

**No. 629,531.**

**Patented July 25, 1899.**

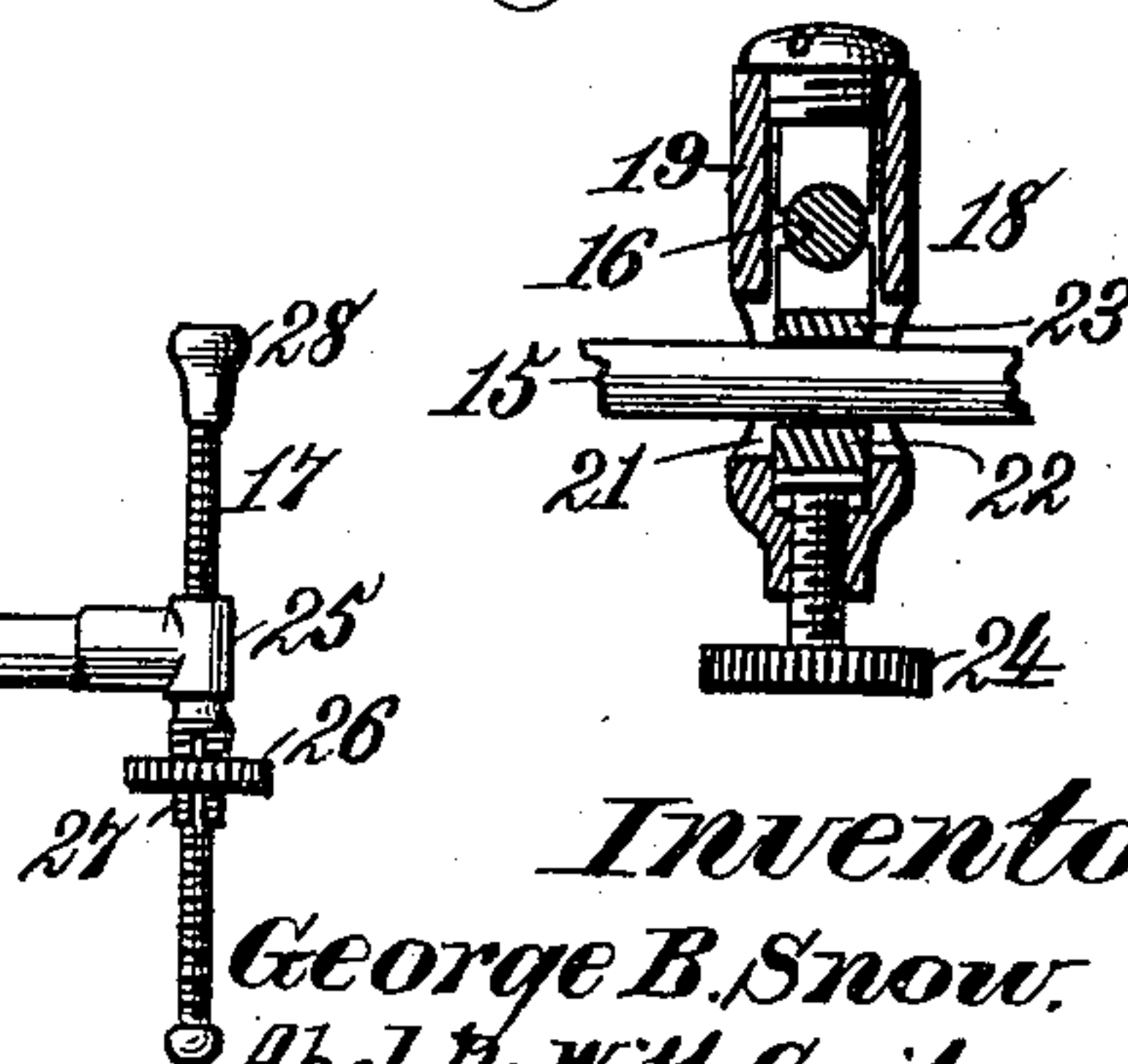
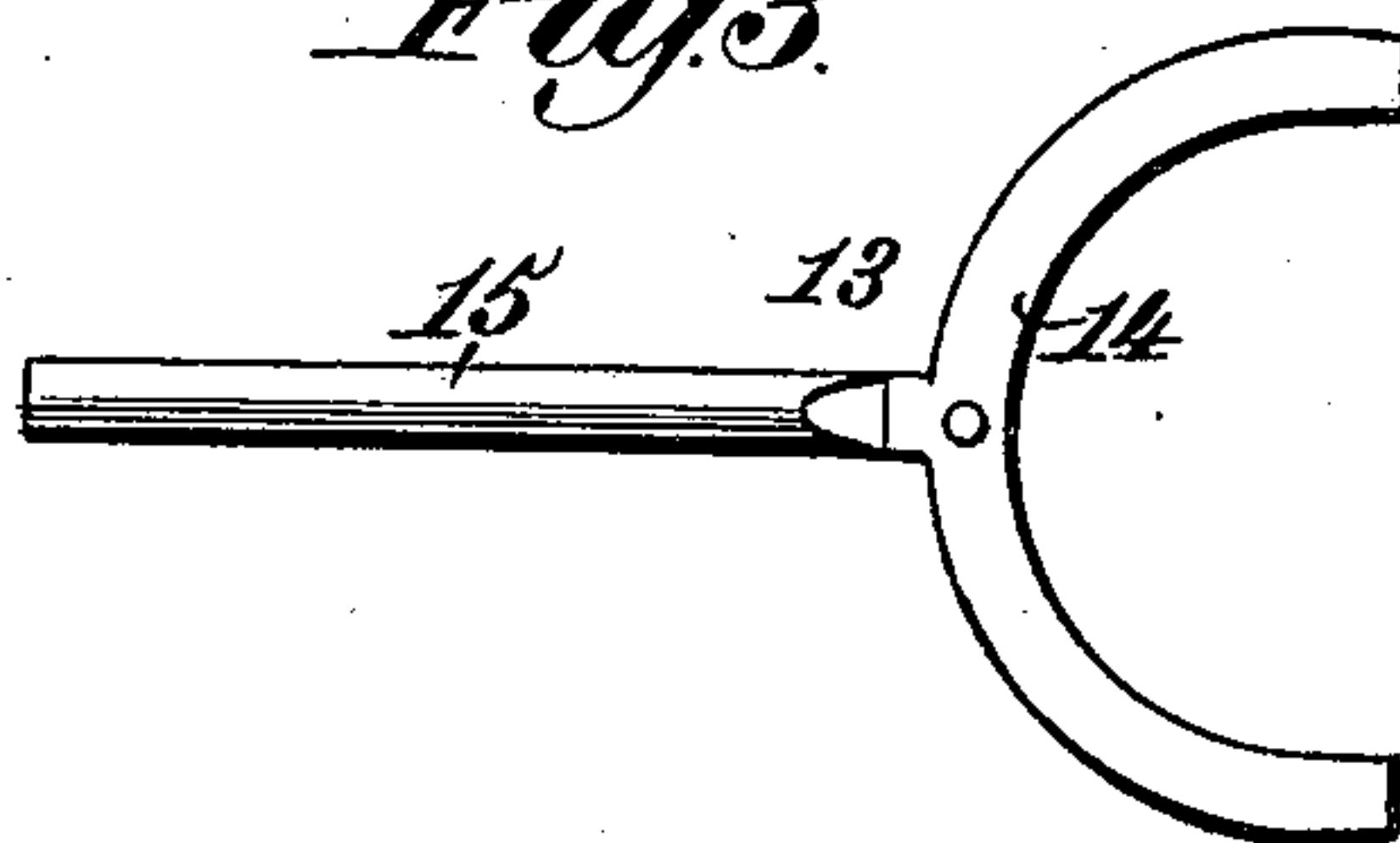
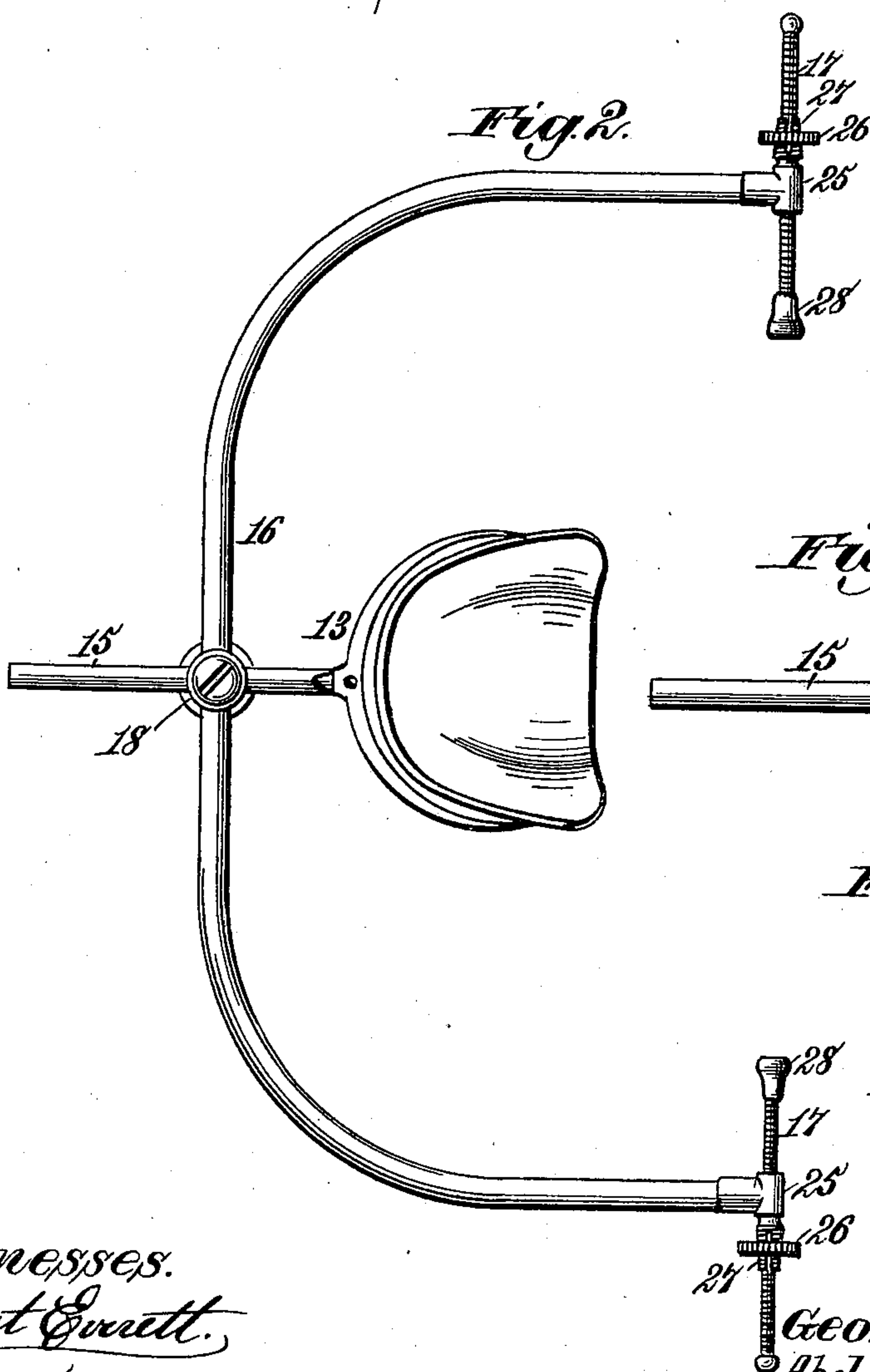
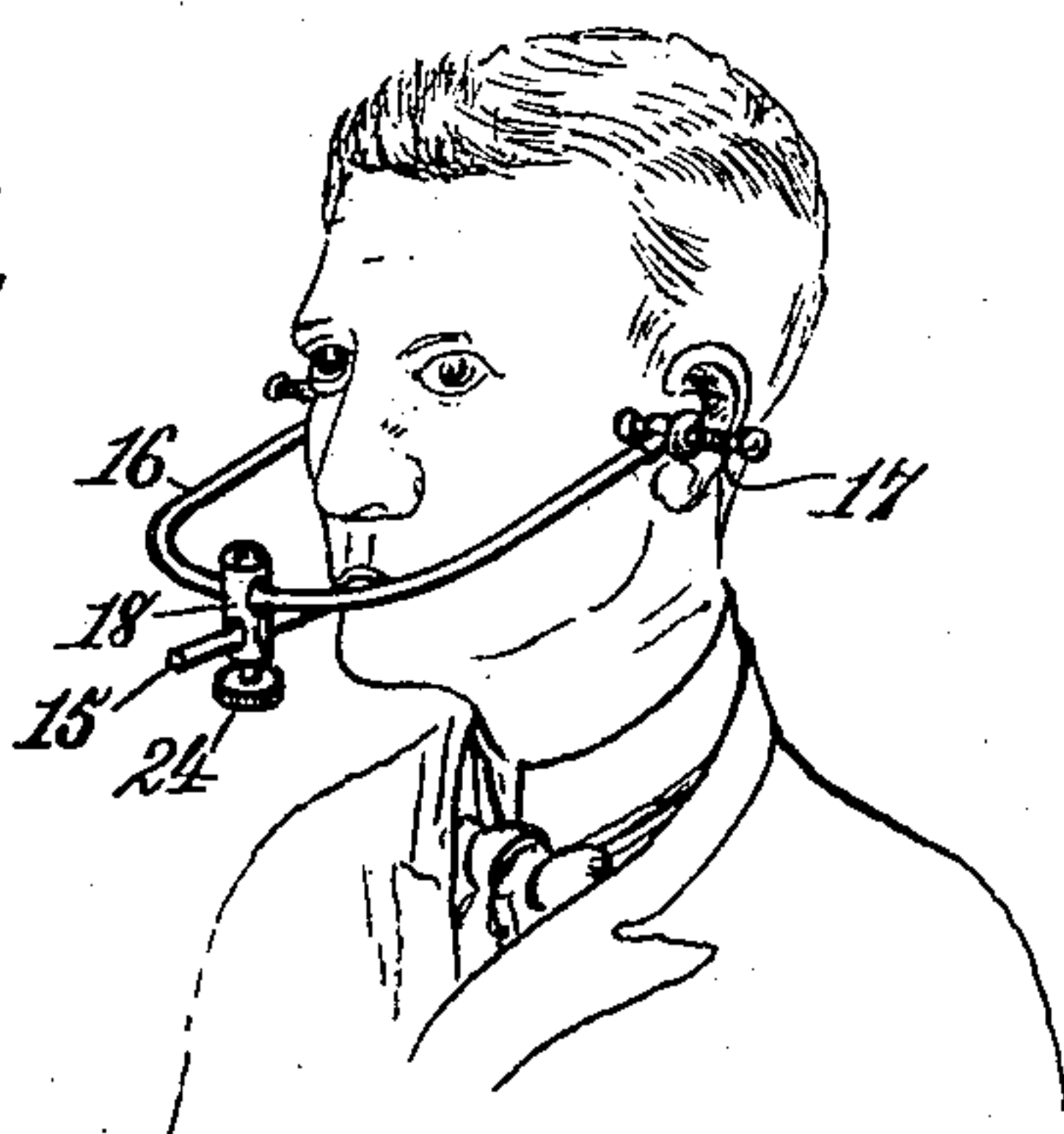
G. B. SNOW & A. DE W. GRITMAN.

## DENTAL ARTICULATOR.

(Application filed Feb. 23, 1899.)

(No Model.)

**2 Sheets—Sheet 1.**



*Witnesses.*

Robert Emmett.

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Att'y

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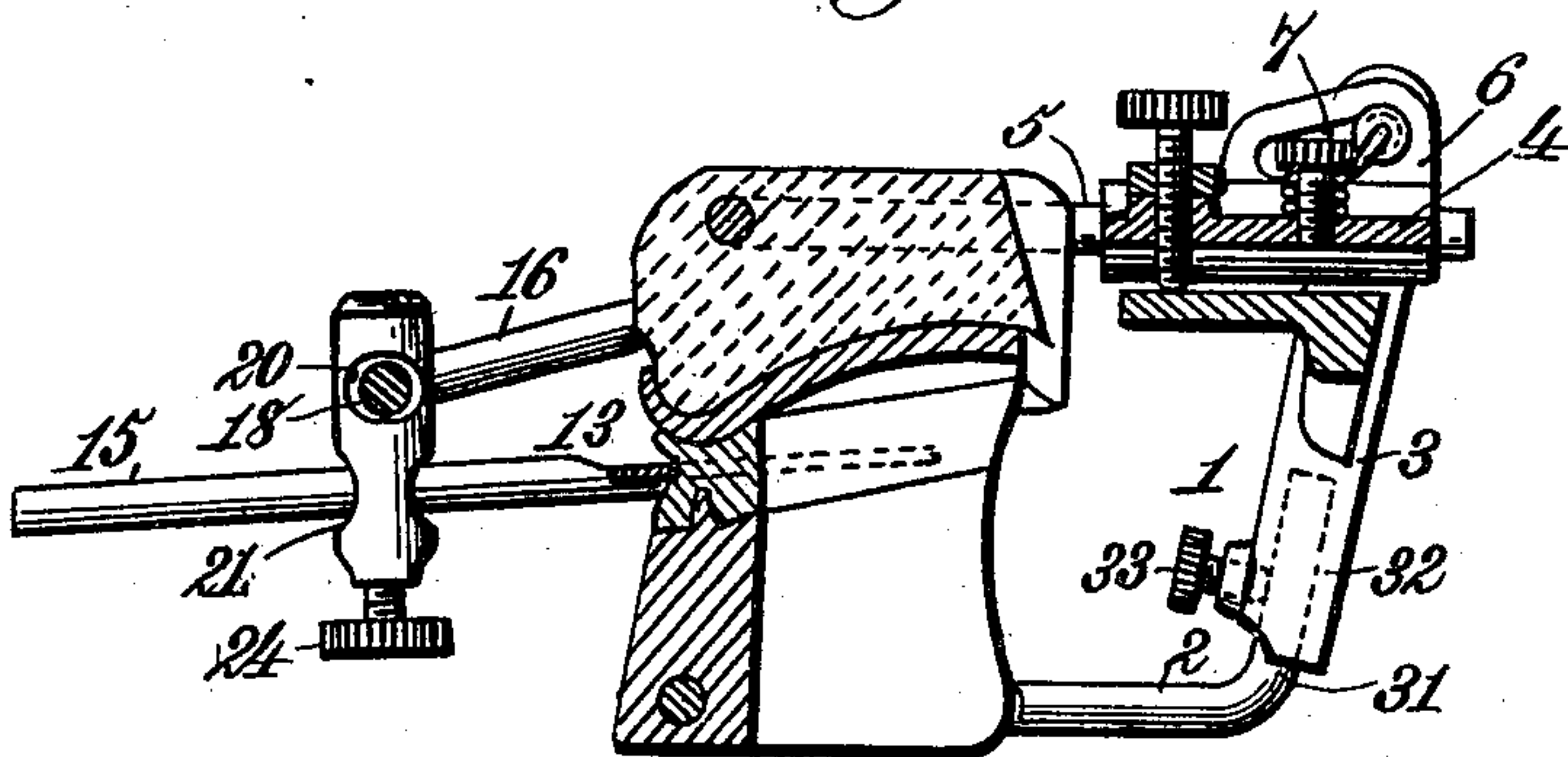
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DENTAL ARTICULATOR.

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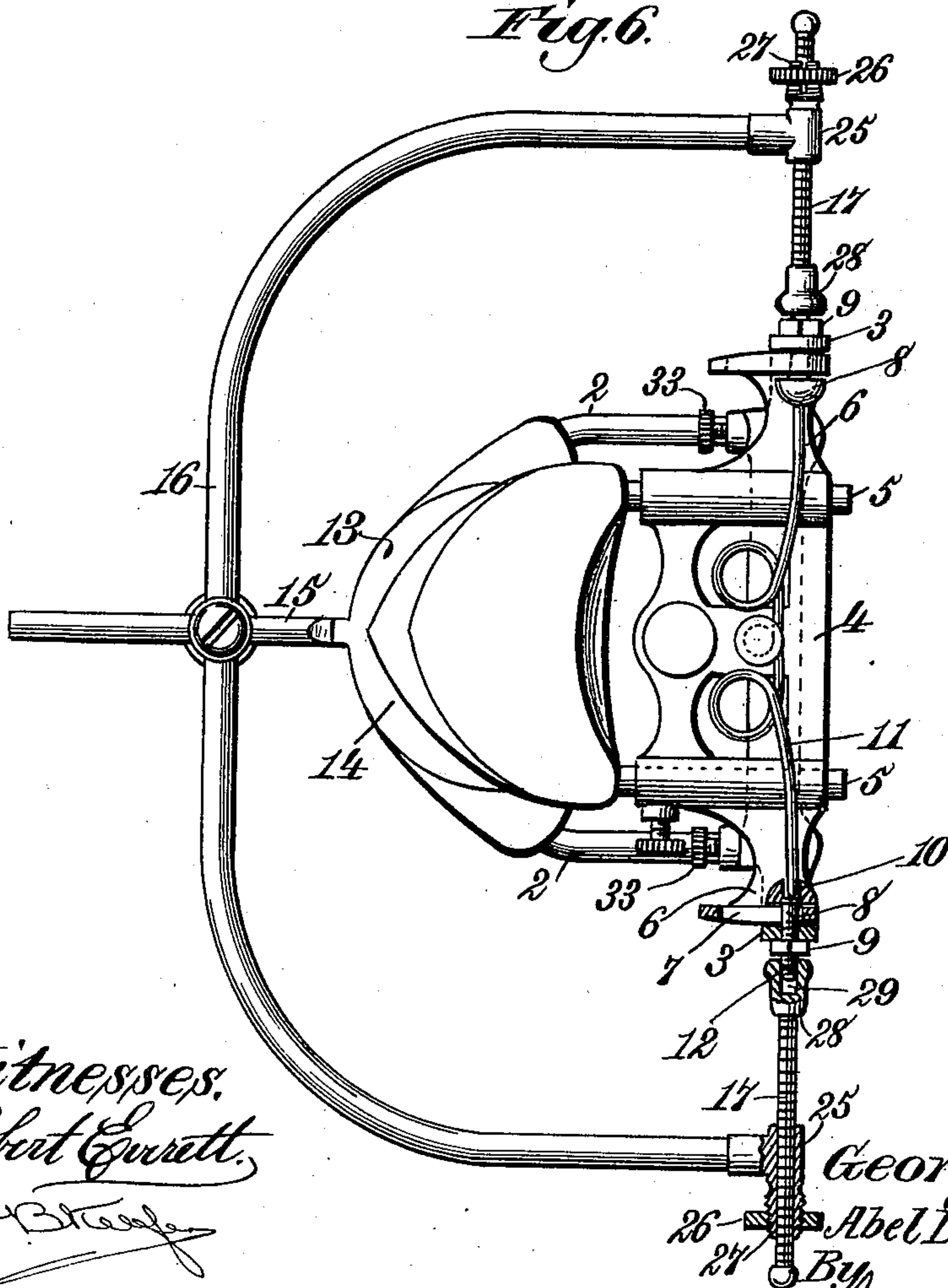
(No Model.)

2 Sheets—Sheet 2.

*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

GEORGE B. SNOW AND ABEL DE WITT GRITMAN, OF BUFFALO, NEW YORK.

## DENTAL ARTICULATOR.

SPECIFICATION forming part of Letters Patent No. 629,531, dated July 25, 1899.

Application filed February 23, 1899. Serial No. 706,547. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE B. SNOW and ABEL DE WITT GRITMAN, citizens of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Dental Articulators, of which the following is a specification.

The object of this invention is to provide an improved form of dental articulator having means whereby a lateral movement of one of the pivoted sections with respect to the other may be had, so as to simulate the lateral movement of the lower human jaw in the act of masticating.

A further object of the invention is to provide an attachment for a dental articulator whereby the proper location of the upper model in the articulator with respect to the pivotal point between the two sections may be defined.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be defined in the claims.

In the drawings, Figure 1 is a perspective view showing the application of our attachment to the mouth and head of the patient. Fig. 2 is a plan view of the same. Fig. 3 is a detail plan view of the trial-plate support. Fig. 4 is a detail sectional view of the universal clamp employed. Fig. 5 is a vertical central longitudinal section through the articulator with the attachment applied thereto. Fig. 6 is a plan view, partly in section, of the same.

Like reference-numerals indicate like parts in the different views.

The articulator is made up of two sections, the lower section 1 having an adjustable support 2 for the model of the lower jaw and upwardly and outwardly extending arms 3 3, constituting a bracket, in which the upper section 4 is pivotally mounted. Said section 4 is provided with an adjustable arm or extension 5, to which the model of the upper jaw is adapted to be secured, and has outwardly and upwardly extending arms 6 6, provided with elongated slots 7, through which and the bracket on the lower section the pivots 8 8 pass. The pivots 8 consist of pins or studs which extend through the arms 3 and are provided with screw-threads, upon which

the nuts 9 9 are screwed for clamping said pivots to said arms 3. The inner ends of the pins or studs are formed with sockets 10 10, in which fit the outer ends of a spring 11, which is coiled at a point adjacent to its center around a pin or standard on the upper section 4 and is also coiled at two points on opposite sides of the central coil, the said spring serving to normally hold the lower section 1 rearwardly. By the construction just described it will be observed that lateral and back-and-forth movement may be imparted to the lower section 1 to simulate the lateral movement of the lower human jaw. The pins or studs which constitute the pivots between the upper and lower sections of the articulator extend outwardly, as shown at 12, a short distance beyond the nuts 9, which hold them in place.

The attachment for the articulator consists of a trial-plate support 13, having a yoked or forked inner end 14 and a rod or arm 15, extending outwardly therefrom, a spring yoke or bracket 16, adjustably secured to the arm 15, and adjusting-rods 17 upon the opposite ends of said yoke, provided with means whereby they may be attached to the articulator in line with the pivots between the two sections thereof. The connection between the arm 15 of the trial-plate support and the yoke 16 is effected by means of a universal clamp 18, (illustrated in detail in Fig. 4 of the drawings,) the same comprising the body 19, having openings 20 and 21, extending there-through at substantially right angles to each other, and movable clamping members 22 23, adapted to be operated by means of a thumb-screw 24. This clamp provides for the adjustment of the yoke 16 at any angle with respect to the arm 15. The adjusting-rods 17 are mounted in suitable bearings 25 in the opposite ends of the yoke 16, are capable of longitudinal movement in said bearings, and are in alinement with each other. They are adapted to be locked in any position to which they may be adjusted by means of clamping-nuts 26 26, engaging the threaded tapering split ends 27 of the bearings 25. The inner ends of said adjusting-rods are provided with equidistant graduations or scores, by means of which both of said rods may be adjusted at the same distance from the bearings in



which they are mounted. We show the inner ends of said rods as provided with heads 28, having sockets 29 therein for the reception of the extended portions 12 of the pivots 8, thus enabling the attachment to be suitably connected to the articulator herein shown. It is obvious, however, that the shape of the inner faces of the heads 28 may be varied to fit other articulators, and thus enable the attachment to be used therewith.

In operating our attachment for the purpose of properly locating the models of the mouth in the articulator we proceed as follows: The attachment is disconnected from the articulator, as shown in Figs. 1 and 2 of the drawings, and the adjusting-rods 17 are locked so that their inner ends will be equidistant from their bearings 25 and will just pass the sides of the cheeks of the patient adjacent to the joint between the jaws. A trial-plate having been previously prepared and fitted to the mouth and the "bite" taken in the usual manner, the yoke 14 is heated and forced into the front face of the upper trial-plate, so that it is firmly attached thereto. The trial-plate being then placed in the mouth, the yoke 16 is applied to the arm 15 by means of the clamp 18. The inner ends of the adjusting-rods 17 are then moved and adjusted so that they will lie in close contact with the sides of the head of the patient opposite the mandibular joints, which are approximately one-half inch in advance of the auditory meatus and in line with the bottom thereof. The clamping-screw 24 is then tightened and the attachment, with the trial-plate, is removed from the head and mouth of the patient. The said attachment is afterward applied to the articulator by moving the adjusting-rods 17 equally inward, which may be determined by the graduations on the inner ends thereof, so that the knobs or heads 28 will just pass the nuts 9 on the screw-threaded ends of the pivots 8. Then by springing apart the side arms of the yoke 16 the projecting ends 12 of the pivots may be caused to pass within the sockets 29 in the heads 28. The trial-plate is now adjusted upon the articulator with respect to the pivot between the two sections thereof in exactly the same position which the jaw of the patient occupies with respect to the joint between the jaws. The models are now placed against the trial-plate so that they register therewith and are then secured in the usual manner by plaster-of-paris to the two sections of the articulator.

The adjustable support 2, heretofore referred to, is preferably made of heavy wire bent into the form of a bow, as shown, the upwardly-extending branches or arms 31 thereof fitting in sockets 32 in the lower section 1 of the articulator and held in place by the adjusting-screws 33. By this construction vertical extension may be effected when upper and lower sets are to be articulated. The advantage of the wire bows is that several of them may be furnished with each ar-

ticulator and several sets of teeth may be in progress in the one articulator at the same time, it being understood, of course, that the bows are made interchangeable.

Having now described our invention, what we claim is—

1. A dental articulator, comprising two pivoted sections, one of which is provided with arms constituting a bracket and the other with arms having elongated slots therein, the pivots between said sections extending through said slots, and a spring attached at its ends to one of said sections and connected at an intermediate point to the other of said sections, as and for the purpose set forth.

2. A dental articulator, comprising upper and lower sections, the lower section having upwardly-extending arms and the upper section having corresponding arms provided with elongated slots, pivots for said sections extending through said elongated slots and secured to the arms on the lower section, the said pivots being provided at their inner ends with sockets, and a spring having its ends fitting within said sockets and coiled at an intermediate point about a stud or projection on the upper section, as and for the purpose set forth.

3. An attachment for dental articulators, for the purpose described, comprising a trial-plate support, a bracket adjustably secured to said support and longitudinally adjustable, aligned rods on said bracket provided with means whereby they may be attached to an articulator adjacent to the pivotal point between the sections thereof.

4. An attachments for dental articulators, for the purpose described, comprising a trial-plate support having an arm or extension thereon, a yoke or bracket adjustably connected thereto, longitudinally-movable, aligned adjustable rods in the ends of said yoke, and means on said adjusting-rods whereby they may be attached to an articulator adjacent to the pivotal point between the sections thereof, as and for the purpose set forth.

5. The combination with a dental articulator having extensions thereon in line with the pivots between the two sections thereof, of an attachment therefor, for the purpose described, consisting of a trial-plate support, a yoke or bracket adjustably secured to said support, and longitudinally-movable, aligned adjusting-rods on said yoke provided with sockets in their inner ends adapted to receive the extensions on said articulator, as and for the purpose set forth.

6. A dental articulator comprising a body having substantially vertical sockets therein, and a model-support, constructed of wire bent to form a substantially horizontal bow, the branches of said bow being upturned and fitting within said sockets, whereby said support may be adjusted vertically.

7. A dental articulator comprising pivoted sections, one of which is provided with horizontal sockets and the other with vertical



sockets, and interchangeable model-supports adapted to fit in said sockets, each constructed of wire bent to form a substantially horizontal bow, the branches of the lower support being upturned and adjustably mounted in said vertical sockets, whereby said lower support may be adjusted vertically.

In testimony whereof we have hereunto set

our hands in presence of two subscribing witnesses.

GEORGE B. SNOW.  
ABEL DE WITT GRITMAN.

Witnesses:

PHILIP HOUCK,  
REGINALD C. DARBY.