

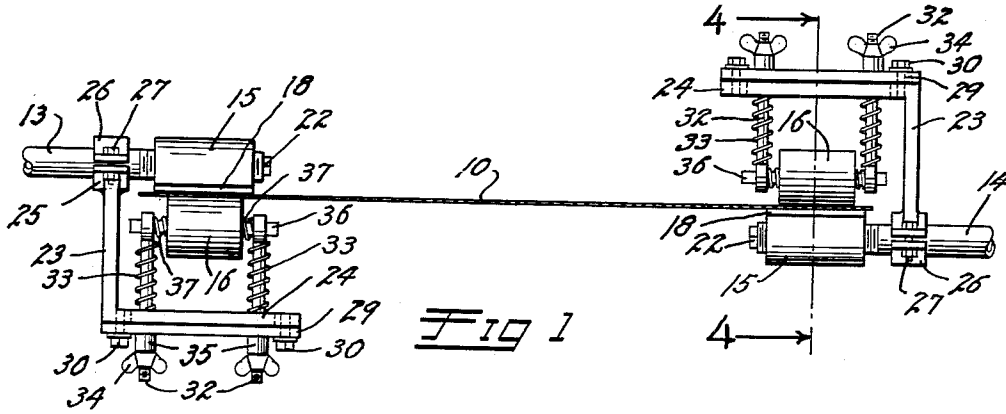
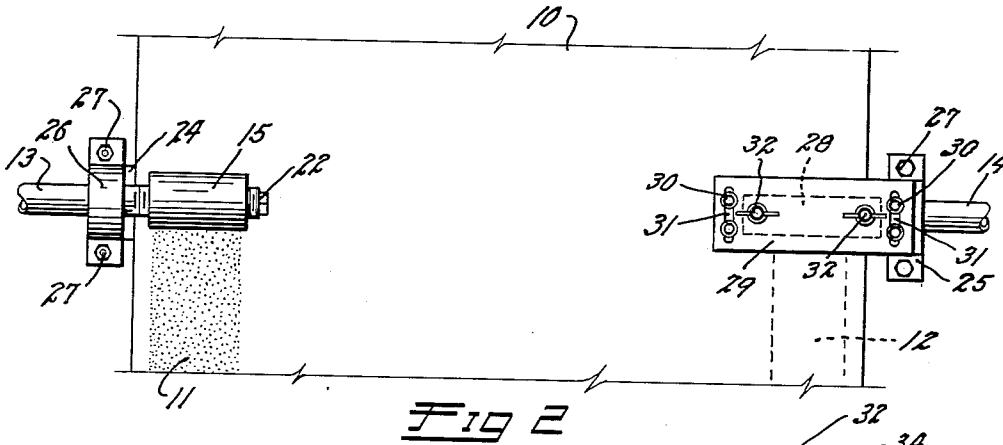
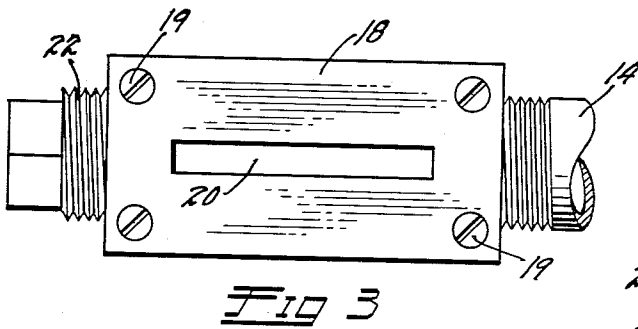
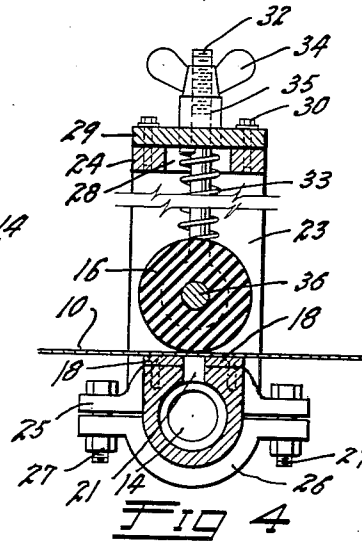
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DEVICE FOR APPLYING ADHESIVE TO PAPER BANDS

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DEVICE FOR APPLYING ADHESIVE TO PAPER BANDS

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2 Claims. (Cl. 118—410)

This invention relates to an adhesive applicator for applying adhesive to paper bands of the type used for wrapping currency in banks, for wrapping shirts in a laundry, and other similar uses. The adhesive is of a type which will adhere to the paper while moist, but after drying will only adhere to a surface which has been coated with a similar adhesive.

The principal object of the invention is to provide a simple and highly efficient adhesive applicator which can be used to continuously apply a strip of moist adhesive to a continuously traveling paper web, which will be subsequently sheared transversally to form paper bands.

Another object of the invention is to so construct the applicator that a layer of adhesive of uniform thickness and width may be applied to either desired side of the paper, and which will automatically accommodate variations in the thickness of the paper.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a cross-section through a traveling paper web, illustrating two of the improved applicators in use thereon applying adhesive to the opposite faces of the paper web and adjacent the marginal edges thereof;

Fig. 2 is a plan view of the web and applicator of Fig. 1;

Fig. 3 is an enlarged face view of an adhesive-applying nozzle member employed in this invention; and

Fig. 4 is an enlarged cross-section, taken on the line 4—4, Fig. 1.

In the drawing, a continuously traveling paper web is indicated at 10 to which an upper strip of adhesive 11 is being applied adjacent one marginal edge, and a lower strip of adhesive 12 is being applied adjacent the other marginal edge. The liquid adhesive is supplied to the applicators from any desired reservoir or other source, not shown, through adhesive supply pipes 13 and 14.

The improved applicator employs an elongated nozzle member 15 adapted to be positioned opposite one face of the paper, and a resilient roller 16 adapted to contact the other face thereof. The nozzle members are threaded onto the extremities of the supply pipes 13 and 14.

Each nozzle member is formed with a flat face 17 to which a perfectly flat, smooth, hardened face plate 18 is secured in any desired manner, such as by means of attachment screws 19. The face plate 18 is provided with an elongated discharge slot 20 which aligns with an elongated discharge port 21 in the nozzle member 15. Both extremities of the nozzle member 15 are internally threaded so that supply pipes may be threaded into either or both extremities, if desired, or a plurality of nozzle members may be used, when necessary, connected together

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by means of threaded pipe nipples. In the installation illustrated one extremity of each nozzle member is threaded onto a supply pipe, and the other extremity is closed by means of a pipe plug 22.

Each applicator employs an L-shaped bracket member having a vertical leg 23 and a horizontal leg 24. The vertical leg terminates in a pipe-receiving socket 25 to which a pipe clamp 26 is secured by means of suitable clamp bolts 27. The horizontal leg 24 is longitudinally slotted, as indicated in broken line in Fig. 2 at 28.

An adjustment plate 29 is bolted to each horizontal leg 24 by means of suitable cap screws 30. The cap screws pass through slotted openings 31 in the plates 29 so that the latter may be adjusted for alignment purposes.

Two eye-bolts 32 pass through each plate 29, and the eye portion of each bolt is urged away from its plate 29 by means of a compression spring 33. The amount of projection of each eye-bolt can be adjusted by means of retaining nuts 34 acting against spacing collars 35 which bear against the plates 29.

A roller shaft 36 extends between the eyes of each pair of eye-bolts 32 and serves as an axle for the resilient roller 16. The roller 16 is resiliently maintained between the two eye-bolts by means of spacing springs 37.

In the installation illustrated, the nozzle member 15 and the vertical bracket leg 23 are turned downwardly on the pipe 13 so as to position the nozzle member over the paper 10 and the roller 16 thereunder. The other applicator is simply reversed so that the vertical bracket leg 23 will extend upwardly from the pipe 14 with the nozzle member positioned below the paper and the roller 16 positioned above the paper.

It can be seen that, if the paper web is traveling downwardly in Fig. 2, and if liquid adhesive is being supplied to the supply pipes 13 and 14, the adhesive will reach the top surface of the paper through the slot 20 of the left-hand applicator, and will reach the bottom surface of the paper through the slot 20 of the right-hand applicator. Therefore, as the paper moves, the surfaces of the face plates 18 will spread the adhesive in uniform, continuous, longitudinally-extending bands throughout the entire length of the paper web.

Should the axis of the rollers 16 be not perfectly transverse to the path of travel of the paper, they will tend to cause the paper to travel to the left or right, causing wrinkling and misalignment of the paper. Should misalignment be found, it can be quickly and easily corrected by loosening the set screws 30 and shifting the plates 29 on the horizontal legs 24.

It has been found that if the rollers are shifted to a very slight opposite angle to each other, they will tend to slightly pull the marginal edges of the paper outwardly to maintain it taut and smooth. The pressure of the rollers on the paper can be adjusted by adjusting the nuts 34. The compression springs 33 accommodate any irregularities or variations in paper thickness.

While a specific form of the improvement has been described and illustrated herein, it is to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. An adhesive applicator for applying a continuous strip of adhesive to a traveling paper web comprising: an elongated, tubular nozzle member; a flat face formed on and extending longitudinally of said nozzle member and having an elongated discharge port extending longitudinally of said face and communicating with the interior of said nozzle member; a hardened face plate secured to said flat face and provided with a similar elongated discharge port; an internally threaded extremity on said nozzle

zle member; an adhesive supply pipe threaded into said threaded extremity in axial alignment with said nozzle member and acting to support the latter with said face plate in functional engagement with one face of said traveling paper web; a first bracket member clamped to said supply pipe and extending across the plane of said paper web; a second bracket member extending from the extremity of the first bracket member parallel to said pipe to a position opposite the other face of said traveling paper web; a pair of spaced-apart eye bolts extending through said second bracket member toward said paper web; a roller shaft rotatably supported by and between said eye bolts; a resilient pressure roller journaled on said roller shaft; and means urging said pressure roller against said paper web opposite the elongated discharge port in said face plate.

2. An adhesive applicator as described in claim 1 having slotted holes in said second bracket member through which said eye bolts pass; and an adjustment plate adjustably mounted on said second bracket member in which said eye bolts are mounted so that adjustment of said adjustment plate will act to adjust the position of said eye bolts in said slotted holes.

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