

May 14, 1963

B. WEISSMAN

3,089,242

HOLDING DEVICE FOR REMOVABLE DENTAL PROSTHESIS

Filed June 5, 1961

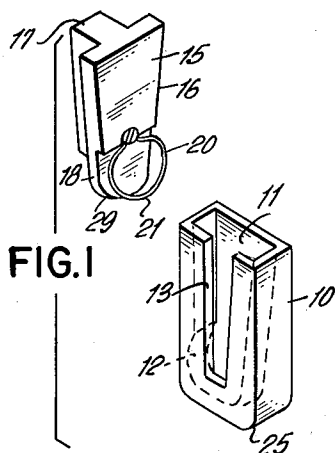


FIG. 1

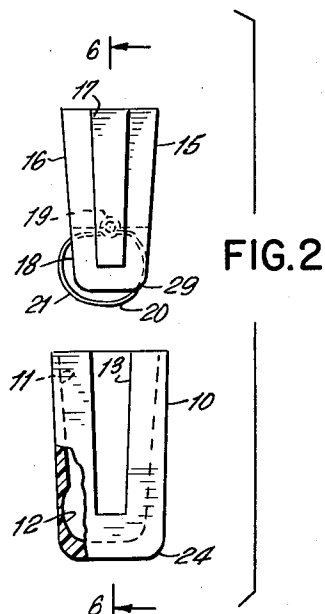


FIG. 2

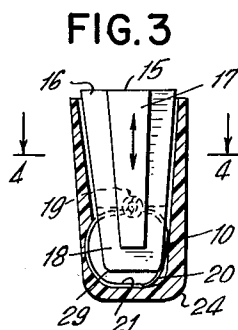


FIG. 3

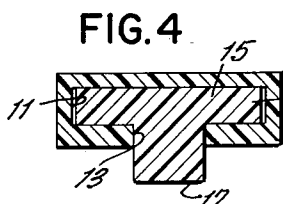


FIG. 4

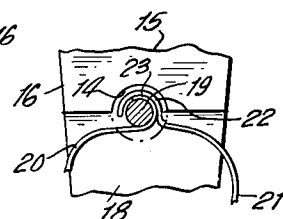


FIG. 5

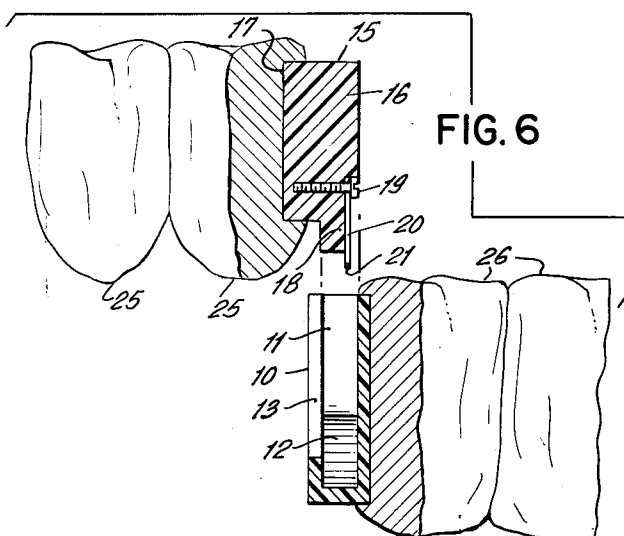


FIG. 6

INVENTOR.  
BERNARD WEISSMAN  
BY  
*Friedman & Goodman*  
ATTORNEYS

1

## 3,089,242 HOLDING DEVICE FOR REMOVABLE DENTAL PROSTHESIS

Bernard Weissman, 3406 Poplar St., Oceanside, N.Y.  
Filed June 5, 1961, Ser. No. 114,875  
7 Claims. (Cl. 32-5)

This invention relates in general to dental apparatus and more particularly, to holding devices or securing means for fixing removable dentures in the mouth.

An object of this invention is to provide a holding device for removable dentures which allows the easier positioning and removal of a denture by the person wearing it.

Another object of this invention is to provide securing means in the mouth for a removable denture which makes the accidental displacement or removal of the denture impossible or so unlikely that the securing means is completely reliable.

A further object of this invention is to provide a holding device for removable dentures which secures a removable denture to give it a more lifelike or natural feeling in the mouth.

Yet a further object of this invention is to provide a holding device for removable dentures which secures a removable denture with slight resiliency.

Yet another object of this invention is to provide a holding device for a removable denture which secures the removable denture with a given slight resiliency and which may be quickly and easily altered to secure the removable denture with another greater or lesser resiliency.

A still further object of this invention is to provide a holding device for removable dentures which is simple and economical in its construction and which may be easily cleaned and maintained.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the embodiment of the invention and its practice as will be understood from the following description and accompanying drawing wherein:

FIGURE 1 is a perspective view of the attached and free members of a holding device for removable dentures;

FIGURE 2 is an elevational view of the free member aligned over the attached member of the holding device;

FIGURE 3 is a vertical section through the attached member showing the free member locked within it;

FIGURE 4 is a section taken on line 4-4 of FIGURE 3;

FIGURE 5 is a front view of a fragment of the free member with the head of the attachment screw broken away in section to show the configuration of the locking spring; and

FIGURE 6 is a side view of a removable denture fixed to the free member and positioned over the attached member which is secured to a fixed tooth of a wearer.

Referring to the drawing in detail, the fixed member or portion 10 may be formed from a suitable material for use in the mouth such as an acrylic plastic, a suitable inert metal, or the like. The fixed portion 10 is generally rectangular in shape and contains a slightly tapered channel 11 which terminates within the fixed portion 10 and has the lateral enlargement 12 formed on one side. A tapered slot 13 extends downward in the front wall of the fixed portion.

The free or removable portion 15, which may be of the same material as portion 10, consists of a slightly tapered block 16 which carries the single tapered spline 17 projecting from its front surface. The lower rear surface of the tapered block 16 is indented leaving the thinner bottom portion 18. An attaching screw 19 fixes the locking spring 20 below the block 16 and alongside the bottom portion 18. The locking spring 20 is of stainless steel

2

or other suitable material and consists of the lower loop 21 and, as shown in FIGURE 5, the two upper attachment loops 22 and 23. The attaching screw 19 and the loops 22 and 23 extend into the cutout 14 in block 16.

As shown in FIGURE 6, the removable dentures 25 are welded, glued, bonded, or otherwise secured to the material of the spline 17 of the free portion 15. The back surface of the fixed portion 10 is fastened to a fixed tooth 26. If the tooth 26 has a cap or a crown fixed to it, the fixed portion 10 may be secured to the crown. The fixed portion 10 could also be secured by any suitable means to a fixed denture 25 which is not removed from the mouth.

This invention is used in the following manner. The free portion 15, with the attached removable dentures 25, is positioned over the fixed portion 10 as shown in FIGURE 6. The tapered block 16 is then forced downward into the channel 11 with the spline 17 extending through the tapered slot 13. The taper of the block 16, the spline 17, the channel 11 and the slot 13 enables the relatively easy and rapid alignment and insertion of the free portion 15 into the channel 11 of the fixed portion 10. As the free portion 15 slides downward, the lower inward taper of channel 11 forces the sides of the lower loop of locking spring 20 together until the lower loop 21 reaches the lateral enlargement 12 and expands into it.

As shown in FIGURE 3, the lower loop 21 prevents the lowermost surface of the bottom portion 18 from contacting the bottom of channel 11. When relatively hard material is chewed with the dentures 25, the upper portions of the lower loop 21 flex to allow the tapered block 16 to move slightly within channel 11. Thus, the locking spring 20 secures the free portion 15 within the fixed portion 10 while allowing a slight vertical relative motion between the dentures 25 and the sound teeth 26 to which they are attached. This slight relative motion approximates the feeling of the elasticity of living bone in the human mouth so that the removable dentures 25 more nearly feel like natural teeth to a wearer.

When the dentures 25 are firmly grasped between the fingers of a wearer, they may be drawn straight upwards to draw the free portion 15 from within the fixed portion 10 as the spring 20 is withdrawn from engagement with the lateral enlargement 12. Should it be desired to change the degree of the slight resiliency between the fixed portion 10 and the free portion 15, the spring 20 may be easily and rapidly removed by unscrewing the attaching screw 19 and substituting another spring 20 of stiffer material. While the free portion 15 and the dentures 25 are removed from the fixed portion, the fixed portion may be very easily cleaned with a toothbrush in the usual manner. The rounded corners 24 of the fixed portion 10 tend to prevent food particles from lodging beneath it. The rounded corners 29 of the bottom portion 18 serve to guide the bottom portion 18 and locking spring 20 into the larger top part of the tapered channel 11.

While I have disclosed my invention in the best form known to me, it will nevertheless be understood that this is purely exemplary and that modifications in the construction, arrangement and combination of parts may be made without departing from the spirit of the invention except as it may be more limited in the appended claims wherein I claim:

1. A holding device for securing a removable denture to a fixed tooth comprising, in combination, a fixed member adapted to be secured to the side of a fixed tooth, said fixed member containing a vertical channel, a lateral enlargement in the lower end of the vertical channel, and a vertical slot extending downward from the top of said fixed member between the front surface of said fixed member and the vertical channel, and a free member having a block adapted to slide downward within the vertical

3

channel in said fixed member, a spline extending from said block through the slot in said fixed member when said block is within said vertical channel, said spline adapted to be fixed to said removable denture, and a locking spring fixed to said block having a vertical loop wider than the channel above the lateral enlargement, said loop of said locking spring extending into the lateral enlargement in the bottom of the vertical channel securing said block within the vertical channel.

2. A holding device for securing a removable denture to a fixed tooth comprising, in combination, a fixed member adapted to be secured to the side of a fixed tooth, said fixed member containing a vertical channel, a lateral enlargement in the lower end of the vertical channel, and a vertical slot extending downward from the top of said fixed member between the front surface of said fixed member and the vertical channel, and a free member having a block adapted to slide downward within the vertical channel in said fixed member, a spline extending from said block through the slot in said fixed member when said block is within the vertical channel, said spline adapted to be fixed to said removable denture, and a locking spring fixed to said block and having a vertical loop wider than the channel above the lateral enlargement and extending below said block, said vertical loop of said locking spring extending into the lateral enlargement in the bottom of the vertical channel securing said block within the vertical channel and resiliently holding said block above the bottom of the vertical channel.

3. The combination according to claim 2 wherein said block and the vertical channel in said fixed member taper and wherein the top of said vertical channel is wider than said vertical loop of said locking spring.

4. A holding device for securing a removable denture to a fixed tooth comprising, in combination, a fixed member adapted to be secured to the side of a fixed tooth, said

4

fixed member containing a tapering vertical channel, a lateral enlargement in the lower end of the vertical channel, and a vertical slot extending downward from the top of said fixed member between the front surface of said fixed member and the vertical channel, and a free member having a tapered block adapted to slide downward within the vertical channel in said fixed member, a thinner bottom portion of said tapered block, a spline extending from said tapered block and said bottom portion and extending through the slot in said fixed member when said block is within the vertical channel, said spline adapted to be fixed to said removable denture, and a locking spring fixed to said block and having a vertical loop wider than the tapering vertical channel above the lateral enlargement, narrower than the top of the tapering vertical channel, and extending alongside and below said bottom portion of said block, said vertical loop of said locking spring extending into the lateral enlargement in the bottom of the vertical channel, securing said block within the vertical channel and resiliently holding said bottom portion of said block above the bottom of the vertical channel.

5. The combination according to claim 4 wherein the slot in said fixed member and said spline taper downwardly.

6. The combination according to claim 5 wherein said locking spring is removably attached to said block.

7. The combination according to claim 5 with the addition of an attaching screw and wherein said locking spring has two small upper attaching loops, said attaching screw passing through said attaching loops and being turned into said block securing said locking spring to said block.

References Cited in the file of this patent

UNITED STATES PATENTS

733,320 Griswold ----- July 7, 1903