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2,708,931

SHOCK-THERAPY MOUTH GUARD

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Application February 19, 1953, Serial No. 337,898

9 Claims. (Cl. 128—136)

(Granted under Title 35, U. S. Code (1952), sec. 266)

This invention relates to a mouth guard for patients undergoing shock therapy, epileptics, or any other convulsive condition. When shock treatment is administered, the patient opens his mouth widely, then closes it with maximum speed and with a sudden force much greater than would otherwise be possible. In the abrupt closing, very often the tongue, cheeks, or lips are severely bitten; the gingival tissues frequently bleed; cyanosis and gagging from excessive salivation is quite common.

Among the objects of the present invention are to provide a guard which will serve all mouths, to give maximum protection to the tongue, cheeks, teeth, gums and mandibles; to facilitate better breathing and to reduce saliva interference; to provide greater adjustability and greater retention; and to provide a soft contact material with harder connecting parts out of the path of the bite.

Other objects of the invention will appear in the specification and will be apparent from the accompanying drawings, in which:

Fig. 1 is a side view with parts broken away showing a mouth guard in accordance with this invention;

Fig. 2 is a plan view as taken on the line 2—2 of Fig. 1;

Fig. 3 is an end view as taken on the line 3—3 of Fig. 1; and

Fig. 4 is a perspective view of a modification.

In this construction separate bite-receiving rubbery pads are suitably connected for joint movement and for adjustment to fit the mouths of different patients, of different sizes and types. Suitable provision is made for connecting the pads with metal or other hard parts which are covered or imbedded in the rubbery material in such a way that they are not in the path of the bite between the upper and lower sets of teeth. As a consequence, much danger of damage to the teeth, gums, lips and mandibles is avoided.

Referring now more particularly to the drawings, a mouth guard in accordance with this invention is shown in Figs. 1, 2, and 3 having two rubbery pads 10, each formed with an inner downward projection or wing 12 substantially at right angles to a central portion 14 and with upper and lower projecting wings 16 and 18 which together form a continuous outwardly rounded substantially circular contact disk 20 at the outer side of each pad. This pad may also be provided with an inward projection 22 extending from the upper side of the central portion and constituting a tongue engaged portion.

The space between the projecting wings 12 and 18 is sufficient to receive the molar teeth of a human being therebetween and the disk 20 is adapted to engage the inside of a cheek of a person to whom the guard is applied.

In order to hold the pads together and in upright position, a rigid plate 24 of fiber, metal or other suitable material is cast and imbedded in the pad, preferably in the disk portion formed by the upper and lower projecting wings 16 and 18 with an outer extremity 26 projecting from the front end of the pad and if of metal or similar material, this end is partially twisted so that it will be flat and parallel to a handle member 28 connected thereto by

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a pivot 30 and extending angularly therefrom and then forwardly in line between adjacent pads. The other pad is connected by a link 32 pivotally connected to the forward end 26 of the other pad by a pivot 30 and connected to the handle member 28 by a pivot 34. The front or projecting end of the handle member may be formed with a crook or bend 36 by means of which it may be more readily manipulated and held when inserting the pads in the mouth of a user.

To connect adjacent pads for pivotal, adjusting movement with respect to each other, a right angle connecting member 38 may have one portion 40 imbedded in the pad by being inserted in the downwardly projecting inside wing 12 with the other angular portion extending inwardly towards the opposite pad. In each of these projecting portions is a slot 42, and the projecting portions are arranged to overlap so that a double-ended rivet 44 will engage somewhat loosely in the slots of both projections to allow them and the pads connected thereto to be spaced apart as desired and to be angularly inclined as was permitted by the pivot handle connections. With this construction a mouth guard of this kind may be applied to dentitions of different widths, sizes, and different angular relations to more adequately cover the existing teeth of any patient.

The form of invention shown in Fig. 4 is substantially similar in all respects except that the pivotal and sliding connection between the two pads is omitted and wider projections 22a are provided which extend closer together in the mouth of a patient to form a tongue guide. Since the connecting means are omitted, there is less danger of any abrasion of the tongue or gums at the inside of the guard during its application.

In both of these forms, sufficient space is left between the pads to provide an air channel and to permit the insertion of a saliva tube or an oxygen tube, neither of which are shown but either or both of which are well known and may be inserted between the pads in a well-known manner.

With this construction the guards may be easily inserted and adjusted to properly engage the molar teeth of a patient and the curved handle portion being held by some of the fingers of one hand while the thumb and fingers of the same hand may be used to adjust the pads properly in the mouth of the patient.

When the teeth of a patient are clamped upon the pads, they engage only the resilient or rubbery portion and do not come into contact with the metal or other holding portions which are so located and imbedded in the side wings that they do not come into contact with the lips, gums, or tongue of a patient.

While a preferred embodiment of this invention has been described in detail, it should be regarded as an illustration or example and not as a restriction or limitation therein as many changes may be made in the construction and arrangement of the parts without departing from the spirit and scope of the invention.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without payment of any royalties thereon or therefor.

I claim:

1. A shock-therapy mouth guard comprising two rubbery pads each having a central portion engageable between the upper and lower molar teeth of a human being with wings at both sides of the central portion to extend at the inner and outer sides of the lower teeth and on the outer sides of the upper teeth for holding the pads in place on the teeth, and handle means connecting the pads and of a length to extend out of the mouth when the pads are engaged by the teeth.

2. A shock-therapy mouth guard according to claim 1