(No Model.) 3 Sheets—Sheet 1.

G. TSCHINKEL.

CANDY MACHINE.

No. 385,487. Patented July 3, 1888.

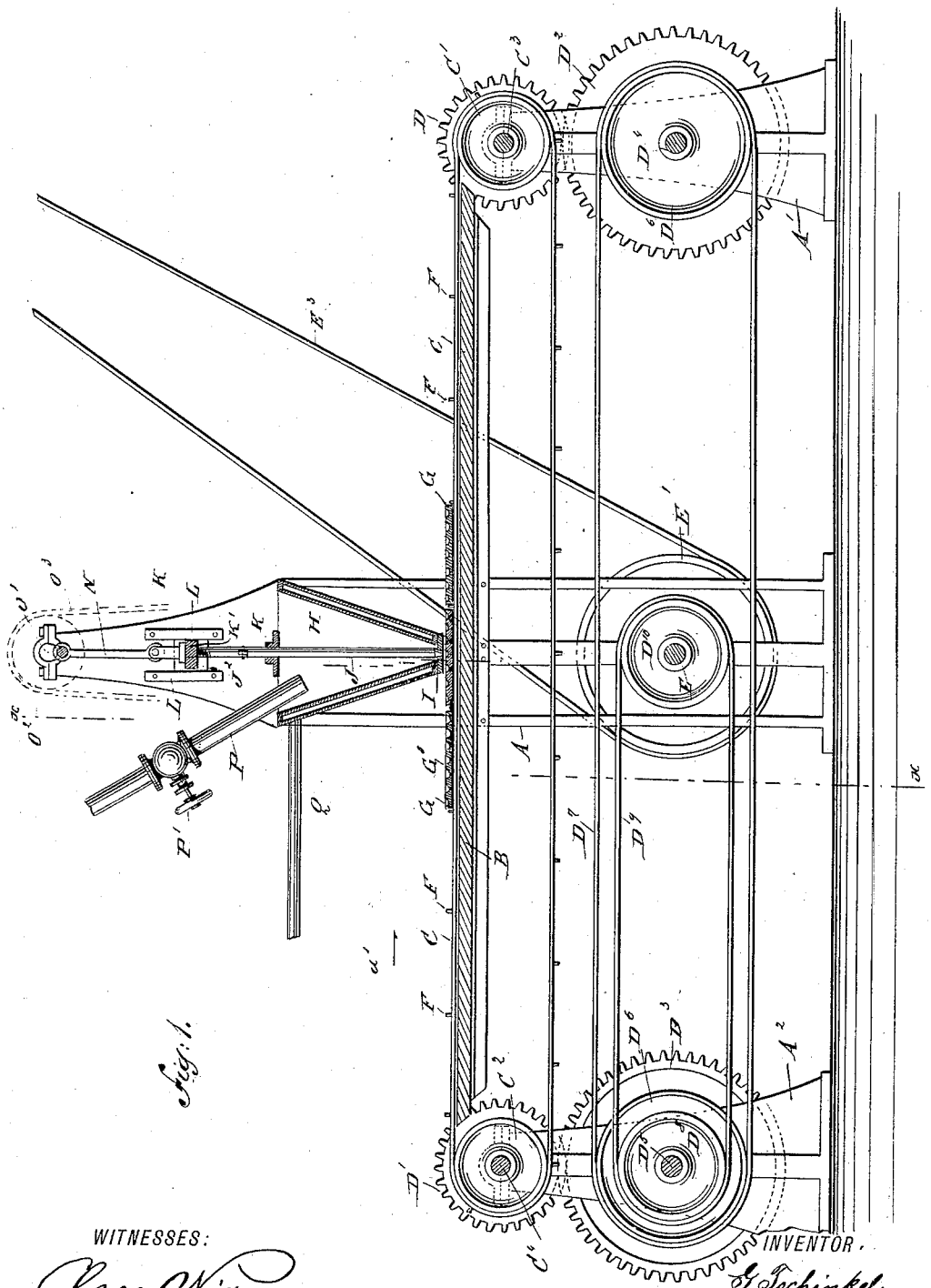


Fig. 1.

WITNESSES:

Chas. Neal.

E. Sedgwick.

INVENTOR.

G. Tschinkel.

BY Munn & Co.

ATTORNEY.

(No Model.) 3 Sheets—Sheet 2.

G. TSCHINKEL.

CANDY MACHINE.

No. 385,487. Patented July 3, 1888.

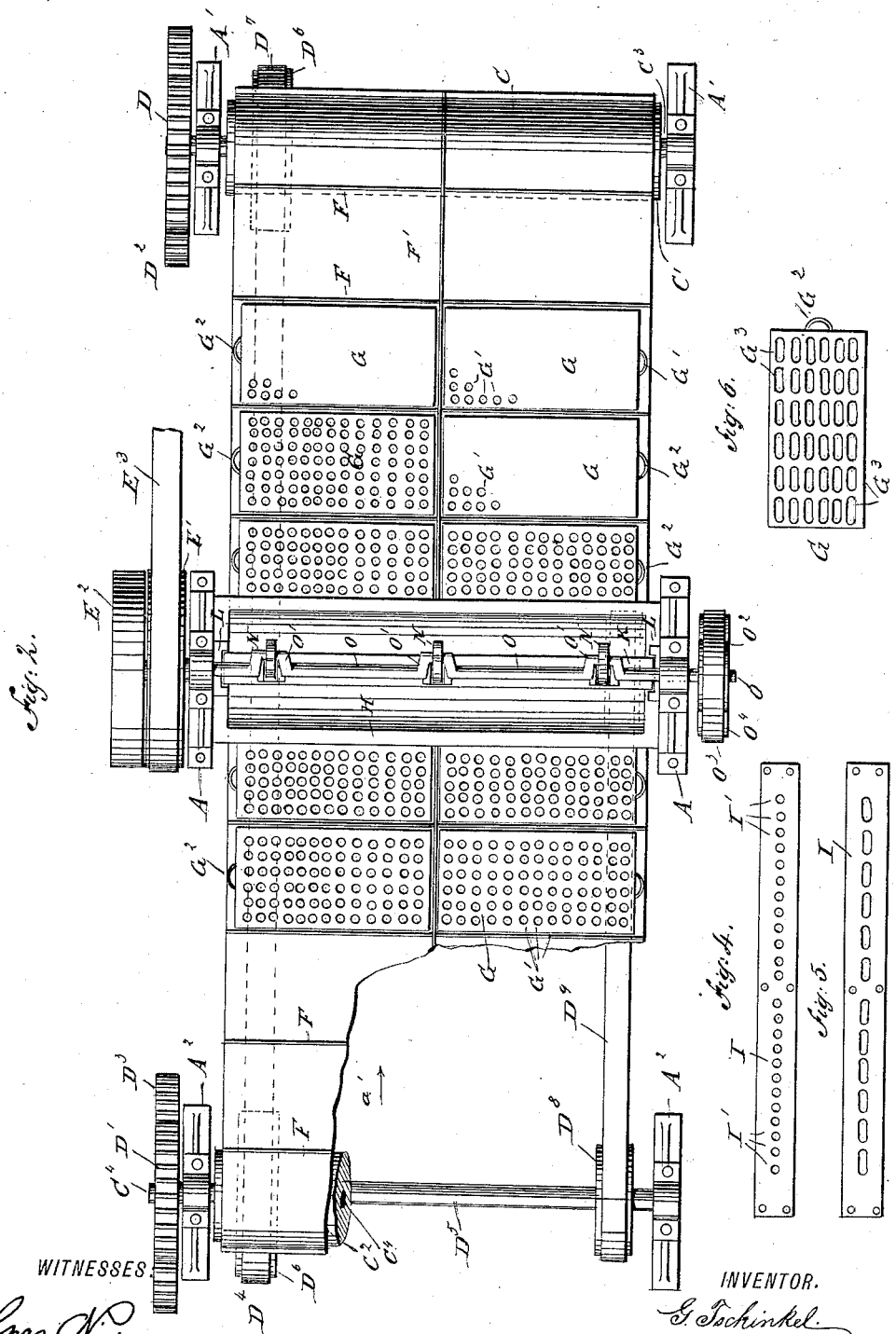


Fig. 2.

Fig. 6.

Fig. 4.

Fig. 5.

WITNESSES.

Chas. Neidig.

C. Sedgwick.

INVENTOR.

G. Tschinkel.

BY

Munn & Co.

ATTORNEY.

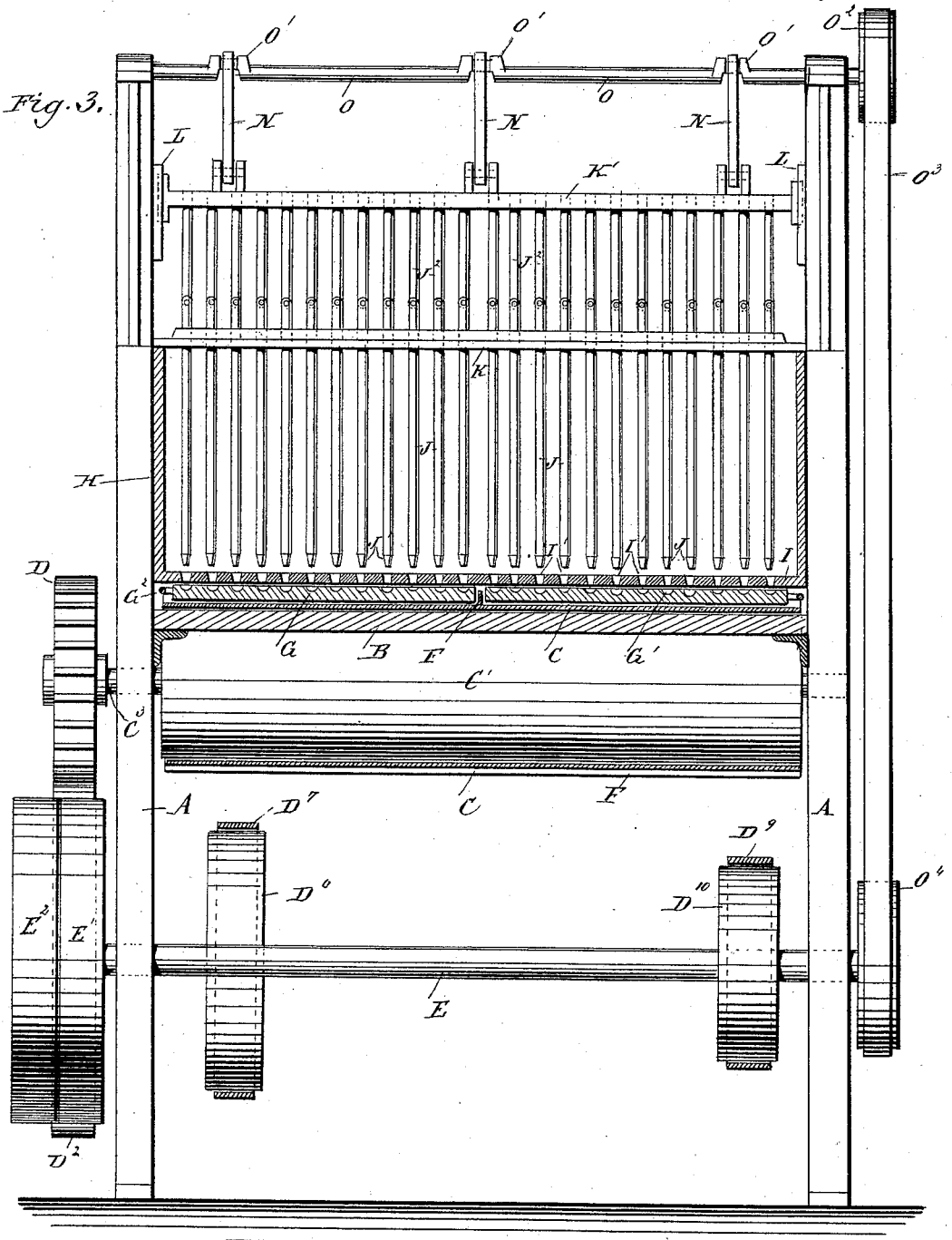
(No Model.) 3 Sheets—Sheet 3.

G. TSCHINKEL.

CANDY MACHINE.

No. 385,487. Patented July 3, 1888.

Fig. 3.



WITNESSES:

Chas. Nida.

C. Sedgwick.

INVENTOR.

G. Tschinkel.

BY Munn & Co.

ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE TSCHINKEL, OF BROOKLYN, NEW YORK.

CANDY-MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,487, dated July 3, 1888.

Application filed March 26, 1888. Serial No. 268,486. (No model.)

To all whom it may concern:

Be it known that I, GEORGE TSCHINKEL, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Candy-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved machine for conveniently and rapidly forming candy into any desired shape.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of the improvement. Fig. 2 is a plan view of the same with parts broken out. Fig. 3 is an enlarged vertical cross-section of the same on the line *x x* of Fig. 1. Fig. 4 is a plan view of the bottom of the funnel. Fig. 5 is a like view of a modified form of the same, and Fig. 6 is a plan view of a modified form of the form-plate.

On suitably-constructed standards A is secured a horizontal table, B, over which travels the upper part of an apron, C, passing around the rollers C′ and C^2, secured on the shafts C^3 and C^4, respectively mounted to rotate in suitable bearings formed in the standards A′ and A^2, located a suitable distance from the sides of the standards A A.

On the shafts C^3 and C^4 are secured the gear-wheels D and D′, respectively meshing into the larger gear-wheels, D^2 and D^3, respectively secured on the shafts D^4 and D^5, respectively mounted to rotate in suitable bearings on the standards A′ and A^2. On the shafts D^4 and D^5 are secured the pulleys D^6, over which passes an endless belt, D^7, and on the shaft D^5 is secured a smaller pulley, D^8, over which passes an endless belt, D^9, also passing over a pulley, D^{10}, secured to the shaft E, mounted to rotate in suitable bearings in the standards A below the table B.

On the shaft E, outside of one of the standards A, are secured the fast and loose pulleys E′ and E^2, over which passes a belt, E^3, connected with suitable machinery for imparting a rotary motion to the shaft E. The latter, by means of the pulleys D^{10} and D^8 and the belt D^9, imparts a rotary motion to the shaft D^5, and the latter, by the gear-wheels D^3 and D′, imparts a rotary motion to the shaft C^4, whereby the apron C is set in motion. The rotary motion of the shaft D^5 is also transmitted to the shaft D^4 by the pulleys D^6 and the endless belt D^7, and the rotary motion of the shaft D^4 is transmitted to the shaft C^3 by the gear-wheels D^2 and D, so that the pulley C′, secured on the said shaft C^3, rotates at the same speed as the pulley C^2, whereby the apron C receives a uniform motion at both ends.

On the apron C are secured the transverse strips F, preferably made of sheet metal, and in the middle of the apron C is secured the longitudinal metal strip F′, so that the said strips F and F′ form equal partitions on the apron C for the reception of the form-plates G, each having in its top surface recesses G′, in which the candy is to be molded, said recesses being of any desired shape and form. Each of the form-plates G is provided on its outer end with a handle, G^2, for conveniently placing said form-plates on the apron C or removing them from the same. The form-plates G are placed on the apron C at the left hand of the table B, and are removed from the apron C at the right hand of the same. As shown in Fig. 2, the form-plates can be introduced from both sides of the apron C; but, if desired, the machine can be made single, so that the form-plates will be introduced from only one side.

In the middle of the table D, directly above the form-plates G, is held a funnel, H, preferably made V shape in vertical cross-section, open at the top and closed at the bottom by the plate I, having a series of openings, I′, registering with the recesses G′, formed in the form-plates G, traveling directly below the said bottom plate, I, of the funnel H. The apertures I′ are preferably made cone-shaped, and into the said apertures fit the cone-shaped ends J′ of the plunger-valves J, extending upward in the funnel H, being guided in a transverse plate, K, secured to the top of the funnel H. To the upper ends of the plunger-valves J are secured by pins the short pieces

J^2, the upper ends of which screw into a transverse plate, K′, mounted to slide vertically in suitable guideways, L, secured to the standards A.

On the transverse plate K′ are pivoted the upper ends of the pitmen N, connected with the crank-arms O′, formed or secured on the shaft O, mounted transversely in suitable bearings secured to the tops of the standards A. On one outer end of the shaft O is secured a pulley, O^2, over which passes an endless belt, O^3, also passing over a pulley, O^4, secured to the main driving-shaft E, located below the table B.

Into the top of the funnel H discharges a pipe, P, provided with a valve, P′, and connected with a suitable pan containing the liquid candy to be molded or formed into piece candy. The funnel H is preferably made with a jacket, as is plainly shown in Fig. 1, and into this jacket opens a steam-pipe, Q, so that the candy cooling off on the insides can be easily loosened or melted by introducing steam through the pipe Q into the jacket surrounding the said funnel H.

The operation is as follows: The main driving-shaft E is set in motion, as above described, so that the apron C travels in the direction of the arrow *a*′. The valve P′ is then opened, so that the liquid candy passes through the pipe P into the funnel H and keeps the same charged during the operation. The form-plates G are placed on the apron C, as before described, so that the said form-plates G travel with the apron in the direction of the arrow *a*′ and pass under the bottom plate, I, of the funnel H. The crank-arms O′ on the shaft O are so arranged and timed in connection with the main driving-shaft E and the apron C that the plunger-valves J open the apertures I′ in the bottom plate, I, whenever one of the recesses G′ of the form-plates G is directly below it, and the plungers J close the said apertures I′ during the time that the intervening spaces between the several rows of recesses G′ travel below the said apertures I′. Thus, when the plunger-valves J are withdrawn from the apertures I′, the liquid candy in the funnel H passes through the said apertures I′ down into the recesses G′ in the form-plates G, so as to completely fill the said recesses. Then the crank-arms O′ move downward, so that the plunger-valves J close the openings I′ and prevent the liquid candy from running into the funnel H. The form-plates G, traveling in the direction of the arrow *a*′, then present another row of recesses G′ under the apertures I′, and then the plunger-valves J, by the action of the crank-arms O′, again open the apertures I′, so that the next row of recesses G′ is filled with candy, as above described. Thus the several rows of recesses in the form-plates G are filled, and when one form-plate is completely filled and has traveled a short distance beyond the standards A the operators take hold of the handles G^2 and remove the filled form-plates G from the apron C by simply sliding said form-plates out sidewise. Thus an uninterrupted filling of the form-plates G is accomplished.

The object of making the plunger-valves J in two parts is for the purpose of disconnecting every alternate plunger-valve from the transverse plate K by simply removing the pin connecting the plunger-valve J with its extension J^2 and then screwing the extension J^2 up into the transverse plate K and letting the plunger-valve J′ drop into its respective aperture I′. Thus every alternate plunger-valve J is raised by the movement of the crank-arms O′, while the other plunger-valves remain in their lowermost position and keep every alternate opening I′ closed. In this case I employ form-plates such as shown in Fig. 6, in which the recesses G^3 are oblong, so that every alternate opening I′ is sufficient to fill one of the said oblong recesses G^3 in the form-plate G. It also requires a little longer time to fill these oblong recesses G^3, and the speed of the main driving-shaft E is correspondingly lessened.

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

1. In a candy-machine, the combination, with the main frame and a funnel having a series of apertures in its bottom, of a bar sliding in ways in the frame, the pieces J^2, adjustably secured in the said sliding bar, and the plungers J, detachably secured to the pieces J^2, substantially as herein shown and described.

2. In a candy-machine, the combination, with an endless apron, form-plates on the apron, and means for operating said apron, of a funnel having a series of apertures in its bottom, a bar sliding in ways in the frame, rods adjustably secured to said bar, plungers detachably secured to said rods, and means for operating the sliding bar, substantially as herein shown and described.

GEORGE TSCHINKEL.

Witnesses:
THEO. G. HOSTER,
C. SEDGWICK.