working parts may be constructed of metal; and the invention consists in certain details of construction and combinations of parts, as will be hereinafter fully described, and then specifically pointed out in the claims.

In the drawings, Figure 1 is a plan view, showing the press with two hoops in position. Fig. 2 is a side elevation. Fig. 3 presents a vertical longitudinal section on the line *xx* of Fig. 1. Fig. 4 is a front-end elevation, a part being broken away to show more clearly the ratchet by which the screw is worked.

A represents the bed of the press, supported on suitable legs *a*, and slightly inclined to one side on its upper face. Upon the top of this bed is placed a metallic bed-plate, B, projecting at both sides, to give greater width to the upper surface, and afford a guide to the legs of the foot-block. A channel, *b*, is formed in the bed-plate near its lower edge, and running its whole length, which serves to collect and carry off the whey as it is expressed from the cheeses in the press. Rising from the front end of the bed A is a standard, C, which

serves as a support for one end of the pressing-screw D, its opposite end being journaled in the stationary head-block G, which is securely fastened to the bed A, at a suitable distance from the standard C to admit the screw D between them. This screw is of somewhat greater length than one of the cheese-hoops employed in the press, and is provided with a ratchet-wheel, *c*, placed near the block G, sufficient space being left to allow of the pivoting of a hand-lever, F, between them, which carries a double-acting pawl, *d*, that, when acting in one direction, will revolve the screw to the right, but may be reversed, so as to move the screw to the left, and, when the lever takes a horizontal position, may fall by the side of the screw without engaging any of the teeth of the ratchet, thus leaving the screw free to be turned by other means, which may be a crank applied to the square end *e* of the screw, when it is desired to run it out or in quickly.

A bar, E, forms the nut upon which the screw acts, and is provided at each end with a recess, *f*, through which pass the slotted adjustable draw-bars H, being prevented from falling out of the recesses in the ends of the bar by the buttons *g*, pivotally attached to the ends of the bar E. These draw-bars H are provided with a series of slots or mortises, *i*, from end to end, through which the keys I pass to adjust the draw-bars and the position of the foot-plate to the number of cheeses in the press.

Recesses *k* are formed in the sides of the head-block G, through which the draw-bars H pass, their rear ends being supported in recesses formed in the sides of the foot-block, which are also provided with buttons *g* to retain the bars in place, similar to those employed for the same purpose on the bar E. Between the draw-bars H, and resting upon the bed-plate, are placed the hoops L, each of which is provided on the sides with lugs J, having handles J', which embrace the draw-bars H, and thus keep the hoops in their proper position upon the bed-plate B.

The followers are composed of two parts—viz., the blocks M and M', connected by a pin, *p*. The block M is also provided with recesses *m*, by which it is drawn from the hoop. The

object of constructing the block M smaller at one side than the other is, that when made in this manner it allows the cloth which incloses the curd in the hoop to be folded over said part M, leaving the pin *p* projecting. The part M' is then put in place, and holds the cloth firmly as folded.

N N represent press-boards, provided with a turned edge, *n*, serving as a handle to move them by, which are placed between the hoops L, when two or more are used at the same time. These hoops are plain, straight hollow cylinders, which do not telescope or enter each other, their outer surface being only broken by the lugs J, upon which the draw-bars rest, and by which they are retained in their proper position upon the bed-plate.

The foot-block O is provided with legs P, which pass downward and grasp the edges of the bed-plate, thus retaining the foot-block in its proper place relatively to the former and to the hoops. Brackets R are attached to the legs on one side of the machine, preferably the right, and serve to support one of the draw-bars while the hoops are being taken out or replaced in the press.

In operating this press, one of the draw-bars is taken out of the recesses in the ends of the foot-block and bar E, by turning up the buttons *g*, and placed upon the brackets R. This leaves the bed-plate of the press free and ready to receive the hoops. One of the hoops L is then placed in an upright position upon a press-board, the hoop lined with a suitable cloth and filled with curd. The projecting ends of the cloth may then be turned down upon the curd and the block M placed upon it; or, if desired, a circular piece of cloth may be placed directly upon the curd and the block M upon that, the projecting ends finding space around the small part thereof. The block M' is then applied, being guided and held in position by the pin *p*. The hoop is now ready to take its place in the press, which is accomplished by turning it, together with the follower-blocks and press-board, into a horizontal position upon the bed-plate, the end having the press-board being next to the foot-block; then, by taking hold of the top of the hoop and the curved point of the press-board, roll the hoop toward you, which will hook the lug on the farther side onto the under side of the draw-bar remaining in the press; then repeat this operation until the necessary number of hoops are filled and in place in the press, the press-board of each one following the first resting against the block M' of the follower of the preceding hoop; then slide up the tail-block O until all the cheeses are firmly embraced between it and the head-block; then turn down the handles J' upon the lugs of the hoops, and turn up the buttons *g* of the bar E and tail-block O; then replace the bar H, securing it by the buttons and handles. The keys I are next inserted into those mortises in the bars H nearest to bar E and foot-block O.

This completes the preparations for pressing, which is accomplished by turning the screw D to the right, which forces the bar E against the keys I in that end of the draw-bars, while the keys at their opposite ends come in contact with the foot-block O and draw it, together with the cheeses and hoops, toward the head-block G, and thus press the cheese. If they are not sufficiently pressed by the time the bar E has moved the length of the screw, the screw may be run back, carrying the bar E with it, when the keys I are taken from the mortises in which they were first placed and placed in others nearer the bar E, and the operation repeated. If it be required to keep the pressure continuous, the lever F may be placed at an angle and a weight attached, or any other equivalent means of the many commonly used for the purpose.

To remove the cheeses from the press the screw D is first turned back; then the buttons *g* upon the bar E and foot-block are turned up and the handles J' of the hoops turned down. Take the draw-bar H out of the recess in the head and foot blocks, laying it on the brackets R; then, beginning with the first hoop, roll it from you, which will disengage it from the draw-bar remaining in the press; then turn the top of the hoop to the right into an upright position, remove the blocks M and M', and then draw the hoop up off the cheese, leaving the latter standing on the press-board; repeat the operation until all the cheeses are out of the hoops.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. The inclined bed A, in combination with the metallic bed-plate B, provided with longitudinal groove *b* along its lower edge, as specified.

2. The draw-bars H, provided with mortises or slots *i*, as and for the purpose specified.

3. The draw-bars H, provided with keys I, in combination with the bar E and foot-block O, as and for the purpose set forth.

4. The block M, having recess *m* and pin *p*, in combination with block M', substantially as specified.

5. A cheese-press formed by the combination of the following elements, viz: an inclined bed, a longitudinally-channeled bed-plate, an operating-screw acting upon a bar, which, in turn, acts upon two slotted draw-bars, the stationary head-block, movable foot-block, hoops, and followers, all constructed and arranged for joint operation substantially as set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

OLIVER B. ROSS.

Witnesses:

GEORGE G. SCHAEFFER,
D. D. FAGAN.