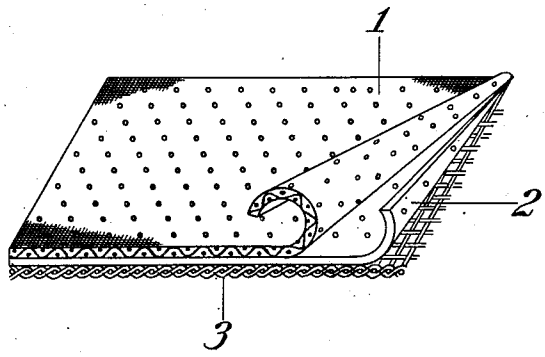
Nov. 27, 1934. R. J. DUNN ET AL 1,981,909

IMPROVED PERFORATED CORSET MATERIAL AND METHOD OF MAKING THE SAME

Filed March 17, 1933



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Patented Nov. 27, 1934 1,981,909

UNITED STATES PATENT OFFICE

1,981,909

IMPROVED PERFORATED CORSET MATERIAL AND METHOD OF MAKING THE SAME

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Application March 17, 1933, Serial No. 661,340

6 Claims. (Cl. 154—2)

This invention relates to rubberized fabrics and more particularly to two fabrics combined by means of a layer of rubber, used in the manufacture of garments.

The manufacture and use of rubberized fabrics consisting of two knitted fabrics of cotton, rayon, silk, etc., or combinations thereof combined with a layer of rubber are well known to the art. The objection to this type of material has been that it is too dense, does not allow air to penetrate and thus does not afford ventilation and evaporation of perspiration.

Certain types of ventilated rubberized fabric corset materials have been developed in an attempt to overcome the objections above given. One of these is a stockinette calendered on one side with rubberized composition, cured and then perforated. The essentials of the manufacture of this type of material have been long known to the art. Another type consists of two knitted fabrics combined with sponge rubber and perforated. Still another type consists of the above knitted fabrics combined with a layer of rubber and then perforated. All of these are subject to greater or less disadvantage. For example, in the last type it is found that the knitted fabrics unravel or run at the perforation and the sensation of unevenness of the material due to the perforations is quite noticeable and uncomfortable. In addition, this unraveling causes a noticeable unevenness of the material which in many cases is highly undesirable.

The object of this invention is the production of improved ventilated type of rubberized fabric garment material. A further object is to produce an improved ventilated type of rubberized corset material affording greater comfort to the wearer and better appearance. Further objects will appear hereinafter.

The objects of this invention are accomplished by combining a knitted fabric, preferably a knitted cotton fabric which has been napped and felted and another knitted fabric, preferably of silk or rayon, by means of a layer of rubber, perforating the combined material, compressing it to embed the loose ends of fibers of the periphery of the perforations in the rubber, and vulcanizing.

The fabric which is worn next to the body may be of rayon, silk or the like, but preferably consists of a cotton knitted material of the stockinette type of construction, which, when put through a napping machine, is capable of being napped on one side. This nap is of the felted type which presents a "cushiony" and more attractive surface than does more loosely napped fabrics. The other or face fabric may be silk, rayon or cotton knitted so that the greatest stretch or elongation is in the course or width of the piece. In general, it is preferred to use silk or rayon in the face fabric in order that this may present a more pleasing appearance. Both the back and face fabrics are coated with a thin layer of rubber on a calender in the usual manner, the back fabric being coated on the unnapped or smooth side and combined in the usual manner. This method is preferred to the method wherein a sheet of uncured rubber is combined by means of pressure etc., with two sheets of knitted fabric. After combining, the material is perforated in a perforating machine, the holes being about 1/32nd of an inch in diameter and so arranged and spaced as to present a uniform and attractive appearance. The term perforated is intended to refer to cutting, punching, or any other device whereby the fibers of the fabric are normally severed or broken, and is not intended to refer to piercing the material with needles so that the fibers are thrust apart and no cut or severed ends are produced. After this operation the material is passed through a set of squeeze rolls to more thoroughly embed the fabrics and particularly the loose ends of fibers at the peripheries of the perforations, into the rubber. Following this operation the combined fabric is cured or vulcanized.

Example

A napped and felted pink stockinette weighing 2.60 yards—40" wide—to the pound is calender coated on the smooth or unnapped side with the following rubber compound to about .020 inch in thickness:

Pale crepe	73 lbs.	
Red pigment		7 ozs.
Zinc oxide	15 lbs.	
Lithopone	3 lbs.	
Tuads		3 ozs.
Sulfur	2 lbs.	4 ozs.
Albasan		8 ozs.

A piece of pink knitted silk weighing about 8 yards—40" wide—to the pound is coated in a similar manner. Both coated fabrics are now run through a combiner or squeeze rolls with the rubberized faces together, thus producing a layer of rubber between the two fabrics—the total thickness of which is about .040".

The combined material is now perforated by punching holes 1/32" in diameter, spaced 1/2" apart

in a row across the width of the material, each row being spaced ¼'' from the other. Alternate rows are staggered such that the holes are in a line half way between the holes in the row ahead and behind.

The perforated combined fabrics are again passed through the squeeze rolls or combiner so that the cut ends of the yarns around each hole are more thoroughly embedded in the uncured rubber. The material is then festooned in a dry heat curing chamber and vulcanized for 2½ hours at 250° F. After being cured it is trimmed and ready for manufacture into corsets, girdles, brassières, stockings, instep supports, ankle braces, etc.

Whereas the above is an exact description of a preferred method of this invention, it is obvious that any modifications may be made without departing from the spirit thereof. For example, the fabrics may be of any weight and color. The backing fabric may be napped in various weights from a light scratch nap to a heavy felt nap. In certain cases the fabric need not be napped although a napped fabric is greatly preferred because of the cushioning effect thereof. The rubber composition may be of any type generally used for combined fabrics and the thickness of coatings may be varied from .010'' to .080'' without affecting the utility of the material. The perforating may be so arranged as to form various designs and the size of the holes may range from a mere piercing with a needle to ¼ inch in diameter or there may be a combination of different sized holes. The compressing of the material is preferably done by means of squeeze rolls but may be done by other equivalent methods. The time and temperature of vulcanization may vary depending on the composition of the rubber coating.

The rubberized fabrics of the present invention may be used for corsets, girdles, reducing garments, instep braces, ankle braces, brassières, hygienic stockings, and the like.

The fabrics of the present invention have certain advantages over materials previously employed in that when the material is stretched the adhesion of the fabric being so much improved, the yarns show a greatly reduced tendency to pull loose around the perforations thus affording a smoother and more comfortable garment to the wearer and one more attractive exteriorly. The greater adherence of the fibers around the perforation also results in a more extended period of utility and a corresponding economy. Perforations made after vulcanization leave the cut ends of the yarns free which is the cause of runs or unravelling upon stretching of the material.

A further advantage of the preferred form of the invention is that the felted nap on the body side of the material acts as a comfortable cushion against the skin. This materially minimizes or eliminates the uncomfortable feeling due to roughness, should any of the yarns become loosened from the rubber after a period of use and start to unravel or run around the perforation. This even further materially increases the useful life of the garment. The felted nap being of an absorbent nature also tends to absorb perspiration and gives air a greater chance to circulate next to the body thus increasing the rate of evaporation.

As many apparent and widely different embodiments of this invention may be made without departing from the spirit thereof, it is to be understood that we do not limit ourselves to the foregoing examples or description except as indicated in the following claims.

We claim:

1. A process of preparing elastic rubber garment material comprising cutting a plurality of holes in a material comprising two layers of knitted fabrics joined by a layer of a rubber composition, compressing said material to embed the cut ends of the fibers adjacent the peripheries of said holes in the rubber and vulcanizing said material.

2. A process of preparing elastic rubber garment material comprising cutting a plurality of holes in a material comprising a napped knitted fabric joined on its smooth side to a smooth knitted fabric by means of a rubber composition, compressing said material to embed the cut ends of the fibers adjacents the peripheries of said holes in the rubber and vulcanizing.

3. A process of preparing elastic rubber garment material comprising cutting a plurality of holes in a material comprising a napped knitted cotton fabric joined on its smooth side to a smooth knitted fabric of the class consisting of silk and rayon by means of a rubber composition, compressing said material to embed the cut ends of the fibers adjacent the peripheries of said holes in the rubber and vulcanizing.

4. An elastic rubber garment material comprising a plurality of layers of knitted material joined by a layer of rubber composition, said garment material being perforated with a plurality of holes, the cut fibers adjacent the peripheries thereof being compressed into the rubber before vulcanizing.

5. An elastic rubber garment material comprising a napped knitted fabric joined on its smooth side to a smooth knitted fabric by means of a rubber composition, said garment material being perforated with a plurality of holes, the cut fibers adjacent the peripheries thereof being compressed into the rubber before vulcanization.

6. An elastic rubber garment material comprising a layer of napped knitted cotton fabric joined by means of a layer of rubber composition to a knitted material of the class consisting of silk and rayon, said garment material being perforated with a plurality of holes, the cut fibers adjacent the peripheries thereof being compressed into the rubber before vulcanizing.

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