

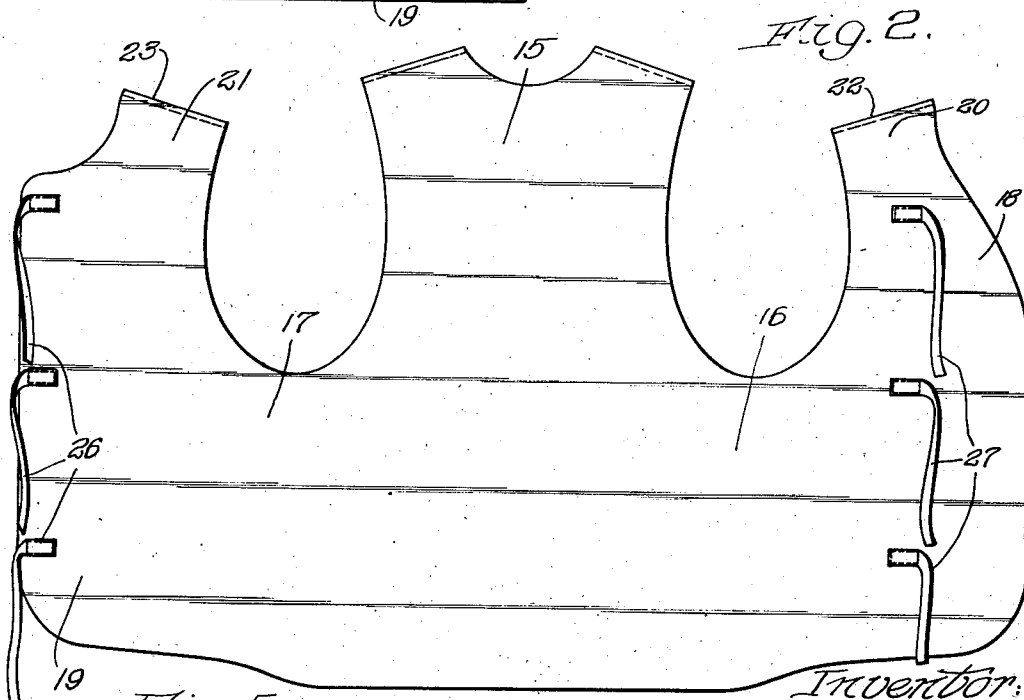
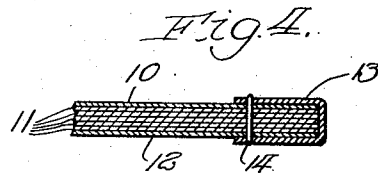
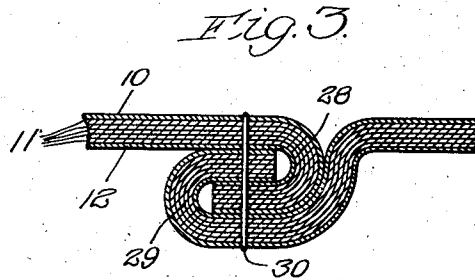
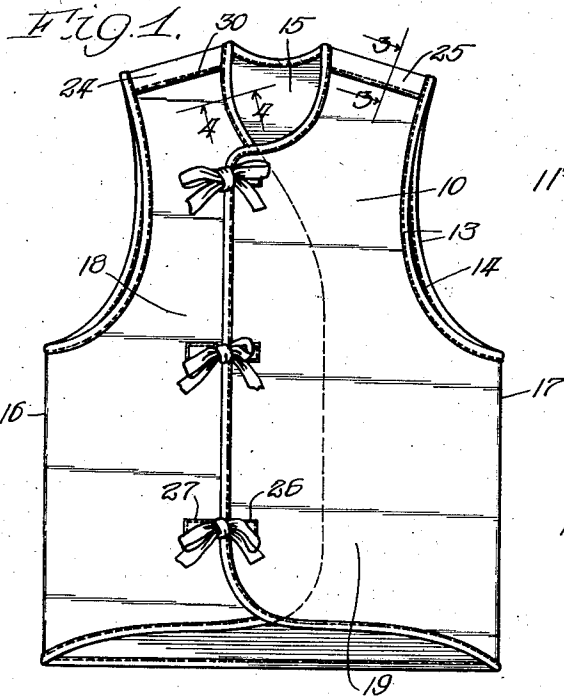
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F. D. TURNER

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PAPER GARMENT

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Inventor:
Frank D. Turner,
By *Christa Wiley Davis*,
Schroeder & Merriam, Attys.

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PAPER GARMENT

Frank D. Turner, Neenah, Wis., assignor of one-half to Howard D. Meincke, Chicago, Ill.

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3 Claims. (Cl. 154-44)

1

This invention relates to a paper garment and more particularly to a paper jacket of high insulating value which can be inexpensively constructed.

This application is a continuation-in-part of my co-pending application Serial No. 456,328, filed August 27, 1942.

In the past, while the cheapness of paper as a source for clothing has been appreciated, it has not been generally appreciated that paper may be utilized to form a garment of superior heat and cold insulating properties. The present garment not only is strong and has high thermal efficiency as an insulator, but may be inexpensively constructed and may be made more waterproof and windproof than the usual cloth garments. It may be made flame resistant.

In its preferred form the garment is a sleeveless jacket as illustrated in the drawing in which Fig. 1 is a view of the jacket, or vest, as viewed from the front; Fig. 2 is a view of the garment spread out before sewing of the shoulder seams; Fig. 3 is an enlarged, broken sectional view of the preferred form of shoulder seam taken along the line 3 in Fig. 1; Fig. 4 is an enlarged, broken sectional view of the edge of the garment taken along the line 4 of Fig. 1; and Fig. 5 is an enlarged sectional elevation of a sheet of expanded cellulosic material.

As shown in the drawing, the garment comprises a strong crepe paper surface layer 10, a plurality of sheets of expanded cellulosic material 11, and a backing of fabric 12. The cover layer 10, the lining 11, and the fabric 12, all consist of sheet material the area of each of which is coextensive and edges of which are enclosed in a tape 13, which is bound to the various layers by the stitching 14. This stitching extends through both layers of the tape 13 as well as through all of the layers of fabric, lining, and cover.

The sheet material is cut to form a back 15, sides 16 and 17, and front portions 18 and 19. The front portions are provided with integral extensions 20 and 21 which are shaped so that the edges 22 and 23 properly meet the back 15 to form the shoulders 24 and 25.

The front portions are preferably so shaped as to provide an overlap over a major portion of the chest. The two front portions are preferably secured to each other by a plurality of ties 26 and 27. The tie 27 is set well back from the edge on the left hand to the edge of the right hand portion of the jacket. The ties are preferably of a textile material and the ends thereof are sewn completely through the various layers of the

2

jacket. The shape of the jacket, and the arrangement of the ties, not only permits the desired overlapping but makes it possible greatly to reduce the number of sizes required since a given size may readily be adjusted to persons of considerably different girth.

Paper differs from cloth or fabric in that stitching considerably weakens it. The present garment reduces the stitching in the body portions of the garment to a minimum. The use of the ties permits considerable distribution of the pull of the ties upon the garment. All seams are eliminated except those at the shoulder. These seams may be formed in any desired manner but it is preferred to use the type of seam shown in Fig. 3 in which each edge of the cloth is folded back upon itself to form U-members 28 and 29 which are then fitted within each other and the stitching 30 applied through all four thicknesses of the garment.

The lining material may be any suitable cheap cellulosic product of unwoven structure. It is preferably a crepe material and the most satisfactory material is that known as crepe wadding. The number of sheets of the crepe wadding depends upon the use to which the product is to be put. It is preferred to use at least three sheets of the material and for most purposes between three and ten sheets is satisfactory. A garment having five sheets of crepe wadding lining was found to increase body temperature at zero degrees F, in a standard cold chamber, about 5° F. The crepe wadding may be impregnated with a water resistant material such as asphalt.

The crepe wadding preferred has a thickness in ten ply layers of approximately 0.22 inch, and weighs about 36 pounds per 1000 square feet. Its thermal conductivity is approximately 0.27 B. t. u. per hour per inch thickness per square foot of area per degree F. difference.

The backing of the garment is preferably a cheap fabric such as thin muslin. It protects the paper from frictional wear and greatly increases the life of the garment.

The cover or surface layer 10 is composed of multiple plies of crepe tissue which are bonded together by a flexible adhesive. These layers are superimposed with the grain running in the same direction in all layers and are then pressed together with a plastic binder, for example, glycerine or a derivative thereof, in such manner to form an integral sheet. The sheet so formed is soft and flexible. It has a considerable degree of stretch either in the direction of the orientation of the fibres or across it. It is quiet and

3

does not crackle or rustle on bending. It is highly wear resistant and scuff tests have shown greater resistance than such materials as leather. The sheet resembles chamois in appearance and to the touch, altho it is harsher to the touch.

This surface material may be designated as impregnated wadding. In the preferred case it has a weight of approximately 0.7 lb. per square yard. It has a tensile strength of 10 lbs. per inch in the machine direction, and 9 lbs. per inch in the cross direction. It has an elongation in the machine direction of 40-70% and in the cross direction of 30-60%. Its thickness is approximately 0.05 inch. It has a rub resistance such that the material will withstand 16,000 double rubs against itself with a 6-inch stroke under a 3.5 lbs. per square inch pressure. At the end of this number of strokes the surface is slightly polished but otherwise unaltered.

While the garment has been illustrated as a vest, the combination may be employed for other garments, such as helmets, blankets, or the like.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom.

4

What I claim as new, and desire to secure by Letters Patent is:

1. A pliable fabric from which to manufacture a garment, such as a jacket and the like comprising a plurality of sheets of expanded cellulosic unwoven lining material with adjacent sheets in contact with each other over their entire area, a fabric backing and a surface sheet of soft multiply crepe paper having the fibres oriented alike in the several plies and bonded together by a plastic binder, said sheet being soft, pliable and being stretchable in two directions.

2. A fabric as set forth in claim 1, in which the lining material and the backing are co-extensive with the surface layer and the edges of the surface layer and backing are enclosed by a fabric binding held in position by stitching through the layers of lining material, backing and surface material and the binding.

3. A fabric as set forth in claim 1, in which said paper has an elongation in one direction of approximately 30-60% and in the other of approximately 40-70%.

FRANK D. TURNER.