

E. H. COOPER.

COLLAR.

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990,957.

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Fig. 1.

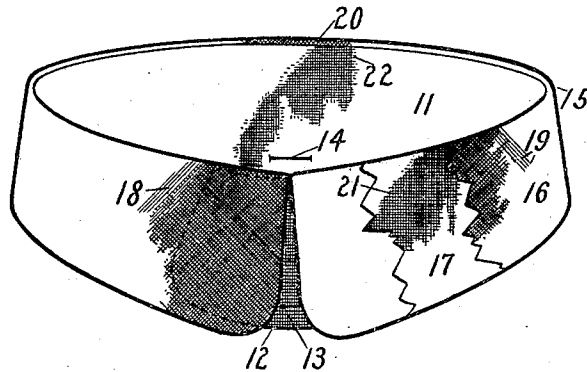
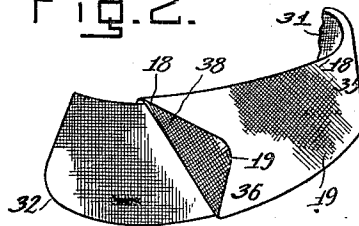


Fig. 2.



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To all whom it may concern:

Be it known that I, ELLA H. COOPER, a citizen of the United States, residing at No. 105 Second street, in the city of Troy, Rensselaer county, New York, have invented certain new and useful Improvements in Collars, of which the following is a specification.

My invention relates to collars for shirts and the like. It is intended to provide simple and economical means by which their resistance to wear and tear, and their consequent durability, may be greatly increased. It is understood that these collars are made of a plurality of plies of textile material, as linen or cotton; and that it is the outer ply, and particularly the edge thereof, which receives the wear when the collar is in use, and which takes both the wear and the strain during the operations of laundering. It is plain, therefore, that if these edges can be strengthened as against fraying and tearing, the life of the collar will be correspondingly prolonged.

Figure 1 of the drawings represents in perspective a collar embodying my invention; Fig. 2 is a partial elevation of one end of a collar, showing a modification.

In Fig. 1, which represents in perspective a collar of fold or "turn-down" pattern, 11 designates the band; 12, one of the tabs; 13, a front and 14, a rear button-hole; and 15, the top or outer part, of which 16 is the outer or visible ply and 17, shown where the outer ply is broken away at the right of the drawing, an interlining.

The novel and distinguishing feature of the collar is the outer ply 16 of the top, which is cut on the bias of the fabric, *i. e.*, at an angle of approximately forty-five degrees with the warp and weft threads of the cloth, as indicated at 18, 19 and 20. As shown, the interlining 17 of the top is cut straightwise of the fabric, *i. e.*, in line with the warp threads of the cloth, as shown at 21, this being the usual and well known mode of cutting all the plies of a collar. As indicated at 22 all the plies of the band 11 may also be cut lengthwise of the cloth in the ordinary fashion.

In Fig. 2 of the drawings, I have shown a fold collar designed for "double-wear," *i. e.*, adapted to be folded so as to expose either face of the top portion. In this collar, 31 is the band, formed with an integral tab 32,

the band being cut lengthwise of the fabric as above described. 35 is the top, of which the outer or visible plies 36 and 38 are both cut on the bias of the fabric, the warp and weft threads being indicated at 18 and 19, as before. The interlining, not shown, is cut straightwise of the goods.

Considered in its broadest sense, it is only essential to my invention that the outer ply (or plies) should be cut on the bias as described, but if all the plies of the collar, or of the top portion of the fold collar shown, were bias cut, it would stretch out of shape, especially during the operation of rubbing in the starch, so that it would be practically impossible to keep the points of the collar symmetrical. It is for this reason that I have shown or described the interlining plies of the collar as cut straightwise of the cloth in both forms of construction shown, and all the plies except 16 as straight cut in Fig. 1.

With collars as ordinarily made, *i. e.*, with the straight-cut outer ply, the lower edge of the top is soon frayed by its rubbing contact with the shirt, especially at the points, particularly if these are sharp, instead of rounded as shown in the drawing. But before this happens, the collar is usually ruined by the fraying of the upper rolled edge of the top, and by the actual breaking through of the outer ply at the ends of the top, so as to expose the interlining. This is largely caused by the manipulation of the collar in laundering. After washing, the collar is laid flat on a table and rubbed full of thick starch, which, as it dries, adheres the plies together. After being ironed or mangled in the flat, the collar is folded as shown. This brings a severe strain on the outer ply, which, after a few laundryings, breaks the weft threads, and leaves the warp threads sticking out in unseemly loose ends and loops.

With the bias cut outer ply, which is the subject of my invention, the fold crosses both the warp and weft threads at an angle, so that the folding strain is divided between them, and the resistance to fraying or breaking is much more than doubled. This is of course equally true as regards the fraying of the edge of the collar by wearing, as above described.

An additional advantage of the bias-cut outer ply in a fold collar or the like is that the actual strain on the outer ply in folding

is greatly reduced. Linen or cotton cloth, pulled lengthwise, *i. e.*, in the direction of the warp threads, is almost unstretchable. Pulled crosswise, in the direction of the weft threads, it gives slightly. But to a diagonal strain, as in the folding of the collar having a bias outer ply, the fabric yields considerably and without injury. So that my invention acts both to increase the strength of the collar at its weakest point, and to decrease the strain at that point.

What I claim is:

1. A launderable shirt collar of fold pattern, comprising a band and a top, said top being formed of a plurality of plies of textile material, each of which extends the entire length of the top, the outer of said plies

being cut on the bias of the fabric, at least one of the other plies being cut straightwise of the fabric, substantially for the purposes set forth.

2. A launderable shirt collar of "double-wear" fold type, comprising a band and a top, said top being formed of at least three plies of textile material, each of which extends the entire length of the top, the two exposed outer plies being cut on the bias of the fabric, an inner ply being cut straightwise of the fabric, substantially for the purposes set forth.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
