April 13, 1937. J. D. LOCKE 2,077,245

ORAL CAVITY APPLIANCE

Filed Sept. 18, 1936

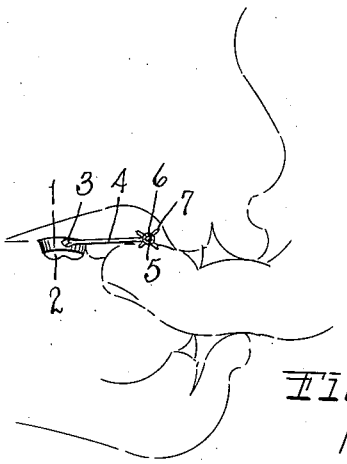

Fig. 1.

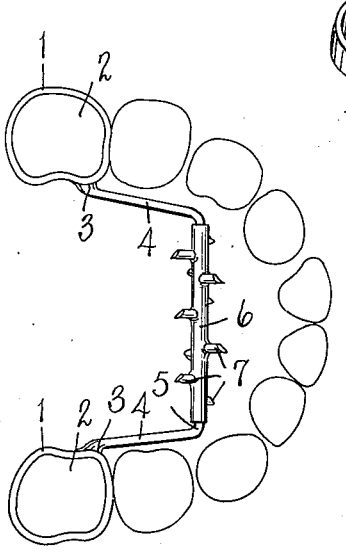

Fig. 2.

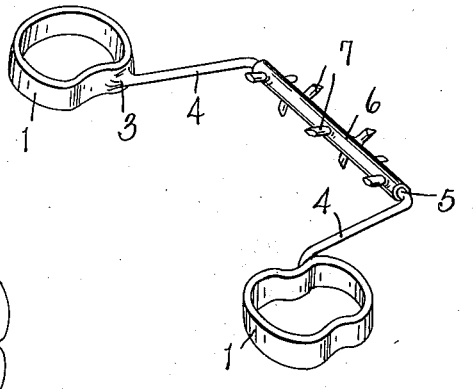

Fig. 3.

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ORAL CAVITY APPLIANCE

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7 Claims. (Cl. 128—136)

This invention relates to improvements in the oral cavity appliance described and claimed in my Patent No. 2,037,079, April 14, 1936, and the main objects thereof are:

First, to provide an appliance adapted to be fitted into the mouth of a thumb sucking child to prevent or break that habit.

Second, to provide a device of the type described wherein the action of the device may not be avoided by the child.

Further objects and objects pertaining to details and economies of construction and operation will definitely appear from the description to follow. The invention is pointed out in the claims. A preferred embodiment of my invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a side elevational view illustrating my device in mounted position in the mouth of a child and demonstrating the operation thereof.

Fig. 2 is a bottom plan view conventionally illustrating the roof of the subject's mouth and the manner of mounting my device therein.

Fig. 3 is a perspective view further illustrating structural details of my invention.

In my prior patent above referred to, I have illustrated and claimed a device perfected by me for the purpose of breaking a child of the thumb sucking habit, consisting of a device adapted to be fitted within the mouth of the child and having prongs serving to engage the inserted thumb of the child and prevent prolonged contact of the thumb against the teeth and gums by breaking up the suction effect ordinarily created.

As stated in my patent, the habit of thumb sucking over a period of time causes displacement of the natural position of the teeth, sometimes to such an extent as to prohibit orthodontic work, or if persisted in for too long a time, the distortion or displacement may be such as to render effective orthodontic work impossible. The device of that patent embodied a plurality of depending thumb engaging prongs, and I have found that it has been possible for children wearing such appliances to avoid the prongs and thus destroy the beneficial action intended by the device. The present device renders it impossible for the child to avoid these prongs, due to the fact that the teeth are mounted on a rotatable sleeve whereby, in any position of the sleeve, depending prongs or projections are presented to engage the subject's thumb and prevent suction in the mouth.

Referring to the drawing, the reference numeral 1 indicates bands adapted to be fitted to the upper oppositely disposed pre-molars 2. In the particular form shown, the bands are intended to be attached to the teeth for a relatively prolonged period. However, as described in my patent above referred to, the bands and appliance may be so constructed as to permit ready removal thereof when desired.

Attached to the bands on the inner forward sides thereof, as by welding or soldering at 3, are a pair of forwardly projecting arms 4 connected to one another by the integral transverse arch 5, said arch forming an elongated pivot extending within the mouth of the subject and spaced from the roof of the mouth as indicated in Fig. 1.

Arch 5 forms a pivot journaling an elongated sleeve 6 which is freely rotatable on the arch and carries a plurality of prongs or projections 7 extending therefrom radially or otherwise at a plurality of points angularly and longitudinally disposed relative to the sleeve. The projections 7 being rotatable relative to the fixed arms 4 and arch 5 and being disposed at a plurality of points angularly, in any position of the sleeve on the arch certain of the projections will depend downwardly for engagement with the thumb or finger of the child as illustrated in Fig. 1. So engaging the thumb, obviously the child is caused discomfort by the prongs and further the suction effect which the child desires to create is broken with the result that the finger or thumb will be withdrawn and in a relatively short time the thumb sucking habit will be effectively terminated. Inasmuch as thumb sucking is in many cases responsible for displacement of the natural position of the teeth, orthodontic work is often rendered unnecessary by my improved device and in cases where it is necessary the condition is not magnified to such an extent that orthodontic work is rendered impossible.

In addition to at all times presenting depending prongs for engagement with the thumb or finger of the child, the rotatable sleeve of my device enables ready removal of particles of food which lodge between the device and the roof of the subject's mouth.

I have shown my device as comprising a continuous arch joining arms 4 and providing a sleeve pivot. However, it will be apparent that arms 4 may terminate in a pair of oppositely disposed inwardly facing trunnions upon which the sleeve may be journaled if such a construction is desired. However, if a pair of trunnions are relied upon care should be taken that they are sufficiently long to extend a substantial distance lengthwise of the sleeve in order to prevent the

sleeve from being accidentally displaced therefrom. Likewise the arm should be sufficiently rigidly mounted by the anchoring bands to prevent their jamming against the sleeve and precluding its rotation.

Further refinements of my invention will be apparent to those skilled in the art. For instance, my appliance may be embodied in an orthodontic device if desired to prohibit thumb sucking during corrective treatment and it should be understood that such an application of my invention comes within the broad purview thereof.

I have illustrated and described my invention in an embodiment which I have found very satisfactory. I have not attempted to show various adaptations and modifications in structural details which I contemplate as I believe this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a device of the type described, means adapted to be anchored on oppositely disposed teeth in the mouth of a subject, and means carried by said means for discouraging thumb sucking, comprising arms integrally joined to said anchoring means and forming a forwardly disposed arch, and a sleeve surrounding and freely rotatable on said arch, said sleeve having projections integral therewith and extending radially therefrom at a plurality of angles, whereby certain of the projections depend downwardly in any angular position of the sleeve to engage the subject's thumb when it is inserted in the mouth and prevent suction.

2. In a device of the type described, means adapted to be anchored in the mouth of a subject, and means carried by said means for discouraging thumb sucking, comprising arms forming a forwardly disposed arch, and a sleeve surrounding and freely rotatable on said arch, said sleeve having projections integral therewith and extending radially therefrom at a plurality of angles, whereby certain of the projections depend downwardly in any angular position of the sleeve to engage the subject's thumb when it is inserted in the mouth and prevent suction.

3. In a device of the type described, means adapted to be anchored on oppositely disposed teeth in the mouth of a subject, and means carried by said means for discouraging thumb sucking, comprising a forwardly disposed arch, and means freely rotatable on said arch, said freely rotatable means having projections thereon and extending radially therefrom at a plurality of angles, whereby certain of the projections depend downwardly in any angular position of the sleeve to engage the subject's thumb when it is inserted in the mouth and prevent suction.

4. In a device of the type described, means adapted to be anchored in the mouth of a subject, and means carried by said means for discouraging thumb sucking, comprising a transverse support, and a member pivoted on said support, said member having projections integral therewith and extending therefrom at a plurality of angles, whereby certain of the projections depend downwardly in any angular position of the sleeve to engage the subject's thumb when it is inserted in the mouth and prevent suction.

5. In a device of the type described, means adapted to be anchored in the mouth of a subject, and means carried by said means for discouraging thumb sucking, comprising a transverse support, and a member pivoted on said support, said member having projections thereon extending therefrom.

6. In a device of the type described, pivot means, means for securing said pivot means in the mouth of a child, a sleeve journaled for rotation on said pivot means, and means on said sleeve and projecting therefrom at a plurality of points angularly and longitudinally of the sleeve, whereby thumb sucking on the part of the child is prevented.

7. In a device of the type described, pivot means, means for securing said pivot means in the mouth of a child, a sleeve journaled for rotation on said pivot means, and means on said sleeve for preventing thumb sucking on the part of the child.

JAMES D. LOCKE.