April 3, 1956 J. I. JUDOVICH 2,740,399

SELF-ADJUSTING, SWIVEL TRACTION HALTER FOR THE HEAD AND JAW

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FIG. 1

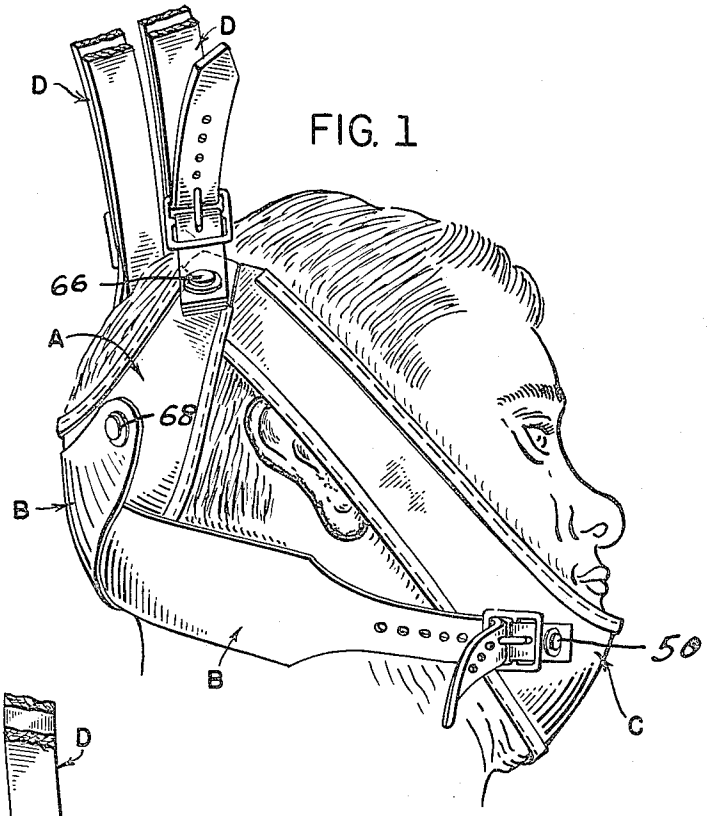


FIG. 2

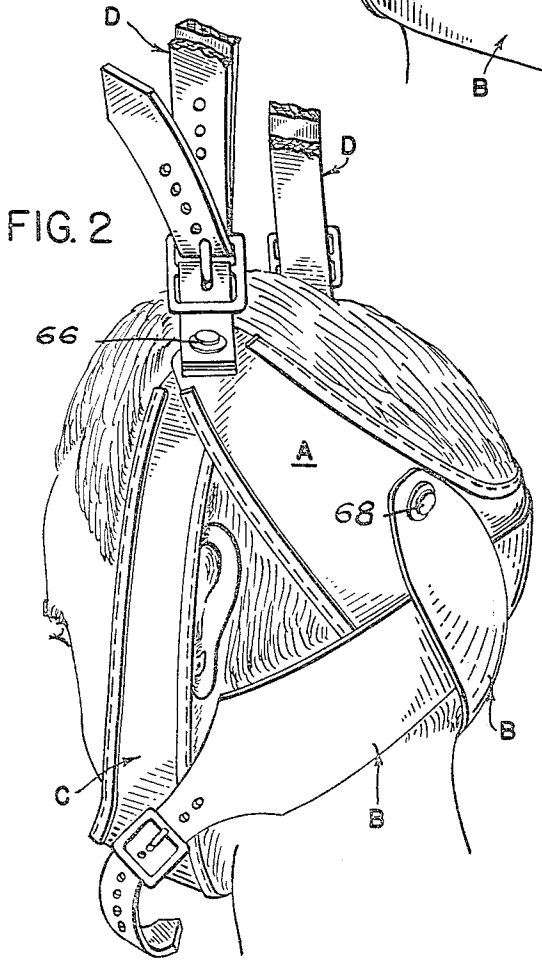
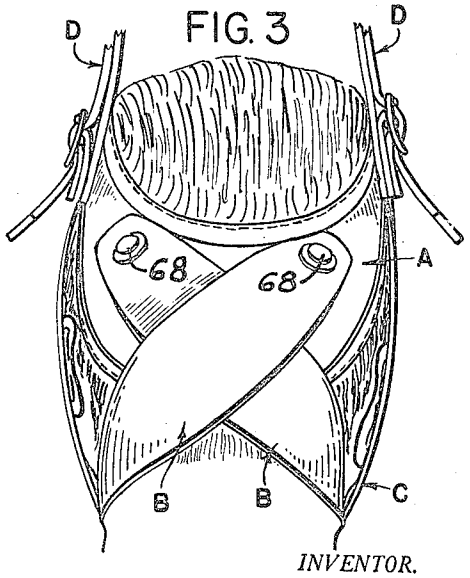


FIG. 3



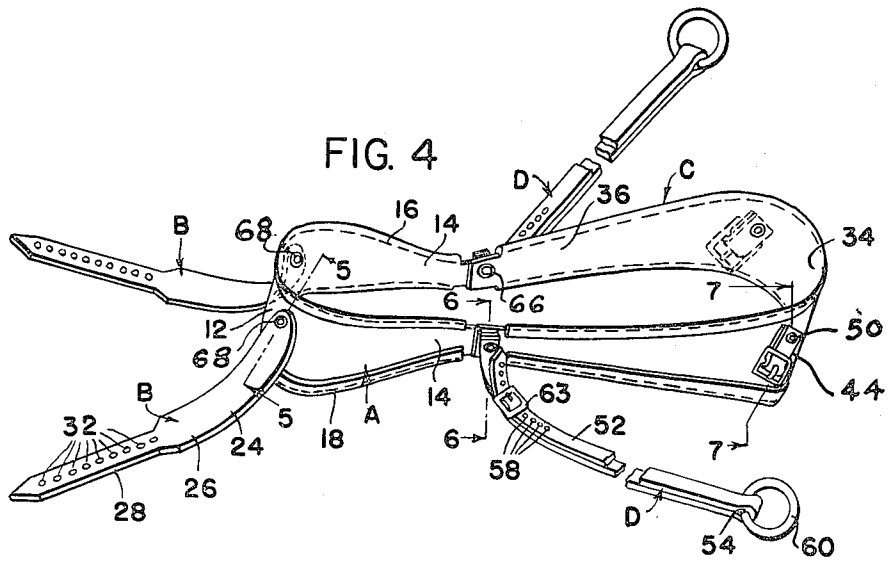
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FIG. 4



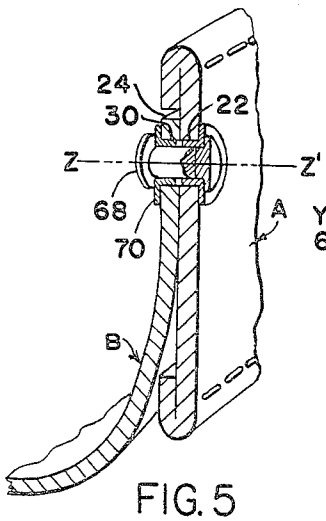


FIG. 5

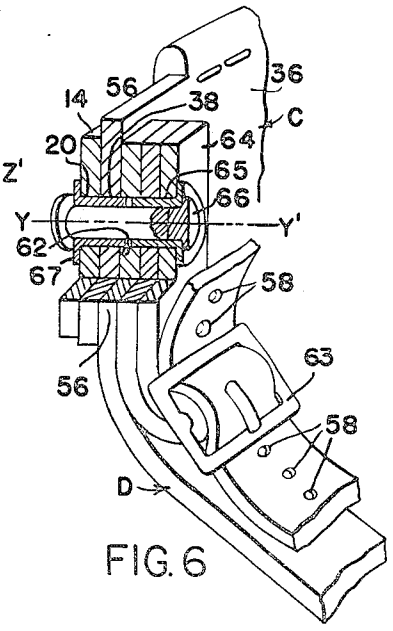


FIG. 6

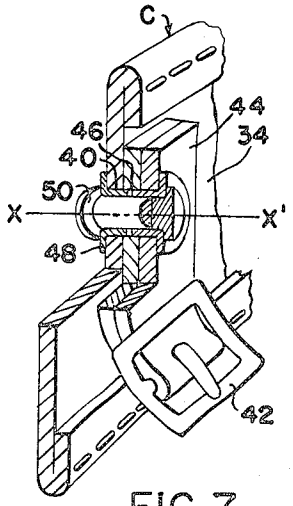


FIG. 7

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2,740,399

Patented Apr. 3, 1956

2,740,399

SELF-ADJUSTING, SWIVEL TRACTION HALTER FOR THE HEAD AND JAW

Joel I. Judovich, Philadelphia, Pa.

Application December 28, 1954, Serial No. 478,130

1 Claim. (Cl. 128—75)

My invention relates to a traction halter for cervical extension for use on the head and jaw, and relates more particularly to a self-adjusting and interchangeable head and jaw traction halter to enable the application of a pulling force to a patient's head, thereby exerting extension to the cervical spine. In my traction halter, the occipital band and the posterior straps which fasten the occipital band to the chin piece are appreciably widened to increase surface contact with the posterior and lateral cervical region, and rivets are used to freely swivel pivot the straps to the occipital band and chin piece and permit free rotation of the straps and bands about the swivelled pivots so that the tightened straps may freely swing to the shortest unobstructed distance and enable rapid, smooth, snug, shape adaptation of the halter to the head and neck.

Heretofore, traction halters for effecting an extension to the cervical region have been manufactured in the form of a cage or as a harness which were adapted to fit the head. In other harnesses, the construction was of a non-flexible nature which, at best, allowed merely point contact at their bearing surfaces and were not adapted to fit the various shapes and sizes of the human head. The harness-type arrangement of the prior art which was composed of a series of straps or belts, utilized principles of attaching the individual straps to each other in a fixed, non-rotatable position by sewing, buckling or using two or more rivets at each strap juncture. In previous head holder constructions, the straps that run from the occipital band to the chin piece are sewed or riveted into a fixed position. This fact also is true of the buckles on the side of the chin piece. The rigidity causes torsion of the strap and does not allow the harness to adapt itself to the contour surfaces of the head and the neck. The rivets placed at the points of attachment in my invention permit free motion at all points of adjustment and the swivelled rivets allow movement in more than one plane. Since the most common complaint which results from traction is pain in the temporal mandibular joint and jaw resulting from the small bearing surface and undistributed load, there was frequently necessitated the use of a rubber mouth bite, especially with manual or motorized traction in the 35 to 50 pound range.

It, therefore, is an object of my invention to provide a self-adjusting traction halter for cervical extension which is adapted to snugly and smoothly fit about the head and neck of the wearer and conform to the head contour and shape.

Another object of my invention is to provide a self-adjusting traction halter of leather or the like wherein all straps may freely rotate about pivot points.

Another object of my invention is to provide a self-adjusting traction halter which is adapted to fit about a person's head and is adapted to be interchangeable and to conform to a wide variety of head sizes and shapes.

Another object of my invention is to provide a self-adjusting traction halter for cervical extension which will permit increased surface contact with the posterior and lateral cervical regions and enable a greater burden to be carried by the posterior and lateral portions of the head and neck.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly effective in operation.

With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view of a halter embodying my invention showing the manner in which the straps and chin piece fit about a patient's face, neck, and chin.

Fig. 2 is a perspective view of the halter as viewed from one side of the back of the head showing the manner in which the posterior straps fit about the lateral and back portion of the neck of the patient.

Fig. 3 is a rear view of the halter showing the manner in which the posterior straps are joined to the occipital band of the halter and embrace the occipit and the posterior portion of a person's neck.

Fig. 4 is a perspective view of the halter showing the harness and straps prior to application to the head of a person.

Fig. 5 is a fragmentary sectional view taken along lines 5—5 of Fig. 4.

Fig. 6 is a fragmentary sectional view taken along lines 6—6 of Fig. 4.

Fig. 7 is a fragmentary sectional view taken along lines 7—7 of Fig. 4.

Referring now in greater detail to the drawings, in which similar reference characters refer to similar parts, I show a head halter, which fits about a patient's head for applying a pulling force thereto and enabling manual or intermittent traction to be applied to the cervical spine.

The halter comprises an occipital band, generally designated as A, left and right lateral straps, generally designated as B, a chin piece, generally designated as C, and overhead loading straps, generally designated as D.

The occipital band A comprises leather or leatherlike material having a widened center portion 12 and narrowed terminal portions 14 and is sewn along its edges to define an upper seam 16 and a lower seam 18. Through each terminal portion 14 is punched a hole 20. Centrally spaced and adjacent the upper seam 16 is punched a plurality of posterior holes 22.

The lateral straps B comprise a wide occipital terminal 24, a widened central portion 26 and a narrow adjusting free end 28. Adjacent the occipital terminal 24 of each posterior strap is punched a hole 30. A plurality of adjusting holes 32 also are pierced through the narrow free end 28 of each lateral strap B.

The chin strap C comprises a central chin and jaw-bearing portion 34 and upper free ends 36. A hole 38 is punched through each upper free end 36 and centrally spaced holes 40 pierce the chin bearing portion 34 at either side of the jaw. An adjusting metal buckle 42 is sewn to a short strap 44 which, in turn, is pierced with a hole 46. The short strap 44 is fastened to the chin piece C by inserting eyelets 48 through holes 40 and holes 46 and then passing a rivet 50 through the eyelets 48. When the rivet 50 is upset loosely over the eyelets 48, there is formed a rotatable pivot point X—X' about which the buckle 42 and chin piece C may freely swivel.

The overhead strap D comprises a central adjusting portion 52, a looped loading terminal 54 and a halter attaching terminal 56. The central portion 52 is punched with a plurality of adjusting holes 58 for raising or lowering the height of rings 60 which are mounted to the

traction mechanism (not shown). Adjacent each halter attaching terminal **56** is punched a hole **62**. A buckle **63** is looped by a short strap **64** which has holes **65** piercing each free end. The overhead strap D is fastened to the occipital band A and chin piece C by passing a rivet **66** through an eyelet **67** which is inserted through holes **20**, **38**, **62**, and **65** to form a rotatable pivot point Y—Y'. The occipital band A is swivel fastened to the lateral straps B by passing a rivet **68** through eyelets **70** which is inserted in holes **20** and **30** to define a rotatable pivot Z—Z'.

To embrace the patient's head, the harness is passed over his head with chin strap C engaging the frontal jaw and the occipital band A passing around his occipital skull. The lateral straps B are diagonally crossed and the free adjusting ends **28** passed through buckles **42** and snugly fastened through adjusting holes **32**. The overhead straps D are adjusted by buckles **63** to fit the traction device which is engaged through rings **60**.

Leather flexes in one plane, but with my invention the freely swivelled connection permits flexing in more than one plane so that contour adjustment of the harness is easy and accurate. Edging on the chin piece is used to prevent chafing or cutting of the wearer's skin.

Although my invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

I claim as my invention:

A self-adjusting and interchangeable traction halter for cervical extension adapted for the head, comprising an overhead strap, an occipital band, lateral straps, and a chin piece, said occipital band fastened posteriorly to said lateral straps by a rivet passing through an eyelet to define a rotatable pivot, said lateral straps narrowed at their opposite ends and punched with a plurality of holes to define adjusting side straps, said adjusting side straps being diagonally crossed and passing through a buckle mounted upon the chin piece at either side, said buckles fastened to said chin piece by a rivet passing through an eyelet to define a rotatable pivot, said chin piece fastened to the occipital band and the overhead strap by a rivet passing through an eyelet to define a rotatable pivot, said rotatable pivots forming a plurality of freely swivelled junctures to permit the occipital band, the lateral straps and chin piece to smoothly adapt themselves to facial and head contour and shape in a plurality of self-locating triangular sections.

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