June 19, 1928. 1,673,871

F. G. HAWKSWORTH

DENTAL BITE TAKING IMPLEMENT

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FIG. 1.

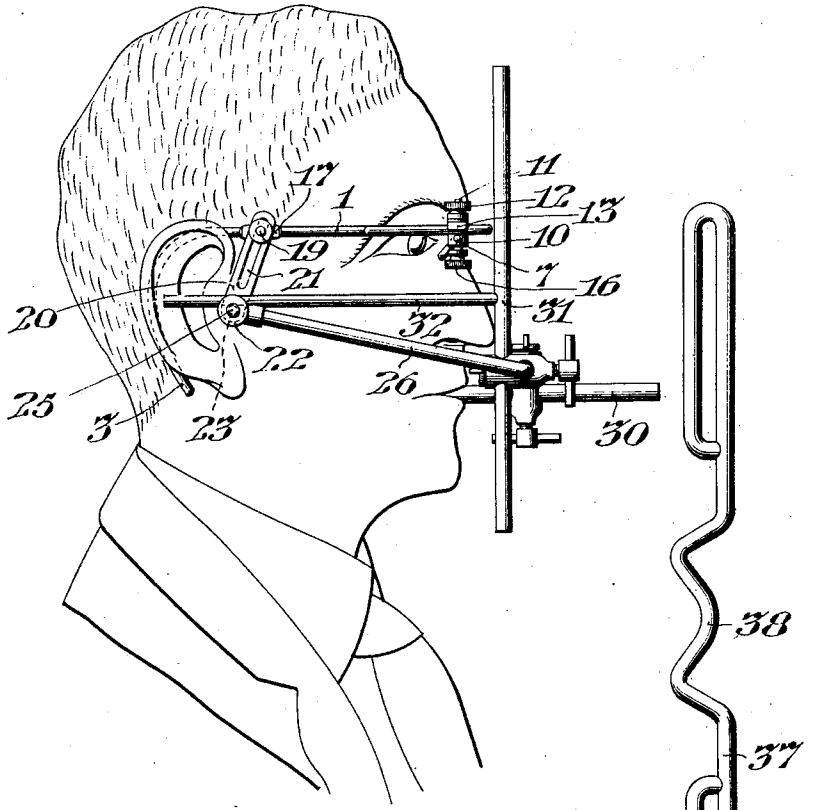


FIG. 4.

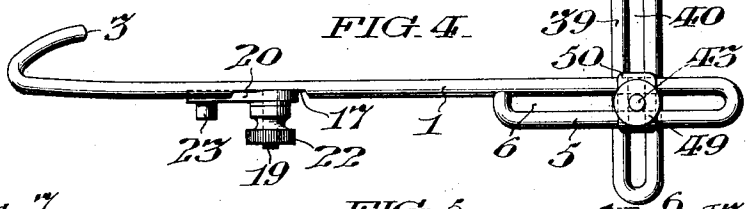


FIG. 5.

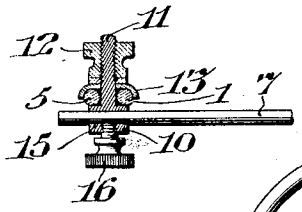


FIG. 3.

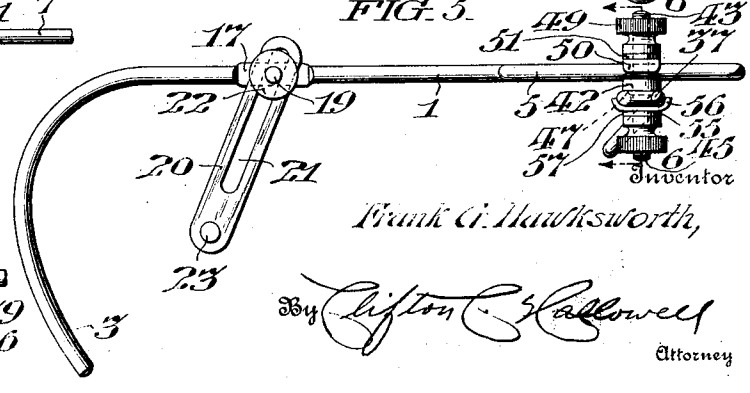
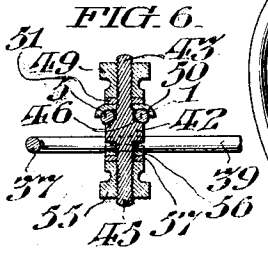


FIG. 6.



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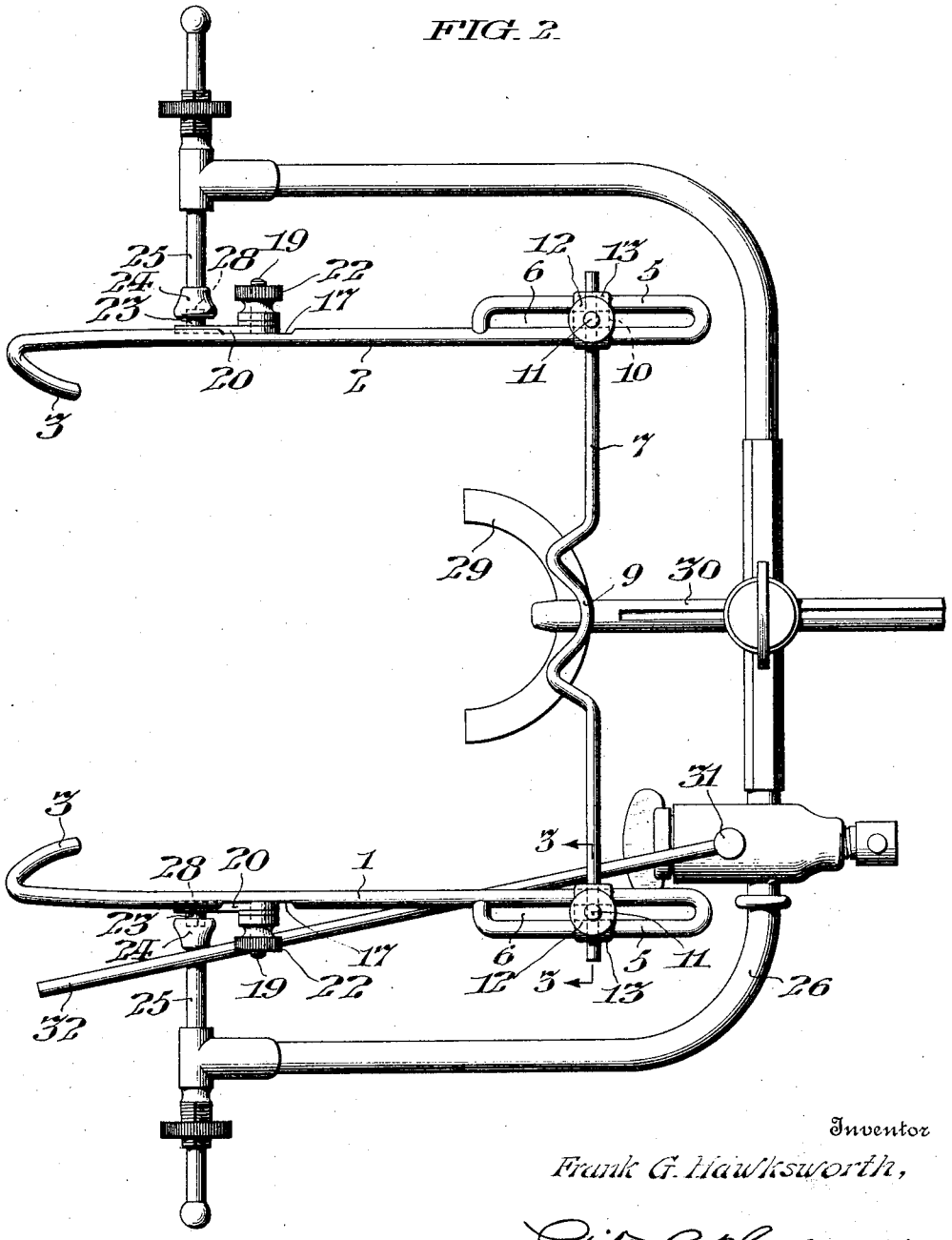
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F. G. HAWKSWORTH

DENTAL BITE TAKING IMPLEMENT

Filed Aug. 28, 1926 2 Sheets-Sheet 2

FIG. 2.



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Patented June 19, 1928. 1,673,871

UNITED STATES PATENT OFFICE.

FRANK G. HAWKSWORTH, OF WESTMONT, NEW JERSEY, ASSIGNOR TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

DENTAL BITE-TAKING IMPLEMENT.

Application filed August 28, 1926. Serial No. 132,058.

My invention relates to a device for holding a dental face-bow while the bite or impression of the mouth of a patient is being taken, and is especially directed to means whereby said device may be accurately adjusted to accommodate faces of widely varying proportions.

The principal objects of my invention are to provide means arranged to so support a dental face-bow with respect to the face of the patient that its condyle pins will be rigidly maintained in accurate alinement with the patient's condyles.

Other objects of my invention are to provide a face-bow support that is adapted to rest upon the nose and ears of the patient, and that may be adjusted to vary its proportions to accurately fit faces of relatively different size and shape without affecting the rectangular relation and parallelism of the relatively adjustable parts.

My invention further comprises a face-bow support having adjustable hangers provided with means so supported as to be maintained in relative axial alinement, with which the free ends of the face-bow may be removably engaged.

Specifically stated, the form of my invention as hereinafter described comprehends a frame adjustable to accommodate it to faces of widely different range of size and proportions, and comprising temple-bars having ear engaging hooks, and having their forward ends connected with a nose-piece or bridge-bar by means adjustable axially on both said bridge-piece and said temple-bars to vary the dimensions between said ear engaging hooks and said bridge-piece and between said temple-bars, whereby the adjustment of said temple-bars may be made without affecting the relative parallelism of said temple-bars.

My invention also includes all of the various novel features of construction and arrangement as hereinafter more definitely specified.

In the accompanying drawings Figure 1 is a side elevational view of a bite-taking implement constructed in accordance with my invention, applied to the face of an individual and supporting a bite-taking device comprising a face-bow, a T-piece and a denture model holder; Fig. 2 is a plan view of the structures assembled as shown in Fig. 1; Fig. 3 is a transverse vertical sectional view taken on the line 3—3 in Fig. 2, and showing the adjustable connection between the temple-bar and the nose-piece or bridge-bar; Fig. 4 is a plan view of a modification of my invention showing the nose-piece or bridge-bar and one temple-bar adjustably engaged therewith; Fig. 5 is a side elevational view of the structure shown in Fig. 4; Fig. 6 is a transverse vertical sectional view taken on the line 6—6 in Fig. 5, showing the adjustable means whereby the nose-piece or bridge-bar and the temple-bar may be relatively adjusted.

In said figures, the face-bow support comprises the right and left temple-bars 1 and 2 respectively, each having the ear engaging hooks 3 at their rear free ends and having their forward end portions 5 re-bent to form the slots 6, and the nose-piece or bridge-bar 7, which has the central arched bend 9 arranged to fit over the bridge of the nose of the patient.

Said temple-bars 1 and 2, and bridge-bar 7 are arranged to be adjustably connected by the slide-blocks 10 which are each provided with an upwardly projecting threaded stud 11 extended through the slot 6 and having the thumb-nut 12 in threaded engagement therewith arranged to force the saddle-plate 13 into frictional engagement with the temple-bars 1 and 2 and their respective re-bent end portions 5, and which are also provided with suitable apertures 15 through which the extremities of the bridge-bar 7 may adjustably extend and be engaged in adjusted relation therewith by the set-screws 16.

Each of the temple-bars 1 and 2 has a flattened region 17 facing outwardly and provided with a threaded stud 19 extended therefrom, upon which a depending hanger 20 is mounted for both rotary and longitudinal adjustment, being provided with a slot 21, through which said stud 19 extends, said hanger 20 being arranged to be secured in any adjusted position by the thumb-nut 22 on the stud 19.

The hangers 20 are each provided with a trunnion 23 projecting outwardly therefrom near their lower extremities arranged to be engaged by condylar abutment 24 of the condyle pins 25 on the free ends of the face-bow 26, which abutments have sockets 28 into which the trunnions 23 extend to support the free ends of the arch-bow, as shown.

The face-bow 26 is of usual construction and carries the model-holder having the fork 29 and tang 30 adjustably engaged with the face-bow 26, and said arch-bow also carries the T-piece 31 having its stem 32 arranged to rest upon the condyle pin 25, as shown.

It will be readily seen that by loosening the thumb-nuts 12, the bridge-bar 7 may be shifted forward or back with respect to the face of the patient to adjust it to the proper position on the temple-bars 1 and 2, so that it will rest upon the bridge of the nose of the patient, while the hooks 3 of the temple-bars engage behind the ears of the patient, and that by loosening the set-screws 16 the slide-blocks 10 together with the temple-bars 1 and 2 may be adjusted toward or away from each other axially on the bridge-bar 7 to accommodate the temple-bars to faces of different widths and to so maintain the temple-bars in parallel relation that the axes of the trunnions 23 are maintained in such axial alinement or parallel with the bridge-bar that the condyle pins 25 may be accurately and conveniently engaged therewith.

In the form of my invention shown in Figs. 4, 5, and 6, the temple-bars are identical with the temple-bars 1 and 2 shown in Figs. 1, 2 and 3, and have their re-bent forward end portions connected with the bridge-bar 37 having the central arched bend 38 arranged to fit the bridge of the nose of the patient and having its extremities 39 re-bent to form the slots 40.

The connection between the temple-bar and the bridge-bar 37 comprises the slide-block 42 having the threaded stud 43 extended upwardly through the slot 6 in the temple-bar and the threaded stud 45 extended downwardly through the slot 39 in the bridge-bar, the opposite faces of said slide-block being provided with grooves 46 and 47 respectively aranged to receive, in slidable relation, the temple-bar 1 and its re-bent extension 5, and the bridge-bar 37 and its re-bent extension 39, the temple-bar being frictionally engaged with the slide-block 42 by means of the thumb-nut 49 bearing upon the saddle-plate 50 with the washer 51 interposed, and the bridge-bar 37 being engaged with said slide-block 42 by the thumb-nut 55 bearing upon the saddle-plate 56 with the washer 57 interposed.

From the foregoing description it will be obvious that the temple-bars 1 and 2 and bridge-bar 37 are not only maintained in their adjustment, in a position normal to each other, but said bridge-bar 37 is also prevented from rotating relative to said temple-bars.

Obviously any adjustment of the temple-bars and bridge-bars, or adjustment of the hangers may be effected without affecting the axial direction of the trunnions upon which the face-bow is hung.

I do not desire to limit my invention to the precise details of construction and arrangement as herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention as defined in the appended claims.

Having thus described my invention, I claim:

1. A facial support for a dental face-bow, comprising a frame provided with a bridge bar, means adjustably mounted for axial adjustment on said bridge-bar, and temple-bars arranged for longitudinal adjustment in said adjustably mounted means, and means arranged to secure said temple-bars and bridge-bars rigidly connected in adjusted relation.

2. A facial support for a dental face-bow, comprising a frame provided with a bridge-bar, temple-bars, and slide-blocks connecting said temple-bars with said bridge-bar and arranged to permit the adjustment of said bridge-bar forward and back on said temple-bars, and to lineally restrict the adjustment of said temple-bars with respect to each other on said bridge-bar.

3. A facial support for a dental face-bow, comprising a frame provided with a bridge-bar and having temple-bars connected with said bridge-bar by means arranged to afford relative adjustment of said bridge-bar and temple-bars in the direction of their respective axes while maintaining them in a definite angular relation, and means adjustably mounted on said temple-bars with which said dental face-bow may be rotatably engaged.

4. A facial support for a dental face-bow, comprising a frame provided with a bridge-bar and having temple-bars connected with said bridge-bar, the connection between said bridge-bar and temple-bars comprising a slide-block adjustable longitudinally on both said bridge-bar and temple-bars, and having means arranged to frictionally engage said bars to retain them adjustably connected in rigid relation.

5. A facial support having a dental face-bow, comprising a frame provided with a bridge-bar, a slide-block mounted for axial adjustment on said bridge-bar and having a threaded stud, a temple-bar having a slot adjacent its forward end through which the stud of said slide-block extends, a saddle-plate on said stud arranged to frictionally engage said temple-bar, and means arranged to clamp said saddle-plate upon said temple-bar.

6. A facial support for a dental face-bow, comprising a frame provided with a bridge-bar having slotted terminals, temple-bars having slotted forward end regions, and a slide-block having oppositely directed threaded studs respectively arranged to extend through the slots in said bridge-bar

and said temple-bars, and means arranged to frictionally engage said slide-block with said bars.

7. In a facial support for a dental face-bow, the combination of a bridge-bar having terminal slots, of a temple-bar having a slot adjacent its forward end, a slide-block provided with grooves in which said bars slide, and having oppositely extended threaded studs extended through the slots in the respective bars, and means arranged to clamp said bars in said grooves.

8. A facial support for a dental face-bow, comprising a frame provided with a bridge-bar and having temple-bars connected with said bridge-bar by means arranged to afford the adjustment of said temple-bars on said bridge-bar toward and from each other and the adjustment of said bridge-bar longitudinally on said temple-bars while maintaining them in definite angular relation.

9. A facial support for a dental face-bow, comprising a frame provided with a bridge-bar and temple-bars having projecting trunnions, and means connecting the said bridge-bar and temple-bars for relative adjustment and arranged to maintain the direction of the axes of said trunnions constant.

In witness whereof, I have hereunto set my hand this twenty-seventh day of August, A. D., 1926.

FRANK G. HAWKSWORTH.