

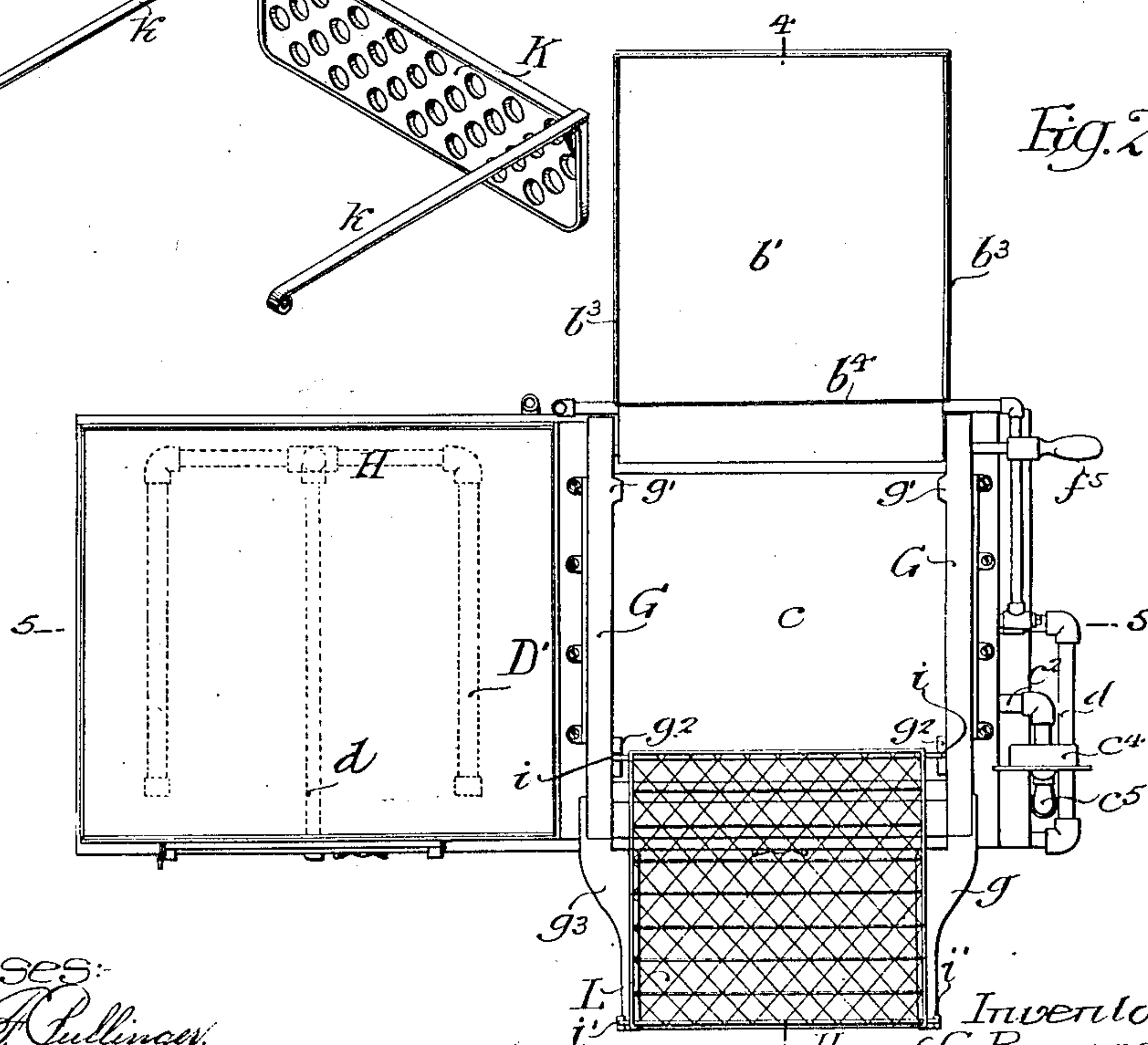
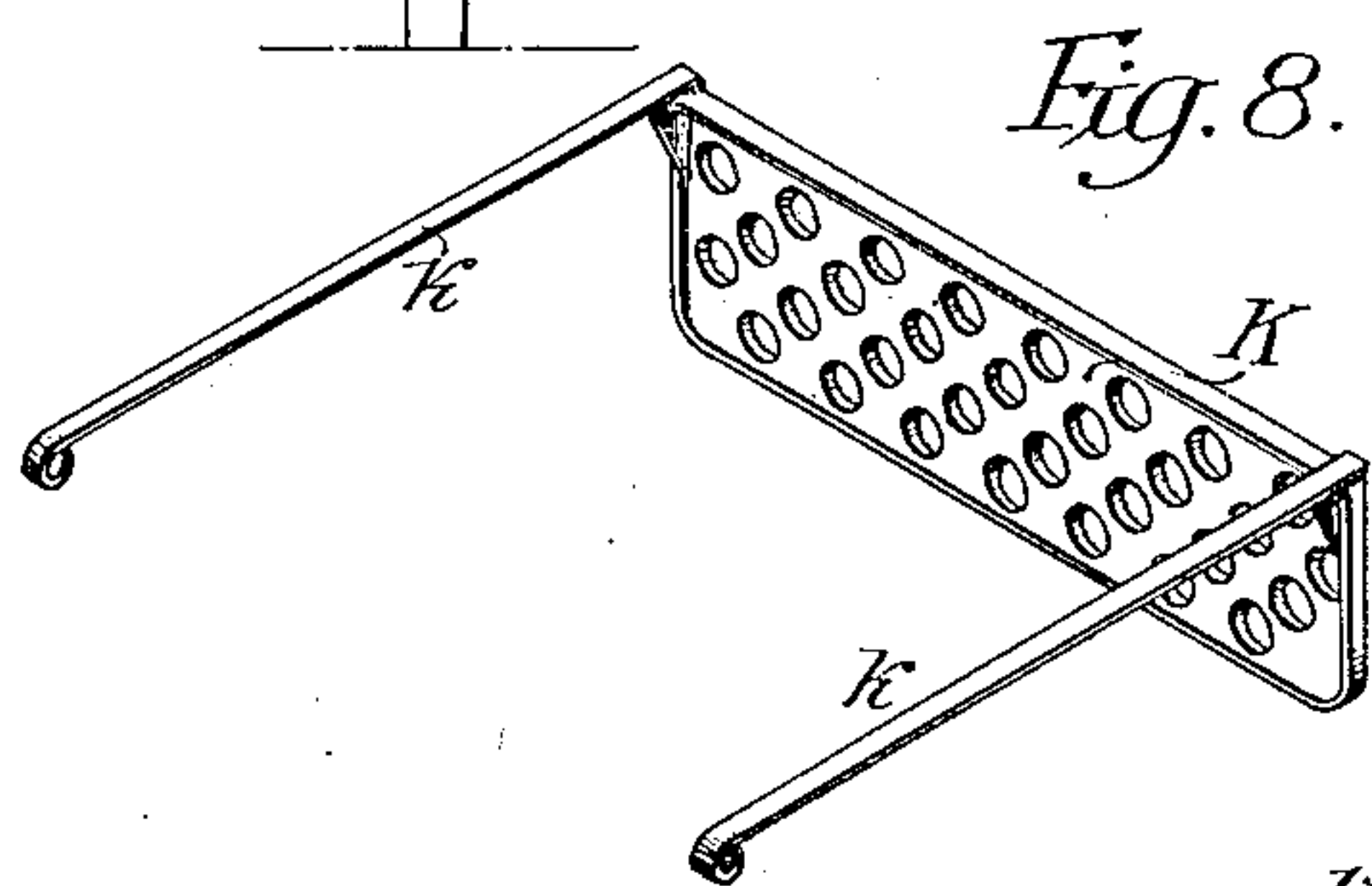
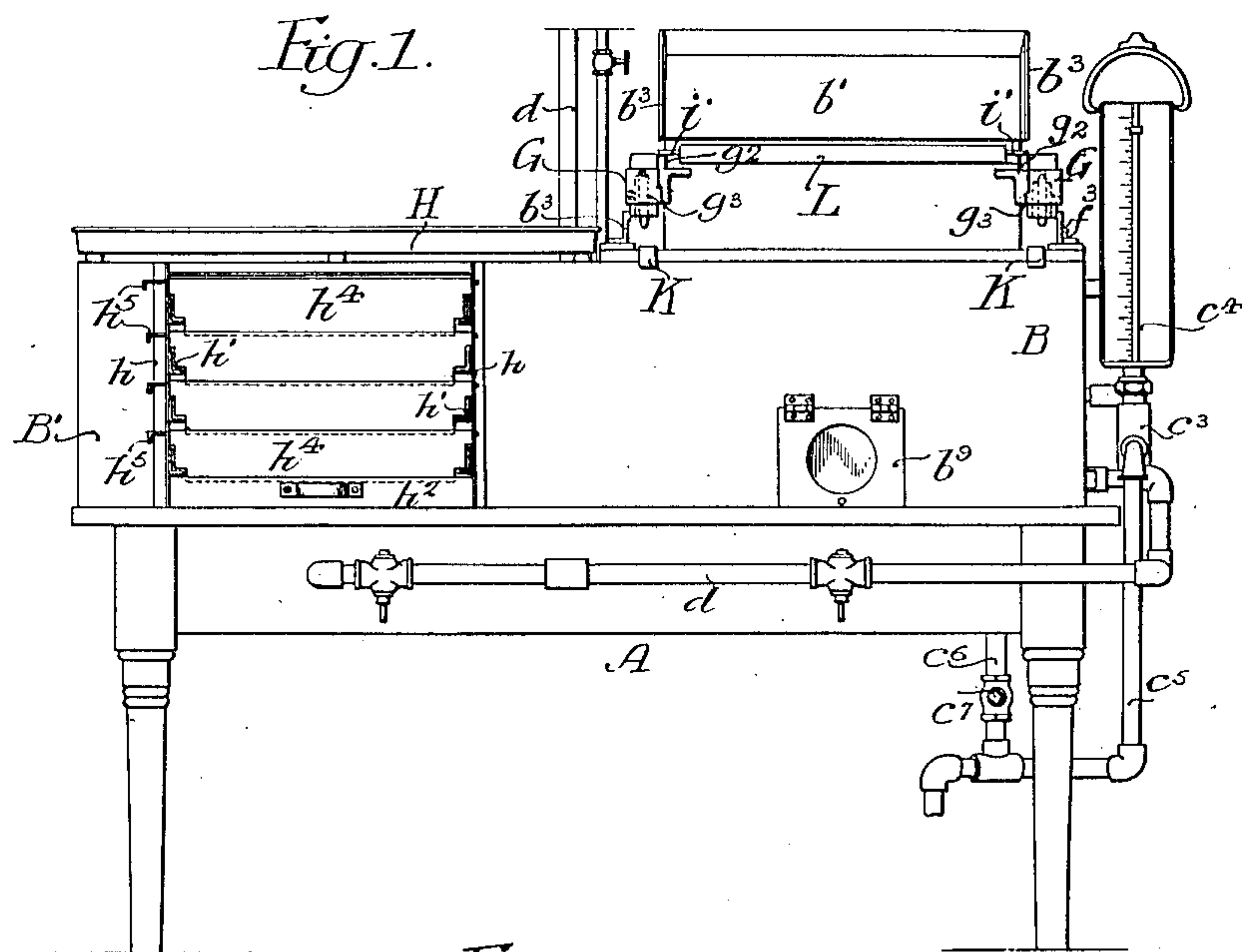
No. 843,300.

PATENTED FEB. 5, 1907.

H. C. REMMERS.
CHOCOLATE COATING MACHINE.

APPLICATION FILED OCT. 24, 1906.

2 SHEETS—SHEET 1.



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No. 848,300.

PATENTED FEB. 5, 1907.

H. C. REMMERS.
CHOCOLATE COATING MACHINE.

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2 SHEETS—SHEET 2.

Fig. 3.

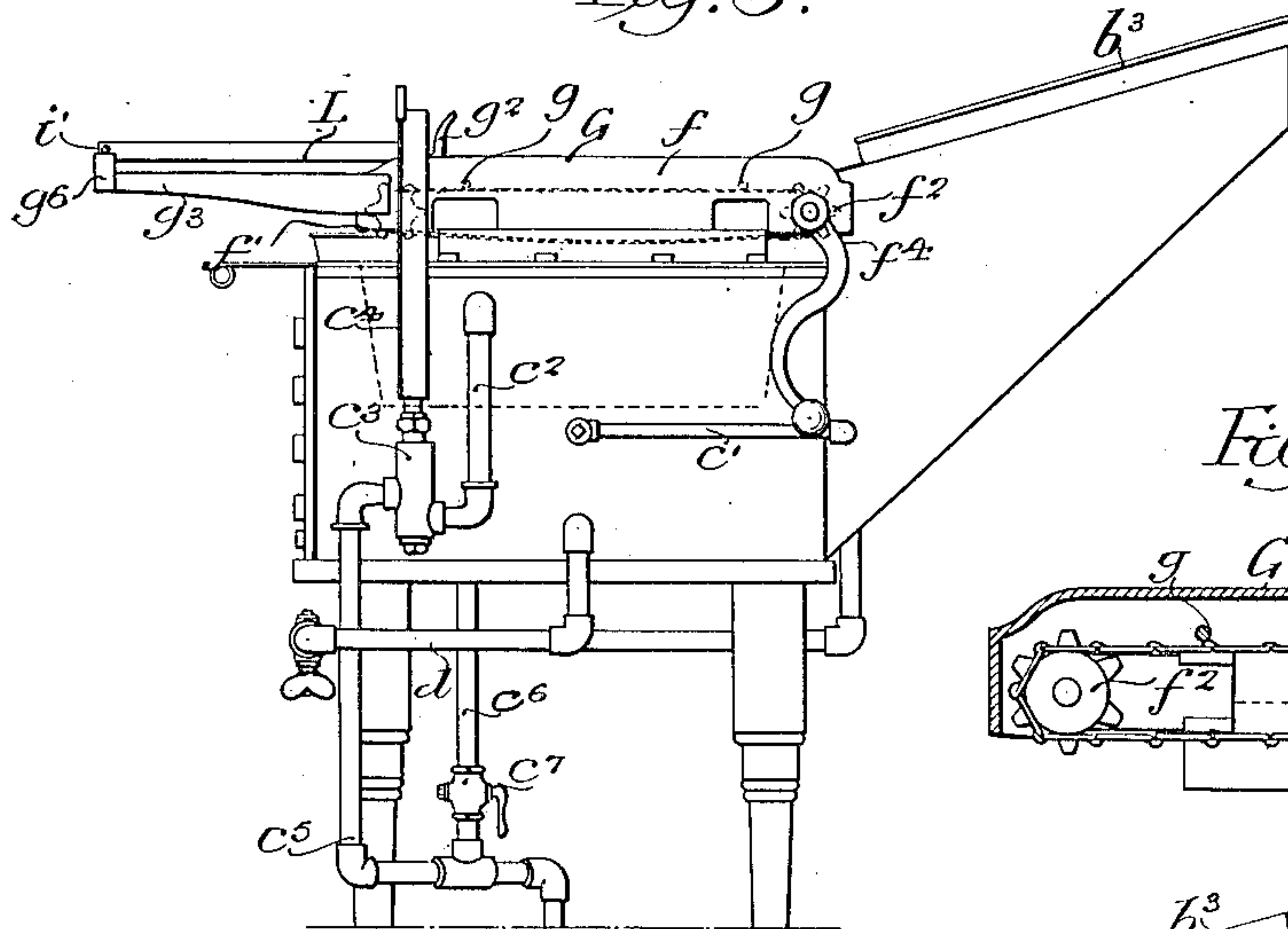


Fig. 6.

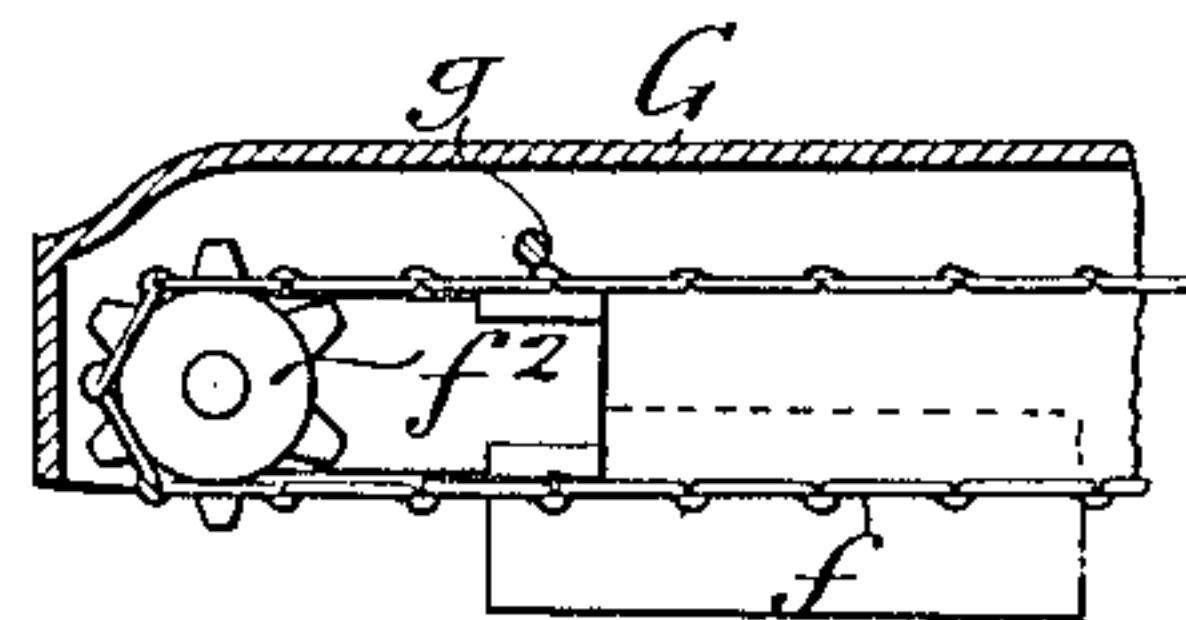


Fig. 4.

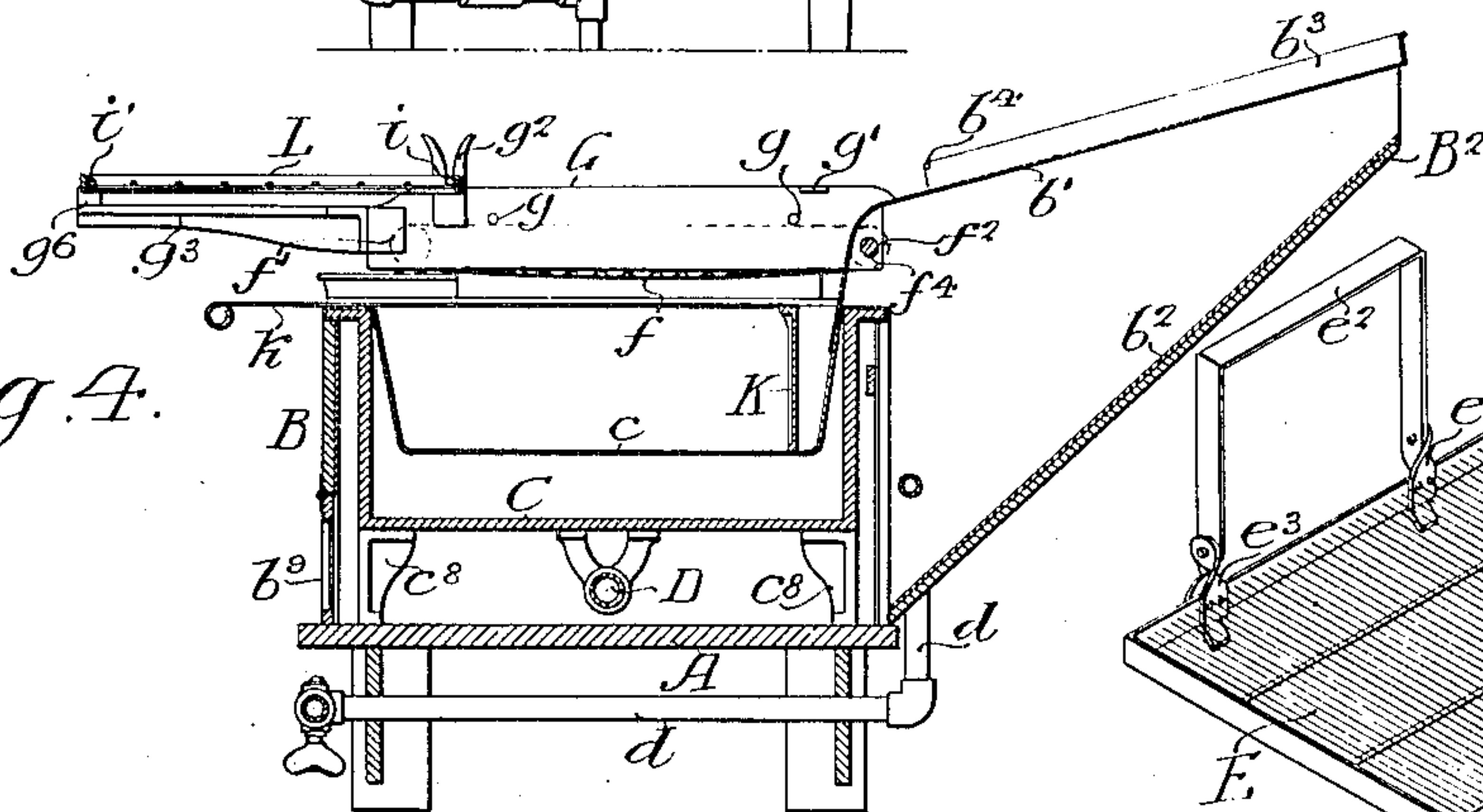


Fig. 7.

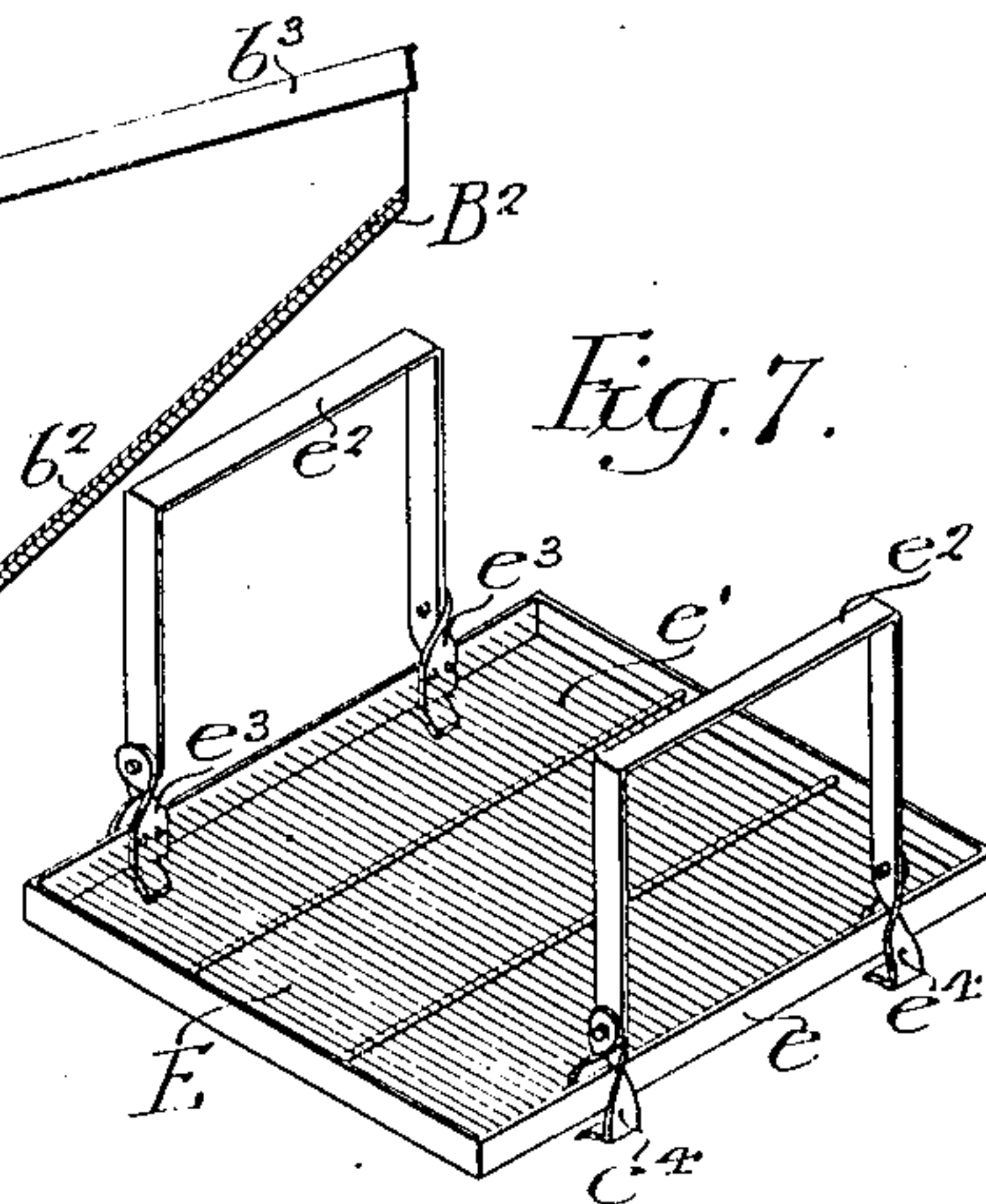
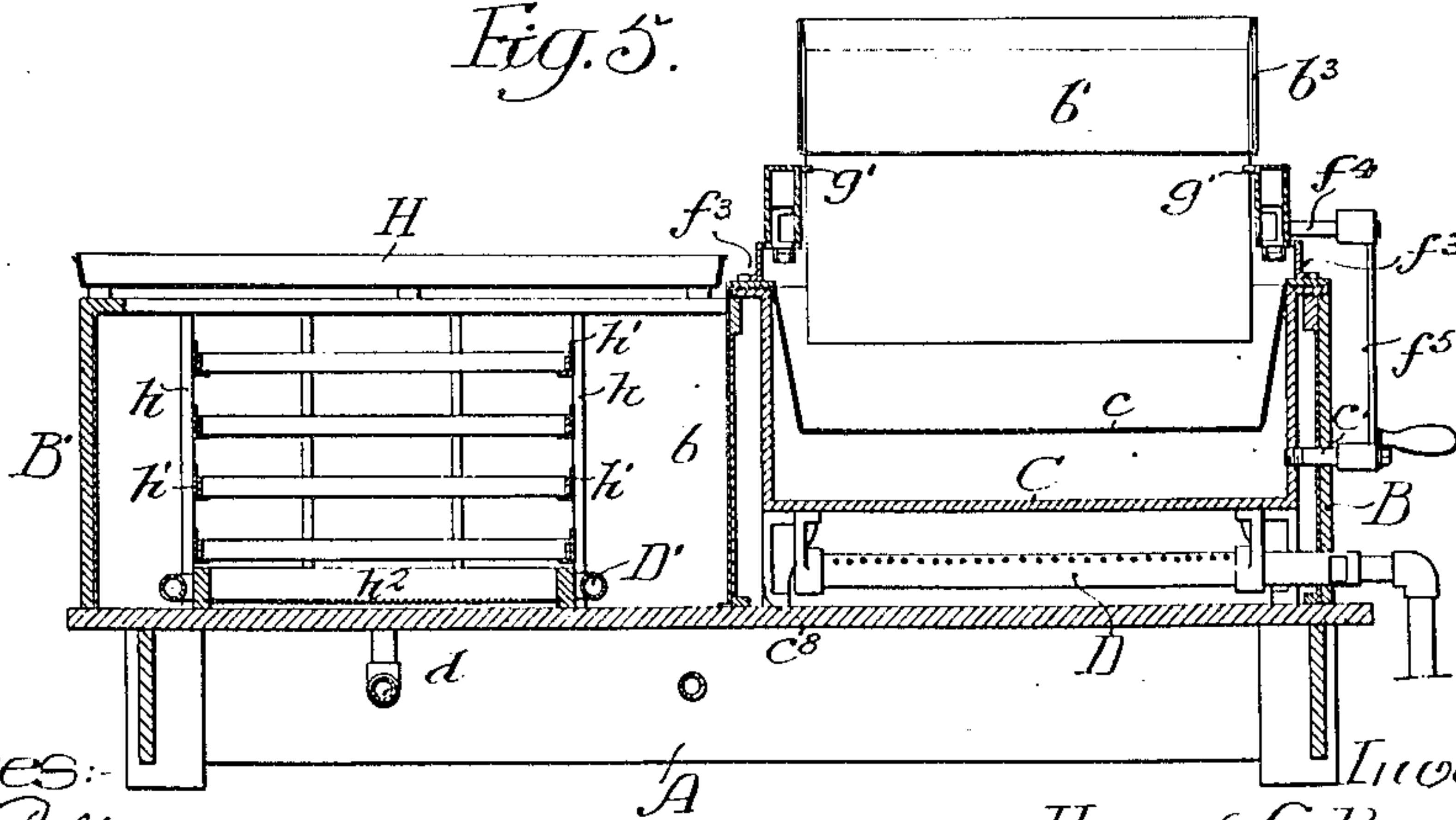


Fig. 5.



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UNITED STATES PATENT OFFICE.

HARRY C. REMMERS, OF PHILADELPHIA, PENNSYLVANIA.

CHOCOLATE-COATING MACHINE.

No. 843,300.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed October 24, 1906. Serial No. 340,351.

To all whom it may concern:

Be it known that I, HARRY C. REMMERS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Chocolate-Coating Machines, of which the following is a specification.

One object of my invention is to provide a machine in which candies may be dipped in chocolate or other coating material, "knocked off," and discharged from their containing-trays, the construction of the machine being such that it shall not only be relatively inexpensive to make and operate, but shall also have its parts so arranged that it may be economically employed by candy manufacturers who have not sufficient business to warrant the use of a larger power-operated machine.

I further desire to provide a machine of the character described with an improved knocking-off mechanism, as well as with means whereby a portion of the products of combustion resulting from the necessary heating of the chocolate-kettle may be utilized to melt the chocolate adhering to the tray-dipping device or carrier.

I further desire to provide an improved device for facilitating the discharge of candies from their supporting-baskets after they have been dipped and knocked off.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a plan of the machine shown in Fig. 1, illustrating a basket in the position occupied immediately after a charge of candy has been taken from it. Fig. 3 is an end elevation of my improved machine. Fig. 4 is a vertical section on the line 4-4, Fig. 2. Fig. 5 is a vertical section on the line 5-5, Fig. 2. Fig. 6 is a fragmentary vertical section illustrating in detail the actuating means for the knocking-off device. Fig. 7 is a perspective view of the basket-carrying device, and Fig. 8 is a perspective view of the agitator or stirrer for the chocolate-kettle.

In the above drawings, A represents a supporting structure somewhat of the nature of a table, on which there is a fixed casing having two compartments B and B', separated from each other by means of a vertical partition b. In the first of these compartments I mount a chocolate container or kettle, which

preferably consists of a water-container C, usually of cast-iron, within which is suspended, preferably by its flanged upper edges, the kettle proper, c.

A water-supply pipe c' extends through the side of the compartment B and connects with the interior of the water-container C, which has an outlet or overflow pipe c², leading downwardly from its uppermost portion to the bottom of the fitting c³. This fitting is constructed for the reception of a thermometer c⁴, and from its uppermost portion there extends a continuation c⁵ of the outlet-pipe. For the purpose of completely draining the water from the container C, I provide an additional pipe c⁶, having a valve c⁷ connected to the outlet-pipe, as shown in Fig. 3.

The container C is carried within its compartment of the casing upon legs c⁸, so that it is elevated some distance above the floor thereof, and for the purpose of heating the said container I provide a burner D, extending under it, as shown in Figs. 4 and 5, supplied with the necessary gas and air through a pipe d and the necessary controlling-valves. This pipe also extends to the compartment B' of the casing, in which it is connected to a burner D' for heating candy-baskets, supported in the manner hereinafter described.

In Fig. 4 it will be seen that the rear side of the compartment B is omitted, and there is in its place a conduit B², consisting of a cover or top section b', inclined toward and leading into the chocolate-kettle c, a bottom section b², and the necessary sides, the whole forming an outlet for the products of combustion from the burner D and being open at its upper end. As shown in Figs. 3 and 4, the inclined cover of this conduit is provided with upwardly-projecting sides b³ and has extending across its lower portion a wire forming a stop b⁴, so that a basket-carrier, such as is indicated at E, Fig. 7, may be held from sliding off the inclined surface.

As shown in the machine illustrated in the drawings, the chocolate-kettle c is substantially rectangular in outline and has extending along the edges of and above two of its opposite sides a pair of sprocket-chains f, each of which passes over sprocket-wheels f' and f², carried on suitable spindles at or adjacent to the corners of the kettle. For supporting the wheel-spindles I provide brackets f³, mounted upon the upper part of the casing and having the necessary bearings. The two sprocket-wheels f² have a common

spindle f^4 , to which they are both fixed and which may be turned when desired by means of a crank-handle f^5 .

Each of the sprocket-chains f has a frame G resting upon and to some extent inclosing it, there being pins g extending across the interior of each frame at each end thereof and resting directly in engagement with said chains. As shown in Fig. 2, each of the frames G has near its rear ends a lug g' , projecting toward or over the chocolate-kettle, while at the front ends there are upwardly-extending forks g^2 . Said frames have extensions g^3 , preferably of such a length that their respective outer ends are the same distance from the forks g^2 as are the lugs g' , and each extension carries an upwardly-extending lug g^6 , whose upper surface is preferably at the same level as the bottom of the fork g^2 and the top of the lug g' .

The top of the second compartment B' is open, and over it I support a pan H in such manner that there is a space between the upper edge of the casing and the pan sufficient to permit of the escape of the products of combustion arising from the burner D' . Within said compartment I provide a framework h , having shelves h' for the reception of candy-baskets, and under said shelves I place a removable drawer h^2 , so as to collect particles of chocolate which may be melted and drop from the basket carried by the shelves.

In order to permit of the convenient insertion and removal of candy-baskets without material loss of heat, I provide a series of overlapping doors, respectively, in front of the shelves in compartment B' . Each door is carried on a horizontal bar, attached to its upper edge and serving as a hinge, and in order to open the doors when it is desired to take out a basket for use I provide each of them with an outwardly-extending wire h^5 , preferably formed by a continuation of the hinge-wire. This when turned downwardly swings the door inwardly and when released permits said door to return to its vertical closed position under the action of gravity. I provide a glass-covered door b^9 in the front of the compartment B in order to render visible the burner D , which, as illustrated, is preferably hung from the bottom of the water-container C .

Under operating conditions chocolate in the kettle c is kept melted and at any desired temperature by means of the hot water within the container C , and the temperature of said water may be noted on the thermometer, which is so placed as to be acted upon by the water constantly overflowing from the container through the pipe c^2 and the fitting c^3 . In this connection it may be noted that the fitting is so made that there is always a fixed depth of water in it, owing to the fact that the outlet c^5 is taken off at a level above the inlet of the pipe c^2 .

In order to dip a basket containing candies to be coated into the chocolate-kettle, I provide a basket-carrier, such as that shown at E , Fig. 7, which consists of a frame e , supporting a wire network or screen e' , so that when it is placed over a filled candy-basket and lowered with it into the chocolate-kettle the candies cannot be floated out of their various compartments in the basket, but are kept in place by said screen e . The carrier E has handles e^2 , pivoted to lugs e^3 , rigidly connected to the sides of its frame e , and these handles have portions e^4 bent toward each other and extending below said frame for engaging and holding a candy-basket.

When it is desired to lift a basket, the carrier E is placed over it, the handles e^2 being first turned on their pivots toward each other, so as to swing outwardly the portion e^4 . Said handles are then moved on their pivots in the opposite direction into the positions shown in Fig. 7, thereby causing their portions e^4 to engage the side members of the basket, after which the whole may be lifted and immersed in the melted chocolate. Each basket has at or near its corners pins i and i' , and after coating it is placed on the two frames G over the chocolate-kettle, with its pins i' resting on the lugs g' and its pins i resting, respectively, in the forks g^2 . By turning the crank-handle the sprocket-chains are then caused to move, and the large ends of the links of said chains successively come in contact with the pins g of the frames G , thereby imparting to said frames and to the candy-basket carried thereby a series of vibratory movements and very effectually knocking off the surplus chocolate still adhering to the candies and to the basket.

When the knocking-off operation has been completed, a sheet or tray is placed over the candy-basket, and this is revolved upon its pivot-pins i as an axis through an arc of substantially one hundred and eighty degrees until its pins i' rest upon the lugs g^3 of the extensions g^3 of the frames G in the position illustrated in Fig. 2. If this act of turning the basket upside down is not sufficient to cause the candies therein to fall upon the sheet or tray, a slight movement of the crank-handle will accomplish their quick discharge, since there is thus imparted to the frames G a succession of quick jars or knocks. After the basket has been placed upon the frames G preparatory to the knocking-off operation the basket-carrier is placed upon the inclined top surface of the conduit b^2 , and inasmuch as this is maintained at a relatively high temperature by reason of the passage under it of the products of combustion from the burner D the adhering chocolate is quickly melted off and led back into the kettle c .

As will be understood by those skilled in the art, it is not desirable to dip into the

melted chocolate a basket which is cold, and I therefore as soon as a charge of candies has been delivered from a basket place this latter on one of the shelves h' in the compartment B' , where it is not only heated and maintained at a temperature ready for dipping, but has the surplus chocolate melted from it. Said chocolate is collected in the drawer h^2 , which from time to time is removed and emptied into the chocolate-kettle. While the baskets are being charged with candies they are preferably supported on the pan H , which is maintained at a suitable temperature by the products of combustion passing out of the compartment B' .

It will be understood that from time to time it is necessary to stir or agitate the chocolate in the kettle c , and in order to properly accomplish this without interfering with the knocking-off mechanism illustrated I provide a stirrer of the form shown in Figs. 4 and 8. Said stirrer consists of a perforated plate K , having handles k attached to the ends of its upper edge and extending at right angles to its general plane, so that when in use the body of the stirrer is substantially vertical and the handles extend horizontally therefrom over the top edge of the kettle. When in this position, said handles may be readily grasped and the stirrer moved back and forth within the kettle without in any way interfering with the knocking-off mechanism or with a candy-basket supported thereon.

I claim as my invention—

1. A chocolate-coating machine consisting of a casing, a chocolate-kettle therein, means in the casing for heating said kettle, and a conduit for heated gases leading from the casing having an inclined cover constructed to deliver material thereon into the chocolate-kettle, substantially as described.

2. The combination in a chocolate-coating machine, of a casing having a chocolate-kettle, means for heating the same, a conduit for hot gases connected to the casing, the upper portion of the conduit being inclined toward and leading into the chocolate-kettle, with upwardly-extending side portions for the top of said conduit placed to assist in directing material thereon into the kettle, substantially as described.

3. A chocolate-coating machine consisting of a kettle, means for heating the same, and knocking-off mechanism supported over said kettle, the same consisting of means for supporting a basket, a chain or chains placed to intermittently vibrate said supporting means, and means for moving the chain or chains, substantially as described.

4. The combination in a chocolate-coating machine, of a kettle, means for heating the same, frames extending above the kettle at opposite sides thereof, chains for the frames, a projection on each frame placed to be inter-

mittently engaged by a chain when the latter is moved, and means for actuating the chains to vibrate the frames and the candy-baskets supported thereby, substantially as described.

5. The combination in a chocolate-coating machine, of a kettle having heating means, basket-supporting means, bearings on said supporting means, a device for vibrating the supporting means, and a candy-basket having pivots placed to enter said bearings so as to permit said basket to be turned through an arc of substantially one hundred and eighty degrees, substantially as described.

6. The combination in a chocolate-coating machine, of a kettle, means for heating the same, a basket-supporting device over the kettle having means whereby it may be vibrated, a candy-basket supported over the chocolate-kettle provided with pivots, bearings on the supporting device for the reception of said pivots, said device being extended to support the basket when it has been turned on its pivots through an arc of substantially one hundred and eighty degrees, substantially as described.

7. A chocolate-coating machine consisting of a casing, a kettle therein having heating means, a conduit for the products of combustion from said heating means arranged to heat a basket-carrier, said conduit being extended from one side of the machine, a basket-supporting device projecting from the opposite side of said machine, and means for vibrating said device, substantially as described.

8. A chocolate-coating machine consisting of a kettle having heating means, two pairs of sprocket-wheels supported above and adjacent to the sides of said kettle, a sprocket-chain connecting each pair of said wheels, means for moving the chains, a frame having a projection resting upon each of the chains and free to be vibrated by said chains, and means on the frame for supporting a candy-basket, substantially as described.

9. A chocolate-coating machine consisting of a kettle having heating means, two pairs of sprocket-wheels supported above and adjacent to the sides of said kettle, a sprocket-chain connecting each pair of said wheels, means for moving the chains, two frames, each having a portion resting upon one of the chains, and means on the frames for supporting a candy-basket, said frames being constructed to support a basket both over the chocolate-kettle and also when said basket has been turned through substantially one hundred and eighty degrees from such position, substantially as described.

10. The combination in a chocolate-coating machine, of a kettle, heating means therefor, a basket for candies to be coated, and a device independent of the machine structure for lowering the basket into the kettle, the

same consisting of a screen having handles detachably engaging the basket, substantially as described.

11. The combination in a chocolate-coating machine, of a kettle having heating means, a basket for candies to be coated, a frame having a screen formed to be placed over the basket to confine the candies therein, handles pivoted to said frame and movable toward and from each other, said handles having extensions placed to engage a candy-basket and hold the frame thereto, while the same is being dipped in the kettle, substantially as described.

12. The combination in a chocolate-coating machine, of a kettle, means for heating the same, means for knocking off surplus chocolate from a basket containing coated candies, supporting means for the basket constructed to permit of it being turned over to discharge the candies, with a device for

vibrating the basket when it is in its inverted position to cause the discharge of candies therefrom and also when it is in its normal position, substantially as described.

13. The combination in a chocolate-coating machine, of a kettle for melted chocolate, structures for supporting a candy-basket over the kettle, provided with bearings for supporting one end of a basket, said structures having supports for the other end of the basket placed equidistant from the line of the bearings on opposite sides thereof, and means for vibrating the said basket-supporting structures, substantially as described.

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

HARRY C. REMMERS.

Witnesses:

E. R. LOUGHERY,
Jos. H. KLEIN.