

No. 742,433.

PATENTED OCT. 27, 1903.

J. J. HOPKINS.
LAST DISTRIBUTER.

APPLICATION FILED MAR. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

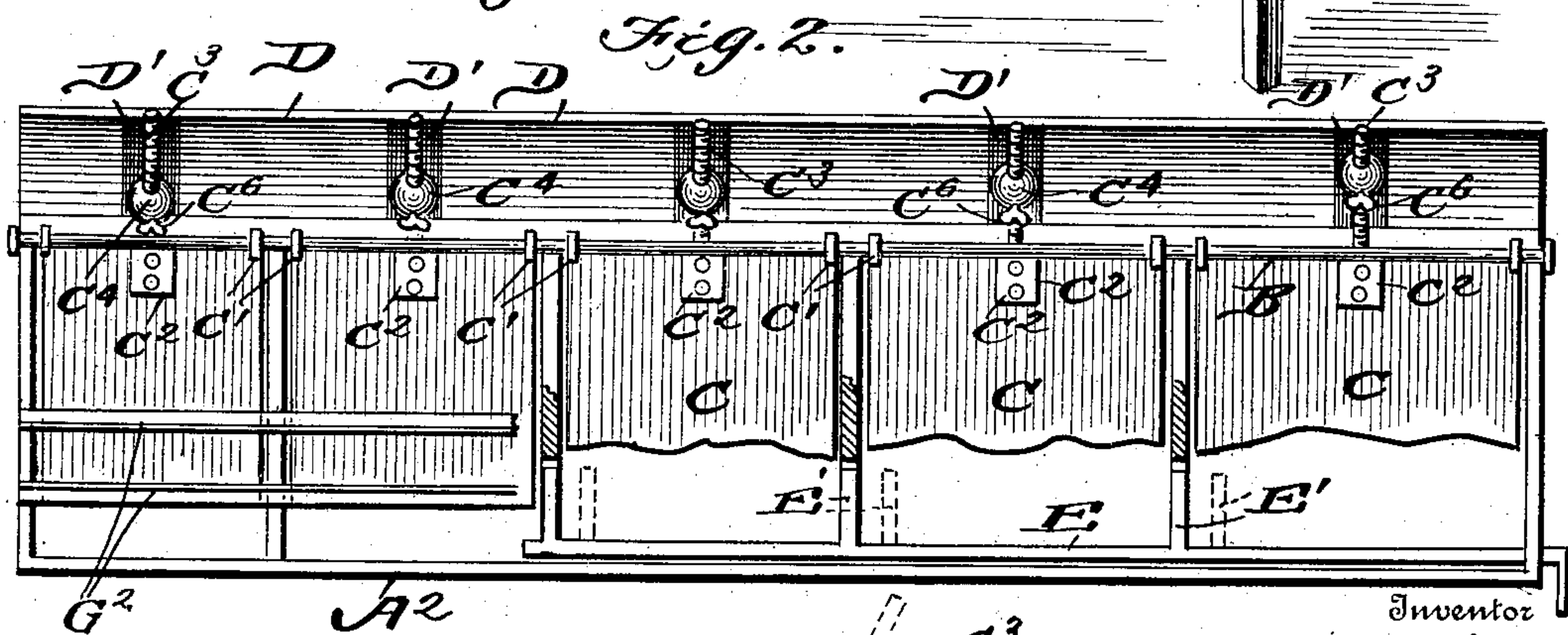
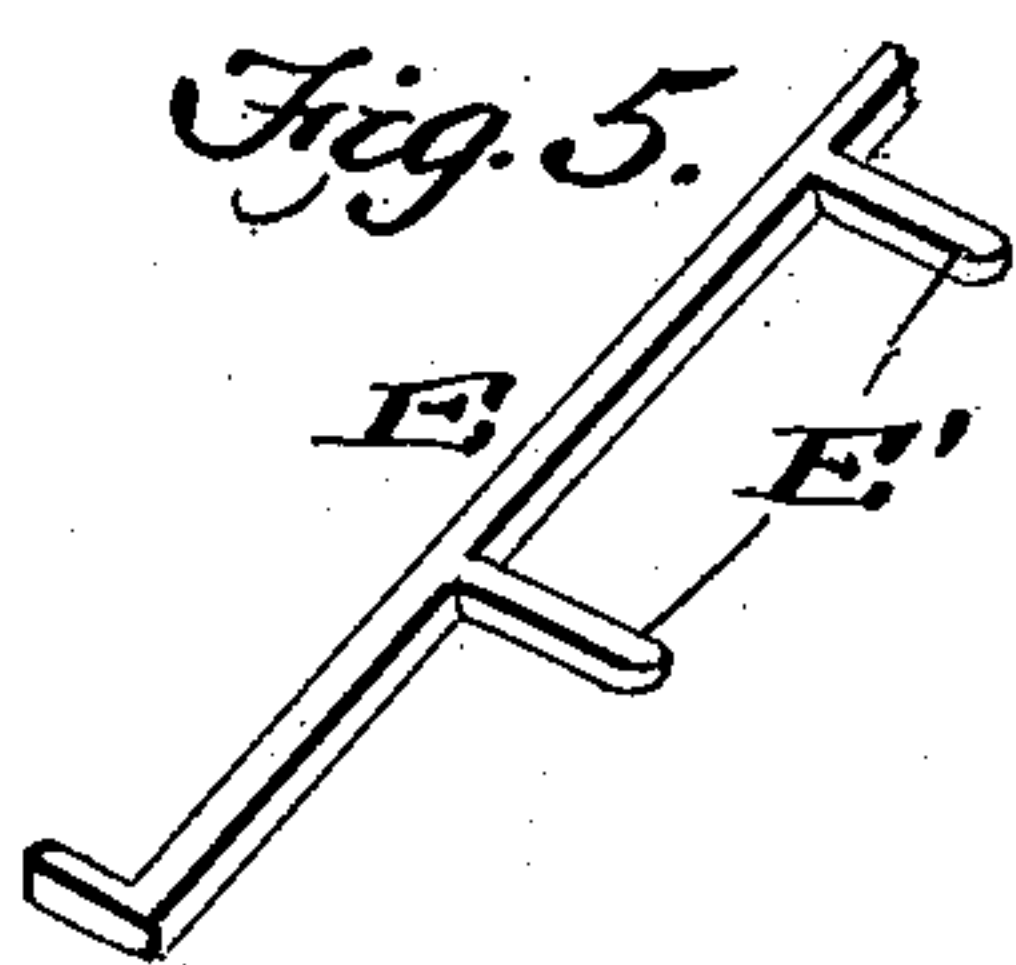
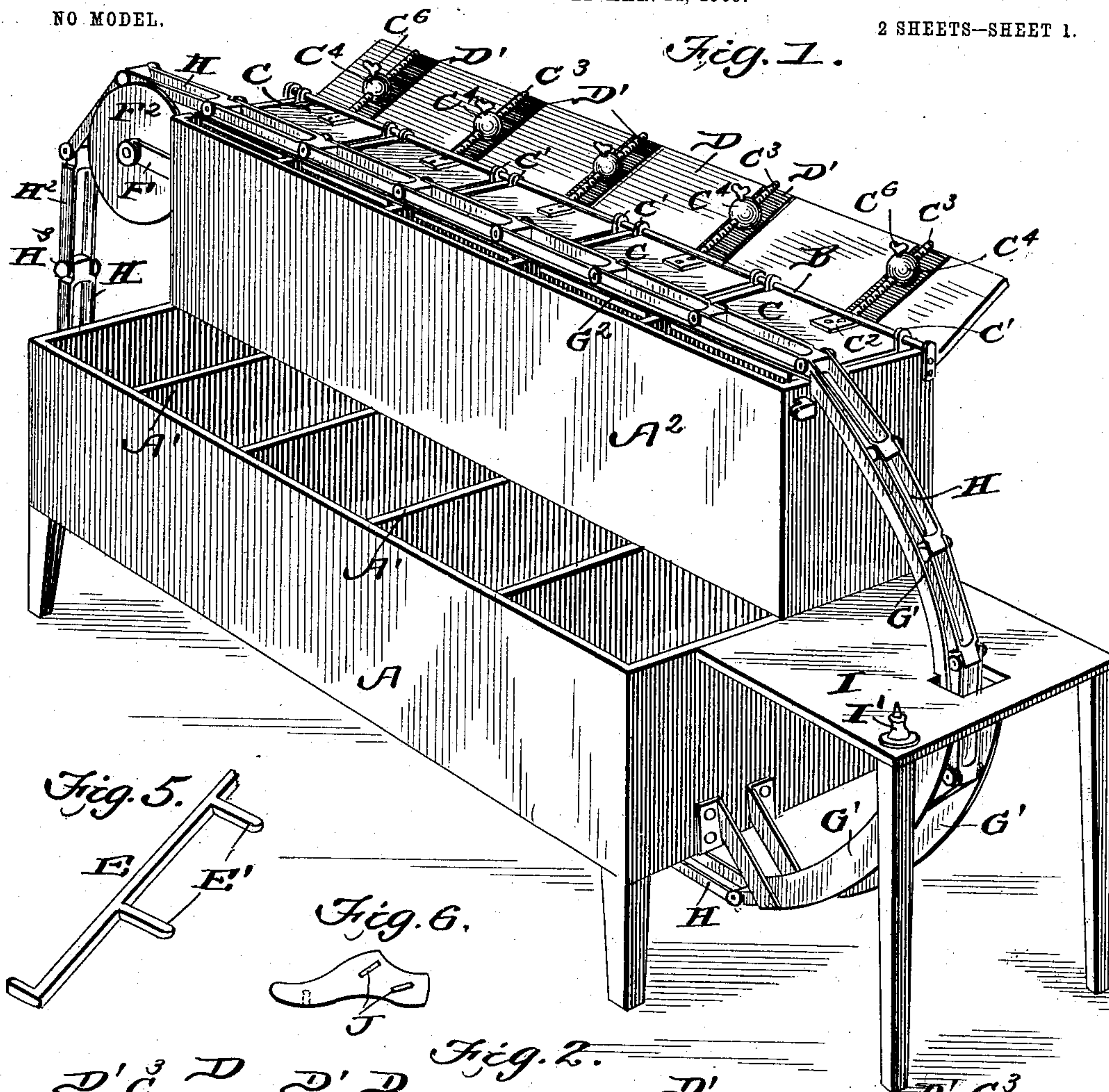


Fig. 4.

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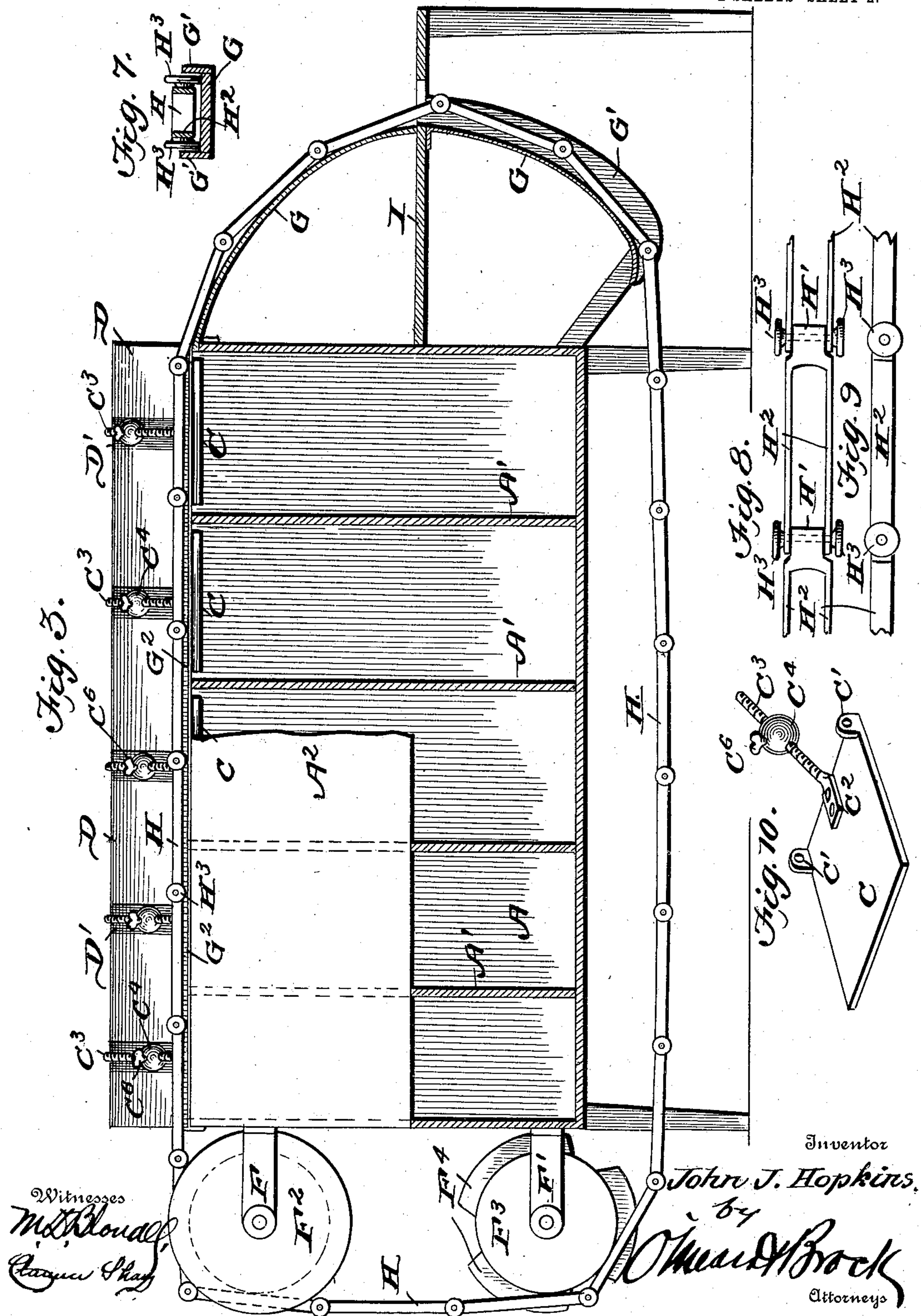
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JOHN JAMES HOPKINS, OF ST. LOUIS, MISSOURI.

LAST-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 742,433, dated October 27, 1903.

Application filed March 14, 1903. Serial No. 147,853. (No model.)

To all whom it may concern:

Be it known that I, JOHN JAMES HOPKINS, a subject of the King of Great Britain, residing at St. Louis, in the State of Missouri, have
5 invented a new and useful Last-Distributor, of which the following is a specification.

My invention is a distributor for lasts, the object being to provide an apparatus of this character which will automatically distribute
10 lasts of various sizes into the respective receptacles designed to hold them when not being used, thus keeping separate the lasts of different sizes and avoiding their being mixed by carelessness of the person charged
15 with putting them away and also saving time and labor by doing the work automatically.

Briefly considered, my invention consists in a plurality of receptacles having pivoted lids, said lids being held in position by a plurality
20 of graduated weights, a track extending above said receptacle and an endless conveyer traveling on said track and carrying lasts, the last being of a predetermined weight and adapted to trip one of the lids and fall through
25 the conveyer into one of the receptacles.

In the accompanying drawings, Figure 1 is a perspective view of my apparatus complete. Fig. 2 is a plan view of the distributing-chutes, the conveyer and a portion of the
30 track being removed. Fig. 3 is a vertical sectional view on an irregular line, the right-hand side of the figure taken through the chutes and the left-hand portion being taken through the receptacles for holding lasts, the
35 conveyer being shown in elevation. Fig. 4 is a detail view, partly in section, showing in elevation the tripping-plate and regulating-weight. Fig. 5 is a detail view of a portion of the locking-bar. Fig. 6 is a detail view
40 showing a last leaded to give a certain weight. Fig. 7 is a transverse section through the conveyer and conveyer-track, the wheels being in elevation. Fig. 8 is a plan view of the conveyer. Fig. 9 is a side elevation of the
45 conveyer, and Fig. 10 is a perspective view of the tripping-plate.

In carrying out my improvement I employ the box-frame A, which is open at the top and divided by transverse partitions A' into
50 a plurality of receptacles in which the lasts

are stored, each size being kept in a separate receptacle. Mounted longitudinally on the rear of the frame A is a downwardly-open casing A², divided into as many delivery-chutes as there are receptacles, the partitions
55 A' being extended upward into the casing A². Along the upper side of the casing A² extends a rod B, supported by suitable perforated lugs carried by the ends of the casing, though any suitable means may be used for mount-
60 ing this rod in position.

A plurality of tripper-plates C have perforated ears C' on each side adjacent their rear edge by which they are hinged to the rod B, extending over the delivery-chutes and adapt-
65 ed to swing down within same. A metal plate C² is centrally secured against the rear edge of each tripper-plate, and projecting rearwardly and upwardly from this plate is threaded rod C³. A ball C⁴, having an axial threaded
70 perforation, is arranged on each rod, and the position of the ball on the rod can be changed by turning the ball, causing the threads of the perforation to engage the threads of the rod. The ball being at all times to the rear
75 of the pivotal point C' of the tripper-plates will prevent the plates from swinging downward into the chutes. To prevent the balls from creeping down and thereby changing the weight at which the plates drop, a set-
80 screw C⁶ is provided by means of which the ball can be fixedly held in its adjusted position.

A rearwardly and upwardly inclined board D runs along the rear upper edge of the cas-
85 ing A² and is arranged at the same angle with reference to the casing as the threaded rods are arranged with reference to the tripper-plates, and when the balls lie against the board D the plates are held in horizontal po-
90 sition. The board limits the rearward movement of the balls, and to prevent unnecessary noise in the operation of the device rubber plates D' are provided for the balls to fall on. To prevent the plate when tripped
95 from swinging so far toward a vertical position that recovery to the horizontal and normal position would be slow and mar the operation of the machine, stop-pins C⁵ project from the partitions A'. The upper forward
100

part of the partitions is cut away and an aperture is formed in the front end of the casing A², and resting in the cut-out portion or slots is the locking-bar E, its outer end projecting through the aperture and being bent to form a handle. Arms E' project laterally from this bar and normally rest in the slots in the partitions; but when the bar is drawn outward they project beneath the free edges of the tripping-plates and lock them against downward movement, and in order that some of the tripper-plates may be locked while others are free to operate the bar extends only beneath a portion of the tripper-plates.

To the rear of the casing A' and frame A are brackets F F', in which are mounted wheels F² F³, the former being flanged and the latter having vertical sprocket-blades F⁴ secured to its periphery. At the forward end of the device is a semicircular track G, having the side walls G'.

An endless conveyer H is adapted to travel over the end track G and on the track G², which extends across the top of the receptacles supported by the partitions A', and the conveyer then passes over the wheels F² F³. This conveyer (see Figs. 8 and 9) consists of a rectangular flat metallic plate H', slightly reduced in width adjacent one end and having extending from its opposite end two comparatively long parallel arms H², lying in the same plane as the plate H', the forward portion of these arms embracing the reduced portion of an adjacent plate, to which it is secured by a pintle which carries at its outer ends rollers H³, the conveyer traveling over the track and tripper-boards on said rollers. Power may be applied to the shaft carrying the wheel F³ in any desired manner and from any convenient source.

The revolving sprocket-blades F⁴ will work between the arms H² of the conveyer, which practically form links, and will actuate the conveyer in a manner similar to that in which an ordinary sprocket-chain is driven. A table I is shown as arranged adjacent the front end of the machine, an opening being cut in its top for the conveyer to pass through, and above the table the walls of the track G' are somewhat reduced in height and serve to guide the conveyer to the track. A last-pulling spindle I' is located on the table I, as shown in Fig. 1.

In operation, the conveyer having been started, the operator places the lasts to be distributed one at a time between the arms H², the links passing upward over the portion of the track above the table. The lasts rest loosely between these arms and are pushed along by the plate H'. As soon, however, as the last arrives over a tripper-plate set to trip at the weight of the last the plate C will swing downward and the last will fall through the chute into its proper receptacle, the weight of the ball C⁴ returning the tripper-

plate to its normal and original position as soon as it is relieved of the weight of the last. As the object of the apparatus is to assort lasts by sizes and to convey all of a similar size to the same receptacle it is essential that all lasts of a certain size should have the same weight and lead is inserted in the sizes of the lasts, as at J, Fig. 6, and by regulating the amount of lead each last of the same size will also have the same weight. By regulating the position of the balls on the rod each tripper-plate can be set to drop when a last of a certain weight is passed over it, and as it is also obvious that it would also drop with a greater weight the balls are set as in Fig. 1, the heaviest lasts tripping the first and the lightest ones passing to the last tripper-plate. Should it be desired to pass a heavy last into the last series of receptacles, the locking-bar E is drawn out and the lasts will pass over all the tripper-plates locked by the bar. Any number of chutes and receptacles can be used and the mode of arranging them can be changed without changing the manner of operating my device.

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

1. A last-distributor comprising a box-frame, transverse partitions arranged in said frame, a rod on one side of said frame, tripper-plates hinged to said rod between the partitions, each plate being adapted to fall when a predetermined weight is placed thereon, means for limiting the movement of the plate, means for returning the plate to its normal position, and means for conveying weighted lasts over said tripper-plates.

2. An apparatus of the kind described comprising a plurality of receptacles, tripper-plates pivotally secured above said receptacles and adapted to swing downward, rods secured to the hinged edges of the plates, said rods being inclined upwardly and rearwardly, adjustable weights on said rods, means for limiting rear movement of the rods, means for limiting downward movement of the plates, and means for conveying the articles to be deposited in the receptacles to the plates.

3. The combination with a frame divided into a plurality of receptacles, of tripper-plates mounted above the frame, adjustable weights adapted to hold said plates in a horizontal position, a wheel having sprocket-blades at the rear of the frame, an upwardly-extending curved track at the front of the frame, a track above the plates and a link conveyer having a plurality of rollers adapted to travel over said wheel and tracks and to convey lasts each of which is adapted to trip one of the plates and to fall through the links of the conveyer.

4. The combination with a plurality of receptacles, of a similar number of delivery-

chutes mounted above the receptacles, hinged tripper-plates adapted to swing downward into the chutes, means for normally holding the plates in a horizontal position, an endless conveyer adapted to carry lasts over said plates, each last being adapted to trip a particular plate, and a locking-bar adapted to lock a certain number of the plates in their normal position and to leave the remainder of the plates in a position to be tripped.

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