B. M. WILKERSON.

Dental-Plate.

No. 207,699. Patented Sept. 3, 1878.

Fig. 1.

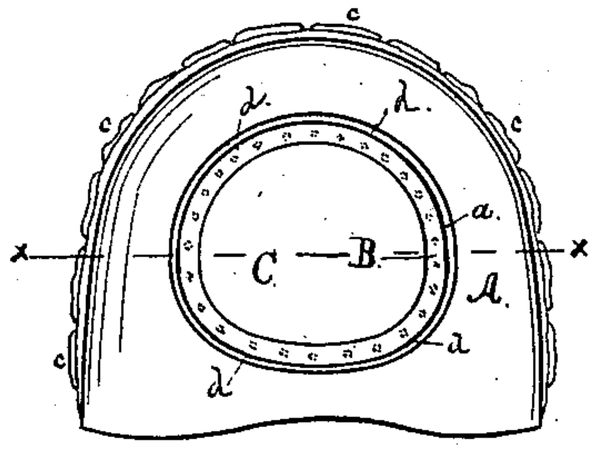


Fig. 2.

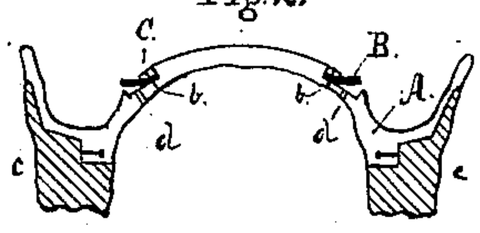
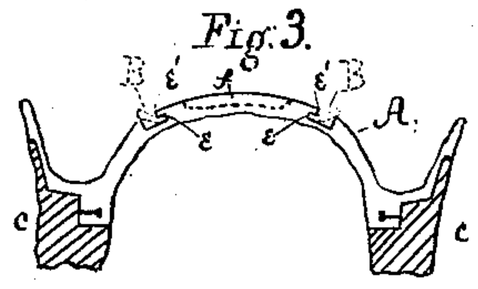


Fig. 3.



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BASIL M. WILKERSON, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN DENTAL PLATES.

Specification forming part of Letters Patent No. **207,699,** dated September 3, 1878; application filed January 18, 1878.

To all whom it may concern:

Be it known that I, Dr. BASIL M. WILKERSON, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Dental Plates; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of a dental plate embodying my present invention; Fig. 2, a sectional view on line *x x* of Fig. 1; Fig. 3, a similar view of a modified form of plate.

This invention relates to that class of dental plates which are held in place by atmospheric pressure, of which two species are in general use. In one a cavity is formed in the vulcanite plate, from which the air being exhausted the plate is held in position on the roof of the mouth; in the other a soft-rubber disk is secured to the plate in order to obviate certain objections to the form of plate just described. Both forms are open to objections, which my invention is designed to obviate.

It is obvious that in either case the security of the plate depends upon the approximation to a vacuum which is secured and maintained between the plate and the palate.

It is found in practice that the constant use of the ordinary "vacuum-cavity" plate causes a morbid growth of the palate over the vacuum-cavity, which in the end completely fills it and defeats its function. Moreover, the rocking motion of the plate while in use is very liable to cause a separation of the edge of the vacuum-cavity from the palate, admitting air and detaching the plate. On the other hand, the soft-rubber disk, while not open to the latter objection, errs in the other extreme, admitting of too great a rocking motion on the part of the plate, and affording but slight security against the accidental detaching of the plate. As the disk is normally flat its natural resiliency is opposed to the atmospheric pressure, and militates to separate the plate from the palate.

With the plate I am about to describe no difficulty is experienced. It embodies all the advantages of both the vacuum-cavity and the soft-rubber disk without their defects.

In the accompanying drawings, A represents the vulcanite plate, to which the teeth *c c* are attached in the usual manner. An annular groove is formed in the upper surface of the plate, in which a soft-rubber ring, B, is laid, and secured by means of a metallic ring, held in place by rivets or screws *b*. The pressure causes the edge of the disk to curl upward, as shown, and cause a close adhesion to the surface of the palate.

The plate A is perforated with a series of small holes, *d d*, immediately beneath the free edge of the soft-rubber disk, in order to facilitate the exhaustion of the air from above the plate, and to afford free access for the air to exert its pressure upon the edge of the disk.

In Fig. 3 another modification of my invention is illustrated. In this case a stud is formed on the plate A in the process of vulcanization, and the annular rubber disk is sprung around it into the crevice *e*.

It may here be remarked that in this case the rubber disk or annulus may be dispensed with, as a growth will speedily form on the palate, filling the groove, and admitting of a considerable rocking motion on the part of the plate before the bead upon the palate will leave the groove to the extent of admitting air, a contingency which is rendered still further remote by the atmospheric pressure against the edge *e'*. When the plate is to be used in this form a vacuum-cavity, *f*, should be formed in it.

It will be observed that I leave a space between the edges of the rubber disks or annuli B and the countersunk portion of the plate in order to facilitate play of the disk and admit of the rocking of the plate in use.

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

1. A dental plate having an annular groove about its central portion, the said groove containing a soft-rubber vacuum-lip, as set forth.

2. A dental plate having one or more perforations communicating with the under side of a soft-rubber vacuum-lip, as and for the purpose described.

3. A dental plate having a soft-rubber vacuum disk or annulus and a series of perforations communicating with the under surface of the latter, substantially as described.

4. A dental plate having an annular undercut vacuum-groove, substantially as described.

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