(No Model.) 2 Sheets—Sheet 1.

R. S. MURRAY & F. W. EAMES.

MACHINE FOR DROPPING LIQUID MATERIAL INTO MOLDS.

No. 524,263. Patented Aug. 7, 1894.

FIG: 1.

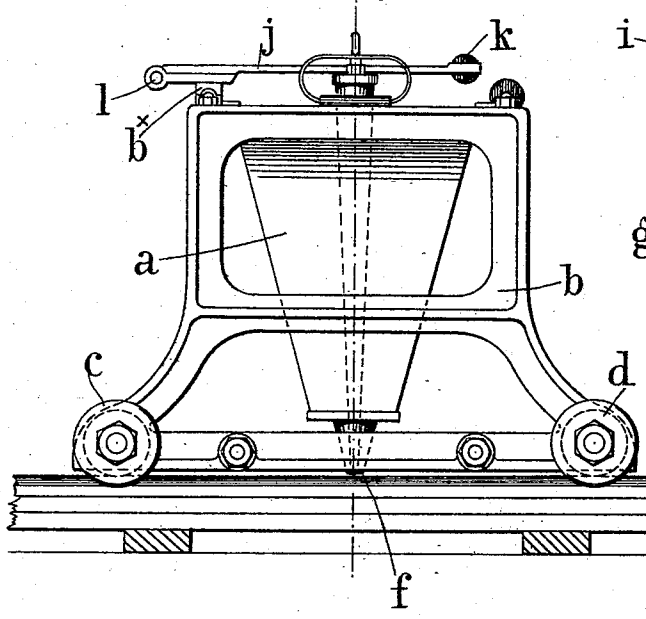


FIG: 5.

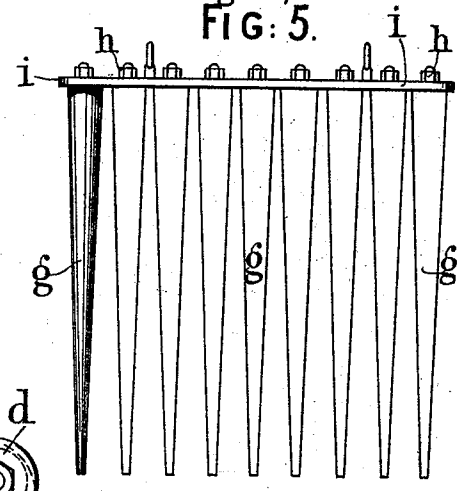
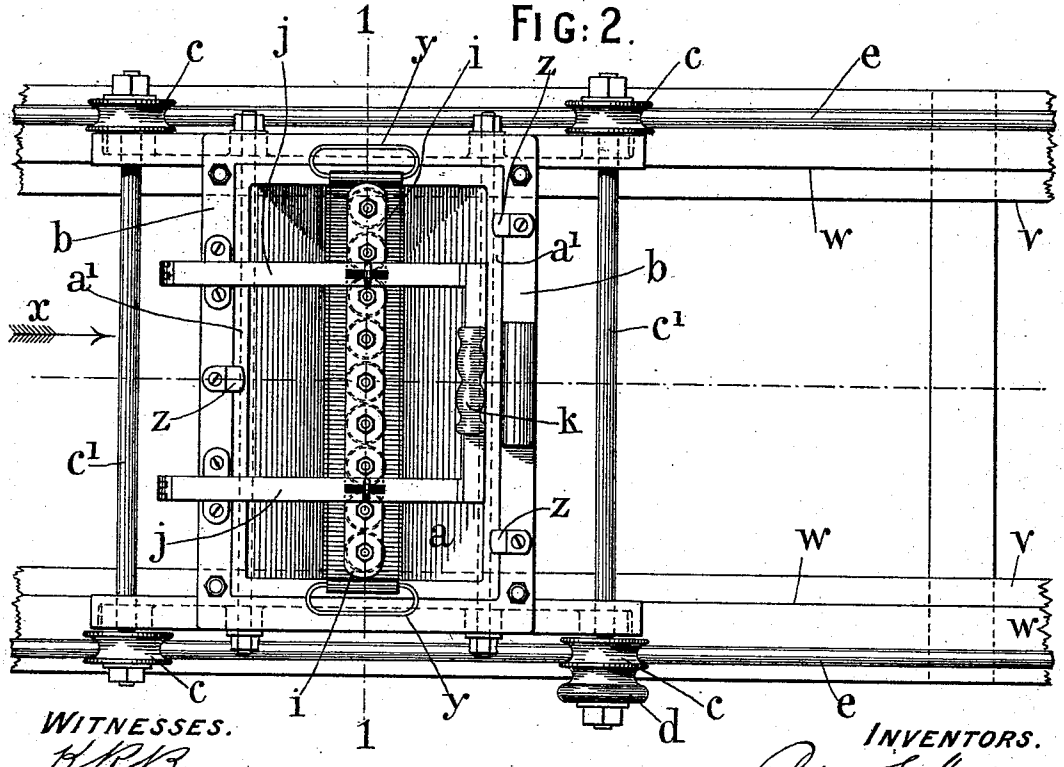


FIG: 2.



WITNESSES.

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(No Model.) 2 Sheets—Sheet 2.

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FIG: 3.

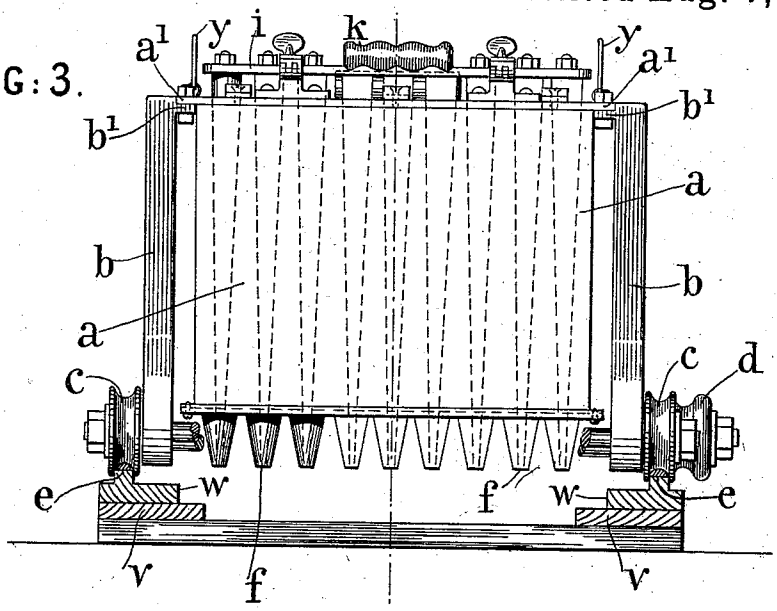
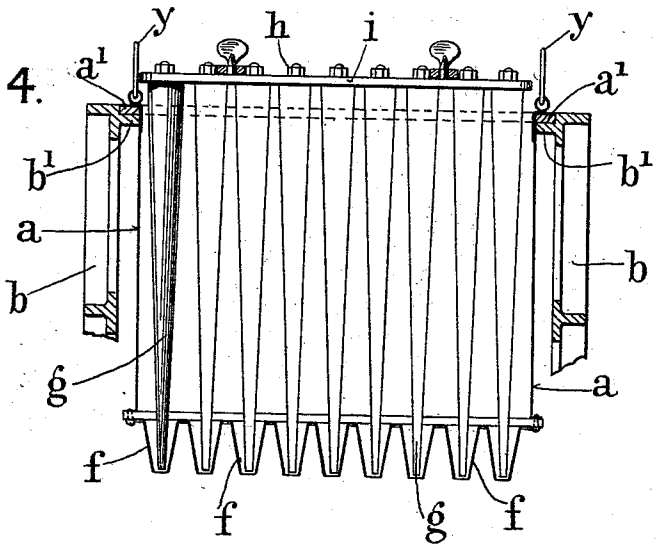


FIG: 4.



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UNITED STATES PATENT OFFICE.

ROBERT S. MURRAY AND FREDERICK W. EAMES, OF LONDON, ENGLAND; SAID EAMES ASSIGNOR TO SAID MURRAY.

MACHINE FOR DROPPING LIQUID MATERIAL INTO MOLDS.

SPECIFICATION forming part of Letters Patent No. 524,263, dated August 7, 1894.

Application filed February 5, 1894. Serial No. 499,179. (No model.)

To all whom it may concern:

Be it known that we, ROBERT STUART MURRAY, manufacturer, a citizen of the United States of America, residing at 4 The Terrace, Camden Square, London, England, and FREDERICK WILLIAM EAMES, confectioner, a subject of the Queen of Great Britain, residing at 36 Shepherdess Walk, City Road, London, England, have invented Improvements in Machines for Dropping Liquid Material into Molds, of which the following is a specification.

This invention relates to improvements in machinery or apparatus for casting (*i. e.* dropping or running out) materials in a liquid or semi-liquid or such like state such as the cream or other material in a molten or soft state used for making gum jellies, fondants, creams or other sweetmeats, &c., and the object of this said invention is to produce a hand operated machine capable of rapidly and cheaply casting a number of such confections.

Our invention consists of certain novel features for accomplishing this result hereinafter described and claimed.

Reference is had to the accompanying drawings, wherein the same parts are indicated by the same letters.

Figure 1 is a side elevation of the stock box mounted on wheels running on rails. Fig. 2 is a plan of Fig. 1. Fig. 3 is an end view looking in the direction of the arrow *x*, in Fig. 2. Fig. 4 is a cross sectional view on line 1—1 Fig. 2. Fig. 5 is a view of the series of plungers removed from the stock box.

a is the stock box or vessel containing the material to be cast.

b is the framework or carriage in which said stock box is carried—the top part of the framework *b* having a flanged edge *b'* all round inside forming a seating or resting edge upon which the flange *a'* of the stock box rests and is there secured in position by the turn buttons *z* so that this stock box can be thus readily dropped into its carriage and secured therein by said turn buttons *z* or easily removed therefrom for cleaning or other purposes. Or said stock box *a* may be arranged and mounted in said framework or carriage in any other equivalent or suitable manner.

c c are the grooved wheels on the axles *c'* journaled in the said frame *b*.

d is a hand wheel keyed or otherwise rigidly fixed to the axle *c'* in any suitable manner so that on rotating the wheel *d* by the hand of the operator the wheels *c* on the same axle as wheel *d* will be revolved and consequently the carriage *b* and stock box *a* will be carried along the rail track provided for same.

e e are the guide rails upon which the grooved wheels *c* run.

f f are the funnel-shaped outlets which may be either separately screwed or otherwise mounted in the bottom of the stock box *a* or said outlets *f* may all be carried in a removable plate or bottom sliding on or otherwise suitably attached to and forming the bottom of the stock box *a*.

g g are the plungers corresponding in number to outlets *f f* and which in the case illustrated control said outlets so that when raised as hereinafter explained they permit the material to escape through said outlets and when lowered they close said outlets and prevent any further escape of the material in the stock box *a*. These plungers *g* are each secured by any suitable means such as by nuts *h* to the horizontal bar *i*—this said bar *i* is attached by any suitable means such as a winged nut, turn buttons, &c., to the hand lever bars *j* which latter at their front end are connected by the handle bar *k* and at their other end are hinged at *l* to the support *b** on the aforesaid frame *b*. By lifting the bar *i* by means of the handle *k* it will thus be seen that the whole series of plungers *g* are simultaneously raised and thereby the whole series of outlets *f* are simultaneously opened while by lowering said handle *k* said outlets are all simultaneously closed.

y y are handles attached to the stock box *a* by means of which same can be lifted in or out of the carriage *b*—the bar *i* and series of plungers *g* being first moved clear out of the way by detaching the same from the handle bars *j* and then turning the latter back on the hinge pins *l* and then lifting out bar *i* and plungers *g* thereon.

The molds or receptacles into or onto which

the material is to be cast are placed between the guide rails *e* which latter may extend for any length required and these molds, &c., may advantageously be of the well-known flexible character now in use for "dropping" sweetmeats and furthermore the position of each hole or depression in each row of holes in said mold exactly correspond respectively with one of the outlets *f*, and each row or otherwise of holes corresponds to the row or otherwise of outlets *f*.

The guide bars or longitudinal sleepers *w* carrying the guide rails *e* in combination with the lower longitudinal sleepers *v* form a guideway or means to adjust and keep the molds (which exactly fit in between the guide bars *w*—resting on the sleepers *v*) in the proper position.

The operation is as follows: The stock box *a* is filled or partially filled with material when ready to be cast and the stock box is placed in position on the traveling carriage *b*. The operator now takes hold of the handle *k* with one hand and takes hold of the driving wheel *d* with the other hand and by the latter moves the stock box *a* into the desired position over the molds and then with the other hand raises the plunger and thereby "drops" or casts some of the material from each of the outlets *f* simultaneously the return downward movement of the plungers *g* stopping these outlets, and also serving to force out or assist in forcing out the material from each outlet—if required. By revolving the driving wheel *d* the operator now moves the stock box so as to bring the outlets over the next row or otherwise of holes in the mold which are simultaneously filled as before and so on until all the rows (or otherwise) in the mold are filled—then the stock box is moved on over the next mold which is quickly filled as before while meantime each mold as the same is filled is removed from between the guide rails and replaced by empty molds. The operation of this apparatus, replacing the molds, &c., being easily and cheaply effected (by boys or girls—if desired.) It will thus be seen that the movement of the stock box over the molds and the means for simultaneously dropping the material from a number of outlets respectively are both independently under the hand control of the operator and this separate and independent hand control constitutes a very essential feature of the present invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

In an apparatus of the character described, the combination with a traveling stock box for viscous liquid provided with a series of outlet openings in its bottom, of a series of tapering plungers for closing said openings, a bar connecting the tops of said plungers, a hand lever hinged to the top of said box and detachably connected with said bar and adapted to regulate the movement of said plungers, and a hand knob for moving said traveling stock box, substantially as and for the purposes described.

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