No. 724,538. PATENTED APR. 7, 1903.

L. BONNEFOI.

WRAPPING MACHINE.

APPLICATION FILED JUNE 12, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

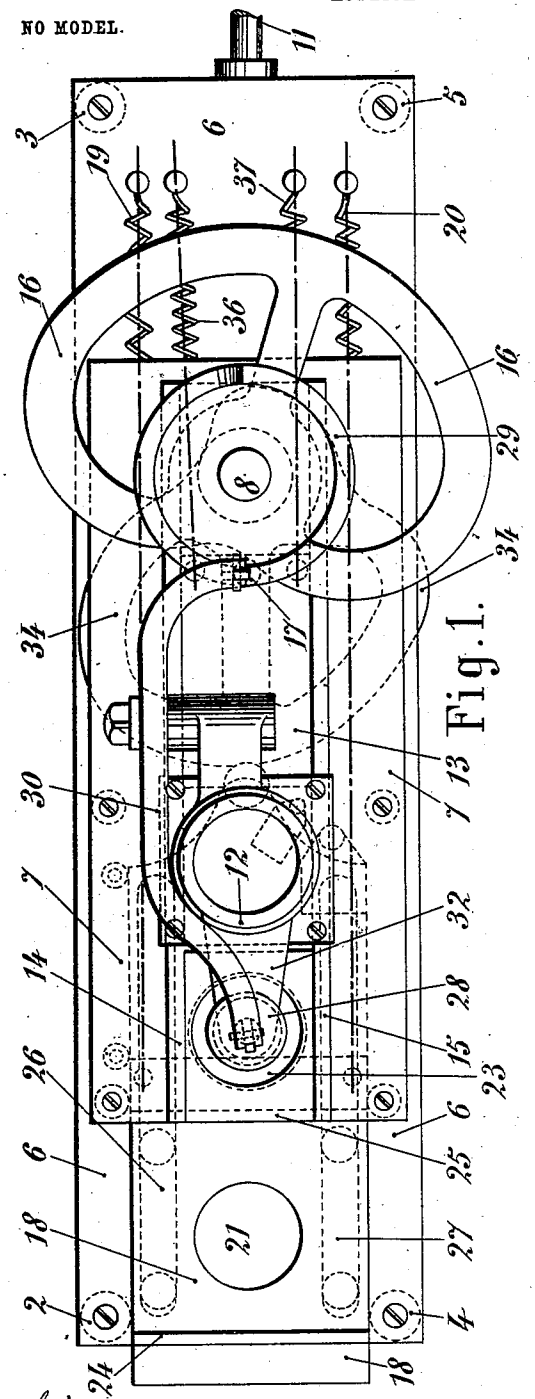


Fig. 1.

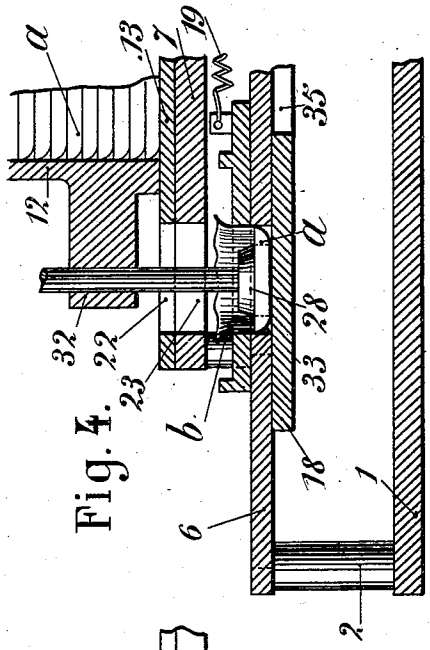


Fig. 4.

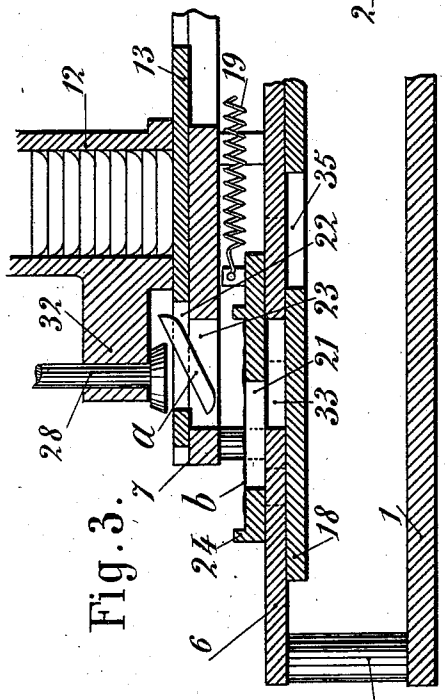


Fig. 3.

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NO MODEL. 3 SHEETS—SHEET 2.

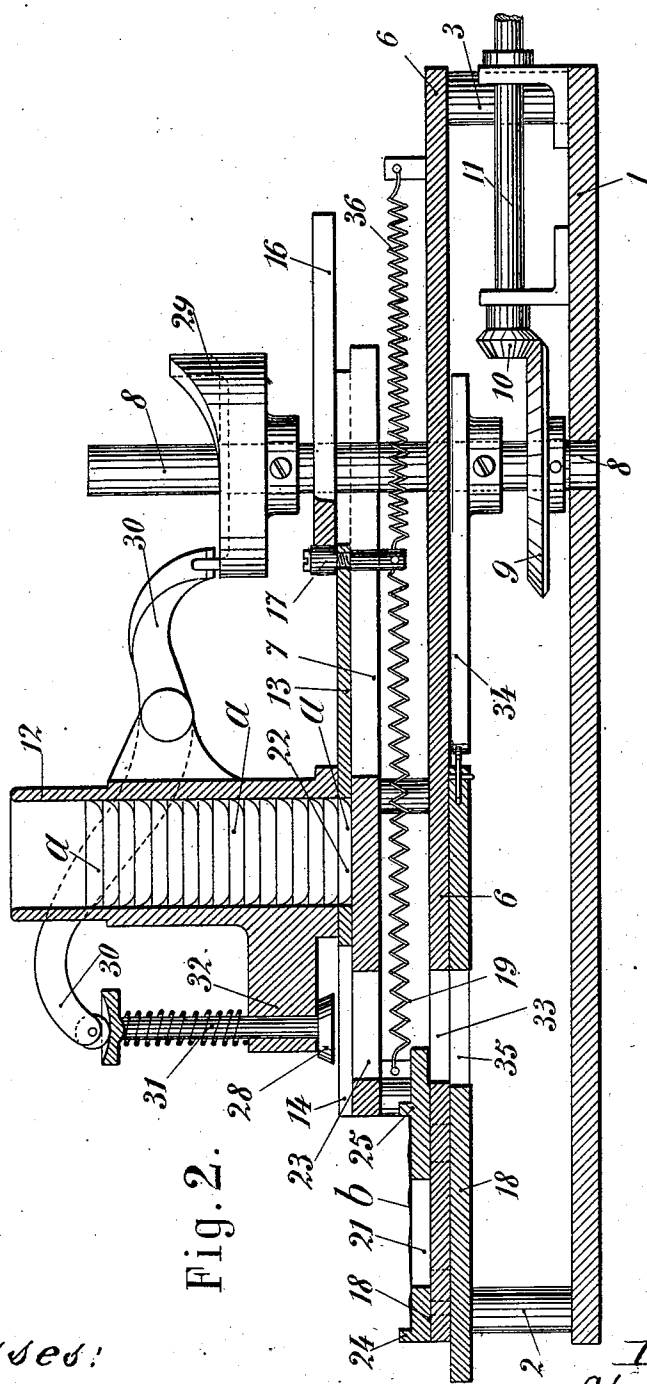


Fig. 2.

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APPLICATION FILED JUNE 12, 1902.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 5.

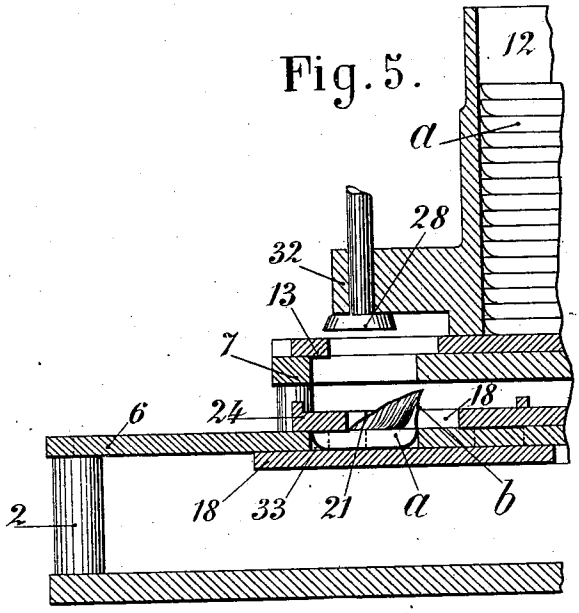


Fig. 6.

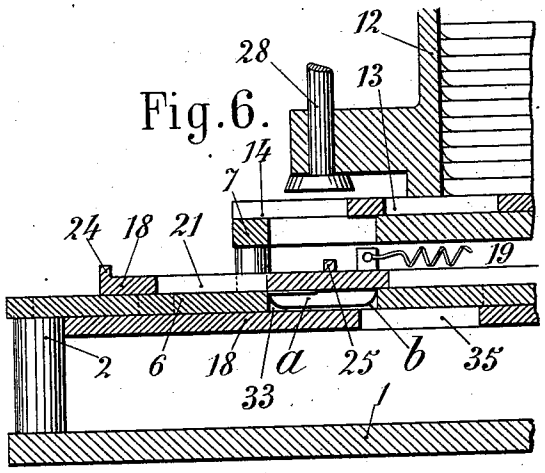
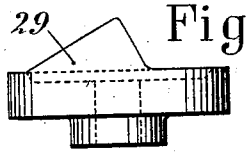


Fig. 7.



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UNITED STATES PATENT OFFICE.

LÉON BONNEFOI, OF TROYES, FRANCE.

WRAPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 724,538, dated April 7, 1903.

Application filed June 12, 1902. Serial No. 111,350. (No model.)

To all whom it may concern:

Be it known that I, LÉON BONNEFOI, of Troyes, France, have invented a new and useful Improvement in Wrapping-Machines, which improvement is fully set forth in the following specification.

This invention has for its object a machine for wrapping pastils or cakes of chocolate or other objects, whether round or otherwise, in tin-foil or paper. The machine shown in the drawings is specially intended for wrapping round pastils or cakes in tin-foil.

In the drawings, Figure 1 is a plan of the machine. Fig. 2 is a longitudinal section through the center of the machine. Figs. 3 to 6 are partial sections for showing the position of the different parts at different moments and for elucidating the action of the machine. Fig. 7 is a detail view.

a a are the pastils or cakes, and *b* the sheet of tin-foil in which the cake is wrapped.

The frame of the machine is formed of a foundation-plate 1, provided with four pillars 2, 3, 4, and 5. The pillars support a table 6, which carries a plate 7. 8 is a vertical shaft, upon which the controlling parts of the machine are mounted. The shaft carries a bevel-wheel 9, actuated by a pinion 10, which is keyed to the crank-shaft 11. Three cams, the function of which will be later explained, are keyed upon the shaft 8. Upon the plate 7 a box 12 is fixed, which contains the pastils or cakes *a* to be wrapped up in tin-foil. They are placed in the box by any suitable means.

Figs. 1 and 2 show the parts in the position in which they are at the moment the wrapping operation is about to commence.

The first pastil or cake of the pile, commencing from the bottom, is lodged, as shown in Fig. 2, in a recess in a movable piece 13, which slides under the box and which will hereinafter be called the "carrier." The carrier 13 slides between the guides 14 and 15, placed upon the plate 7. When the crank is turned, the cam 16 acts upon the roller 17 and causes the carrier 13 to advance into the position shown in Fig. 3, and the slide 18 is at the same time moved beneath the carrier by the returning-springs 19 and 20 in such a manner that the cavity 21 in the slide coincides with the hole 22 in the carrier and with orifice 23 in the plate 7. Care is taken to arrange upon the slide 18, above the cavity 21, a sheet *b* of tin-foil for wrapping the pastil or cake up in. As will be seen, the slide 18 is provided with flanges 24 and 25 in order to support the sheet of foil in position. The slide is formed of two plates, one above and the other below the table 6. The two plates forming the slide are held together by bolts, which slide in the grooves 26 and 27 in the table 6. The pastil or cake *a* falls, pushing before it the sheet of foil *b*. 28 is a plunger, which by the effect of the cam 29 actuating the lever 30 then takes the position shown in Fig. 4. The plunger 28 is then raised by the spring 31, which bears against the abutment 32, which is integral with the box 12. The abutment acts also as a bearing or guide to the stem of the plunger. The pastil or cake *a* now rests in the orifice 33 of the table upon the lower portion of the slide. The slide 18 is moved into the position shown in Fig. 5, and in its travel folds the left-hand side of the sheet *b* over the pastil or cake *a*. The slide then comes, by the action of the cam 34, back into its first position, (shown in Fig. 2,) and in its travel folds the right-hand side of the sheet *b* (see Fig. 6) over the pastil or cake. The cavity 35, formed in the lower portion of the slide, coincides with the orifice 33 in the table, thus allowing the pastil to fall. At this moment the wrapping is complete. At the moment at which the slide 18 commences to return to its first position the carrier 13 is moved back to its original position by the returning-springs 36 37 and is ready to receive a new pastil.

Of course the present invention is not limited to the means for actuating the parts, which may be altered as desired.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a wrapping-machine, a series of horizontal reciprocating plates provided with apertures adapted to receive the wrapper and the article to be wrapped, said plates arranged to slide one above the other in such a manner that the apertures therein will be successively brought into and out of register, thus folding the wrapper about the article.

2. In a wrapping-machine, the combina-

tion, with a hopper, of two plates spaced apart and provided with apertures adapted to receive the article to be wrapped, an interposed plate having an aperture, means for successively bringing the aperture of the interposed plate into and out of register with first one and then the other aperture of the spaced plates.

3. In a wrapping-machine, the combination, with the hopper, of two plates spaced apart and provided with apertures of dissimilar size adapted to receive the article to be wrapped, one of the spaced plates adapted to receive the wrapper, an interposed plate having an aperture, means for successively bringing the apertures of the spaced plates and the interposed plate into and out of register in such a manner as to fold the wrapper about the article.

4. In a wrapping-machine, the combination, with the hopper, of two horizontally-reciprocating plates spaced apart in fixed relation to each other and provided with non-registering apertures adapted to receive the article to be wrapped, an interposed stationary plate having an aperture, also adapted to receive the article, means for successively bringing the apertures of the spaced plates into register with the aperture of the interposed plate.

5. In a wrapping-machine, the combination with the hopper, of two movable plates spaced apart in fixed relation to each other and provided with non-registering apertures of dissimilar size adapted to receive the article to be wrapped, an interposed stationary plate having an aperture, means for successively bringing the apertures of the spaced plates into register with the aperture of the interposed plate.

6. In a wrapping-machine, the combination, with a receptacle, of two movable plates spaced apart in fixed relation to each other and provided with non-registering apertures of dissimilar size adapted to receive the article to be wrapped, an interposed stationary plate having an aperture, means for reciprocating the spaced plates in such a manner as to cause the aperture in the upper plate to pass in alternate directions across the aperture in the interposed plate and then bring the apertures in the lower and interposed plates into register.

7. In a wrapping-machine, the combination, with a support, of a stationary plate carried thereby and provided with an aperture conforming in size to the article to be wrapped, two spaced plates having fixed relation to each other and mounted for horizontal reciprocating movement on either side of the stationary plate, the spaced plates having apertures conforming in size to the aperture in the stationary plate adapted to receive the article to be wrapped, and means for successively causing the apertures in the three plates to be brought into and out of register.

8. In a wrapping-machine, the combination, with a support, of a stationary plate carried thereby and provided with an aperture conforming in size to the article to be wrapped, two movable plates having fixed relation to each other and mounted on either side of the stationary plate in sliding contact therewith, the spaced plates having non-registering apertures of dissimilar size, the smaller aperture corresponding in size to the aperture in the stationary plate adapted to receive the article to be wrapped, and means for causing the apertures in the spaced plates to be successively brought into and out of register with the aperture in the stationary plate.

9. In a wrapping-machine, the combination, with a support, of a stationary plate carried thereby and provided with an aperture conforming in size to the article to be wrapped, two spaced plates having fixed relation to each other and provided with non-registering apertures and mounted for horizontal reciprocating movement on either side of the stationary plate, means for bringing the apertures of the spaced plates successively into and out of register with the aperture in the interposed plate, and a plunger mounted for reciprocating movement in line with the aperture in the stationary plate.

10. In a wrapping-machine, the combination, with a support, two stationary plates carried thereby and spaced apart and having registering apertures conforming in size to the article to be wrapped, and a hopper, of a plate having a similar aperture and mounted for reciprocating movement between the lower end of the hopper and the upper stationary plate, two movable spaced plates having fixed relation to each other and provided with apertures and mounted on either side of the lower stationary plate by means of suitable securing means, a plunger mounted for vertical reciprocating motion in a line coinciding with the apertures in the stationary plates, and means for bringing the apertures in the reciprocating plates successively into and out of register with the apertures in the stationary plates.

11. In a wrapping-machine, the combination, with a support, two stationary plates carried thereby and spaced apart and having registering apertures conforming substantially in size to the article to be wrapped, and a hopper, of a plate having a similar aperture and mounted for reciprocating movement between the lower end of the hopper and the upper stationary plate, two movable spaced plates having fixed relation to each other and provided with apertures of dissimilar size and mounted on either side of the lower stationary plate by means of suitable bolts passing through a slot in the stationary plate, one of the two spaced plates adapted to receive the wrapper, a plunger mounted for vertical reciprocating movement in line with the apertures in the stationary plates,

and means for bringing the apertures in the movable plates successively into register with the apertures in the stationary plates.

12. In a wrapping-machine, the combination, with a support, two stationary plates carried thereby and spaced apart and having registering apertures conforming substantially in size to the article to be wrapped, and a hopper, of a plate having a similar aperture and mounted for reciprocating movement between the lower end of the hopper and the upper stationary plate, two spaced plates having fixed relation to each other and provided with non-registering apertures mounted for horizontal reciprocating movement on either side of the lower stationary plate, a plunger mounted for reciprocating movement in line with the apertures in the stationary plates, and means for bringing the apertures in the reciprocating spaced plates successively into and out of register with the apertures in the stationary plates.

13. In a wrapping-machine, the combination, with a support, two stationary plates carried thereby and spaced apart and having registering apertures conforming substantially in size to the article to be wrapped, and a hopper, of a plate having a similar aperture and mounted for reciprocating movement between the lower end of the hopper and the upper stationary plate, two spaced plates having fixed relation to each other and provided with non-registering apertures mounted for horizontal reciprocating movement on either side of the lower stationary plate, a plunger mounted for reciprocating movement in line with the apertures in the stationary plates, and means for causing the parts to assume their normal position.

14. In a wrapping-machine, the combination, with a suitable support, a power-shaft journaled in suitable bearings, and a vertical driving-shaft geared to the power-shaft and carrying a plurality of cams, of two stationary horizontal plates suitably spaced apart and provided with registering apertures conforming in size to the article to be wrapped, a hopper, a plunger mounted for vertical reciprocating movement in line with the apertures in the stationary plates, and a movable horizontal plate interposed between the bottom of the hopper and the upper stationary plate and provided with an aperture adapted to be brought alternately into register with the bottom of the hopper and the aperture in the stationary plate, two spaced plates having fixed relation to each other and provided with non-registering apertures and mounted for horizontal movement on either side of the lower stationary plate, the upper one of said plates adapted to receive the wrapper, suitable connections between the plunger and the cams whereby the plunger will be vertically reciprocated, and suitable connections between the movable plates and cams whereby the apertures in the several plates will be successively brought into and out of register from the top downward.

15. In a wrapping-machine, the combination, with a suitable support, a power-shaft journaled in suitable bearings, a vertical driving-shaft geared to the power-shaft and carrying cams, two stationary horizontal plates suitably spaced apart and provided with registering apertures conforming substantially in size to the article to be wrapped, and a hopper, of a plunger mounted for vertical reciprocating movement in line with the apertures in the stationary plates, a lever connection between said plunger and a cam carried by the vertical shaft, a movable horizontal plate interposed between the bottom of the hopper and the upper stationary plate and provided with an aperture adapted to be brought alternately into register with the discharge-opening of the hopper and the aperture in the stationary plate, two spaced plates having fixed relation to each other and provided with non-registering apertures and mounted for horizontal movement on each side of the lower stationary plate, the upper one of said plates adapted to receive the wrapper, and suitable connections between the movable plates and cams whereby the apertures in the several plates are successively brought into and out of register from the top downward.

16. In a wrapping-machine, the combination, with a suitable support, a power-shaft journaled in suitable bearings, a vertical driving-shaft geared to the power-shaft and carrying cams, two stationary horizontal plates suitably spaced apart and provided with registering apertures conforming substantially in size to the article to be wrapped, and a hopper, of a plunger mounted for vertical reciprocating movement in line with the apertures in the stationary plates, a lever connection between said plunger and a cam carried by the vertical shaft, a movable horizontal plate interposed between the bottom of the hopper and the upper stationary plate and provided with an aperture adapted to be brought alternately into register with the discharge-opening of the hopper and the aperture in the stationary plate, two spaced plates having fixed relation to each other and provided with non-registering apertures and mounted for horizontal movement on each side of the lower stationary plate, the upper one of said plates adapted to receive the wrapper, suitable connections between the movable plates and cams whereby the apertures in the several plates are successively brought into and out of register from the top downward, and springs connecting the reciprocating parts with fixed portions of the apparatus whereby such parts will be returned to their normal position.

17. In a wrapping-machine, a support, a power-shaft, a vertical driving-shaft geared to the power-shaft, cams mounted on the driv-

ing-shaft, a stationary plate carried by the support and having apertures corresponding in size to the article to be wrapped, a second stationary plate above the first stationary plate and having an aperture coinciding with the aperture in the first stationary plate, a plunger mounted for reciprocation at right angles to the stationary plates and in line with the apertures therein, a lever connecting the plunger with one of the cams, a hopper mounted above the upper stationary plate and to one side of the aperture, a movable plate interposed between the upper stationary plate and the hopper and having an aperture, means connecting the movable plate with one of the cams in such a manner as to bring the aperture therein alternately into register with the discharge-opening of the hopper and with the aperture in the upper stationary plate, two movable plates mounted one above and the other below the lower stationary plate and secured in fixed relation to each other and having non-registering apertures, the two movable plates connected with one of the cams in such a manner as to bring their non-registering apertures successively into register with the coinciding apertures in the stationary plates, means for imparting motion to the power-shaft, and means serving to return the movable plates to their normal position.

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

LÉON BONNEFOI.

Witnesses:

PAUL DE MESTRAL,

EDWARD P. MACLEAN.