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TEARABLE TABS FOR PREPARATION OF NEWSPRINT ROLLS

Filed Oct. 23, 1957

FIG. 1

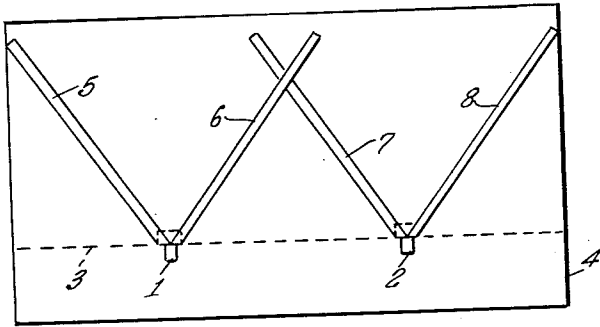


FIG. 3

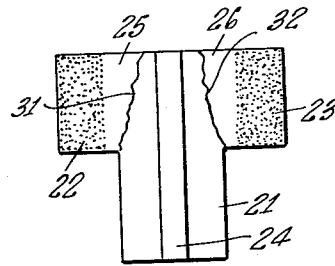


FIG. 4

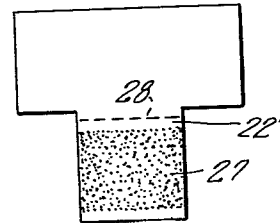


FIG. 5

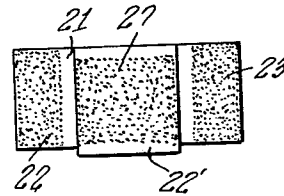


FIG. 2

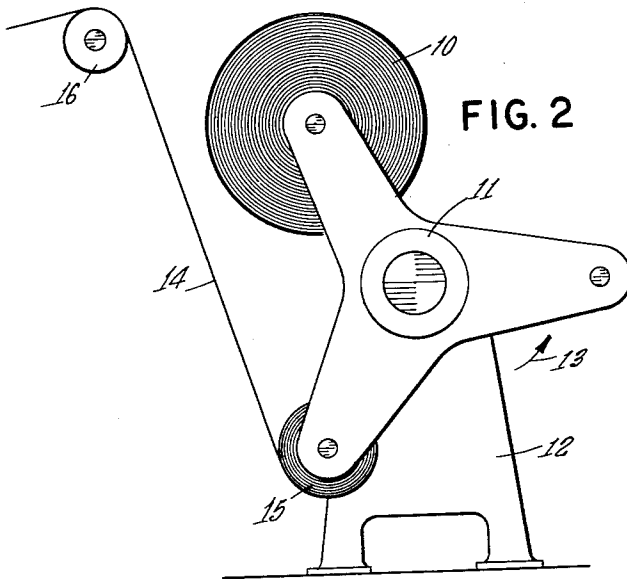


FIG. 6

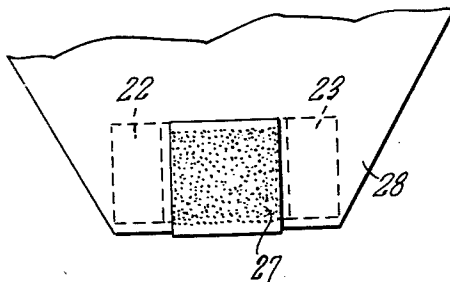
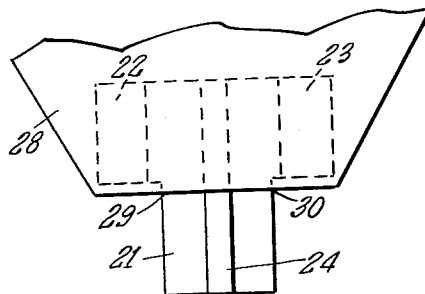


FIG. 7



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My invention relates to tearable tabs of adhesively coated paper for use in the preparation of rolls of printing paper before splicing the web-end of the roll to an expiring web in a rotary-press printing plant, and will be described with reference to the drawings in which:

FIG. 1 shows schematically a roll of newsprint prepared for insertion into the reel stand of a printing press;

FIG. 2 shows schematically an axial view of a reel stand with the prepared roll of paper ready for splicing;

FIG. 3 shows the new tab from the side to be adhesively attached to the web-end of the roll of newsprint;

FIG. 4 shows the reverse side of the same tab; and

FIGS. 5, 6, 7 show the tab in respectively different stages of application.

In rotary-press printing plants, particularly newspaper printing plants, it is necessary to preserve continuity of operation by splicing a new roll of paper to the web still being fed to the printing press from a roll about to expire. For such splicing, the new roll is first prepared by attaching the leading edge of the web to the next wrap by means of tabs of adhesively coated paper, and thereafter applying an adhesive to V- or W-shaped areas of the web end.

The roll of newsprint shown in FIG. 1 is prepared in this manner. Two tabs 1, 2 of gummed paper are adhesively attached to the leading edge of the web, which edge originally extends as shown by a broken line 3. The tabs 1, 2 then secure the web end to the roll surface of the next following wrap 4.

Thereafter, the web end is provided with an adhesive. There are several ways of doing this, but since no particular one is essential to the use of the tabs according to the invention, it will suffice to describe only one mode which is particularly favorable for "flying paster" operation, i.e. does not require stopping or retarding the printing press while making the splice. As shown in FIG. 1, two strips of adhesive tape 5 and 6 are mounted on the web end so as to extend in V-shape away from the tab 1; and similar lengths of tape 7, 8 are applied in V-shape at tab 2. The web portions below the tapes 5, 6, 7, 8 are then torn away along the tapes so that the web edge assumes generally W-shaped configuration. The underside of each tape, i.e. the side adhering to the end of the web, is coated with a water-moistening adhesive. The reverse side, namely the one that remains exposed in FIG. 1, is coated with a normally dry and water-insoluble adhesive that must be activated by an organic solvent.

After thus preparing the roll, it is rotatably mounted on a spider assembly 11 of the reel stand 12, and the spider assembly is then rotated in the direction shown by an arrow 13 until the roll 10 extends close to the web 14 then passing from the expiring roll 15 over a guide roller 16 to the printing press. At the proper time, the roll 10 is accelerated to the peripheral speed of the expiring roll 15. One way of doing this is to turn the spider assembly so that roll 10 is frictionally entrained by the running web 14. When the proper speed is reached, an organic solvent is sprayed onto the surface of roll 10 so that the adhesive is activated. As a result, the web end of roll 10 is spliced to the expiring web 14, the tabs 1, 2 (FIG. 1) are torn, and the web of the new roll is entrained toward the printing press. Thereafter, a tail cutter assembly (not shown) severs the expiring

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web 14 from the remainder of roll 15. There are other ways, as regards the particular operating stage, in which the adhesive is applied or activated, as well as other ways of accelerating the new roll, but these particulars are not essential to the invention proper, all having in common the same requirements as regards the properties of the tabs 1, 2 described presently.

The tabs must have enough strength to reliably hold the web end of the roll against the roll periphery during handling and mounting of the new roll and even under such stresses as are produced when a roll expands or when the roll is accelerated on the stand by a driving force acting upon its periphery. On the other hand, as soon as the web of the roll is spliced to the expiring web, the tear strength of the tabs must be sufficiently low to permit proper tearing so that the new roll can be entrained and can be unwound.

While the tabs heretofore available for the above-described purpose are generally sufficient to meet these requirements, it happens occasionally that the tabs will prematurely tear or will not properly tear at the moment the splice is completed. Any such event, however, may require stopping the printing operation and thus entail considerable loss. It is therefore an object of my invention to provide improved tabs that reliably eliminate such trouble.

To this end, and in accordance with my invention, the tabs, in addition to their adhesive areas, are provided with a reinforcing strip of particular size and location as described presently with reference to FIGS. 3 to 7.

One side 21 of the T-shaped paper tab is provided with two adhesive coatings 22 and 23 consisting of a water-moistening adhesive as customary for gummed tape. The two areas 22 and 23 are rectangular and extend along the vertical edges of the cross-bar shaped top portion of the T, but stay short of the vertical bottom portion of the T-shape. A reinforcing strip 24 is bonded to the side 21 of the tab member and extends along the vertical center axis of the T-shape in spaced relation to the adhesive areas 22 and 23.

The reinforcing strip 24 may consist of adhesive paper tape. However, it is preferable to give the strip 24 greater tear strength than the paper of which the tab member is made. For that reason, the strip 24 consists preferably of regenerated cellulose as available in the trade under the name "Cellophane." Strip 24 has relatively small width so that the exposed areas 25 and 26 between strip 24 and adhesive coatings 22, 23 are wider than the strip to facilitate proper tearing of the tab in areas 25 and 26 at the proper moment.

The reverse side 27 of the tab is provided with another adhesive coating 27 of water-moistening material. The coating 27 extends from nearly the bottom edge of the T-shape over part of the tab surface but stays short of the horizontal bar portion of the T-shape.

The tab is folded, as a step of its manufacture, along the broken line 28 indicated in FIG. 4, so that the three adhesive areas 22, 23 and 27 lie at the same side as shown in FIG. 5. This makes it possible to wet the three areas by passing the tab once through a labeler or other moistening device. The fold is also used as a guide for applying the tab, as shown in FIG. 6, by sandwiching the end 28 of the newsprint between the two portions of the tab in its folded condition. Thus the adhesive and previously wetted areas 22 and 23 are adhered to the rear side of the web end 28. Next, the adhesive portion 27 is turned down and adhered to the next wrap as shown in FIG. 7.

After a roll of newsprint has been made up as described above with reference to FIG. 1, the tab may tear at the points 29 and 30 indicated in FIG. 7, when the roll expands or the end of the web is pulled laterally in

either direction. The vulnerable points 29 and 30 are due to the fact that the tear strength of the paper material used for the tab must be low so that the edge strength of the tab is also low. However, by virtue of the strip of reinforcing material 24 extending through the center of the tab, the tab is strengthened sufficiently to prevent its tearing along a line between the two points 29 and 30. Consequently, the tearing stresses that may occur prior to the splicing operation proper will not cause complete severance of the tab so that the web end remains held against the surface of the roll. However, when a splice is completed, the tab tears in the two areas 25 and 26, for instance along the tear lines shown at 31 and 32. During this operation, the reinforcing strip 24 may act as a tear edge. Thus, while the reinforcing strip increases the strength of the tab in tension and also prevents tearing entirely across its width, the strip does not interfere with the desired tearing when a splice is completed.

The tab may have a vertical length of $2\frac{1}{2}$ inches, a horizontal width of $1\frac{1}{4}$ " in the bottom portion and $2\frac{1}{4}$ " in the top portion, a reinforcing strip of $\frac{1}{4}$ " being sufficient with the just-mentioned dimensions. It will be understood, however, that these dimensions are not critical and are described only by way of example.

I claim:

1. A tearable tab for temporarily attaching the web end of a roll of newsprint to the next wrap of the roll, comprising a T-shaped tab member of paper having on one side an adhesive coating extending from the bottom of the T-shape upward a distance short of the horizontal bar portion of said T-shape, two adhesive coatings on the other side of said member, said two latter coatings extending along the respective vertical edges of said horizontal portion of said T-shape and being horizontally spaced from each other a distance larger than the width of the vertical portion of said T-shape, and a reinforcing strip of adhesive tape attached to said other side of said member and having a non-adhesive exposed surface, said strip extending centrally over the vertical length of said tab member and being spaced from said latter two adhesive coatings, said strip having greater tear

strength and smaller width than each of the two adjacent non-adhesive areas of paper that remain exposed on said vertical portion of said T-shape, whereby said strip prevents tearing of the tab across its width but permits tearing of the tab substantially along said strip.

2. A tearable tab for temporarily attaching the web end of a roll of printing paper to the next wrap of the roll, comprising a T-shaped tab member of paper having on one side an adhesive coating extending substantially from the bottom of the T-shape upward a distance short of the horizontal bar portion of said T-shape, two adhesive coatings on the other side of said member, said two latter coatings extending along the respective vertical edges of said horizontal bar portion of said T-shape and being horizontally spaced from each other a distance at least equal to the width of said vertical portion of said T-shape, and a reinforcing strip bonded to said other side of said member and extending centrally over the entire vertical length of said tab member, said strip being horizontally spaced from each of said latter two adhesive coatings a distance greater than the width of said strip, whereby said strip prevents tearing of the tab across its width but permits tearing of the tab substantially along said strip.

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