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A. SHARP ET AL

ADJUSTABLE FORMING OUTLET NOZZLE

Filed June 9, 1921

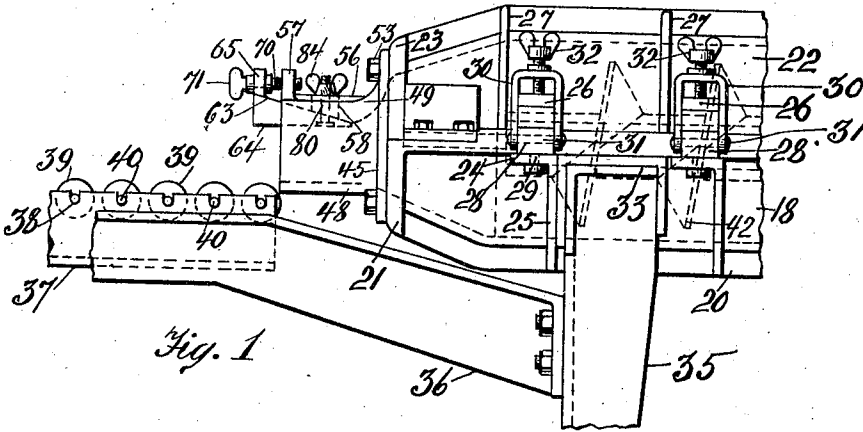


Fig. 1

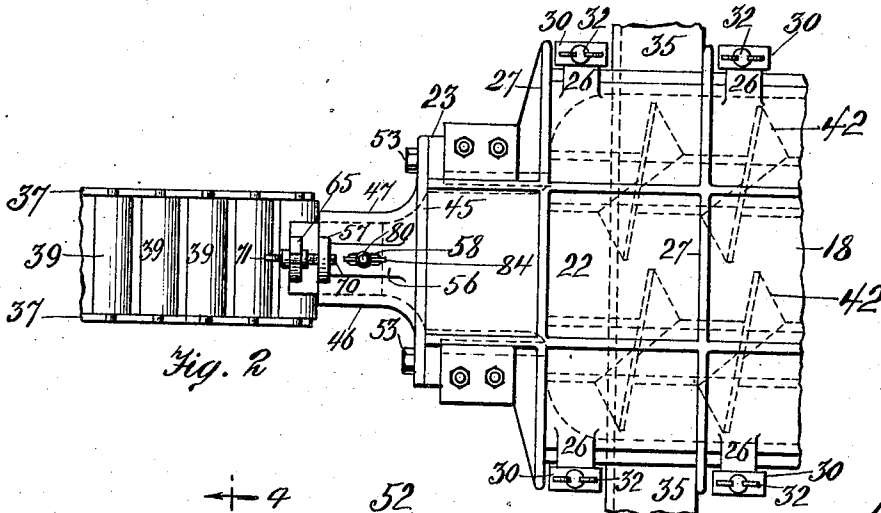


Fig. 2

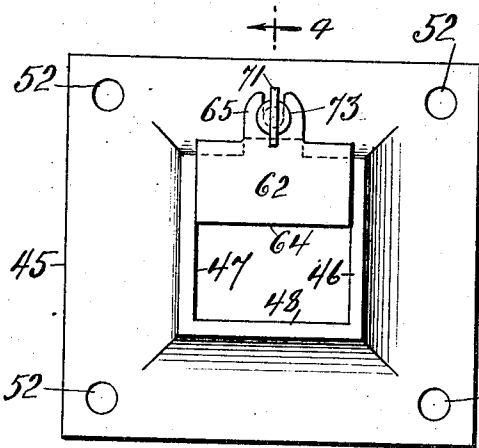


Fig. 3

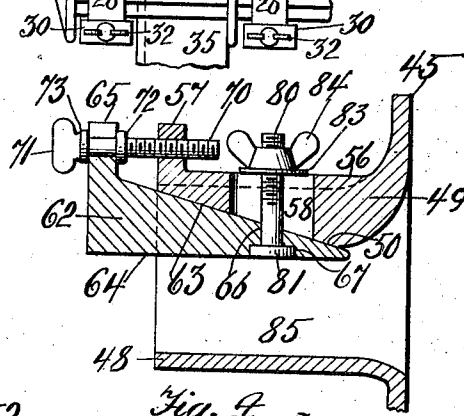


Fig. 4

Inventor
Albert Sharp & George Sharp
By their Attorney
A. Ade Romeville

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UNITED STATES PATENT OFFICE.

ALBERT SHARP AND GEORGE SHARP, OF BAYONNE, NEW JERSEY.

ADJUSTABLE FORMING OUTLET NOZZLE.

Application filed June 9, 1921. Serial No. 476,249.

To all whom it may concern:

Be it known that we, ALBERT SHARP and GEORGE SHARP, citizens of the United States, and residents of Bayonne, in the county of Hudson and State of New Jersey, have jointly invented certain new and useful improvements in an Adjustable Forming Outlet Nozzle, of which the following is a specification.

31. Locking screws 32 are in threaded engagement with the swinging ends of the yokes 30 and bear on the lugs 26, when the cap or top 22 is locked in place to the lower member 20. Lugs 33 extend from the member 20 and bear on the legs 35. Supporting brackets like 36 extend from the legs 35, and in turn have connected thereto the roller bars 37 having the journal bearings 38. Rollers 39 have extending therethrough axles 40 which are journaled in the bearings 38. Rotating spiral conveyers 42 are journaled in the chamber 18.

An adjustable forming outlet nozzle is indicated with the rear plate 45, which has extending therefrom the hollow-rectangular extension having the side walls 46, 47, the bottom wall 48 and the roof which comprises the stationary member 49 having the inclined bottom bearing face 50 and an adjustable member to be described. Openings 52 are formed in the plate 45 for screws 53, by means of which it is fastened to the front end 21 of the member 20 and to the front end 23 of the cap 22. From the top face of the member 49 extends the projection 56 and the threaded lug 57. An elongated opening 58 is formed in the member 49. A wedge shaped detachable member 62 is indicated with the inclined top bearing face 63 and the horizontal bottom operating face 64. A bifurcated lug 65 extends from the upper portion of the member 62 and an opening 66 with the cavity 67 is formed in the member 62. A screw 70 is in threaded engagement with the lug 57 and has formed therewith the head 71 and the flange collars 72 and 73. The latter bear on the opposite faces of the lug 65. A screw 80 has formed therewith the disc shaped head 81. It is located in the opening 66 of the member 62, the head 81 being located in the cavity 67, and extends through the elongated opening 58. A washer 83 encircles the screw 80 and bears on the top face of the projection 56. A wing nut 84 for the screw 80 bears on the washer 83. The distance between the face 64 of the member 62 and the opposite face of the wall 48 determines the height of the passage 85 or channel through the nozzle. To vary the height of the passage of channel 85 the wing nut 84 is loosened on the bolt 80 and by means of the head 71 the screw 70 is turned to move the wedge shaped detachable member 62 inwardly or out-

This invention relates to an adjustable forming outlet nozzle. Its object is the production of a nozzle whose cross-area can be easily varied and which is particularly adapted to shape plastic substances like butter, while being discharged from a conveying chamber. The nozzle is an improvement of the shaping and forming nozzle shown and described in our application for Letters Patent for a butter cutting and printing machine, filed in the United States Patent Office December 24th, 1920, Serial Number 432,907, and is particularly adapted to such a machine.

The organization of the invention comprises a nozzle which has adjustably connected to one of its walls, a wedge shaped member, which latter when located in different positions varies the cross-sectional area of the passage or channel through the nozzle, whereby the material as it is discharged from the nozzle may be given various cross-sectional areas.

In the accompanying drawings Fig. 1 shows a side elevation of a fragmentary portion of a butter cutting and printing machine with an exemplification of the improved nozzle; Fig. 2 represents a top plan view of Fig. 1; Fig. 3 is an enlarged front view of the nozzle shown in Figs. 1 and 2 and Fig. 4 shows a section of Fig. 3 on the line 4, 4.

The discharge end of a conveyer chamber of a butter cutting and printing machine, as described in our application filed December 24th, 1920, Serial Number 432,907, is indicated in its entirety by the numeral 18.

It is shown to comprise the lower member 20 with the front end 21 and the removable cap or top 22 with the front end 23. Lugs 24 with the strengthening ribs 25 extend from the sides of the member 20. Lugs 26 and the strengthening ribs 27 extend from the cap or top 22. Hinge blocks 28 having the threaded shanks 29 are secured to the lugs 24. Locking yokes 30 are hinged to the blocks 28, by means of the hinge pins

wardly with respect to the member 49 of the roof of the nozzle, after which it is clamped in place by means of the wing nut 84. When the member 62 is moved inwardly the bottom face 64 is lowered which decreases the height of the passage or channel 85, and when it is moved outwardly it increases the height of said passage or channel. By this means the cross-sectional area of the nozzle can be easily varied. The flat bottom operating face 64 of the member 62 gives the butter or other material being discharged through the nozzle, when the conveyers 42 are rotating, a smooth top surface.

Having described our invention what we desire to secure by Letters Patent and claim is:

1. In a nozzle the combination of walls forming a passage therethrough, one of said walls comprising a stationary member having an inclined bearing face and an elongated opening therethrough, a threaded lug extending from the stationary member, an adjustable wedge shaped member with one face thereof bearing against said inclined bearing face, the said wedge shaped member having a face thereof parallel to the face of the wall of the nozzle, opposite thereto, a lug extending from the wedge shaped member, a screw having a shank, said screw in threaded engagement with said threaded lug, the shank supported in the lug extending from the wedge shaped member, means to maintain said shank in its lug, a screw extending through the

wedge shaped member, a head for the screw located in a cavity of the wedge shaped member, said screw extending through the elongated opening in the stationary member and a nut for the screw to clamp the wedge shaped member to the stationary member.

2. In a nozzle the combination of walls forming a passage therethrough, one of said wall comprising a stationary member, a wedge shaped detachable member with one of its faces bearing against the stationary member, means to move the wedge shaped detachable member in the direction of its length and means to clamp the members to each other.

3. In a nozzle the combination of walls forming a passage therethrough, one of said walls comprising a stationary member having a threaded lug formed therewith, a wedge shaped detachable member with one of its faces bearing against the stationary member and having a lug formed therewith, a screw with its shank rotatably maintained in said lug and its threads in engagement with said threaded lug, a screw extending from the wedge shaped member and extending through an elongated opening in the stationary member and a nut for the latter screw to clamp the members together.

Signed at Bayonne in the county of Hudson and State of New Jersey this 26 day of May A. D. 1921.

ALBERT SHARP.
GEORGE SHARP.