

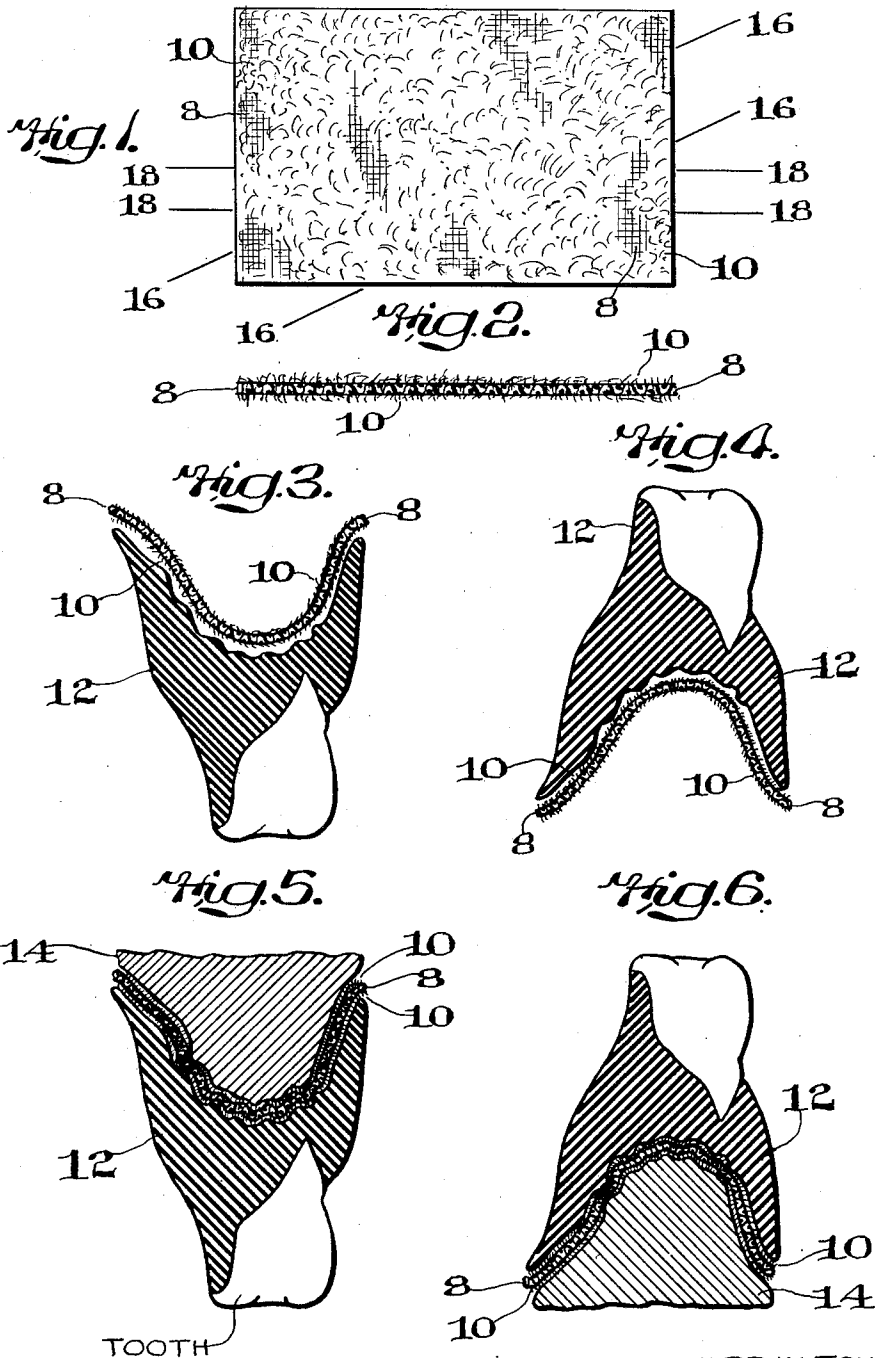
Jan. 8, 1946.

E. W. TOWN

2,392,513

CUSHION FOR ARTIFICIAL DENTURES

Filed April 8, 1942



EDWARD W. TOWN
INVENTOR

BY

Erno Necko

ATTORNEY

UNITED STATES PATENT OFFICE

2,392,513

CUSHION FOR ARTIFICIAL DENTURES

Edward W. Town, Philadelphia, Pa.

Application April 8, 1942, Serial No. 438,206

2 Claims. (Cl. 32-2)

Artificial dentures are made by vulcanizing an ordinary plastic composition into a relatively hard and rigid form according to the impression received from the gums of the wearer when the composition was in its plastic form. Despite any degree of accuracy attained in making the impression in the finished denture the exact complements of the shape of the gums, the contact of the dentures with the gums is, to say the least, uncomfortable if not painful. Furthermore, dentures are expensive and cannot be very frequently replaced while the gums of the wearer change in size and contour thus creating an improper fit between the dentures and the gums which again causes a great amount of discomfort and pain. Another factor involved is the difficulty in preventing the denture and particularly the lower denture from sliding and chattering due to the impossibility of creating sufficient suction between the plain denture and the gum.

Numerous efforts have heretofore been made to correct these two evils and a number of expedients have been devised or resorted to such as the sprinkling of powdered rosin on the denture as in the patent to Rowe No. 1,917,902, a roll of cotton formed into a cushioning pad as in MacKinnon No. Re. 16,962, a lastic material as in Merick No. 67,129 and my prior Patent No. 2,092,097, etc. All of the expedients referred to have one drawback or another which materially detracts from, if it does not altogether destroy their utility, so that the problem of achieving comfort in the wearing of false teeth has not yet been adequately solved. Thus where a sprinkling of rosin or other adhesive substance is resorted to the painful effect is at best temporary not to mention the undesirability of the taste of the substance used or the undesirability of its constant absorption into the system. A pad made of loose cotton also has at best a very temporary effect because when cotton is wetted it forms into lumps which possess little or no cushioning effect.

It is therefore the object of my invention to produce a novel cushion which has lasting cushioning or comforting capacity, which can be made and distributed very inexpensively and which can be fitted to the particular denture by the user without any assistance and without any preformation of the cushion.

A further object of my invention is to produce a cushion for a denture which is not only self-forming but self-form retaining and one which embodies the advantages of a solid and yet flexible body combined with the advantage to be

derived from the presence of fluffy or nap-like surfaces which, as is well known, possess extreme resiliency and hence afford effective cushioning.

The full nature and advantage of my novel invention will be more clearly understood from the following specification and the accompanying drawing in which:

Fig. 1 represents a top plan view of my cushion in sheet form and as it will preferably be distributed to the public.

Fig. 2 represents a longitudinal cross section of the cushioning device shown in Fig. 1.

Fig. 3 represents, diagrammatically and in vertical cross section, the application of my novel cushion to an upper denture and before the denture is placed in the mouth.

Fig. 4 represents, diagrammatically and in vertical cross section, the application of my novel cushion to a lower denture and before the denture is placed in the mouth.

Fig. 5 is a view similar to Fig. 3 showing the cushion in actual use.

Fig. 6 is a view similar to Fig. 4 showing the cushion in actual use.

Referring to the drawing in which like characters represent like parts, and particularly to Fig. 1, 8 designates a sheet of textile fabric which is preferably of the flannel type but which may be of any other formation provided it has a body and a nappy upper and lower surface. As shown in Figs. 1 and 2 the fabric 8 is provided with a relatively dense nap 10. The nap 10 provides a spring or cushion effect on the opposite faces of the fabric which, when the cushion is in use as shown in Figs. 5 and 6, is interposed between the denture 12 and the gum 14. While moisture would ordinarily cause cotton and other fibers to lie flat and lump, I have found that the flannel nap retains its springiness and cushioning qualities despite moisture. In order to give the cushion sufficient solidity, and in order to impart to it the capacity of self-forming and self-form retaining qualities, I treat the flannel fabric or the like with a coating or light impregnation of wax which may be of the same type used by dentists in making oral impressions. The wax is of a kind which is tasteless and which will soften but which will not melt at body temperature. By this means the fabric cushion, when applied to the denture as shown in Figs. 3 and 4 and before the denture is inserted in the mouth, will only generally conform to the contour of the denture but, when the denture is inserted into the mouth, the heat and the pressure applied in biting will cause the cushion to conform to the

multitude of minute irregularities thus not only forming a soft and springy cushion between the hard denture and the soft gum but also acting as an interlocking device to prevent any sliding of the denture with respect to the gum. As shown in Figs. 5 and 6 the fabric 8 is crinkled in any and all directions desired so as to fill the interstices that may otherwise exist while the nap 10 still forms a springy cushion intermediate the cushion and the gum and the cushion and the denture and thus resulting in a double springy or cushioning effect. In actual use the purchaser takes the fabric shown in Fig. 1 and cuts from it a portion sufficient to fill and overlap the denture cavity, whereupon the overlapping edges are trimmed so as not to protrude and, after the trimmed portion has been pushed into the cavity of the denture by hand as far as is practicable, the denture is placed in the mouth. After a few seconds to allow the heat of the body to act on the stiffening wax the jaws are brought together and the user gently bites. This causes the cushion to assume the form shown in Figs. 5 and 6 as distinguished from the form it assumes when it is first applied as shown in Figs. 3 and 4. When the dentures are removed for cleansing purposes the cushion may be removed and discarded so that a new cushion is used when the dentures are worn again or the denture with the cushion in position can be placed in the cleansing bath overnight as is customary, or the cushion can be withdrawn, cleaned and replaced. A cushion of this type, I found from actual practice, both by personal use and the use of purchasers of my cushion, gives extreme comfort, is easy to apply, inexpensive to produce, and is more durable than the use of gum which dissolves and is swallowed, or the use of a cotton padding which lumps and loses all its effectiveness.

In order to preserve and utilize to the fullest extent the cushioning effect of the nap on the opposite faces of the fabric or other sheet material the impregnating wax or other similar substance is applied in a very thin state and only sparingly. When the wax is set a gentle brush will remove most or all of the wax from the nap so that the body of the fabric is impregnated enough to achieve the form-retaining and self-

forming and self-form retaining qualities desired while the nap of the fabric remains in a state of projection on either face thereof.

Referring now to Fig. 1 of the drawing it will be seen that it is possible to place a denture on a sufficiently large piece of material and cut along the outline to produce a horseshoe shaped piece which can then be applied to the denture. This, however, would be very wasteful. I have discovered, as a result of my experiments, that I can avoid this waste by cutting the treated sheet material into strips of the proper length and width providing the cutting is made on the bias with respect to the warp and woof, or substantially along the lines 16 so that the fabric is cut at substantially a 45° angle with respect to the warp and woof which are naturally at right angles to each other. A strip so cut can, by manual manipulation between the fingers, be bent around to conform to the curvature or generally horseshoe shape of a denture, whereas a strip cut along the lines 18 cannot be so formed. Therefore as an article of manufacture I propose to distribute my novel cushion either in relatively large pieces as shown in Fig. 1 with instructions to the user to cut the desired strips at an acute angle to the mutually perpendicular warp and woof, or preferably to market my novel cushion in strips so cut, in which event the user can apply the strips as received except for trimming off possible excess in length and width.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A cushion for an artificial denture comprising a piece of sheet material cut to the form of the denture and inserted between the denture and the gum, said material being impregnated with a non-soluble wax composition which is plastic but which does not melt at body temperature.

2. As an article of manufacture a cushion for artificial dentures formed of a strip of sheet material impregnated with a non-soluble wax which softens but does not melt at body temperature, said strip being cut at an acute angle with respect to the warp and woof of said sheet material.

EDWARD W. TOWN.