March 5, 1968 M. M. APGAR 3,371,663

ARM SLING

Filed July 6, 1965

Fig. 1.

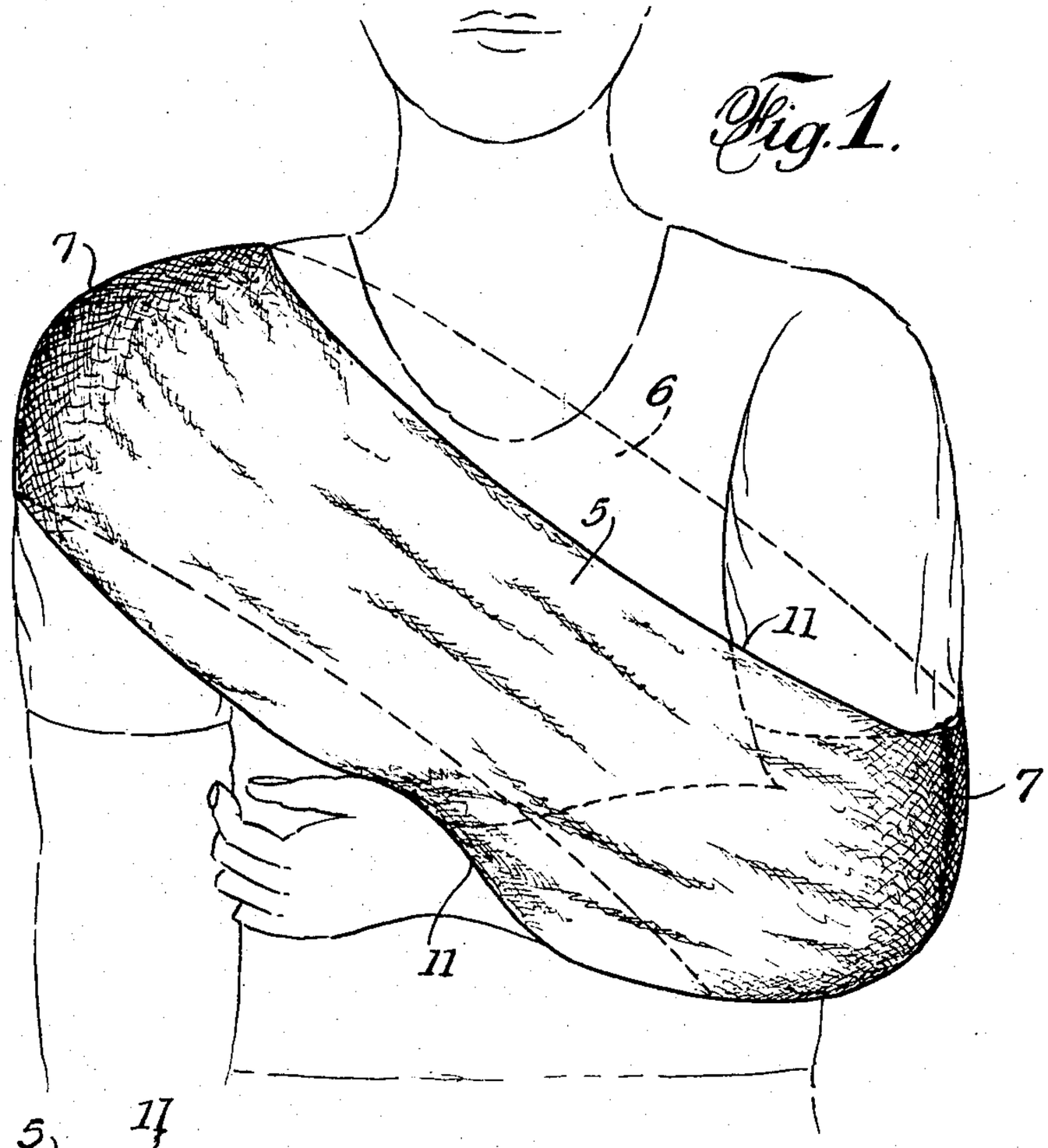


Fig. 3.

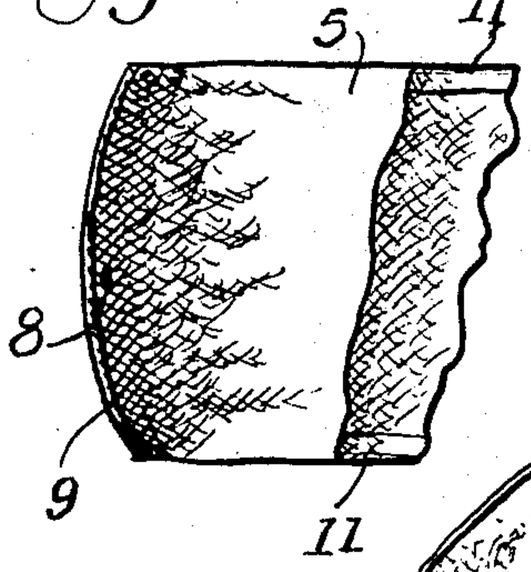
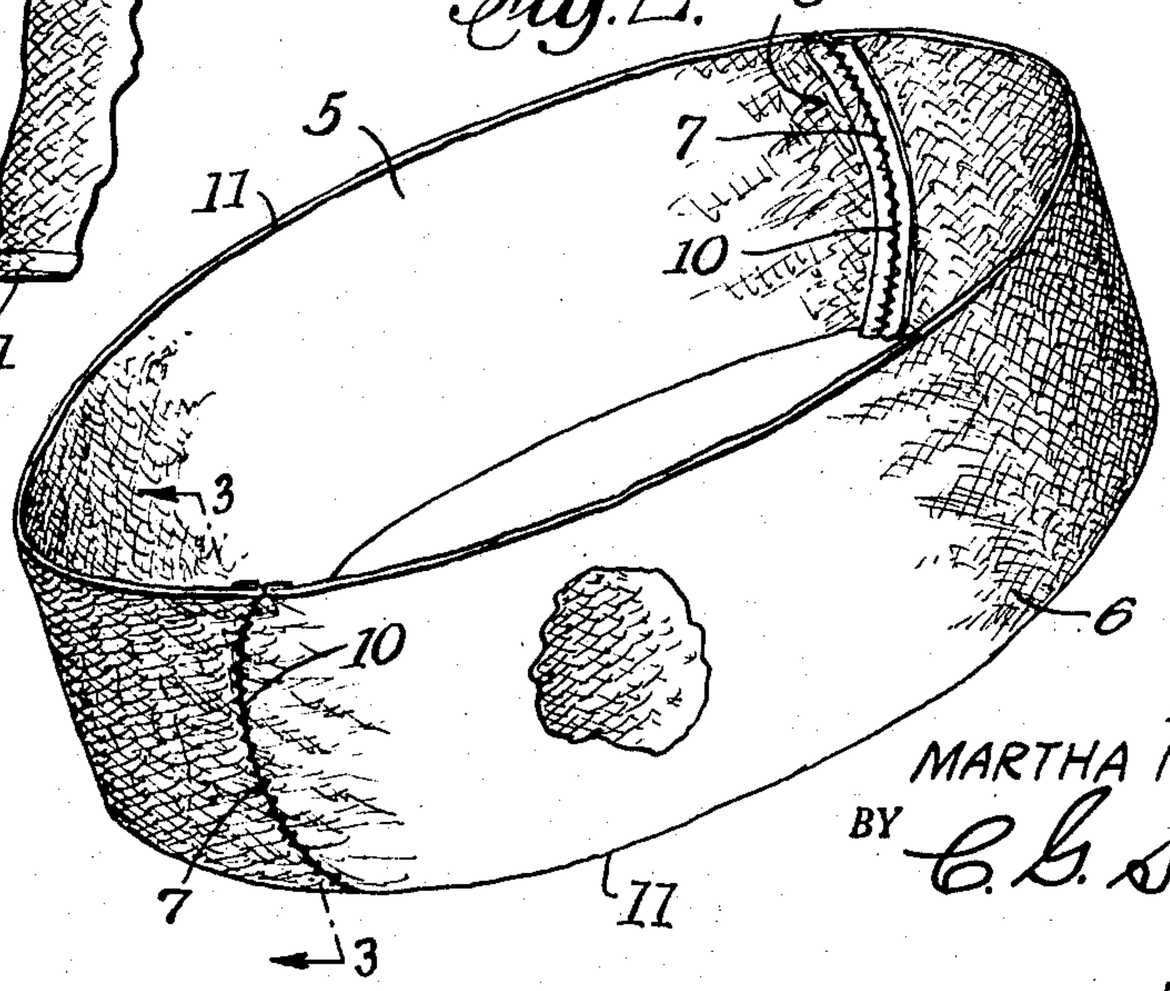


Fig. 2.



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ARM SLING

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ABSTRACT OF THE DISCLOSURE

An arm sling made of two double layer lengths of stretchable fabric arranged on a bias having convexly curved ends with elastic stitching connecting the ends to form concavities into which fit an elbow and an opposite shoulder when the sling is worn.

This invention relates to an arm sling that has for its primary object to comfortably confine and, therefore, immobilize the user's arm.

Another object of the invention is to provide an arm sling that, due to being comfortable in use, is adapted for use over long periods of time with minimum strain to the user.

Another object of the invention is to provide an arm sling that is of simple, neat form that unobtrusively blends with the user's clothing and may be worn with no or little disarrangement of the clothing.

A further object of the invention is to provide an arm sling helpful to immobilize sprained or broken arms, spinal injuries and other such conditions, by having a form-fitting engagement with the elbow of such arm and the opposite shoulder, such engagement relieving undue train and materially promoting comfort as above mentioned.

A still further object of the invention is to provide an arm sling that has restrained stretch properties that not only realize the above objects, but also provide for comfortable use of the hand, if such is desired, or comfortably confine the same.

A yet further object of the invention is to provide an arm sling as above characterized that is reversible for use on either arm.

This invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The above objects are realized in an arm sling that is comprised of an endless band of woven fabric material that is either cut on the bias or formed of stretch fabric, said band being made up of two equal or slightly unequal lengths of such fabric or material with two oppositely disposed seams that are convexly formed. The ends of the fabric lengths are cut along convex lines, thereby causing the band, at said seams, to define elbow- and shoulder-engaging pockets that obviate slippage from adjusted position, materially reduce strain on the neck, spine and adjacent parts of the body, and promote comfort that enables use of the sling for long time periods. The elasticity of the sling yieldingly, yet firmly, confines the arm, prevents it from swinging away from the body, and also enables the user to use the hand or, at least, the fingers. The mentioned elasticity or stretch allows for comfortable extension of the hand from the sling should the same be desired. The present sling is advantageously made of fabric lengths of two-ply form, although single-ply material may be used.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description, which is based on the accompanying

drawing. However, said drawing merely shows, and the following description merely describes, one embodiment of the present invention, which is given by way of illustration or example only.

In the drawing, like reference characters designate similar parts in the several views.

FIG. 1 is a front view showing the present sling in operative position.

FIG. 2 is a perspective view of the sling to show its endless construction, the outer fabric ply being partly broken away.

FIG. 3 is a fragmentary sectional view on the line 3—3 of FIG. 2.

The present sling comprises, generally, two lengths 5 and 6 of stretchable fabric joined at the ends along oppositely arranged seams 7 to form an endless structure.

Said fabric lengths may be equal, or one may be two or three inches longer than the other. Thus, said seams 7 may be directly opposite each other or offset from such a position. Depending upon its manner of use, the sling may be applied with either the shorter or the longer length at the front. The confined position desired for the arm, the sex and/or maturity of the user will determine which of the lengths 5 or 6 will be at the front. An important consideration will be the desired location of the pocket-forming seams 7 at both the elbow and the shoulder.

These pockets, which are indicated in FIG. 1, where the elbow and opposite shoulder are engaged by the sling, result from concavities 8 formed at the seams 7, by cutting the ends 9 of the lengths 5 and 6 along convex lines and joining these ends by means of elastic stitching, such as the lines of cross stitch 10.

Said lengths of fabric may be of single ply or two-ply, the latter being shown, ordinarily requiring that the edges 11 of the two layers be joined, as by stitching.

As may be seen in FIG. 1, the endless sling construction above described, when placed around the body with one seam 7 at the elbow of one arm and the other seam over the opposite shoulder, because of stretch of the lengths 5 and 6, will conform to said elbow and shoulder, the concavely formed pockets 8 stretching thereover, thereby producing deeper pockets that have a non-displaceable fit over these parts, as may be seen in FIG. 1. Due to the overall stretch of the lengths of material 5 and 6, there is a resilient pull on said elbow and shoulder that induces a snug, yet comfortable, retention of the arm against the body, as well as relief from the strain of pull on the user's neck, spine and adjacent parts of the body.

Since the front length 5 retains much of its elasticity and stretch in ordinary use, the user may either retain the hand within the confines of said fabric length, or may comfortably expose all or part of the hand, in the manner illustrated, and as easily return the hand to confined position.

The sling may be provided in different children's and adults' sizes, and in order to blend the same into the color scheme of the user's garments, differently colored fabrics, multi-colored fabrics, plaids, etc., may be used.

While the foregoing has illustrated and described what is now contemplated to be the best mode of carrying out the invention, the construction is, of course, subject to modification without departing from the spirit and scope of the invention. Therefore, it is not desired to restrict the invention to the particular form of construction illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. An arm sling comprising:

(a) two lengths of stretchable fabric material having convexly curved ends, and

(b) elastic stitching connecting the ends of the material lengths to form an endless band and form concavities at the seams formed by said stitching,

(c) the fabric lengths being arranged on a bias and stretch lengthwise, accordingly, to form deepened concavities at the two seams when in use.

2. An arm sling comprising:

(a) two lengths of stretchable fabric material arranged on a bias having convexly curved ends, and

(b) elastic stitching connecting the ends of the material length to form an endless band and form concavities at the seams formed by said stitching,

(c) the stretch in the material being largely lengthwise of the two lengths, so the elbow of an arm in said sling and the opposite shoulder deepen the concavities so they conform to said elbow and shoulder.

3. An arm sling according to claim **1** in which one length of material is longer than the other.

4. An arm sling according to claim **1** in which each length of material comprises two layers of stretchable fabric.

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