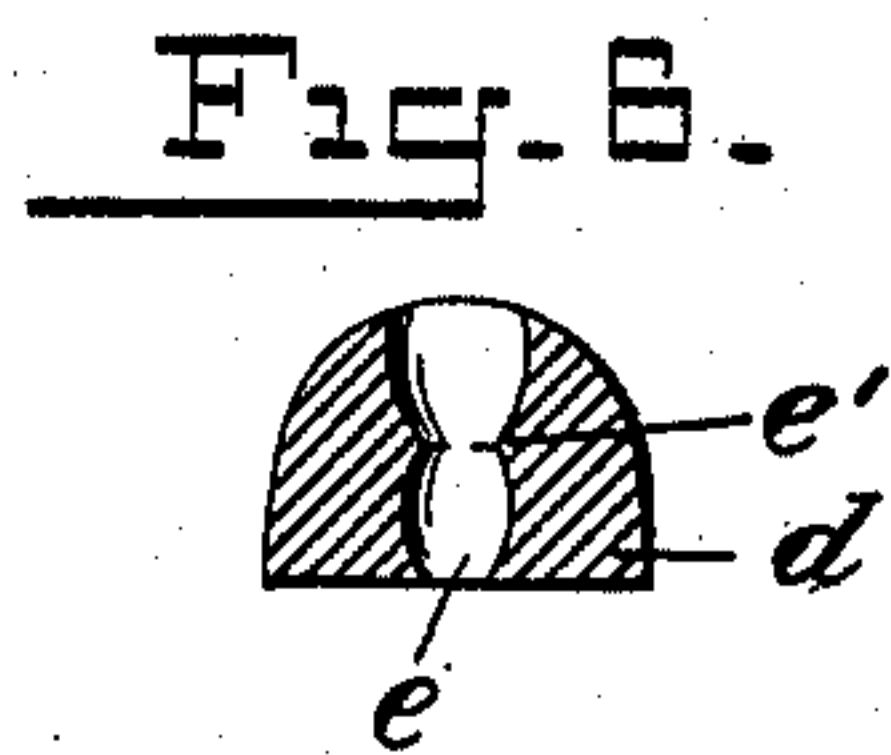
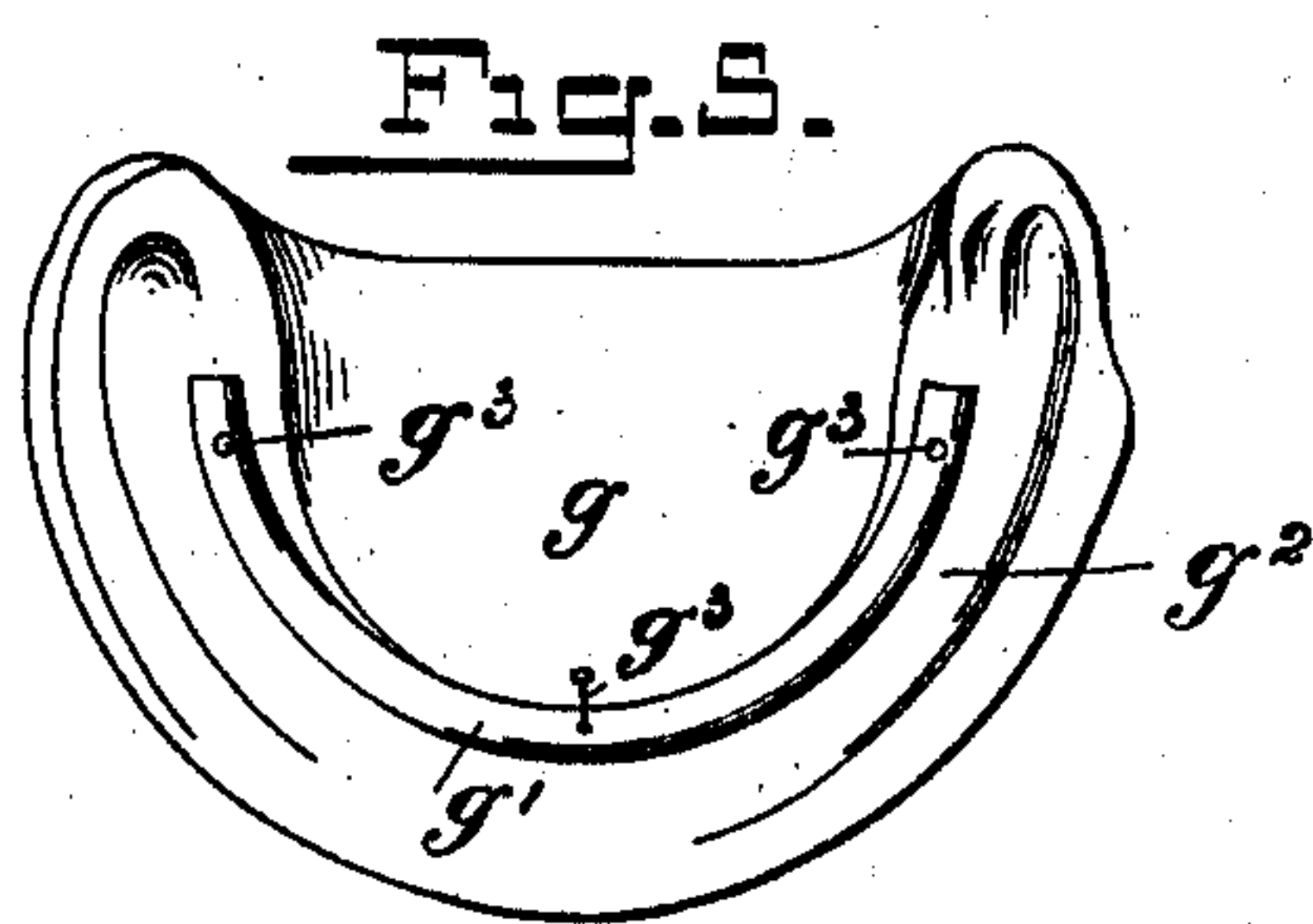
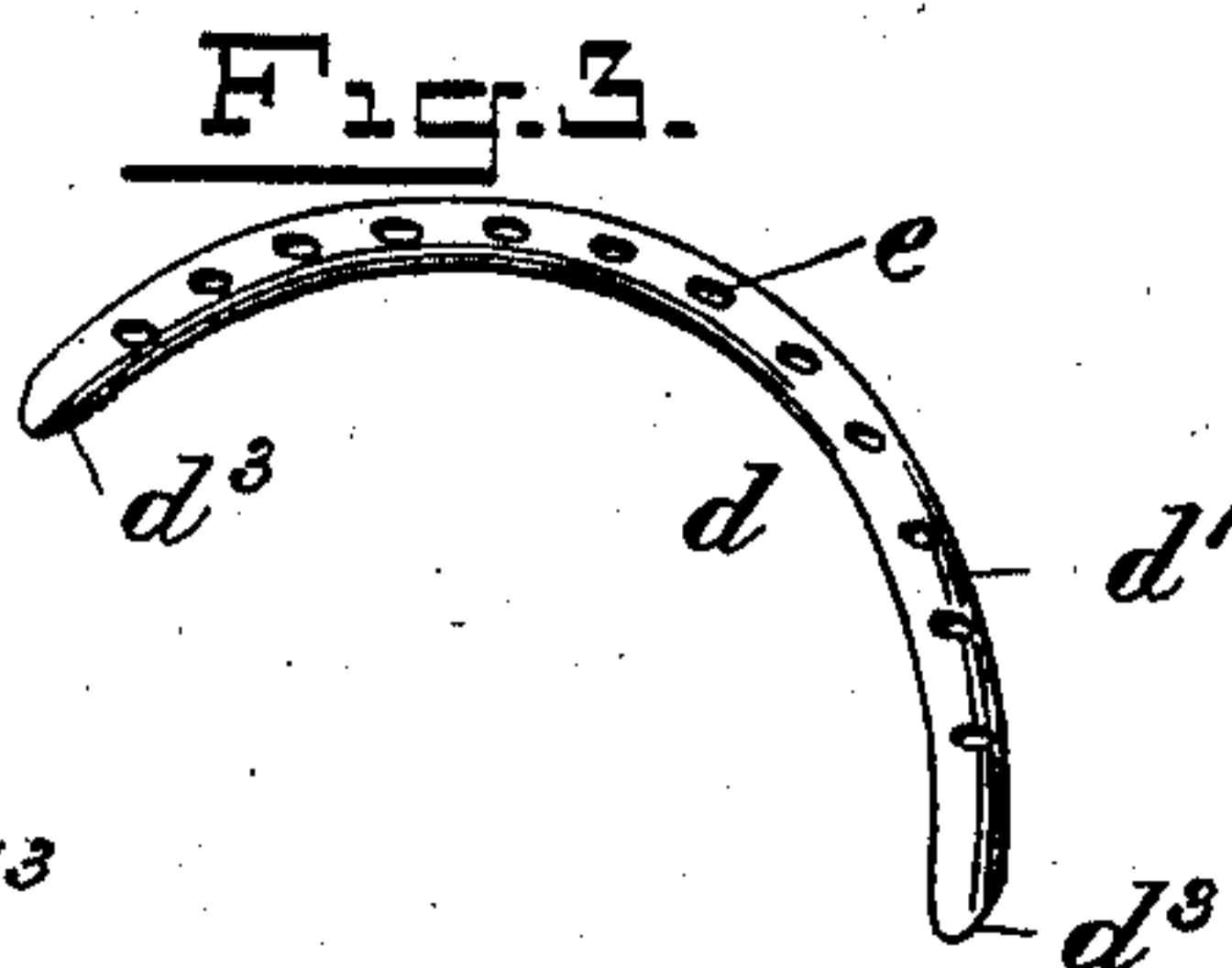
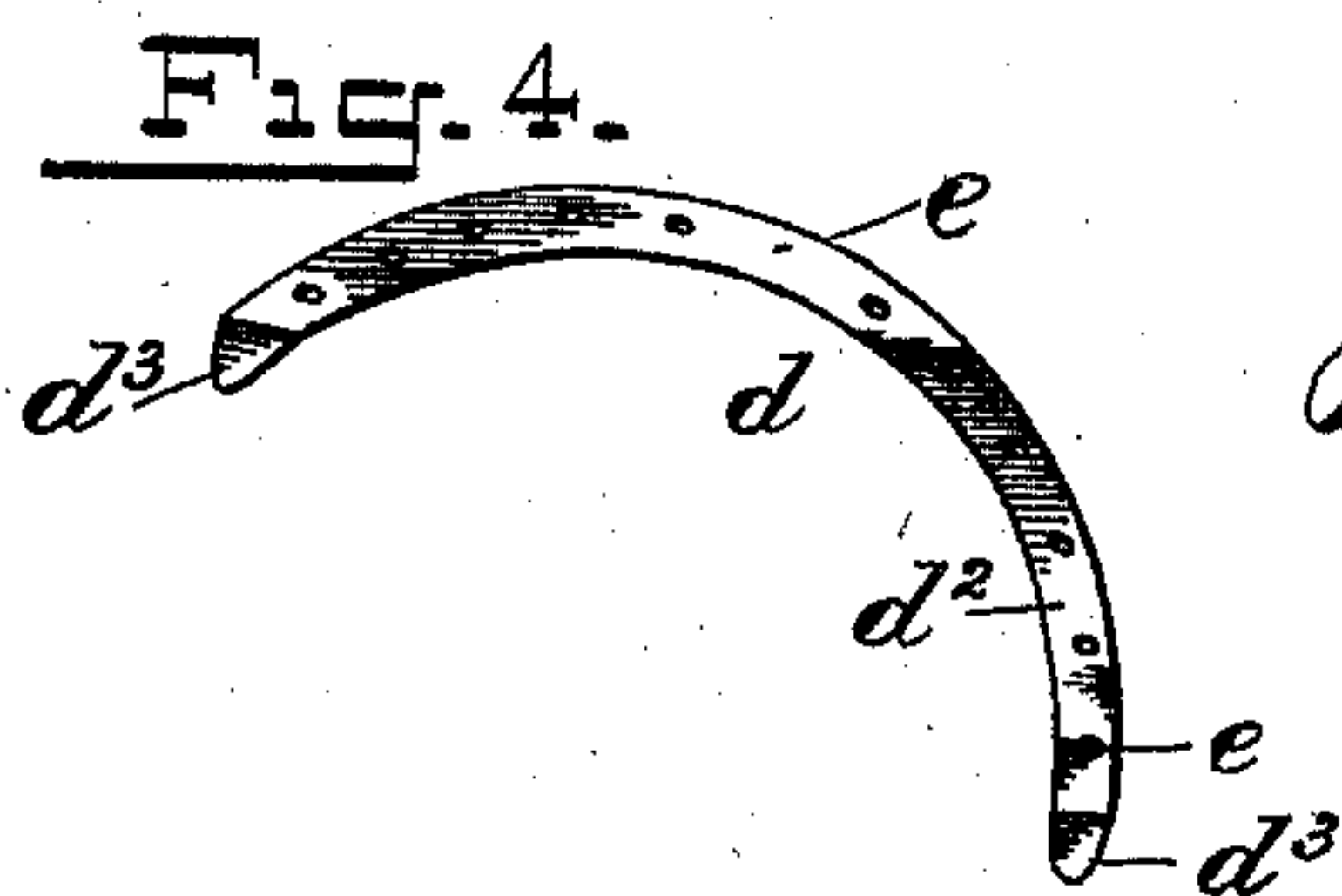
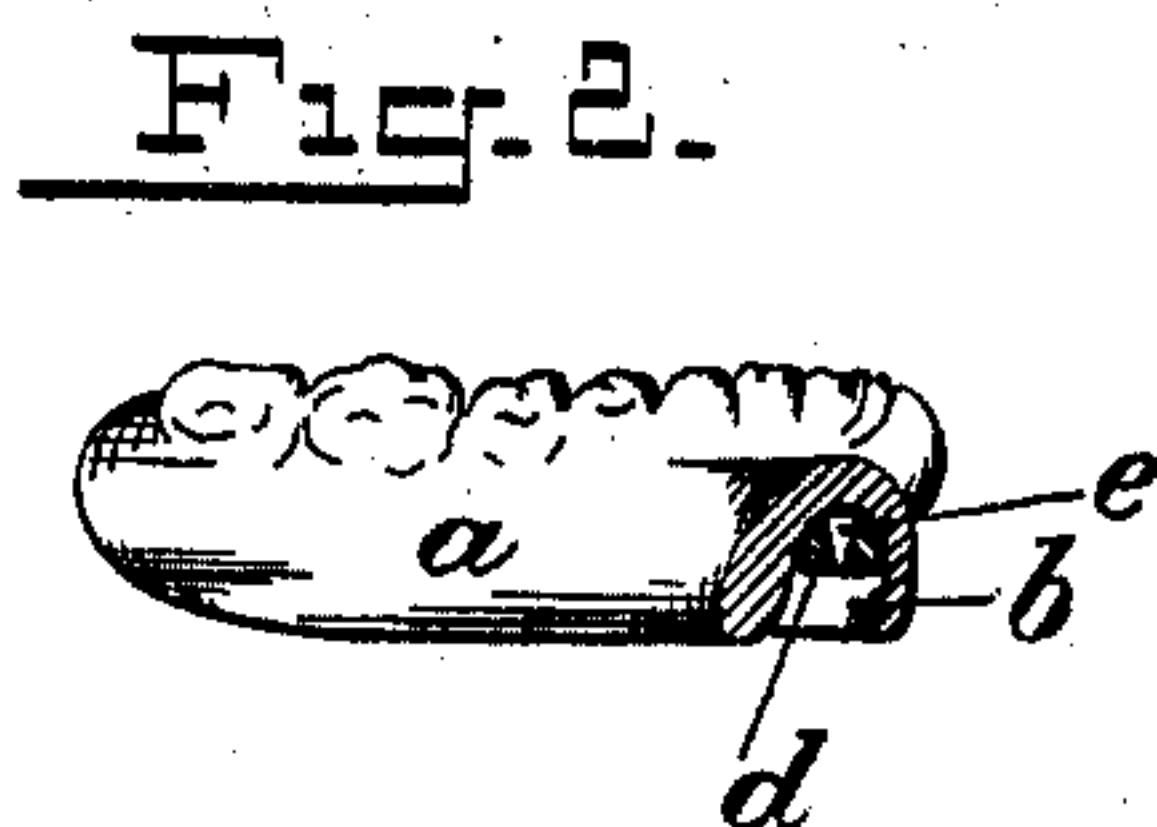
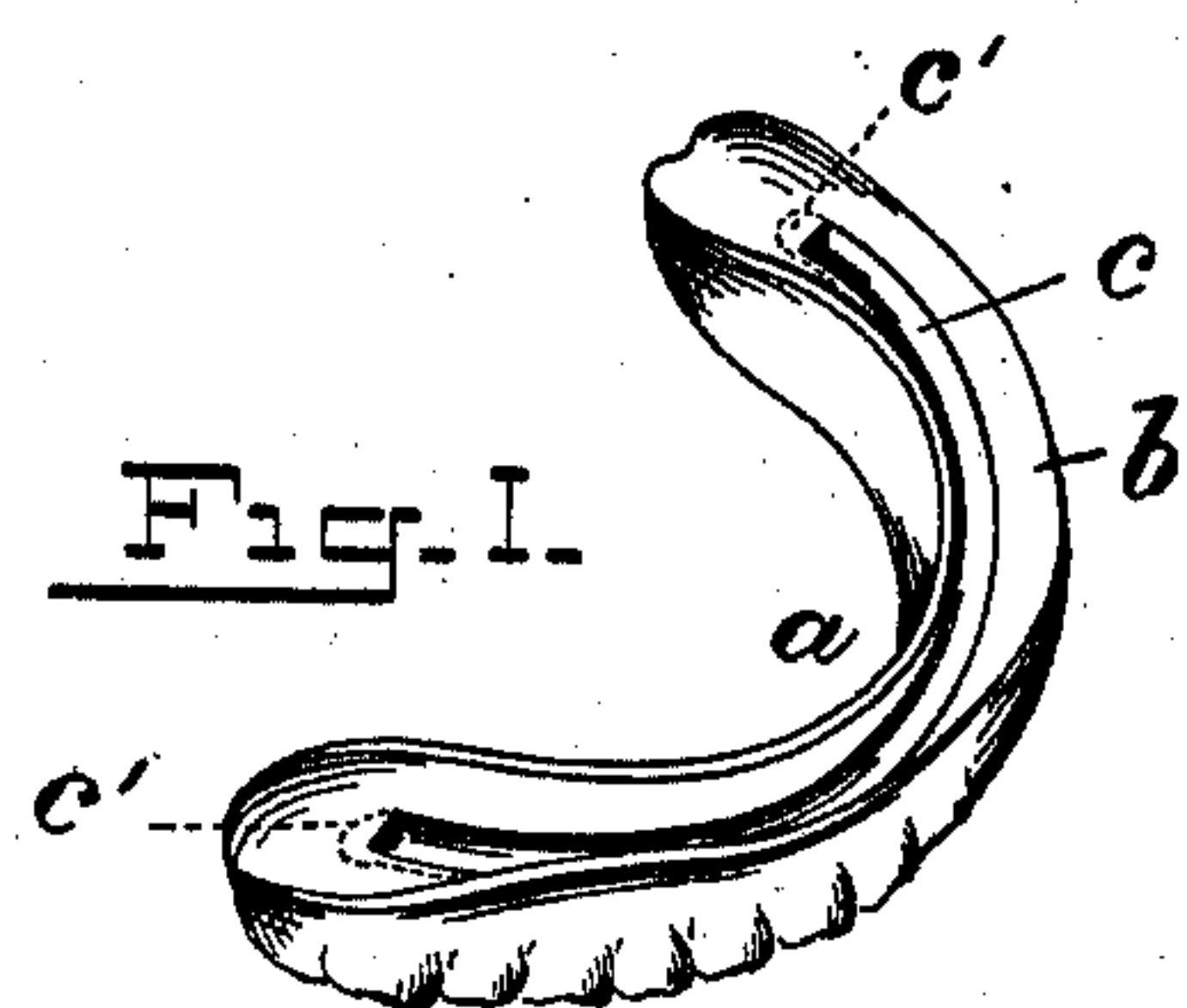


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ARTIFICIAL TEETH.
APPLICATION FILED MAR. 25, 1908.

963,541.

Patented July 5, 1910



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ARTIFICIAL TEETH.

963,541.

Specification of Letters Patent.

Patented July 5, 1910.

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To all whom it may concern:

Be it known that I, ROBERT GALLOWAY, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at 5 West Philadelphia, in the county of Philadelphia and State of Pennsylvania, United States of America, have invented new and useful Improvements in Artificial Teeth, of which the following is a specification.

10 This invention relates to artificial teeth and consists of an improved method of and means for causing adherence between the denture or case of teeth, and the gums of the wearer, the improvements being appli- 15 cable to both lower and upper dentures.

The method according to the invention consists in creating a vacuum in a resilient filling in the denture such as to conjointly produce adherence between the gums and 20 the filling and between the filling and the denture. For this purpose there is inserted in the denture material of a soft and elastic nature, such as rubber, which is formed or provided with apertures adapted when the 25 denture is in use to constitute in conjunction with the denture and the gum, practically sealed or closed cavities which effectually serve to retain the denture in position.

30 The material to be inserted in the denture may be fashioned in many ways and be variously retained but preferably in such a manner that the same can be readily removed when required for renewal.

35 In the accompanying drawings, Figure 1 is a perspective view of a lower denture as it appears before the suction producing material, in one of its forms, is inserted. Fig. 2 is a section through such denture 40 with the material inserted. Figs. 3 and 4 are perspective views of the material to be inserted, looked at from opposite sides or faces and Fig. 5 a perspective view of a 45 plaster model adapted for use in preparing the denture shown in Fig. 1. Fig. 6 is a cross section, to an enlarged scale, of a modified form of suction producing material.

Referring first to Figs. 1 and 4, the denture 50 a is provided on the surface of the grooved portion or recessed part b which receives the gum, with a narrow groove c extending in this particular instance from the middle of the second molar on one side to the middle of the second molar on the other side and having a rounded surface somewhat 55 as shown in section in Fig. 2. Into this groove c is inserted a strip of soft elastic

rubber d formed somewhat as shown in Figs. 3 and 4 so that it fits the said groove snugly. A number of holes e , it may be twelve, are formed through the strip d as shown, being 60 widest at the inner side or face d^1 of the strip Fig. 3 and narrowest at the outer side or face d^2 , Fig. 4. These holes e are shown as circular in cross section but they may be of other equivalent shape.

65 The mode of producing the groove c in the denture a will be readily understood from Fig. 5 where the plaster model g is provided with a small strip or bar g^1 of block tin or other suitable metal, corresponding in cross section to the section of the rubber strip d , which can be easily bent to the 70 required shape and be retained upon or adjacent to the ridge g^2 of the model by pins g^3 for instance. The production of the 75 denture is then proceeded with in the usual way by flasking and vulcanizing.

The strip d may be permanently secured within the groove c by any appropriate cement or solution, but, as before stated, is 80 preferably arranged to be removed when required, as for renewal or cleaning purposes. By experiment I have ascertained that this can be effectually obtained by relying upon the resilience of the rubber strip 85 in its tendency to expand within the groove, but it might be formed with dovetailed side projections adapted to enter correspondingly shaped and arranged undercut notches or retaining recesses in the grooves c of the 90 denture as an additional safeguard against accidental displacement of the strip, although in most cases this will not be necessary. Or the ends of the strip d might be 95 dovetailed, that is to say inclined somewhat as shown at d^3 Figs. 3 and 4 so that it is appropriately shaped for insertion into correspondingly shaped recesses or notches c^1 in the ends of the groove c Fig. 1.

Fig. 6 illustrates a modification wherein 100 the rubber strip d is formed with holes e each of which, while narrower at the extremity adjacent to the gum than at the extremity adjacent to the bottom of the groove for the strip's reception, is constricted intermediate of its length as at e^1 by which 105 means after pressure is applied to the strip and the air in the hole is forced out the said hole will be divided by the construction into two separate cavities closed respectively by 110 the gum and denture and maintained closed by the vacuum therein.

If desired, the strip which is attached to the plaster block for the production of the groove in the denture might be covered with one or more layers of tin or other metal foil which upon vulcanization of the denture adheres within, and serves as a lining for the groove in the latter thereby improving the suction.

As will be obvious although a single groove and strip have been referred to and illustrated in the drawing, the term is intended to embrace a plurality of such grooves and strips arranged as found necessary in either upper or lower dentures whether the strips be in lengths as shown or endless in the form of a ring.

I claim:—

1. A denture having a recess adjacent to the gum of the wearer, and a filling of a soft and elastic material in said recess formed with apertures adapted when the denture is in use to be sealed conjointly by the denture and by the gum.

2. A denture having a recess adjacent to the gum of the wearer, and a filling of a soft and elastic nature provided with apertures each of which forms a divided cavity sealed conjointly by the denture and the gum.

3. A denture having a recess adjacent to the gum of the wearer, and a filling of perforated material of a soft and elastic nature, the perforations of which are larger at the end adjacent to the denture than at the end adjacent to the gum and constitute cavities closed conjointly by the denture and the gum.

4. In a denture, a groove-filling suction strip of a soft and elastic material having perforations which extend through the strip from the top to the bottom of the groove.

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