

No. 639,383.

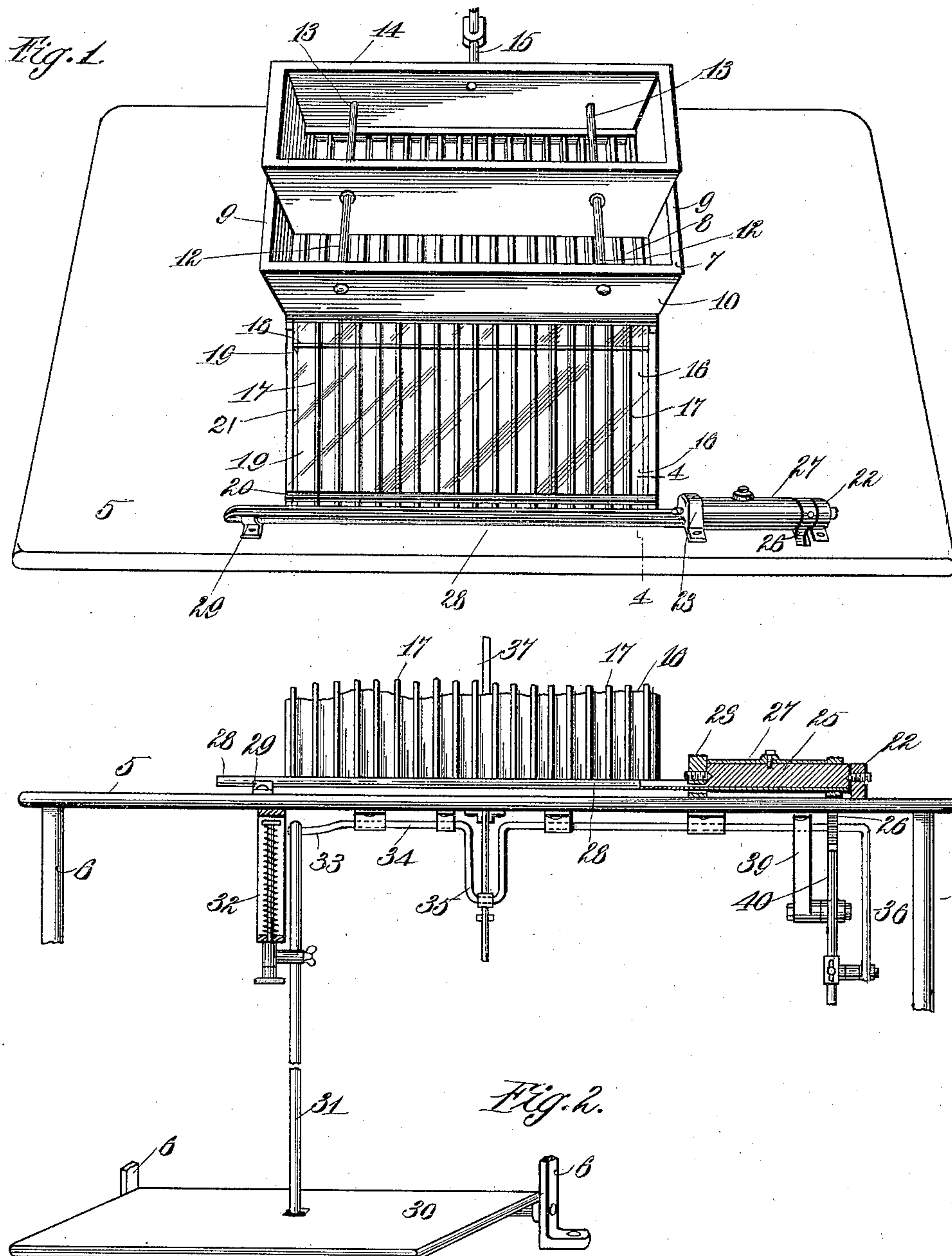
Patented Dec. 19, 1899.

L. L. HARRIS.
ASSEMBLING MACHINE.

(Application filed Sept. 9, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

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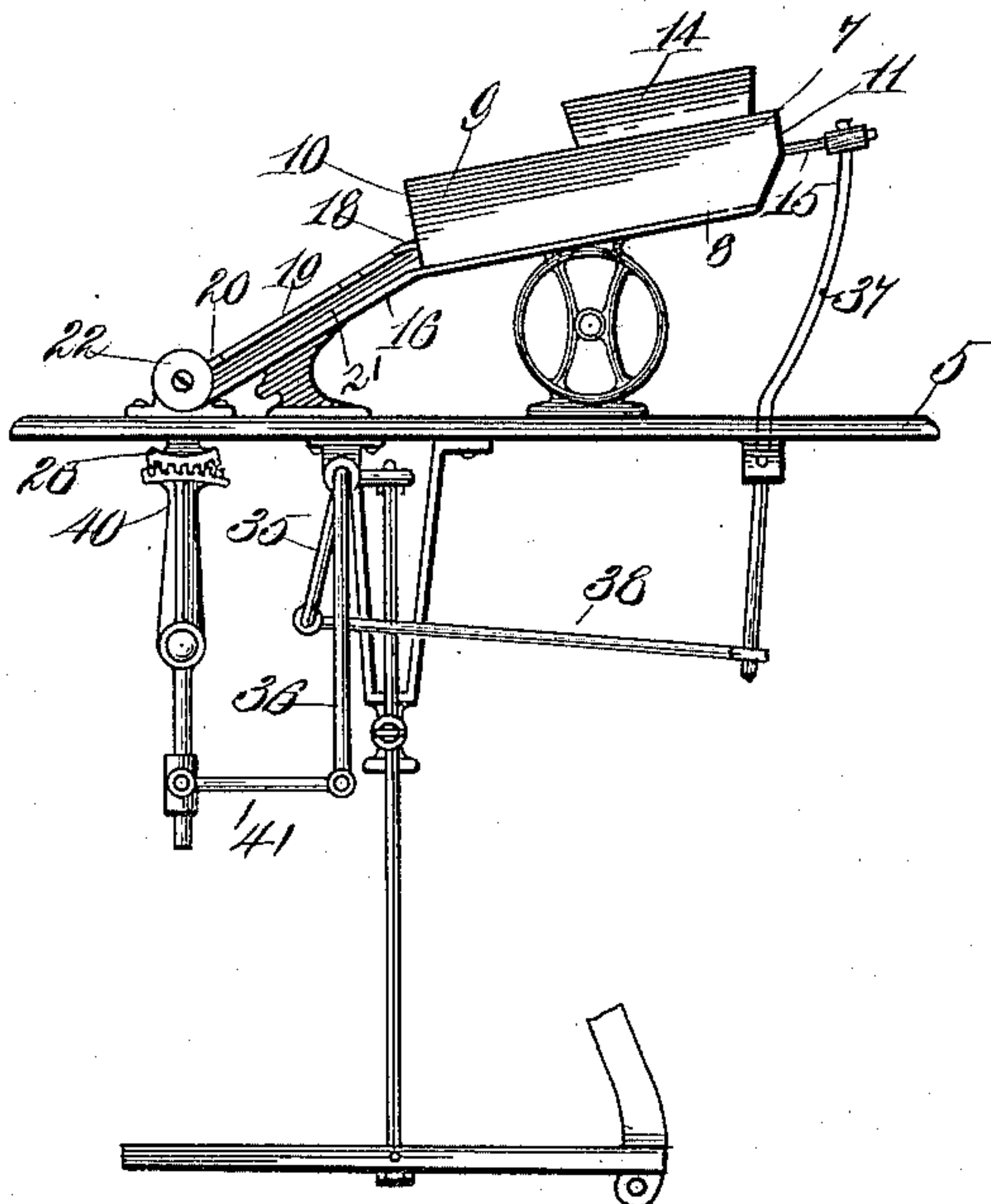


Fig. 3.

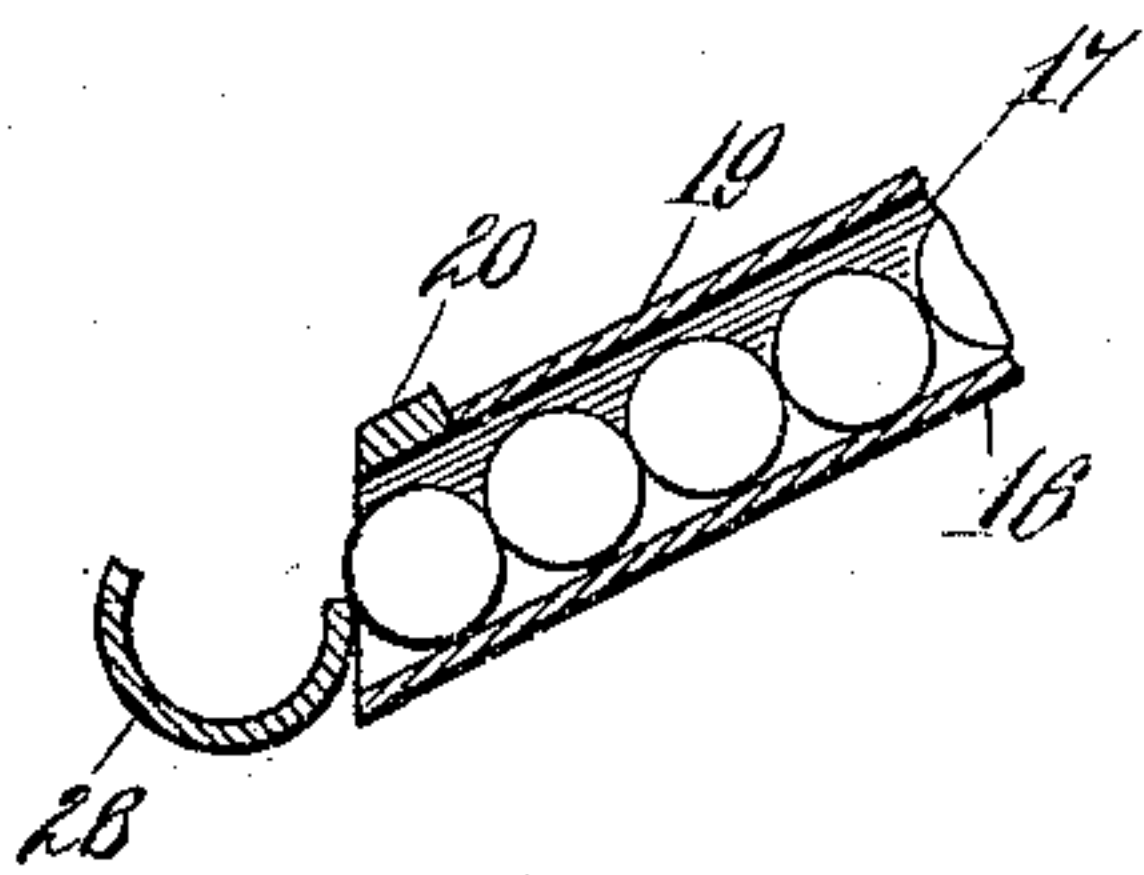


Fig. 4.

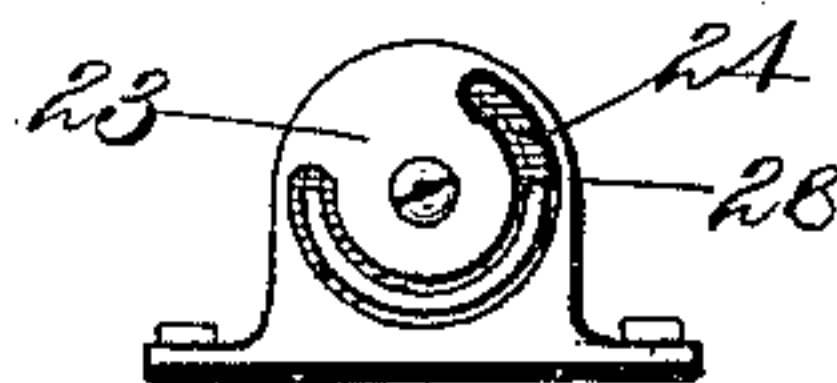


Fig. 5.

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UNITED STATES PATENT OFFICE.

LEWIS L. HARRIS, OF PROVIDENCE, RHODE ISLAND.

ASSEMBLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 639,383, dated December 19, 1899.

Application filed September 9, 1899. Serial No. 730,040. (No model.)

To all whom it may concern:

Be it known that I, LEWIS L. HARRIS, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Assembling-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in machines for assembling lozenges or other like objects in position for packing.

The object of the invention is to so construct a machine of this character that the 15 articles to be assembled may be individually directed to positions from whence they may be delivered in series convenient for packing.

The object of the invention is also to so construct a machine of this nature that the 20 delivery mechanism may act as a gate or closure against the undue movement of the articles.

The object of the invention is also to provide a machine of this character in which the 25 articles to be assembled may be deposited in a suitable hopper in which they may be arranged to progress in individual paths to a delivery device which is adapted to receive the individual articles and to deliver them in 30 series for packing.

The invention consists in means for supporting the articles edge to edge, combined with means for receiving the articles in groups.

35 The invention also consists in a series of channels or conduits and a receiving device arranged to intercept the articles passing therefrom.

40 The invention also consists in the combination, with a series of conduits arranged side by side, of a delivery device intercepting the same and adapted to act as a gate therefor.

The invention also consists in the rocking delivery-receptacle.

45 The invention also consists in the hopper and its inclined apron having a series of longitudinal partitions, the reciprocator within the hopper, and the rocking delivery-receptacle operatively mounted across the end of 50 the apron.

The invention also consists in such other novel means of construction and combination

of parts as shall hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents a perspective view of 55 the machine. Fig. 2 represents a front view of portions of the machine, showing the operating mechanism. Fig. 3 represents an end view of the machine reduced in size. Fig. 4 represents a sectional view of one of the chan- 60 nels and the rocking receptacle, taken on line 4 4, Fig. 1, showing lozenges in the channel and the manner in which they are intercepted by the receptacle acting as a gate. Fig. 5 represents a view of one of the brackets for sup- 65 porting the rocking receptacle.

Similar numbers of reference designate corresponding parts throughout.

In carrying my invention into practice I provide a table 5, having suitable supports, 70 (but partially shown in the drawings at 6 6.) On the table 5 and supported by suitable brackets I mount the hopper 7, having a bottom 8, ends 9 9, and the front 10 and back 11. The front 10 is open along its lower portion, 75 and in this front and the back 11 are secured the rods 12 12. On these rods are reciprocally mounted the guide-tubes 13 13 of the open frame 14, the arm 15 of which works through a perforation in the back 11 of the 80 hopper, the tubes 13 13 fitting quite loosely on the rods 12 12.

From the front of the hopper, as a continuation of the bottom 8, extends the inclined 85 apron 16, the bottom 8 and this apron being furnished with a series of partitions 17 17, dividing the same into a series of conduits or channels, each of a width adapted to receive an article or lozenge under operation and of 90 a height to allow of the free movement of such article, the opening in the front end corresponding thereto, the tops of those portions of the channels on the apron 16 being closed by the glass plates 18 and 19, that marked 19 bearing against the strip 20, secured across 95 the partitions 17 at the mouths of the channels, the plates of glass resting on the tops of the partitions 17 17 and on the sides 21 21 of the apron.

On the table 5, near its front edge, are se- 100 cured the brackets 22 and 23, the bracket 23 having the opening 24, (shown in Fig. 5,) and between these brackets is pivotally mounted the block 25, circular in cross-section, and to

this block are secured the segmental rack 26 and the tube 27, the main portion of this tube being cut away to form the approximately semicircular receptacle 28, which extends
5 through the opening 24 in the bracket 23 and before the open ends of the channels of the apron, its outer end being supported in the open bearing 29, fixed to the table 5.

Below the table 5 to any suitable portion of
10 the support 6 is pivotally mounted the treadle 30, and to this treadle is pivoted the rod 31, which is connected with the spring lifting device 32 and with the crank 33 of the rod 34, which rod is journaled in bearings secured
15 to the table 5, and is also furnished with the cranks 35 and 36. Working through a slot in the table 5 and pivotally supported by a suitable bracket is the lever 37, which is connected at its upper end to the arm 15 of the
20 frame 14 and at its lower end by means of the connecting-rod 38 with the crank 35.

To the under side of the table 5 is secured the bracket 39, and on this bracket is pivotally mounted the arm of the segmental rack
25 40, which arm is connected with the crank 36 by the rod 41, while the rack 40 engages with the rack 26, working through a slot in the table 5 to rock the block 25 and the tube 27.

A quantity of lozenges or other articles of
30 suitable shape being deposited in the frame 14 will pass through to the hopper 7. If now the treadle 30 be pressed and released a few times, the lozenges will be moved back and forth by the reciprocation of the frame 14
35 through its connections with the treadle until some portion of the contents assume positions to enter the channels between the partitions 17 and will then move down over the apron 16 in such channels until the first lozenge in each row bears against the edge of the
40 receptacle 28. This is generally the normal position from which the machine is started, the channels being filled and a surplus remaining in the hopper. When the treadle is
45 now depressed, the reciprocation of the frame 14 is continued and the receptacle 28 is rocked on its bearings through its connections with the treadle to bring its open side opposite the channels. One lozenge only from each chan-
50 nel will enter the receptacle, as its cross-sectional shape and size are adapted for the reception of but one. The treadle being released is drawn upward by the spring lifting device 32, the receptacle 28 is rocked to the
55 position shown in Fig. 4, and the row or series of lozenges are slipped out of the open end of

the receptacle by the finger of the operator and wrapped or packed in any desirable manner.

It is obvious that the rocking receptacle may be combined with any suitable series of
60 supply-channels and that the number and cross-sectional shape of the channels may be varied without departing from the spirit of this invention.

The mechanism for agitating the articles in
65 the hopper may also be varied at pleasure.

While the machine is herein described in its use for assembling lozenges, it must be understood that other articles may be assembled
70 thereby.

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

1. An assembling-machine comprising means for supporting articles in parallel series, and means for receiving a portion of each
75 of said series to permit the said articles to be moved laterally.

2. An assembling-machine comprising inclined supply-channels having open ends, a
80 delivery-receptacle concave in cross-section forming a lateral guide, rotatably mounted before said openings, and means for partially rotating said receptacle to alternately open and close the openings.
85

3. The combination with a hopper and an inclined apron extending therefrom and having supply guides or channels, and an agitator in the hopper, of means in the nature of a receptacle adapted to open and close the chan-
90 nels simultaneously.

4. The combination with the hopper and its inclined apron having channels or guides, the channels of the apron being closed by the glass plates, of the delivery-receptacle rotatably mounted at the ends of the channels, and
95 means for operating the same, as described.

5. The combination with the hopper having the bottom 8 and the open front 10, the apron 16 extending from the hopper, and the partitions 17 on the bottom 8 and on the apron,
100 of the brackets 22 and 23 mounted on the table, the block 25 pivoted in said brackets, the tube 27 secured on said block and having the receptacle 28 extending therefrom and intersecting the channels formed as described.
105

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS L. HARRIS.

Witnesses:

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HENRY J. MILLER.