

United States Patent

[11] 3,522,804

- [72] Inventor: **Abraham Towbin**
18 Inis Circle,
West Newton, Mass. 02165
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Primary Examiner— Adele M. Eager
Attorney— Thomson and Mrose

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| [54] | INFANT'S NECK AND HEAD SUPPORT
5 Claims, 4 Drawing Figs. | |
| [52] | U.S. Cl. | 128/133,
128/520, 2/3 |
| [51] | Int. Cl. | A61f 13/00 |
| [50] | Field of Search | 128/82, 83,
87, 88, 90, 133, 134; 2/1, 2, 3 |
| [56] | References Cited | |

References Cited

ABSTRACT: A brace for wear by infants to prevent spinal injuries of the "whiplash" type due to sudden, extreme movements of the head. The brace is made of molded rubber and extends off the child's shoulders, back and chest. A head support shaped to conform generally to the child's head extends upward along the back of the infant's neck and head, and is reinforced by stiffening ribs.

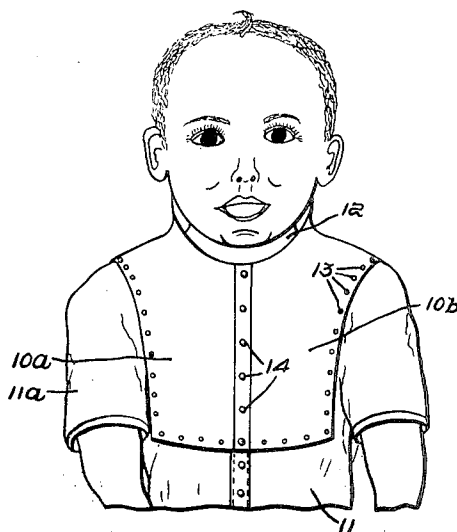


Fig. 1.

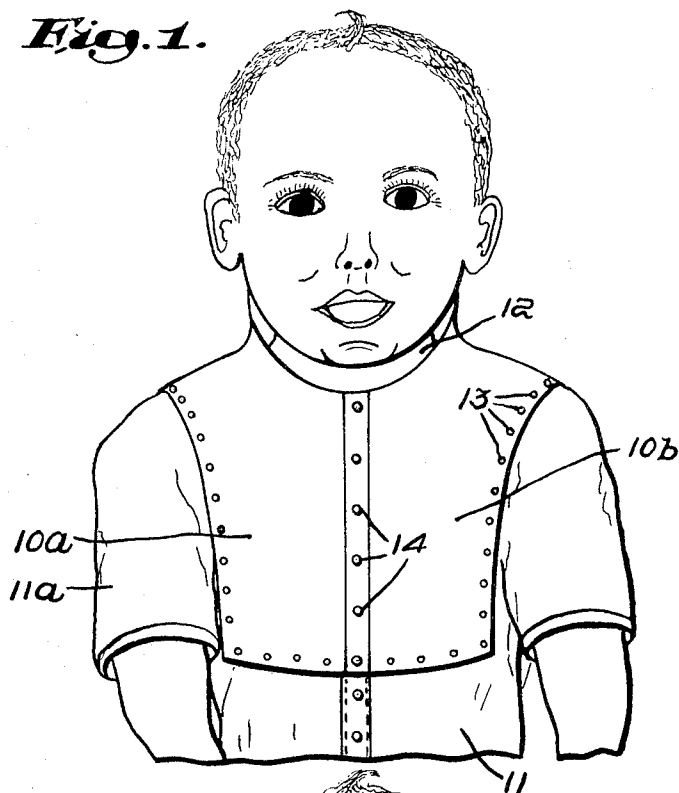
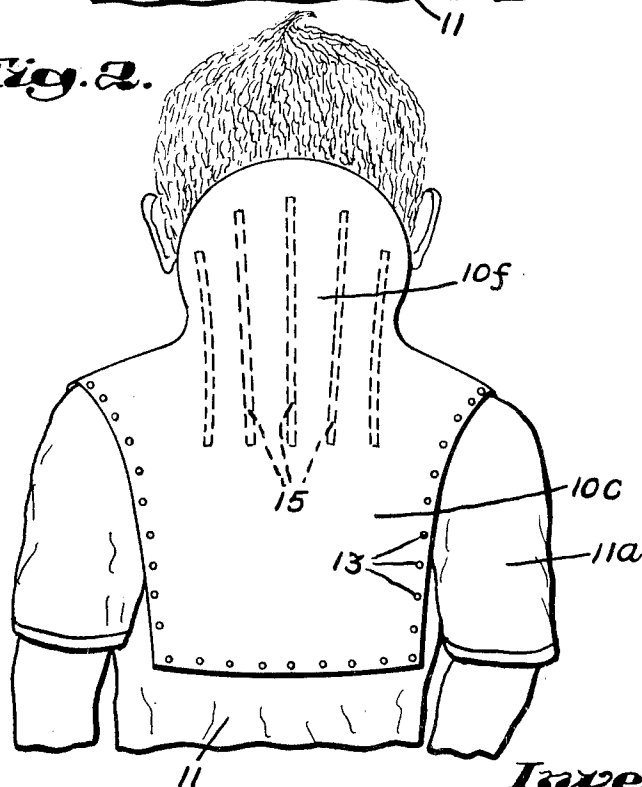


Fig. 2.



Inventor:
Abraham Towbin,
by **Thomson & Thross**
Attorneys

Fig. 3.

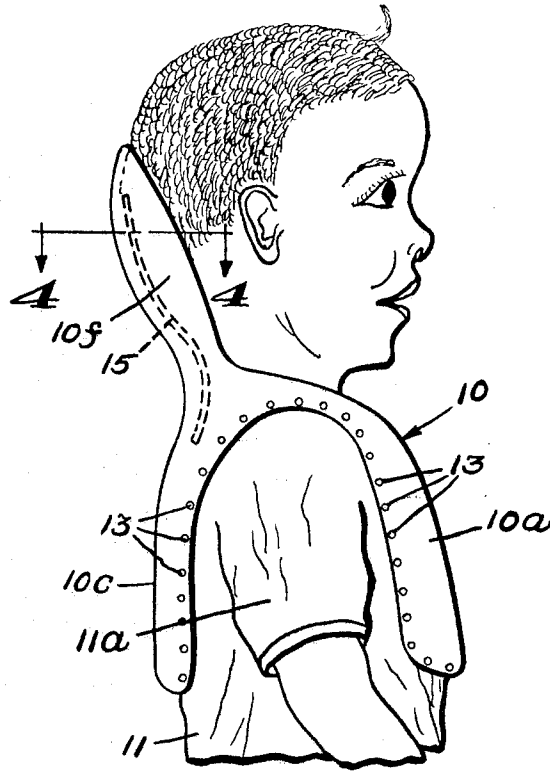
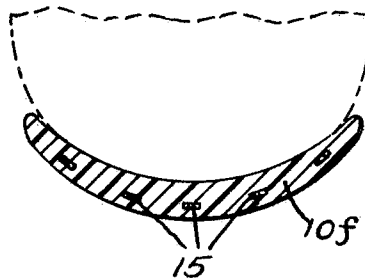


Fig. 4.



Inventor:
Abraham Towbin,
by Thomson & Tross
Attorneys

U.S. PATENT 3,522,804
INFANT'S NECK AND HEAD SUPPORT

This invention relates to a neck and head support for infants.

BACKGROUND OF THE INVENTION

There is evidence that some cases of sudden unexplained death of apparently healthy infants are due to a self-inflicted whiplash type of injury resulting from sudden extreme movement of the neck particularly in the backward and forward direction. Such an injury may produce hemorrhagic damage to the cervical spinal structures, which, though not fatal in itself, impairs the function of the spinal cord and results in paralysis of the respiratory system. The young infant is particularly vulnerable to such injuries because the head is large and heavy, about four times as heavy as the head of an adult in proportion to the body, and the neck is relatively weak. Such injuries occur most frequently in infants ten days to four months old.

The object of this invention is to provide a neck and head support, to be worn continuously by an infant during the first four months, which prevents sudden over extension of the neck, while permitting normal movement. Another object is to provide support which can be readily applied and easily cleaned. Other objects, advantages and novel features will be apparent from the following description.

SUMMARY

The neck and head support here disclosed is made of fairly stiff rubber or plastic and is molded to fit over the chest, shoulders and upper back of an infant, and extends upward along the back of the neck and the occipital portion of the head. In the region of the back of the neck, the support is stiffened by stays, preferably molded into the rubber. The support is attached to a cloth vest, and the vest and front part of the support are split down the center and fastened with snaps or other suitable fastening means. The entire assembly fits snugly and is made in various sizes to fit infants during the first four months.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings illustrating the invention:

FIGURE 1 is a front view of a head and neck support constructed according to the invention, shown as worn by an infant;

FIGURE 2 is a rear view of the support;

FIGURE 3 is a side view of the support; and

FIGURE 4 is a cross-section taken along line 4-4 of **FIGURE 3**.

DETAILED DESCRIPTION OF THE INVENTION

The neck and head support consists essentially of two main parts, the support proper, generally indicated by the numeral **10**, and a vest **11** to which the support is attached and which anchors the support on the infant's body. The support **10** has front portions **10a** and **10b** which extend across the infant's

chest, a back portion **10c** which extends across the upper part of the infant's back, shoulder portions **10d** and **10e** which pass over the infant's shoulders and connect the front and rear portions. A head supporting portion **10f** extends upward from the back portion along the back of the infant's neck and the occipital region of the head. As shown in **FIGURE 4** the upper part of portion **10f** is rounded to conform to the contour of the infant's head. The lower part is similarly rounded to fit the back of the infant's neck.

The upper edges of the front and shoulder portions are rounded and define a neck opening **12**, which is, larger than the infant's neck and permits some freedom of movement in the sidewise and forward direction.

The vest **11**, made of soft cloth, fits around the upper part to the infant's body and has short sleeves **11a**. The support **10** is attached around its margins to the vest by plastic rivets **13**. The front portions **10a** and **10b** of the support, and the front edges of the vest are held together by snaps **14**.

The support is made of rubber or a rubber-like plastic material which is fairly rigid, but flexible enough to permit the front portions **10a** and **10b** to be spread apart when the support is put on and taken off the infant. In the rear, flat wire stays **15** are embedded in the rubber and extend from the upper part of the back portion **10c** upward along the head supporting portion **10f**, to stiffen the support in this region. This part of the support is considerably stiffer than the other parts.

The entire support should fit the infant fairly snugly, and supports of different sizes are used as the child grows. The support prevents extreme backward movement of the head, yet permits enough freedom of movement to allow for normal exercise of the neck muscles and allows the infant to use its arms and roll freely. The support also insures against accidental sudden backward movement of the head when the infant is picked up.

I claim:

1. An infant's head and neck support comprising a supporting member formed of stiff material; said member including front and back portions adapted to extend over the infant's chest and upper back respectively, shoulder portions connecting said front and back portions and adapted to overly the infant's shoulders, and a head and neck receiving portion extending upward from said back portion and adapted to engage the occipital region of the infant's head said head and neck receiving portion being internally shaped to fit closely to the infant's head and neck.

2. A support as described in Claim 1, having reinforcing members extending from said back portion into said head and neck receiving portions.

3. A support as described in Claim 1, said front and shoulder portions having rounded upper edges defining a neck opening larger than the neck of the infant for which the support is intended.

4. A support as described in Claim 1, said front portion having a central opening and closure means therefor.

5. A support as described in Claim 1, including a vest of soft material to which said support member is attached, both said member and said vest having a front opening and closure means therefor.