

No. 616,125.

Patented Dec. 20, 1898.

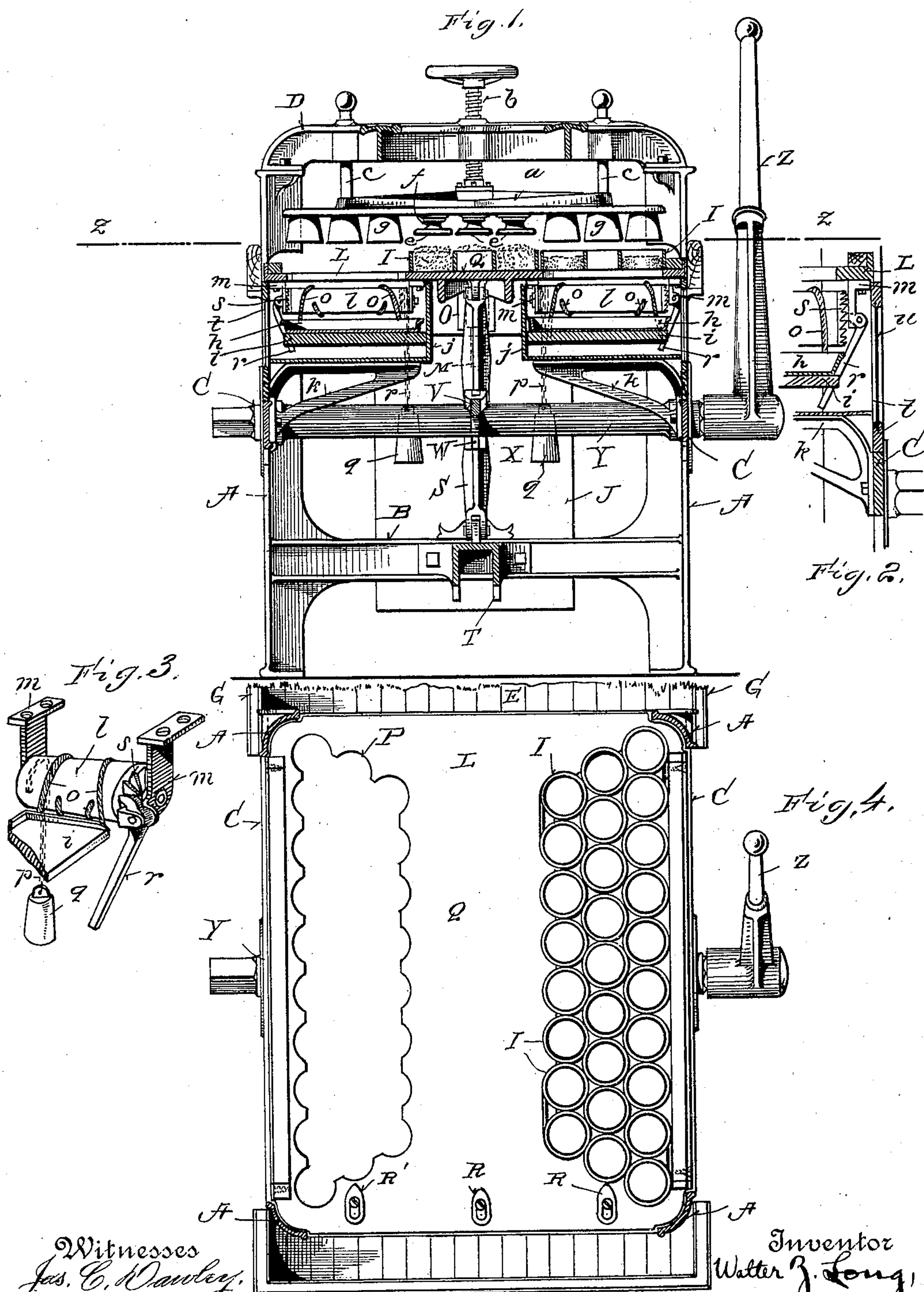
W. Z. LONG.

POP-CORN FRITTER MACHINE.

(Application filed May 24, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
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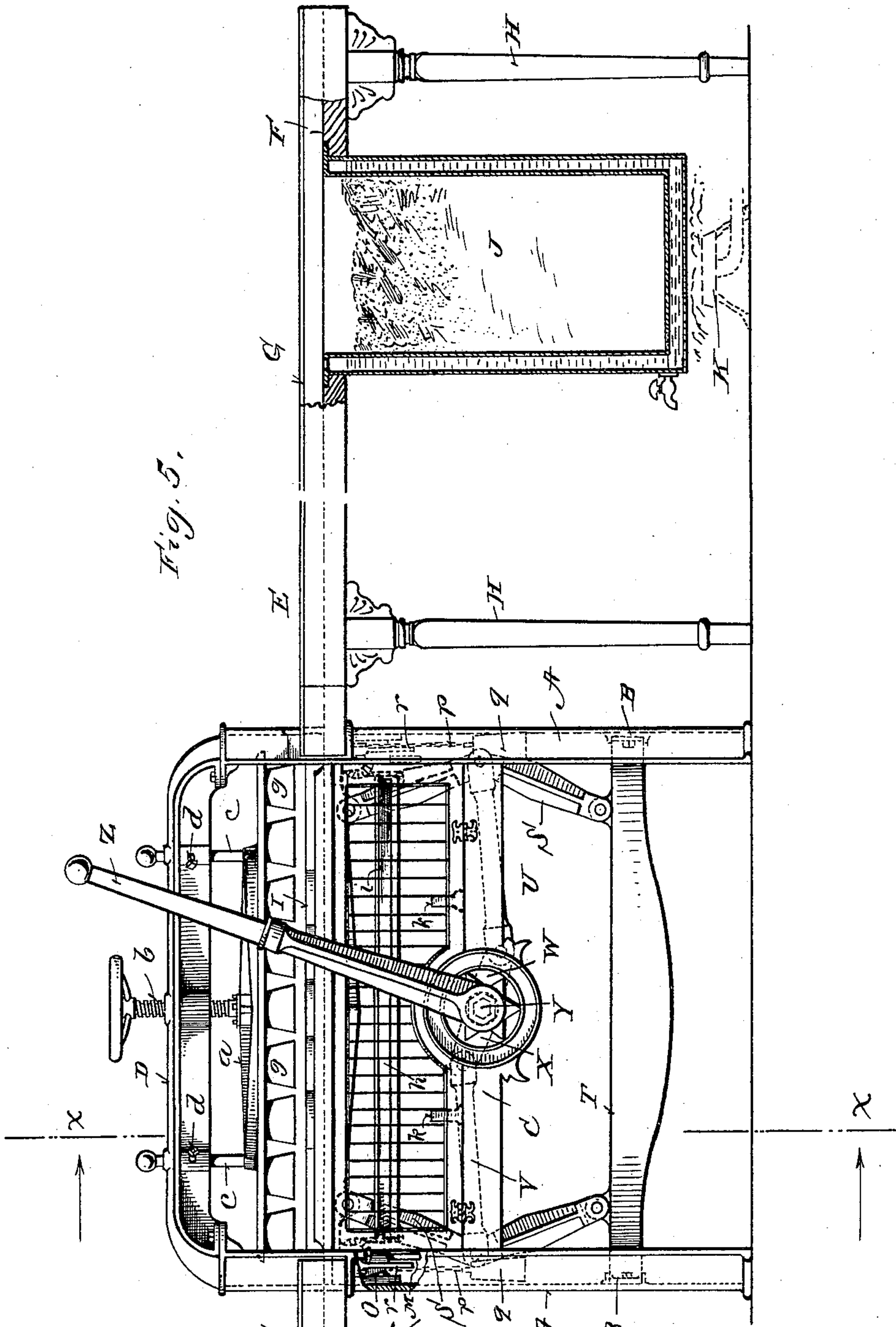


Fig. 5.

Fig. 6.

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# UNITED STATES PATENT OFFICE.

WALTER Z. LONG, OF SPRINGFIELD, OHIO.

## POP-CORN-FITTER MACHINE.

SPECIFICATION forming part of Letters Patent No. 616,125, dated December 20, 1898.

Application filed May 24, 1897. Serial No. 637,826. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER Z. LONG, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Pop-Corn-Fitter Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in pop-corn-fitter machines, and in some respects is of the same character as the machine patented to me September 15, 1896, by Letters Patent No. 567,836 for pop-corn-fitter machines.

The principal features of my present invention relate to a follower having compressor and ejector pillars and a movable table or platform and means to actuate it so that it will cause the compressor-pillar to compress a crate of fritters and the ejector-pillars to eject another crate of fritters, whereby the double operation of compressing and ejecting is conducted at the same time; relate to a suspended and movable shelf for the fritter-receptacle, adapted to gradually recede from the incoming fritters as they are ejected from the crate and accumulate in the receptacle; relate to a peculiar combination of a rock-shaft and operating-lever with toggle-bars and intermediate connections for actuating the table or platform, and to other features of detail, as hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a vertical sectional view of my machine on the line *xx* of Fig. 5; Fig. 2, a detail sectional view of a part of the frame and the suspended shelf and its mechanism; Fig. 3, a detail perspective view of the shelf-suspending mechanism and a part of a shelf; Fig. 4, a horizontal sectional view on the line *zz* of Fig. 1, showing the movable platform or table in plan with one of the crates on the same; Fig. 5, a side elevation of the machine with parts in section, and Fig. 6 a detail sectional view showing the way or guide for the movable table or platform.

The letter A designates the uprights of a stout frame, preferably of metal, which up-

rights are connected together by cross-braces B at the ends and side pieces C at the sides and at their upper ends by a four-armed spider D, each arm being connected to the top of an upright. Thus a rigid frame is constituted. At one end of the frame an extension or table E is provided, and consists of a fixed top F, with sides G and legs H, of which latter there are four. The sides G are secured in any convenient manner to two of the uprights A, as shown in Fig. 5. This top F is in the same plane with the normal position of the movable platform, presently to be described, so that the fritter-crates, one of which is shown at I in Fig. 4, being a series of rings or bands connected together, can be easily slid from the top F to and upon such platform. These crates are filled with the mixture of pop-corn and adhesive sweets while they are on the top F, such mixture being taken from the heating-tank J, which is double-walled to prevent burning and is heated by a suitable heating appliance, as a burner K. (Shown in dotted lines.) The water in the space between the walls of this vessel or tank is heated, and thereby the operator is enabled to properly heat the pop-corn and the sweetened adhesive material with which it is mixed. As set forth in my said former patent, this sweetened adhesive material is first cooked to about 300° Fahrenheit and then placed in this vessel or tank upon the pop-corn, which has been previously placed therein. This range of temperature is kept to maintain the proper constituency to enable the material and corn to be worked.

Hereinafter in speaking of "fritters" or "pop-corn fritters" I wish to be understood as meaning the pop-corn when combined with the sweetened adhesive material.

Within the four uprights A is slidingly mounted the platform L, hereinbefore referred to. It is so mounted by means of pins M, secured to its bottom and adapted to slide in brackets O, secured to the inner sides of the upright (see Fig. 6) and the part broken away from the left-hand upright in Fig. 5. This platform is formed with openings P near the sides and a solid or imperforated inner portion Q. These openings P permit the fritters when ejected from the crates to drop



down into the fritter-receptacles. The crates I, after being filled with pop-corn from the tank J, are slid along until they rest upon the part Q of the platform, and adjustable stops R arrest them as they are pushed in. They are so placed one at a time. After one crate full of fritters is compressed the crate is shifted to one side and over one of the openings P and against one of the adjustable stops R'. Another filled crate is then slipped upon the part Q of the platform. Then when the platform is operated again this second crate full is compressed and the first crate full ejected into the receptacle below. Then when the platform has been lowered again the empty crate is withdrawn and the compressed crate of fritters is moved over one of the openings P and another filled crate slid upon the part Q, and so on, there always being a crate of fritters to be emptied and a crate of fritters to be compressed. This operation of the movable platform is performed by means of the toggle-bars S, pivoted to such platform and to a stout beam T, connected with the cross-bars B. The toggle-bars at their inner pivotal point are connected with pitmen U and V, which in turn are pivoted to arms W and X, extending from a rock-shaft Y, mounted in the side bars of the frame and provided with a removable handle-lever Z, by which this shaft is rocked in either direction, so that the toggle-bars are spread and folded, and hence the platform raised or lowered.

From the spider D is adjustably suspended a plate or follower *a* by means of a stout screw *b* with a hand-wheel. Pins or posts *c*, secured in the spider, act as stops to prevent the follower-plate from yielding to the upward pressure. These pins or posts are held in adjusted positions, according to the adjustment of the follower-plate, by means of set-screws *d*, as shown in Fig. 5. There are two kinds of pillars, one, *e*, having necks *f*, which prevent them from becoming clogged with the small scraps of corn which work over them. The other class are ejected pillars *g*, being preferably slightly tapered, as shown. Viewing Fig. 1, it will readily be seen that upon raising the platform, as above described, the pop-corn in the fritter-crate I will be forced up against the compressed pillars *e*, while the compressed fritters in the other crate will be ejected therefrom and will drop down into the fritter pans or receptacles *h*, which rest upon suitable shelves *i*, placed within sheet-metal shields *j*, composed of a bottom and inside wall and two ends, but having no top and no outer side. These shields rest upon brackets *k*, secured to the side bars C.

The shelves *j* are suspended by a balancing mechanism consisting of two rollers *l* for each shelf, the rollers being mounted in brackets *m*, secured to the bottom of the platform L. Cords *o* are wound about these rollers and

connected with the shelves *i*. Chains *p* are also wound about the rollers, provided with weights *q*, which tend to raise the shelves, with their pans, to the upper position permitted by the arrangement of the parts, (but this is not material,) but yield to the incoming fritters after the pans are partly filled, as such incoming fritters press down upon those already in the pans. A gravitating detent engages with a ratchet-face *s* on the rollers to lock the rollers after each partial rotation due to the pressure of said incoming fritters as they are forced in upon those already in the pan. Each shelf *i* extends from one end of the frame to the other, as shown in Fig. 5, and has a roller at each end, there being two shelves and four rollers. Each of the four rollers has a weight and this detent and ratchet-face.

To inclose the fritters and yet make it convenient to remove them, a door *t* is hinged in a suitable manner to each side bar C, and preferably has wires or bars *u*.

The mode of operating this machine will be understood from the foregoing description, and it will be seen that I have provided for compressing and ejecting fritters at the same time, so as to conduct a double operation, and thereby increase the output of the machine. A machine built upon the plan shown in the accompanying drawings with three operators will readily produce thirty-five thousand fritters per day. It will be seen also that I have provided a feasible arrangement for filling the crates and conducting them to the compressor and ejector mechanism, so as to make the machine complete in itself, and that little or no time is lost in the actual work of the machine by the necessary manipulation of the crates. By having two openings P an operator can stand on each side and the compressed fritters can be alternately placed over the respective openings. This arrangement increases the output.

While I have shown and described a movable shelf for the fritter-receptacle, it will be understood that the other features of my machine may be used irrespective of the character of this shelf, whether movable or not.

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

1. In a pop-corn-fritter machine, the combination with a follower or plate having compressor and ejector pillars, of a movable platform adapted to support a crate of pop-corn and a crate of fritters and present them to said classes of pillars, respectively whereby the double operations of compressing and ejecting are simultaneously performed.

2. In a pop-corn-fritter machine, the combination with a follower-plate having an inner series of compressor-pillars and two outer series of ejector-pillars, of a movable platform with openings under the ejector-pillars and adapted to support a crate of pop-corn under



the compressor-pillars, and a crate of fritters under the ejector-pillars and to permit the fritters to drop beneath it, means to actuate said platform, and suitable receptacles for said fritters.

3. In a pop-corn-fritter machine, the combination with a follower-plate having compressor and ejector pillars, of a movable platform beneath the same, a rock-shaft and toggle mechanism to actuate said platform, the latter being adapted to present crates of pop-corn and fritters to said respective kinds of pillars.

4. In a pop-corn-fritter machine, the combination with a follower-plate having ejector-pillars, of a movable platform having an ejector-opening and adapted to present a crate of fritters to said pillars to eject the same through said opening, and means to actuate said platform, and move it out of its normal plane.

5. In a pop-corn-fritter machine, the combination with a follower-plate suspended by a screw and backed by adjustable pins or posts, of a movable platform having a solid inner portion and openings in its side portions, compressor-pillars on the plate over the central portion, and ejector-pillars over the said openings, and means to actuate the follower-plate.

6. In a pop-corn-fritter machine, the combination with a follower-plate having a central series of compressor-pillars and two outer series of ejector-pillars, a screw to suspend and adjust it and adjustable posts which back it up, of an adjustable platform solid under the compressor-pillars and open under the ejector-pillars, a rock-shaft and toggle-bar

mechanism to actuate said platform, and suitable receptacles to receive the fritters.

7. In a pop-corn-fritter machine, the combination with a contiguous table and a movable platform, a heating-vessel for pop-corn at the table and a follower-plate with compressor and ejector pillars at and over the platform, suitable shiftable crates transferable along the table and platform from near said vessel to under said pillars, and means to actuate said platform with said crates upon it to and against said pillars.

8. In a pop-corn-fritter machine, the combination with ejector-pillars and a movable platform, of a fritter-receptacle suspended beneath the pillars and platform and adapted to yield to incoming fritters when forced upon its contents.

9. In a pop-corn-fritter machine, the combination with a shelf, a roller near each end of it, cords connected to the shelf and wound on the rollers, means to rotate the rollers and means to lock the same.

10. In a pop-corn-fritter machine, the combination with a movable platform, of a rock-shaft mounted beneath it, arms on the rock-shaft, pitmen connected with said arms, toggle-bars pivoted to the machine-frame and to the platform at their ends and connected intermediate with said pitmen respectively, and a hand device to operate said shaft.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER Z. LONG.

Witnesses:

W. M. MCNAIR,  
GEO. ARTHUR.