

Nov. 18, 1924.

1,515,937

H. DIPPEL

CUBE SUGAR PACKING MACHINE

Filed May 7, 1924

2 Sheets-Sheet 1

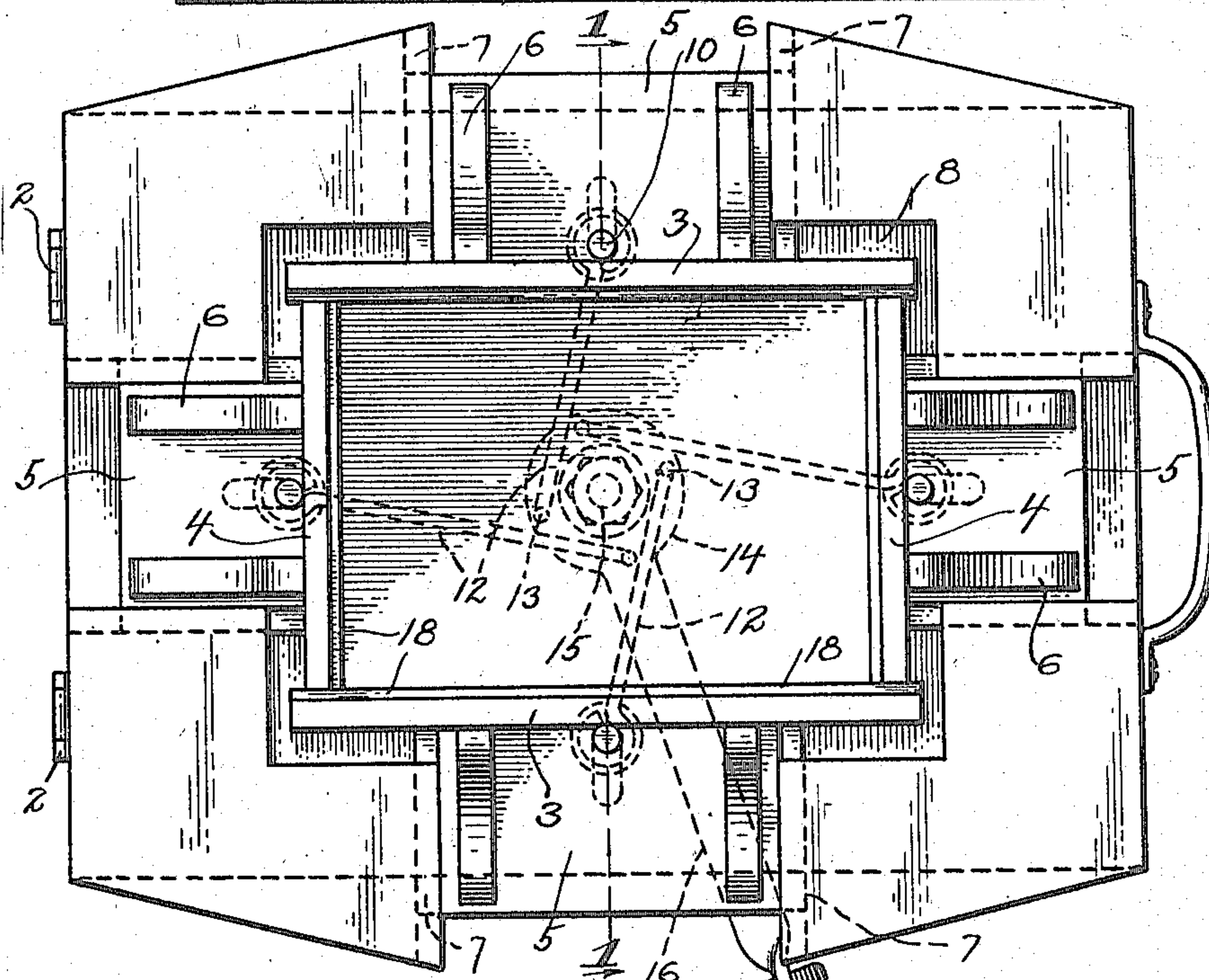
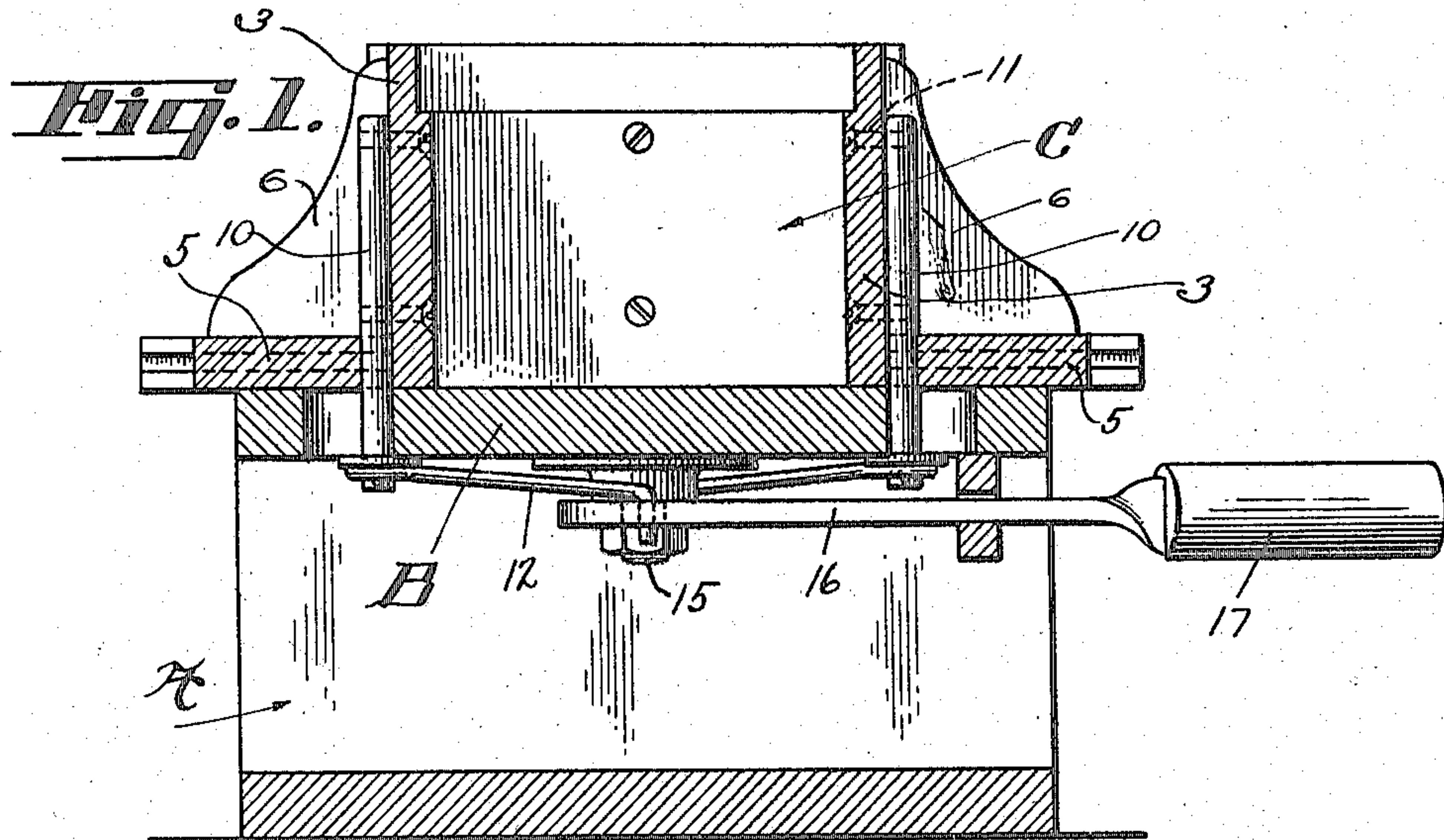
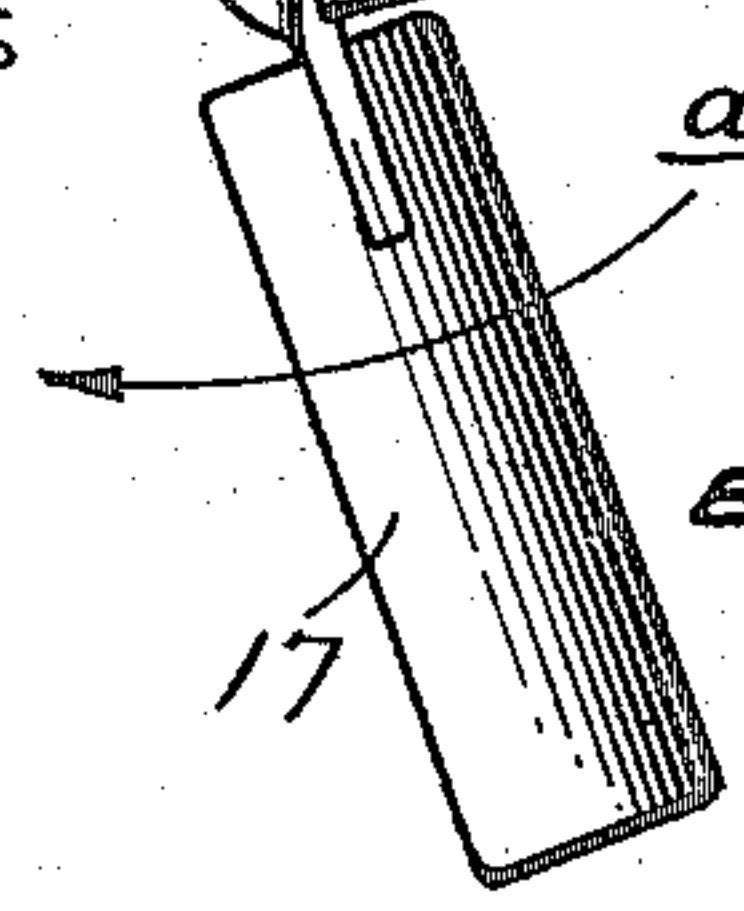


Fig. 2.



INVENTOR.
Henry Dippel.
BY
Berney, Strong,
Journes & Kofler
ATTORNEYS

Nov. 18, 1924.

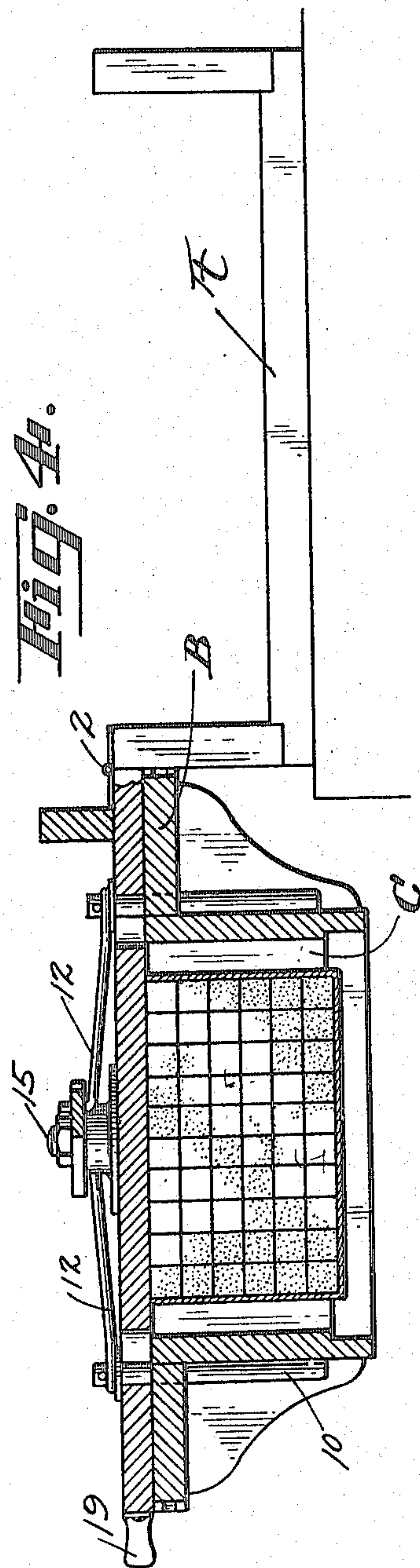
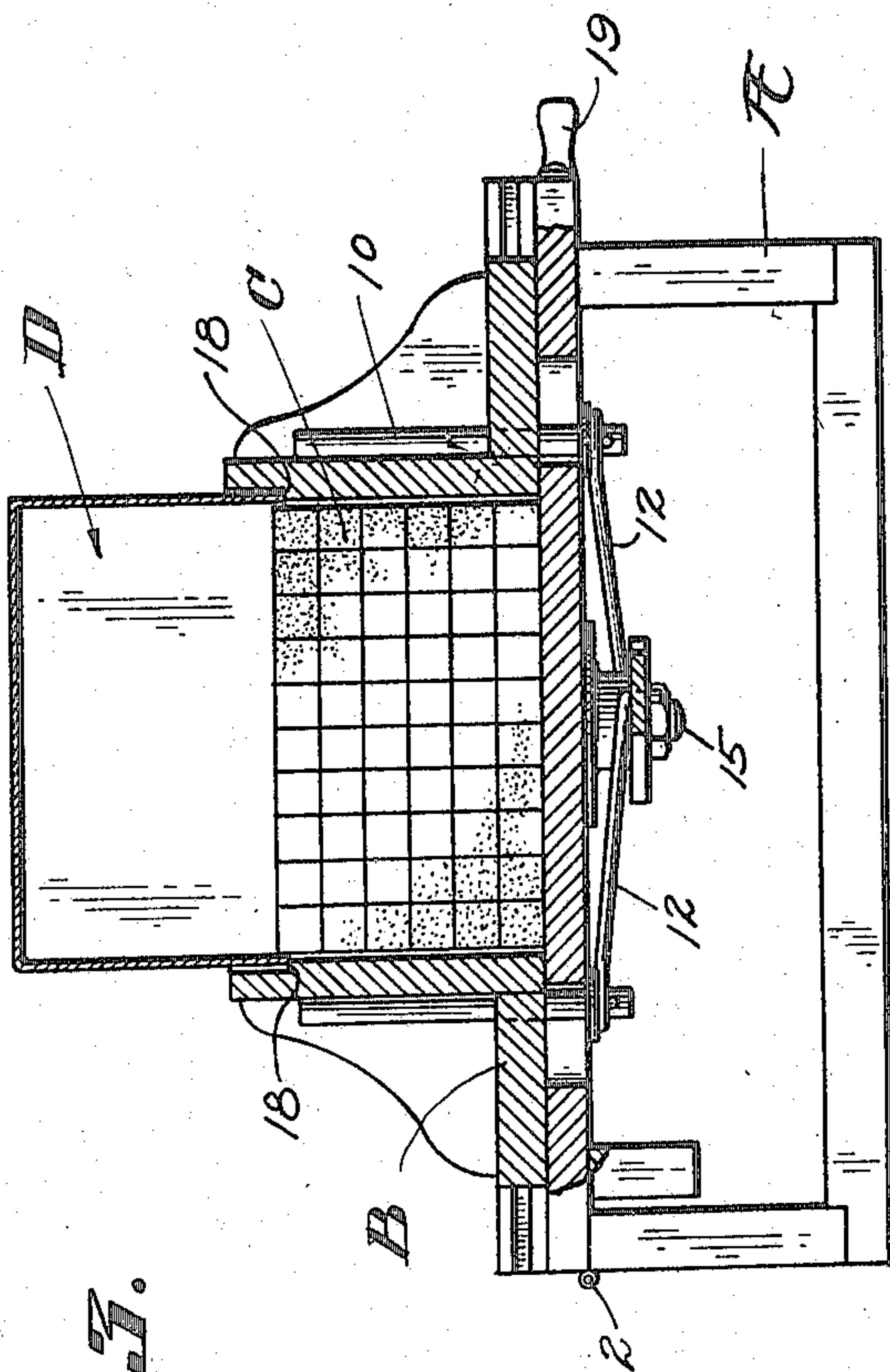
1,515,937

H. DIPPEL

CUBE SUGAR PACKING MACHINE

Filed May 7, 1924

2 Sheets-Sheet 2



INVENTOR.
Henry Dippel
BY Dewey Strong,
Jounkind & Loftus.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY DIPPEL, OF SAN FRANCISCO, CALIFORNIA.

CUBE-SUGAR-PACKING MACHINE.

Application filed May 7, 1924. Serial No. 711,679.

To all whom it may concern.

Be it known that I, HENRY DIPPEL, a citizen of the United States, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Cube-Sugar-Packing Machines, of which the following is a specification.

This invention relates to a packing machine, and especially to a machine which is adapted to handle cube sugar and the like.

The object of the present invention is to generally improve and simplify the construction and operation of packing machines, whereby cube sugar and the like may be handled; to provide a machine in which cube sugar may be quickly and readily assembled in layers and whereby a number of layers may be placed on top of each other; to provide means for assembling the layers in a compact form, and further, to provide means whereby the cubes when assembled may be transferred to cartons.

One form which my invention may assume is exemplified in the following description and illustrated in the accompanying drawings, in which—

Fig. 1 is a central vertical cross-section of the packing machine taken on line 1—1 of Fig. 2.

Fig. 2 is a plan view of the packing machine.

Fig. 3 is a cross-section similar to Fig. 1, showing the machine filled with cube sugar and a carton in place to receive the same.

Fig. 4 shows the manner in which the cube sugar receiving receptacle may be inverted to permit removal of the sugar and the carton.

Referring to the drawings in detail, and particularly to Figs. 1 and 2, A indicates a support constructed in any suitable manner, and B a base plate supported thereby. This plate is hingedly secured to the support as indicated at 2 and it serves as a support for a cube sugar receiving receptacle generally indicated at C.

The receptacle consists of a pair of side sections 3 and end sections 4, the height of the side and end sections being sufficient to receive a predetermined number of layers of cube sugar as illustrated in Figs. 3 and 4. The side and end sections are movable to and away from each other to permit contraction or expansion of the receptacle as will hereinafter be described. The side and end sec-

tions are similarly supported and moved and the description of one will, therefore, suffice.

By referring to Figs. 1 and 2 it will be noted that the side sections 3 are each provided with a foot member 5 to which the side sections are secured by means of braces such as indicated at 6. The base plate proper is slotted as indicated at 7 to form guides for the foot members 5, and the center portion of the base is cut away, around the side and end sections as indicated at 8, to permit a free and limited outward movement of the side and end sections. The base plate is also slotted as indicated at 9 to permit pins 10 to project upwardly through the same. These pins are secured to the side sections by means of screws or the like as indicated at 11, and the lower ends of the pins are connected with links 12 which in turn are connected to crank pins 13 carried by a disk 14. This disk is turnably mounted on a pin 15 secured to the underside of the base plate B, and it is provided with a lever 16 which terminates in a handle 17, the lever and handle being provided for the purpose of imparting a turning movement to the disk 14. This turning movement is in turn transmitted through the links 12 to impart reciprocal movement to the side and end sections as shown. Turning movement of the lever 16 in the direction of arrow *a* (see Fig. 2) forces the side and end sections outwardly with relation to each other, while turning movement of the lever in the opposite direction causes the side and end sections to move towards each other. In other words a common means is employed for expanding or contracting the receptacle.

In actual operation it might be stated that the cube sugar may be packed in layers within the receptacle, as illustrated in Fig. 3, either by hand or otherwise. When a suitable number of layers have been placed in the receptacle, lever 16 is grasped by the handle 17 and is swung so as to contract the side and end sections. This movement of the side and end sections forces the cubes together into a compact assembly. A carton such as illustrated at D is then placed on top of the cubes and it is there supported by ledges or shoulders 18 formed in the respective side and end sections. The uppermost layer of cubes extends slightly above the ledges 18 and the open end of the container is thus permitted to pass over the uppermost row of cubes and as such is cor-

rectly positioned to permit it to be guided downwardly over the cubes. This is accomplished by swinging the lever 16 in the direction of arrow α until the side and end sections have been separated to their maximum extent, this movement being limited by the length of the slots 9 and the clearance formed in the base plate and indicated by the spaces 8.

10 The carton is automatically released the moment the side and end sections are spread or separated and it may thus drop by gravity or it may be pushed gently downwardly over the assembled mass of cubes. The hand
15 of the operator is retained in this position, while the other hand grasps a handle 19 secured to the base plate B. The base plate is then swung about its hinges 2 to assume the position shown in Fig. 4. This causes
20 complete reversal of the receptacle and the carton, together with the assembled cubes, may thus be removed. The moment the carton with the assembled cubes is removed, the base plate is again swung about to its normal position as shown in Fig. 3 and it may
25 again be refilled and the cycle of operation continued as long as desired.

It was previously stated that the cubes might be placed in the receptacle in any suitable manner, but it might here be stated
30 that the operation of placing the cubes in the receptacle can be materially facilitated by employing a packing device such as shown in my co-pending application entitled "Cube
35 sugar packing device" filed October 10, 1923, Serial No. 667,649. This device permits a predetermined number of cubes to be picked up in unison and deposited in the receptacle C, and layer after layer may thus be quickly
40 placed in position and then assembled by contracting or bringing the side and end sections together. The carton may then be applied and the receptacle inverted to permit removal thereof. The operation of pack-
45 ing and assembling the sugar and transferring it to the carton is thus materially facilitated and sanitation is promoted as the cubes need not be handled by the operators in any manner.

50 While certain features of the present invention are more or less specifically illustrated, I wish it understood that various changes in form and proportion may be resorted to within the scope of the appended
55 claims. I similarly wish it understood that the materials and finish of the several parts employed may be such as the experience and judgment of the manufacturer may dictate or various uses may demand.

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

65 1. A device of the character described, comprising a base member, a receptacle mounted thereon in which cube sugar may be

packed in layers, and means for contracting the receptacle to move the cubes into a compact assembly.

2. A device of the character described, comprising a base member, a receptacle 70 mounted thereon in which cube sugar may be packed in layers, and means for contracting the receptacle to move the cubes into a compact assembly, said means also permitting expansion of the receptacle to 75 form a sufficient clearance between the assembled cubes and the receptacle to permit a carton to be placed over the assembled cubes.

3. A device of the character described, 80 comprising a base member, a receptacle mounted thereon in which cube sugar may be packed in layers, means for contracting the receptacle to move the cubes into a compact assembly, said means also permitting 85 expansion of the receptacle to form a sufficient clearance between the assembled cubes and the receptacle to permit a carton to be placed over the assembled cubes and means for inverting the receptacle to remove the 90 carton and the cubes.

4. A device of the character described, comprising a support, a base plate mounted thereon, a receptacle on the base plate in which cube sugar may be packed in layers, 95 said receptacle comprising a pair of side and end sections, and means for moving the side and end sections to and away from each other in unison.

5. A device of the character described, 100 comprising a support, a base plate mounted thereon, a receptacle on the base plate in which cube sugar may be packed in layers, said receptacle comprising a pair of side and end sections, a foot member on each side 105 and end section, means on the base plate forming guides therefor, a disk turnably mounted on the base member, means for imparting a turning movement to the disk, and means for transmitting the turning move- 110 ment of the disk to move the side and end sections to and away from each other.

6. A device of the character described, comprising a support, a base plate mounted thereon, a receptacle on the base plate in 115 which cube sugar may be packed in layers, said receptacle comprising a pair of side and end sections, a foot member on each side and end section, guide means on the base plate between which the foot members and the 120 side and end sections carried thereby are movable, a disk turnably mounted on the base plate, a plurality of crank pins on said disk, a plurality of links connecting the crank pins with the respective side and end sec- 125 tions, and a manually actuated lever for imparting a turning movement to the disk.

7. A device of the character described, comprising a support, a base plate mounted thereon, a receptacle on the base plate in 130

which cube sugar may be packed in layers, said receptacle comprising a pair of side and end sections, a foot member on each side and end section, guide means on the base plate between which the foot members and the side and end sections carried thereby are movable, a disk turnably mounted on the base plate, a plurality of crank pins on said disk, a plurality of links connecting the crank pins with the respective side and end sections, a manually actuated lever for imparting a turning movement to the disk, and a hinge connection formed between the support and the base plate to permit the base plate and the receptacle carried thereby to be inverted.

HENRY DIPPEL.