

Q. A. SCOTT.
DENTAL-PLATE.

No. 174,859.

Patented March 14, 1876.

Fig. 1.

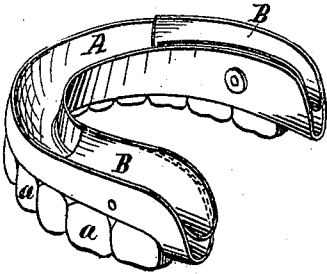


Fig. 2.

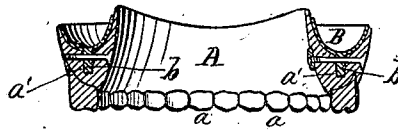


Fig. 3.

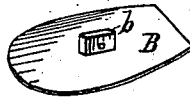


Fig. 4.

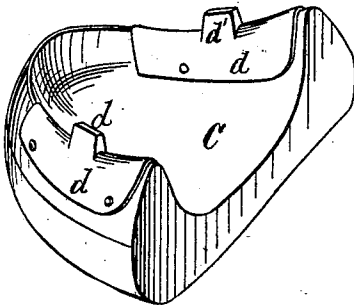
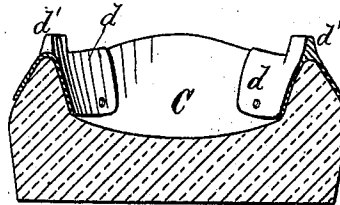


Fig. 5.



Witnesses:

Harry King
John D. Center.

Inventor:

Quincy A. Scott,
by A. M. Smith,
Attorney.

UNITED STATES PATENT OFFICE

QUINCY A. SCOTT, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN DENTAL PLATES.

Specification forming part of Letters Patent No. **174,859**, dated March 14, 1876; application filed March 4, 1876.

To all whom it may concern:

Be it known that I, QUINCY A. SCOTT, of Pittsburg, county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Dental Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of one of my improved dental plates, adapted for use upon the lower jaw, and inverted to show the atmospheric retainers. Fig. 2 is a transverse vertical section through the same, taken in line with the pins or fastenings securing the retainers to the dental plates. Fig. 3 is a perspective view of one of the flexible retainers detached. Fig. 4 is a perspective view of the cast or model for forming the dental plates, and Fig. 5 is a vertical transverse section through the latter.

Similar letters of reference denote corresponding parts wherever used.

My invention relates to the manner for holding dental plates in position in the mouth, designed more particularly for use in connection with the lower plate or jaw; but it may be applied, also, in connection with the upper plate, if desired.

In attempting to attach flexible retainers to lower jaw-plates by means of the through rivets or screws, the pressure of the head of the rivet or screw upon the gum or jaw has been found to occasion such acute pain to the wearer as to render it impossible to continue their use, and even if constructed in such manner as at first to avoid this difficulty, by means of a space left between the head of the fastening and the gum, it was found that in a short time the gum would grow and fill the intervening space thus left, and consequently the difficulty stated was only temporarily avoided.

My invention consists in attaching flexible retainers to dental plates, in such manner that the pins, bolts, screws, or other devices used for making the attachment, shall not come in contact with the gums or jaw when the plate is in position in the mouth; also, in adapting said retainers to be readily removed and replaced; also, in making said

retainers in a variety of forms, corresponding to the ordinary variations in the forms of different mouths, in such manner that from the variety of forms those can be selected which most nearly approximate the form of the mouth for which they are intended, and to which, owing to their pliability, the retainers will readily conform when the plate is in position. It further consists in the employment of leads, or plates of lead or other soft metal, in a number of different forms, corresponding to the different forms of the retainers, and adapted to be readily fitted to models of mouths of different formations, in such manner that they will form the proper sockets in the dental plates for the reception of the retainers.

To enable others skilled in the art to understand how my invention is carried out in practice, I will proceed to describe the same with reference to the drawings, in which—

A represents a dental plate, adapted for use upon the lower jaw, with the teeth *a* applied, said plate and teeth being made and connected together in any usual or preferred way. At suitable points upon or within the concave surface of said plate, designed to rest in contact with the gums or surface of the mouth, are secured flexible atmospheric plates or retainers B, fitted within depressions or cavities in the surface of the plate, corresponding to the shape of the flexible retaining-plate.

These retainers are provided with one or more tongues or spurs, *b*, which fit into corresponding sockets, *a'*, in the dental plate, and are secured therein by means of transverse pins, bolts, or other suitable fastenings, as shown in Fig. 2. By this arrangement it will be seen that the fastening device is removed from the surface which rests upon and holds the dental plate in place in the mouth, and all liability of such fastening to hurt the mouth consequent upon pressure upon the plate is avoided. These retainers can be made in one piece, covering the whole lower side of the plate, and having several tenons to secure it to the plate, or can be made in two or more pieces with necessary number of attachments, and can cover part or all of the lower side of the plate.

The action of atmospheric retainers in holding the dental plate is too well understood to

require description here. In forming the plates A, while they may be made in any preferred way, I prefer to use, in connection with the model or cast C of the jaws, plates or leads *d*, made of lead or other soft metal, and in varying forms, corresponding nearly to different parts of a dental plate or model to which it may be required to apply the retainers B. These are placed upon the desired parts of the cast or model, as shown in Figs. 4 and 5, and, being made of soft pliable metal, are readily pressed upon and shaped to said cast, forming a raised portion on the cast, conforming to the shape it is proposed to give to the flexible retainers, and of sufficient thickness to form sockets in the dental plate of the depth required to accommodate said retainers. These plates or leads *d* are provided with lugs or tenons *d'*, of a shape corresponding to the tongues *b* on the retainers, for forming the sockets in the dental plates for the reception of said tongues. After the leads have been fitted to the model, as described, they are fastened thereto by means of pins or otherwise as may be preferred.

The teeth are then arranged in the usual way, the plate formed with wax, gutta-percha, or other suitable material, and models are made in the flask in the usual manner for vulcanite or celluloid work. Then the vulcanite or celluloid is packed in the usual manner, the case vulcanized or hardened and removed from the flask, and finished in the ordinary way. Then the leads are removed from the plate, a hole drilled through the plate, crossing through at about the center of the socket, the flexible retainer fitted in said socket, and the pin or bolt passed through the hole and through the tenon on the retainer, locking it securely in place, the elasticity of the tenon preventing the pin from dropping out. The retainers can also be applied to metal plates by fastening the leads on the model before forming the dies, and then swaging up the plate into form over the leads; or, if the teeth are to be vulcanized to the plate or attached with celluloid, the plate can be cut out around the lug or tenon, and said

lug or tenon allowed to stand up through the opening in the plate, and from the chamber or socket in the vulcanite or celluloid, for the reception of the tongue on the retainer. If the teeth are to be soldered on, the plate can be swaged up whole, forming a cap over the lug or tenon, or it may be cut out around said lug or tenon, and a separate piece swaged up, forming a cap over the tenon, and then fitted or soldered to the plate. It is proposed to make the flexible atmospheric plates or retainers of rubber; but they may be made of other suitable material—such, for example, as paper chemically prepared by the use of chloride of zinc, or its equivalent, to withstand the acids of the mouth, in such manner that, when softened by application to the mouth, it will act in the same manner as the rubber, but without the unpleasant taste of the rubber.

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

1. Removable flexible retainers attached to dental plates, substantially as described, whereby the device used in attaching them shall not come in contact with the gums or jaw.

2. The flexible atmospheric plates or retainers, made to forms, and provided with lugs or tenons, for the purpose and substantially as described.

3. The leads or soft-metal plates, cast or made in forms, and provided with tenons, for the purpose and substantially as described.

4. The dental plate provided with sockets, in combination with the atmospheric retainer, having a tongue or lug adapting it to be secured in said socket, substantially as described.

5. The atmospheric retainer, having a tongue or lug fitting within a corresponding socket in the dental plate, in combination with the transverse retaining pin or fastening, substantially as and for the purpose set forth.

QUINCY A. SCOTT.

Witnesses:

WM. H. PERRY,

J. E. HUNTINGTON.