

May 26, 1925.

1,539,143

J. PETRY

DENTURE

Filed June 30, 1922

FIG. 1

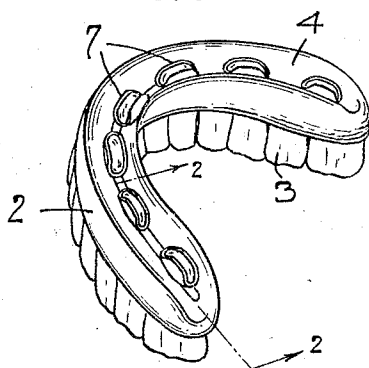


FIG. 2

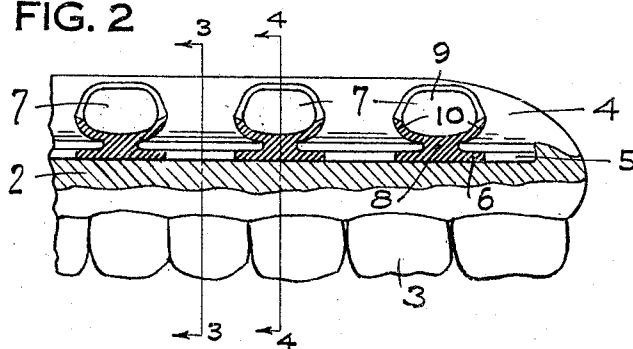


FIG. 3

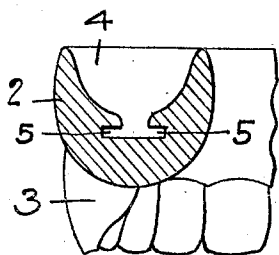


FIG. 4

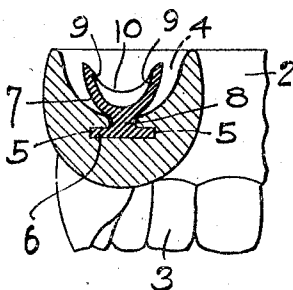
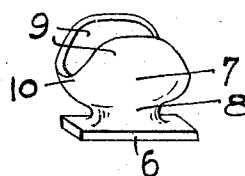


FIG. 5



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UNITED STATES PATENT OFFICE.

JACOB PETRY, OF PITTSBURGH, PENNSYLVANIA.

DENTURE.

Application filed June 30, 1922. Serial No. 571,887.

To all whom it may concern:

Be it known that I, JACOB PETRY, a citizen of the United States, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Dentures; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to improvement in dentures, and it has for its object to construct a denture in which a dental plate is provided with suction cups of improved construction for securely retaining and holding the plate upon a narrow ridge or upon portions of a ridge which may be narrower than other portions, thereby holding the denture securely in the mouth.

In the accompanying drawing Fig. 1 is a perspective view of a denture constructed in accordance with my invention; Fig. 2 is an enlarged longitudinal section of a portion of the denture, the section being taken substantially on the line 2—2, Fig. 1; Fig. 3 is a transverse section on the line 3—3, Fig. 2; Fig. 4 is a transverse section on the line 4—4, Fig. 3; and Fig. 5 is an enlarged perspective view of one of the suction cups.

In the drawing the numeral 2 indicates a channeled denture, composed of rubber, metal or other suitable material, in which teeth 3 are embedded in the usual manner. The channel of the denture is indicated at 4 and at the bottom of the channel 4 is a pair of horizontal grooves 5 which may suitably be drilled out after the plate 2 is cast. The grooves 5 receive the bases 6 of a set of soft rubber suction cups 7. My present invention mainly relates to the construction of these cups.

Each of the cups 7 is joined to its base 6 by means of a neck 8 and consists, as best shown in Figs. 4 and 5, of two upstanding side portions 9 joined by end portions 10 which are curved downwardly and are of considerably less height than the intermediate portions 9. The end portions 10 therefore rise a short distance above the inner bottom of the cup 7, while the sides 9 rise considerably further above the inner bottoms, as is best shown on Fig. 4. The cups and bases are formed from soft rubber and may either be made separately, as shown in the drawing, or may be formed on a continuous strip of rubber, as shown, for example, in my prior Patent No. 1,463,968.

issued August 7, 1923. Since these cups are intended for use with narrow ridges, and since individual ridges may be wider at some points than others, it is usually preferable to make the cups separately, as shown, and to use only so many of these cups upon a given plate as are necessary to grip the narrow portions of the ridge, the other cups being not necessarily of this particular form, but being suitably of the form shown in my above-mentioned copending application, where the ends of each cup rise to the same height as the sides of the cup. The cups may be made in a variety of sizes, with different internal diameters, in order to fit all sizes of ridges.

When one of the cups described above is applied to a narrow mouth ridge, the ridge first engages and depresses the end portions 10 of the cup. This stretches the end portions lengthwise and thus causes the side portions 9 to approach each other, thus firmly gripping the sides of the ridge without, however, being greatly stretched. This causes the inner walls of the side portions 9 to adhere firmly to both lateral portions of the ridge.

The advantage of this form of cup for narrow ridges may be clearly seen by comparing the action just described with the action of a cup having flat upper edges, such as those shown in my above-mentioned patent, when applied to a ridge that is narrower than the cup. In that case the ends of the cup are engaged by the ridge and since these end portions are as high as the intermediate portions the stretching and bending down of the ends of the cup distorts and stretches the intermediate portions which are, therefore, unable to grip the sides of the ridge firmly enough to adhere securely.

The bases of the cups may, if desired, be stiffened by imbedding wire-mesh fabric therein, as shown in Letters Patent No. 1,005,296 granted to me October 11, 1911. By the use of such stiffening material, the suction cups are held more firmly in the grooves of the plate, but it will be understood that such stiffening is not an essential part of my present invention.

In assembling the denture shown in Fig. 1, the grooves 5 are first drilled out with a suitable wheel burr and the cups 7 are placed in these grooves, as shown in Figs. 2 and 4 and are secured in place by means of cement. The cups may have the exact shape shown

in the accompanying drawing, or may be modified as desired within the scope of the appended claims.

I claim as my invention:

- 5 1. A denture having a depression formed therein, and a plurality of suction cups each having a member secured at the bottom of said depression, at least a portion of said cups having sides that are higher than their
10 ends, the said sides being of such height that they will grip the sides of a ridge when the said ends are brought into engagement with the bottom of such ridge.
- 15 2. A denture having an elongated depression formed therein and having undercut lateral grooves adjacent to the bottom of said depression, and suction cups having bases received in said undercut grooves, at least a portion of said cups having sides
20 that are higher than their ends, the said sides being of such height that they will grip the sides of a ridge when the said ends are brought into engagement with the bottom of such ridge.
- 25 3. A denture having an elongated depression formed therein and having two opposite lateral undercut grooves formed beneath and in communication with the bottom of said depression, and a plurality of soft rubber suction cups having bases received in
30 said grooves, at least a portion of said cups

having sides that are higher than their ends, the said sides being of such height that they will grip the sides of a ridge when the said ends are brought into engagement with the bottom of such ridge. 35

4. A suction cup for dentures having sides that are higher than its ends, the said sides being of such height that they will grip the sides of a ridge when the said ends are brought into engagement with the bottom of such ridge. 40

5. A suction cup for dentures comprising a base, a cup portion and a neck joining said base and cup portion, said cup portion having sides that are higher than its ends, the said sides being of such height that they will grip the sides of a ridge when the said ends are brought into engagement with the bottom of such ridge. 45 50

6. A suction cup for dentures comprising a flat base, a hollow cup portion, and a neck joining said base and cup portion, said hollow cup portion having upstanding sides that are curved both lengthwise and transversely, the said upstanding sides being joined by end portions having downwardly curved upper edges, said side portions being higher than said end portions. 55

In testimony whereof I, the said JACOB PETRY, have hereunto set my hand.

JACOB PETRY.