

(No Model.)

T. PUETZ, Jr.

CAM.

No. 336,528.

Patented Feb. 16, 1886.

Fig. 1.

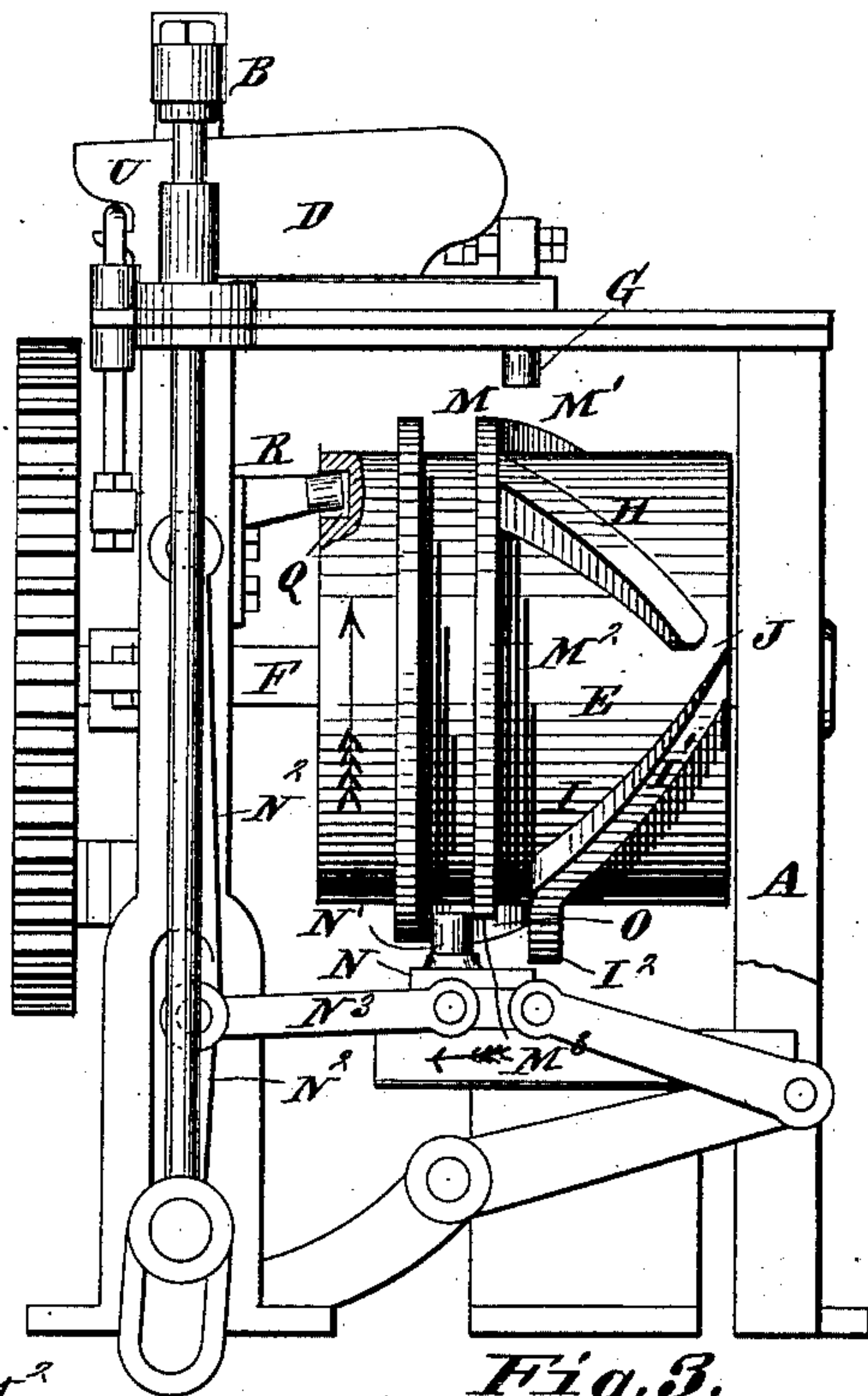


Fig. 2.

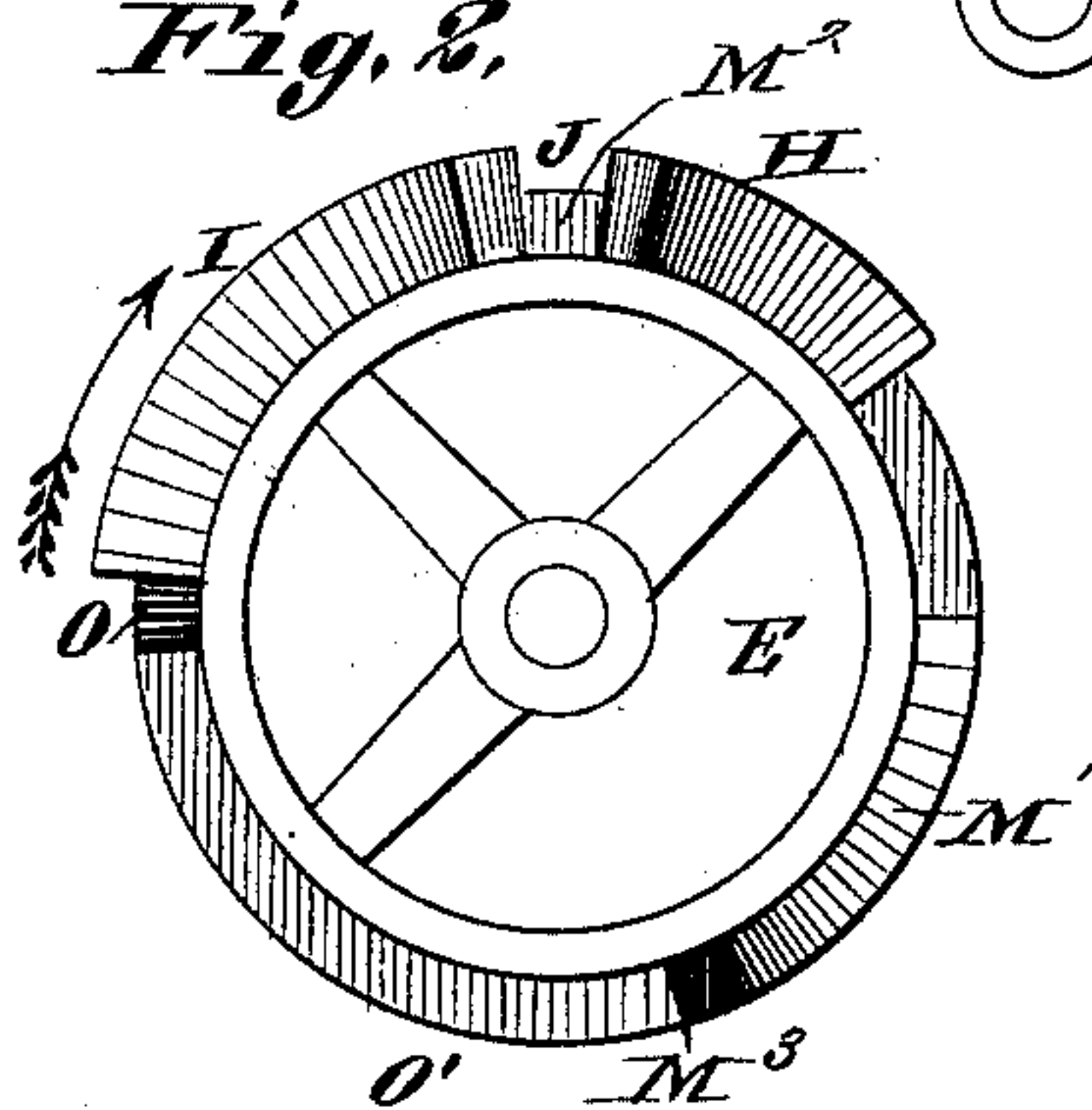


Fig. 3.

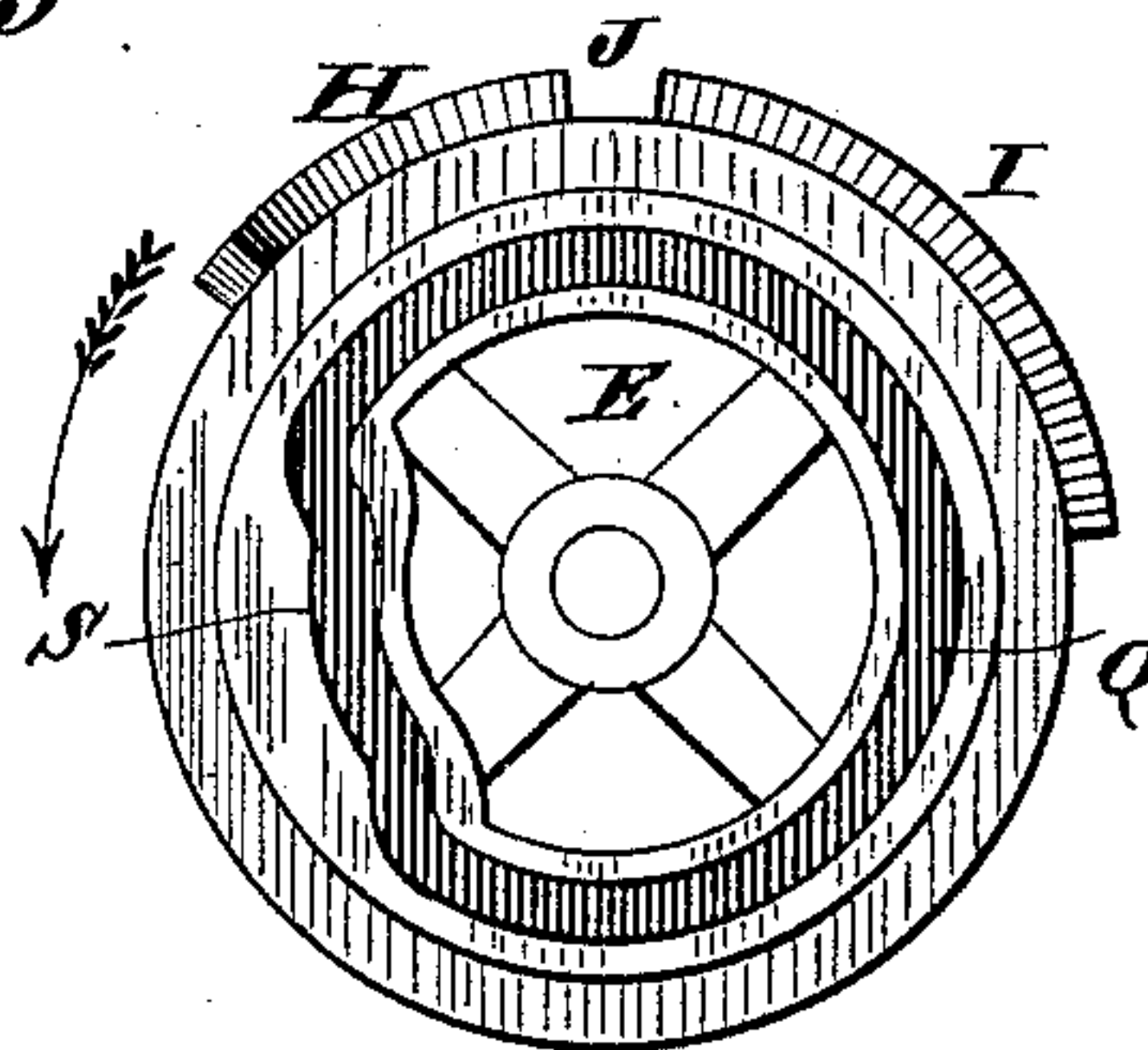
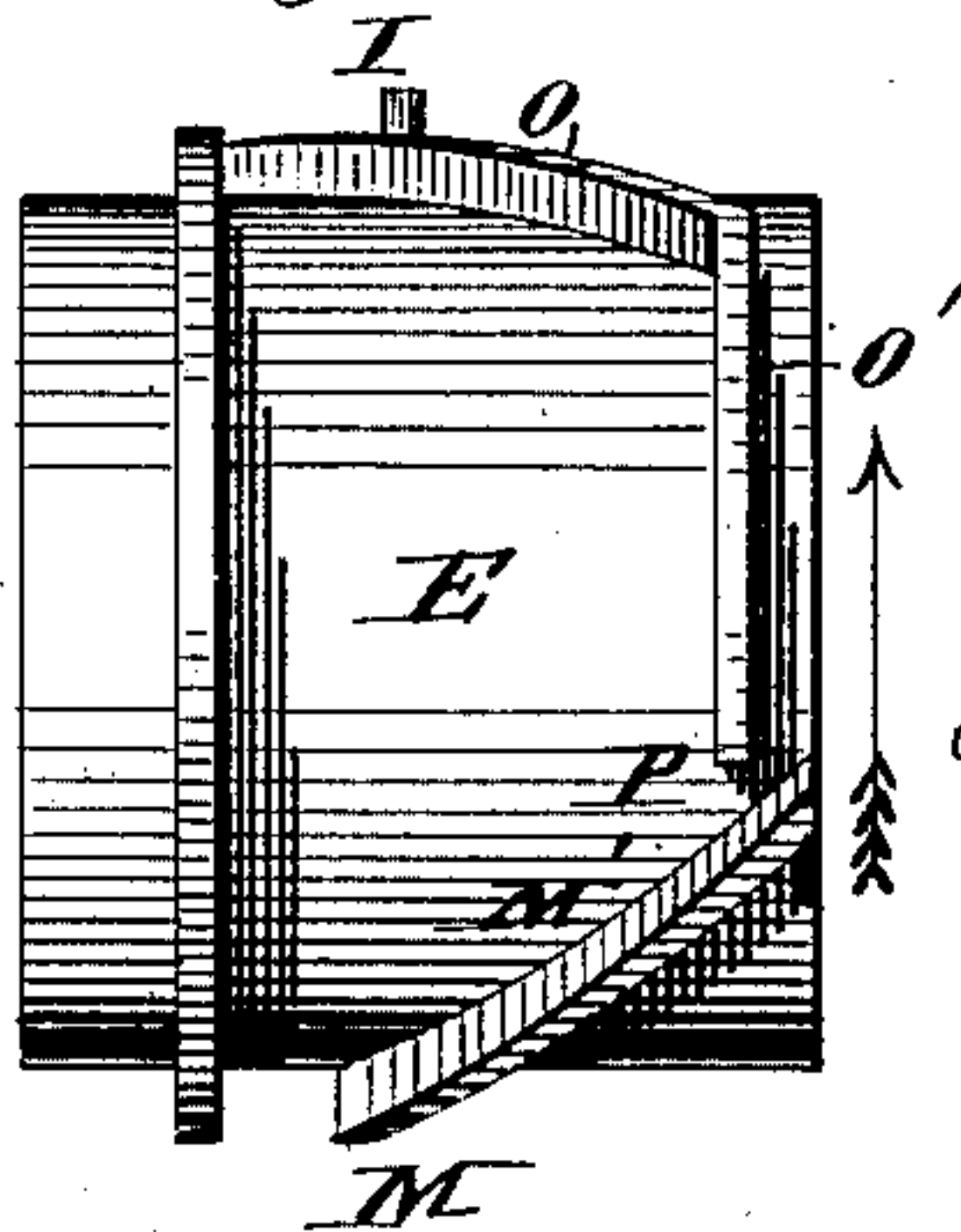


Fig. 4.



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CAM.

SPECIFICATION forming part of Letters Patent No. 336,528, dated February 16, 1886.

Application filed November 14, 1885. Serial No. 182,801. (No model.)

To all whom it may concern:

Be it known that I, TILLMAN PUETZ, Jr., of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Cams, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side elevation of a machine to which my improved cam is applied. Fig. 2 is an outside end view of the cam. Fig. 3 is an inside end view of the cam; and Fig. 4 is an elevation of the cam, showing the opposite side to that shown in Fig. 1.

My invention relates to an improved form of cam-drums for operating the parts of any machine to which it may be applied; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A represents the frame of a machine—such as, for instance, a brick-machine or plug-tobacco machine. B represents the plunger of the machine, and D the charger. These parts are only partially shown in Fig. 1, as it is deemed unnecessary to more fully illustrate them, as they form no part of my present invention, and may be changed or substituted by parts entirely different in construction, and which would work equally well with the cam-drum to which my invention relates.

E represents the drum, arranged upon a suitable shaft, F, and which may be turned by any suitable means in the direction indicated by the arrows.

H represents a cam secured to or formed upon the periphery of this drum, to force the charger backward by coming in contact with a pin, G, depending from the charger, and I a cam, also formed upon the periphery of the drum, to move the charger in the other direction by coming in contact with the pin G. The cam I has an inclined portion, I', (shown most plainly in Fig. 1,) which causes the forward movement of the charger, and it has a portion, I², that is parallel with the circumference of the roller, the office of this latter portion being to hold the charger a short time in its forward position before the cam leaves the projection G. There is a space, J, between the

adjacent ends of the cams H and I, as shown in Figs. 1, 2, and 3, for the passage of the projection G from one to the other, so that when the charger is pulled back by the cam H the pin may be engaged by the part I' on the cam I, to push it forward again.

M represents a cam on the drum for forcing the plunger of the machine downward. Any suitable connection may be made between this cam and the plunger. I have shown a sliding block, N, provided with a pin, N', that is engaged by the cams, and the block is connected by means of toggle bars N² and a link, N³, to the plunger. As the block is forced in the direction shown by the arrow, the plunger is depressed. It is forced in this direction by an inclined part, M', of the cam M, and when it has reached its forward movement it is held in this position a short time by a part, M², of the cam M that is parallel with the circumference of the drum, the office of which is to hold the plunger in its lower position and keep the pressure upon the material being compacted. This cam M ceases at a point marked M³, and then a cam, O, comes against a projection, N', on the block N, and forces the block and toggle-bars from the position to which they have been forced, the cam M thus lifting the plunger again; and this cam O has a portion, O', parallel with the circumference of the drum which holds the plunger in its elevated position until the proper time comes for it to be again depressed, and then the projection N' will pass through a space, P, at the end of this cam O.

To prevent the pin depending from the charger being operated by the plunger-cams O and M, I raise the charger-cams H and I above the top of the plunger-cams, so that they engage this pin, while the pin does not have to extend sufficiently far down to be engaged by the cams of the plunger. Should a vertical movement be necessary to be given to the front U of the charger, as is often the case, this may be accomplished by a cam-groove, Q, made in the inner end of the drum, as shown in Figs. 1 and 3, in which fits the inner end of a lever, R, pivoted to the frame of the machine and connected by its outer end to the charger, as shown in Fig. 1, the groove in the drum being annular until it reaches an offset, S, and as the end of the lever enters this offset its outer

end is elevated, causing this upward movement of the front part of the charger. This part of the groove holds the charger in its upper position for a short time, and then the charger is pulled down again by the end of the lever emerging from the offset in the cam-groove.

By my improved cam the different parts of a brick-machine or a plug-tobacco machine can thus be operated from a single casting—that is, a drum having cams formed upon it of the proper shape to give the movement to the different parts at the proper time.

Being able to cast the drum with the cams upon it at one operation, the device can be produced cheaply, and there are no parts to get out of order and require repairing.

I claim as my invention—

1. A single drum, E, formed with inclined cam H, cam I, having inclined portion I' and straight portion I², and cam M, having inclined portion M' and straight portion M², the cams being located on the periphery of the drum, substantially as set forth.

2. A single drum, E, formed with cams H I and M O on the periphery thereof, and a cam-groove, U, in the inner end of the drum, having an offset, S, substantially as set forth.

3. A single drum provided with cams M and O, and the cams having inclines M' and O' and straight portions M² and O², for the purpose set forth.

4. A single drum provided with cams H and I, as specified, and the cam I having an inclined portion, I', and straight portion I², for the purpose set forth.

5. A single drum, E, formed with cams M O and H I on the periphery thereof, the cams H I being elevated above the cams M O, substantially as set forth.

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In presence of—

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