June 5, 1951 F. E. BIERBACH ET AL 2,555,392

DENTURE

Filed Nov. 4, 1946

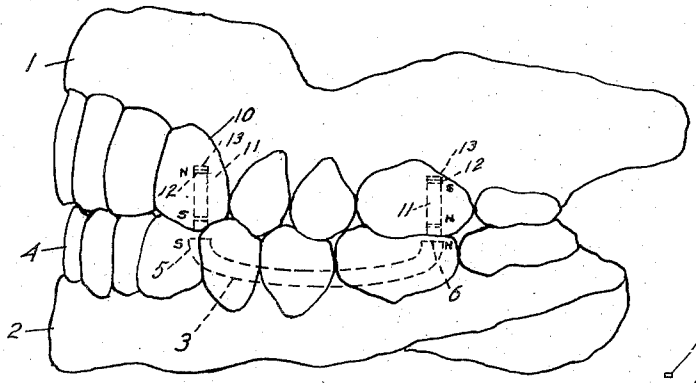


FIG. 1.

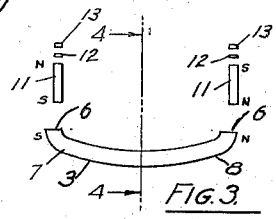


FIG. 3.

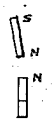


FIG. 4.

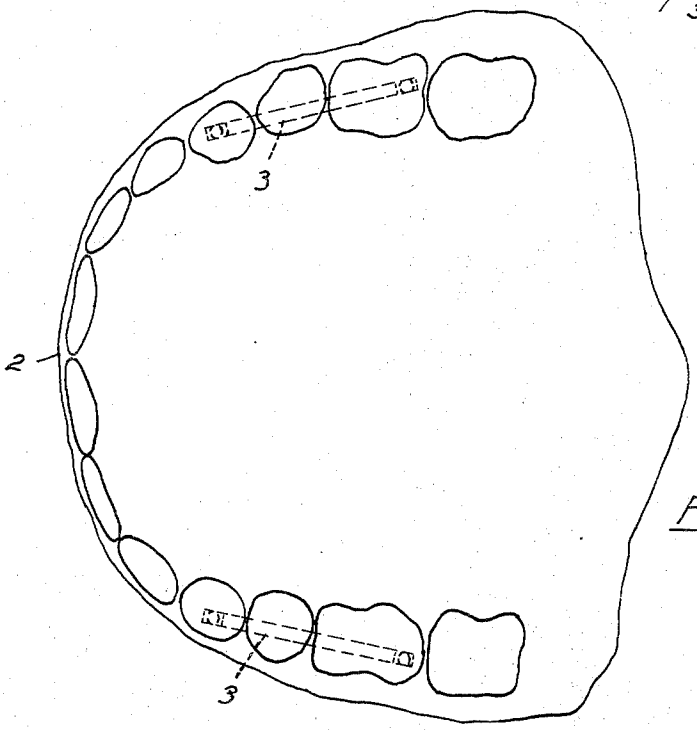


FIG. 2.

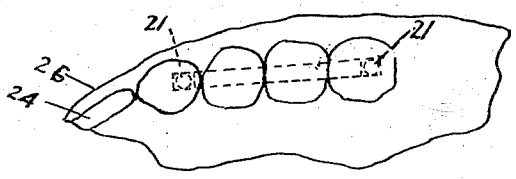


FIG. 5.

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DENTURE

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5 Claims. (Cl. 32—2)

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This invention relates generally to denture plates and more particularly to means for holding the denture plates in predetermined positions in the mouth adjacent the jaws thereof.

Denture plates, as now constructed, do not remain adjacent the jaws and palate of the mouth in most instances when the jaws are opened wide, thereby resulting in loss of suction and a loosening of the plates. Adhesive substances are now applied to the back of the denture plates to hold them adjacent the jaws, but this has proved very unsatisfactory because of the formation of unsanitary conditions in the mouth and because the adhesive substances are costly and very troublesome to apply, and because the change in configuration of the palate and jaws when the mouth is opened loosens the plates. Much trouble is particularly encountered with the upper denture plate in the mouth because of the change in the conformation of the upper jaw and palate when the mouth is opened, thereby causing the plate to lose suction and drop.

It is, accordingly, an object of our invention to overcome the above and other defects in present denture plates, and it is more particularly an object of our invention to provide a denture plate which is simple in construction, economical in cost, and highly efficient when disposed in the mouth.

Another object of our invention is to provide novel magnets for disposal in upper and lower dentures to cause them to adhere to the upper and lower portions of the mouth.

Another object of our invention is to provide insulating means for magnets in dentures.

Another object of our invention is to provide magnetic members in teeth to repel magnetic members in an oppositely disposed denture plate.

Another object of our invention is to provide repelling magnets embedded in the side of dentures.

Other objects of our invention will become evident from the following detailed description, taken in conjunction with the accompanying drawings, in which

Fig. 1 is a side elevational view of dentures illustrating an embodiment of our invention;

Fig. 2 is a top plan view of the dentures shown in Fig. 1;

Fig. 3 is a side elevational view of my novel magnets used in upper and lower dentures;

Fig. 4 is a view taken on the line 4—4 of Fig. 3; and

Fig. 5 is a fragmentary elevational view taken from the bottom side of an upper denture plate

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with an arcuate shaped magnet embedded therein.

Referring now to the drawings, Figs. 1 and 2 show an upper and a lower denture plate 1 and 2. The lower denture plate 2 has an arcuate shaped magnet 3 embedded in artificial teeth 4 on each side of the plate 2 as shown in Fig. 2 with the poles 5 and 6 extending upwardly in the direction of the grinding surface of the teeth 4 in the denture plate 2. The arcuate shaped magnet 3 has the opposite sides 7 and 8 thereof of differing radii in order that the overall height thereof may be reduced and thereby embedded in a denture as shown in Fig. 1. Poles 5 and 6 are of opposite polarity as shown in Fig. 1. The upper denture plate 1 has disposed in teeth 10 on each side thereof straight cylindrical magnets 11 disposed opposite the ends 5 and 6 of the arcuate shaped magnets 3 in the lower 2 with like poles opposing like poles of the magnet 3. It has been found preferable to dispose the upper magnets 11 at an angle of about 15 degrees as shown in Fig. 4 to the side of the teeth 10 in denture plate 1 although it will be evident that the magnets 11 in the upper denture 1 may be disposed at any angle or in a straight line with reference to the ends 5 and 6 of the arcuate shaped magnet 3 without departing from the spirit of our invention. Insulating discs 12 and 13 are preferably disposed on the upper end of the magnets 11 in the upper denture 1 in order to prevent lines of magnetic force from passing to the gums of the person wearing the denture plates 1 and 2. It is not contemplated that the magnetic lines of force will have any effect upon the gums of the wearer of the plates 1 and 2 although it has been deemed advisable to place insulating members 12 and 13 on the upper end of the magnets 11 in order to insure against any undue sensation from the magnets 3 and 11 in the plates 1 and 2. One insulating disc 13 is preferably made of metal and the other disc 12 of a composition material although they may consist of any type of insulating material.

We have shown in Fig. 5 an arcuate shaped magnet 21 the same as the magnet 3 shown in denture 2 disposed in the teeth 24 of an upper denture 26. When an arcuate shaped magnet is disposed in an upper denture, the poles thereof are disposed adjacent opposing poles of magnets in a lower denture and replace the straight magnets 11 shown in the denture 1. It will be evident that the magnets in the upper and lower dentures may take many different forms with-

out departing from the spirit of my invention as long as they produce a repelling action.

It will be evident that the repelling magnets in the upper and lower dentures 1 and 2 will repel each other at all times, thereby holding the plates 1 and 2 against the upper and lower jaws of the mouth. The teeth 4 and 10 in the plates 1 and 2 may be brought together by applying force on the dentures 1 and 2 but otherwise remain apart adjacent the gums of the mouth; thus, even though the upper jaw and upper palate of the mouth change their form when the mouth is opened, the upper plate 1 will be held firmly thereagainst by the opposing magnets in the lower denture 2 and likewise the lower plate 2 will be held against the lower jaw of the mouth by the upper magnets 11 in the upper denture 1.

The upper and lower magnets may be disposed in the teeth of the denture plates so that when the grinding surfaces of the teeth of the denture plates are together, the opposing magnets are offset from each other to reduce the repelling forces thereof when the teeth are in a closed position. Our novel magnets may be disposed in individual teeth to repel magnets disposed in an opposite denture without departing from our invention.

Various changes may be made in the specific embodiment of our invention without departing from the spirit thereof, or from the scope of the appended claims.

What we claim is:

1. Mated upper and lower dentures comprising formed bodies and artificial teeth, an arcuate shaped magnet disposed in teeth on each side of the lower denture having the ends thereof extending upwardly towards the grinding surface of the teeth, angularly disposed magnetic pins in teeth in the upper denture opposite the ends of the arcuate shaped magnet in the lower denture, like poles of all the magnets being disposed adjacent each other to cause a repellent action between the upper and the lower dentures.

2. Mated upper and lower dentures comprising an arcuate shaped magnetic member in the teeth of the lower denture having the spaced ends thereof extending outwardly towards the grinding surface of the teeth, straight magnetic members disposed in the teeth of the upper denture complementary to the ends of said arcuate shaped magnetic members, and insulating discs disposed on the ends of the upper magnetic members.

3. Mated dentures comprising artificial teeth, an arcuate shaped magnet in the teeth of one of said dentures having the ends thereof extending outwardly toward the grinding surface of the teeth, and straight cylindrical opposing magnet members disposed in the teeth of the opposing denture.

4. Mated dentures as set forth in claim 3 wherein the opposing magnet members are disposed angularly with respect to the ends of the arcuate shaped magnet in the other denture.

5. Mated dentures comprising artificial teeth, an arcuate shaped magnet in the teeth of one of said dentures having the ends thereof extending outwardly toward the grinding surface of the teeth, the portion of the arcuate shaped magnet adjoining one end thereof having a radius different from the radius of the portion adjoining the other end thereof, and opposing magnet members in the teeth of the opposing denture.

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The following references are of record in the file of this patent:

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