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SINGLE PIECE ADJUSTABLE CERVICAL COLLAR

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Fig. 1

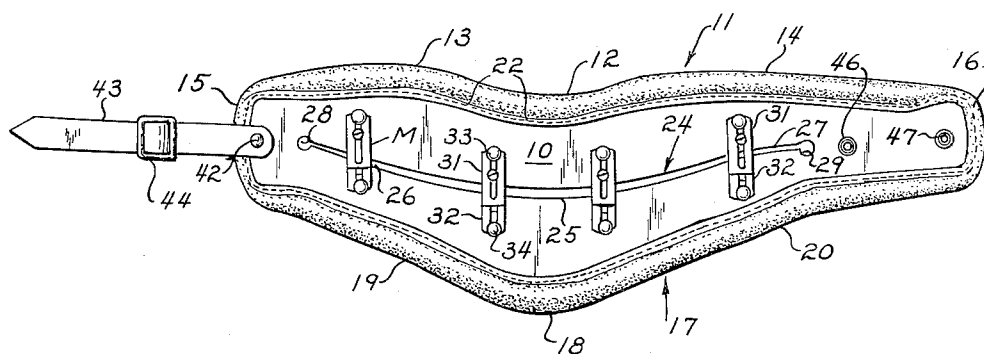
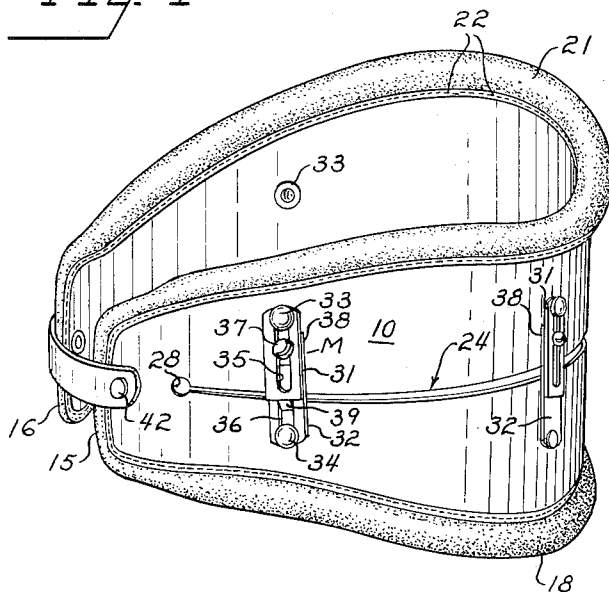


Fig. 2

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SINGLE PIECE ADJUSTABLE CERVICAL COLLAR
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The present invention relates to cervical collars and particularly to such collars formed from strips of sheet material adapted to be adjustably encircled around the neck of a patient for correction of defective cervical level conditions.

Heretofore, such sheet material collars have usually been formed of two elongated sheets of material positioned with overlapped longitudinal edges movable with respect to each other for vertical adjustments as found necessary to treat various neck conditions. These collars, while very efficient for the purposes intended, require man hour time for arrangement and assembly of the sheet collar sections together with the adjustable interconnecting means therefor.

An object of the present invention is to provide an adjustable cervical collar formed of a single elongated sheet of material, which may be vertically adjusted, whereby the man hours required to assemble the sheet sections of the old type two piece collars are no longer required.

Another object is to provide a vertically adjustable cervical collar made from a single sheet of material by a single cutting or stamping operation.

With the foregoing and other objects in view, the present invention consists of certain novel features of construction, combinations and arrangements of parts, as will now be more fully described and particularly defined in the appended claims.

In the drawing, wherein like parts are given like reference numerals and are thus identified throughout the following description:

FIGURE 1 is a side perspective view of the present invention novel single sheet cervical collar looped for neck embracing position; and

FIGURE 2 is a front elevational view of the collar spread out flat prior to fitting the same around a patient's neck.

Referring to the drawing in detail the collar comprises a flexible elongated sheet of plastic sheet material, such as nylon sheeting 10. This sheet 10 is formed along each longitudinal edge to suit the contour of a patient's neck, for example at the upper edge 11 the same is formed with a downwardly curved portion 12 to contour under the patient's chin structure and thence is slightly arched upwardly to contour under each jaw bone at 13 and 14 to the respective free ends 15 and 16 of the collar. The lower edge 17 of the collar curves downward centrally thereof as indicated at 18 to permit conforming engagement with the clavicle or collar bone and thence into a slight upwardly directed inwardly curved configuration 19 and 20 on each respective side of the collar bone downward curve 18 to the said free ends 15 and 16.

The peripheral edges of the collar sheet 10 are covered with a bead padding 21 secured for example thereto by stitching 22. This padding is similar to that used in prior collars, such as shown in Patent No. 2,828,736, issued to the present inventor and assignee of this invention.

Prior to fastening the padding 21 to the collar sheet 10 and during the cutting or stamping operation, the sheet is formed with an elongated curved slot 24. This slot is wider at the midportion 25 and as it extends longitudinally from the mid-portion toward each respective free end 15 and 16 gradually becomes narrower at portions 26 and 27, until the slot terminates into enlarged cut-out areas 28 and 29, respectively.

As illustrated in the drawings the cut-outs 28 and 29 at the opposite ends of the slot 24 are circular, but they may be triangular, square, oval or of any desired geometrical configuration to accomplish their functions as will hereinafter be explained.

Mounted transverse the slot 24 are adjustable members M. These members are comprised of flat metal upper and lower straps 31 and 32. The upper strap 31 of each member is secured as by a rivet 33 to the sheet 10 above the slot 24 and the lower strap 32 is secured as by a rivet 34 to the sheet 10 below the slot 24. The strap 31 includes an elongated slot 35 and the strap 32 likewise includes a similar elongated slot 36. These slots are positioned to partially align with each other, to thereby receive the shank of a headed locking bolt 37, which extends from the slot 35 into a threaded bore formed in the solid end portion 38 of the lower strap 32, see FIGURE 1, while extending from the free end of the upper strap 31 is a guide tongue 39, which extends into the slot 36 of the lower strap 32. Thus the adjustable members M when extended vertically will cause the slot 24 of the collar sheet 10 to spread open and thereby provide a greater width to the collar sheet 10 for vertical adjustment of the collar. As the slot 24 is spread apart distortion at the respective ends of the slot is compensated by the enlarged openings or cut-out areas 28 and 29.

After the members M have been moved to the extent required to widen the collar sheet 10, the same may be set to adjusted position by tightening the locking bolts 37. Such adjustment may be made before or after placing the collar around the patient's neck.

The free ends 15 and 16 of the collar sheet 10 are rounded and end 15 is pierced with a rivet 42 on which swings a collar securing strap 43 with an adjustable buckle 44. This buckle carries the female part of a snap fastener which coacts to snap onto one of a plurality of longitudinally spaced male fastener parts 46 and 47 secured adjacent free end 16 of the collar. With the selection of one of the spaced male fasteners, the diametrical size of the collar may be adjusted as required.

Thus there is provided a novel cervical collar formed from a single elongated plastic sheet, whereby the same is vertically and circumferentially adjustable and whereby the same is more economical to manufacture than prior collars made of two or more plastic sheets.

Although only one embodiment of the invention has been illustrated in the drawings and described in detail, it is to be expressly understood that the invention is not intended to be limited thereto and various changes may be made in the design arrangement and combination of parts without departing from the spirit and scope of the invention, as will now likely occur to others skilled in the art. For a definition of the limits of the invention, reference should be had to the appended claims.

I claim:

1. A cervical collar of a single sheet of material so shaped and so formed as to fit the neck of a patient, said sheet being provided with an elongated longitudinal slot, and vertically adjustable means extending transversely across said slot and secured to the sheet adjacent opposite sides of the slot, whereby the slot may be widened or narrowed to control the width of the collar.

2. A cervical collar of a single sheet of material so shaped and so formed as to fit the neck of a patient, said sheet being provided with an elongated longitudinal slot, and vertically adjustable means extending transversely across said slot and secured to the sheet adjacent opposite sides of the slot, whereby the slot may be widened or narrowed to control the width of the collar, said slot having an enlarged cut-out opening at each respective end of the slot.

3. A cervical collar of a single sheet of material so

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shaped and so formed as to fit the neck of a patient, said sheet being provided with an elongated longitudinal slot, and vertically adjustable means extending transversely across said slot and secured to the sheet adjacent opposite sides of the slot, whereby the slot may be widened or narrowed to control the width of the collar, said slot having an enlarged cut-out opening at each respective end of the slot and said vertically adjustable means including means to lock the same in adjusted position.

4. A cervical collar of a single sheet of material so shaped and so formed as to fit the neck of a patient, said sheet being provided with an elongated longitudinal slot, vertically adjustable means extending transversely across said slot and secured to the sheet adjacent opposite sides of the slot, whereby the slot may be widened or narrowed to control the width of the collar, and fastener

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means at each end of the collar for securing the same around the patient's neck.

5. The cervical collar described in claim 4, wherein the said fastener means are positioned at spaced intervals on the collar to provide for circumferential adjustment.

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