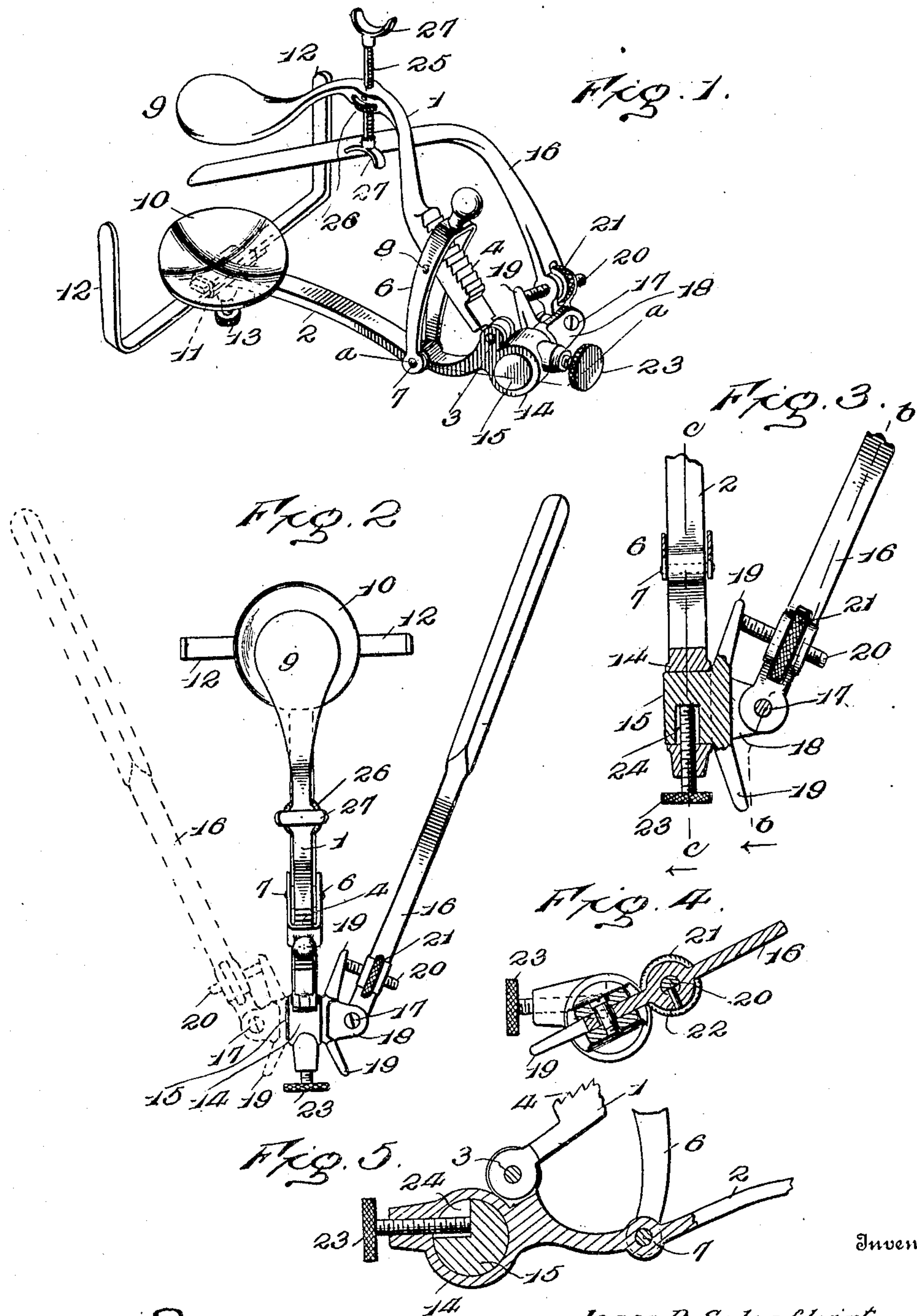


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J. B. SCHAFHIRT.
DENTAL APPLIANCE.
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DENTAL APPLIANCE.

No. 887,528.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JESSE B. SCHAFHIRT, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented certain new and useful Improvements in Dental Appliances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in dental appliances and has for its object to provide an appliance adapted to clamp or hold the tongue of a patient down and out of the way, and to also provide means for distending or holding the cheek outward or away from the teeth.

It has also for its object to provide means for holding the appliance in centralized relation with the mouth and to provide a support for the front teeth under certain conditions, and with these objects in view my invention consists in the details of construction and arrangement of parts hereinafter more fully set forth.

In order that those skilled in the art to which my invention is applicable may know how to make and use the same and fully appreciate all of its advantages, I will proceed to describe the same referring by numerals to the accompanying drawing in which:

Figure 1 is a perspective view of my improved appliance. Fig. 2 is a top or plan view, the dotted lines showing the cheek holder in reversed position. Fig. 3 is a detail section on the line *a—*a** of Fig. 1. Fig. 4 is a detail section on the line *b—*b** of Fig. 3, and Fig. 5 is a detail section on the line *c—*c** of Fig. 3.

Similar reference numerals indicate like parts in the several figures of the drawing.

1 and 2, are two members pivoted together at 3. The upper member 1, adjacent to the pivot 3, is formed for a suitable distance with ratchet notches 4, upon its upper surface adapted to interlock with a tooth or pawl depending from the under side of the upper end of a stirrup 6, which straddles or embraces the two members 1, 2, and is pivoted at 7, to the member 2, and is provided with a transverse pin or bar 8, at a point just below the lower surface of the member 1, in order that when the stirrup is vibrated toward the articulated ends of the members 1, 2, the pin or bar 8, will bear against the under side of the member 1, and raise the same, and when re-

leased or vibrated in the opposite direction the upper member 1, is permitted to approach the lower member 2, until the latter contacts with the tongue of the patient while the lower member 2, is adjusted underneath the chin, whereupon the depending tooth or pawl of the stirrup 6, will be seated within one of the ratchet notches 4, and thus lock the two members in adjusted and clamping position.

The free end of the member 1, terminates in a spoon 9, adapted to bear upon the upper surface of the tongue of a patient, while the free end of the lower member 2, terminates in a dish-shaped disk 10, adapted to bear against the under surface of the chin, and consequently when the appliance is properly adjusted the tongue of the patient is held against movement and out of contact with the teeth, until it is released by vibrating the stirrup 6, outwardly, which first releases the tooth or pawl from the ratchet notch, and then causes the two members to be separated sufficiently to permit of the ready removal of the appliance from the mouth.

On the under side of the dish-shaped disk 10, is formed a transverse seat 11, (shown in dotted lines in Fig. 1), with a longitudinal passage for the reception of the base portions or ends of two centralizing fingers 12, of any preferred design, which extend upwardly as clearly shown and are adapted to contact with the outer surface of the chin to which they may be readily adjusted by the obvious movement of the base portions within the seat 11, and held in such adjusted position by a set screw 13. When so adjusted the appliance as a whole is held against any lateral movement upon the tongue. It will be readily seen however that the centralizing fingers 12, may be entirely removed when desired by releasing the set screw, and withdrawing them from their seat 11.

The lower member 2, extends beyond the pivot 3, to constitute a cylindrical bearing 14, for the reception of the shank 15, of a cheek distending finger 16, which is pivotally connected by a set screw 17, with lugs 18, extending laterally from the shank 15.

Short diametric spurs 19, extend from the shank 15, above and below the pivot screw 17, against one of which according to the location of the finger 16, one end of a headless screw 20, contacts for the purpose of adjusting the finger 16.

This screw passes through an orifice in the

finger 16, and a milled threaded nut 21, located in a slot in the finger 16, and is flattened for a portion of its length and prevented from turning within its bearing in the finger by a pin 22 (see Fig. 4), so that the rotation of the milled nut 21, in one or the other direction will cause the screw 20, to travel toward or from the spur 19, for the purpose of adjusting and holding in adjustment the finger 16.

The shank 15, is removably secured in position within the cylindrical bearing 14, through the medium of a set screw 23, the inner end of which enters a recess 24, in the shank as clearly shown at Fig. 5.

25, is a screw prop or support passing through a passage in the upper member 1, and threaded in an operating nut 26, located within a transverse opening in the member 1, and this screw is prevented from turning within the passage in the member 1, in substantially the manner as already described with reference to the screw 20, for adjusting the finger 16. This screw 25, is provided with concaved or recessed heads 27, designed to bear upon the upper or lower teeth, one of which heads must, and both may be removable from the screw. This screw 25, like the centralizing fingers 12, may when not desired for use be entirely removed from the member 1.

Having described the construction and arrangement of the several parts of my improved appliance I will now describe the manner of using the same.

When the several parts are in the relation shown in Fig. 1, and in solid lines in Fig. 2, with the cheek distending finger 16, located at the right, the member 1, is passed within the mouth of the patient with the spoon 9, over the tongue, and the member 2, below the chin and with the disk 10, underneath the same. The member 1, is then lowered until the spoon has pressed the tongue down and the tooth or pawl on the under surface of the stirrup 6, is permitted to interlock with a notch of the rack 4, which will cause the appliance to be held in its clamping position.

The cheek distending finger having been previously adjusted to its nearest relation with the members 1 and 2, and having entered the mouth of the patient with the member 1, is then by means of the milled nut 21, and screw 20, caused to move outward to the position shown in Fig. 1, and in solid lines in Fig. 2, thus distending the left cheek and holding it away from the teeth. The centralizing fingers 12, are now adjusted to the outer surfaces of the chin and thus prevent any lateral movement of the tongue clamp and cheek distending finger from their adjusted positions.

The screw 25, if used may now be adjusted in an upward direction until the upper recessed head 27, is brought in contact with the

upper teeth and thus constitutes a prop or support for the upper jaw, and likewise when desired this screw may be adjusted in the reverse direction to bring the head at its lower end in contact with the lower teeth to aid in steadying or holding the appliance in proper position.

When it is desired to distend the left jaw of the patient the distending finger 16, and its connections are removed by releasing the set screw 23, and the parts are then re-assembled as shown in dotted lines at Fig. 2, and adjusted as already described.

It will of course be understood that my improved appliance is adapted for and intended to be used in connection with any suitable bodies such as cotton rolls or napkins and that while I have shown preferred designs of the several parts, that such designs may be varied without departing from the spirit of my invention which resides in the broad idea of combining with the tongue clamping devices, adjustable means for distending the cheek, and also in the details of construction shown and described for accomplishing the several results set forth.

What I claim and desire to secure by Letters Patent is:

1. In a dental appliance such as described, in combination with articulated members adapted to hold the tongue in clamped position, and means for locking the articulated members in such position, vibrative, adjustable means for holding the cheek in distended position, substantially as hereinbefore set forth.

2. In a dental appliance such as described embodying means for clamping the tongue in downward position, and vibrative adjustable means for distending the cheek laterally, adjustable means for contacting with the outer surfaces of the chin and holding the appliance against lateral movement as hereinbefore set forth.

3. In a dental appliance, the combination with the hinged arms constituting a tongue clamp, and means for operating and locking the same, an adjustable and removable cheek distending finger vibratively connected with the lower arm whereby said finger is adapted for use upon either side, substantially as hereinbefore set forth.

4. In a dental appliance such as described in combination with articulated members constituting a tongue clamp and a cheek distending finger pivoted to a supporting shank provided with diametric spurs and adjustably and removably connected with the articulated members, a longitudinally adjustable screw located within the cheek distending finger and adapted to contact with one or the other of the spurs on the shank, substantially as set forth.

5. In a dental appliance such as described, in combination with articulated members

constituting a tongue clamp, an adjustable prop connected with the upper member, and adapted to contact with the upper or lower teeth, substantially as and for the purpose
5 set forth.

6. In a dental appliance such as described and consisting of articulated members constituting a tongue clamp, adjustable centralizing fingers having their bases overlapping and located within a seat in the lower
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member, and a set screw adapted to hold said fingers in adjusted position, substantially as hereinbefore set forth.

In testimony whereof, I have signed my name to this specification in the presence of 15 two subscribing witnesses.

JESSE B. SCHAFHIRT.

Witnesses:

ALFRED B. DENT,
ALLEN E. HILL.