

Aug. 11, 1925.

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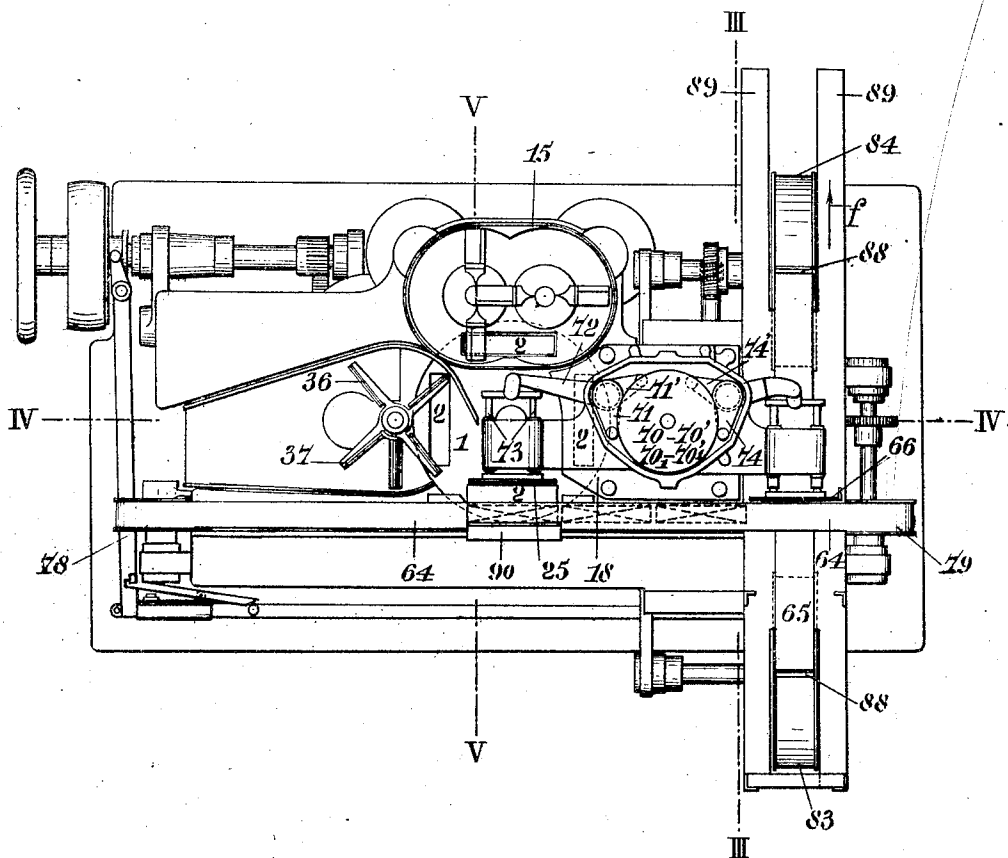
A. LETORT ET AL

MACHINE FOR COMPRESSING SUGAR INTO BLOCKS

Filed June 25, 1924

4 Sheets-Sheet 1

Fig. 1



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Fig-2

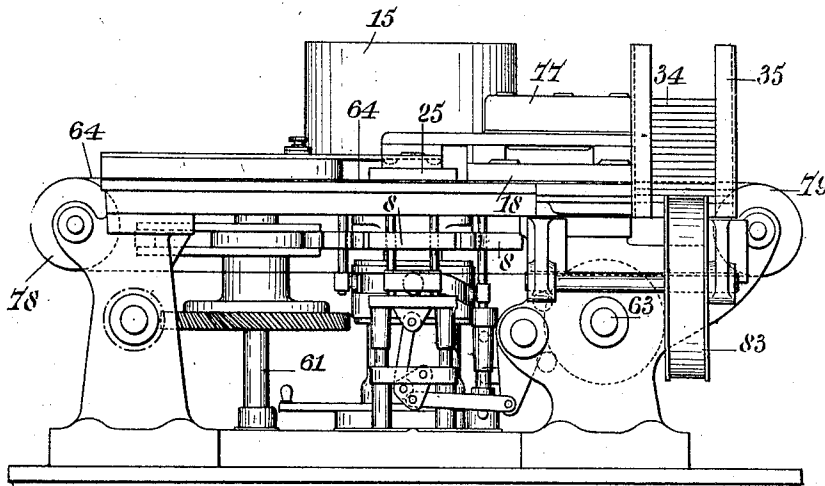
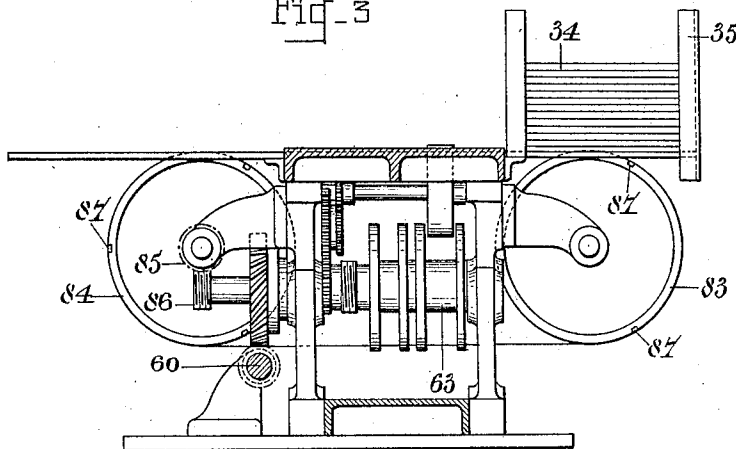


Fig-3



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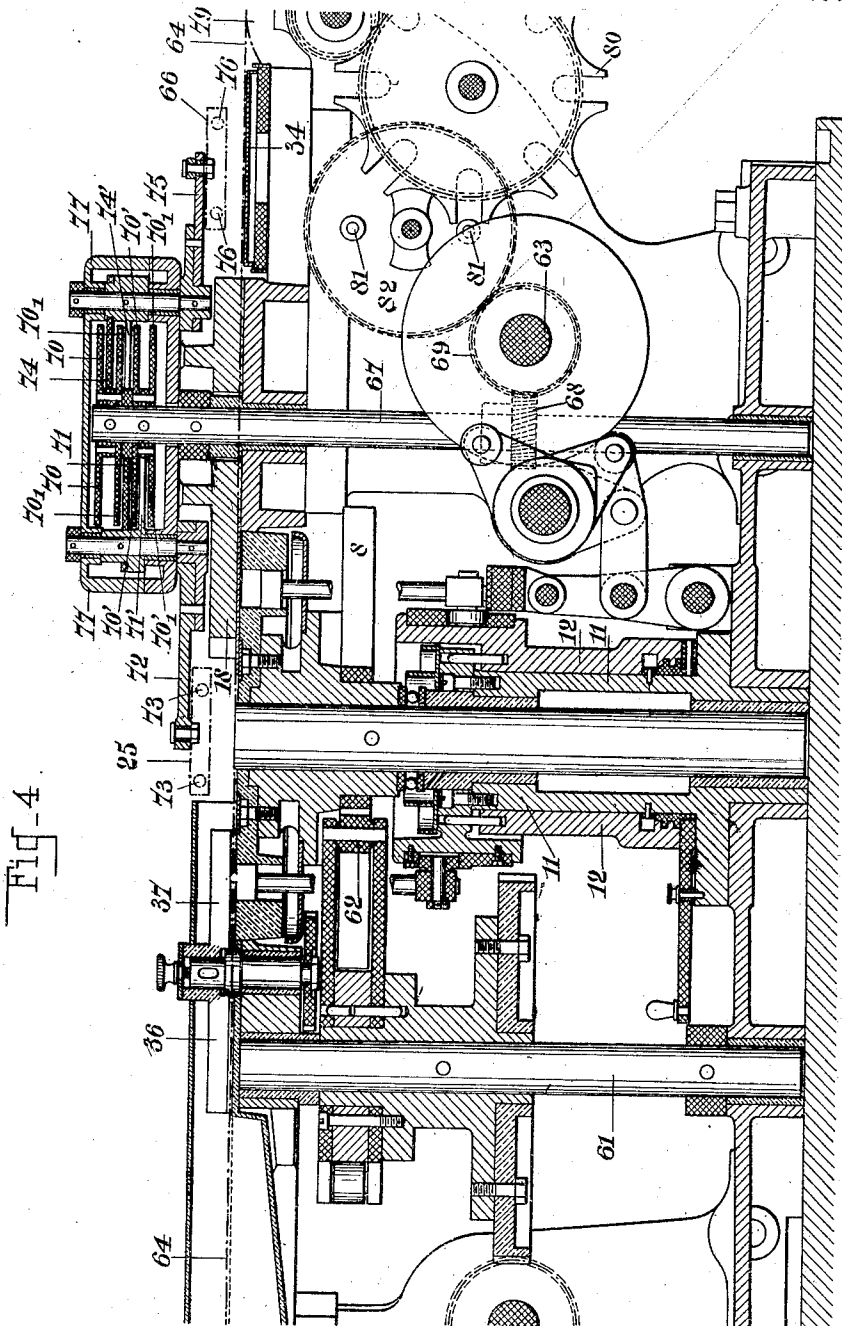
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MACHINE FOR COMPRESSING SUGAR INTO BLOCKS

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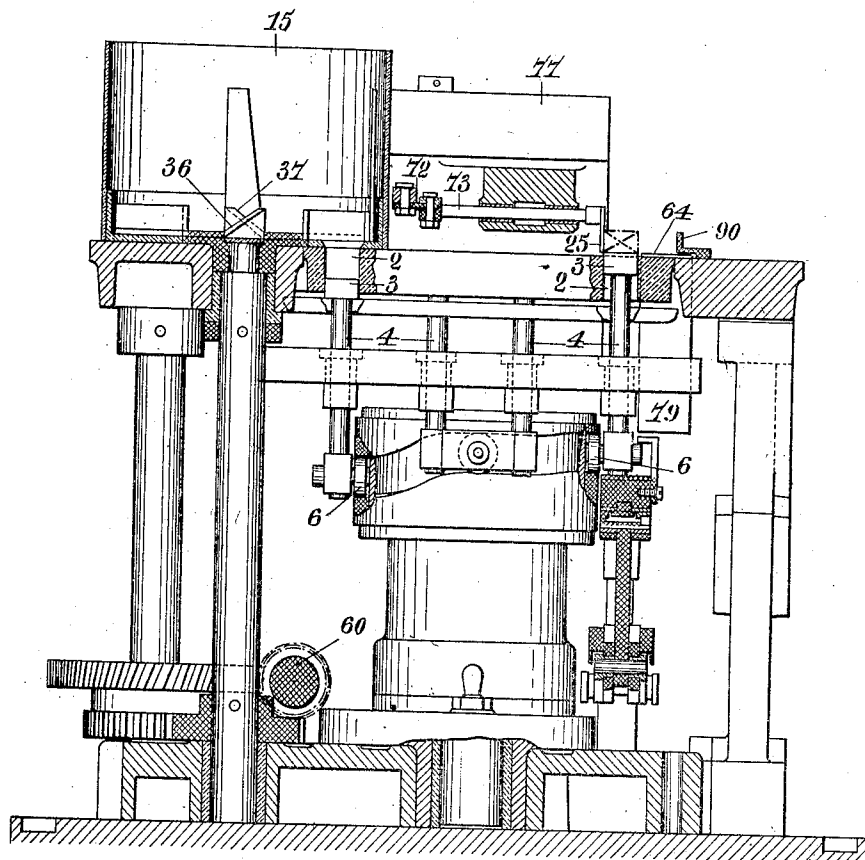
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MACHINE FOR COMPRESSING SUGAR INTO BLOCKS

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4 Sheets-Sheet 4

Fig. 5



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UNITED STATES PATENT OFFICE.

ALFRED LETORT AND LOUIS CHAMBON, OF PARIS, FRANCE.

MACHINE FOR COMPRESSING SUGAR INTO BLOCKS.

Application filed June 25, 1924. Serial No. 722,364.

To all whom it may concern:

Be it known that we, ALFRED LETORT, residing at 123 Boulevard de la Gare, at Paris, Seine, France, and LOUIS CHAMBON, residing at 64 Rue de Crimée, at Paris, Department of the Seine, France, both citizens of the French Republic, have invented certain new and useful Improvements in Machines for Compressing Sugar into Blocks, of which the following is a specification.

In Patent No. 1,468,242, there has been described a machine comprising in combination devices for filling, compressing, ejecting and cleaning distributed around a turning circular table having a number of moulding pockets.

The present invention has for its object certain improvements in the device for ejecting the blocks from the machine.

The new ejecting device is essentially constituted by the combination of two transporters arranged at right angles, one receiving blocks brought by a first push plate and conducting to a second, the other, provided with plates extracted automatically from a magazine, receiving the blocks from the first transporter by means of a push plate and bringing them to the individual intrusted to receive them.

By way of example and to permit of the description being understood, there is represented on the accompanying drawings:

Fig. 1, a plan view of the whole machine.
Fig. 2, a corresponding side view in elevation.

Fig. 3, a vertical section along the line III—III in Fig. 1.

Fig. 4, a vertical section along the line IV—IV in Fig. 1, to a larger scale.

Fig. 5, a corresponding vertical sectional elevation on the line V—V in Fig. 1.

In the different figures, the same reference numerals as in the principal patent have been retained to designate corresponding parts.

As in the Patent No. 1,468,242 above mentioned, the machine comprises a horizontal circular plate 1 connected with a Maltese cross 8 serving to impart an intermittent circular movement. The plate carries four pockets 2, in which are displaced the compressing pistons 3, mounted on rods 4, provided at their lower part with rollers 6, rolling on a two-part circular cam, one part being carried by the fixed sleeve 11 and the

other by the sleeve 12 adjustable in height.

The arrangement of the four parts, the filling part 15, the compressor 18, the ejector 25 and washer 36, 37, is likewise the same. The rising and falling movements of the pistons are effected in an identical manner.

The machine receives its movement by means of a common driving shaft 60 (Figs. 3 and 5), which transmits the movement by means of suitable gears, on the one hand to the shaft 61 carrying the roller 62 which coacts with the Maltese cross 8, and on the other hand to the shaft 63 carrying various cams for controlling piston-elevating mechanisms (compression and expulsion).

Parallel with the longitudinal axis of the machine is arranged a primary endless conveyor band 64 passing the thread pocket of the rotary table 1, and on to which the blocks are pushed by a blade 25. Perpendicularly to the primary conveyor and above the cam shaft 63, is arranged a secondary conveyor 65 on to which the blocks are pushed by the blade 66.

The alternating movement from front to rear of the blade 25 is controlled by the following devices: The cam shaft 63 actuates by means of the wheel 69 and worm wheel 68 a vertical shaft 67 on which are keyed cams 70 and 71 and counter cams 70', 71'. With the cam 70' and its counter cam 70', coact levers 71, 71', which by means of the arm 72 and the guide rods 73 control the plate 25. With cam 70 and its counter cam 70, coact in the same manner levers 74 and 74' which control, by means of arm 75 and guide rods 76 the movement of the pusher blade 66.

In order to diminish the space occupied, the whole of the control mechanism, enclosed in a casing 77, is placed above the plate 18 forming the compression abutment.

The conveyor 64 passes around two drums 78 and 79, the first loose on its shaft, the second actuated with an intermittent movement by means of a Maltese cross 80 coacting with two rollers 81 carried by a pinion 82 which takes its movement from the cam-controlling shaft 63.

The conveyor 65 passes around two drums 83 and 84, the first loose, the second actuated by a continuous rotary movement from wheel 85 and worm 86 on the cam shaft 63. Above the drum 83 is a magazine 85 containing a pile of plates 34, analogous to that described in the principal patent. The endless con-

veyor band 65 carries on the one hand bars projecting into the recesses 87 of the drums, to ensure a good drive, on the other hand talons 88 which effect the passage of the bottom plate of the pile 34 and cause it to glide out of the magazine on to the table guides 89.

The operation of the apparatus thus constructed is at once understood.

After the ejection of the block outside the pocket mould, piston 3 is in the position represented in Fig. 5, the cams 70', 70'₁ placing in movement the blade 25 which pushes the block on to the endless band 64: a stop 90 stops the block from passing beyond the middle of the band.

The conveyor 64 receives at this moment, by the action of the Maltese cross 80, an advancing movement corresponding to about the length of a block, a movement which brings one of the blocks in front of the blade 66. This latter receives at this moment an advancing movement controlled by the cams 70, 70₁, a movement which causes the block to fall on to one of the plates 34 carried by the endless band 65, which is positioned a short distance below conveyor 64.

The plates 34 thus successively receive a certain number of blocks and convey them in the direction of the arrow *f* in passing them below the conveyor 64 and the pusher blade 66 on the table guides 89 which lead them in front of the workman appointed to receive them.

The present invention should not be considered as limited to the exact mode of construction above described; it may comprise any modifications which include the combination of two conveyors placed at right angles, one receiving the block brought by a pusher blade and leading it to the second,

the second carrying plates from a magazine on which the blocks brought by the first conveyor are pushed by a second pusher plate.

Having now described and ascertained the nature of our invention and the manner in which the same is to be performed, what we claim is:

1. Improvements in machines for compressing sugar into blocks, comprising, means including two conveyors placed at right angles to each other for evacuating formed blocks, a pusher plate to place the blocks on one of the conveyors which conveyor conducts them to the other conveyor, a magazine, plates in the magazine, said other conveyor being arranged to automatically receive plates from the magazine, means to transfer blocks from said one to said other conveyor, blocks from the one conveyor being received on the plates on the other conveyor and conducted thereby to a receiving operator.

2. Improvements in machines for compressing sugar into blocks, comprising, a casing, a shaft in the casing, pusher members, cams carried by the shaft to operate the pusher members, a first conveyor, finger and Maltese cross means for giving the first conveyor an intermittent movement, a magazine, plates in the magazine, a second conveyor arranged to automatically receive plates from the magazine, and means for driving the second conveyor with a continuous movement, said pusher members operating to place blocks onto the conveyors.

In testimony whereof we have signed our names to this specification.

ALFRED LETORT.
LOUIS CHAMBON.