

July 8, 1969

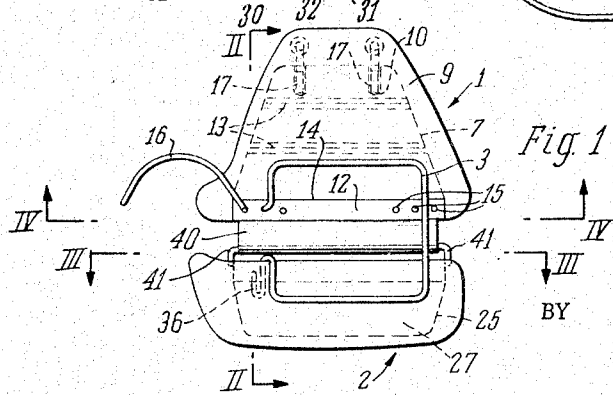
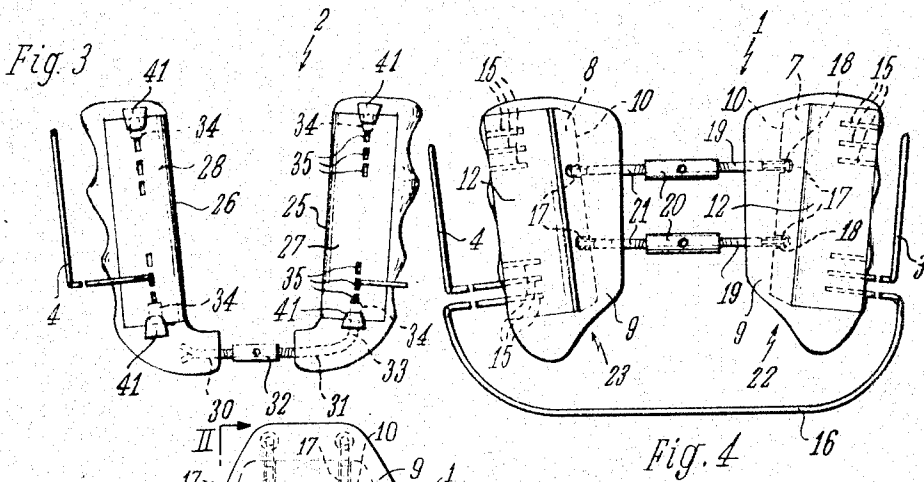
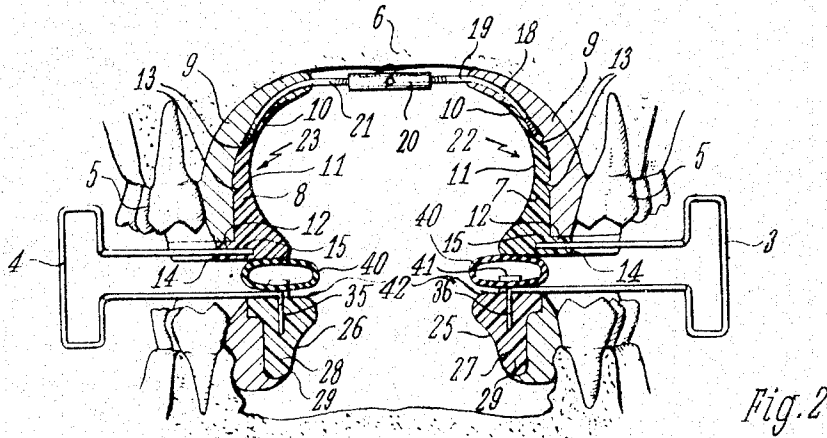
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3,454,001

ORTHOPEDIC TREATMENT APPARATUS FOR THE JAW BONES

Filed June 3, 1966

Sheet 1 of 4



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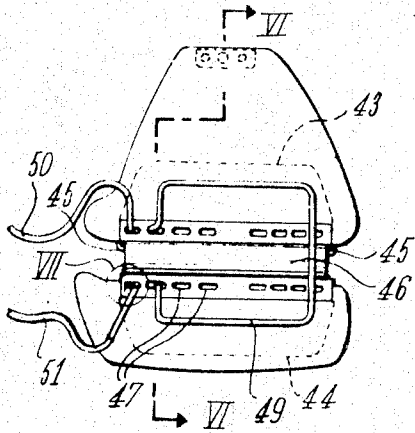


Fig. 5

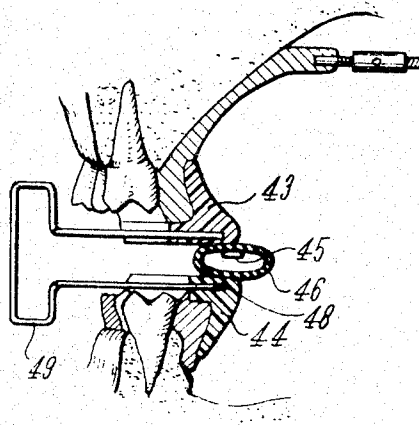


Fig. 6

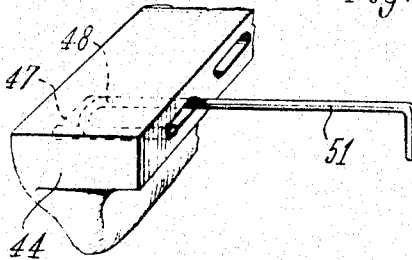


Fig. 7

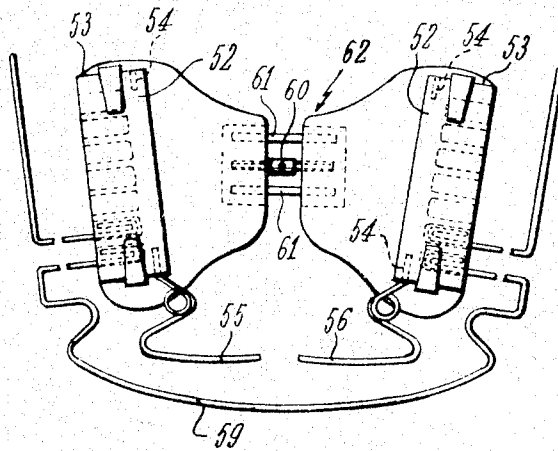


Fig. 8

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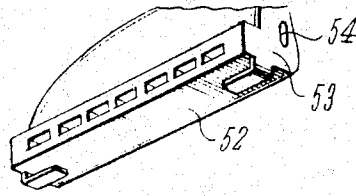


Fig. 9

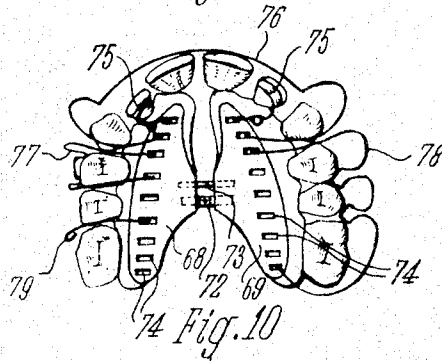


Fig. 10

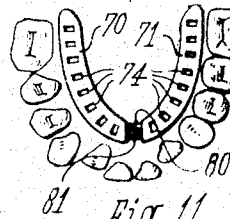


Fig. 11

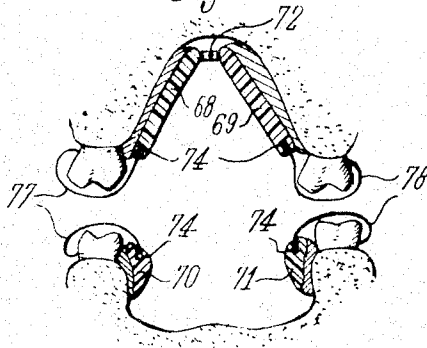


Fig. 12

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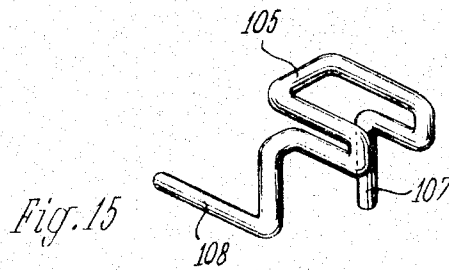
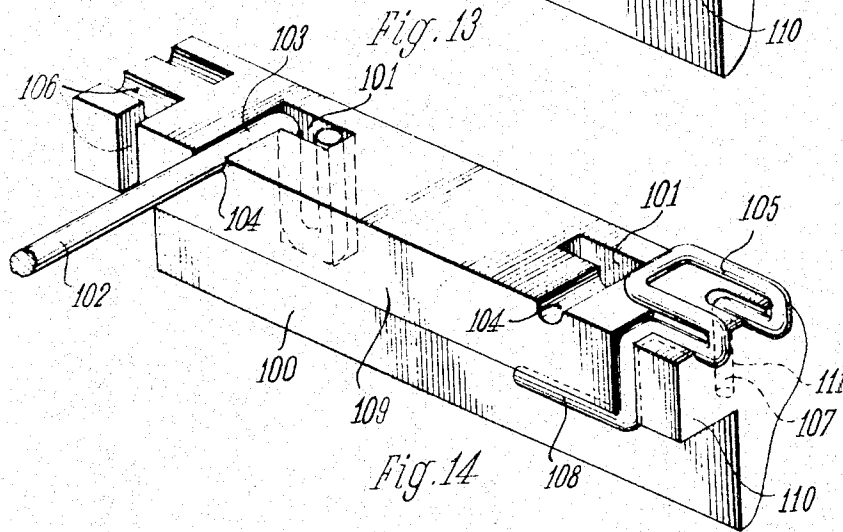
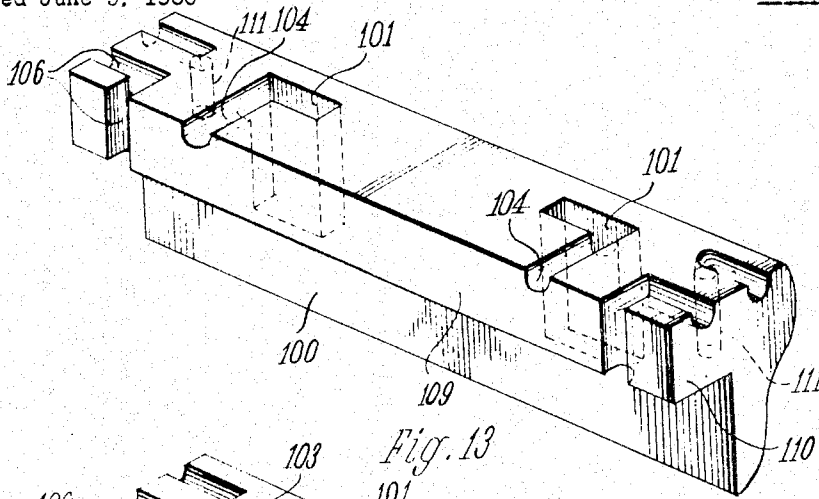
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Sheet 4 of 4



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ORTHOPEDIC TREATMENT APPARATUS FOR THE JAW BONES

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Filed June 3, 1966, Ser. No. 555,082

Claims priority, application Germany, June 3, 1965,

St 18,757

Int. Cl. A61f 5/00

U.S. Cl. 128—76

18 Claims

ABSTRACT OF THE DISCLOSURE

Apparatus for treatment of orthopedic disorders of the jaw, including a core formed by prefabricated parts extending along the curves of the teeth and jaws, which parts are covered with a self-hardening material for conforming with the particular configuration of the subject jaw bone.

The present invention relates to an orthopedic treatment apparatus for the jaw bones which is provided with at least one plate part insertable into the jaw and matched thereto, to which are secured clamps, clips, and elements for the securing, for the influencing of certain jaw bone sections, and/or for the connection of parts of the apparatus. The present invention relates in particular to a treatment apparatus of this type with at least one plate part adapted to be inserted into the upper jaw and with at least one plate part adapted to be inserted into the lower jaw, which are connected with each other by means of a clip that serves, inter alia, for the enlargement of the arcs of the teeth, i.e., the tooth curves (Kinetor).

A jaw-orthopedic plate apparatus is known in the prior art which is provided with a plate abutting along the entire hard gum and which additionally covers a part of the soft gum and all of the teeth of the upper jaw bone. This apparatus serves, for example, the purpose to prevent a contraction of the gum or of the jaw bone after an operation in the hard or in the soft gum by reason of scar shrinkage or stresses of the soft parts of the gum.

For the purpose of manufacturing this apparatus, in order to achieve an accurate fitting shape, at first casts of the upper jaw have to be made onto which is formed-on or molded-on subsequently the self-hardening material.

A bimaxillary plate apparatus is also known in the art which is provided with two plate parts each adapted to be inserted into the upper jaw and into the lower jaw, respectively, which are connected with each other whereby the plate parts of the upper jaw and those of the lower jaw are elastically connected with each other by way of an elastic wire clip arranged in the forward position of the mouth and a rubber hose is arranged between these parts along the contact surfaces which is to stimulate chewing movements. This apparatus, commonly referred to as Kinetor, serves, inter alia, for the elimination of a jaw narrowness. The plate parts consist of a self-hardening material and are formed or molded with the aid of a jaw bone model. However, the manufacture of the Kinetor is complicated—as is also the case with all the other known removable apparatus. Since several clips and springs are secured at the same time at the plate parts, for example, frontal clips, securing clips for the rubber hose, springs for the movement or support of the teeth, clips for the connection between the plate parts of the upper jaw bone and of the lower jaw bone as well as hooks for the suspension of springs, these clips and elements have to be inserted already during the manufacture of the plate parts at exactly the correct places within the still soft material since a subsequent bending of the elements often-

times is no longer possible or may lead to a loosening of the fastening or securing as well as to a breaking of the plate.

In contradistinction thereto, the present invention consists in that the treatment apparatus is provided with prefabricated or finished parts extending along the curves of the teeth of the jaws and forming the core of the apparatus, which finished parts, for purposes of adaptation to the individual respective jaw bone, are covered with a self-hardening material adapted to the shape of the respective jaw section.

The advantage of the present invention resides in that the manufacture of the apparatus is simplified very considerably so that, for example, a decrease of the time expenditures of about 80% is achieved. If the self-hardening material is, for example, a conventional cold polymer then a plate part is made in the simplest manner in that a finished part determined for a respective jaw section is coated with the cold polymer and is pressed therewith against the jaw section. After a few minutes, the plate part is completed and finished and only projecting polymer edges that are undesirable have to be removed.

The apparatus according to the present invention is preferably so constructed that at least one side of the prefabricated or finished part is freely accessible and that the clips holding together the treatment apparatus and the elements serving for the influencing of certain jaw sections, for example, springs, clips and others, are secured at the finished parts. The elements, etc., are thereby interchangeably secured at the finished parts. The particular advantages of such a manner of securing reside in that the plate parts may be made without requiring that the members have to be secured simultaneously at these plate parts. Also, if in the use of the apparatus, for example, a clip suffers a fatigue break, or if an existing frontal clip is to have, for example, a larger or another shape, only the existing elements have to be removed and have to be replaced by a new element. The new element may, if desired, also be secured at another place. A still further advantage resides in the fact that the apparatus may be disassembled and taken apart into its individual plate parts for possible changes or repairs without destruction of the clips.

With another embodiment of the present invention, the prefabricated, finished parts are provided at the freely accessible side thereof with symmetrically arranged apertures or recesses into which are adapted to be inserted portions of the clips and elements. Preferably the finished parts intended for the left and for the right jaw side have an identical shape (not a mirror-image-like or symmetrical shape) whereby the manufacture thereof is considerably simplified.

The finished parts may consist of different materials, thus, for example, of corrosion-resistant metals. Finished parts of conventional plastic material, especially of a synthetic plastic material having the color of the gum flesh are, however, particularly favorable. The synthetic plastic material may be any conventional, appropriate thermoplastic material. This offers the possibility to manufacture the finished parts relatively inexpensively in large quantities. Furthermore, elements initially not present may be welded or molded onto the plate parts after finishing thereof.

With another construction according to the present invention, an upper jaw plate part as well as a lower jaw plate part is provided with finished parts only within the area of the back teeth and the eyeteeth. The finished parts may be constructed in cross section either of triangular shape or of angular shape, i.e., they may possess every cross section that can be understood as transition between a triangular and an angularly shaped cross sec-

tion. The freely exposed edges in the finished plate part are rounded off.

With still another embodiment of the present invention, the surface of the finished parts extends adjacent the teeth in a plan of the chewing surfaces or at a small distance parallel thereto. This surface of a finished part present in an upper jaw plate part is disposed parallel and opposite a corresponding surface of a plate part disposed in the lower jaw. A compressible rubber element may be disposed between these surfaces of two finished parts of an upper and of a lower plate part or directly between the chewing surface of the back teeth (molars and bicuspids). The finished parts of the lower jaw or those of the upper jaw are then provided additionally with retaining or securing elements, for example, hooks for securing or retaining the rubber element, whereby the retaining elements may consist of the same material as the finished parts or also of metal and may be molded already together with the finished parts or may be inserted subsequently.

With still a further embodiment of the present invention, the finished parts of the surface plate parts are provided with lateral extensions or projections extending along the gum and extending a leg portion of the finished parts. These extensions are preferably constructed of trapezoidal shape. The extensions may also be provided with places of reduced material strength for purposes of increasing the flexibility. A facilitated adaptation of the finished parts is possible thereby during the pressing-on action against the self-hardening material and against the jaw or gum.

With one embodiment of the present invention all finished parts of the plate apparatus are identical with one another. This signifies a considerable simplification of the manufacture thereof. Hooks for the securing of a rubber hose that may eventually be provided, are then inserted into apertures of the finished part intended therefor. A further possibility of the simplification additionally resides in the fact that all of the finished parts are made with formed-on or molded-on hooks and then either the hooks of the finished parts for the upper jaw or those of the finished parts for the lower jaw are removed.

The finished parts may be provided at least with one channel-like aperture or recess which extends essentially in the longitudinal direction of the finished part. A reinforcing clip for the finished part may be inserted through this aperture which serves simultaneously as retaining or securing clip.

In another embodiment of the present invention, at least one portion of the apertures or recesses of the finished parts serving for the securing of elements is provided with an oval-to-rectangular cross section. U-shaped bent ends of clips are adapted to be inserted into these apertures. A sturdy and therewith elastic connection between the clips and a plate part is made possible by this construction of the apertures and of the clip ends.

With a preferred embodiment of the present invention, the finished parts are provided with groove-shaped reinforcements at least in a portion of the places along which clip portions extend parallel to the surfaces of the finished parts and come into abutment at the finished part, with clip sections being adapted to be inserted into the groove-shaped reinforcements. With this construction, the connecting clip may be anchored either in the lower-jaw finished part or in the upper-jaw finished part, for example, in a vertical aperture or recess and may then extend away toward the side flush or parallel with the surface of this finished part. The clip then has a good guidance, similar to the guidance with the lateral insertion into the finished part, but cannot be pulled out of the finished parts by a simple pull at the clip. Similar advantages result with the other clip types and hooks if they are guided in similar grooves. Thus, with a further embodiment of the present invention, one end of a wire clip, used as hook for securing a rubber hose, is guided

in a groove-shaped recess in the finished part and engages from below at least one surface layer of the finished part. The other end of this clip is thereby inserted into the finished part perpendicularly to the first end. The small hook consisting of the wire clip is thus locked after emplacement on the finished part.

Further objects, features, and advantages of the present invention will become more obvious from the following description of several embodiments in accordance with the present invention, when taken in connection with the accompanying drawing which shows, for purposes of illustration only, several embodiments of the present invention. The individual features, however, of the present invention may be utilized either by themselves or several of them combined in one and the same embodiment of the present invention.

In the drawing, several embodiments of the present invention are illustrated, in which:

FIGURE 1 is a side elevational view of one embodiment of the present invention;

FIGURE 2 is a cross-sectional view taken along line II—II of FIGURE 1;

FIGURE 3 is a cross-sectional view taken along line III—III of FIGURE 1;

FIGURE 4 is a cross-sectional view taken along line IV—IV of FIGURE 1;

FIGURE 5 is a side elevational view of a modified embodiment in accordance with the present invention;

FIGURE 6 is a partial cross-sectional view taken along line VI—VI of FIGURE 5;

FIGURE 7 is a perspective view, on an enlarged scale, and illustrating the details indicated by the circle designated by reference numeral VII in FIGURE 5;

FIGURE 8 is a bottom plan view of an upper jaw plate of a still further modified embodiment in accordance with the present invention;

FIGURE 9 is a perspective view of a finished part of the embodiment of FIGURE 8;

FIGURE 10 is a bottom plan view of an upper jaw plate of a still further modified embodiment of the present invention;

FIGURE 11 is a plan view on the lower jaw plate of the embodiment according to FIGURE 10;

FIGURE 12 is a cross-sectional view through the embodiment according to FIGURE 10;

FIGURE 13 is a perspective view, on an enlarged scale, of a further modified embodiment of a lower-jaw finished part according to the present invention;

FIGURE 14 is a perspective view illustrating the finished part of FIGURE 13 with the clip and hooks inserted into position; and

FIGURE 15 is a perspective view illustrating the clip by itself used in the embodiment of FIGURE 14.

Referring now to the drawing wherein like reference numerals are used throughout the various views to designate like parts, in the embodiment of the present invention illustrated in FIGURES 1 to 4, a bimaxillary plate apparatus (Kinetor) is provided with a two-partite upper-jaw plate generally designated by reference numeral 1 and a two-partite lower-jaw plate generally designated by reference numeral 2 which are connected with each other by way of two wire clips 3 and 4. The two plate parts generally designated by reference numerals 22 and 23 forming the upper-jaw plate 1 abut, as illustrated in FIGURE 2, against the inner side of the back teeth 5 (molars and premolars) and extend up to within the upper region of the hard gum 6. Each plate part is provided with a pre-fabricated, finished part 7 and 8 consisting of thermoplastic material which forms the core of the plate part. The two finished parts 7 and 8 are identical with one another and are to be considered as unfashioned blank part for the plate parts. A hardenable cold polymer 9 covers the side of the finished parts facing the jaw and accurately reproduces the surface structure of the jaw bone and of the corresponding row of teeth. The finished parts 7 and 8

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have an essentially angularly shaped cross section whereby the upper edge 10 of the vertical extension 11 is bent slightly inwardly. The bent portion varies slightly depending on the shape of the gum. Two grooves 13 extending parallel to the upper edge 10 permit the bending and matching of the extensions 11 of the finished parts to the approximate gum shape. The vertical extensions 11 are constructed of trapezoidal shape. The sections having the grooves 13 are thinner than the remaining finished parts so that they appear as the extensions thereof. The horizontal extensions 11 are provided along the narrow side 14 facing the cheek, which is accessible by way of the chewing surface of the teeth 5, with six symmetrically arranged cylindrical apertures 15. One end each of the connecting clips 3 and 4 and the ends of a frontal clip 16 holding off the lip pressure are inserted into two of each of these apertures 15, the frontal clip extending within the area of the upper incisors or cutting teeth along the outer side thereof from one upper-jaw plate part to the other. The inner diameter of the apertures 15 is slightly smaller than the diameter of the wire ends provided with obliquely extending notches so that the wire ends, after insertion into the elastic finished part, have a secure support. Of these apertures 15 only the forward ones are needed. The rear apertures 15 of the finished part serve exclusively for the purpose that one and the same finished part may be utilized both as left as also as right half whereby the rear apertures, in case of use as the rigid plate part, come to lie in front with the use as the left plate part and then serve for the fastening of the clips. The upper edge 10 of the vertical leg portion 11 of the finished parts 7 and 8 each includes two recesses or indentations 17 which are provided for the accommodation of two threaded bolts 19 and 21 serving for the connection of the plate parts 22 and 23.

The threaded bolts 19 are provided with a right-hand thread and the threaded bolts 21 with a left-hand thread, and threaded sleeves 20 connecting these bolts 19 and 21 in a turn-buckle-like manner are provided correspondingly with a right-hand thread in one half and with a left-hand thread in the other half so that the distance between the plate parts is adjustable and these plate parts are additionally disengageable from each other. During the manufacture of the apparatus, initially a layer of cold polymer is brushed into the upper jaw model. The threaded bolts 19 and 21 together with their threaded sleeves 20 are thereupon inserted and thereafter the finished parts 7 and 8 are placed over the layer of the cold polymer. The bolts 19 and 21 are thereby so arranged that they come to lie at the place of the recesses or indentations 17 of the finished parts 7 and 8 and during emplacement of the finished parts upon the layer of cold polymer are not pressed through the same against the gum surface.

The plate parts 25 and 26 forming the lower-jaw plate 2 are provided also with finished parts 27 and 28 which have an essentially angularly shaped cross section. However, the vertical leg portion 29 of these finished parts 25 and 26 is, kept shorter corresponding to the anatomic conditions of the lower jaw bone. The plate parts 25 and 26 are made in a similar manner as the plate parts 22 and 23 of the upper-jaw plate 1. Also, the connection of the two plate parts 25 and 26 by way of a tightener provided with two bolts 30 and 31 and a threaded sleeve 32 takes place in a similar manner whereby one end 33 of the turn-buckle-like tightener may be inserted into an aperture 34 located at the end face of a respective finished part. The finished parts 27 and 28 are each provided at the top surface thereof with six vertical symmetrically arranged apertures 35 having rectangular cross section. The lower ends 36 of the connecting clip 3 and 4 are each inserted into one of the forward apertures 35. This end 36 is bent-up in a U-shape whereby a clamping effect is achieved within the aperture 35 and any possible lateral deflection or pivoting of the clips 3 and 4 is prevented as will be more clear from a consideration of FIGURE 7 illustrating an analogous case for a horizontal aperture. Each of the clips 3

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and 4 extends from the ends secured in the finished parts between the rows of teeth of the upper and lower jaw in the direction toward the cheeks and forms a rectangle disposed between the rows of teeth and the cheeks parallel thereto and open toward the front which holds off the cheek pressure from the teeth.

One rubber hose 40 each is arranged between the horizontal leg portions 12 and 42 of the finished parts of the upper-jaw plate parts 22 and 23 and of the lower-jaw plate parts 25 and 26 in the longitudinal direction thereof which produces a bite lock. This rubber hose 40 is retained by small hooks 41 which are arranged at the ends of the finished parts 27 and 28 of the lower-jaw plate 2 and engage into the inner space of the hose 40. The hooks 41 consist of the same material as the finished parts and are formed-on or molded-on already during manufacture thereof. As a result of the bite lock unaccustomed to by the patient, the latter is stimulated into carrying out chewing movements. The vertical force components occurring during closing of the bite are decomposed partly into horizontal force components which effect an expansion or stretching of the jaw bone.

With the treatment apparatus according to the present invention illustrated in FIGURES 5, 6, and 7 four finished parts 43 and 44 are provided which differ at most from one another in that the finished parts 43 intended for the upper jaw are provided with small plastic hooks 45 for the securing of a rubber hose 46. In contradistinction to the finished parts 7 and 8 of the aforementioned embodiment, the finished parts 43 intended for the upper jaw possess no trapezoidally shaped extensions. The finished parts 43 and 44 are provided each with eight symmetrically arranged, oval apertures 47 which extend perpendicularly to the plane of the cheek and which are open only on the cheek side. The apertures 47 serve for the securing of wire clips whose ends 48, as illustrated in FIGURE 7, are bent up into U-shape. One end of a clip 49 connecting the finished parts 43 and 44 of a respective cheek side are inserted into one aperture each of a finished part; the clip 49 has essentially the shape of a rectangle and is disposed between the curves of the jaw bones and the cheek musculature. An upper and a lower frontal clip 50 and 51 are secured in the apertures 47 disposed closest to the incisors or cutting teeth, the frontal clips 50 and 51 hold off the lip pressure from the incisors.

There is prevented by the U-shaped construction of the clip ends that the clip inserted into the aperture can rotate within the aperture whereby a better seating of the clip and therewith also a better connection of two finished parts connected by means of a clip can be achieved. This is important in particular with frontal clips since the lips exert a constant pressure on the clips.

The advantage of the finished parts utilized with this embodiment resides in the fact that all four finished parts may be made with the aid of a single tool or die. The small hooks 45 for the rubber hose present initially with all finished parts are, after the manufacture of the treatment apparatus, cut off as desired on the finished parts of the upper jaw or those of the lower jaw.

Finished parts 52 are used in the embodiment illustrated in FIGURES 8 and 9 of the present invention which are each provided at the end faces 53 with one additional aperture 54 as additional anchoring possibility but which are otherwise constructed similar to the finished parts 43 and 44 of the next preceding embodiment. As may be readily seen from FIGURE 8, two springs 55 and 56 are secured in the apertures at the forward end face of the finished parts which serve for the movement of the upper incisors or cutting teeth. The ends of these springs inserted into the finished part are bent into U-shape similar to the clip ends and abut securely against the inner side of the oval apertures by reason of the clamping effect thereof. The apertures 54 may also be constructed in a channel-like manner and may extend from one end face of the finished part to the other. Reinforcing clips may be inserted into

these channels for increasing the stability and rigidity of the plate parts. These reinforcing clips may, for example, be constructed at the same time as springs 55 or frontal clips 59.

The two plate parts 57 and 58 of the upper jaw plate illustrated in FIGURE 8, in addition to the connection thereof by way of the frontal clip 59, are additionally connected by means of a turn-buckle-like expanding screw 60 which is surrounded by two guide pins 61. During the manufacture of the upper-jaw plate, the finished parts 52 are placed on a not-yet-hardened cold polymer. The polymer is brushed smooth simply by means of the fingers in those places where the finished parts terminate, especially at the sides of the gum. The expanding screw 60 is then embedded together with the guide pin 61 as pre-assembled unit 62 into the still soft polymer. Plate parts made of high mirror-finished, rupture-resistant plastic material do not need to be polished after the assembly of the apparatus. An after-finishing is necessary only at the plate rims so that the time-consuming polishing and finishing operations of the plates is dispensed with.

An apparatus is illustrated in FIGURES 10 to 12 in which the finished parts 68 and 69 of the upper jaw differ from the finished parts 70 and 71 of the lower jaw and the finished parts of the right bite half 68 and 70 are constructed symmetrically or mirror-image-like to the corresponding parts of the left bite half 69 and 71. The finished parts extend up to the incisors. The finished plate apparatus does not abut against the teeth whose positions to one another is to be regulated and therefore have to remain movable. The finished parts 68 and 69 of the upper jaw extend over a large part of the gum and are connected with each other at the gum apex by way of an insertable expanding screw 72 provided with guide pins 73. All four finished parts are provided with vertically extending apertures 74 having a rectangular cross section. Springs 75, clips 76, clamps 77, arrow clamps 78 and spring clamps 79 are inserted into these apertures 74 which serve for the regulating of the tooth position. During the manufacture of the plate apparatus, the finished parts of the two jaws already connected with each other by the expansion screws 72 and 80 and by the guide pins 73 and 81 are coated or covered with a cold polymer, are inserted into the corresponding jaw and are pressed against the jaw, possibly while increasing the distance of two finished parts by the adjustment of the expanding screws. In this embodiment, all of the elements for holding together the apparatus and for influencing the jaws and teeth are inserted into the finished part and are therefore interchangeable. With the use of a rubber hose, also the small hooks for the securing of the hose are therefore inserted into an aperture.

In the embodiment of the present invention illustrated in FIGURES 13 and 14, there is provided a lower-jaw finished part 100, which is provided similar to the finished parts 27 and 28 of the first embodiment, with vertically arranged apertures 101 having a rectangular cross section for the securing of connecting clips 102. In contrast to the finished parts 27 and 28, a section 103 of the clip 102, which after the insertion abuts against the finished part, is recessed in the finished part within a groove 104 which extends from one corner of the aperture 101 along the clip surface up to the longitudinal edge of the finished part and whose cross section corresponds essentially to that of the clip. Two apertures are provided in the finished part 100 whereby the one is utilized in the right finished part and the other, arranged symmetrically thereto, in the left finished part of the lower jaw plate for the securing of the clip. However, several other correspondingly constructed apertures 101 may still be provided. The groove 104 imparts a good guidance to the clip 102 and additionally brings about that a rubber hose inserted between the finished parts of the lower and upper jaw is able to rest over its entire length on the surface of the finished part. The rubber hose additionally contributes in

that case to the retention of the sections 103 of the clips 102 in the grooves 104.

The anchoring of such a rubber hose is also different with the finished part 100 of this embodiment from that of the finished parts 27 and 28 of the first embodiment. In lieu of molded-in plastic hooks, anchoring hooks 105 of wire are provided in this embodiment which are adapted to be inserted into the finished part. Such wire hooks have the advantage that they can be kept very thin in the material strength thereof. FIGURE 15 illustrates such a hook by itself while in FIGURE 14 such a hook is installed on the finished part 100. All of the sections of the hook 105 extending parallel to the finished part surface and coming into abutment thereagainst are recessed in groove-shaped recesses 106 provided in the finished part 100. One wire end 107 of the hook is bent downwardly and is inserted into a vertical aperture 111 in the finished part. The other end 108 is bent several times and extends in the recesses 106 of the finished part from the top side by way of the narrow side 109 to the bottom side of the horizontal leg portion 110 of the finished part which it engages from below. In this manner a safe seating of the hook 105 is created. If the finished part 100 is covered with a cold polymer, then the end 108 is embedded into this cold polymer so that the hook is non-detachably connected with the treatment apparatus. The hook 105 as also the clips of the previous embodiments are reshaped in the factory and can thereby be installed during assembly of the treating apparatus without prior bending directly on the molded finished part. The hook 105 may also be shaped differently from that illustrated in FIGURE 15. Thus, the section of the hook engaging in the rubber hose may also be so shaped that the rubber hose after the insertion of the apparatus is retained directly between the chewing surfaces of the molars.

While I have shown and described several embodiments in accordance with the present invention, it is understood that the same is not limited thereto but is susceptible of numerous changes and modifications as known to a person skilled in the art. According to the present invention, also other types of plate apparatus may be provided with finished parts, for example, such as possess only one upper-jaw plate that may be of unitary construction.

Thus, it is obvious that the present invention is susceptible of numerous changes and modifications as known to a person skilled in the art, and I therefore do not wish to be limited to the details shown and described herein but intend to cover all such changes and modifications as are encompassed by the scope of the appended claims.

I claim:

1. An orthopedic treating apparatus for jaw bones, comprising at least one plate member adapted to be inserted into the upper jaw and one plate member adapted to be inserted into the lower jaw, each of said plate members being adapted in shape to the respective jaw, said plate members being provided with prefabricated parts extending along the tooth curve of the jaw and forming the core of the apparatus, each finished part being covered, for purposes of adaptation to the individual jaw, with a self-hardening material adapted to the shape of the respective jaw section, connecting means including clip means for operatively connecting said plate members, wherein said prefabricated parts are of angular shape in cross section, one surface thereof extending adjacent the teeth at most at a small distance parallel to the plane of the chewing surface, said one surface in the prefabricated part forming an upper jaw plate member being disposed substantially parallel and opposite a corresponding surface in a prefabricated part of the lower-jaw plate member.

2. An apparatus according to claim 1, wherein said prefabricated parts consist of a colored plastic material.

3. An apparatus according to claim 1, further including a rubber element disposed between the surfaces of the two prefabricated parts for the upper and lower plate mem-

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bers and retaining means for said rubber element provided on the prefabricated part for one of the jaws.

4. An apparatus according to claim 3, wherein said rubber element is arranged between the chewing surfaces of the back teeth.

5. An apparatus according to claim 1, wherein the prefabricated part of the upper jaw plate member is provided with extensions extending along the gum.

6. An apparatus according to claim 5, wherein said extensions are of approximately trapezoidal shape.

7. An apparatus according to claim 6, wherein said extensions are provided with places of reduced material strength for increasing the flexibility thereof.

8. An apparatus according to claim 5, wherein said extensions are provided with places of reduced material strength for increasing the flexibility thereof.

9. An apparatus according to claim 1, wherein the upper-jaw plate member as well as the lower-jaw plate member are provided with prefabricated parts only within the area of the back teeth and eyeteeth.

10. An apparatus according to claim 1, wherein the prefabricated parts for the left and right jaw side are of identical construction.

11. An apparatus according to claim 1, wherein all prefabricated parts of the plate apparatus are identical with each other.

12. An apparatus according to claim 1, wherein a prefabricated part is provided with at least one continuous aperture that extends essentially in the longitudinal direction of the respective prefabricated part.

13. An apparatus according to claim 1, at least one side of each prefabricated part being freely accessible and being provided thereat with aperture means, and further means inserted with portions thereof into said aperture means, wherein at least a part of the aperture means provided in the prefabricated parts have a cross section of between oval to rectangular configuration, said further means including U-shaped bent clip means and spring means with the ends insertable into said aperture means.

14. An apparatus according to claim 12, further comprising clip means, a respective prefabricated part being provided with groove-shaped recess means at least in a

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portion of the places along which sections of said clip means extend parallel to the surface of the prefabricated part and come into abutment at the prefabricated part, and said clip sections being adapted to be inserted into said recess means.

15. An apparatus according to claim 14, further comprising rubber hose means and a hook for the support thereof, said hook including support clip means adapted to be inserted into a prefabricated part.

16. An apparatus according to claim 15, wherein one end of said clip means is guided within a groove-shaped recess means provided in the prefabricated part and engages from below at least one surface layer of the prefabricated part, and the other end of said clip means is inserted into the prefabricated part essentially perpendicularly to the first end thereof.

17. An apparatus according to claim 1, further comprising rubber hose means and a hook for the support thereof, said hook including support clip means adapted to be inserted into a prefabricated part.

18. An apparatus according to claim 17, wherein one end of said clip means is guided within a groove-shaped recess means provided in the prefabricated part and engages from below at least one surface layer of the prefabricated part, and the other end of said clip means is inserted into the prefabricated part essentially perpendicularly to the first end thereof.

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U.S. Cl. X.R.

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