

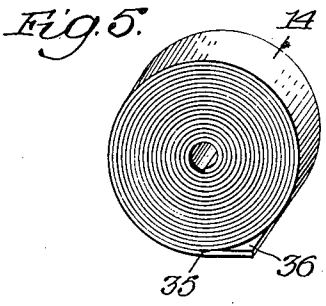
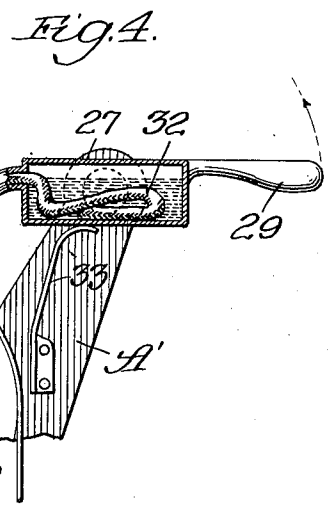
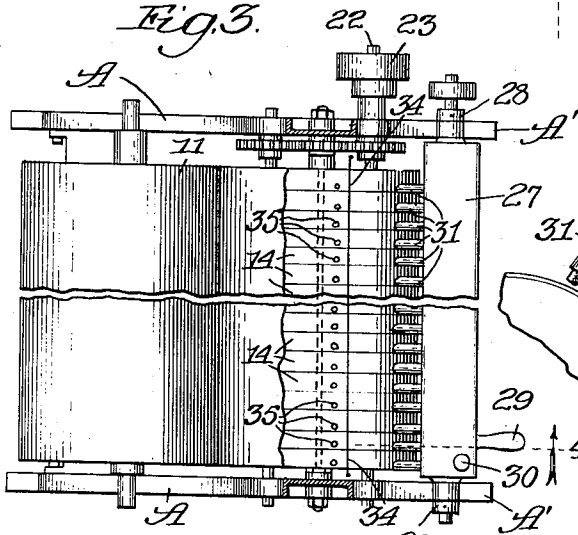
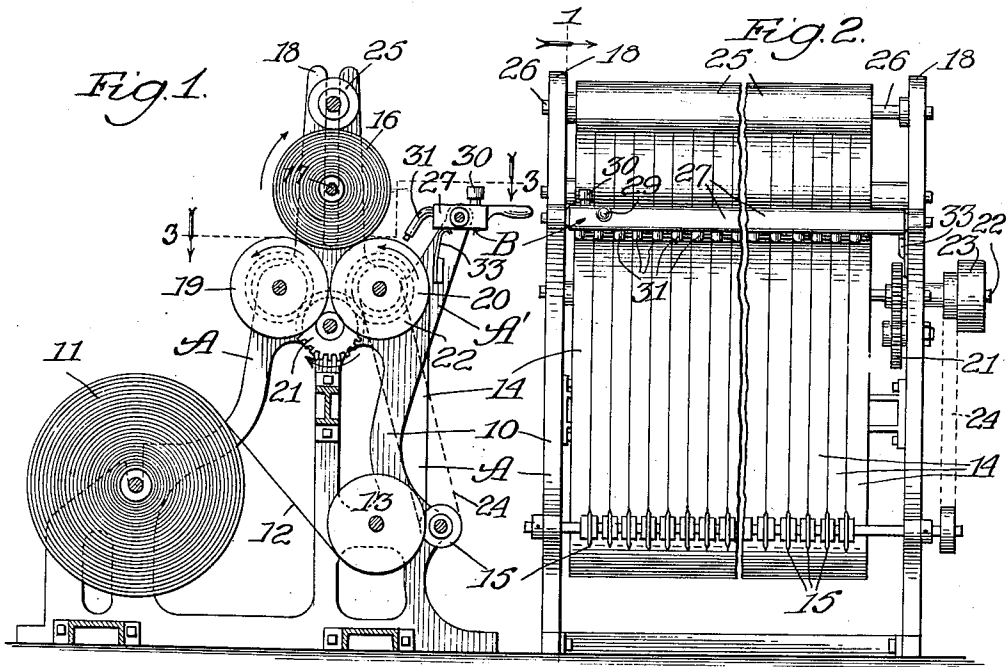
Aug. 11, 1936.

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2,050,794

SEALING PAPER ROLL

Filed Nov. 9, 1932



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UNITED STATES PATENT OFFICE

2,050,794

SEALING PAPER ROLL

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Application November 9, 1932, Serial No. 641,936

2 Claims. (Cl. 164—65)

This invention relates to sealing paper rolls and more particularly gummed or adhesive-coated rolls.

In the sealing of gummed paper rolls, it has heretofore been the practice to moisten the free end of the roll and to seal it against the body of the roll. When it is sought to open the roll, the end is peeled back until eventually the end strip of the roll is free. However, in this operation, a considerable portion of the end strip is ruined; and in addition, there is a substantial loss of time and effort. It has also been suggested that protruding tabs be inserted between the last convolution of the strip and the one adjacent thereto so that the roll may be broken by drawing the tab transversely across the roll. This construction also is unsatisfactory because of the bulkiness of the tab and the difficulty and expense involved in positioning it. Furthermore, the severed end of the strip remains attached to the back of the roll and can not be easily removed.

An object of the present invention is to provide simple, inexpensive, and non-protruding means for sealing the free end of a roll, while, at the same time, providing a convenient free end extension which may be grasped to readily free the end of the roll. A further object is to provide means whereby a plurality of rolls may be simultaneously sealed and separated. Other specific objects and advantages will appear as the specification proceeds.

The invention is illustrated, in a preferred embodiment, by the accompanying drawing, in which—

Fig. 1 is an end view in elevation of apparatus embodying my invention; Fig. 2, a broken front view in elevation; Fig. 3, a broken and part-sectional view, the section being taken as indicated at line 3 of Fig. 1, where the section line 3 extends between the roll and the web which is being wound thereon; Fig. 4, an enlarged detail sectional view, the section being taken as indicated at line 4 of Fig. 3; and Fig. 5, a perspective view of a finished roll sealed in accordance with my invention.

In the illustration given, A designates a paper-rolling machine and B, a moistening or sealing device associated therewith.

The paper-rolling machine A may be of any suitable construction. Because of the well known construction of this machine, a detailed description is believed not to be necessary. A frame 10 is provided in which is journaled a feed-paper roll 11. The web 12 extends about the roll 13 and is severed into a plurality of narrow strips 14 by

cutters 15. The strips 14 are then wound upon the roll 16. The paper roll 16 is wound about a spindle 17, the ends of which are guided between slotted end members 18 of well known construction. The paper roll 16 rests upon the actuating rollers 19 and 20 which are connected by an intermediate gear 21. The roll 20 is directly driven by shaft 22 upon which is mounted a pulley 23. Shaft 22 also carries a smaller pulley which is connected by belt 24 with the shaft bearing the cutters 15.

Above the paper roll 16 is vertically mounted a roll 25 having its shaft ends 26 guided within the slotted members 18. If desired, the roll 25 may be driven by any suitable means (not shown) to aid in the rotating of the paper roll 16.

The moistening or sealing apparatus B will now be described. A rectangular tank or liquid receptacle 27 is mounted upon trunnions 28 which in turn are mounted upon rearwardly extending casing projections A'. The tank 27 is provided with a rearwardly extending handle 29 and a cap-equipped opening 30 through which liquid may be introduced into the tank. At its forward side, the tank 27 is provided with a plurality of downwardly extended tubes 31 which are in communication with the interior of the tank. As shown more clearly in Fig. 4, a wick 32 extends through each of the spouts or tubes 31. The inner end of the wick lies within the receptacle or tank. In order to support the tank normally in horizontal position, a spring finger 33 is secured to the extension A' and has its free end engaging the bottom of tank 27. With this arrangement, the tank 27 will normally remain in horizontal position but may be tipped forward at the will of the operator to bring the free end of the wick 32 in contact with the paper strips 14.

In the operation of the apparatus, the web 12 is drawn from the supply roll 11 about the roll 13 and there severed into a plurality of strips 14 by cutters 15. The strips 14 are then drawn upwardly and about the roll 20 and wound upon the paper roll 16. The driven shaft 22 causes the roll 20 to rotate in the direction of the arrow, while the connecting gear 21 causes roll 19 to turn in the same direction. By this means, the roll 16 is caused to rotate and wind thereon the severed strips 14. When the roll or rolls 16 are of the desired size, the ends of the paper strips are sealed to the roll by tilting the tank 27 forward so that the protruding end of the wick 32 engages a portion of the gummed surface of each strip 14. The liquid drawn through wick 32 moistens a spot of the gummed surface and,

when the strip is drawn in contact with the body of the roll, forms an adhesive spot uniting the free end of the roll to the roll body.

After the tank 27 has been tilted forward to form the moistened spot, the operator may drop a string 34, as shown more clearly in Fig. 3, transversely across the paper strips and at a spaced distance to the rear of the moistened spots 35. The string 34 after the roll has been wound up further may be drawn across the strips 14 to sever them. After the severing operation, it will be observed that each of the rolls, as illustrated in Fig. 5, is provided with an opening flap 36 which extends behind the adhesive sealing spot 35.

In forming the adhesive sealing spot on the free end of the roll, I prefer to form the spot quite near one lateral edge of each of the strips 14. If the spot is formed near the center of the strip, it is found that the paper tends to split and strip for some little distance. However, if the spot is formed adjacent one edge, the tear or peeling of the paper runs laterally and ends shortly at the edge of the paper. In this manner, peeling is substantially prevented while, at the same time, an effective sealing of the rolled end is accomplished.

Another difficulty encountered with the sealing of the rolled end is that the liquid tends to penetrate the gummed layer and the paper therebehind and, if the paper is weak, a tear occurs across the body of the paper as the roll is opened. To overcome this, I prefer to employ a liquid solution having sufficient body to prevent its penetration of the gummed layer. For example, ordinary tapioca dextrine may be dissolved in water in the proportions of one part of dextrine to about fifty parts of water. This gives the water

sufficient body to enable it merely to soften the water-soluble gum or adhesive and without weakening the paper backing structure.

While I have suggested mixing water and dextrine in a certain proportion, it must be borne in mind that the proportions must be varied in accordance with the thickness and character of paper employed and the thickness of the gummed layer thereon. Some papers may require no thickening of the moistening liquid, while other papers may require a liquid of relatively heavy Baumé.

While in the illustration given, I have shown a particular form of moistening or sealing device, it will be understood that a variety of other forms may be employed for forming sealing spots on the paper strips and without departing from the spirit of my invention. The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

I claim:

1. In apparatus of the character set forth, means for dividing a roll of gummed paper into a plurality of strips, means for winding said strips into rolls, and means for forming sealing spots on the gummed surface of each of the rolls simultaneously.

2. In apparatus of the character set forth, means for dividing a roll of gummed paper into a plurality of strips, means for winding said strips into rolls, and reciprocally mounted means for moistening a spot on the gummed surface of each of the rolls and adjacent an edge thereof.

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