

No. 820,335.

PATENTED MAY 8, 1906.

R. BAILEY.
MACHINE FOR DIPPING TOBACCO.
APPLICATION FILED JUNE 30, 1906.

FIG. 1

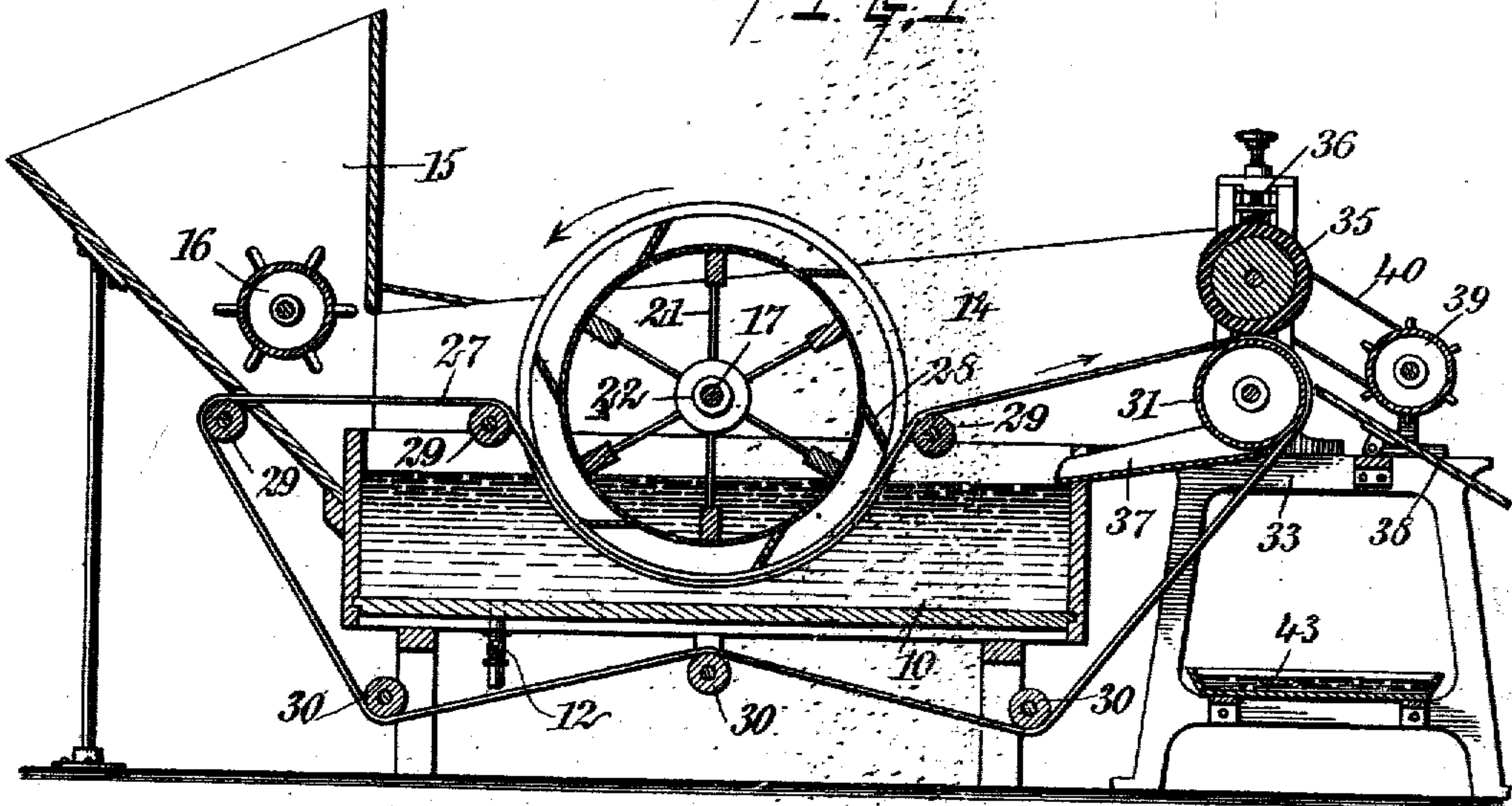


FIG. 2

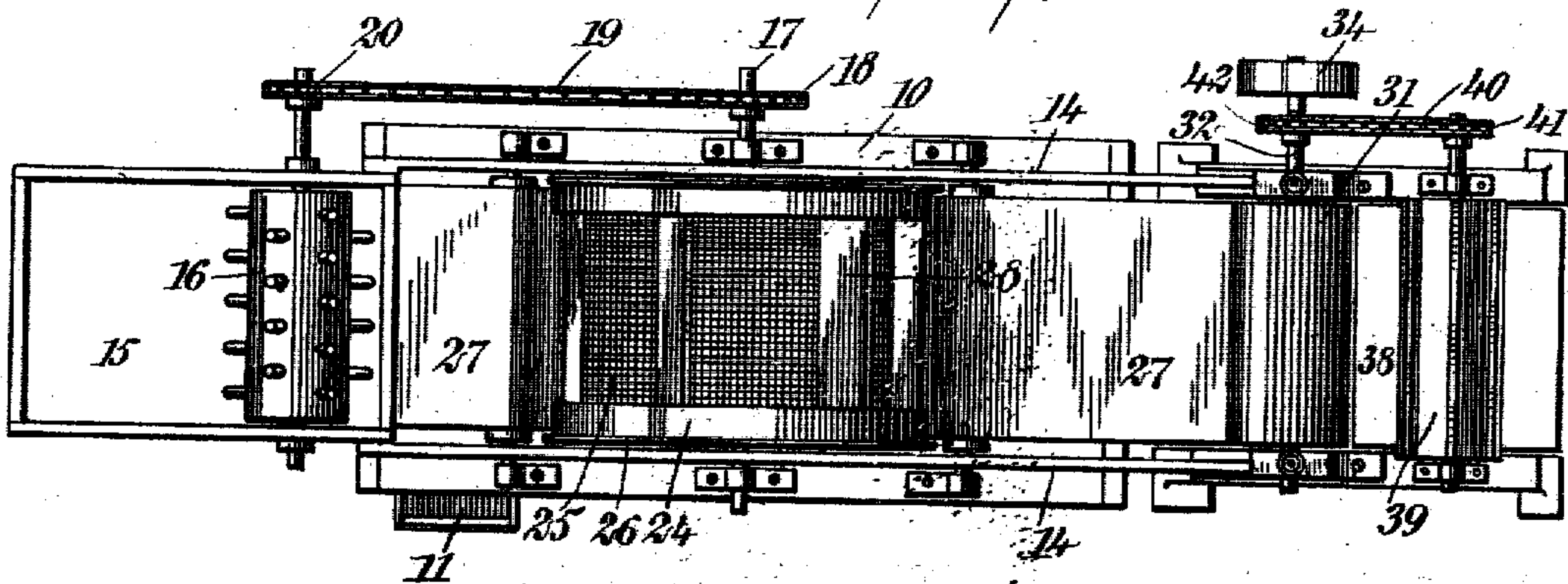
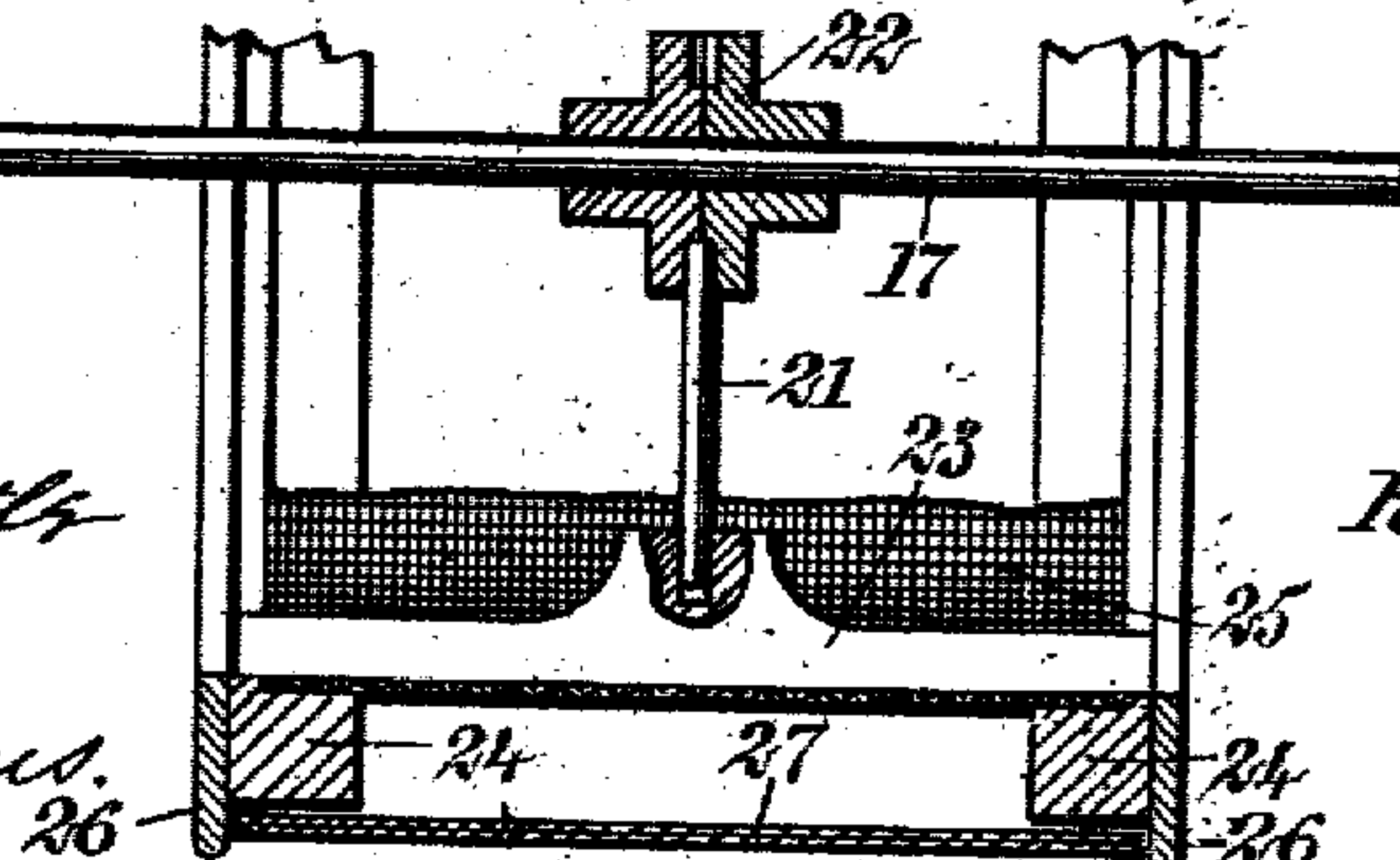


FIG. 3

WITNESSES:

John J. Kitts

Wm. B. Owens



INVENTOR

Reginald Bailey

BY *Mumford*

ATTORNEYS

UNITED STATES PATENT OFFICE.

REGINALD BAILEY, OF WINSTON SALEM, NORTH CAROLINA.

MACHINE FOR DIPPING TOBACCO.

No. 820,335.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed June 30, 1905. Serial No. 267,739.

To all whom it may concern:

Be it known that I, REGINALD BAILEY, a citizen of the United States, and a resident of Winston Salem, in the county of Forsyth and State of North Carolina, have invented a new and Improved Machine for Dipping Tobacco, of which the following is a full, clear, and exact description.

The invention relates to a machine for dipping or submerging tobacco—for example, wrappers, fillers, or scrap—into a liquid or “casing” for the purpose of covering or impregnating the tobacco with the liquid.

The object of the invention is to simplify machines heretofore produced and to provide a reliable mechanism by which the tobacco may be submerged in the liquid and for withdrawing therefrom the superfluous liquid removed from the tobacco and for producing the finished, coated, or impregnated tobacco by a single operation. In attaining this end I provide a vat or tank, in which is arranged a peculiarly-constructed drum coacting with an endless apron, the apron receiving the tobacco from a suitable feed-hopper and running under the drum, so as to carry the tobacco into the liquid contained in the tank, after which the tobacco is carried from the tank by the apron and passed with the apron through squeezing rollers or devices, which eliminate the superfluous liquid, the tobacco being discharged from the machine by a scraper or other suitable means coacting with the apron.

The invention resides in certain special features of construction and relative arrangement of parts, all of which will be fully set forth hereinafter, and pointed out in the claims.

Reference is had to the accompanying drawings, which represent the preferred embodiment of my invention, in which drawings like characters of reference indicate like parts in the several views, and in which—

Figure 1 is a longitudinal section of the apparatus. Fig. 2 is a plan view, and Fig. 3 is a detail section showing the construction of the drum.

10 indicates the tank or vat, which has an inlet-feed spout 11 (see Fig. 2) and a discharge-spout 12. (See Fig. 1.) The vat is open at its top and is boxed in at the sides by walls 14, which extend beyond the discharge end of the vat to the devices for removing the superfluous liquid from the tobacco, as will hereinafter fully appear. At the receiv-

ing end of the vat the feed-hopper 15 is located, and this hopper is provided with a roll or other means 16 for gradually feeding the tobacco from the hopper. Revolvably mounted over the vat 10 is a horizontal shaft 17, provided with a sprocket 18, carrying a chain 19, which also passes over a sprocket 20 on the shaft of the roll 16, whereby to drive the roll from the shaft 17. Said shaft 17 forms the axis of the before-referred-to drum, and said drum comprises spokes 21, projecting from a hub 22, secured to the shaft 17. Said spokes carry at their outer ends cross-bars 23, which sustain at each end an annular rim 24. The rims 24 are connected to and spaced from each other by the cross-bars 23, and extending around the cross-bars between the rolls is a web 25 of reticulated material. Preferably this web is formed of woven-wire fabric. At the outer side of each rim 24 is a peripheral flange 26, the flanges projecting beyond the rims, as shown in Fig. 3. This construction forms, it will be observed, a drum having an annular cavity or groove extending around its outer surface.

27 indicates the apron, which coacts with the drum. This apron is intended to run along the under side of the drum engaging the rims 24 and held in proper position by the flanges 26, said apron forming with the drum, as Fig. 3 illustrates, an inclosure for tobacco, which inclosure holds the tobacco during the dipping operation and prevents the tobacco from floating from the apron. The reticulated web 25 permits the free circulation of the liquid into contact with the tobacco. The drum may, if desired, be provided with paddles, such as 28, (see Figs. 1 and 2,) these paddles being attached to and extending between the rims 24 and lying in a plane approximately tangential to the drum, so as to prevent picking up the tobacco from the apron as the latter reaches the drum. The upper run of the apron 27 passes under the mouth of the feed-hopper 16, over the vat 10, and under the drum as described. Said run is sustained on rollers 29, which are so placed as to hold the apron in its proper position. The lower run of the apron passes under the vat and is carried on suitably-placed rollers 30.

Located at the discharge or right-hand end of the vat (referring to Fig. 1) is a roll 31, the axle 32 of which is suitably mounted in a framing 33. This axle is provided with a

band-pulley 34 or other means for imparting driving movement to the machine. The apron 27 passes around the roll 31 and is driven thereby, and said apron serves to impart turning movement to the drum and to the shaft 17. Above the roll 31 and bearing down on the apron as it passes over said roll is a pressing-roll 35, which is provided with tension devices 36 for regulating the pressure of the roll, and which may, if desired, be fitted with a rubber or other elastic covering to prevent crushing the tobacco. As the apron leaves the drum it carries the tobacco from the same and passes it between the pressing-rolls 31 and 35, thus extruding the superfluous liquid, this liquid falling into a trough 37, which discharges back into the vat 10.

38 indicates a scraper for collecting the finished tobacco from the apron after it leaves the roll 31, and 39 indicates a fluted roll which is adapted to revolve above the scraper to prevent the accumulation of the tobacco thereon. The roll 39 is driven by a chain 40, running over sprockets 41 and 42, respectively, on the axles of the rolls 39 and 35. The finished tobacco is discharged from the scraper 38.

43 indicates a drip-pan which is placed in the lower part of the frame 33 to catch any of the liquid which may cling to the apron 27 after the same leaves the roll 31.

In the organized operation of the machine the parts are set in motion through the axle 32 and band-wheel 34 or other means which may be provided for that purpose, and the tobacco to be dipped is charged into the hopper 15. The roll 16 serves to spread the tobacco out evenly on the apron, and the apron traveling as indicated by the arrow in the drawings carries the tobacco under the drum and into the liquid contained in the vat. Here the tobacco is dipped or impregnated with the liquid and the apron on leaving the drum carries the tobacco away from the same between the pressing-rolls. As the tobacco and apron pass between these rolls the superfluous liquid is removed and the scraper 38, operating in conjunction with the roll 39, removes the tobacco from the apron. The liquid squeezed out from the tobacco flows back into the vat through the trough 37 and such liquid as may drip from the apron after it passes the pressing-rolls is collected in the pan 43.

Having thus described the preferred form of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for dipping tobacco the combination of a vat, a drum having annular rims spaced apart from each other to form flanges and mounted over the vat, and an endless apron having one of its runs passing into the vat beneath the drum and coacting with the flanges thereof.

2. In a machine for dipping tobacco the combination of a vat, a drum having annular rims spaced apart from each other to form flanges and mounted over the vat, an endless apron having one of its runs passing into the vat beneath the drum and coacting with the flanges thereof, means at one end of the machine for delivering the tobacco to the apron, and pressing-rollers at the other end of the machine through which the apron and the tobacco pass to extrude the superfluous liquid.

3. In a machine for dipping tobacco the combination of a vat, a drum having annular rims spaced apart from each other to form flanges and mounted over the vat, an endless apron having one of its runs passing into the vat beneath the drum and coacting with the flanges thereof, the lower run of the apron passing under the vat, feeding means at one end of the machine for delivering tobacco to the apron, and pressing means at the other end of the machine for extruding the superfluous liquid from the tobacco.

4. In a machine for dipping tobacco the combination of a vat, a drum having annular rims spaced apart from each other to form flanges and mounted over the vat, an endless apron having one of its runs passing into the vat beneath the drum and coacting with the flanges thereof, a feed-hopper located at one end of the machine over the said run of the apron and discharging the tobacco therein, and means at the other end of the machine for extruding the superfluous liquid from the tobacco.

5. In a machine for dipping tobacco the combination of a vat, a drum having annular rims spaced apart from each other to form flanges and mounted over the vat, an endless apron having one of its runs passing into the vat beneath the drum and coacting with the flanges thereof, a feed-hopper located at one end of the machine over the said run and discharging the tobacco thereon, and means at the other end of the machine for extruding the superfluous liquid comprising two vertical rollers between which the apron and tobacco pass.

6. In a machine for dipping tobacco, the combination of a vat, a drum operating therein, an endless apron having one run adapted to move into the vat under the drum, a feed-hopper located at one end of the machine over the said run of the apron and discharging the tobacco thereon, a means at the other end of the machine for extruding the superfluous liquid from the tobacco, and means for removing the tobacco from the apron after the operation of said means for extruding the superfluous liquid.

7. In a machine for dipping tobacco, the combination of a vat, a drum operating therein, an endless apron having one run adapted to move into the vat under the drum, a feed-

hopper located at one end of the machine over the said run of the apron and discharging the tobacco thereon, a means at the other end of the machine for extruding the superfluous liquid from the tobacco, means for removing the tobacco from the apron after the operation of said means for extruding the superfluous liquid, and a scraper coacting with the apron and serving to remove the tobacco from the apron after the operation of said means for extruding the superfluous liquid.

8. In a machine for dipping tobacco, the combination of a vat, a drum operating therein, an apron adapted to run under the drum into the vat, a means at one end of the machine for feeding the tobacco onto the apron, a means at the other end of the machine for extruding the superfluous liquid from the tobacco, and means for removing the tobacco from the apron.

9. In a machine for dipping tobacco the combination of a vat for containing liquid, means for moving the tobacco through the vat, means whereby to form an inclosed passage-way for the tobacco through the liquid in the vat, means for feeding the tobacco to said moving means, and means for pressing the superfluous liquid from the tobacco.

10. In a machine for dipping tobacco, the combination with a vat for containing liquid, of means for moving tobacco through the vat, means whereby to form an inclosed passage-way for the tobacco through the liquid in the vat, a feeding means located at the receiving end of the machine, pressing-rollers at the discharge end of the machine, and means whereby said rollers may operate the feeding means and the moving means.

11. In a machine for dipping tobacco, the combination of a vat, a drum operating therein, an endless apron adapted to run into the vat under the drum, pressing-rolls at the discharge end of the machine between which rolls the apron and tobacco pass to extrude the superfluous liquid from the tobacco, said rolls driving the said apron and the apron driving the drum, a feeding means located at the receiving end of the machine and including a moving part, devices for driving said moving parts from said drum, a scraper adapted to remove the tobacco from the apron after it passes said pressing-rolls, a device coacting with the scraper to remove the tobacco from the same, and means for driving the last-named device from said pressing-rolls.

12. In a machine for dipping tobacco, the combination of a vat, a drum operating therein and having an annular cavity or groove extending around its periphery, and a tobacco-carrying apron adapted to run into the vat under the drum, the apron engaging the face of the drum to form with said groove or cavity an inclosure for the tobacco.

13. In a machine for dipping tobacco, the

combination of a vat, a drum operating therein and having an annular cavity or groove extending around its periphery, and a tobacco-carrying apron adapted to run into the vat under the drum, the apron engaging the face of the drum to form with said groove or cavity an inclosure for the tobacco, the face of the drum having a reticulated web to permit the circulation of the liquid into said inclosure, for the purpose specified.

14. In a machine for dipping tobacco, the combination of a vat, a drum operating therein and having an annular cavity or groove extending around its periphery, a tobacco-carrying apron adapted to run into the vat under the drum, the apron engaging the face of the drum to form with said groove or cavity an inclosure for the tobacco, and a paddle carried by the drum and extending across said groove or cavity.

15. In a machine for dipping tobacco, the combination of a vat, a drum operating therein and having an annular cavity or groove extending around its periphery, a tobacco-carrying apron adapted to run into the vat under the drum, the apron engaging the face of the drum to form with said groove or cavity an inclosure for the tobacco, and a paddle carried by the drum and extending across said groove or cavity, the paddle lying in a plane essentially tangential to the drum to avoid picking up the tobacco from the apron.

16. A machine for dipping tobacco, comprising a vat, a drum operating therein, said drum having annular rims spaced from each other to form a groove or inclosure around the face of the drum, and also having a reticulated web extending between said rims at the inner peripheries thereof, and an apron adapted to run into the vat under the drum and engaging said rims to form with the drum an inclosure for the tobacco.

17. A machine for dipping tobacco, comprising a vat, a drum operating therein, said drum having annular rims spaced from each other to form a groove or inclosure around the face of the drum, and also having a reticulated web extending between said rims at the inner peripheries thereof, an apron adapted to run into the vat under the drum and engaging said rims to form with the drum an inclosure for the tobacco, and peripheral flanges projecting from the outer sides of the rims between which flanges the apron runs whereby to hold the apron in engagement with the drum.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

REGINALD BAILEY.

Witnesses:

M. D. BAILEY, Jr.,
W. E. FRANKLIN.