April 20, 1937. F. W. HUMPHNER 2,077,998

MULTI-PLY LATEX TREATED PAPER

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Fig. 2.

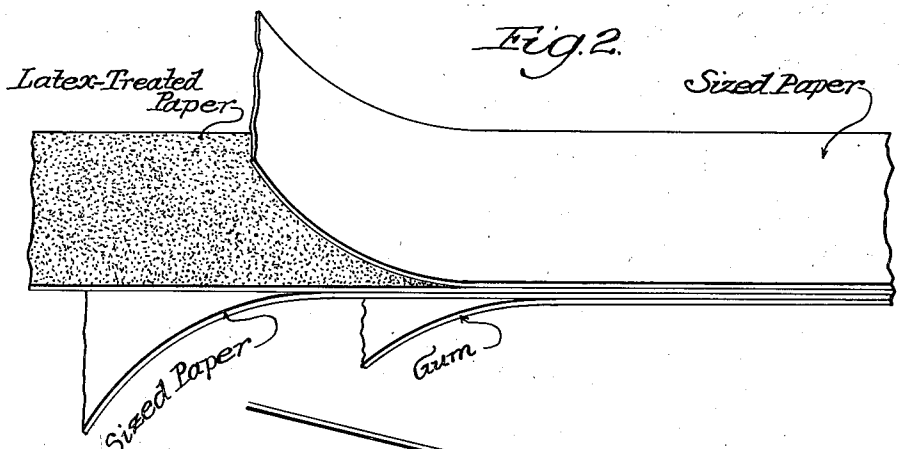
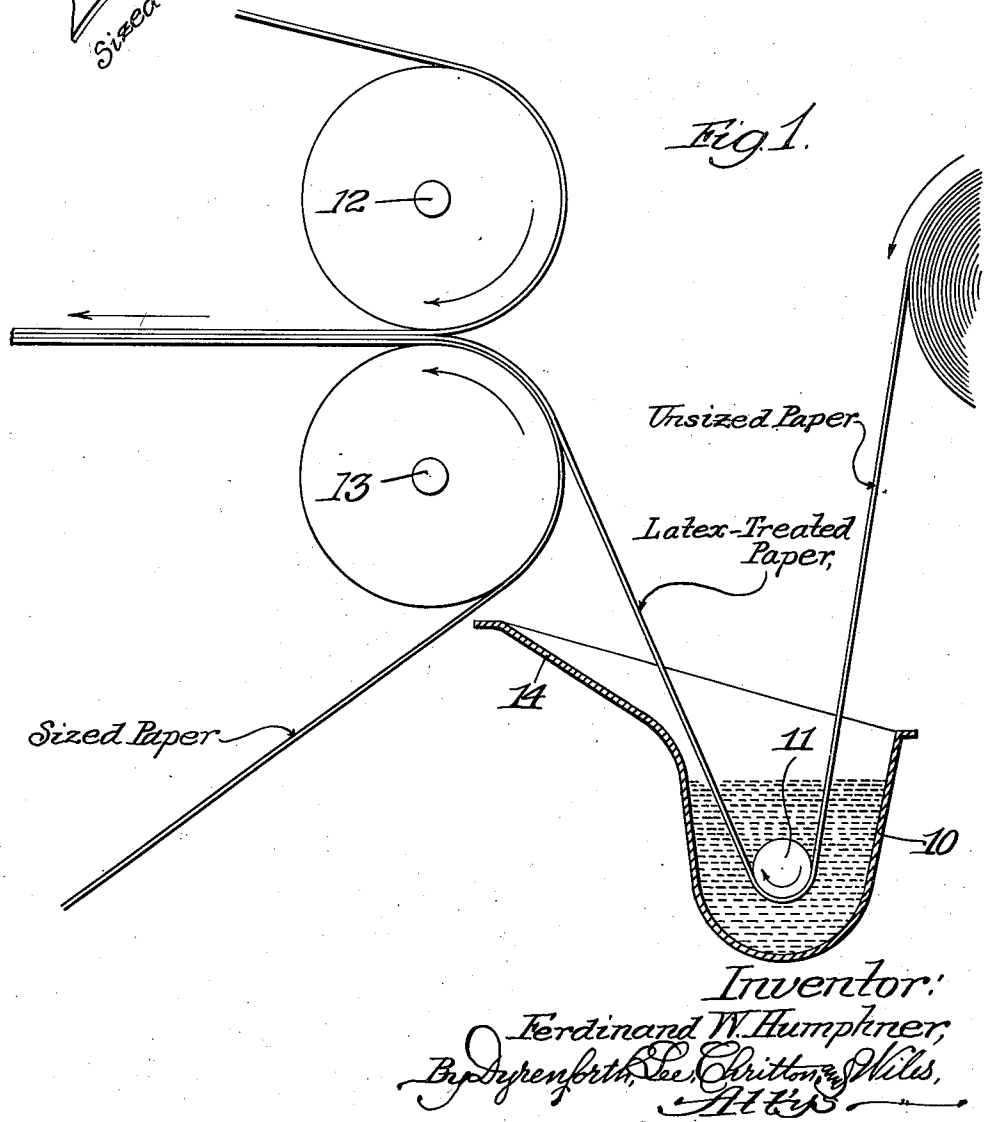


Fig. 1.



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MULTIPLY LATEX-TREATED PAPER

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Application January 14, 1935, Serial No. 1,785

3 Claims. (Cl. 154—43)

This invention relates to multiply latex-treated paper and more particularly to gummed paper tape embodying such latex-treated paper. An object of the present invention is to provide a reinforced or latex-treated paper which has external surfaces adapted to receive gum or other adhesive material. A further object is to provide a gummed tape provided with a latex-treated core. 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—

Figure 1 is a sectional view in elevation showing diagrammatically the apparatus and product embodying my invention; and Fig. 2, a perspective view of the product embodying my invention.

The manufacture of a latex-treated paper is well known in the art. It comprises passing an unsized or absorbent paper into a bath containing a latex preparation. The paper is then passed, usually on a wire net or screen into suitable drying apparatus and then through several subsequent steps in which efforts are made to cure the external surfaces of the product. The use of such a latex-treated strip as a gummed tape has heretofore been impracticable because of the tendency of the latex, which contains moisture, to soften the gum layer. Many expedients have been attempted in treating the external surfaces of the latex-treated strip to render it satisfactory for the placing of gum thereon; however, all of such expedients to my knowledge have failed.

I have discovered that a satisfactory surface can be obtained for the application of gum through the use of a multiply method which, at the same time, greatly simplifies and reduces the steps heretofore used in the treating of paper with latex solution.

As illustrated in Fig. 1, the unsized paper is taken from the supply roll into a vat 10 containing latex solution and there passed around the roller 11. The treated strip is then passed between two presser rollers 12 and 13. Simultaneously, the two strips of sized paper are drawn around rolls 12 and 13 so as to enclose the latex-treated paper. Any of the latex solution squeezed out of the treated core falls back upon the apron 14 and returns to the vat 10.

The paper to be treated with latex is, as in the usual practice, preferably unsized and is absorbent with respect to the latex solution. The outer plies paper which pass around rollers 12 and 13 are, however, preferably sized so as to be repellent to latex and may be ordinary sized kraft paper. Under the action of the presser rollers, there is a slight penetration by the solution so as to permanently secure the plies together, yet the external surfaces of the composite strip are substantially devoid of latex and are repellent thereto. To the external surface of the paper, gum may be readily applied, and it retains its grip upon the surface without being affected by the latex-treated core.

The resultant gummed tape, as shown in Fig. 2, is an extremely tough and resistant body and yet is flexible and pliable so as to permit its being folded about box corners and other angular surfaces.

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. A gummed paper tape comprising an inner ply of paper impregnated with rubber deposited from latex, outer plies of paper secured to said inner ply but having external surfaces devoid of said rubber, and a water-soluble adhesive on one of said external surfaces.

2. A gummed paper tape comprising at least two sheets integrally bound together by rubber deposited from latex, one of said sheets being permeated with said rubber and the other being penetrated only on one side, and water-soluble adhesive on the unpenetrated side of said second sheet.

3. A gummed paper tape comprising at least two sheets of paper, one of which is unsized, and the other sized, rubber deposited from latex permeating the unsized sheet and penetrating one side of said sized sheet to bond the two sheets together, and a water-soluble adhesive on the outer side of the sized sheet.

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