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Colehower

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[54] **WORK GLOVES**

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[52] **U.S. Cl.** ..... **2/161 R**
[51] **Int. Cl.** **A41d 19/00**
[58] **Field of Search** 2/158, 159, 161, 2/164, 165, 166, 167

[56] **References Cited**

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[57] **ABSTRACT**

A pair of work gloves in which each glove of the pair is reversible so as to permit its being worn on either the right hand or the left hand. The glove is fabricated from a pair of blanks sewn together along their periphery to form the glove. The glove blanks are fabricated from a knitted terry cloth fabric and are assembled so that when the glove is everted to place the seams on the inside, the smooth surfaces of the base fabric are on the interior of the glove and the terry pile surfaces are on the exterior of the glove. A knitted cuff is joined to the blanks around the wrist opening and a reinforcing path is cemented to the pile surface of the completed glove in the crotch between the thumb stall and the index finger stall of the glove. The reinforcing patch is likewise knitted terry cloth with the smooth surface inwardly and the pile surface outwardly. The patch is generally oval and is cut from the knitted material so that the minor axis of the oval is substantially parallel to the machine direction of the knitted fabric and in a similar manner the blanks making the body of the glove are cut so that the finger stalls are substantially parallel to the machine direction of the fabric so that when the components are assembled the body blanks and the reinforcing patch are assembled with their wales parallel to one another.

3 Claims, 5 Drawing Figures

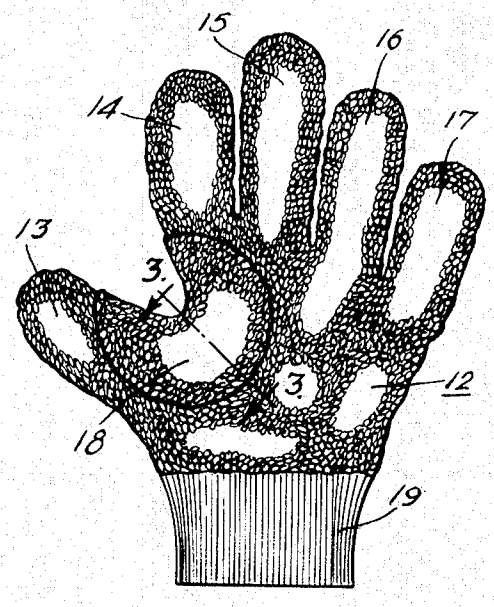


FIG. 1.

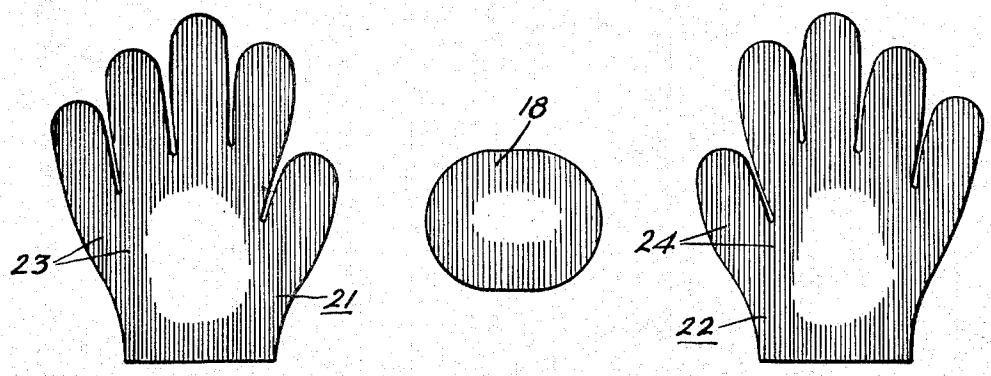


FIG. 2.

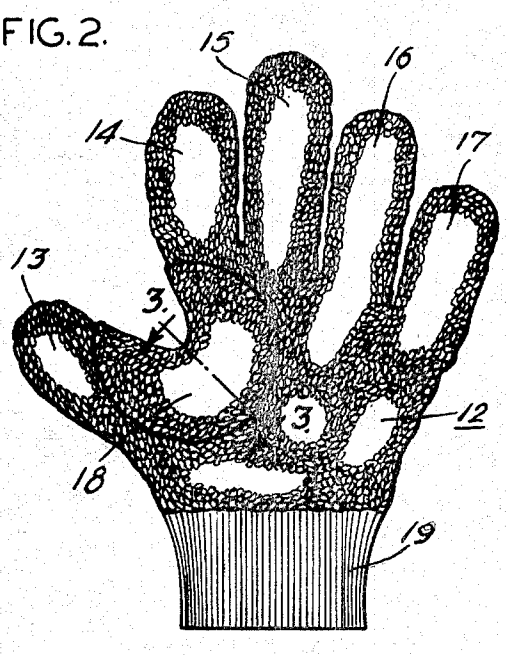


FIG. 3.

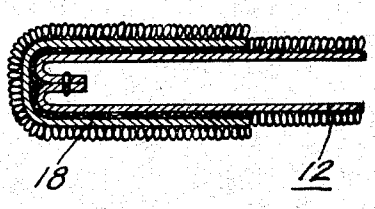


FIG. 5.

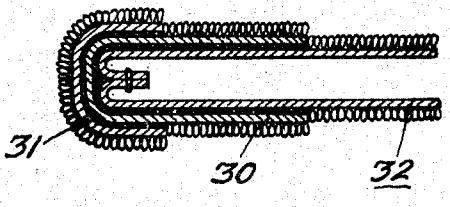
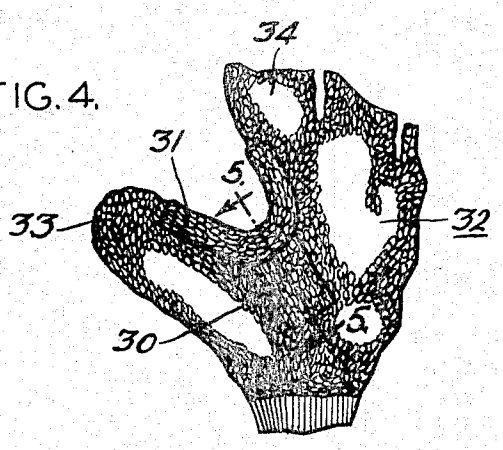


FIG. 4.



WORK GLOVES

BACKGROUND

The present invention relates to work gloves and has particular application of work gloves of terry cloth fabric.

Work gloves are of various character, are used for hard and rough work to protect the hands of the worker. The material used in the fabrication of the glove is determined primarily by the character of the materials being handled. Terry cloth gloves are used widely in machine shop operations where metals are machined with the use of cutting oils and the like. The terry cloth is of particular value in maintaining its gripping properties, even when thoroughly wet with cutting oils and the like. Furthermore, when subjected to varying degrees of heat, the terry cloth does not lose its flexibility and conformability and provides a degree of thermal insulation. Terry cloth is launderable, either by water washing or by dry cleaning, but laundering is frequently avoided by simply discarding the glove when it has seen sufficient use.

The present invention is directed toward providing a reinforced work glove made of terry cloth which preserves the desirable characteristics of the terry cloth glove and furthermore reinforces the glove in the area of hardest wear so as to prolong the useful life of the glove so as to render it economically feasible to launder the glove repeatedly.

The reinforcement of work gloves in the crotch between the thumb stall and the index finger stall is a common practice in leather and smooth-fabric gloves. Conventionally, such reinforcement is accomplished by stitching a patch of reinforcing material to the glove in the crotch area. Such a procedure is satisfactory for leather and smooth fabric gloves which are sufficiently strong to hold the stitches and in which the presence of stitches does not cause substantial discomfort. Such materials are dimensionally stable, and do not stretch appreciably when stressed. Accordingly, the stitching of a reinforcement attached to the material does not apply stresses to the stitching which tend to destroy the attachment. Knitted terry cloth, on the other hand, is characterized by a flexibility and stretchability which enhances the conformability of the glove to the hand and it is desirable to avoid limiting such stretchability. Because of these characterisics, it is necessary to employ heavy stitching to sustain the stresses which are applied to the stitching by the stretching of the fabric and attempts to stitch reinforcing patches to the terry cloth glove in the thumb crotch have not been successful.

Reinforcing patches have been adhesively bonded to work gloves, but the use of adhesive bonds has been considered undesirable where flexibility and conformability of the glove is of paramount importance since the standard adhesive techniques inherently provide substantially reduced flexibility.

With the foregoing in mind, the present invention provides a pair of work gloves made of knitted terry cloth which has a reinforcing patch secured thereto in a manner to avoid stitching and to avoid substantial impairment of the flexibility and stretchability of the fabric which contributes to the conformability of the glove to the hand.

More particularly, the present invention provides a reversible terry cloth glove having a reinforcing patch composed of the same material as the glove fabric and in which the reinforcing patch is adhesively secured to the exposed surface of the glove in a manner to minimize impairment of the conformability of the glove to the hand.

The invention is particularly characterized by the use of an adhesive upon the under surface of the patch which covers the entire area of the patch with a layer in an amount which serves to bond the base fabric of the patch to the extending pile surface of the work glove without substantial penetration into the base fabric of the work glove whereby the pile elements on the terry surface of the glove provide flexible connectors uniting the reinforcing patch to the work glove throughout the entire area of the patch.

In the preferred embodiment of the invention, the conformability of the patch to the body of the work glove is enhanced by the arrangement of the knitted wales in the patch to be substantially parallel to the knitted wales of the glove fabric.

All of the objects of the invention are more fully set forth hereinafter with reference to the accompanying drawing.

DETAILED DESCRIPTION

FIG. 1 is a view of the under surfaces of the terry cloth blanks used in fabricating the glove showing the wale lines of the terry cloth fabric elements;

FIG. 2 is a face view of the completed glove made from the blanks shown in FIG. 1;

FIG. 3 is an enlarged sectional view taken on the line 3,3 of FIG. 2;

FIG. 4 is a fragmentary view similar to FIG. 2 illustrating an alternative embodiment; and

FIG. 5 is a sectional view taken on line 5,5 of FIG. 4.

In the drawings, there is illustrated a single glove, but it should be understood that the glove is normally used with an identical glove to form a pair of gloves, each glove of the pair being interchangeable with the other so that it may be worn on either the right hand or the left hand or alternately on the right and left hands. As shown in FIG. 2, the completed glove comprises a body portion 12 having a thumb stall 13 and finger stalls 14, 15, 16 and 17. In the crotch between the thumb stall 13 and the index finger stall 14, the body portion 12 is reinforced with a reinforcing patch 18 and a wrist cuff is provided at 19.

In the present instance the glove body 12 is fabricated from a pair of blanks 21 and 22 which are identical in outline but are complementary. The blanks are stamped or cut from a length of knitted terry cloth, the smooth side being shown in FIG. 1 and the pile side being shown in FIG. 2. The smooth side of the terry cloth fabric is characterized by wale lines shown at 23 and 24 respectively in the blanks 21 and 22 and it is noted that the finger portions are united about their peripheries with the corresponding complementary finger portions and extend substantially parallel to the wale lines in each instance so that when the blanks are disposed in confronting relation, the wales of the two blanks are parallel to one another. When fabricated, the blanks are disposed with the pile surfaces confronting each other and a line of stitching is applied around the periphery of the two blanks including the finger portions, but excluding the wrist area. The cuff 19 is then attached to the open wrist portion and the assembled blanks are then everted so as to dispose the terry

pile on the exterior surface of the glove with the smooth surface on the interior surface. Since the outlines of the blanks **21** and **22** are identical, the glove is reversible and may be applied to either the right or the left hand, as desired.

In accordance with the invention, the reinforcing patch **8** is secured to the work glove in the crotch between the thumb stall **13** and the index finger stall **14** in a manner to provide attachment throughout the entire area of the patch but without impairing the flexibility and conformability of the work glove. To this end, the work glove reinforcing patch is of knitted terry cloth construction substantially identical to the construction of the glove blanks **21** and **22.** As shown in FIG. **1,** the patch **18** is generally elliptical or oval in form having a major axis extending coursewise of the knitted fabric and a minor axis extending parallel to the wales of the fabric, the wales being shown at **28** in FIG. **1.** In applying the patch to the glove, the orientation of the patch is such that the wales of the patch extend substantially parallel to the wales of the blanks **21** and **22** forming the body of the glove **12.** Thus in the absence of other constraints, the patch **18** exhibits a conformability and flexibility substantially similar to the conformability and flexibility of the work glove fabric itself.

In accordance with the invention, the attachment of the patch to the glove is accomplished without the substantial impairment of flexibility, avoiding the stiffness which is normally considered inherent in the use of an adhesive bond between two flexible elements. In any laminated structure, the lamination reduces the flexibility of the laminated structure in the absence of special procedures to impart flexibility. It has been found that the flexibility of the work gloves in the crotch area may be preserved by controlling the thickness of the layer of adhesive and confining the application of the adhesive to the under surface of the reinforcing patch, i.e., the smooth surface. With the adhesive applied only to the smooth surface of the reinforcing patch, and by controlling the thickness of the adhesive applied, the adhesive does not penetrate into the body of the fabric of the work glove body blanks **21** and **22,** but rather is adhered only to the pile elements on the pile surface of the blanks. Thus the present invention utilizes the pile elements projecting from the base fabric of the blanks **21** and **22** as flexible connectors which are adhered to the under surface of the patch **18** and provide attachment of the patch throughout its entire area to the work glove but do not substantially impair the flexibility and conformability of the work glove in the crotch area.

In FIGS. **4** and **5,** an alternate form of reinforcement is illustrated. In this embodiment, the oval reinforcing patch **18** is omitted and a pair of reinforcing strips **30** and **31** are applied to the glove body **32** in the crotch between the thumb stall **33** and and index finger stall **34.** In the present instance, the under strip **30** is wrapped through the crotch to extend longitudinally from the front face to the rear face of the glove. The outer strip **31,** on the other hand, is disposed substantially perpendicular to the under strip **30** and extends between the confronting edges of the thumb stall **33** and index finger **34.** While this method of reinforcing is shown applied to a glove fabricated from blanks identical to those shown in the embodiment of FIGS. **1** to **3** inclusive, it is equally applicable to blanks formed of the Gunn type. In such gloves, the reinforcing strips when oriented as shown in FIG. **4** extend substantially along lines of stitching in the glove body and serve to reinforce and protect the stitched lines.

The patching strips **31** and **30** are applied in the same manner as the reinforcing patch **18,** specifically relying on adhesion between the under surface of the strip and the pile elements of the underlying fabric so as to provide securement of the patch to the under surface throughout the entire area of the patch without substantially impairing the flexibility and conformability of the underlying fabric.

Various adhesives may be employed to perform the function of adhering the patch to the body of the work glove effectively, so long as the adhesive in the quantity used does not set into a rigid inflexible structure. Preferably a resilient flexible adhesive is employed and the adhesive should have sufficient holding power so that the thickness of the coating is sufficiently small to avoid altering the stretch and conformability of the terry cloth fabric upon which it is coated. The adhesive must be of a character which is not adversely affected by the liquids to which the gloves are subjected, including in the present case cutting oils, water and dry cleaning fluid.

In use, it has been found that the reinforcement of the terry cloth gloves in this fashion substantially increases the useful life of the glove permitting repeated usages and repeated laundering. The reversible character of the glove permits alternation between the right and left hand to equalize wear.

While particular embodiments of the present invention have been herein illustrated and described, it is not intended to limit the invention to such disclosures but changes and modifications may be made therein and thereto within the scope of the following claims.

I claim:

1. In a work glove which is identical when viewed from the front and from the back, so as to be worn on either the right hand or the left hand, the body of said glove comprising a knitted terry cloth fabric having a base structure smooth on one side and a pile surface on the other side, the smooth side being disposed interiorly of the glove and the pile surface being disposed on the exterior of the glove, the glove including a thumb stall and a plurality of finger stalls including an index finger stall adjoining the thumb stall to provide a crotch therebetween; the improvement comprising reinforcement including at least one patch of knitted terry cloth material secured to each glove in said crotch, said patch being mounted by means of an adhesive layer on the under surface of the patch throughout its entire area and of a thickness to thoroughly bond to the pile elements on the pile surface of the glove in the crotch without penetrating into the base fabric structure underlying the pile surface, whereby the pile elements of the glove in the crotch area serve as flexible connectors securing the reinforcement to the glove body throughout the entire area of the reinforcement.

2. A glove according to claim **1** wherein the reinforcement patch is composed of a knitted terry cloth material having a knitted construction similar to the knitted terry cloth material of the body of the work glove, and wherein further the patch is generally oval in outline and the wale lines thereof extend parallel to the minor axis of the ellipse forming the oval outline.

3. In a work glove according to Claim **1** in which the glove includes identical palm and back portions wherein said patch extends equally to overlie the palm and back portions in line with the index finger stall at the base thereof and equally overlies the front and the back of the thumb stall when said glove is flattened.

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