

July 13, 1926.

1,592,769

V. IMPARATO

MAGARONI MACHINE

Filed April 26, 1924

2 Sheets-Sheet 1

Fig. 1.

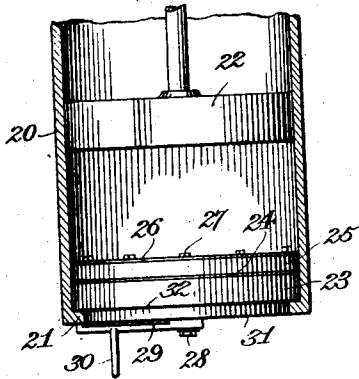


Fig. 2.

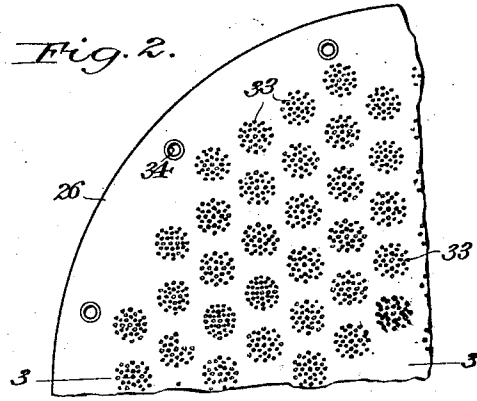


Fig. 3.

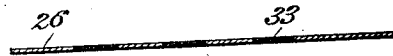


Fig. 4.

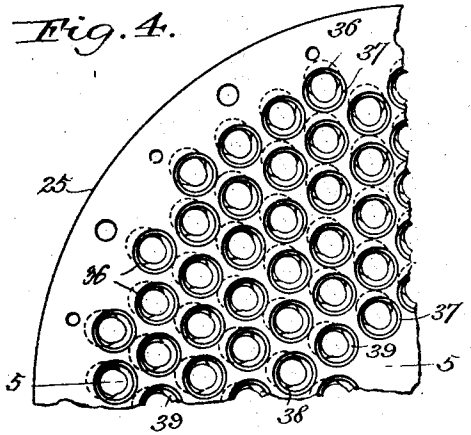


Fig. 5.

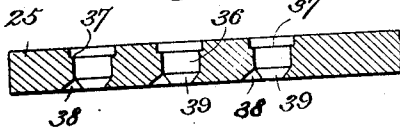


Fig. 6.

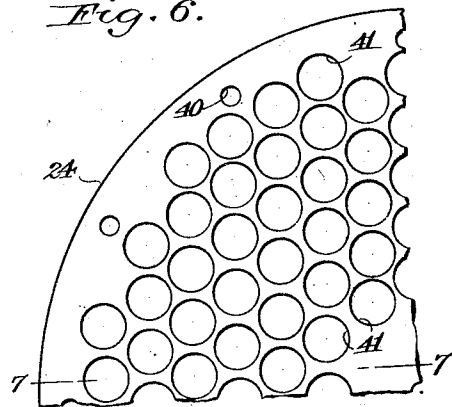


Fig. 7.

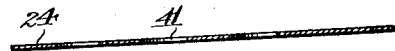
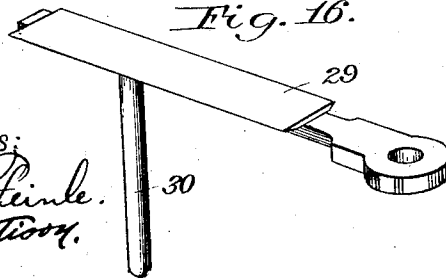


Fig. 16.



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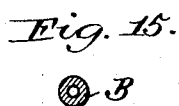
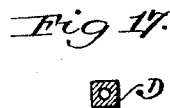
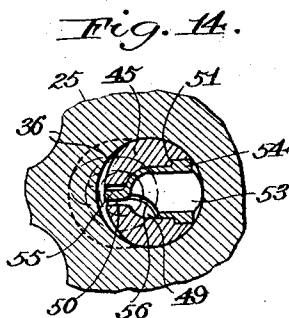
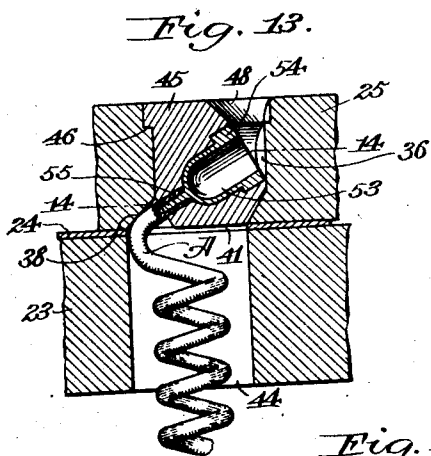
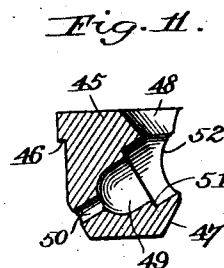
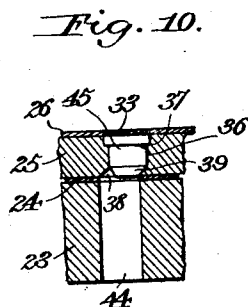
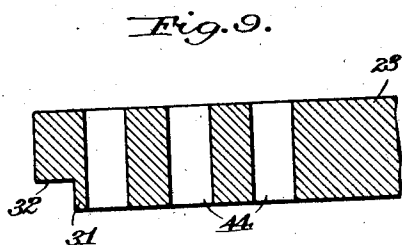
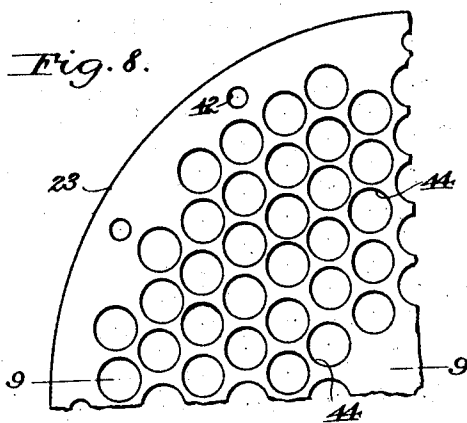
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V. IMPARATO

MACARONI MACHINE

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2 Sheets-Sheet 2



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Patented July 13, 1926.

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UNITED STATES PATENT OFFICE.

VINCENZO IMPARATO, OF NEW YORK, N. Y.

MACARONI MACHINE.

Application filed April 26, 1924. Serial No. 709,259.

The present invention relates to new and useful improvements in macaroni machines, and it pertains more particularly to dies for forming the macaroni.

5 It is one of the primary objects of the invention to provide a new and improved mechanism for forming macaroni of twisted or spiral form.

10 It is a further object of the invention to construct the mechanism in such a manner that in addition to the macaroni being of spiral form, it is hollow or provided with a passage therethrough as is the common practice.

15 It is a further object of the invention to provide a mechanism in which the macaroni may be formed circular, square, or other cross-sectional shape.

20 With the above and other objects in view, reference is had to the accompanying drawings, in which—

25 Figure 1 is a vertical sectional view, partly broken away, of a macaroni press constructed in accordance with the present invention;

Fig. 2 is a detail plan view of a strainer plate used in connection with the macaroni press;

30 Fig. 3 is a detail sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary plan view of a die plate;

Fig. 5 is a detail sectional view taken on the line 5—5 of Fig. 4;

35 Fig. 6 is a fragmentary plan view of a cushion;

Fig. 7 is a detail sectional view taken on the line 7—7 of Fig. 6;

40 Fig. 8 is a detail plan view of a bottom plate on the discharge plate of the press;

Fig. 9 is a detail sectional view thereof, taken on the line 9—9 of Fig. 8;

45 Fig. 10 is a detail view of the several plates, that is, the strainer, die plate, cushion, and bottom plate, assembled;

Fig. 11 is a detail sectional view of a plug used in connection with the die plate and removable therefrom;

50 Fig. 12 is a discharge nipple or former carried by the plug and die plate;

Fig. 13 is a detail sectional view of the die plate, cushion, bottom plate, plug, and nipple, showing the manner in which the macaroni is formed and discharged;

55 Fig. 14 is a detail sectional view taken on the line 14—14 of Fig. 13;

Fig. 15 is a detail sectional view of a stem of macaroni formed circular in cross-sectional form;

Fig. 16 is a detail perspective view of a 60 knife employed;

Fig. 17 is a detail cross-sectional view of a stem of macaroni formed square in cross-section.

Referring again to the drawings, and 65 more particularly to Fig. 1, which is a more or less conventional showing of a macaroni press, the device comprises a cylinder 20 having an open end defined by a flange 21. Movable by suitable means within the 70 cylinder 20, there is a piston 22. Mounted in the bottom of the cylinder, there is a base or bottom discharging plate 23. A cushion 24 is mounted on top of this plate and resting upon the cushion there is a die 75 plate 25. Resting upon the die plate 25, there is a strainer plate 26, and these several plates and the cushion are secured together by means of bolts, or the like, 27. Mounted 80 on a bolt 28, centrally disposed with respect to the bottom face of the discharge plate 23, there is a knife 29, and such knife has an operating handle 30, by means of which it may be moved over the bottom face of the 85 base or discharge plate 23. It will be noted that this base or discharge plate 23 has a reduced portion 31, which lies within the open end of the cylinder 20, and which construction provides a shoulder 32 for resting 90 upon the flange 21 of the cylinder 20.

By reference to Figs. 2 and 3, it will be noted that the strainer plate 26 comprises a relatively thin metallic body provided with circular groups of fine perforations or openings 33. This strainer plate is further 95 provided with openings 34 to receive the bolts 27 heretofore mentioned.

Referring to Figs. 4 and 5, it will be noted that the die plate 25 has a plurality 100 of openings 35 for the reception of the bolts 27 heretofore mentioned, and also a plurality of circular openings 36 having a shoulder 37 formed therein. In Fig. 4 the die plate is shown in top plan, and by reference to Fig. 5, it will be noted that the 105 bottom face of said die plate is provided with recesses 38 eccentrically disposed with respect to the openings 36. It will also be noted in this view that the openings 36 have a tapered lower portion or angular wall 39, 110 the purpose of which will be hereinafter described.

By reference to Figs. 6 and 7, it will be noted that the cushion plate 24 is provided with a plurality of circular openings 40 adapted to receive the bolts 27 heretofore mentioned, and said plate is further provided with a plurality of circular openings 41 adapted to register with the tapered portion 39 of the openings 36 and the eccentric recessed portion 38 of such openings 36 in the die plate 25.

By reference to Figs. 8 and 9, it will be noted that the base or discharge plate 23 is provided with a plurality of openings 42 for the reception of the bolts 27 heretofore mentioned, and this plate is also provided with a plurality of openings 44 which register with or are concentric with the openings 41 in the cushion plate 24 and the opening in the die plate formed by the tapered portion 39 and the eccentric portion 38 of the openings 36 in said die plate, this construction and arrangement being clearly shown in Fig. 13.

Referring to Fig. 11, the reference numeral 45 designates a plug adapted to be received within the openings 36 of the die plate 25, it being understood that there is one plug positioned in each of said openings. These plugs 45 are formed with a shoulder 46 adapted to rest upon the shoulder 37 of their respective openings 36 in the die plate 25, and such plugs also have a tapered portion 47 adapted to seat against or engage the tapered portion 39 of their respective openings 36 in the die plate. Each of these plugs 45 is provided with an angular wall 48, an angularly disposed recess 49, and a discharge opening 50. This discharge opening 50 passes through the tapered portion 47 of the plug, as more clearly shown in Fig. 11, and the recess 49 has a shoulder 51, the purpose of which will be hereinafter described. The plugs are each further cut out as at 52, said cut-out portion being positioned in the body portion of the plug above the tapered portion 47 thereof.

Referring to Fig. 12, which illustrates a discharge nipple or former, it will be noted that this element of the device comprises a hollow body portion 53 formed with a shoulder 54, adapted to engage and seat upon the shoulder 51 heretofore mentioned in the plug member 45. This body portion 53 is provided with a reduced extension 55, and is also provided with a discharge opening 56. The discharge nipple or former heretofore mentioned is adapted to be received within the recess 49 in the plug member 45 with its shoulder 54 seated on the shoulder 51 of said recess, the reduced extension 55 occupying a position within the discharge opening 50 and the discharge opening 56 of the body portion so arranged in the body portion 53 of the discharge nipple or form-

er as to extend partly into the discharge opening 50 of the plug 45. This construction and arrangement of parts is clearly shown in Fig. 14.

The device operates in the following manner: The piston 22 is removed from the cylinder 20 and the latter is filled with dough or paste from which the macaroni is to be formed. After this has been done, the piston is replaced, and under pressure the dough or paste is forced through the strainer plate 26 against the angular wall 48 of the plug 45 carried by the die plate 25. This angular wall directs the dough or paste against the side wall of the openings 36 in the die plate 25 and into the open end of the hollow body portion 53 of the discharge nipple or former mounted in the recess 49 of the plug 45. Upon continued operation of the piston 22 the dough or paste is forced through the hollow body portion of the discharge nipple or former and the same passes outwardly through the discharge opening 56 thereof around the reduced extension 55 thereof and is projected against the eccentric portion 38 of the opening 36 in the die plate, which turns the macaroni downwardly as designated by the reference character A in Fig. 13. Continued operation of the piston 22 causes the macaroni in its downward movement to take a spiral bend, as shown in Fig. 13, and the same is discharged from the discharge plate 23 in this spiral form. At desired intervals the knife 29 may be operated to sever the macaroni into the desired lengths.

While in the present instance the discharge opening 50 is shown as circular in cross section for the purpose of forming macaroni circular in cross section, as designated by the reference character B in Fig. 15, it is obvious that said discharge opening may be square in cross section to form macaroni as designated by the reference character D in Fig. 17, or other shapes in cross section of the discharge opening 50 may be employed to form the desired cross-sectional form to the macaroni.

From the foregoing it is apparent that the present invention provides a new and improved machine capable of forming macaroni in twisted or spiral form as distinguished from macaroni in the straight or untwisted form commonly manufactured.

What is claimed is:

1. In a machine for forming macaroni, a die plate having an opening therein, a plug mounted in said opening, said plug having an angularly disposed recess and discharge opening, a macaroni-forming die fitting snugly in the recess and having a reduced extension lying within the discharge opening of the recess, said die having a discharge opening connecting with the discharge opening of the recess.

2. In a machine for forming macaroni, a die plate having an opening therein, a plug mounted in said opening, said plug having an angularly disposed recess and discharge opening, a macaroni-forming die fitting snugly in the recess, said die comprising a hollow body forming the only passage for dough through said recess, and a reduced extension occupying a position within the discharge opening of the plug, said die having a discharge opening in its side wall positioned to have communication with the discharge opening of the plug. 15 20
3. In a machine for forming macaroni, a die plate having an opening therein, a plug mounted in said opening, said plug having an angularly disposed recess and discharge opening, a macaroni-forming die fitting snugly in the recess, said die comprising a hollow body forming the only passage for dough through said recess, and a reduced extension occupying a position within the discharge opening of the plug, said die having a discharge opening in its side wall positioned to have communication with the discharge opening of the plug. 15 20

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