Oct. 9, 1923. 1,470,138

M. BLUMENTHAL

TIRE WRAPPER

Filed Feb. 24, 1919

Fig. 1.

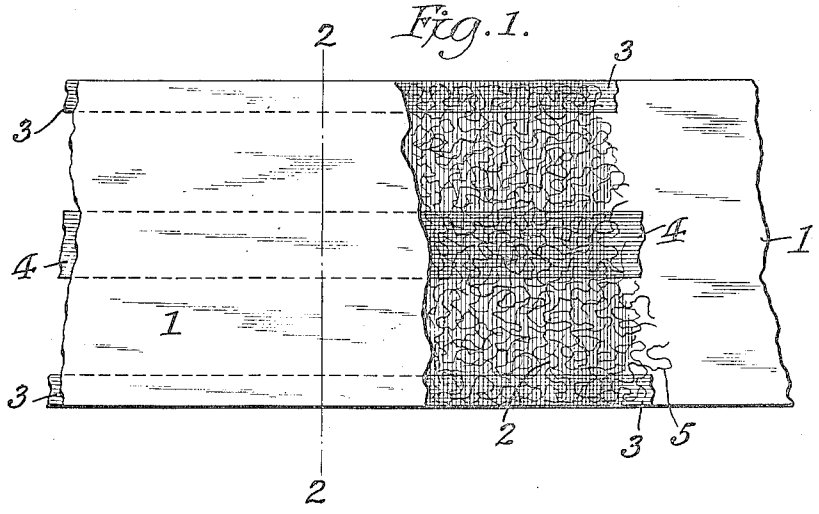


Fig. 2.

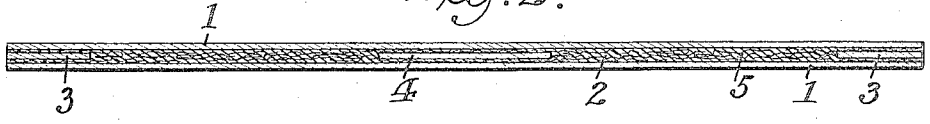
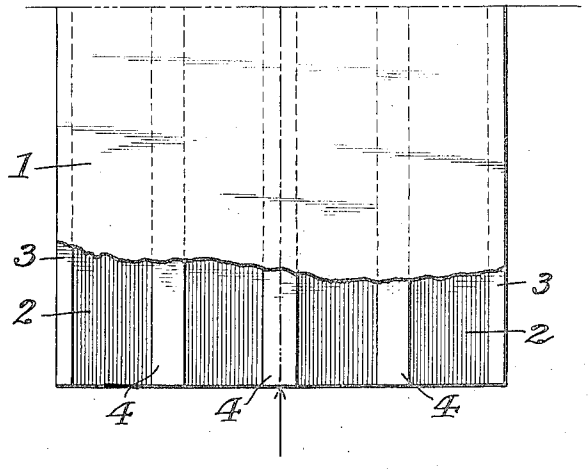


Fig. 3.



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UNITED STATES PATENT OFFICE.

MAURICE BLUMENTHAL, OF BROOKLYN, NEW YORK.

TIRE WRAPPER.

Application filed February 24, 1919. Serial No. 278,947.

To all whom it may concern:

Be it known that I, MAURICE BLUMENTHAL, a citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Tire Wrappers, of which the following is a specification.

This invention relates to tire wrappers such as are employed for wrapping pneumatic tires under conditions of commercial handling and which consist of a pliable strip which is wound spirally about the tire shoe or casing. While my invention has special relation and adaptability to wrappers employed as a cover for tires, as above set forth, it will be understood that my improved wrapper may be employed in any other conditions or uses for which a wrapper of this type is adapted.

The object of my invention is to provide a simple and improved wrapper of the class set forth, which can be more economically and effectively manufactured, which especially will not be liable to tear at the edges under conditions of application or use, and which will furthermore possess advantages in point of strength, durability, convenience, inexpensiveness, effectiveness, and general efficiency.

In the drawings—

Figure 1 is a plan view of a portion of a length of the improved wrapper, partly broken away to show the underlying construction.

Fig. 2 is a detail cross-section, on an enlarged scale, taken on the line 2—2, Fig. 1.

Fig. 3 is a plan view, corresponding to Fig. 1, illustrating the wide roll in which the wrapper is usually produced and from which the narrower strips for tire wrapping are cut, and indicating the cutting points or lines of separation.

Corresponding parts in all the figures are denoted by the same reference characters.

Tire wrappers of the class to which my invention relates have heretofore usually been constructed of two superposed sheets of paper or analogous pliable material united over their opposing surfaces by an intervening adhesive, such as an asphaltum compound, thus producing a composite wrapping sheet, and having between the two body sheets lengths of textile cord or wire extending diagonally at separated intervals across the wrapper, in association with the adhesive compound, as a reinforce. Wrappers of the types as heretofore constructed are liable to tearing, especially at the edges, under the conditions of application and use, especially in the rough handling to which they are subjected in spiral winding about a tire, and are therefore deficient in strength and durability. Such wrappers are furthermore difficult and expensive in manufacture, in that the cord or string reinforcement requires the employment of complicated and delicate machinery to feed the cords in their positional lay during the process of passing the two body sheets through compression rolls in association with the adhesive compound to produce the composite wrapper, and the cords are also liable to break in the process of manufacture, and rapid machinery action is precluded.

My improved wrapper comprises the two body sheets, 1—1, respectively forming the outer surfaces, which are formed of a suitable pliable material, preferably paper or a fibrous or textile material. The body sheets 1—1 are superposed and united and adhesively secured together over the area of their opposed surfaces by a suitable adhesive compound, 2, to produce a composite wrapping sheet. The uniting compound may be any suitable composition, such as an asphaltum compound, but I prefer to employ a compound which will impart to the improved wrapper a water, acid and grease proof character, and for this purpose the compound may consist of animal or vegetable fats or oils combined with mineral waxes, such as ozocerite, mineral caoutchouc, gilsonite, or retinite, which compound will have a melting point approximately 375° F. and a permanently adhesive or "tacky" and impervious quality.

Intermediate of the outer body sheets 1—1 and in association with the uniting adhesive compound 2, longitudinal strips, as at 3—3, are located respectively at the side edges of the wrapper. These strips are of suitable width, so that they reinforce the area of the edge portions of the wrapper at all points extending from the actual plane of the edge, and they are formed of a suitable pliable material, preferably a textile or mesh fabric or a paper or fibrous material having sufficient strength as a reinforcement and as a preventive against tearing of the edge

of the wrapper under any conditions of application or use. Corresponding longitudinal strips, as at 4, preferably wider than said edge strips, are in the preferred construction of my improved wrapper located intermediately of the edge strips at the central portion of the wrapper or at intervals between the edge portions, said intermediate strips being in parallel relationship to the edge strips and in association with the uniting adhesive compound between the outer body sheets 1—1.

In the preferred construction, there is also placed intermediate of the outer body sheets 1—1, and in association with the uniting adhesive compound 2, cotton waste or cotton sweepings, or a fibrous material, as at 5, which is spread and sandwiched between the body sheets over the general area of the opposed surfaces thereof and forms an effective supplementary reinforce against strain or tearing in any and all directions. This supplementary reinforcing element is comparatively inexpensive and easy of application in the manufacture of the improved wrappers and is more effectively operative as a strengthening medium and as a resistance against tearing than would be any reinforcing elements, whether cords or paper strips, extending in straight or uniform lines.

In the practical and economical manufacture of my improved wrapper, the pliable body sheets 1—1 are first employed with a sufficient width to form a plurality of tire wrappers or wrappers of relatively-narrow width, for instance the width of the body sheets 1 may be initially 60″ or 90″. The composite wrapper is produced by passing the associated elements or members through rolls, under the action of suitable mechanism for feeding and placing the reinforcing strips and cotton waste in association with the uniting adhesive, one of the body sheets 1 being first subjected to the application of the adhesive compound 2, and the reinforcing strips 3 and 4 and the cotton waste 5 being inserted in position, after which the other body sheet 1 is applied over the adhesive compound and the reinforcing elements and is calendered under the action of a heated roll to press together in securely associated position the several elements or members of the composite wrapper. Then, under the action of spaced knives at points as indicated in Fig. 3, the wide wrapping sheet is cut or split to divide it into the narrower widths for tire wrapping or other purposes. In this dividing or cutting operation, the longitudinal and parallel location of the reinforcing strips or tapes 4 enables an accurate line cut longitudinally in the center of said reinforceing strips, whereby each of the narrower-width wrappers thus cut or divided will essentially be provided at each side edge with a length of longitudinal reinforcing strips, as at 3—3, divided from the wider longitudinal strips 4. The complete structural characteristics of the relatively-narrow wrapper as illustrated in Figs. 1 and 2 are thus definitely and accurately produced in the cutting or division of the initially wide wrapper body as illustrated in Fig. 3. It will be understood, however, that the narrow widths of wrappers as illustrated in Figs. 1 and 2 may be initially produced in composite construction, in lieu of being divided from a wider wrapper sheet.

In practice I preferably employ, for the longitudinal reinforcing strips 3—3 and 4, a tape of cloth or textile fabric, but any suitable material or strong paper having the requisite resistance to tearing may be used.

While the calendering or compression of the composite wrapper body is designed to render the outer body sheets 1—1 water, acid and grease proof under the action of the intermediate uniting compound of the character hereinbefore referred to, the improved wrappers may be if desired treated in any preferred manner to waterproof the outer surfaces of the body sheets.

I do not desire to be understood as limiting myself to the detail features of construction as herein shown and described, as it is manifest that variations and modifications therein may be resorted to, in the adaptation of my invention to varying conditions of use, without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variations and modifications as properly fall within the scope of my invention and the terms of the following claims.

Having thus described my invention, I claim and desire to secure by Letters Patent:

1. An improved wrapper of the class described, comprising superposed pliable outer body sheets united and adhesively secured together at their opposed surfaces by an adhesive compound, and textile or fibrous waste or sweepings forming an internal filler mass located intermediately of said outer body sheets and secured as a composite layer in association with the uniting adhesive compound and extending as a surface mass over the general area of the opposed surfaces of said outer sheets.

2. An improved wrapper of the class described, comprising superposed pliable outer body sheets united and adhesively secured together at their opposed surfaces by an adhesive compound, longitudinal reinforcing flat tape strips having a width area covering a substantial transverse width area of the sheets and extending intermediately of said outer body sheets, and a textile or fibrous filler forming an internal body mass located

intermediately of said outer body sheets and secured as a composite layer in association with the uniting adhesive compound and extending as a surface mass over the general area of the opposed surfaces of said outer body sheets.

3. An improved wrapper of the class described, comprising superposed pliable outer body sheets, reinforcing elements extending intermediately of said outer body sheets and comprising a fibrous filler forming an internal body mass extending as a composite layer over the general area of the opposed surfaces of said outer sheets, and a uniting adhesive compound extending over the area of the opposed surfaces of said outer body sheets and in association with said reinforcing elements and having a permanently waterproof and adhesive character.

In testimony whereof I have signed the foregoing specifications.

MAURICE BLUMENTHAL.