

(No Model.)

J. O. SCOTT.

METHOD OF MAKING DENTAL SUCTION PLATES.

No. 563,809.

Patented July 14, 1896.

Fig. 1.

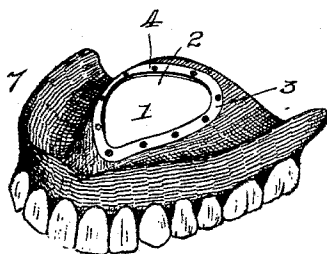


Fig. 2.

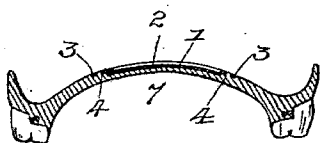


Fig. 3.

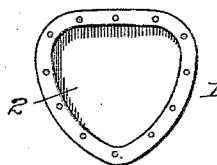


Fig. 4.

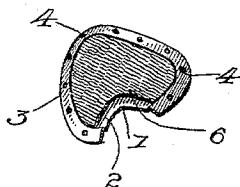


Fig. 6.

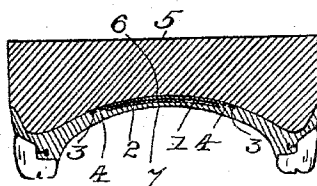


Fig. 5.

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METHOD OF MAKING DENTAL SUCTION-PLATES.

SPECIFICATION forming part of Letters Patent No. 563,809, dated July 14, 1896.

Application filed October 2, 1895. Serial No. 564,407. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN OGDEN SCOTT, a citizen of the United States, residing at Waupaca, in the county of Waupaca and State of Wisconsin, have invented a new and useful Method and Means for Producing Suction-Cavities in Artificial Dentures, of which the following is a specification.

This invention relates to artificial dentures, and most especially to the means and manner of producing suction-cavities and strengthening the plate carrying the teeth, and in attaining a suction-cavity which can be burished and highly finished and will obviate the roughness resulting from the usual way of producing suction-cavities.

In practicing the invention a plate of thin metal, such as gold, silver, platinum, or aluminium, is provided and depressed in one side, so as to form the suction-cavity, and a blank of paper or other suitable material of corresponding size to the depression in the metallic plate is fitted into the said depression and the plate is then fitted to the mold or model, and the plate of the denture is applied to the model and vulcanized in any of the usual ways, during which process of vulcanization the metallic plate firmly adheres to and becomes part of the artificial denture, and the piece of paper or material fitted in the depression of the metallic plate is removed, thereby providing the suction-cavity intact.

It is of the utmost importance that the metallic plate be sufficiently thin and pliable to be conformed to the palatal surface of the model without injuring the latter, and in order to preserve the depression or cavity in the said plate the filling of paper or other material is fitted into the said depression, thereby preserving the latter while pressing and conforming the metal or suction plate to the model. This suction-plate may have any desired configuration, but in order to conform to the shape of the roof of the mouth and secure the greatest amount of suction-cavity it is preferred to construct the plate of substantially a cardioid form. The suction cavity or depression is of corresponding shape to the plate, leaving a surrounding elevated margin, which is formed with a series of perforations to admit of a firm and positive connec-

tion being had between the dental plate and the metallic suction-plate. The dental plate being of rubber, a portion will pass through the said perforations in the marginal edge of the suction-plate and cause the latter to adhere firmly to the dental plate.

Advantages and objects other than those herein noted are contemplated and will become apparent as the nature of the invention is fully understood, and in order to a complete understanding and disclosure of the invention reference is to be had to the accompanying drawings and the subjoined description.

In the accompanying drawings, which are illustrative of an embodiment of the invention, although slight changes in the details, form, and proportion may be resorted to without departing from the essence of the invention, Figure 1 is a perspective view of a complete denture. Fig. 2 is a transverse section thereof. Fig. 3 is a detail view of the metallic suction-plate. Fig. 4 is a detail view of the suction-plate having the filling-piece fitted into the suction-cavity and showing it partially conformed to the palatal surface of the completed denture. Fig. 5 is a detail section of the mold, showing the relative disposition of the suction and dental plates when the said mold is ready for the flask and the vulcanizer. Fig. 6 is a detail view of the paper or felt filling for maintaining the suction-cavity in the suction-plate when the latter is subjected to pressure.

The same reference-numerals indicate corresponding and like parts in all the figures of the drawings.

1 denotes the metallic suction-plate, of gold, silver, platinum, aluminium, or any other metal suitable for the purpose, sufficiently thin to be readily conformed to the model without injuring the latter, and this plate may have any desired configuration, but for the reason herein stated it is preferred to construct it of a cardioid form. This plate has a depression 2 in one side, which forms the suction-cavity, and the elevated marginal portion 3, surrounding the said depression, is formed with a series of perforations 4, through which is pressed a portion of the dental plate and which assists in securing a firm joint between the suction and dental plates. The

suction-plates are flat and will be provided in standard sizes to meet the requirements of the profession.

The model and improved plate shown in Fig. 5 are produced in the manner well known to prosthetic dentistry. When the case is ready to be packed with rubber or other material, the suction-plate 1, Fig. 3, is prepared by pasting or gluing the felt-paper blank 6 into depression 2 of said suction-cavity plate. Thus prepared the suction-plate is conformed to the palatal surface of the model by pressure of the fingers, assisted by a burnisher or other suitable instrument, and pasted or glued to the model. The rubber or other material comprising the dental plate 7 is formed by packing in the usual manner and vulcanizing the same. During the process of flasking and vulcanizing the dental and suction-cavity plates are caused to adhere and to form the plate of the completed denture, as shown most clearly in Fig. 1.

After the process of vulcanizing is completed the denture is removed from its investiture of plaster in the flask, cleaned, filed, and polished. The paper filling-piece 6 is also removed and thrown aside as having served its purpose to hold and preserve the form of the suction-cavity plate. The felt-paper blank 6, Fig. 4, which is pasted into the depressed side 2 of Figs. 3 and 4, is of vital importance in preserving the suction-cavity from being crushed out of shape by the pressure of the rubber in closing the flask. The employment of the said paper blank permits of the use of a thin sheet of aluminium or other soft metal, which is essential to the success of the present method of producing suction-cavities in artificial dentures. This form of metallic vacuum-plate presents important advantages over the old methods in that it increases the strength of the denture and provides a suction-chamber having a polished surface when placed on the model. Its polished surface is agreeable and comfortable contact with the mucous mem-

brane of the mouth maintains a healthy condition thereof, a condition impossible under the rough and unfinished suction-cavities formed by a lead plate as now in common use. It also saves time in the proper construction of the denture and therefore reduces the cost. It further gives to the wearer a rubber plate with a partial metallic lining without increasing the cost. This metallic lining is more agreeable to the preservation of the health of the soft tissues in contact, thus eliminating the cause of unhealthy conditions following the use of the rough unfinished palatine surface of the all-rubber plates as commonly constructed.

Having thus described the invention, what is claimed as new is—

The herein-specified method of constructing artificial dentures and providing suction-cavities therein, the same consisting of shaping a flexible suction-plate, of substantially cardioid form and having a suction-cavity in its palatal surface and an elevated marginal portion provided with a series of perforations, and having a filling of paper or felt applied to the suction-cavity, upon a model or cast with the filling between the model and suction-plate, then conforming the material comprising the dental plate to the model over the suction-plate, then flasking the model and attached plates and vulcanizing, whereby the dental and suction plates are secured together simultaneously with the vulcanizing of the dental plate and the latter forced through the perforations of the suction-plate, and lastly removing the denture from the model, detaching the filling-piece, and finishing in the ordinary manner, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN OGDEN SCOTT.

Witnesses:

J. W. DEAN,

A. M. CHANDLER.