No. 741,249. PATENTED OCT. 13, 1903.

C. JOVIGNOT.

MACHINE FOR HERMETICALLY CLOSING BOTTLES OR OTHER VESSELS.

APPLICATION FILED APR. 16, 1903.

NO MODEL. 4 SHEETS—SHEET 1.

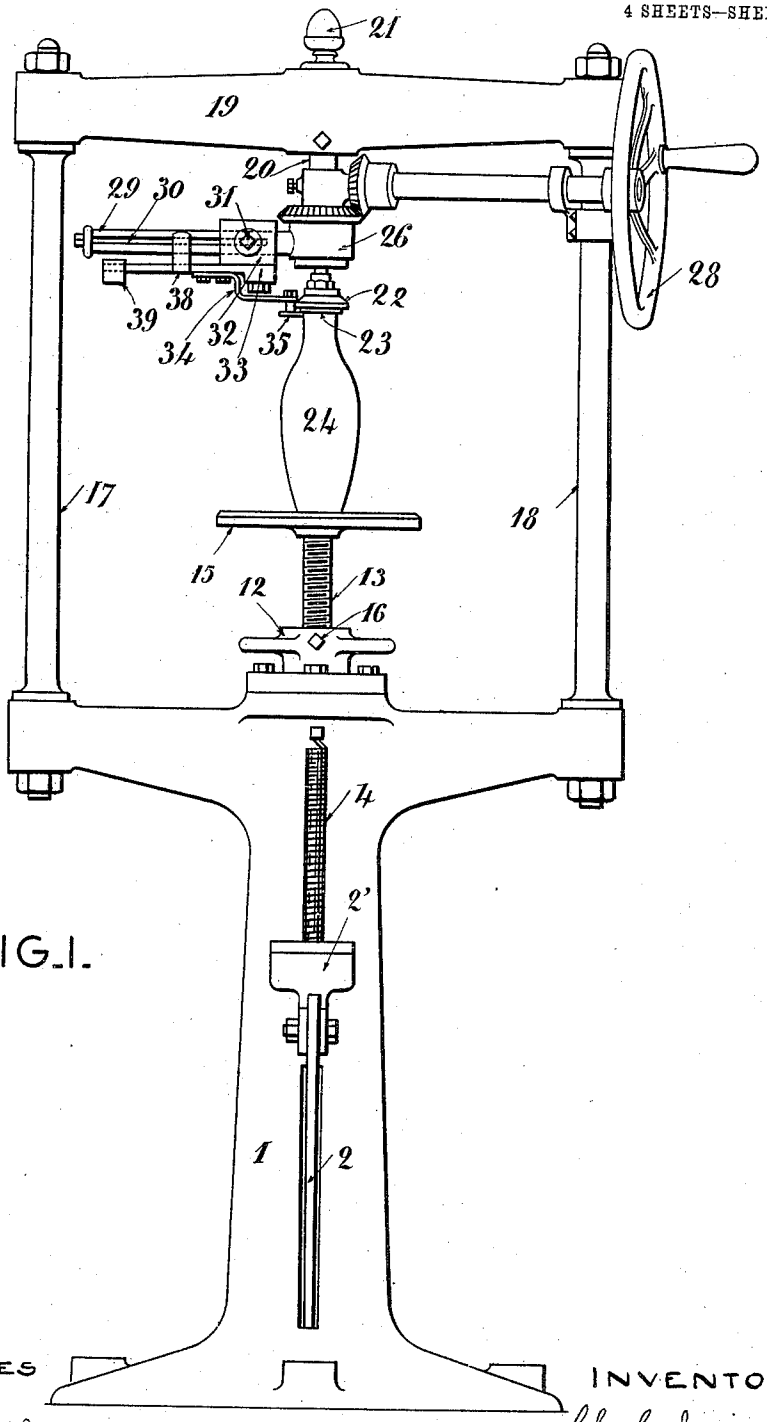



FIG. 1.

WITNESSES

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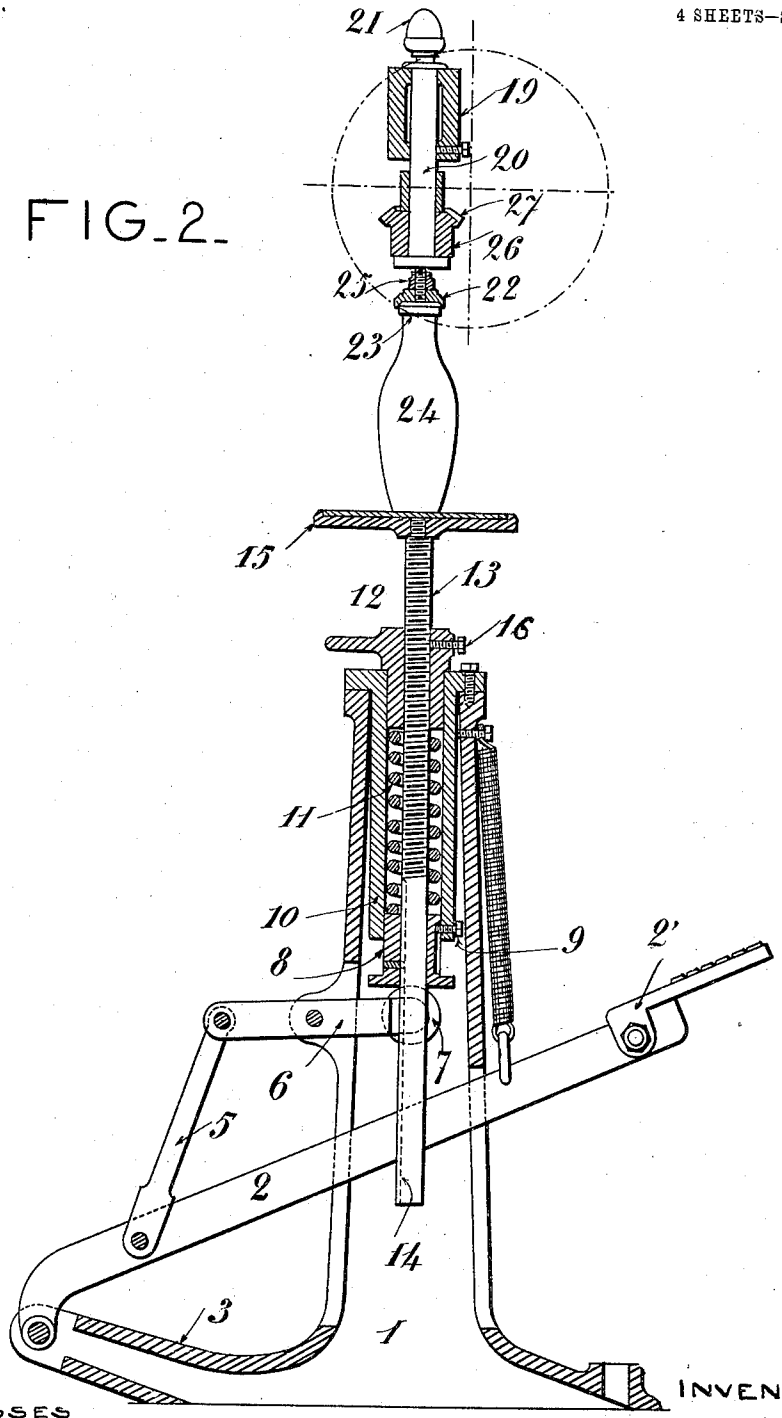
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NO MODEL. 4 SHEETS—SHEET 2.

FIG. 2.




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NO MODEL. 4 SHEETS—SHEET 3.

FIG. 3.

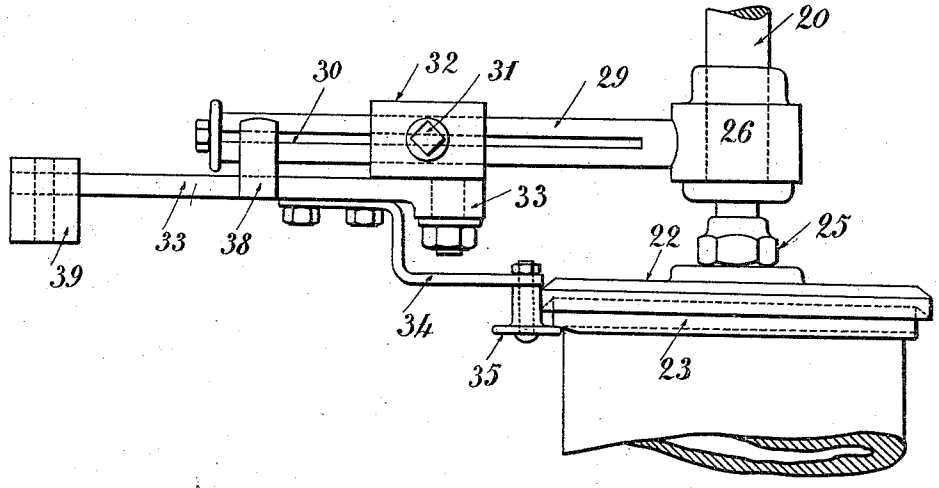
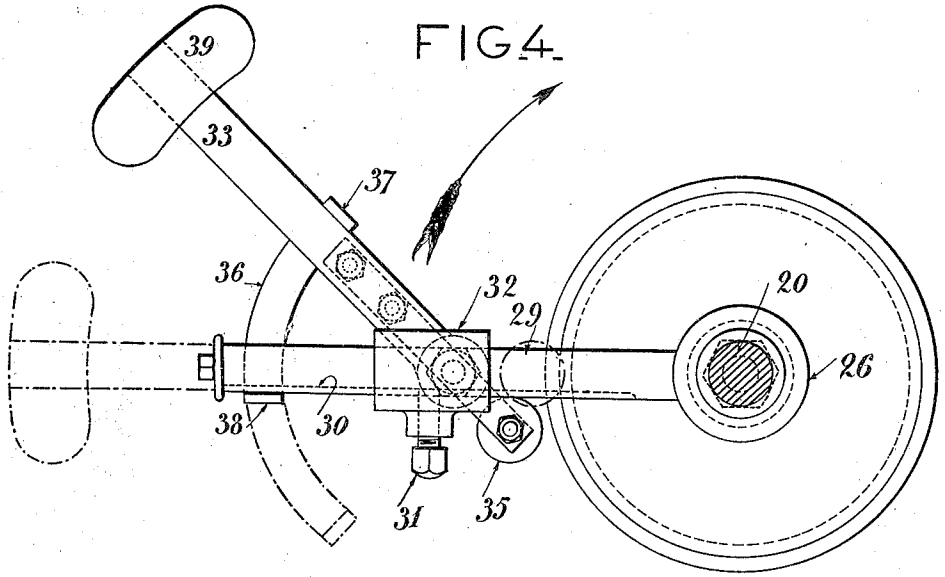



FIG. 4.




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NO MODEL. 4 SHEETS—SHEET 4.

FIG. 5.

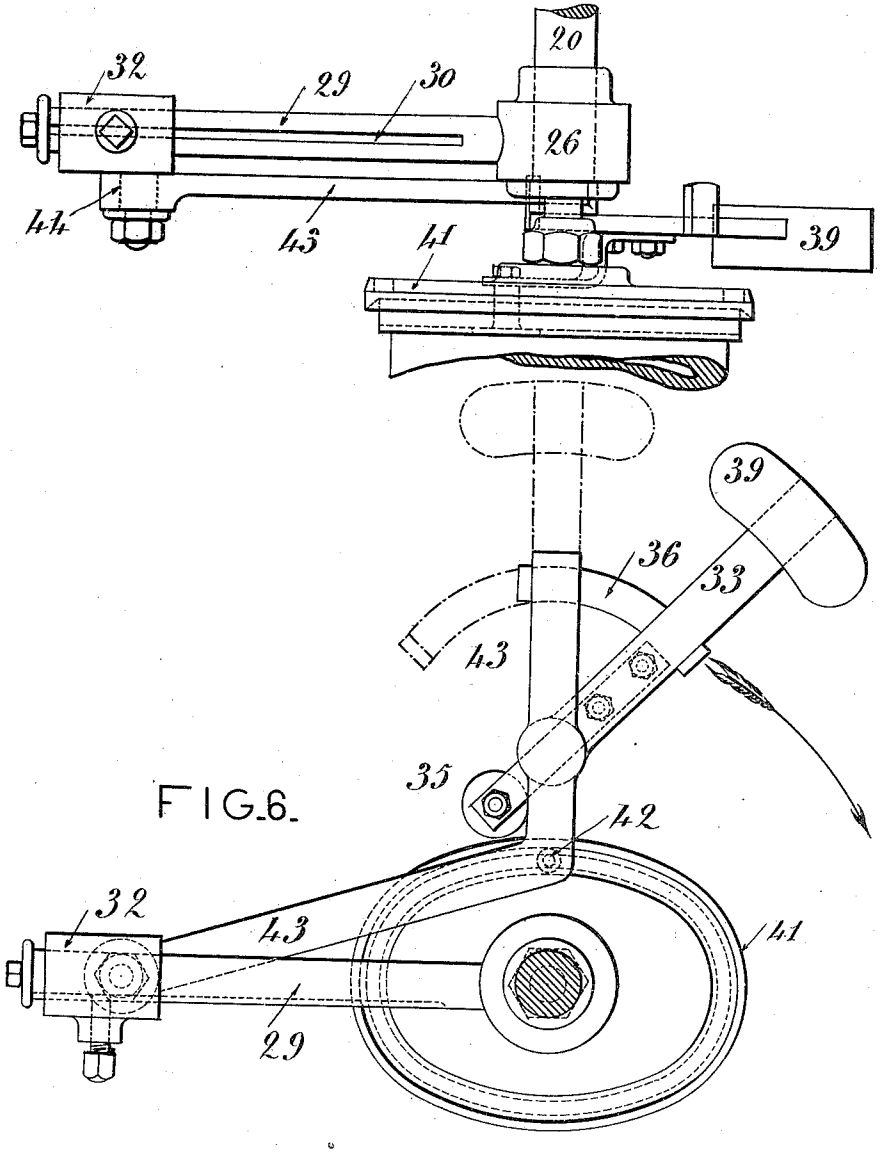



FIG. 6.

WITNESSES

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No. 741,249. Patented October 13, 1903.

# UNITED STATES PATENT OFFICE.

CHARLES JOVIGNOT, OF PARIS, FRANCE.

## MACHINE FOR HERMETICALLY CLOSING BOTTLES OR OTHER VESSELS.

SPECIFICATION forming part of Letters Patent No. 741,249, dated October 13, 1903.

Application filed April 16, 1903. Serial No. 152,898. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES JOVIGNOT, civil engineer, a citizen of the Republic of France, residing at 23 and 25 Avenue de Chatillon, Paris, in the Republic of France, have invented an Improved Machine for Hermetically Closing Bottles or other Vessels, of which the following is a specification.

This invention relates to a machine for closing and setting the covers of bottles and other vessels, characterized by the fact that the setting is obtained by a roller which is caused to bear against the edge to be set by the action of the inertia of a weight and which remains applied on said edge during the setting by the action of the centrifugal power of the parts in motion.

The invention consists besides in the particular construction of the machine which allows of setting the covers of bottles of any size.

In the accompanying drawings, Figure 1 is a front elevation of the machine. Fig. 2 is a cross-section on the axis of the machine. Fig. 3 is an elevation part of the machine, showing its application to closing receptacles of cylindrical shape. Fig. 4 is a plan view of Fig. 3. Fig. 5 is a view similar to the one of Fig. 3 of a slightly modified construction for use with oval-shaped receptacles. Fig. 6 is a plan view of Fig. 5.

The machine comprises a frame 1 with two slots in an axial plane for allowing the passage of a pedal-lever 2, articulated to a fixed arm 3. A spring 4 tends to lift the pedal, which has at its other end a pivoted plate 2′, on which the foot of the operator acts. A connecting-rod 5 transmits the movement of the pedal-lever 2 to a bifurcated lever 6, pivoted approximately at its center to a fixed point of the frame. The bifurcated end of the lever 6 has two rollers mounted on separate axles in alinement with each other. These rollers act on the lower part of a piston 8, having for nearly its entire length a groove into which takes a stud, pin, or screw 9. The purpose of the latter is to prevent the piston from leaving the cylinder 10 in which it moves. A powerful helical spring 11 inside the cylinder 10 bears on the piston 8 and on a bush 12, into which is screwed a threaded rod 13. The latter has in a considerable portion of its lower part a groove 14, into which engages a pin or equivalent in the piston 8, which prevents the screw from rotating, but allows of its vertical displacement. At the upper end of this screw is mounted a plate 15 with a suitable plastic covering or lining. The bush 12 can be held in place on the screw 13 by means of a set-screw or the like 16.

The frame is cast with two arms, in which are mounted two uprights 17 and 18, which support the head or cross piece 19. The latter has through its center a shaft 20, the upper end of which is screw-threaded and carries a fixing cap or knob 21, its lower end also being screw-threaded and carrying the guide-plug 22, intended to press on the cover or cap 23 during the setting. A lock-nut or equivalent 25 prevents the rotation of the plug 22 during working.

On the shaft 20 there is loosely mounted a sleeve 26, with a pinion 27 at its end, adapted to be rotated by any suitable transmission, by hand or mechanically. The drawings show as an example a gear adapted to be operated by means of a hand-wheel 28. The sleeve 26 is integral with a slotted guide-bar 29 30, in which is adapted to slide a pressure-screw 31, mounted in a sliding block 32 and serving to regulate the position of the latter on its support 29. This block 32 is provided with an axle, on which is pivoted a lever 33, having a powerful spring-plate 34, carrying the setting-roller 35. The lever 33 is made integral with a circular arm 36, provided at its ends with stops 37 and 38, which limit the swinging motion of said lever. Finally, an adjustable mass 39 is arranged at the end of said lever.

The action of the machine is as follows: The bottle 24, ready to be set and covered with its cap 23, is placed on the plate 15. The level of the latter is previously regulated by means of the bush 12. The pedal 2′ is then depressed and tensions the spring 11 and by the system of gear 5 6 lifts the piston 8, the screws 11, and the bush 12. During its ascent the latter takes with it the screw 13, with its plate 15 and the bottle thereon. The cover 23 is then centered under the plug 22 and pressure is exerted through the spring 11 by bearing on the pedal 2′. At this moment if the sleeve 26 be rotated in the direction of the arrow, Fig. 4, by acting suddenly on the hand-wheel

28 the guide-bar 29, with its sliding block 32, is carried along, but the metallic mass owing to its inertia tends to stand motionless with the lever 33, to which it is secured. In other words, the lever 33 possesses a reverse relative motion with regard to the one of the guide-bar and turns on its pivot till it occupies the position shown in dotted lines in Fig. 4. In this moment the roller 35 is caused to lay down the edge of the metal and to assure the setting around the cover, because on account of the centrifugal power it remains applied against the edge of the cover during the whole rotation of the movable part. When the setting is operated, if the motion is suddenly stopped the mass 39, continuing its motion on account of the terminal velocity, disengages the roller and returns to its initial position. (Shown in full lines.) The swinging motion of the lever 33 is limited in both directions by the stops 37 and 38. It is to be remarked that this arrangement gives to the setting an elasticity which can be regulated at will by varying the weight of the mass, its position on the lever 33, and its velocity, whereby the glass of the bottle, if it is uneven, cannot get broken, because the force with which the roller acts during the setting is always inferior to that which is necessary to break the glass.

To release the set bottle, the pedal 2′ is released and ascends under the action of its spring 4, allowing the plate 15, carrying the bottle, to descend.

The same principles are applicable to the fastening and setting of bottles of any shape, particularly to bottles of oval or elliptical shape. In the latter case the arrangement shown in Figs. 5 and 6 is preferably used.

The round plug 22 is replaced by another of exactly the same shape as the bottle, as at 41, Figs. 5 and 6. This plug has at its upper part a groove concentric with the bottle, in which groove there is adapted to revolve a roller 42, mounted on an axle fixed to a bell-crank lever 43, pivoted at 44 to the block 32. The other arm of the lever 43 carries the lever 33, provided with the adjustable weight 39 and the roller 35.

The action of this machine is the same as that of the other, and it is obvious that with it, as in the other, the lever carrying the roller has in all its positions during working a direction substantially perpendicular to the curve of the bottle.

With this machine bottles of any height can be stoppered. It is sufficient to alter the length of the uprights 17 and 18.

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

A machine for closing and setting the covers to bottles and the like, comprising a regulatable support for the bottle, a pressure and guiding plug beneath which is adapted to be placed the bottle provided with its cover, a shaft secured to the frame of the machine and carrying the plug, a sleeve loosely mounted on the shaft, means for driving the sleeve around the shaft, an arm connected to the sleeve, an adjustable block on said arm, a lever carried by said block and means on said lever for securing the cover to the bottle.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CHARLES JOVIGNOT.

Witnesses:

ANTOINE LAVOIX,

AUGUSTUS E. INGRAM.