

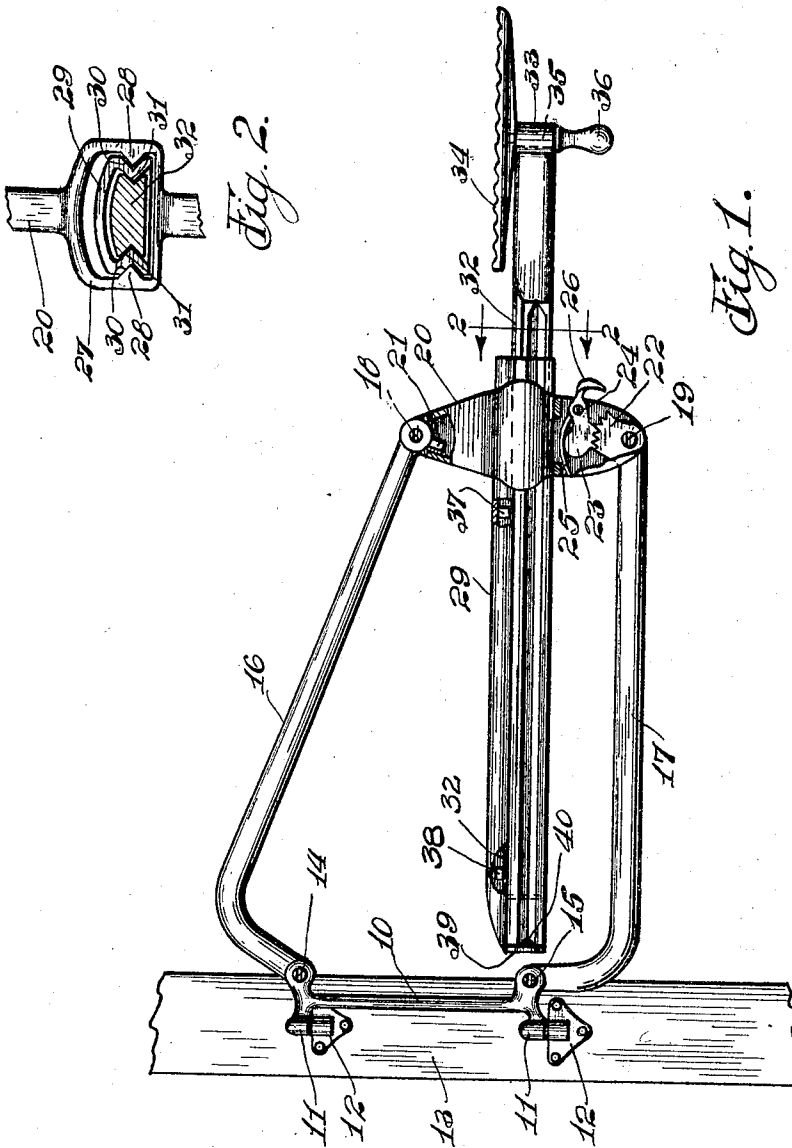
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DENTAL BRACKET

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

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## DENTAL BRACKET.

Application filed October 10, 1921. Serial No. 506,642.

*To all whom it may concern:*

Be it known that I, JOHN A. JOHNSON, a citizen of the United States, residing at Atascadero, in the county of San Luis Obispo and State of California, have invented a new and useful Improvement in Dental Brackets, of which the following is a specification.

My invention relates to an improvement in dental brackets of the kind employed to support trays or instruments for dentists' use. By my invention I provide a device of this kind which has a fixed support for example on a wall, permitting the entire device to swing in a horizontal plane, and jointed arms carrying a supporting head in such a manner that the head may be moved in a vertical plane to maintain the tray or other supported devices in desired horizontal position. In connection with the vertical adjustment referred to I provide improved locking and stop mechanism within the movable head for limiting the movement of the parts vertically and also holding the parts in any desired vertical position. The movable head referred to carries guideways comprising a telescoping slide structure permitting the tray or other supported device to be moved outwardly from the head or towards the head as desired and the relation of the jointed arms is such as to maintain the telescoping slide construction in substantially horizontal position for any vertical position of the movable head. The guides for the telescoping slides are constructed in a manner giving a maximum of stability and strength and a minimum of sliding friction, as it is desirable with a device of this kind that it shall be easily moved from one position to another and it is necessary that it shall afford a rigid and strong support for the tray or parts carried by the device for any position to which it may be moved.

My invention will best be understood by reference to the accompanying drawings showing a preferred embodiment thereof in which—

Fig. 1 shows the device in side elevation, the movable head being shown partly in sectional view to show the working parts and

Fig. 2 is a sectional view of the parts shown in Fig. 1 taken along the line 2—2.

Similar numerals refer to similar parts throughout the several views.

As shown in the drawings my device consists of a swinging frame 10 having pivot bearings 11 engaging pivots or vertical pins 12, 12 adapted to be rigidly secured to the vertical surface 13 for example a wall or vertical casing member. The construction referred to is such that the frame 10 and the parts connected therewith may be readily lifted from the bearing pins when it is desired to temporarily remove the device and permitting the readily placing of the device in position for use when desired. The frame 10 is provided with pivot bearings 14 and 15 for engaging the inner ends of the arms 16 and 17 which project outwardly from the frame 10 and are preferably connected at their other ends at 18 and 19 with the upper and lower portions of a movable head 20, the relation of the pivots being such that the head 20 may be moved vertically and maintained at all times in substantially vertical position, the parts having substantially a parallel ruler action. The outer end of the arm 16 has extending therefrom a lug 21 for engaging the inner portion of the head 20 at the extreme lower position and upper position of the head 20 and the arm 17 carries at its free end a notched segment 22 engaged by a correspondingly notched pawl 23 pivotally mounted in the head 20 at 24 to hold the head and parts carried thereby in any desired vertical position. A spring 25 tends to hold the pawl 23 in engagement with the segment 22 and the pawl 23 is extended beyond its pivot 24 outside of the head 20 to form an operating portion 26 so that pressing said portion inwardly, moves the pawl 23 from engagement with the segment 22. The parts just described are so related that the weight of the head 20 and the parts carried thereby tends to move the pawl firmly into engagement with teeth on the segment 22 and at the same time permits ready movement of the segment under the pawl against the action of the spring 25 when the head is moved upwardly so that the only time it is necessary to operate the part 26 is when it is desired to move the head from an upper to a lower position.

The center portion of the head 20 is shaped to form a hollow guideway 27 from opposite sides of which V-shaped guides 28 project towards each other, said guides extending in a horizontal plane and being of

a sufficient length to rigidly support the horizontally movable parts of the device. A first member 29 is disposed in the guideway in the head 20 and is provided with V-shaped grooves 30 which are a sliding fit on the guides 28 as a result of which the member 29 is free to move longitudinally on said guides and is held positively against motion vertically relatively to the head 20 in any of its positions as a result of the length of the guides 28. The member 29 is of inverted U-shaped cross section and has projecting inwardly from its opposite edges V-shaped guides 31 substantially in line and parallel with the grooves 30 and in the same plane for engaging with a sliding fit corresponding grooves formed in the edges of a second movable member 32 of a cross section to move freely in the member 29 without engagement therewith except at said guides 31. The member 32 may therefore be moved freely into and from the member 29 and in any of its positions is positively held against motion vertically relatively to the member 29. The member 32 is extended outwardly beyond its V-shaped guideways a sufficient distance to form a support at 33 for any desired devices to be carried by the bracket for example a tray 34 which may be held in place by a threaded stud 35 secured to a handle 36 so that by removing the stud other devices desired may be secured to the stud instead of the tray. The handle 36 in addition forms a convenient means for moving the members 32 and 29 into or out of the head 20. The members 29 and 32 are provided with lugs 37 and 38 for engaging each other when the member 32 is in its outermost position relatively to the member 29 so that continued outward motion of the member 32 will move with it the member 29, which outward motion of the members may be continued until the end plate 39 carried by the member 29 engages the head 20. If desired resilient bumpers may be provided as shown on the plate 39 at 40 to prevent sharp impact between the devices at their relative motion limiting positions. Similar devices may be employed to

eliminate impact on inward motion of the members 29 and 32 relatively to each other and relatively to the head 20.

The arms 16 and 17 near their inner ends are offset respectively upwardly and downwardly as indicated to clear the member 29 in its innermost position when the head 20 is in its highest and lowest adjustment.

While I have shown my invention in the particular embodiment above described it will be understood that I do not limit myself to this exact construction as I may employ equivalents known to the art at the time of the filing of this application without departing from the scope of the appended claim.

What I claim is:

In a dental bracket, the combination of a hollow head having side and edge walls presenting a smooth and continuous outer surface, said head being in a vertical plane, upper and lower supporting arms pivotally connected with the upper and lower ends of said head, the pivotal connection of one of said arms with said head comprising a cylindrical boss on the end of said one arm having its cylindrical surface fitting the adjacent ends of said edge walls, said head being recessed at said boss to receive its ends between and fitting the adjacent ends of the side walls of the head, and a pivot pin extending through said boss and the side walls of said head, whereby the outer surface of said boss continues and completes the outer surface of said head, a stop pin extending from the inner surface of said boss into said head to engage the inner surfaces of said edge walls, said edge walls being at an acute angle to each other adjacent said boss and spaced from each other to limit upward and downward movement of said head by said engagement of said pin with said edge walls, and devices for pivotally supporting the other ends of said arms from a vertical surface.

In witness whereof, I hereunto subscribe my name this 24th day of August A. D. 1921.

JOHN A. JOHNSON.