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EMERGENCY CUTTING MEANS FOR WEARING APPAREL

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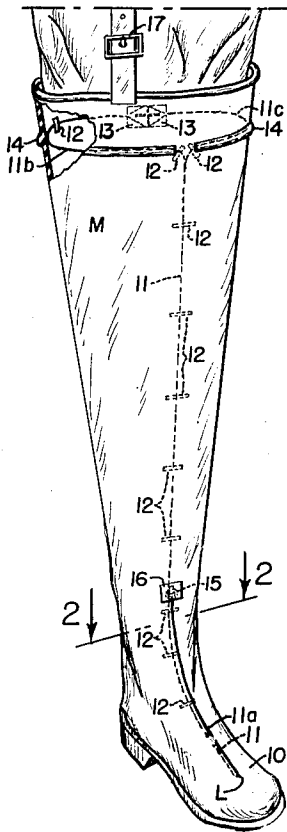


Fig. 1

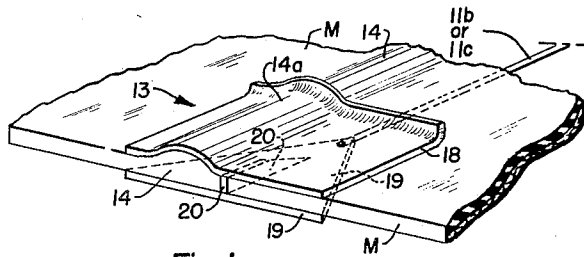


Fig. 1a

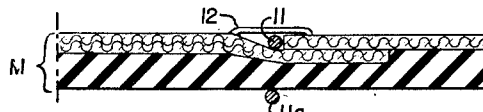


Fig. 2

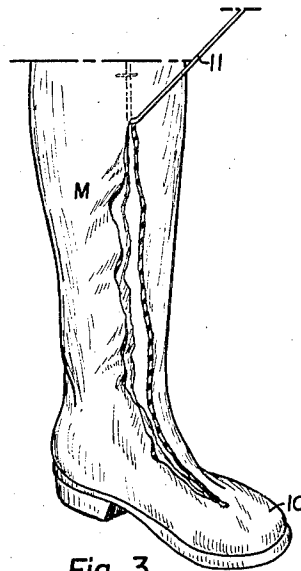


Fig. 3

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EMERGENCY CUTTING MEANS FOR WEARING APPAREL

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2 Claims. (Cl. 36-4)

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This invention relates to plably constructed tearable articles of wearing apparel and clothing, such as boots, coats, trousers, capes, waders, and aviators', hunters' and fishermen's items of clothing, whether made of finely knit natural or artificial fabrics, as well as of watertight rubber or plastics construction, and especially for adapting such articles of clothing to being quickly removable. In the many uses of such articles, there are times when it becomes necessary to be able to quickly remove same, so as to have a chance to preserve life, such as when a duck hunter with his heavy boots finds himself suddenly in a sinking or swamped boat, or a fisherman with his hip boots or waist high waders finds himself in water too deep for them, necessitating a quick removal of the article in order to prevent drowning, as once such an article becomes full of water the wearer is pulled below the surface by the weight and suction of the water in the article and swimming with them on is prohibited thereby.

It is a principal object of this invention to provide an operable cutting means, normally associated with the clothing article material in the manufacture thereof, such as by laminating, as a part of that material, which means is adapted to completely and irreplaceably bisect said material upon operation thereof upon any emergency arising.

Another object of this invention is to provide such a cutting means in the form of an elongated cutting element, such as a fine flexible wire or cord, using the loop thereof as the cutting point.

Another object of this invention is the provision of a novel operable cutting head member cutting means, adapted to be operated upon an emergency arising, and formed as a normal part of the article of clothing in the manufacture thereof, for irreplaceably completely bisecting the material upon operation, comprising a knife laminatedly formed transversely of the material and operably held by a pair of slidable guide plates positioned on each side of the material and secured to and carrying the knife in operative relationship to the material.

These and other objects will appear from the following description and from the accompanying drawings, wherein like characters of reference have been used to represent like parts, and of which:

Fig. 1 is a perspective view of a fisherman's hip boot embodying one modification of my invention, having a flexible wire loop cutting means at one end thereof, and a cutter head-guide rib

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arrangement at its other or top end thereof, before start of cutting operation;

Fig. 1a is an enlarged fragmentary perspective view of my cutter head used in Figure 1;

Fig. 2 is a cross-sectional view taken along the line 2-2 of Fig. 1;

Fig. 3 is a partial elevational view of the wire loop cutting operation of the boot of Fig. 1, after the start of such loop cutting operation.

For convenience of reference, I summarize my drawings and invention as follows:

Figures 1, 1a, 2 and 3 show my invention, wherein a hip boot has a single wire loop cutting means at one end of the wire, and the other end of the wire being formed into two segments, with each segmental end movable, and at the end of each segment there is attached a cutter head which cooperates with a guide rib on the surface of the boot.

Referring to the drawings, in Fig. 1, a wire 11, having about the top twelve inches split into two pieces, is placed inside the top of a hip boot 10, with the end of each segment or piece, 11b and 11c, placed transversely around the inside boot top. The wire 11 is then placed down the inside front of the boot clear down to a point adjacent below the instep, near the top toe portion of the boot, and then through the boot at the lowermost point L, and then partially up the front outside of the boot to adjacent below the knee portion. Breakable rubber band straps 12 are secured at intervals to assure that the positioning of the wire is not disturbed upon insertion and withdrawal of the foot and leg during normal use of the boot. The point L, where the wire extends from under to outside the boot toe portion, is tearably sealed after the wire is inserted therethrough, so as to be watertight. The outside portion of the lower wire loop is designated as portion 11a, and its upper end has a finger ring 15 secured thereto. Ring 15 is normally held accessibly under a partially sealed protector flap 16, as illustrated. Flap 16 is glued to the outside of the boot at its top and two sides, leaving its lower edge free for quick finger insertion therebelow for ripping the patch off and simultaneously grasping the ring 15 whenever desired. Each top segment 11b and 11c, of wire 11, has its end secured to a cutter head 13. Referring to Fig. 1a, the cutter head 13 comprises a pair of spaced apart parallel guide plates 18 and 19, designed to slidably ride against each side of the material M of the garment. 18 is the outside plate, and 19 the inside one. 18 has its front edge flared outwardly slightly to insure

that it will smoothly glide on the material when operated. Plate 19 has its front edge tapered to a point for reason to be explained. A cutting knife 20, formed with a receding front edge cutter in this modification, is a single blade, and is suitably secured transversely or perpendicular to the plates 18—19, as by welding thereto, and the knife 20 acts to hold the plates spacedly apart, as illustrated. The front receding cutting edge of knife 20 is formed suitably sharpened to act as the cutting edge as the front of the cutter is pulled against the material M. There are two of these cutter heads 13, one secured to the extreme end of segment 11b and the other to the extreme end of wire segment 11c, with back edges of each cutter head 13 resting against each other originally in the formation of the boot. A guide rib 14 is formed to extend beyond the surface of the boot adjacent the top of the boot and transversely around the top, as illustrated, and having a gap in its continuity at its front portion, for reason to be explained. Each cutter head 13 outside guide plate 18 is formed with an outwardly extending channel 14a adapted to slidably encase the boot rib 14, for the obvious reason of guiding the cutter head, during cutting operation from the rear to the front of the boot in a transverse or horizontal plane, thus assuring that each cutter head 13 will meet at a common front point of the boot adjacent the gap in the rib 14. That gap is provided so that when the pointed plates 19, of each cutter head 13, abut against each other adjacent that gap, when the wire 11 is operated, as will be hereinafter explained, said plates 19 may be pulled through or cut the boot from the inside to the outside at that point of gap in the rib. Each cutter head 13 has its wire 11b or 11c, as the case may be, secured, as illustrated, in front of the point of the knife 20 and to the pointed guide plate 19, since the wire is on the inside of the boot. As a result of the receding angle of the cutting edge of the knife 20 of each cutter head 13, during operation of the cutter head, the cutting of the material by 20 will cause a small amount of frictional pressure against that receding edge, which in turn will cause the outer guide plate 18 to keep its channel 14a in meshed relationship along the rib 14, thus assuring efficient cutting of the top of the boot from the back around each side to the front upon the wearer pulling wire 11 forwardly of the front gap in the rib, as will be further explained:

The operation of the cutting means illustrated in Figures 1, 1a, 2 and 3 is accomplished by the wearer inserting his bent fingers under the lower edge of flap 16 until one of them grasps and engages the ring 15, and then he pulls that ring upwardly. That action tears flap 16 and causes the lower loop end of the wire 11 to cut the entire boot material M, starting at point L, as the ring and its wire are pulled upwardly, said loop end being raised thereby. That movement and cutting by the wire 11 continue until the loop has bisected the boot in a line upwardly to a point approaching the gap area between adjoining portions of the rib 14, when continued upward and forward movement of the wire 11 is then made by the wearer for causing the wire segments 11b and 11c to pull the cutter head of each horizontally around the top of the boot, with channel 14a of each cutter head then guiding each cutter head 13 on its rib 14. Upon completion of the pull of the front wire 11, and thereby its segments 11b and 11c, the pair of cutter

heads, 13, converge together at the front of the boot adjacent the gap area in the rib 14, and then the wearer exerts continued pulling on the wire 11 which in turn will then cause said heads 13 to be pulled through the boot wall at a common point from the inside outwardly, being at the point of said gap area, as a result of said points of the knives 20 abuttingly striking each other on the inside of the wall. Thereupon the boot will have been completely bisected from the front toe portion upwardly to the area of the gap in rib 14, and completely around the top adjacent the rib 14, the latter cut meeting the first one, thus permitting the wearer to kick off the boot in the water without first taking time to unbuckle the belt strap 17. It is to be noted that the emergency cutting, upon operation of my cutting means, is accomplished by both operable loose ends of the wire 11, namely, by the lower loop end, and also by the movable cutter head other ends. A tearable patch covers the area over plates 18, if desired, when manufactured.

It is to be understood that my novel cutting means, here shown and described, may be used in other and sundry uses, and that many changes, combinations and modifications may be made in the light of the teaching herein disclosed. I therefore wish to be bound only within the scope of the hereunto appended claims.

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

1. In combination, a rubber boot having a toe portion and a circumferentially continuous pliable wall portion, a flexible wire having one end thereof secured adjacent the top of the boot and extending downwardly within the inside of the boot to a hole adjacent the upper toe portion and then extending through said hole and partially back up the outside of the front of the boot in the form of a loop, a finger ring secured to the other end of the wire, a tearable patch secured over said ring to accessably hold said ring secured to the front of the outside of the boot, tearable band means extending over said wire periodically throughout its length for normally holding the wire in place, tearable cement means for normally sealing said hole, whereby upon continuous manual vertical pulling of the finger ring with relation to the boot said wire loop is adapted to completely bisect the boot from the toe portion upwardly, the top end of the wire being secured to a pair of movable wires, one of said movable pair of wires being placed horizontally around one side of the inside top portion of the boot and the other of said movable pair of wires being similarly placed around the other side of the inside of the top portion of the boot, tearable band means periodically extending over each of said movable pair of wires throughout its horizontal position for normally holding same in place, and a pair of operable cutter-head means laminatedly formed in abutting relationship with relation to the wall portion and secured one to each extreme end of each of said pair of movable wires adjacent the top rear of the boot and adapted upon being pulled horizontally to bisect the boot material in its path.

2. In an article of wearing apparel constructed of tearable material, in combination therewith, a manually operable knife-cutter head means pre-formed as a normal part of said material and adapted upon manual operation thereof along the material to bisect the material throughout operational travel thereof, and a flex-

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ible wire means associated with the cutter head means and the material, with one end of the wire means positioned on the inside of the material and secured to the cutter head means and the other end of the wire means in looping arrangement with relation to and through the material to the outside of the material, said other end of the wire means being adapted to be manually pulled for effecting both wire looping and movement of said wire means from the inside to the outside of the material for effecting an emergency cutting of the material by both the said cutter head means and the said looping arrangement of the other end of the wire means.

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