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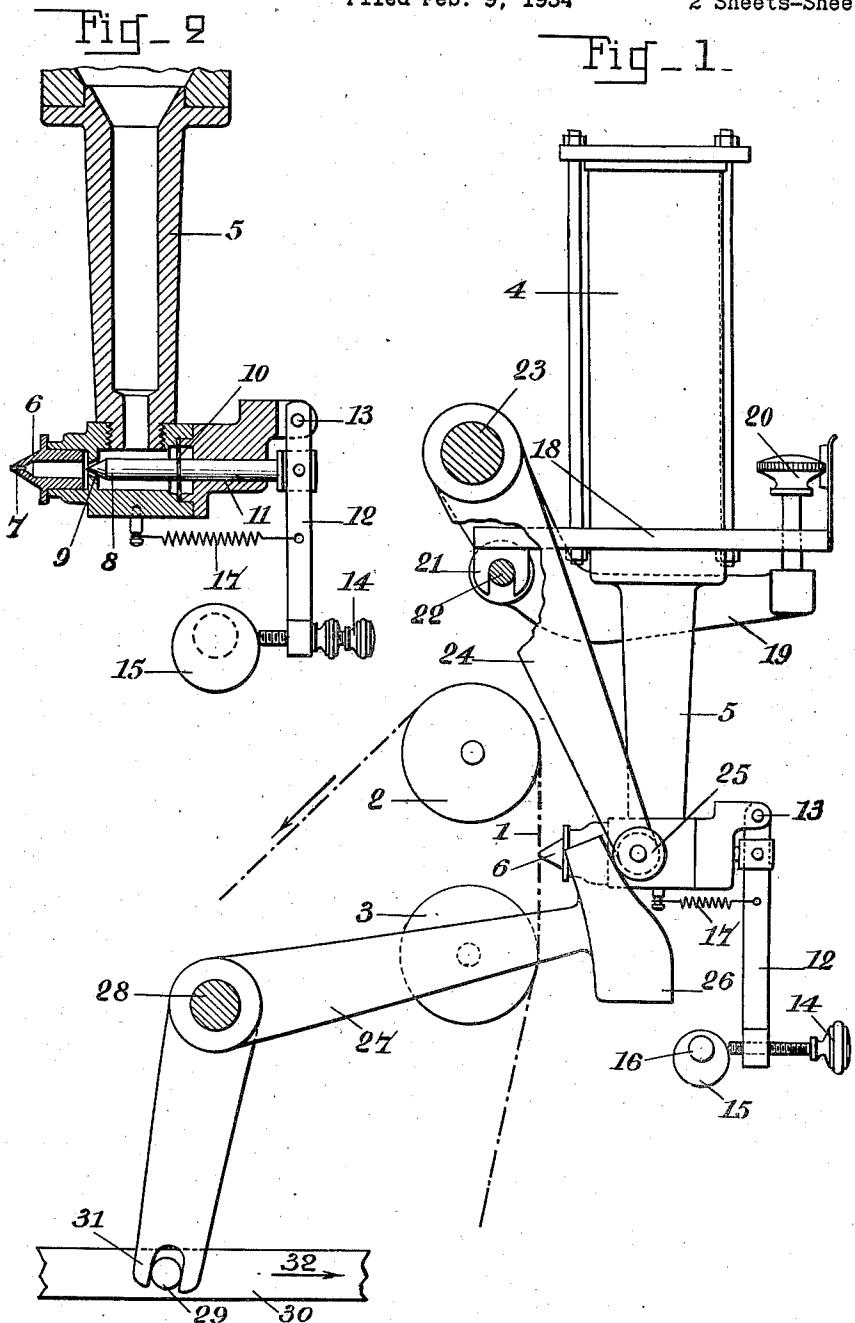
G. CORSE

2,123,354

COATING SIZE ON A PAPER STRIP

Filed Feb. 9, 1934

2 Sheets-Sheet 1



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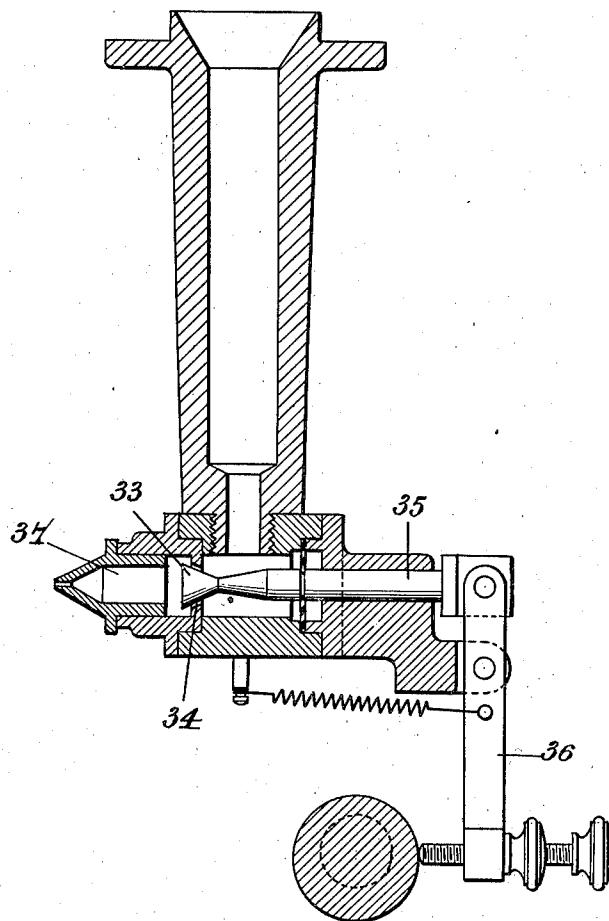
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Fig - 3



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## UNITED STATES PATENT OFFICE

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## COATING SIZE ON A PAPER STRIP

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In France February 17, 1933

## 1 Claim. (Cl. 91—12)

This invention relates to applying glue, gum or the like upon paper or pasteboard.

This invention has for an object more particularly the application of a size through a narrow slit which is located closely adjacent to the paper.

A further object of the invention is to place the portion of the paper upon which the size is being applied under tension and to extend the paper preferably vertically between cylinders or the like.

10 A still further object of the invention is to provide an apparatus for distributing the size in spots or patches and for providing a mechanism whereby the size applier is removed from the paper and the feed of size to the applier is simultaneously stopped at the times desired.

15 A further object of the invention is to provide a valve moving in a direction opposite to the flow of the size for stopping the feed of size.

20 A further object of the invention is to provide means such as a stop for maintaining the valve open and for closing the same when the size applier is removed from the paper.

25 By way of example and to facilitate an understanding of the invention, the accompanying drawings show a device according to the invention and in which:

Figure 1 is an elevational view.

Figure 2 is a sectional view of the size distributing or applying device on a larger scale and 30 Figure 3 is a sectional view of a modified applier.

In the drawings, size is applied to a strip of paper 1 traveling over the two rollers 2 and 3. The strip of paper is stretched vertically between the 35 rollers.

The container 4 holds the size which flows out through the outlet conduit 5 to a jet or nozzle 6 which is positioned closely adjacent the vertical portion of the strip of paper 1. The nozzle 6 is 40 preferably formed from a relatively hard non-rusting metal and has at the end thereof a calibrated slit of reduced width (see Figure 2).

In order to control the feed of size there is provided a valve spindle 8 which cooperates with the 45 seat 9. By moving the spindle 8 the flow of size may be controlled or entirely stopped. A resilient packing 10 prevents the size from flowing into the bearing 11 for the spindle 8 and from there hardening and thereby locking the spindle. The 50 spindle 8 is pivoted at its rear portion to a lever 12 which in turn is pivoted at one end to the pin 13. The free end of the lever 12 has a screw 14 threaded thereto which bears against a stop which is preferably in the form of an eccentric 15. The flow of size may be controlled by ad-

justing the screw 14. Such control may also be secured by rotating the eccentric 15 which is journaled on trunnions 16.

A spring 17 is provided urging the lever 12 toward the left as seen in Figure 2 and such movement of the lever 12 tends to seat the valve on its seat 9. Such a movement, however, is counteracted by the screw 14 meeting the eccentric or stop 15.

10 A container 4 is mounted in a frame 18 which in turn rests upon an arm 19 by means of an adjusting screw 20 and a forked piece 21 resting on a pin 22 which is integral with the arm 19. The adjustment of the screw 20 controls the pressure of the nozzle 6 against the paper 1. The arm 19 is keyed to a shaft 23 and the shaft 23 is oscillated by means of a controlling arm 24. On the controlling arm there is provided a cam roller 25 which cooperates with the cam 26. The cam 26 is actuated by a bell crank lever 27 pivotally mounted on the shaft 28. A rod 30 having a pin 29 therein which is located in the fork 31 provided on one arm of the crank 27 controls the movements of the bell crank.

15 By means of the device above described it is possible to operate the size applier intermittently and thereby to place upon the strip of paper 1 a series of size spots or patches. By moving the rod 30 in the direction of the arrow 32 the container 4 is oscillated about the shaft 23 and 30 thereby removes the nozzle 6 from the strip of paper 1. At the same time the lever 12 will pivot about its pin 13 under the tension of the spring 17 and the valve spindle 8 will seat upon the seat 9 thereby closing off the feed of size. On the return operation when the nozzle 6 again approaches the paper, which takes place upon a return of the rod 30, the screw 14 contacts the element 15 and the valve is opened. Therefore the flow of size is automatically stopped, upon a movement of the nozzle away from the strip of paper, and upon a movement of the nozzle to a position adjacent the strip of paper, the flow is resumed.

20 In the distributing device shown in Figure 3, the construction is similar to that shown in Figure 2, except that the valve spindle is provided at its end with an inverted cone 33, which seats upon a seat 34. The spindle 35 therefore has to move in a direction opposite to the direction of flow of size in order to cut off the flow of size. Also the lever 36, which is connected to the rod 35, must act in a direction opposite to the lever 12 shown in the previous embodiment. Due to the arrangement described, upon a closing of the valve the capacity of the chamber 37 is in- 50 55

creased and a movement of the comb 33 to the right as shown in Figure 3 will cause a lowering of pressure in the chamber 37 thereby causing a suction to take place and the flow of size through the slit of the nozzle is absolutely stopped. This will prevent any drops or drippings from being left on the paper.

The seat 34 is detachable and may be replaced easily upon becoming worn.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is:

An apparatus for coating a strip of paper with

gum or the like comprising a nozzle for discharging said gum, means for supporting said nozzle while at the same time permitting freedom of movement from and toward said strip, a valve cooperating with said nozzle controlling the discharge of gum, means normally urging said valve to closed position, a control member for said valve and an abutment located at a fixed distance from said strip and at a position where said control member will contact the same when said nozzle is almost in contact with the strip so that upon contact of said control member against said abutment said valve will be opened. 5

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