Fig. 1.  
Fig. 2.  
Fig. 3.  
Fig. 4.  
Fig. 5.  
Fig. 6.  
Fig. 7.  
Fig. 8.

INVENTORS  
ALFRED MENDEL  
FREDERIC TRYFUS

BY

Leon M. Strauss
This invention concerns improvements in carrier means for display purposes, particularly of artificial teeth.

Therefore used carriers for mounting teeth have many disadvantages as they do not display the teeth in their natural and relative positions, particularly determined by the individual gum form which is more or less curved, thus making it impossible to demonstrate and to recognize with ceital life of the patient, said carrier body be.

Most of such known carriers display the teeth in a single plane by using straight carriers.

The invention avoids such structures and does away with the drawbacks inherent in the known artificial teeth carriers.

It is therefore an object of this invention to provide a flexible and bendable artificial tooth carrier on which the teeth may be removably fixed in their natural position.

It is another object of the present invention to provide an adjustable carrier of the above nature which may be placed in the mouth of the patient for comparing the artificial teeth with the remainder of his teeth.

Still another object of the present invention is to provide a carrier on which the artificial teeth may be adjustably arranged and fixed in their adjusted position relatively to each other.

A still further object of the present invention is to provide a carrier body on which the teeth may be easily and removably fixed so that they project beyond the lower edge of the said body whereby the translucency of the teeth at the ends thereof may be observed for comparison and like purposes.

Yet another object of the present invention is to utilize said adjustable means for maintaining the carrier body in a desired shape as a supporting means for holding supplemental portions of the carrier, portions of said adjustable means being also employable as anchoring means engaging with neighboring or adjacent teeth in the mouth of the patient.

Still a further object of the invention resides in the provision of carrier means whose body color corresponds substantially to that of the natural gum of the patient, said carrier body being preferably made of rubber or similar elastic material and may be easily cleaned and inexpensively manufactured.

Still another object of the present invention is to provide a carrier body with pockets or cavities whose form and walls are made to hold artificial teeth in their fixed position on said body, no particular fixing means being thus required to place and hold each tooth on the carrier body.

It is yet another object of the present invention to provide a flexible or elastic soft carrier body for teeth having flange or lip portions which overlie said cavities of the carrier body receiving the teeth, said portions facilitating retention of the teeth in position in said cavities, respectively.

These and other objects are accomplished by this invention accordingly consists in the features of construction, combination of parts and in the unique relations of the members and in the relative proportioning and disposition thereof; all as more completely outlined herein.

To enable others skilled in the art so fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, a drawing particularly depicting certain forms of the invention has been annexed as a part of this disclosure, and in such drawing like characters of reference denote corresponding parts throughout all the views, of which:

Fig. 1 is a front perspective view illustrating a carrier body made in accordance with the invention.

Fig. 2 is a rear view of Fig. 1.

Fig. 3 is an enlarged sectional view of the embodiment of Fig. 1 taken along line 3–3 as position in the mouth of a patient.

Fig. 4 is a perspective view illustrating a tooth used in connection with the invention and seen from its rear.

Fig. 5 is a fragmentary detailed view of the carrier body.

Fig. 6 is a fragmentary detailed view of the carrier body in a modified form.

Fig. 7 is a front elevational view of the carrier body in another form.

Fig. 8 is a fragmentary detailed view of the carrier body in a further modified form.

Referring more particularly to the drawing, Fig. 1 illustrates a carrier means generally designated by numeral 10 for holding and displaying artificial teeth 11, said carrier means comprising a soft, flexible or elastic body 12 preferably made of rubber or rubber composition, whose color is substantially similar to that of the natural gum of a human being.

In carrier body 12 nearer the lower edge 13 thereof, there are provided a plurality of cavities or pockets 14 arranged in the form of a row. The pockets 14 are adapted to receive teeth.
Overlying or extending above each pocket 14 is preferably elastic flange or lip portion 15 forming an integral part or section of carrier body 12. Flange or lip portions 15 form extension of the upper walls of said pockets 14 and extend over or overlie respective upper portions 18' of the teeth 11 to facilitate their retention within said pockets 14. Any other additional securing means may be employed at any desired location of the body 12; as for example, there may be provided openings 16 (Fig. 5), grooves 17 continuous or not (Fig. 6) or slits 26, 29 (Fig. 8) provided in the bottom of each pocket-like shaped cavity or recess. The tooth 11 may also be held on said bottom by suction in which case said openings 16 can be employed as vacuum producing means by forming the same somewhat cup-shaped which will then engage with the flat rear portion 18 of the tooth 11 (Fig. 3).

To each tooth 11 at the rear 10 thereof may be further secured one or more pins 19 in any desired form, preferably each provided with a shank portion 20 and a head 21 adapted to be inserted within respective openings 16 (Figs. 3 and 5). Where the groove 17 is employed the tooth may be somewhat adjusted along said groove in its positioning within said cavity 14. To this end, the groove 17 is made longer than the distance between the extremities of the pin heads 19. In the case of slits 26, 29 which may extend vertically and longitudinally or crosswise in cavities 14, further adjustments of the tooth within its cavity may be accomplished, the pins 19 being then provided without head portions 21, 29. The cavities 14 are so disposed that the teeth 11 when inserted therein may be placed adjacent to each other forming a line or row of teeth. Each project below the lower edge 13 of carrier body 12 so that the translucency and coloring of the teeth may be easily observed.

In the embodiment shown in Figs. 1 to 5, when the tooth 11 is inserted within cavity 14, lip portion 15, of the carrier body 12, extends over part 15' of tooth 11 and the heads 20 of the pins 19 are embedded within the openings 16 which are undercut for this purpose, as clearly disclosed in Fig. 5. It is obvious that any additional means, such as an adhesive, glue or like holding means may be employed to firmly hold said tooth in position in said openings 16.

With carrier body 12 may be associated a length of wire 22 or any other formable and relatively stiff material for the purpose of adjusting and retaining body 12 in a predetermined, for instance, curved, shape or in a form determined by the individual gum shape of the patient. Thus, the carrier body 12 may be either applied to the mouth of the patient or the teeth may be adjusted and displayed more readily in their natural relationship and to simulate actual mouth conditions.

Wire 22 may further be employed as a supporting means to adjacent position and hold a supplemental body part 23 carrying a tooth as shown in Fig. 7. For this purpose part 23 may be threaded on wire 22 (Figs. 3 and 7), the extremities 24, 25 of which may be utilized as anchoring means at neighboring teeth 26, 27 of the patient. Wire 22 may be attached to or embedded in the material of body 12 in any suitable manner.

It will thus be seen that there has been provided, by this invention, carrier means of the character described in which the various objects hereinabove set forth, together with many thoroughly practical advantages, are successfully achieved.

As many possible embodiments may be made of the above invention, and as many changes might be made in the embodiment above set forth, it is to be understood that all matters hereinbefore set forth or shown in the accompanying drawings are to be interpreted as illustrative and not in a limiting sense.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent, is:

1. A carrier for display of artificial teeth comprising a substantially gum simulating body of a single piece of flexible and elastic material, said body having an upper portion tapering toward its upper end and a lower portion extending from said upper portion and provided with at least one pocket for the insertion of a tooth therein, said pocket being defined by a rear wall terminating in a lower edge, by an upper wall extending from said rear wall and recessed in said upper portion, and by a flexible and elastic lip integral with said body and projecting from said upper portion beyond said upper wall of said pocket, and means integral with said body and formed in the rear wall of said pocket, said means and said lip being adapted upon engagement with a tooth inserted in said pocket to retain said tooth therein for manual adjustment and for removal therefrom, said tooth when placed against said rear wall extending beyond said lower edge of the latter and toward said upper wall of said pocket.

2. A carrier for adjustment and display of artificial teeth comprising a substantially gum simulating body of a single piece of flexible, unvulcanized rubber material, said body including an upper portion and a lower portion extending from said upper portion and provided with at least one pocket for the insertion of a tooth therein, said pocket having a rear wall terminating in a free lower edge, an upper wall extending from said rear wall toward said upper body portion, and a flexible lip projecting from said body beyond said upper wall in downward direction, said rear wall of said pocket being provided with a slit formation formed in and integral with said body material, said formation being engageable with a portion of a tooth when inserted in said pocket whereby said tooth abuts against said rear wall and extends toward said upper wall and beyond said lower edge, said lip being adapted to overlie another portion of said tooth extending toward said upper wall of said pocket.

FREDERIC TRYFUS.
ALFRED MENDEL.