(No Model.)

C. E. THOMAS.

MACHINE FOR FINISHING THE MOUTHS OF GLASS BOTTLES.

No. 348,797. Patented Sept. 7, 1886.

Fig. 1.

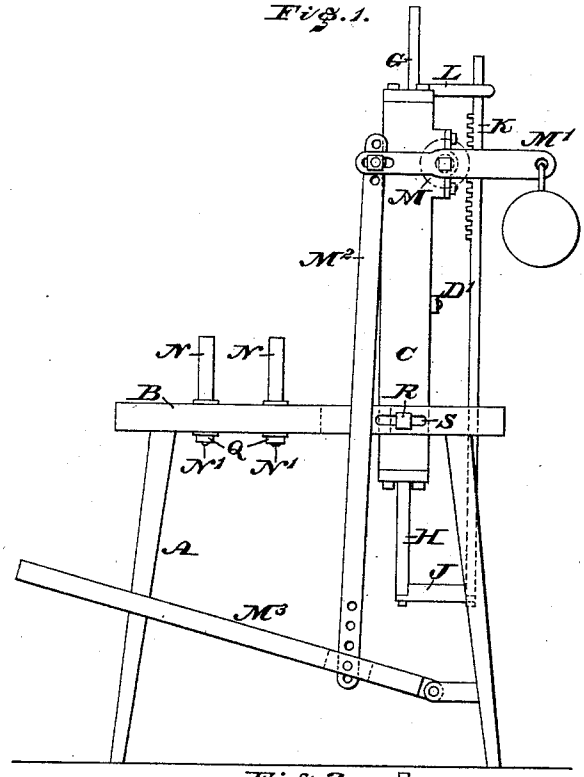


Fig. 3.

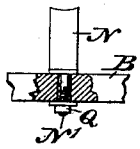


Fig. 2.

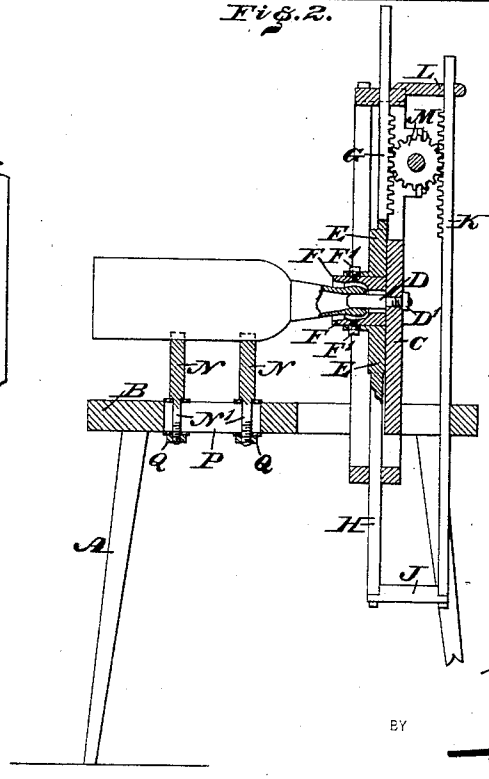
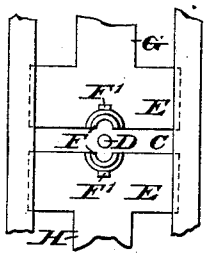


Fig. 4.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR FINISHING THE MOUTHS OF GLASS BOTTLES.

SPECIFICATION forming part of Letters Patent No. 348,797, dated September 7, 1886.

Application filed October 24, 1885. Serial No. 180,803. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. THOMAS, a citizen of the United States, residing at Williamstown, in the county of Gloucester, State of New Jersey, have invented a new and useful Improvement in Machines for Finishing the Mouths of Glass Bottles, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a side elevation of a machine embodying my invention. Fig. 2 represents a vertical section thereof. Figs. 3 and 4 represent views of detached parts.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a machine for goffering or finishing the mouths of glass bottles having the jaws which carry the molds for the exterior of said mouths connected with mechanism, whereby said jaws are simultaneously operated in their closing or opening motions.

It further consists in rendering the machine adjustable to bottles of different sizes.

Referring to the drawings, A represents the frame of the machine, and B the table thereof. Rising from the frame is an upright frame or support, C, to which is attached a plug or core, D, which projects horizontally from said support, and is of contour relatively to the interior of the mouth of a bottle to be finished.

E represents jaws, to which are attached the molds F for the exterior of the mouth of a bottle to be finished. The upper jaw is connected with a vertical rack-bar, G, which slides and is guided in the side and bottom pieces of said support C. The lower end of the bar H is attached to a horizontal piece, J, from which rises a rack-bar, K, it being seen that by this construction the lower jaw is connected with said rack-bar K.

In order to guide the rack-bar K, it is passed through a piece, L, at the top of the support C, and a proper portion of the table B.

On the support C is mounted a pinion, M, which meshes with the two rack-bars G K, whereby, by the rotation of the pinion, the rack-bars are moved in opposite directions, thus closing or opening the jaws E.

In order to operate the pinion, the shaft thereof carries a weighted arm, M′, which, by means of an arm or bar, M^2, is attached to a treadle, M^3, whereby, by pressure exerted on the treadle, the pinion is rotated in one direction, and when the treadle is released the parts return to their normal position, rotating the pin in the other direction.

To the table B are attached supports N, whose stems N′ are passed through slots P in said table and secured by nuts Q, which are fitted on the threaded ends of said stems, so as to tighten the supports on the table.

The upright frame C is connected with the frame A by means of bolts R, which are passed through slots S in the sides of said table, whereby said frame C and the connected parts may be set nearer to or farther from the supports N. Owing to the slots P, the supports N may be set nearer to or farther from each other and the plug D.

The molds F may be set nearer to or farther from the plug D, owing to the bolts F′, and said plug may be set nearer to or farther from the molds F, owing to the threaded shank of said plug and the nut D′ thereon. The points of connection of the arms M′ M^2 and arm M^2 and treadle M^3 may also be changed, and thus by these several provisions the parts of the machine may be adjusted to different sizes of bottles or nature of work to be performed on the mouths of said bottles.

The molds F may be removed and substituted by others of different forms and sizes, as required.

The bottle, held by a pontee or other tool, is properly placed on the supports N, the mouth thereof receiving the plug D. The treadle is then operated, whereby the rack-bars are moved in reverse directions, and both jaws advance toward the exterior of the mouth of the bottle, closing the molds thereon. The bottle is properly rotated, and when the mouth is finished the treadle is let go, whereby the rack-bars are again operated, and the jaws separate, withdrawing the mold from the bottle, whereby the latter may be removed and another bottle applied to the supports, it being evident that the work is uniformly and expeditiously accomplished.

The machine will be found capable of being worked with ease, as it is simple in construction and inexpensive, owing to the few parts constituting the same.

When it is desired to operate the machine by power, suitable pulleys may be attached to

the shaft of the pinion M, and a proper shipper employed to cause reverse motions of said pinion.

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

1. In a machine for finishing the mouth of a bottle, the frame A and table B, in combination with the upright C, the jaws E, one of which has the rack-bar G connected thereto, the other jaw having the bar H depending therefrom and connected by the horizontal piece J to the vertical rack K, the said racks G and K meshing with a pinion, M, having its axle journaled in the upright C, substantially as and for the purpose set forth.

2. A machine for finishing the mouth of a bottle, having mold-carrying jaws, rack-bars connected therewith, and a pinion engaging with said bars for simultaneously closing and opening said jaws, substantially as described.

3. In a machine for finishing the mouths of bottles, the upright C, having a pinion, M, the axle of which has connected thereto a weighted bar, M′, the one end of said bar being adjustably connected to a treadle pivoted to the frame A of the machine, and rack-bars connected to the jaws E and meshing with the said pinion M, and adapted to move said jaws in opposite directions, all of said parts being arranged, combined, and operating substantially as described.

4. In a machine for finishing the mouths of bottles, the upright C, having the adjustable plug D, in combination with the jaws E, adjustable mold F, rack-bar G, connected to one of said jaws, and vertical rack-bar K, connected by the piece J and bar H to the other jaw E, pinion M, meshing with said rack-bars, and means, substantially as described, for operating said pinion, substantially as and for the purpose set forth.

5. The opening and closing jaws E, in combination with detachable molds F, and the bolts F′, rack-bar G, attached to one of the said jaws E, and rack-bar K, attached by means of cross-piece J and rod H to the other jaw E, pinion M, having its journal-bearing in the upright C, and adjustable supports N, substantially as described.

6. The table B, having slots S, in combination with laterally-adjustable frame C, the opening and closing jaws E, rack-bars G and K, connected to said jaws, the pinion M, adapted to operate said jaws in opposite directions, bar M′, arm M^2, and treadle M^3, substantially as described.

7. A device for finishing the mouths of bottles, having adjustable holders, and a laterally-adjustable frame carrying opening and closing jaws with adjustable molds, and an adjustable plug adapted for insertion in the mouths of the bottles, all substantially as described.

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