

[54] **APPARATUS FOR AUTOMATICALLY PRODUCING POULTICE**
 [75] Inventor: **Motoyasu Watanabe**, Tokyo, Japan
 [73] Assignee: **Daiichi Seiyaku Company Limited**, Tokyo, Japan
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Primary Examiner—James Kee Chi
Attorney—Cushman, Darby & Cushman

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 [51] **Int. Cl.**..... **B05c 11/00**
 [58] **Field of Search**..... 118/39, 38, 41; 128/156; 424/28; 156/555, 522, 500

[57] **ABSTRACT**

An apparatus for automatically producing poultice and a means for applying poultice paste to substrate cloth automatically supplied which may be used in the said apparatus.

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1 Claim, 6 Drawing Figures

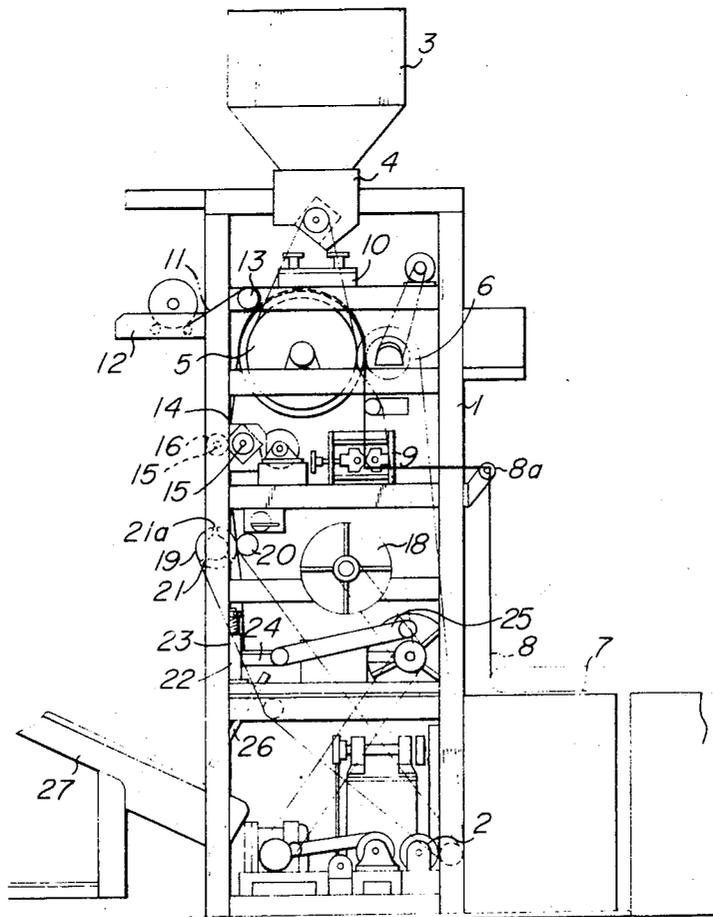
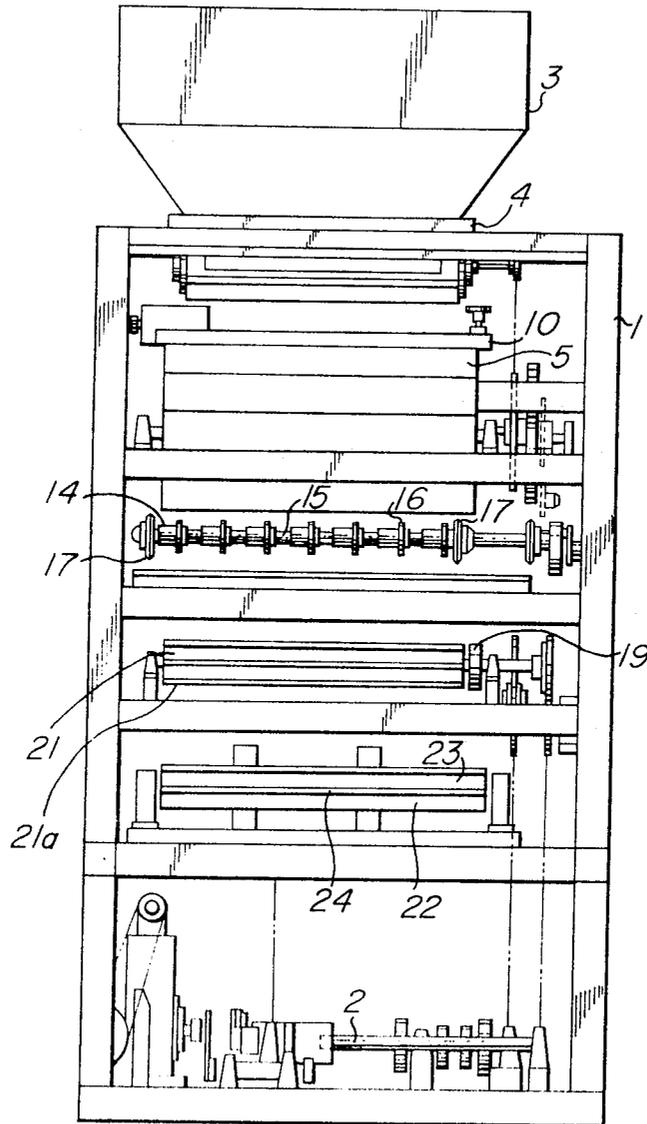


FIG. 1

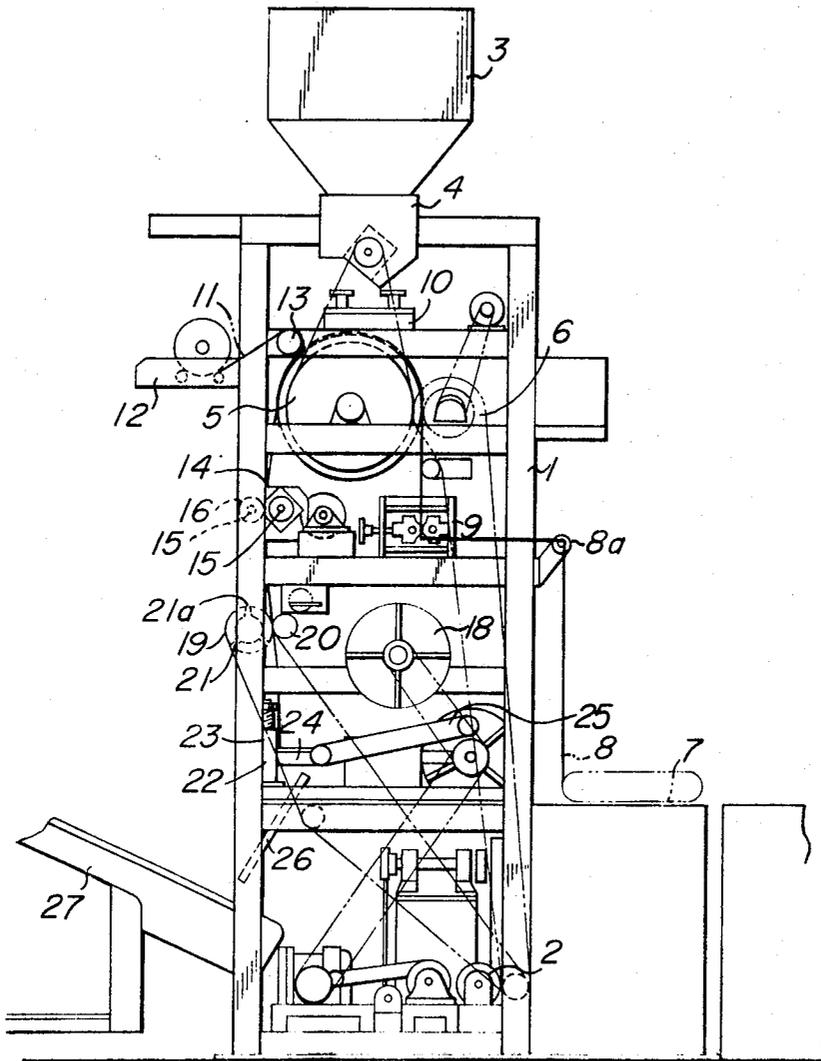


INVENTOR

MOTOYASU WATANABE

BY *Carlman Dewey E. Carlman*
ATTORNEYS

FIG. 2



INVENTOR

MOTOYASU MATSUNAGA

BY *[Signature]* *[Signature]* *[Signature]*
ATTORNEYS

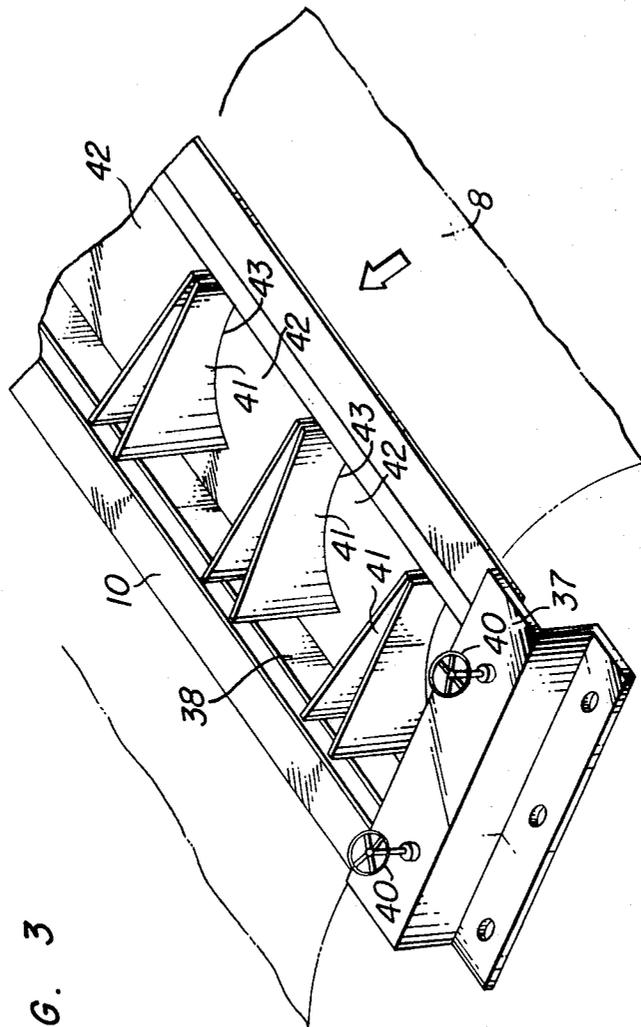


FIG. 3

INVENTOR

MOTOYASU WATANABE

BY *Cushman, Dabney & Cushman*
ATTORNEYS

FIG. 4

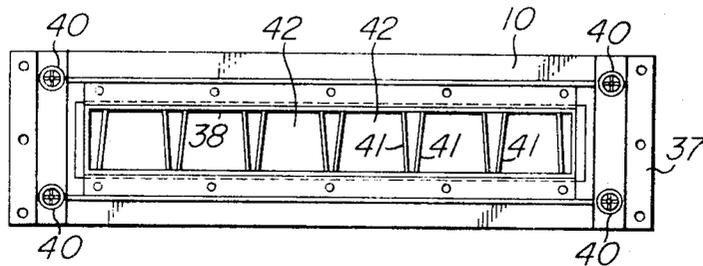


FIG. 5

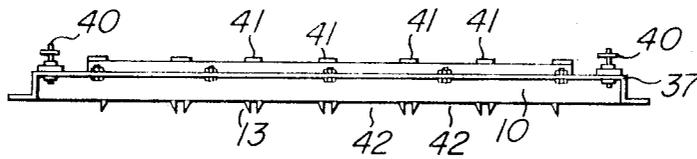
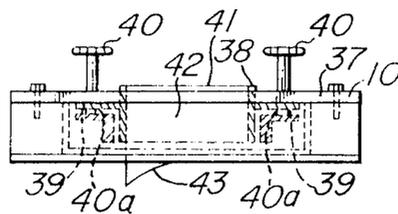


FIG. 6



INVENTOR

MOTOYASU WATANABE

BY *Cushman, Darily & Cushman*
ATTORNEYS

APPARATUS FOR AUTOMATICALLY PRODUCING POULTICE

The present invention relates to an apparatus for automatically producing poultice and an apparatus for applying poultice paste. More particularly, it relates to an apparatus for automatically producing poultice according to which the poultice paste is successively applied to substrate cloth which is automatically supplied and a releasing film is applied on thus applied paste and said substrate cloth to which said paste and film are applied can be cut in a predetermined size and they are taken out. Furthermore, it relates to an apparatus for applying the poultice paste used in said apparatus for automatically producing poultice, according to which amount of poultice paste applied in plural strip-like paste layers on surface of a travelling substrate cloth can be made uniform and each paste layer can be definitely divided.

A full understanding of the invention may be had by referring to the following description and claims, taken in conjunction with the accompanying drawings in which:

FIG. 1 is a front view of an apparatus of the present invention for automatic production of poultice.

FIG. 2 is a side view of said apparatus.

FIG. 3 is an oblique view of an apparatus of the present invention for application of poultice paste.

FIG. 4 is a plan view of the apparatus shown in FIG. 3.

FIG. 5 is a side view of the apparatus shown in FIG. 3.

FIG. 6 is a front view of the apparatus shown in FIG. 3.

One embodiment of the apparatus of the present invention for automatic production of poultice will be explained hereinafter with reference to FIGS. 1 and 2. In the FIGS. 1 and 2, driving means 2 for conveying power to each means is provided at the lower part of upright body 1 composed of combination of frames. At the upper part of the body 1, there is provided tank 3 for supplying poultice paste and below said tank 3, there is provided supplying means 4 for supplying the poultice paste in a predetermined amount at a time. Below said supplying means 4, there is provided drum 5 supported by an axis in such a manner that it can freely rotate and a cleaning brush is provided adjacent to said drum. Substrate cloth 8 transferred from the substrate cloth supplying means 7 by means of guide roller 8a is supplied at between said drum 5 and said cleaning brush 6. A pair of controlling roll 9 which controls the position of substrate cloth 8 is provided on the way of transferring of substrate cloth 8. Above said drum 5, namely, between said drum 5 and supplying means 4, spreading scraper 10 for applying supplied poultice paste to one surface of substrate cloth 8 is provided. Supplying means 12 for supplying releasing film 11 such as polyethylene film is provided adjacent to drum 5. The releasing film 11 led from said supplying means 12 is allowed to adhere to the surface of the applied poultice paste by pressure roll 13 which contacts with drum 5. There is provided longitudinally cutting means 14 below drum 5 and on the side of rotating direction of drum 5. Said cutting means 14 consists of rotating axes 15 and 15 and discal cutters 16 which are provided at both axes 15 and 15 in their longitudinal direction at predetermined intervals and which oppose

to each other. Edge cutters 17 and 17 are provided at both ends of rotation axes 15 and 15, which cut both edges of substrate cloth 8, namely, the portions to which no paste is applied. These edge portions are reeled on reel 18 provided at rear part. Furthermore, there is provided lateral streak imparting means 19 below longitudinally cutting means 14. Said lateral streak imparting means 19 comprises roll 20 and roll 21 with cogs 21a, . . . on circumferential wall thereof, which contacts with said roll 20. Lateral streaks are given to the portions of releasing film 11 to be cut. Furthermore, below said lateral streak imparting means 19, there is provided laterally cutting means 22, which comprises fixed edge 23, movable edge 24 which can freely reciprocate with reference to said fixed edge 23 and crank mechanism 25 which causes reciprocating motion of said movable edge 24. Below chute 26, there is provided conveyer 27 which carries poultice out of the apparatus.

Each means in the above-mentioned apparatus gears with driving means 2 by means of chain or belt and simultaneously each means relatedly moves by controlling means which is not shown.

Substrate cloth 8 is transferred and when the cloth reaches between drum 5 and brush 6, the surface of said cloth is cleaned and at the same time, the cloth opposes spreading scraper 10, where poultice paste layer is formed on the surface of cloth 8 because the poultice paste supplied from supplying means 4 is spread on said surface. When this cloth reaches pressure roll 13, by which releasing film 11 is applied by pressure to the surface of said paste layer, a so-called strip-like large poultice in which the paste layer is sandwiched in between substrate cloth 8 and releasing film 11 is obtained. Thus produced large-sized poultice is cut into plural strips by cutters 16 and 16 of longitudinally cutting means 14 and to these strips are imparted streaks at a predetermined interval at the course between roll 20 of lateral streak imparting means 19 and roll 21 with cogs. Then, these poultice strips are led to laterally cutting means 22, where they are cut at the course between fixed edge 23 and movable edge 24. In this case, said movable edge 24 is positioned at the streaks formed by said lateral streaks imparting means 19. Therefore, the poultices are in a fixed form and are put on belt conveyer 27 by means of 26 and carried out of the apparatus.

As explained above, according to the apparatus of the present invention for automatic production of poultice, the poultice paste is automatically applied to and spread on a substrate cloth. Therefore, a poultice paste layer is uniformly formed on the cloth. Furthermore, since a releasing film is adhered simultaneously with spreading of the poultice paste, adhesive property can be maintained. Moreover, since longitudinal cutting, lateral streak imparting and lateral cutting of poultice strip are continuously carried out, no troubles are caused in mutual communication and smooth and exact operation can be accomplished. Furthermore, since the operation is totally automatic, producibility can be improved and since the body of apparatus is upright, the space required for holding the apparatus can be reduced.

One embodiment of an apparatus of the present invention for applying poultice paste will be explained with reference to FIGS. 1-6.

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As shown in FIG. 3 - 6, the apparatus for applying poultice paste is composed of a rectangular frame body 37 and supplying box 38 which is provided within said frame body 37 in such a manner that it can freely move up and down. That is, at both longitudinal end parts of the supplying box 38, there are provided flanges 39, into which screw part 40a of tips of controlling sticks 40 and 40 provided at both upper edges of said frame body 37 is spirally inserted, whereby the height of supplying box 38 can freely be controlled with reference to the frame body 37. Furthermore, plural pairs of two partition plates 41 which are provided adjacent to each other are provided within supplying box 38 to form plural paste supplying chamber 42. These partition plates are provided in such a manner that they are inclined from their one end to other end. Thus, said paste supplying chambers 42 are constituted in gradually tapered state to the travelling direction of the substrate cloth. At the lower end of said partition plate 41, there is provided arc-shaped notch part 43 which corresponds to outer circumferential surface of drum 5, whereby the edge surface of notch 43 contacts with the surface of substrate cloth 8 which is put over drum 5.

When poultice paste is distributed and supplied into each supplying chamber 42 by supplying means 4, the paste which is somewhat viscous is spontaneously spread on and applied to the surface of substrate cloth 8. In this case, since substrate cloth 8 is caused to travel due to rotation motion of drum 5, both edges thereof are divided by partition plate 41 to form plural strip-like paste surface. Since no poultice paste is supplied to between adjacent partition plates 41, the paste is not applied to the surface of substrate cloth 8 which opposes the part between the adjacent partition plates 41. This part of the cloth to which no paste is applied is the part to be cut by the subsequent cutting means (not shown).

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As explained before, in the apparatus of the present invention, plural paste supplying chambers are provided in the direction of width of substrate cloth 8. Therefore, plural strip-like surfaces are simultaneously formed on the surface of said cloth. Furthermore, since each of said chambers is made gradually tapered to the direction of travelling of the cloth, the paste is uniformly applied and both edges of the paste surface can be exactly divided.

What is claimed is:

1. An apparatus for automatically producing poultice which comprises an upright body in the upper part of which a poultice paste supplying tank is provided and in the lower part of which a driving means is provided; a substrate cloth supplying means which is provided at one side of said body and which supplies large-sized strip-like substrate cloth; a drum which winds up the substrate cloth transferred from said supplying means; a brush which is provided adjacent to said drum and which cleans the surface of said substrate cloth; a spreading scraper which is provided above said drum and which spreads on the cloth the paste supplied from said tank through the supplying means; means for supplying a releasing film; a pressure roller which is provided adjacent to said scraper and which allows to adhere said releasing film onto the surface of the spread and applied paste layer to produce a large sized poultice; a cutting means which is provided below said roller and which cuts said poultice into plural strips; a lateral streak imparting means which is provided below said cutting means and which imparts lateral streaks to each strip; a laterally cutting means which is provided below said streak imparting means and which laterally cuts said strip-shaped poultice to produce poultice having a fixed shape; and a conveyor which carries thus obtained poultice out of the apparatus.

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