

A. W. FRENCH.
MACHINE FOR FORMING OIL CAKES.
APPLICATION FILED JAN. 26, 1909.

939,492.

Patented Nov. 9, 1909.
2 SHEETS—SHEET 1.

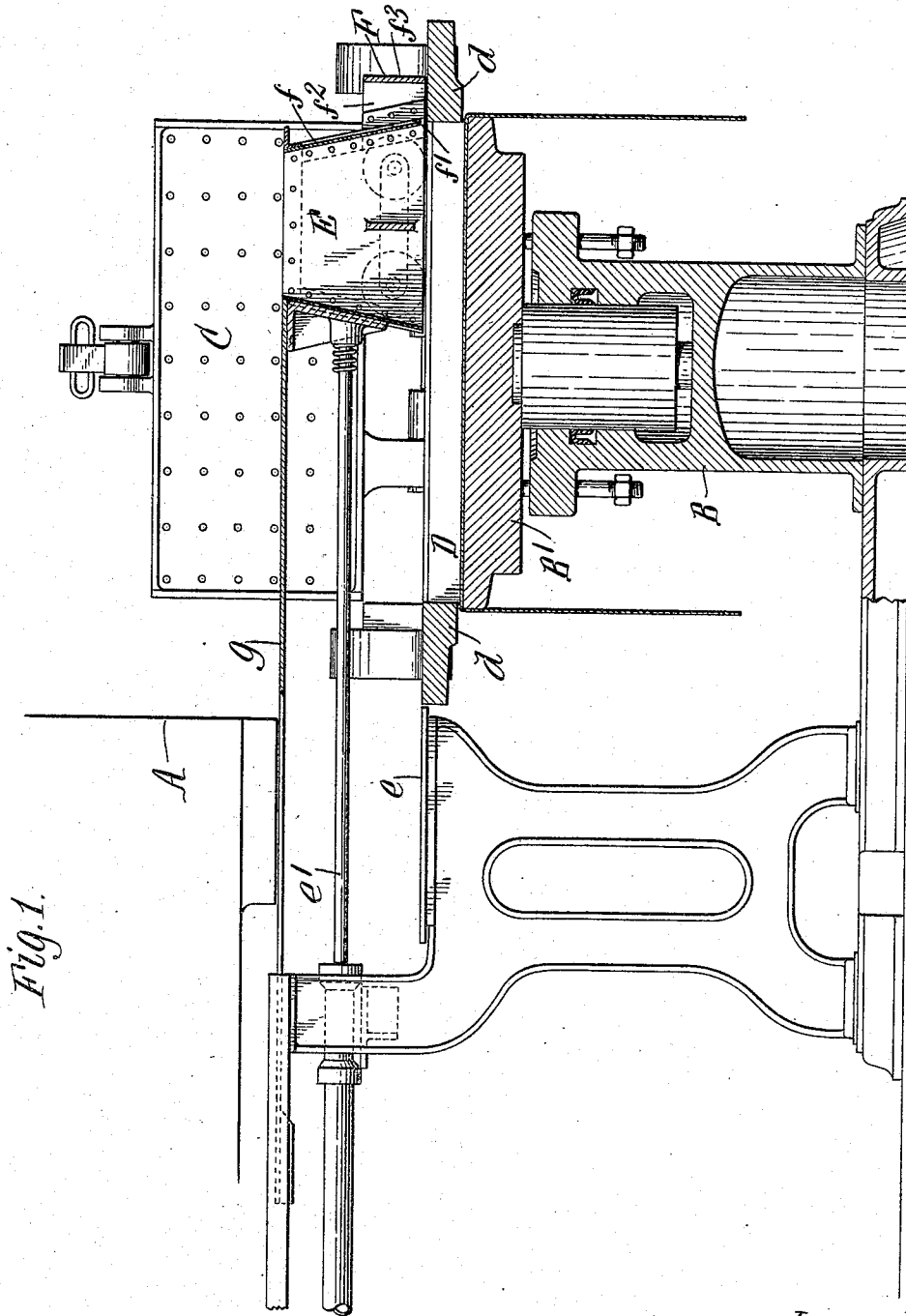


Fig. 1.

Witnesses:
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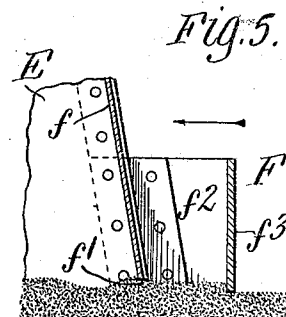
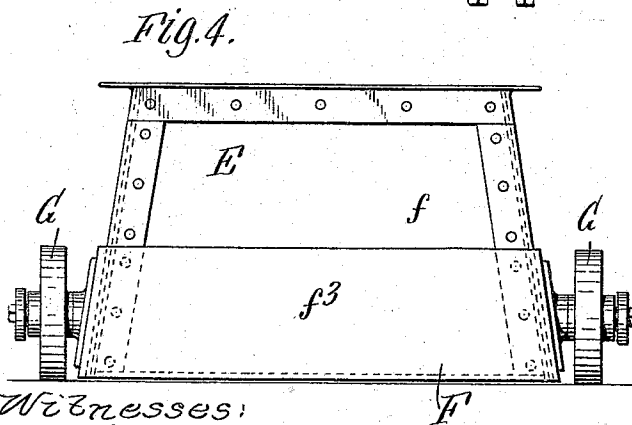
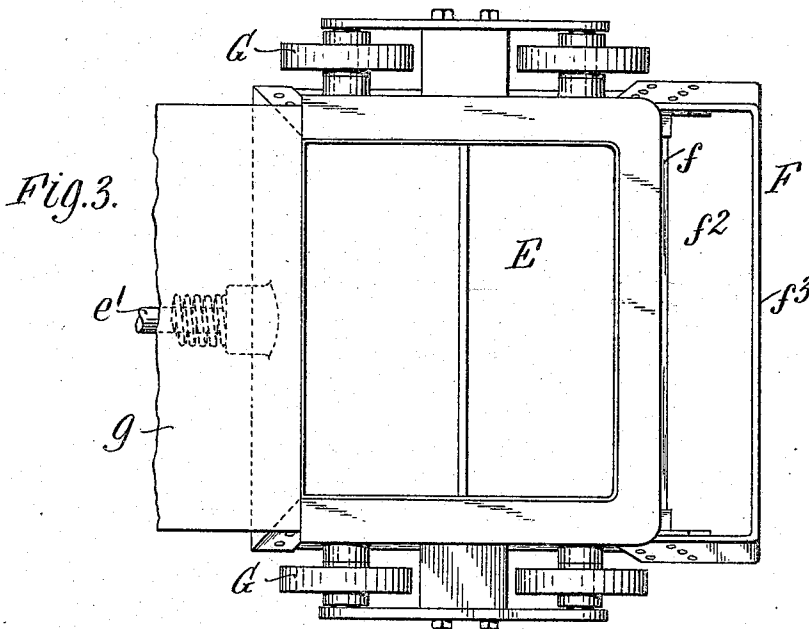
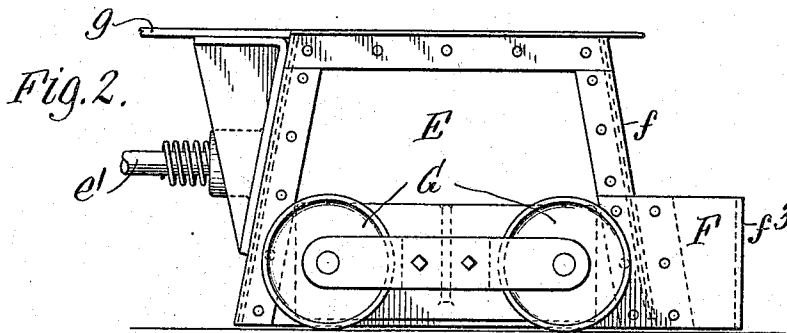
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By Wilhelm, Parker & Hunt,
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ALFRED W. FRENCH, OF PIQUA, OHIO.

MACHINE FOR FORMING OIL-CAKES.

939,492.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed January 26, 1909. Serial No. 474,198.

To all whom it may concern:

Be it known that I, ALFRED W. FRENCH, a citizen of the United States, residing at Piqua, in the county of Miami and State of Ohio, have invented a new and useful Improvement in Machines for Forming Oil-Cakes, of which the following is a specification.

In the manufacture of oil from oil-bearing seed, the meal or ground seed after being cooked is ordinarily molded into cakes and wrapped in press cloth before being placed in the oil press. The meal is delivered to the mold box of the cake former in measured quantities suitable for the cakes by an open-ended charge or distributing box, which receives the charge of meal from the cooking kettle and is reciprocated horizontally over the cake former to deposit and distribute the meal in the mold box. Owing to the tendency of the particles of meal to cling or lump together, the meal in the charge box dragging over the meal in the mold box frequently tears away surface portions or lumps from the meal in the mold box, thus leaving the meal in the mold box uneven or with pits or cavities therein, which makes the cake irregular, resulting in a reduced yield of oil and lack of uniformity in the weight and quality of the oil cake. Where the charge box is operated by hand, a skilful operative can, if careful, move the charge box back and forth over the mold box a sufficient number of times to prevent in some measure the irregularities in the cake, but in machines in which the charge box is actuated automatically its action cannot ordinarily be changed so as to insure uniformity in the cakes.

The object of this invention is to so form or construct the meal charge or distributing box of cake forming machines that it will distribute the meal uniformly and evenly in the mold box and prevent irregularities in the thickness and weight of the cakes.

In the accompanying drawings, consisting of two sheets: Figure 1 is a sectional elevation of a cake forming machine provided with a charge box embodying the invention. Fig. 2 is a side elevation, on an enlarged scale, of the charge box. Fig. 3 is a plan view thereof. Fig. 4 is an end elevation thereof. Fig. 5 is a fragmentary section thereof illustrating the action of the charge box.

Like letters of reference refer to like parts in the several figures.

In Fig. 1, A represents a cooking kettle or other receptacle for the meal. B represents the cylinder, B' the movable ram or platen, C the hinged press head, D the mold box, and E the meal charge or distributing box of a cake forming machine. The mold box D is formed by the platen B' which has raised flanges at its front and rear sides, and hinged bars *d* at the ends of the platen. The cake forming machine illustrated is constructed and operates as more fully described in my copending application Serial No. 432,782, filed May 10, 1908. The charge box, which, as usual, has open upper and lower ends, receives the meal from the kettle while supported on a table *e* beneath the discharge opening of the kettle and is reciprocated from this position over the mold box by a fluid-operated piston *e'* to deposit and distribute the meal in the mold box. The cake forming machine, with the exception of the construction of the charge box, to be presently described, can be of any usual or suitable construction, and the charge box can be actuated mechanically or by hand.

The charge box E is of the usual truncated pyramidal shape, open at top and bottom, and may be made of metal, as shown, or of other material. The front wall *f* of the box (*i. e.* the forward wall as regards the direction of movement of the box outwardly from the kettle over the mold box), however, terminates at its lower edge above the horizontal plane of the lower edges of the other walls of the box, as shown at *f'*, Figs. 1 and 5, and the box is provided with a front extension F which provides a supplemental chamber or compartment *f*² in front of the front wall *f* of the box. The front wall *f*³ of this supplemental chamber extends downwardly below the lower edge of the front wall *f* of the main chamber or box proper, as shown in Figs. 1 and 5. This box extension can be formed by a bent metal plate having sides riveted to the sides of the box E, as shown, or it can be constructed in any other suitable way. The meal is delivered from the kettle only into the main chamber or box proper E, and the supplemental chamber can be either open or closed at the top, as preferred. The charge box shown is provided, as usual, with wheels G which travel on the table *e* and platen B for

supporting the box, and with a tail plate or apron *g* for closing the discharge opening of the kettle when the charge box is moved outwardly.

- 5 When the charge box moves forwardly over the mold box with the charge of meal, the meal falls into and is distributed more or less in the mold box, and during the return movement of the charge box the front wall *f* of the main chamber scrapes or levels the meal in the mold box, but leaves the meal deeper in the mold box than is required to make the cake, on account of the lower edge of said wall *f* being above the top of the mold box. The front wall *f*³ of the box extension or supplemental chamber, however, following the wall *f* of the main chamber and depending below the lower edge thereof, scrapes off the surplus surface portion of the meal left by the wall *f* of the box, and this surplus meal accumulating in the supplemental chamber falls into and fills any pits or hollow places left in the meal in the mold box due to surface portions of the meal in the mold box adhering to the meal in the charge box and being torn away from the meal in the mold box, as before explained. The charge box constructed with the extension or supplemental chamber as described therefore leaves the meal evenly distributed in the mold box and of uniform depth throughout, and enables cakes of uniform thickness and weight to be made in automatic forming machines in which the charge box is operated mechanically, is reciprocated relatively rapidly and but one time over the mold box for each cake.

I claim as my invention:

1. In a cake forming machine, the combination with a mold box, of a charge box which receives the charge of meal and is moved over the mold box to deposit the charge therein, said charge box having at one end an extension provided with a wall which extends below the horizontal plane of the lower edge of the adjacent end wall of the box, substantially as set forth.

2. A charge box for cake forming machines which receives the charge of meal

and is moved over the mold box to deposit the charge therein, said charge box having at one end thereof outwardly beyond its end wall a wall which extends below the horizontal plane of the lower edge of said end wall, substantially as set forth.

3. A charge box for cake forming machines which receives the charge of meal and is moved over the mold box to deposit the charge therein, one end wall of said charge box terminating at its lower edge above the horizontal plane of the lower edges of the other walls of the box, said box having an extension with a wall which is located outwardly beyond said end wall and extends downwardly below the horizontal plane of the lower edge of said end wall, substantially as set forth.

4. A charge box for cake forming machines which is moved over the mold box and has a main chamber open at the top for receiving the charge of meal and open at the bottom for delivering the charge into the mold box, and which has a supplemental chamber at one end with an end wall which extends downwardly below the horizontal plane of the lower edge of the adjacent end wall of said main chamber, substantially as set forth.

5. The combination with a meal receptacle, and a mold box, of a charge box which is moved over the mold box and has a main chamber open at the top for receiving the charge of meal from said receptacle and open at the bottom for delivering the charge into said mold box, and which has a supplemental chamber with an end wall which extends downwardly below the horizontal plane of the lower edge of the adjacent end wall of said main chamber, said supplemental chamber receiving only meal scraped from the mold box, substantially as set forth.

Witness my hand, this 14 day of January, 1909.

ALFRED W. FRENCH.

Witnesses:

C. B. JAMISON,
C. B. UPTON.