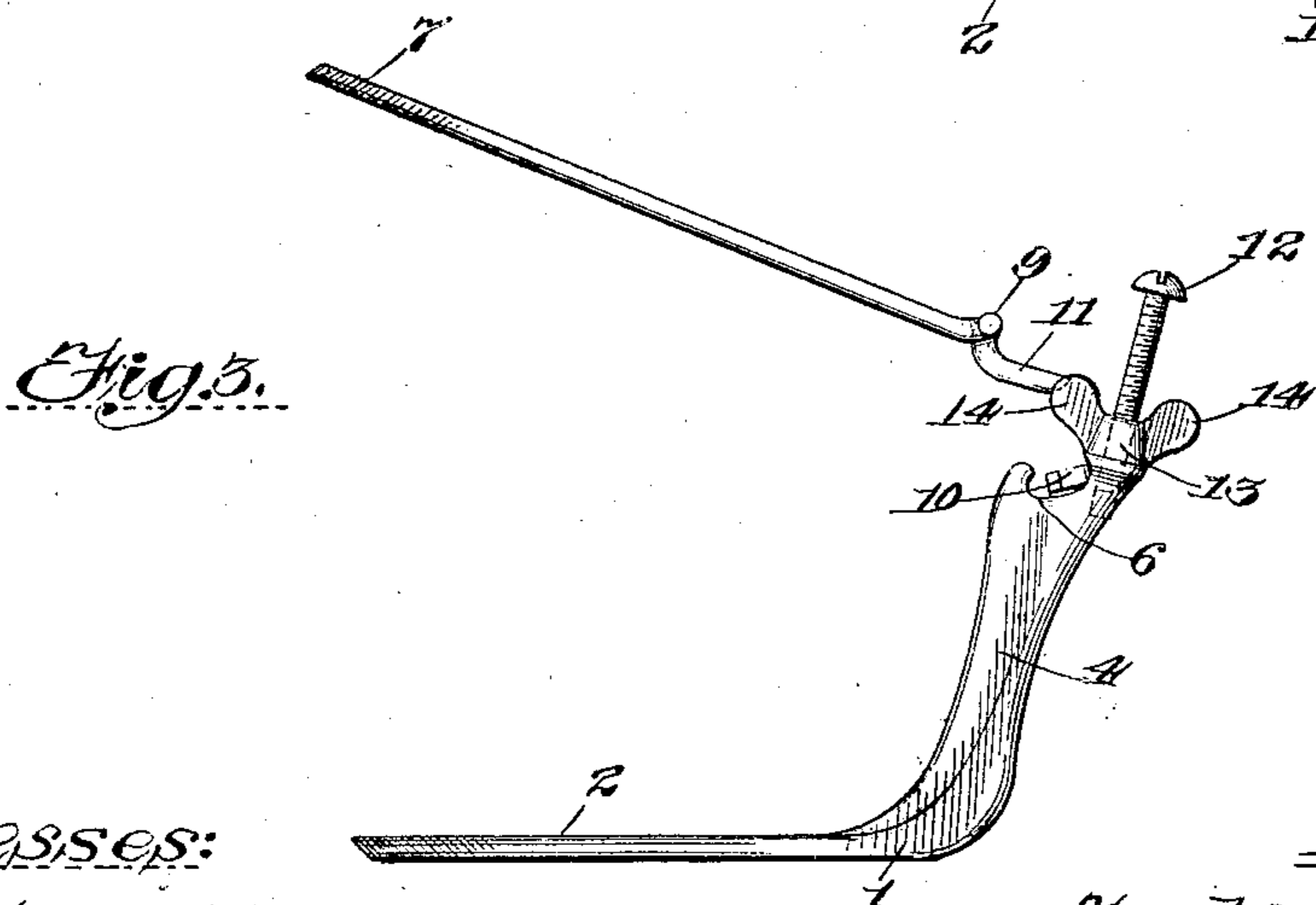
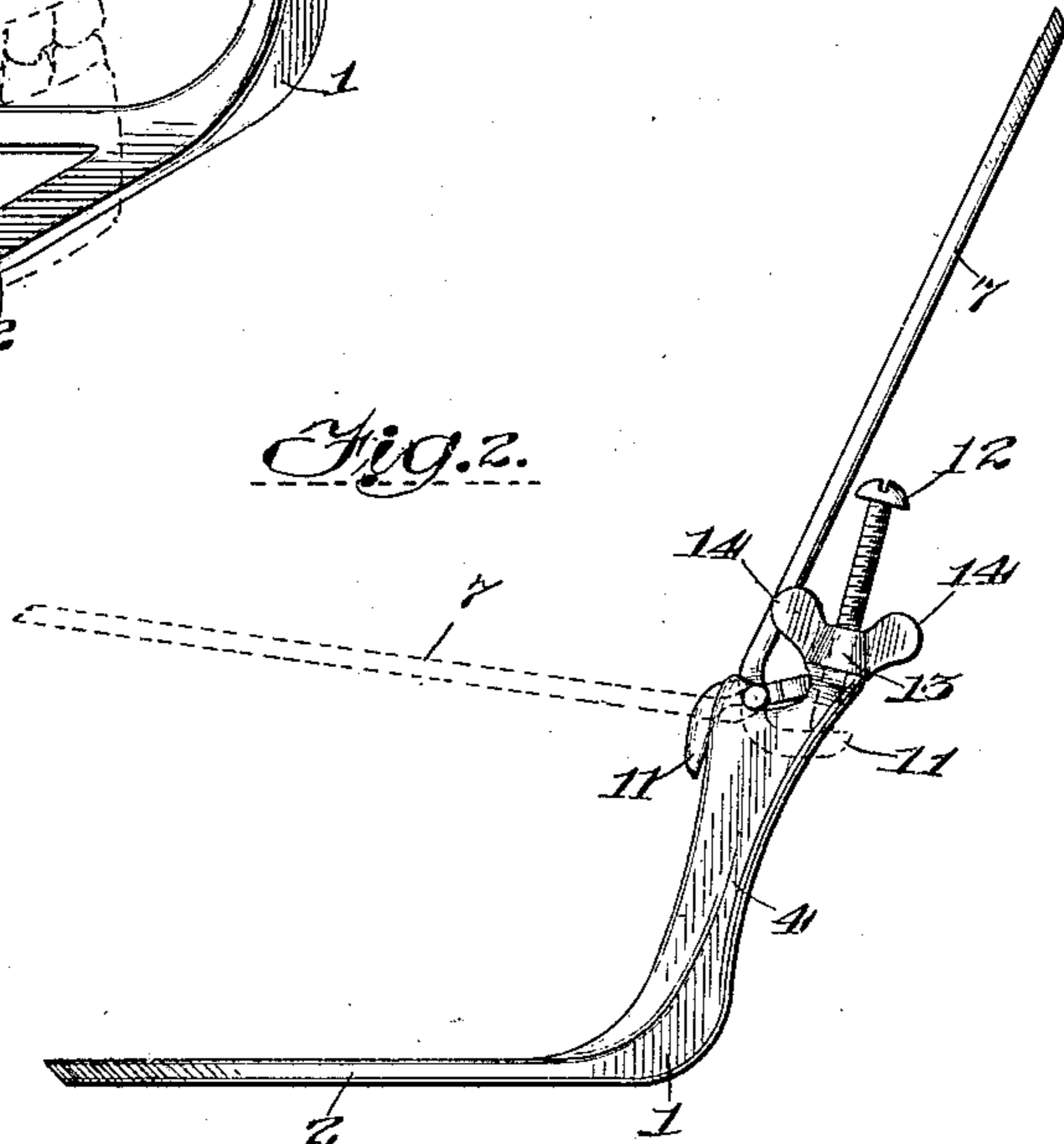
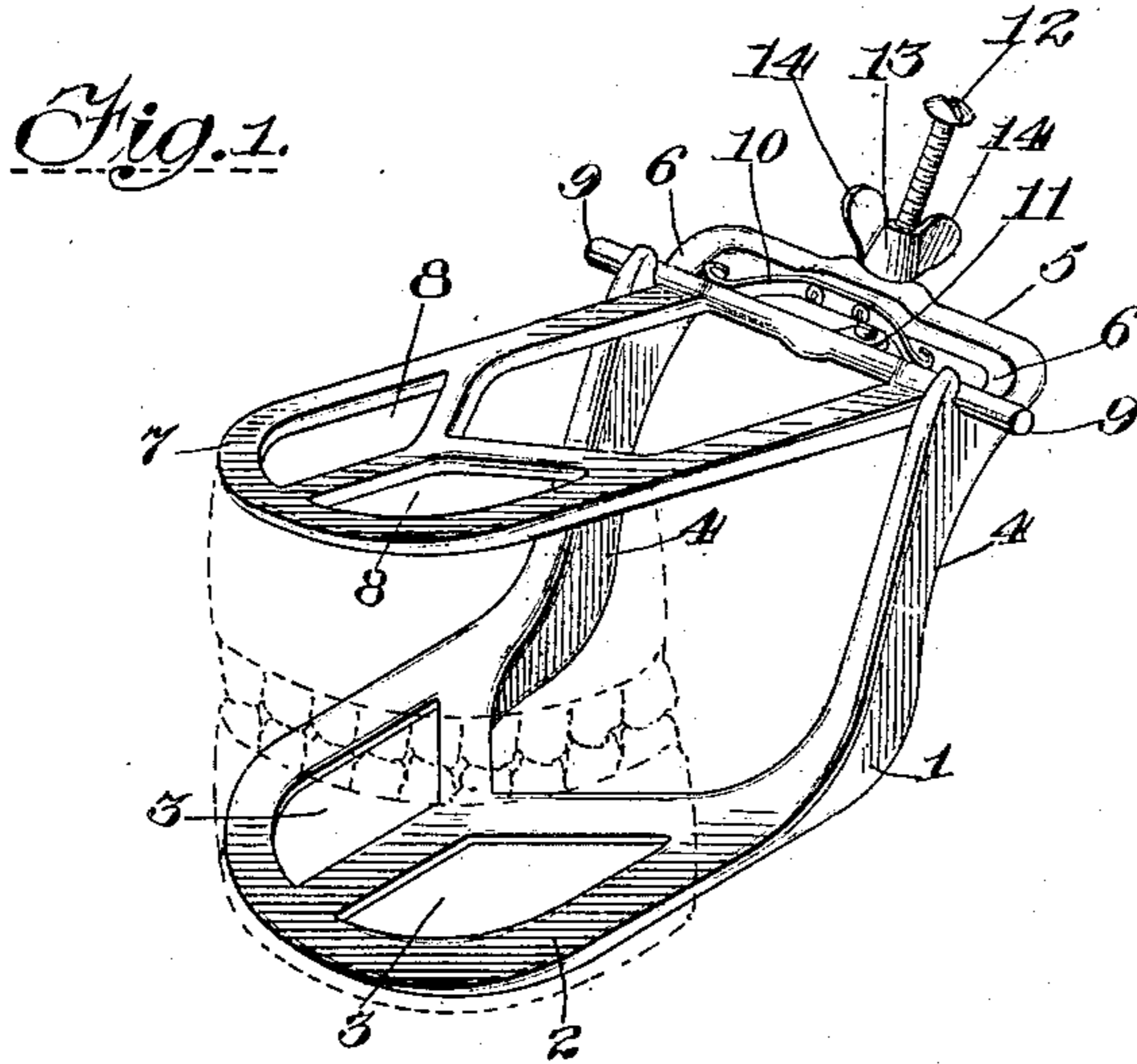


No. 827,824.

PATENTED AUG. 7, 1906.

F. W. STEPHAN.
DENTAL ARTICULATOR.
APPLICATION FILED AUG. 27, 1903.



Witnesses:

Robert H. Allen

Edwin B. H. Jones, Jr.

Inventor:

Frederick W. Stephan

By: James A. Adington
Attys.

UNITED STATES PATENT OFFICE.

FREDERICK W. STEPHAN, OF CHICAGO, ILLINOIS.

DENTAL ARTICULATOR.

No. 827,824.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed August 27, 1903. Serial No. 170,961.

To all whom it may concern:

Be it known that I, FREDERICK W. STEPHAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Dental Articulators, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to dental articulators. It is well understood that such devices are employed in the art of dentistry for practically testing the arrangement of a denture in the jaws. In the usual construction thereof a lower frame is provided, to which is pivoted an upper frame, and when the device is in use casts of the upper and lower jaws are fastened to said upper and lower frames, respectively. As it is often desirable to be able to separate one of the frames from the other in order to facilitate the work of articulating the teeth, it is among the objects of this invention to provide a construction which permits the frames or sections of the articulator to be readily detached from or connected with one another.

Another object of my invention is the production of an articulator which is simple in construction, neat in appearance, efficient and durable in use, and cheap to manufacture.

In the accomplishment of these ends I construct the preferred embodiment of my invention as shown in the accompanying drawings and hereinafter particularly described.

In said drawings the several views are as follows: Figure 1 is a perspective view of the preferred embodiment of my invention, the casts of the jaws fastened to the frames being indicated in dotted lines. Fig. 2 is a side elevation of my device with the upper frame thrown back. Fig. 3 is a side view of the upper and lower frames of my device disconnected.

Throughout the accompanying drawings like reference characters designate similar and corresponding parts.

In constructing the preferred embodiment of my invention I provide a lower frame 1, which has a base portion 2, having openings 3 for fastening the cast of the lower jaw in position and upright pieces 4 at the rear thereof, which are preferably integrally connected at their upper end by a cross-bar 5 and provided with notches or recesses 6.

For supporting the cast of the upper jaw is provided an upper frame 7, preferably having openings 8 like the lower frame for fastening said cast in position. From the rear of said frame extends pivot-pins 9, which rest in the notches 6 and pivot the upper frame to the lower frame. These pins or pintles are retained in their respective notches or bearings by a preferably flat spring 10, fastened centrally to the cross-piece 5 of the lower frame and having its ends detachably bearing upon the upper frame. As the ends of said spring yieldingly press upon said upper frame the pivot-pins may be moved backward and forward in their respective recesses or notches, and thus movements of the casts relatively to one another may be effected corresponding to the backward, forward, and lateral movements of the jaw. The pivot-pins preferably extend some distance beyond the upright pieces of the lower frame to afford bearings for the fingers of the operator, so that he may produce the different movements of the casts with facility. As the spring 10 detachably bears upon the upper frame, the pivot-pins 9 may be readily lifted from their respective notches to disconnect the lower frame from the upper frame.

As before stated, the upper frame may be turned upon its pivot, so as to separate the jaws, as shown in Fig. 2 of the drawings. To always insure the proper relation of the frames when the same are in their normal positions, as shown in Fig. 1, a lug or stop 11 is fastened to the upper frame and engaged by the lower end of a screw 12, threaded in said cross-piece. The positions of said frames with respect to one another when the same are in the normal position may be adjusted by turning the screw. So that said screw may not be accidentally turned after the same has once been set a lock-nut 13 is threaded thereon, which is provided with finger-pieces 14 for facilitating the turning thereof. The finger-pieces enable the nut to be set without the aid of a tool or implement, and therefore the adjustment of the frames may be more readily effected in this device than in those where it is necessary to employ a wrench or other tool for turning the set-nut.

It will be readily appreciated that I have provided a construction which is extremely simple and at the same time permits all the necessary movements of the casts of the jaws relatively to one another and that the

device may be operated with ease. It is very advantageous to have the frame capable of being readily separated, as in this device, as it is often desirable to remove one of the
5 casts from the other to work upon the same independently.

In some forms of my invention it may be advantageous to provide the notches in the upper frame and fasten the pivot-pins upon
10 the lower frame, and therefore it is intended the claims in this specification cover such a construction.

Having described my invention, what I claim as new, and desire to secure by Letters
15 Patent, is—

1. In a dental articulator, the combination with a lower frame for supporting a cast of the lower jaw, of a frame for supporting a
20 cast of the upper jaw, pivot-pins carried by one of said frames and arranged to bear in notches formed in the other frame to pivotally support one of said frames upon the other and having a lateral movement in said
25 notches to permit of a lateral movement of one of said frames with respect to the other, and a spring centrally secured to one of said frames and yieldingly pressing said pivot-pins into said notches and movably retaining the same therein.

30 2. In a dental articulator, the combination with a lower frame for supporting a cast of the lower jaw and having upright pieces provided with notches or recesses and connected at their upper ends by a cross-piece,
35 of an upper frame for supporting a cast of the upper jaw and provided with pivot-pins arranged in said notches or recesses and having a lateral movement therein, a spring fastened to said cross-piece and detachably bearing
40 upon said upper frame near said pivot-pins and yieldingly pressing said pins into said recesses and removably retaining the same therein, and a screw threaded in said cross-piece for engaging a part carried by said up-
45 per frame to regulate the positions of said frames relatively to one another when the same are in the normal position.

3. In a dental articulator, the combination with a lower frame for supporting a cast
50 of the lower jaw and having upright pieces or arms connected at their upper ends by a

cross-piece and provided with notches or recesses, an upper frame for supporting a cast of the upper jaw and having pivot-pins bearing within said notches or recesses and
55 extended beyond said upright pieces to provide finger-pieces for manipulating the upper cast, a spring fastened to said cross-piece and having its ends detachably bearing upon said upper frame to yieldingly press said
60 pivot-pins into said recesses and removably retain the same therein, a screw threaded in said cross-piece and arranged to engage a lug or stop carried by said upper frame to regulate the positions of said upper and lower
65 frames with respect to one another when the same are in the normal position, and a set-nut threaded upon said screw and provided with finger-pieces for turning the same.

4. In a dental articulator, the combination with a lower frame, consisting of an integral piece or casting for supporting a cast of the lower jaw, and having recesses or notches
70 formed therein, of an upper frame consisting of an integral piece or casting for supporting a cast of the upper jaw and provided with pivot-pins bearing within said notches, and means yieldingly pressing said pins into said
75 notches, said pins being movable in said notches and adapted to move said frames slightly out of alinement against the power of said means.

5. In a dental articulator, the combination with a lower frame for supporting a cast of the lower jaw, and having recesses or
85 notches formed therein, of an upper frame for supporting a cast of the upper jaw, and provided with pivot-pins bearing within said notches and projecting beyond the sides of the same, a spring yieldingly pressing said
90 pins into said notches, said pins being adapted to be manipulated within said notches against the power of said spring for relatively adjusting said frames.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

FREDERICK W. STEPHAN.

Witnesses:

EDWIN B. H. NEVEL, Jr.,
MAE R. ROCHFORD.