

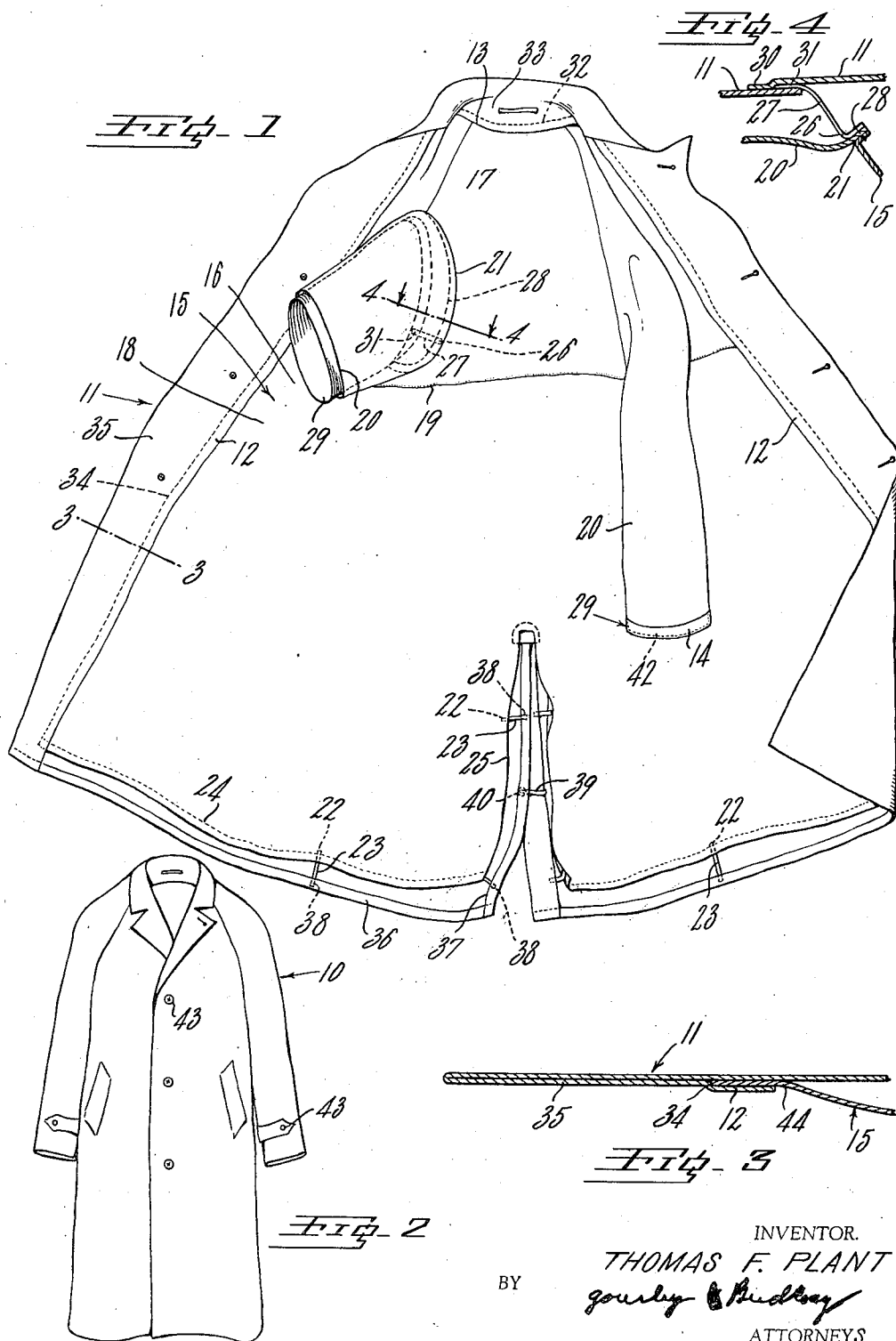
May 11, 1943.

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2,319,085

RAINCOAT

Filed Jan. 24, 1940



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RAINCOAT

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Application January 24, 1940, Serial No. 315,363

3 Claims. (Cl. 2-87)

This invention relates to a loose full lined raincoat and the method of making same in which the parts of the fabric forming the outer shell are secured together with rubber bonded seams and the loose lining, consisting of a body portion and sleeves, are first sewed together in the usual manner and then secured in the shell with rubber bonded seams.

It has been the practice heretofore to secure full loose linings in raincoats with sewed seams, wherein the term "full loose linings" as used herein refers to a lining consisting of a body portion and sleeves, which are so attached to the shell that the lining and shell may move in respect to each other at points intermediate the places of attachment. Such term further includes a body portion which extends at least across and below the shoulders, and having sleeve linings attached thereto. It is not practical to stitch the linings in raincoats without extending the stitches through the lining and shell so that the stitches are exposed on the outside of the shell and inside of the lining. Such sewed construction has certain disadvantages because the stitches when wet on the outside may produce a wicking action which may cause the water to come through from the outside to the inside. Furthermore, when the lining is sewed into raincoats having shells made of rubber coated fabrics, the needle punctures the rubber coating and permits the water to seep through the holes.

In raincoats embodying the present invention the foregoing disadvantages are eliminated by an improved construction and method, wherein the edges of the body portion of the lining, the outer ends of the sleeves and the other portions of the lining, if desired, are attached to the outer shell with a rubber bond as herein-after described and shown in the accompanying drawing, in which:

Fig. 1 is an inside view of the raincoat embodying this invention, showing the sleeves turned inside out and one of the sleeves partially cut away;

Fig. 2 is a front full view of the raincoat; and Figs. 3 and 4 are fragmentary sectional views on lines 3-3 and 4-4 respectively of Fig. 1.

Referring to the drawing, a raincoat 10 embodying this invention is shown in Fig. 2. The outer shell 11 (Fig. 1) is preferably made from a fabric having an uncured rubber coating. The parts of the shell are assembled separately from the lining and are secured together with a vulcanizable rubber adhesive in the usual manner, excepting certain seams, into which portions of

the edges of the lining are subsequently inserted and bonded, are not cemented down. Such uncemented seams are the front facing seam 12, the collar leaf seam 13, and the sleeve hems 14.

The lining 15 may be made in the usual manner. As shown herein the lining 15 has a body portion 16 consisting of an upper part 17 and a lower part 18 which are sewed together along a seam 19. The sleeves 20 are sewed to the arm holes in the upper part 17 along the seam 21. One end 22 of each of the several short lengths of lining securing tape 23 is sewed to the bottom hem 24 and tail slit 25 of the lining. For the purpose of attaching the sleeve lining to the shell 11, one end 26 of each of several short lengths of lining securing tape 27 is sewed to the upturned edges 28 of the lower side of the arm hole lining seam 21, as shown in Fig. 4.

In order to insert the lining 15 in the shell 11, the shell is spread out with its inside facing upwardly as shown in Fig. 1, excepting the sleeves are turned right side out. The sleeves 20 of the lining 15 are then inserted within the sleeves 29 of the shell 11. The vulcanizable rubber adhesive used in cementing the parts of the outer shell together permits the cemented seams to be opened up within a short time after it is applied and before it has been vulcanized. This permits the lower part of the armhole seam 30 in the shell to be opened up, which is done, and the ends 31 of the armhole lining tapes 27 are inserted in the opened up seam and secured therein with the vulcanizable rubber adhesive, as shown in Fig. 4. The body portion 16 of the lining 15 is then matched with the outer shell so that the upper edge 32 of the lining 15 extends underneath the inturned portion of the collar leaf 33, and the front edges 34 of the lining 15 extends underneath the front facings 35 of the shell 11. The bottom hem 36 and tail slit hem 37 of the shell 11 are then opened up opposite the tapes 23 and their ends 38 are inserted within the hems and secured therein with vulcanizable rubber cement. A loop 39 is made of a short length of doubled tape and the cut ends of the tape are secured in one of the tail slit hems in a similar manner as the tapes 23, so that the looped end of the tape may be hooked over a button 40 to hold the tail slit together. The inturned margins of the collar leaf 32 and the front facings 35 are then cemented to the upper edge 32 and the front edges 34 of the lining along the seams 13 and 12, respectively, with the vulcanizable rubber cement. The lower edge 42 of the sleeve lining 20

is inserted within the hem 14 of the sleeve 29 of the outer shell 11 and is cemented thereto.

Both sides of the margins of the lining 15 along the top and front edges 32 and 34, respectively, and the lower edges 42 of the sleeve linings may be cemented to the fabric of the shell 11 and the overlapping portions of the shell fabric forming the hems along these edges may be cemented together. Where the layers of shell fabric are doubled and the adjacent surfaces are bonded together, the doubled part is rendered less flexible. For the purpose of reducing the stiffness in these doubled parts, the union of their surfaces, excepting to one side of the lining only, may be prevented by applying an adhesion preventing substance, such as talc or a liner to the doubled surfaces not desired to be united. Such substances may be removed after the coat is vulcanized. It is particularly desirable not to bond together the fabric of the shell in the facings 35, so that this part of the coat will be flexible. In which case, referring to Fig. 3, the outside surface 44 only of the lining 15 is adhered to the facing 35 of the shell 15 and the remaining portion of the surfaces of the doubled shell fabric in the facing 35 are treated with an adhesion preventing substance and are not bonded together.

The raincoat assembled in either way is placed on a form in the usual manner and all of the rubber portions of the coat, including the unvulcanized rubber coating on the fabric and the rubber cemented seams are then vulcanized in the usual vulcanizer. After the raincoat has been vulcanized, the front and sleeve buttons 43 may be applied.

While this invention has been described in detail it will be understood that changes may be made in the construction and method of making same as disclosed herein, and it is desired to protect the invention as broadly as permitted by the prior art and as covered by the scope of the appended claims.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

1. A raincoat comprising an outer shell made of rubber coated water-proof fabric having all outside seams united entirely with a rubber bond, a full loose lining of textile fabric secured in said shell, said lining having a body portion and sleeves, said body portion having its front and top margins secured only with a rubber bond

to the inside face of the margins of the turned in front facing of said shell and to the inside face of the turned in collar leaf of said shell, respectively, said sleeve linings having their inner ends secured to the outer shell by short lengths of tape secured at one of their ends to said inner ends of said sleeve linings and adhered at the other of their ends to said outer shell, and said sleeve linings having the margins of their outer ends secured only with a rubber bond to the turned in hem of said shell fabric.

2. A raincoat comprising an outer shell made of rubber coated water-proof fabric having all seams united entirely with a rubber bond, a full loose lining of textile fabric secured in said shell, said lining having a body portion and sleeves, said body portion having its front and top margins secured only with a rubber bond to the inside face of the margins of the turned in front facing of said shell and to the inside face of the turned in collar leaf of said shell, respectively, said sleeve linings having the margins of their outer ends secured only with a rubber bond to the inside face of the turned in hem of the sleeve of said shell fabric, and the bottom edge of the body portion of said lining and the inner ends of said sleeve linings being secured by short lengths of tape to said shell, said tapes having one end stitched to said lining and the other end bonded with rubber to the inside of said shell.

3. The method of making a raincoat having all seams vulcanized together and a full lining adhered therein, said method comprising the steps of cementing the unvulcanized rubber coated parts of the outer shell together, making a separate lining including a body portion and sleeves, inserting the lining in the shell, so that the top edge of the lining is placed between the bottom margin of the inturned collar leaf and the outer fabric of the shell, and the front margins of the body portion of the lining are placed between the inturned front facings of the outer shell and the outer layer of the shell fabric, and the lower ends of the lining sleeves are placed within the inturned sleeve hem of the outer shell, cementing the overlapping portions of the lining and the shell together, and then vulcanizing the assembled raincoat so as to vulcanize the rubber coated parts and the seam joints.

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