April 27, 1926. 1,582,570

A. C. BRUST

ORTHODONTIC APPLIANCE

Filed March 27, 1925

Fig. 1.

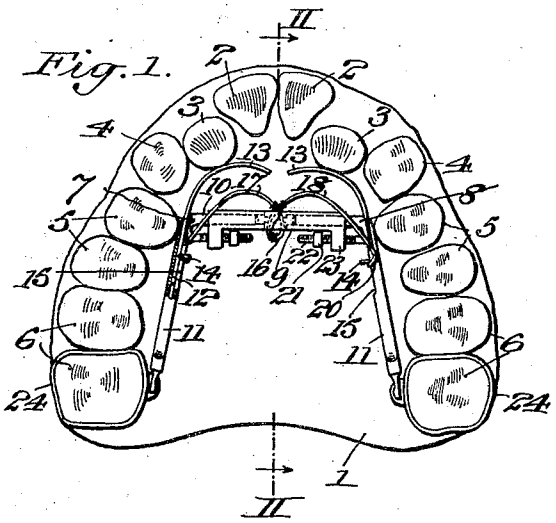


Fig. 2.

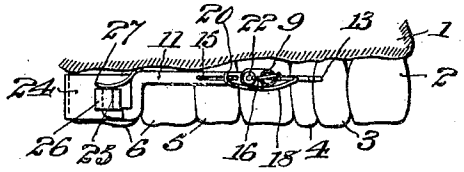


Fig. 3.

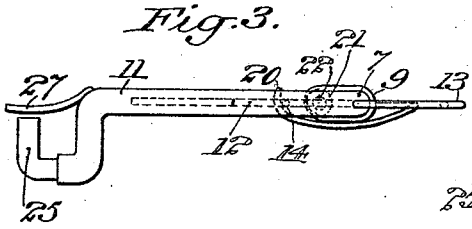


Fig. 4.

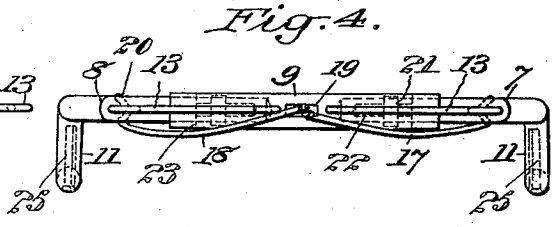
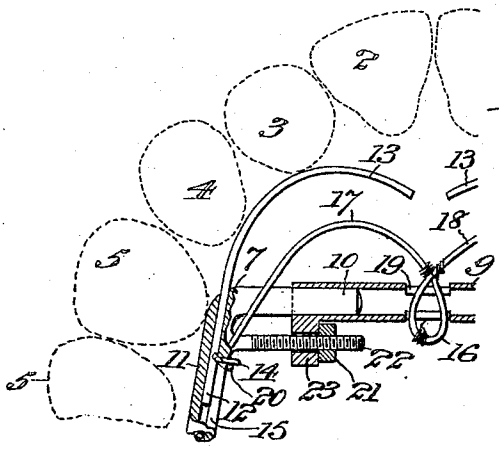


Fig. 5.



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Patented Apr. 27, 1926. 1,582,570

UNITED STATES PATENT OFFICE.

AUGUST C. BRUST, OF NEW YORK, N. Y.

ORTHODONTIC APPLIANCE.

Application filed March 27, 1925. Serial No. 18,704.

To all whom it may concern:

Be it known that I, AUGUST C. BRUST, a citizen of the United States, and resident of the borough of Manhattan, in the city, county, and State of New York, have invented new and useful Improvements in Orthodontic Appliances, of which the following is a specification.

This invention relates to improvements in orthodontic appliances and has for its object to provide means adapted to engage the human teeth for urging them into proper alinement within the normal arch of the jaw, as for instance, in expanding a contracted jaw and straightening irregular teeth therein, whereby the regularity and evenness in the appearance of the teeth is restored.

Another object is to provide an appliance having yielding means which will engage the irregular teeth and apply thereto a relatively slight but constant pressure in a direction to meet the particular conditions requiring correction.

Another object is to provide an appliance having elements capable of individual adjustability, whereby different yielding pressures may be applied in different directions.

Another object is to provide an appliance of simple construction and having its elements removable for cleaning and other purposes.

Another object is to provide certain improvements in the form, construction and arrangement of the parts whereby the above named and other objects may be effectively attained.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Fig. 1 represents a plan view, partly in section, of a conventional upper jaw and the imperfectly arranged teeth having my improved appliance in operative position thereon.

Fig. 2 represents a vertical section taken in the plane of the line II—II of Fig. 1, looking in the direction of the arrows.

Fig. 3 represents a side elevation of the appliance on a larger scale.

Fig. 4 represents a front elevation of the same, and

Fig. 5 represents a detail plan view, partly in section, of a portion of the appliance, certain of the parts being shown in another position from that shown in Fig. 1, and the teeth being shown in dotted outline with the imperfectly placed teeth in substantially proper alinement.

It is not deemed necessary herein to discuss the application of this appliance for all malformations of the mouth or teeth with which dentists are at different times confronted for correction nor all the malformations for the correction of which an appliance constructed in accordance with this invention is adapted for use.

The present description and illustration of an exemplary embodiment of my invention will be confined largely to a particular instance of its useful application by a practical case of a certain class, and by such disclosure a person skilled in the art to which this invention pertains will recognize the scope of the improvements and will be enabled to utilize the advantages afforded thereby in meeting the requirements of other cases.

The jaw as outlined in Figs. 1 and 2, is denoted by 1, the central incisors by 2, the lateral incisors by 3, the canines or cuspids by 4, the bicuspids by 5, and the molars by 6, of which the lateral incisors 3 and one of the bicuspids 5 are shown out of proper relation and the appliance located in position to correct this particular irregularity.

The appliance comprises oppositely disposed tubular members 7, 8, which are arranged to slide in a sleeve 9 also of tubular structure. Each of the members is formed of arms 10, 11 arranged substantially at right angles to each other, which arm 10 is fitted to slide in the sleeve 9, while the arm 11 is arranged to receive a device having a straight portion 12 developed into a curved portion 13, which curved portion is somewhat flexible and is arranged to contact with the lateral incisors 3. The straight portion 12 is provided with a laterally arranged pin 14 which projects inwardly and is arranged to slide in a slot 15 in the arm 11 of its member.

In order to actuate the members in the sleeve 9 and the straight portion 12 in its arm, I provide a yielding element, in the present instance, formed of a single piece of spring wire bent into a centrally disposed loop 16 and outwardly curved branches 17, 18. The loop 16 is rigidly held in a slot 19 in the sleeve 9, by any well known or ap-

proved means. The free end of each of the branches is provided with a hook 20 which engages the arm 11 of the member and the pin 14 of the straight portion 12 of the device. The branches 17, 18 are so shaped and bent so as to cause the device to move forwardly in its member and the member laterally in the sleeve.

Thus it will be seen that the lateral movement of the members in the sleeve will engage the displaced bicuspids 5 and urge them outwardly, and the forward movement of the curved portion 13 of the devices will press the lateral incisors 3 forwardly. The members 7 and 8 are each limited in movement by means of a nut 21 having a screw threaded engagement with a stud 22 fixed to the arm 11, which stud is adapted to move in a bracket 23 carried by the sleeve 9.

The appliance is secured in position by means of bands 24 arranged to encircle two of the teeth, preferably the oppositely disposed molars. The bands 24 are fixed to the molars in any suitable manner, as for instance, by cement. The arms 11 are each provided with an upwardly turned end 25 which is arranged to fit in a socket 26 fixed on the inner side of the band 24. To prevent unintentional displacement of the upwardly turned end in the socket, each arm 11 is provided with a spring finger 27, which rests upon the top of the socket 26 and serves to hold the end 25 therein.

While I have shown the appliance as being removably secured to the bands, it will be understood that the arms may be permanently secured to the bands, and the bands removably secured to the teeth in any well known or approved manner.

From the foregoing, it will be seen that the appliance is capable of individual adjustability, so that different yielding pressures may be applied in different directions. Furthermore, the yielding means may be adjusted so as to engage one or more of the irregular teeth and apply thereto a relatively slight but constant pressure in a direction to meet the particular conditions requiring correction.

It will also be seen that either or both members may be adjusted to increase or diminish the spring tension thereon by rotating the nuts 21 on the screw threaded studs 22, without removing the appliance from the mouth.

It is obvious that various changes may be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; and hence, I do not intend to be limited to the details herein shown and described except as they may be included in the claims.

What I claim is:—

1. An orthodontic appliance comprising, a sleeve arranged to be positioned in the arch of the jaw, a member longitudinally slidable therein, and an exteriorly mounted spring actuated element carried by said sleeve in position to engage said member for moving the member outwardly toward the teeth.

2. An orthodontic appliance comprising, a sleeve arranged to be positioned in the arch of the jaw, a member longitudinally slidable therein, an exteriorly mounted spring actuated element carried by said sleeve in position to engage said member for moving the member outwardly toward the teeth, and means for limiting the outward movement of the member.

3. An orthodontic appliance comprising, a sleeve arranged to be positioned in the arch of the jaw, a member longitudinally slidable therein, an exteriorly mounted spring actuated element carried by said sleeve in position to engage said member for moving the member outwardly toward the teeth, and adjustable means for limiting the outward movement of the member.

4. An orthodontic appliance comprising, a sleeve, oppositely disposed members mounted to slide therein, and a spring actuated element for moving the members in the sleeve.

5. An orthodontic appliance comprising, a sleeve, oppositely disposed members mounted to slide therein, a spring actuated element for moving the members in the sleeve, and means for limiting the movement of the members.

6. An orthodontic appliance comprising, a sleeve, oppositely disposed members mounted to slide therein, a spring actuated element for moving the members in the sleeve, and adjustable means for limiting the movement of the members.

7. An orthodontic appliance comprising, a sleeve, oppositely disposed members mounted to slide therein, and a spring actuated element engaging said sleeve and interposed between said members for moving the members in the sleeve.

8. An orthodontic appliance comprising, a sleeve, oppositely disposed members mounted to slide therein, a spring actuated element engaging said sleeve and interposed between said members for moving the members in the sleeve, and means for limiting the movement of the members.

9. An orthodontic appliance comprising, a sleeve, oppositely disposed members mounted to slide therein, a spring actuated element engaging said sleeve and interposed between said members for moving the members in the sleeve, and adjustable means for limiting the movement of the members.

10. An orthodontic appliance comprising, a sleeve, a tubular member mounted to slide therein, a device slidable in said member, and a spring actuated element engaging said sleeve, member and device for moving the

member in the sleeve and the device in the member.

11. An orthodontic appliance comprising, a sleeve, a tubular member mounted to slide therein, a device slidable in said member, a spring actuated element engaging said sleeve, member and device for moving the member in the sleeve and the device in the member, and means for limiting the movement of the member.

12. An orthodontic appliance comprising, a sleeve, a tubular member mounted in slide therein, a device a slidable in said member, a spring actuated element engaging said sleeve, member and device for moving the member in the sleeve and the device in the member, and adjustable means for limiting the movement of the member.

13. An orthodontic appliance comprising, a sleeve, oppositely disposed tubular members mounted to slide therein, devices slidable in said members, and a spring actuated element engaging said sleeve, members and devices for moving the members in the sleeve and the devices in the members.

14. An orthodontic appliance comprising, a sleeve oppositely disposed tubular members mounted to slide therein, devices slidable in said members, a spring actuated element engaging said sleeve, members and devices for moving the members in the sleeve and the devices in the members, and means for limiting the movement of the members.

15. An orthodontic appliance comprising, a sleeve, oppositely disposed tubular members mounted to slide therein, devices slidable in said members, a spring actuated element engaging said sleeve, members and devices for moving the members in the sleeve and the devices in the members, and adjustable means for limiting the movement of the members.

In testimony that I claim the foregoing as my invention, I have signed my name this 25th day of March 1925.

AUGUST C. BRUST.