S. V. ROWBITZKY.

DENTAL PLATE.

APPLICATION FILED MAY 12, 1919.

1,324,521.

Patented Dec. 9, 1919.

FIG. 1.

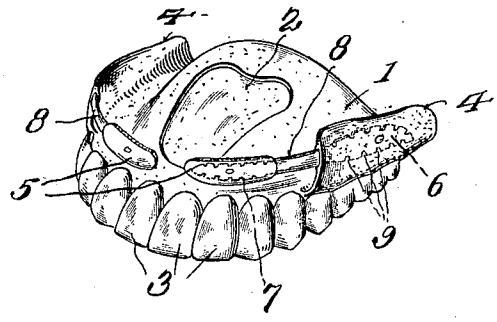


FIG. 2.

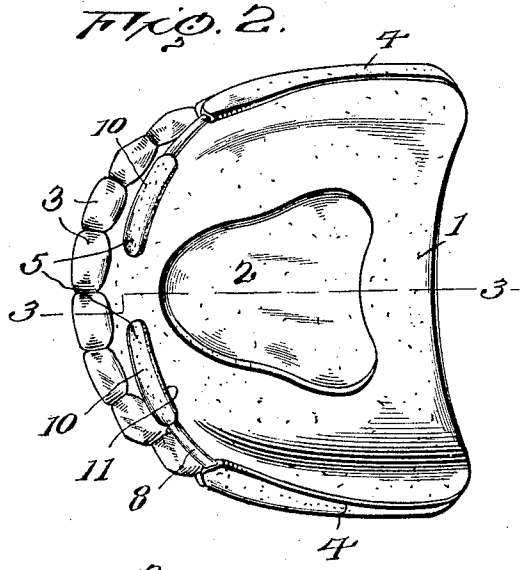


FIG. 3.

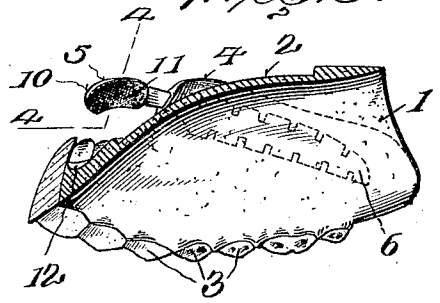


FIG. 4.

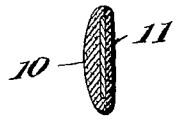


FIG. 5.

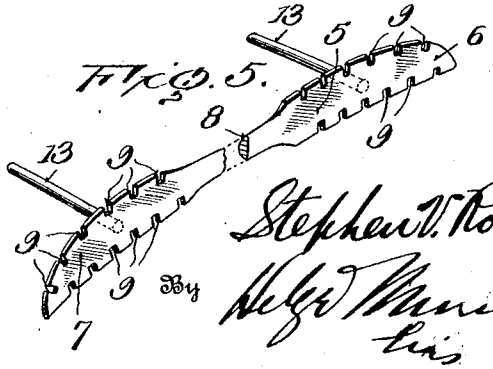
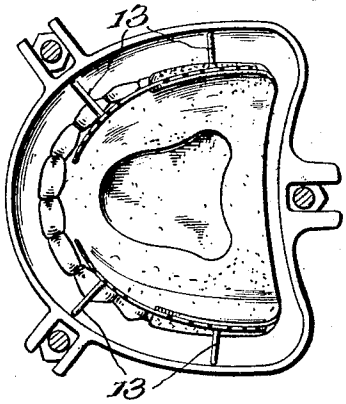


FIG. 6.



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UNITED STATES PATENT OFFICE.

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DENTAL PLATE.

1,324,521. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed May 12, 1919. Serial No. 296,515.

To all whom it may concern:

Be it known that I, STEPHEN V. ROWBITZKY, a citizen of Lithuania, Russia, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Dental Plates, of which the following is a specification.

This invention relates to certain new and useful improvements in dental plates, and contemplates more especially an improved means for conveniently holding said plate in the mouth.

The primary object of my invention is the production of a relatively light plate which will not fall, slip, or otherwise become dislodged from the roof or palatal surface of the mouth.

Another object of the invention is to produce a dental plate in which positive retaining means is carried by the plate and arranged to engage the gums of the wearer in such a manner as to preserve for the most part the natural gum, and thereby exhibiting a maximum number of teeth as protruding from the said natural gum.

Another object of the invention is the production of a plate in which advantages of lightness and comfort to the wearer are made possible by the use of a novel retaining means.

With these and other objects in view, the invention further consists in the arrangement, construction, and method of production of the aforesaid invention as will hereinafter be described and pointed out in the appended claims.

In the accompanying drawings which illustrate an embodiment of my invention:—

Figure 1 is a perspective view of my improved plate.

Fig. 2 is a plan view thereof.

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a detail sectional view on the line 4—4 of Fig. 3 through one of the attaching or gum bar clasps.

Fig. 5 is a detail perspective view partly in section of one of the attaching bars or gum clasps, and

Fig. 6 is a plan view illustrating the manner in which the attaching or gum clasps are held against the side walls of the plate preparatory to investing the same in the usual manner.

The present invention has been designed to overcome certain disadvantages now experienced in the use of dental plates, some of which are the slipping or falling from the roof of the mouth and the heaviness of the plate when made of gold. Numerous attempts have been made to produce suction and other devices capable of successfully overcoming these difficulties, but these have been complicated, unsightly and in the large majority of cases uncomfortable to the wearer. In the present invention it is possible to do away with the front portion of the plate, and provide relatively light and adjustable members for engagement with the gums of the wearer, whereby should the plate be loose it can be easily tightened and if tight it can be sufficiently loosened to prevent discomfiture.

Referring to the drawings in which similar reference characters designate corresponding parts, the plate 1. is illustrated as provided with the well-known suction depression 2. and teeth 3. The plate may be made of rubber, gold, alluminum, or celluloid, or any other suitable material, and it will be understood that my invention is applicable to any plate made of the aforesaid materials.

Toward the rear end of the plate and upon each side thereof are gum or wall portions 4, extending upward as shown, and adapted to engage a portion of the gums of the wearer in the well-known way. A relatively large space or opening spans these two wall portions 4 in the front of the plate and provides for the exposure of the natural gum.

Extending from the gum walls 4 and into the space formed therebetween, are attaching gum bars or clasps 5. These gum bars or clasps 5 are preferably made of metal, and are relatively thin, yielding and flexible whereby they can be readily adjusted for engaging with the gums.

An embodiment of one type of gum bar or clasp is illustrated in Fig. 5, and as shown comprises opposite thin and flat ends 6 and 7 joined by an intermediate portion of material preferably formed semi-circular in cross-section as indicated at 8. This portion 8 is of relatively reduced size, the flat portion thereof being adapted to lie against the gums, and the arcuate or curved portion being exposed to view.

Each end of the gum bar 5 is provided with a series of notches 9, the purpose of which is to facilitate the adhesion of the

material from which the plate is made when attaching the same thereto. This or any other means of roughening the respective ends of the bar 5 may be resorted to for purposes of facilitating the adhesion of the material as will be readily understood.

The attaching gum bars or clasps 5 are preferably vulcanized to the plate when being manufactured, and as shown in Fig. 1, the end 6 of each bar is securely molded within each wall 4 of the plate. The end 7 of the gum bar 5 is preferably coated or incased in the material from which the plate is made as clearly shown in Fig. 4. The coating is preferably of a hard pinkish rubber indicated at 10 and is preferably tinted to match the color of the gums. In practice it is preferable to coat the inner side of the end 7 with a softer material 11, such as rubber, so as to insure ease and comfort against the gum.

As shown in Fig. 3 of the drawings, it will be seen that plate 1 is shaped to conform to the contour of the roof of the mouth, and at the juncture of the tooth with the plate a suitable groove or depression is provided as at 12 for the reception of the gum. The gum bars or clasps 5 overlie the gum as will be readily understood and are sufficiently elevated to firmly secure the plate in the mouth, and at the same time expose to view the natural gum.

In practice the attaching gum bars or clasps 5 can be readily bent in any one of several directions so as to provide the correct pressure thereof against the gums. These bars or clasps 5 are very light in weight, and may be of varying lengths sufficient to provide for the proper clasping action against the gums. As shown these bars or clasps 5 are spaced apart, and in practice such space may be materially increased or reduced as will be understood.

As shown in Fig. 5 the attaching gum bar or clasp 5 is provided with extending arms 13, the purpose of which is to facilitate the positioning of the bar or clasp in the usual flask when manufacturing the plate. These arms 13 are shown preferably as attached to the arms 5 but it will be understood that there may be independent bars or other devices used to position the said clasps 5 within the flask during the manufacture of the plate. In practice it will be usual to manufacture these gum bars or clasps in great quantities and provide for their attachment to plates when being manufactured as will now be described.

The method of producing a plate of this character embodies all of the well-known steps heretofore used, namely, that of taking the impression, the pouring of the plaster of Paris, and making of the model, the articulation thereof, and the setting up of the teeth in wax. It will be noted, however, that the front portion of the gum covering about eight teeth, more or less, will be eliminated. The gum bars or clasps 5 are now affixed against the product and are held with wax in position properly spaced from the sides of the flask by the arms 13 as illustrated in Fig. 6. When affixing these gum bars or clasps various adjustments may be made thereof as will be understood. After the proper adjustment of the gum bars or clasps, the model is then invested in the flask of plaster of Paris, or similar material, is allowed to be filled in the usual manner. When dry, the product is then put in hot water and the wax melted out in the usual manner. The flask used may be of the usual multi-part construction as will be understood.

Rubber or other material from which the plate is to be made is now packed in and around the gum bars and all portions of the plate to form the same. It is usual to pack pink rubber in the front of the bars that may be exposed to view, and soft rubber in back thereof as has been heretofore mentioned. The vulcanizing of the product then follows. To finish the plate the plaster is broken away and the protruding arms 13—13 are cut off and suitably finished so as to be as nearly concealed from view as possible.

From the foregoing it will be obvious that a highly advantageous dental plate has been produced in which lightness, durability and ease in wearing have been provided. It will be understood that the gum bars or clasps are springlike in their action and can be bent and adjusted after the plate has been produced. Various changes in the form and construction of my invention may be resorted to without departing from the spirit thereof, and I do not limit myself to the exact disclosures set forth herein.

I claim:—

1. A dental plate having a portion for engaging the roof of the mouth, walls extending from said plate for engaging the gums and having a space formed therebetween in the front of said plate, and means carried by said plate and extending into the aforesaid space for securing the plate in the mouth.

2. A dental plate having a portion for engaging the roof of the mouth, walls extending from said plate for engaging the gums and having a space formed therebetween in the front of said plate, and attaching bars provided on said plate and extending into a portion of the aforesaid space against the gum for securing the plate in the mouth.

3. A dental plate having a portion for engaging the roof of the mouth, walls extending from said plate for engaging the gums and having a relatively large space formed therebetween in the front of said plate, and an attaching bar provided on said plate and extending into the aforesaid space against

the gum for securing the plate in the mouth.

4. A dental plate having a portion for engaging the roof of the mouth, and an attaching bar carried by said plate, said bar having a hard finished material upon the outside thereof, and a soft material upon the inside for engaging the gum and retaining the plate in position in the mouth.

5. A dental plate having spaced walls extending therefrom for engaging the gums in the back of the mouth and means carried by said walls for securing the plate in the mouth so as to display a relatively large portion of the natural gum in the front of the mouth between the aforesaid spaced walls.

6. A dental plate having a portion for engaging the roof of the mouth, walls extending from said plate for engaging the gums and having a space formed therebetween in the front of said plate, and means carried by said plate for securing the plate in the mouth.

7. A dental plate having a portion for engaging the roof of the mouth, walls extending from said plate for engaging the gums and having a space formed therebetween in the front of said plate, and an adjustable attaching device carried by said plate for securing the same in the mouth.

8. A flexible attaching bar for dental plates comprising a relatively thin and light body portion having one end adapted to be secured to said plate and the other end provided with a soft material and arranged to engage the gums of the wearer.

9. A flexible retaining bar for dental plates comprising a relatively thin and light body portion having one end adapted to be secured to said plate and the other end arranged to engage the gums of the wearer, and an arm extending from said plate for supporting the same against the plate while being secured thereto.

10. The method of producing a dental plate of the class described, which consists in positioning and affixing a thin bar thereto and spacing the same from the sides of the flask by means of an arm, vulcanizing the product and cutting off the portion of said arm extending beyond the vulcanized product.

In testimony whereof I affix my signature.

STEPHEN V. ROWBITZKY.