

June 19, 1923.

1,458,967

J. BECKER

ATTACHMENT FOR DENTAL ARTICULATORS

Filed June 1, 1922

2 Sheets-Sheet 1

Fig. 1.

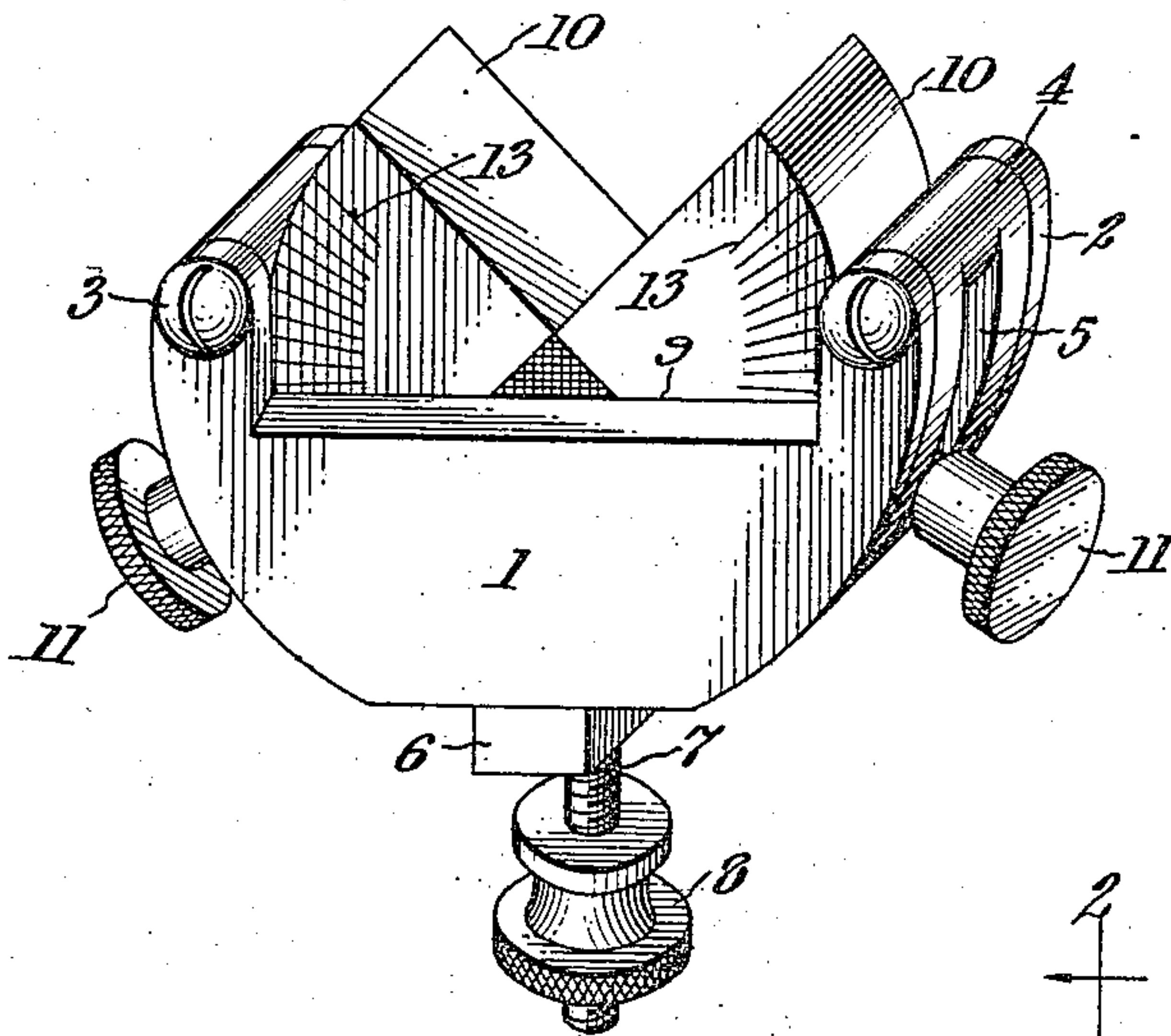


Fig. 2.

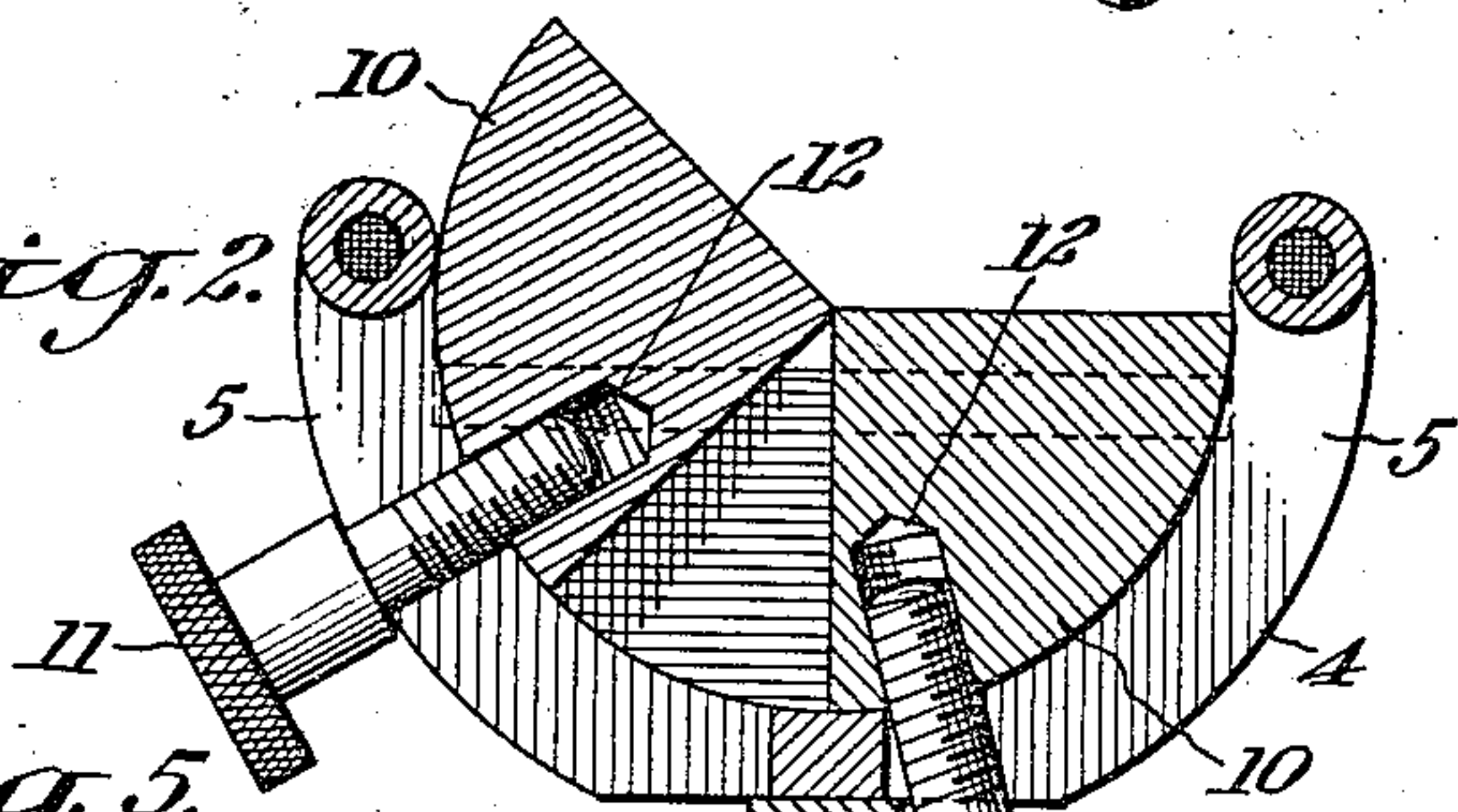


Fig. 5.

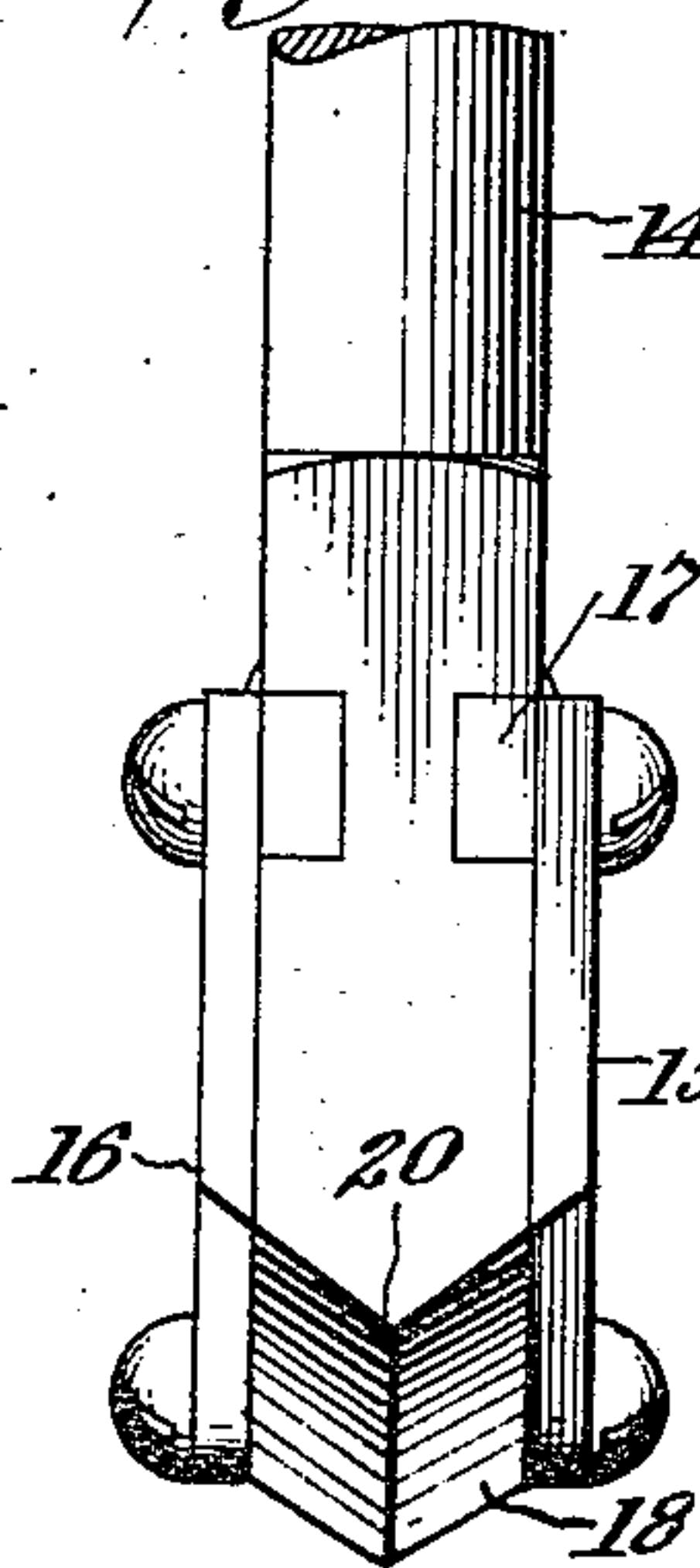
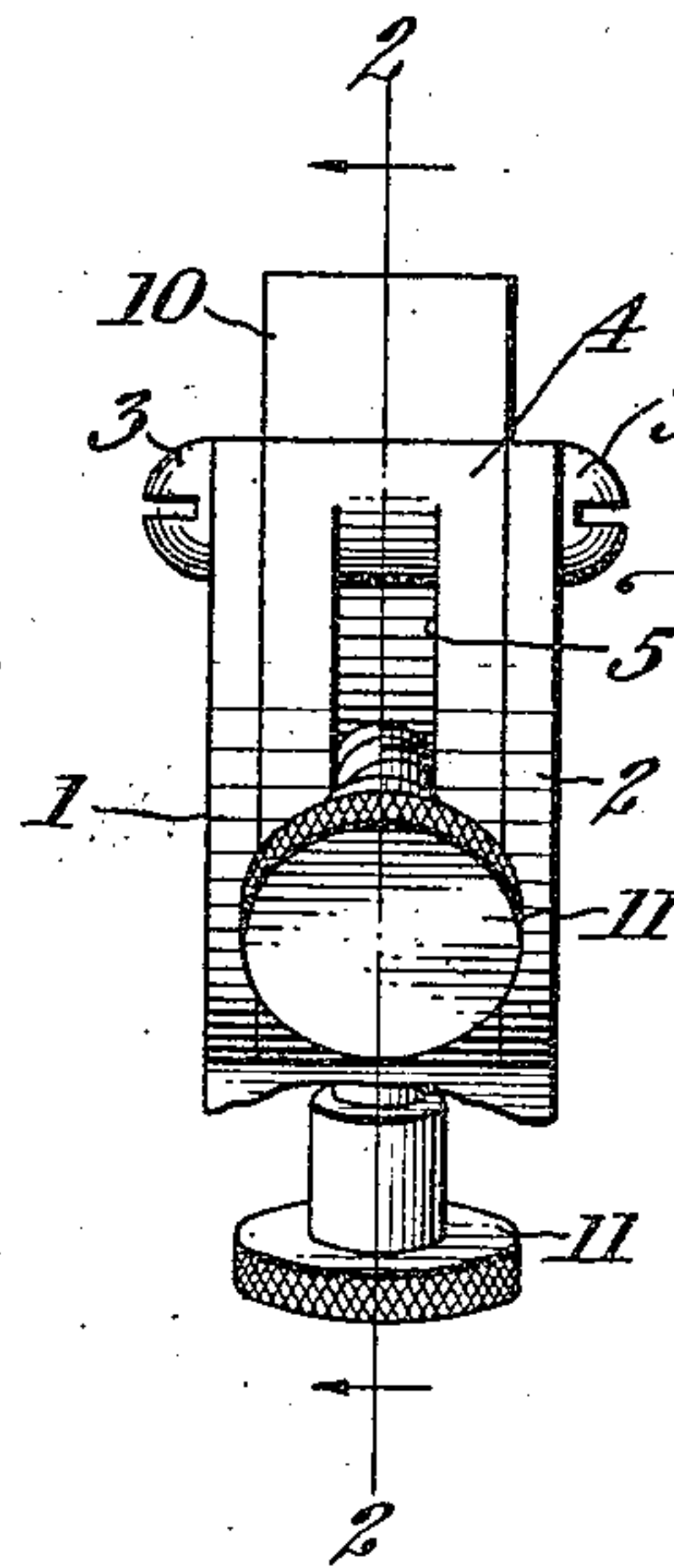
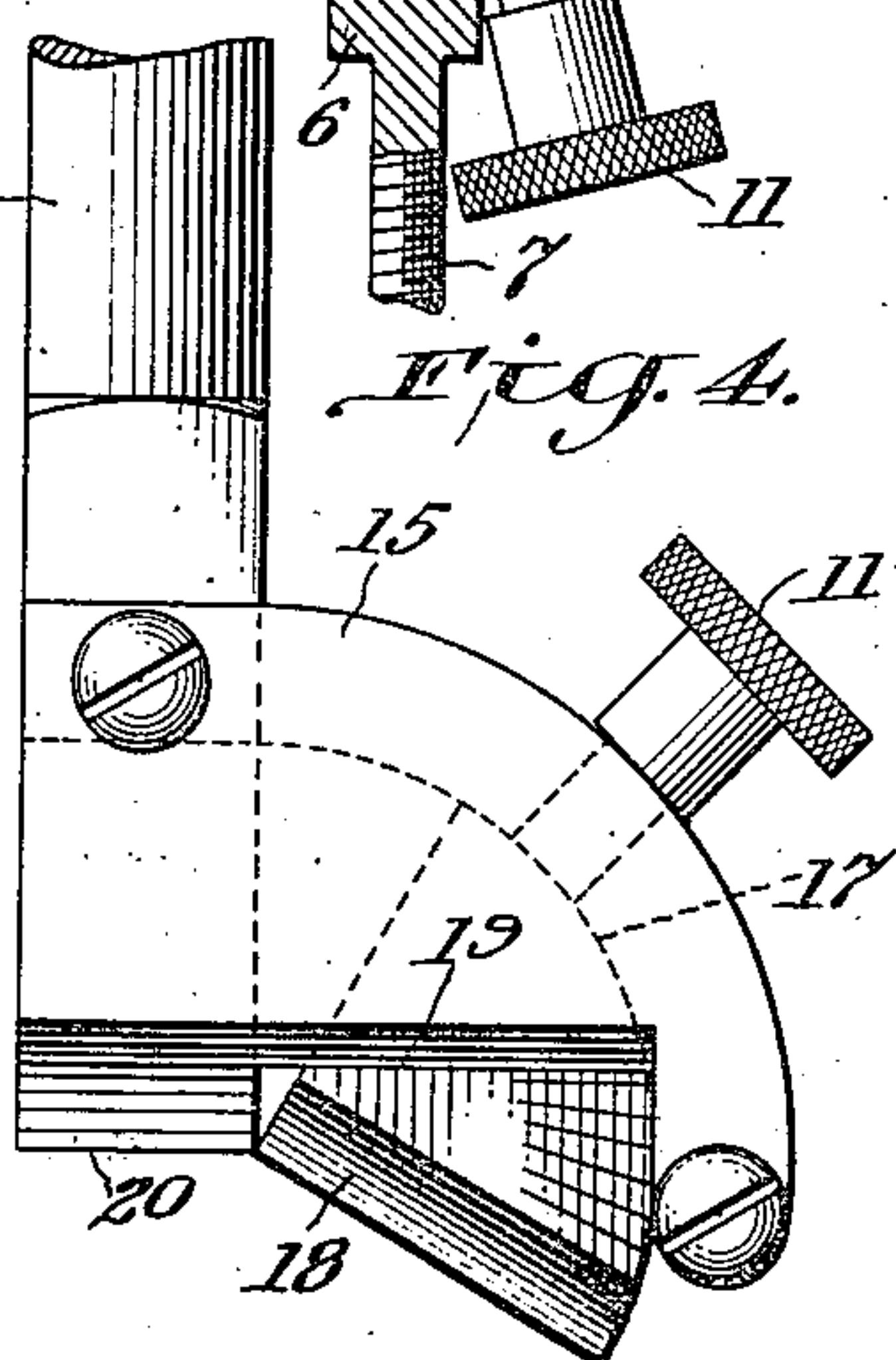


Fig. 4.



Inventor:

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Attorney.

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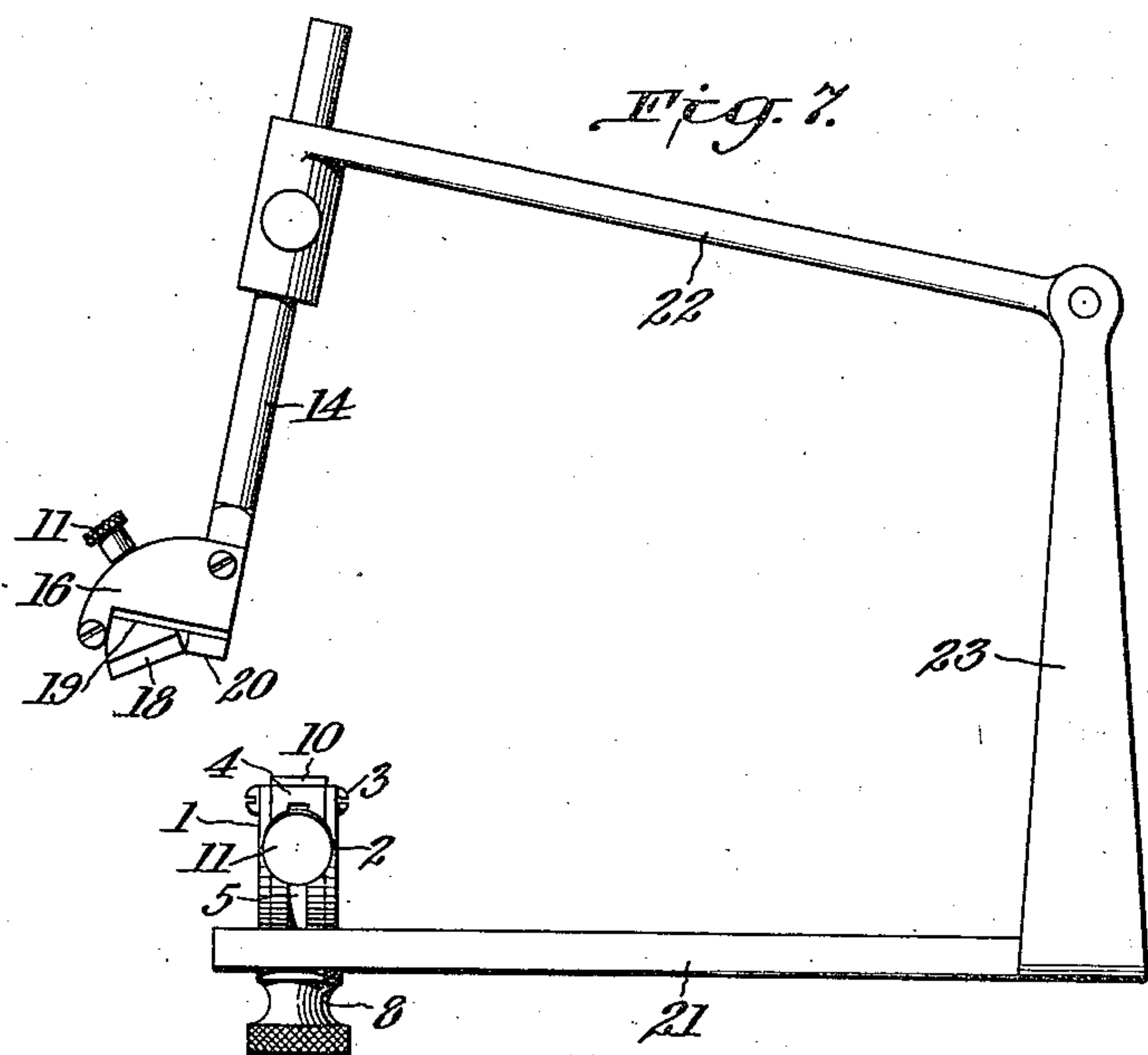
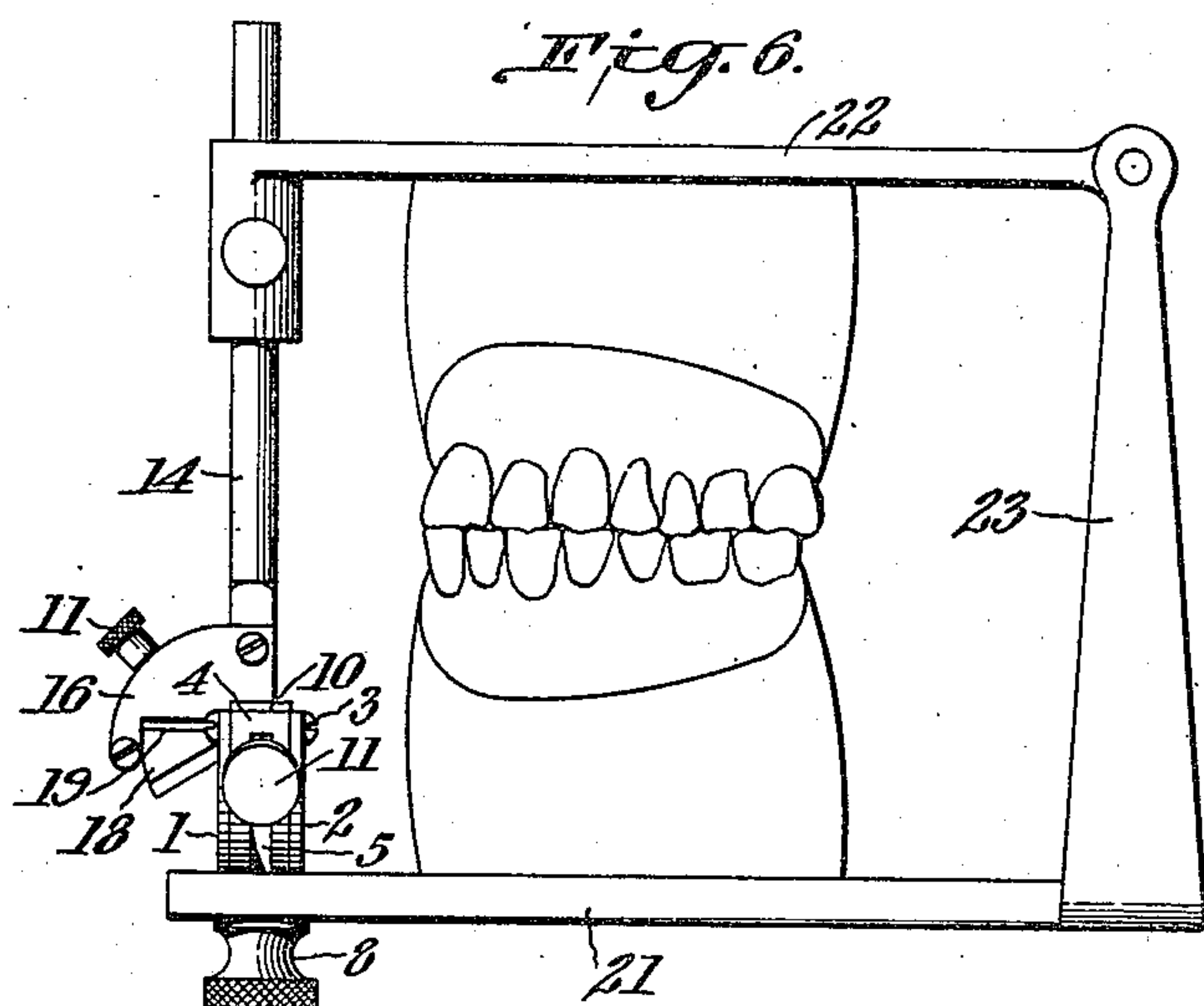
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ATTACHMENT FOR DENTAL ARTICULATORS

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2 Sheets-Sheet 2



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Patented June 19, 1923.

1,458,967

# UNITED STATES PATENT OFFICE.

JOSEPH BECKER, OF WEST HOBOKEN, NEW JERSEY.

ATTACHMENT FOR DENTAL ARTICULATORS.

Application filed June 1, 1922. Serial No. 565,114.

*To all whom it may concern:*

Be it known that I, JOSEPH BECKER, a citizen of the United States, residing at West Hoboken, in the county of Hudson and State of New Jersey, have invented a certain new and useful Improvement in Attachments for Dental Articulators, of which the following is a full, clear, and exact description.

The object of this invention is to provide an attachment for dental articulators, by which it is possible to reproduce average or individual mandibular movements for the purpose of enabling the dentist to properly occlude and articulate artificial teeth.

The attachment is designed for use on any usual or approved dental articulator, and while it is illustrated herein for use upon a well-known construction of articulator, it is to be understood that the invention is not so limited. Moreover, the attachment in one or the other of the forms herein explained and variations thereof, may be used in several different places on an articulator, and makes the articulator adjustable to the different movements of the jaw. A large percentage of failures in dental plate, bridge and crown work is due to inability to copy the exact movements of the jaw, but with my invention these movements can be duplicated.

The invention consists of an adjustable device comprising one or more sectors mounted in a segmental holder and movable therein as the dental operation requires and capable of being fixed in the adjusted position, and in the case of a device using two such sectors, each sector is adjustable independently of the other, as I will proceed now to explain and finally claim.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view showing the duplex attachment; Fig. 2 is a longitudinal section thereof, and Fig. 3 is an end elevation. Fig. 4 is a side elevation and Fig. 5 is an end elevation of a single attachment, the block being broken off, all of the views being on an enlarged scale. Fig. 6 is a side elevation illustrating the invention as applied to an articulator in use. Fig. 7 is a side elevation illustrating the invention as applied to an articulator, the upper model

now being elevated.

Referring to the attachment shown in de-

tail in Figs. 1, 2 and 3, the shell, holder, or guideway comprises a pair of side plates 1 and 2, fastened, as by screws 3, to an arcuate rim-piece 4 which is provided with the longitudinal slots 5 oppositely arranged. This rim-piece may carry or have applied to it any suitable means for applying the attachment to an articulator, and I have herein shown one such means, same consisting of a guide-block 6, having a depending screwthreaded stem 7 and a clamping nut 8. As already indicated the applying means may be varied to suit the articulator to which the device is to be applied.

The side plate 1 is cut away at its upper part and provided with a straight sighting edge 9 for cooperation with the adjustable sector or sectors next described.

The sectors 10 are alike, and in the form of a quadrant of a cylinder, having their apices adjacent and their circular peripheries resting in the rim-piece 4 and in sliding contact therewith and confined within the shell formed by said rim-piece and the side plates 1 and 2 with their radial faces uppermost. These sectors are engaged by set-screws 11 which extend through the slots 5 in the rim-piece and engage tapped holes 12 in the sectors, so that by loosening the set-screws either sector may be adjusted independently of the other to vary the angle of inclination of its exposed radial face, and then fixed in any given adjustment by tightening its set-screw against the rim-piece.

The sectors may have the lines 13 to register with the side edge 9 for guidance in determining paths in the progress of the dental work, as is well understood.

The construction shown in detail in Figs. 4 and 5 shows the same principle applied to an attachment having a single adjustable sector, and which may be mounted upon a block 14 by which it may be supported in or attached to an articulator. In this case the sides 15 and 16, and the longitudinally slotted rim 17 are substantially halves of the corresponding parts in the previously described attachment, and only one sector 18 is used, lined as before and cooperating with the straight edge 19 as before, excepting that both side plates may be cut away and beveled, as shown in Fig. 5. The end of the shell formed by the side and rim is closed by the block 14, and the near end of this block may be beveled to form the sighting edge 20, and thus adapt the instrument



for use as an incisor guide alone or in co-operation with the first described attachment. By its use it is possible to obtain a vertical adjustment of the incisor path.

5 Either or both of the attachments may be a part of or attached to an articulator. Figs. 6 and 7 show such an application of both of the attachments, the duplex attachment being applied to the lower model bow 10 21 and the single attachment being shown as applied to the upper model bow 22, and these two bows operatively connected through the medium of any suitable back piece or standard herein designated 23, but 15 shown in purely conventional form.

By the use of these attachments the natural movements of individual jaws characteristic of different patients may be accurately ascertained or duplicated and the 20 dentist thus aided in performing his work skillfully. The changing of the condyle, lateral and incisor paths of the articulator may be readily effected, and any one or more of the paths may be changed without in any 25 way changing the others.

As will be understood, the sectors are not pivotally mounted in their shells, but on the contrary, they are bodily movable in their shells in order to change their adjustments. 30 Variations other than those described are permissible within the principle of the invention and the claims following; and it is to be expressly understood that by the use of the term "attachment" I mean to include not only a separable thing but also 35 one that is integral with or fixed to an articulator.

What I claim is:—

40 1. An attachment for dental articulators, comprising a shell having a longitudinally slotted arcuate rim-piece, and a sector fitted to said rim-piece and bodily movable therein to change its angle of inclination.

45 2. An attachment for dental articulators, comprising a shell having a longitudinally slotted arcuate rim-piece, and a sector fitted to said rim-piece and bodily movable therein to change its angle of inclination, and a set-screw passing through the slot in the 50 shell and tapped in the sector.

3. An attachment for dental articulators, comprising a shell having side-plates and a longitudinally slotted rim, a pair of sectors

mounted to slide longitudinally in said shell, and means for independently adjusting said 55 sectors as upon an axis and fixing them in said adjustment.

4. An attachment for dental articulators, having a guideway and holder composed of side plates and a connecting longitudinally 60 slotted arcuate rim, a sector mounted to slide bodily in said guideway and holder and means to fix said sector in adjusted position.

5. An attachment for dental articulators, 65 having a guideway and holder composed of side plates and a connecting longitudinally slotted arcuate rim, a plurality of independent sectors arranged apex for apex in said guideway and holder and each sector inde- 70 pendently movable bodily therein, and set-screws for fixing the sectors in adjusted position.

6. An attachment for dental articulators, comprising side-plates, and a longitudinally 75 slotted arcuate rim connecting said side-plates the whole constituting a shell, a sector mounted in said shell and a sector-adjusting device projecting through and movable in the slot in the rim and engaging the 80 sector and rim.

7. An attachment for dental articulators, comprising side-plates, and a longitudinally 85 slotted arcuate rim connecting said side-plates the whole constituting a shell, a sector mounted in said shell and a sector-adjusting device projecting through and movable in the slot in the rim and engaging the 90 sector and rim, and a block attached to the shell and closing one of its ends.

8. An attachment for dental articulators, comprising side-plates, and a longitudinally 95 slotted arcuate rim connecting said side-plates the whole constituting a shell, a sector mounted in said shell and a sector-adjusting device projecting through and movable in the slot in the rim and engaging the 100 sector and rim, and a block attached to the shell and closing one of its ends, said block having a beveled end.

In testimony whereof I have hereunto set my hand this 31st day of May A. D. 1922.

JOSEPH BECKER.

Witnesses:

ARCHIBALD MARTIN,  
ANNA HIGGINS.