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NECK EXERCISING DEVICE

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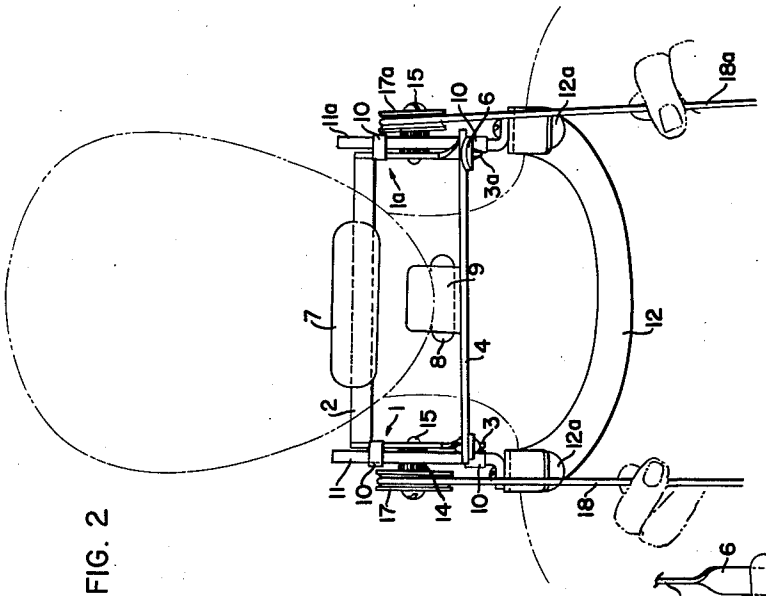

FIG. 2

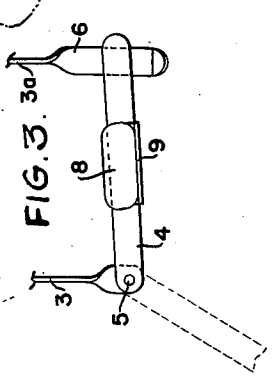

FIG. 3.

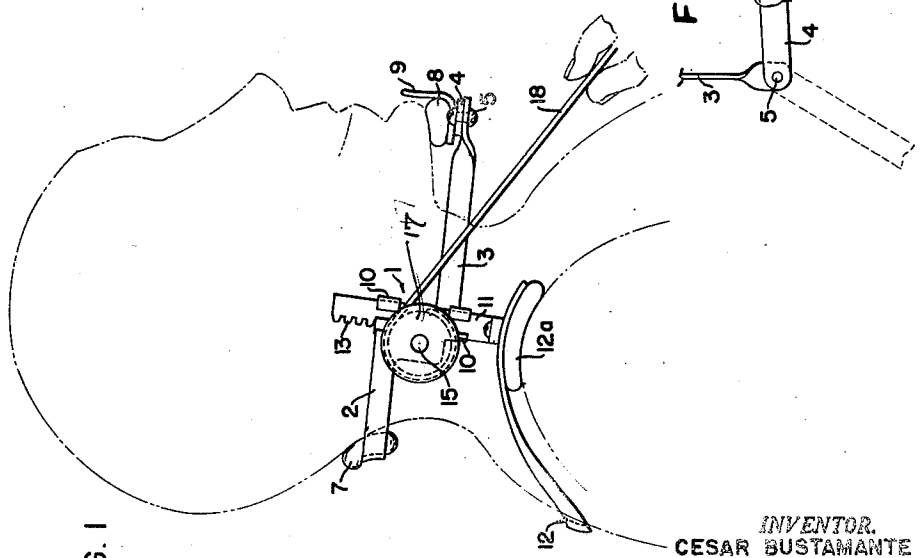

FIG. 1

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NECK EXERCISING DEVICE

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3 Claims. (Cl. 128—25)

This invention relates to exercising devices, and more particularly to devices for exercising or treating the muscles of the neck by tensioning and stretching.

It has been found that under certain conditions the ligaments or muscles of the neck can receive beneficial treatment by tensioning or stretching them, and in some cases it has also been found that certain types of headaches, for example, the so-called migraine headaches, can be beneficially treated by this same process of stretching or tensioning the neck muscles and ligaments. It is important, however, that the degree of stretching or tensioning be carefully regulated so as to avoid injury of any kind. Heretofore, treatment of this kind has been administered under professional supervision so that only office treatment has been available.

Accordingly, the primary object of my present invention is to provide a mechanism or device by which the neck muscles can be tensioned and stretched and, which at the same time, is easily applied and manipulated by the person undergoing the treatment, whereby the treatment can be administered at home.

Another object of the present invention is to provide a device of this kind by means of which the amount or duration of the stretching forces can be regulated or controlled by the patient himself.

Another object of the invention is to provide such a device which is readily adjustable and adaptable to an adult figure of different sizes and proportions.

Other objects of the invention will be evident from the following description of the improved neck exercising or stretching device as illustrated in the accompanying drawings.

In these drawings:

Fig. 1 is a view in elevation of the device in position on the head and shoulders of a human figure and looking from the side;

Fig. 2 is a similar view looking from the front; and

Fig. 3 is a view of a detail.

The mechanism or apparatus comprises frame structures 1 and 1*a* disposed on opposite sides of the neck of the person and interconnected by a more or less semicircular rigid member 2 extending horizontally around the rear of the neck to engage the lower portion of the head at the nape of the neck. This member firmly connects the upper portions of the two frame structures 1 and 1*a*, these structures being located substantially vertically above the shoulders of the person when the device is in operative position.

Projecting forwardly from the lower portions of the respective frame structures 1 and 1*a* are two rigid members 3 and 3*a*. These members project forwardly to a position approximately in the plane of the chin, and they are interconnected by a chin-engaging cross bar 4 which is pivoted at 5 to member 3 and which may be swung outwardly about its pivot in order to permit the device to be applied around the neck. After the device is in position, the right-hand end of member 4 is swung inwardly to rest upon a flat end portion 6 provided at the forward

end of member 3*a*. The length of the flat end portion 6 is sufficient to permit the cross member 4 to be adjusted so as to occupy a position directly beneath the chin, and affords a range of adjustment for the normal variation in the dimensions of the adult head.

The semicircular rear member 2 is provided at its rear central portion with a pad 7 to bear against the nape of the neck or lower head portion of the individual, and the front cross member 4 is also centrally provided with a similar pad 8 to press upwardly under the chin. Associated with this member is preferably an upwardly projecting stop member 9 to engage the front of the chin and aid in placing the device in proper condition.

Vertically slidable in a pair of guides 10 at the upper and lower extremities of each of the two frame members 1 and 1*a* there are two rack bars 11 and 11*a*. These rack bars are connected at their lower ends by a yoke member 12 and pads 12*a* are arranged to rest upon the shoulders and support the entire mechanism in operative position. Rack bars 11 and 11*a* are each provided along their rear edges with teeth 13 and these teeth mesh with the teeth of a pinion 14 which is mounted to rotate on a stationary shaft 15 for each of the two frame members. Shaft 15 is fixed by riveting or otherwise to an upright member of the frame structure 1 or 1*a*. Also rotating on shafts 15 and permanently attached to the outer end of each of the two pinions 14 there is a drum or pulley 17 and 17*a*, around which are wound cords 18 and 18*a*, the inner ends of these cords being permanently attached to the respective drums.

In the operation of the device the person swings the cross bar 4 outwardly to the dotted position shown in Fig. 3 and places the device in position from the rear. That is to say, the two horizontal side members 3 and 3*a* are passed along the sides of the neck from the rear towards the front of the body until the device is in the position shown in Fig. 1 where the pads 12 on the lower ends of the two shoulder engaging members 11 and 11*a* rest on the forward part of the shoulders. The dimensions of the semicircular rear member 2 and the two side members 3 and 3*a* are such that the rearward projection of member 2 is approximately equal to the forward projection of the side members 3 and 3*a*, so that upward pressure of the shoulder engaging members 11 and 11*a* will be about equalized between the chin and the rear portion of the head.

It will be understood that when the mechanism is in the position described, with the shoulder pads 12 of the shoulder bars 11 and 11*a* resting on the shoulders, the forward ends of the two side frame members 3 and 3*a* will be nearly opposite the chin. Thus, when the cross bar 4 is closed by swinging to the right as shown in Fig. 3 and its right end is placed upon the rest portion 6 of side member 3*a*, the chin pad 8 will come into place against the chin directly beneath the lower jaw. It will also be understood that the length of the rest portion 6 is made of sufficient length so that the same device can be used by persons whose head dimensions between the chin and the nape of the neck vary to some considerable extent. Thus, the device need be manufactured only in a few sizes.

With the device in this position, the user pulls forwardly with both hands as indicated in Fig. 2, or with one hand, as desired, on the two cords 18 and 18*a*. This causes rotation of the drums 17 and 17*a* and relative vertical movement between the two shoulder engaging bars 11 and 11*a*, and the chin and head engaging members. The amount of pressure applied is entirely under the control of the user with the result that the muscles of the neck are stretched lengthwise, or upwardly. Such tension may be applied continuously or intermittently, or continuously for longer or shorter periods, as desired. In addition

to stretching the muscles of the neck, the action has a tendency to elongate the spinal column and reduce any undue pressure which may exist between the vertebrae.

I have illustrated, by way of example, one specific embodiment of my device and it will be understood that various changes may be made in the construction and arrangement of the various parts without departing from the invention, the scope of which is set forth in the appended claims.

I claim:

1. In a device for alternately stretching and relaxing the muscles of the neck of a user, a pair of frame structures constructed to be disposed one at each side of the user's neck, a member for engaging the user's chin supported by said frames, a second member for engaging the nape of the user's neck also supported by said frames, vertically movable bars slidably secured to each of said frames, members mounted on said respective bars for engaging the user's shoulders, and interengaging means between said frame structures and said vertical members operable by the hand of the user for causing relative vertical movement between said frame structures and said vertical members, thereby causing upward pressure on the chin and neck and downward pressure on the shoulders to cause a stretching of the neck muscles so long as the user exerts himself to operate said mechanism, and relaxing the said stretching action when the exertion on said mechanism is relaxed.

2. A neck exercising device as claimed in claim 1 wherein said interengaging means for causing the relative vertical movement between the frame structures and the vertical members are independently operable by the respective right and left hands of the user.

3. A neck exercising device as claimed in claim 1 wherein each of said interengaging means for causing the relative vertical movement between each of the frame structures and its vertical member is a rack-pinion mechanism carried by each frame structure and its adjacent vertical member, a drum being arranged to rotate the pinion of each of these mechanisms, and a cord being wound on each drum to be grasped, one by each of the user's hands.

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