

[54] DENTAL CHAIR

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[56]

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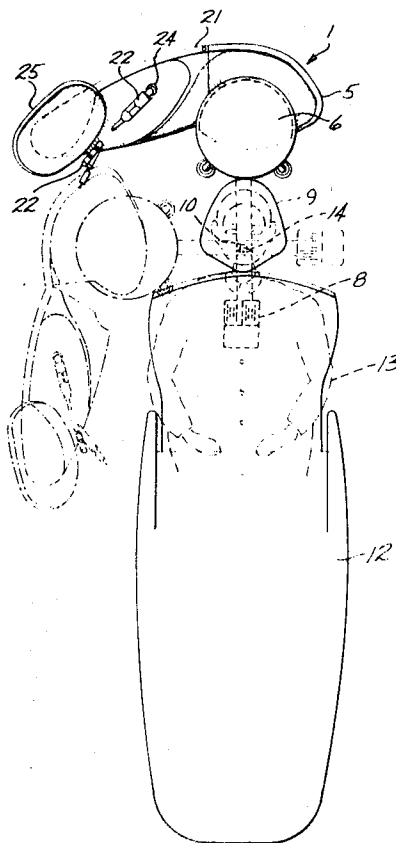
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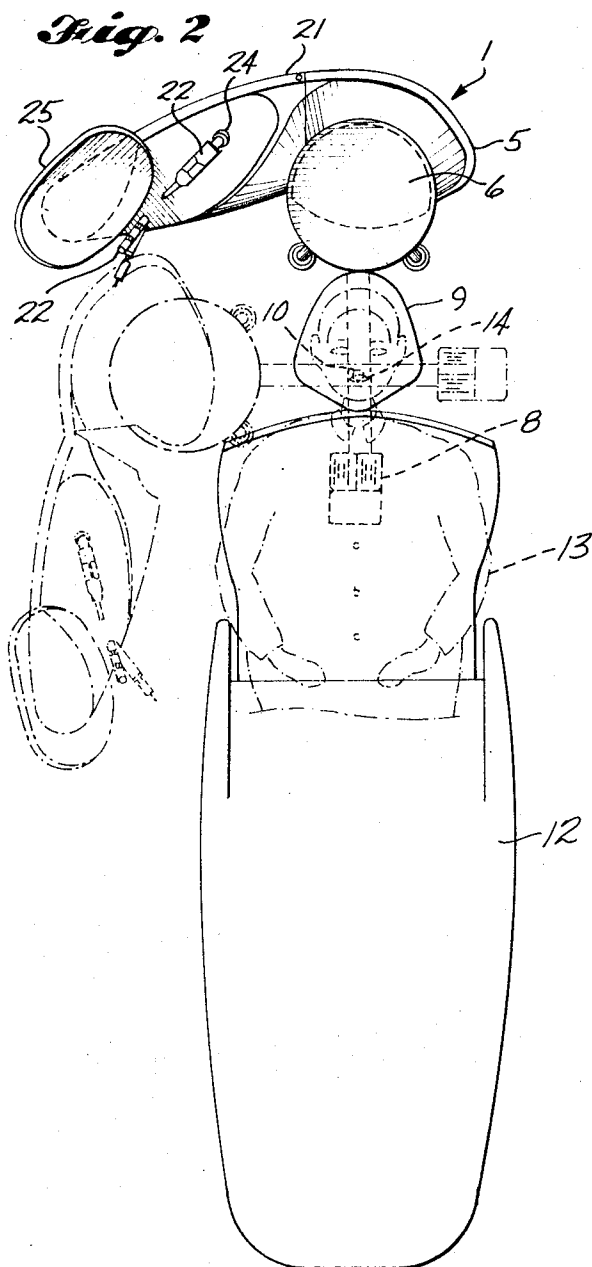
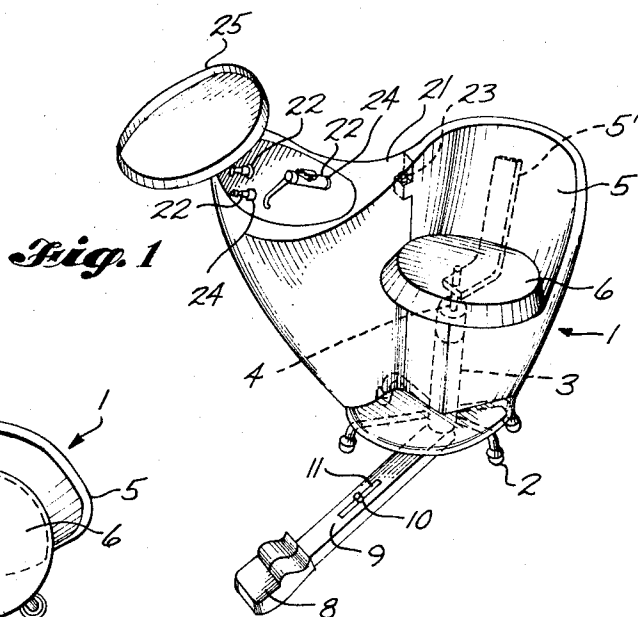
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ABSTRACT

A dental chair comprising a chair body for a dentist to be seated in while performing treatment and a wing connected to one side of said chair body swingably relative thereto and having means for detachably holding therein various instruments used for dental treatment.

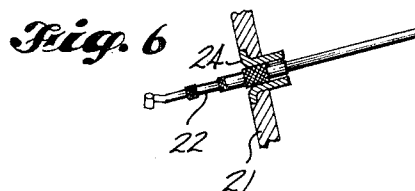
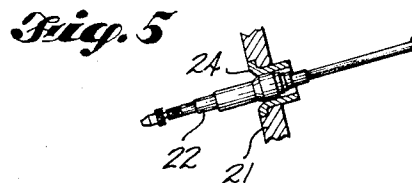
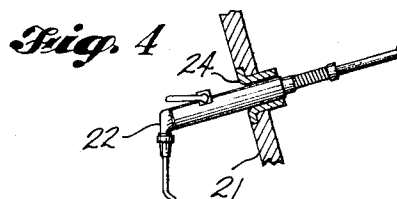
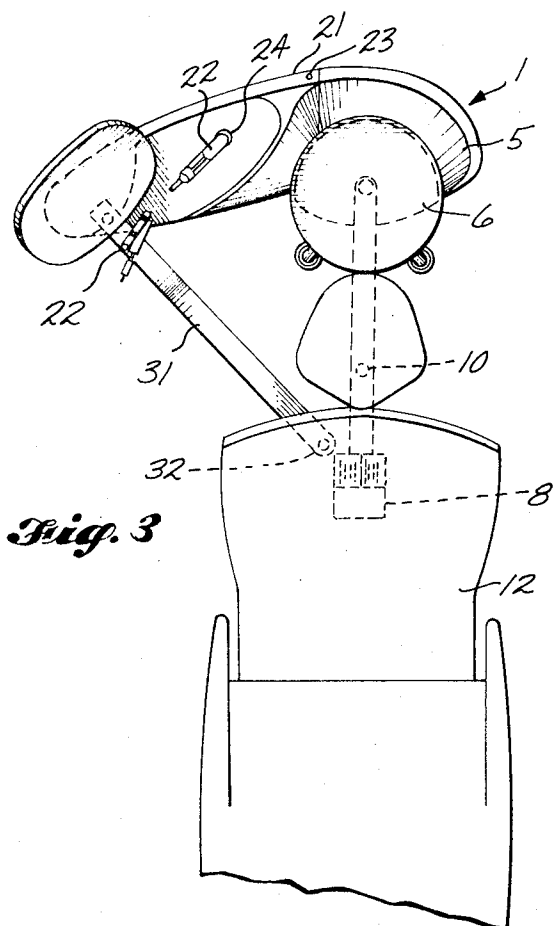
7 Claims, 6 Drawing Figures





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DENTAL CHAIR

FIELD OF THE INVENTION

This invention relates to a dental chair for a dentist to be seated in.

In dental treatment, when the dentist performs treatment while sitting on a chair near the head of a patient lying on an operating chair, it is advisable from the point of view of human engineering in making treating operation easy that the oral cavity of the patient should be positioned between the hands and knees of the dentist sitting on the chair. In actual treatment, however, the dentist performs treatment not by his hands along but also by the help of an instrument held or gripped by his hand. Therefore, unless the instruments are held at a position within easy reach of the dentist sitting on a chair, it will be difficult to ensure of convenience and easiness of treating operation from the viewpoint of human engineering. In dental treatment, the dentist must move freely from behind the head of the patient to the right-hand side thereof as the portion to be treated or treating operation to be done requires. Such movement, however, must neither interfere with the treating operation nor bring the instruments into contact with the operating chair or the patient thereon.

This invention provides a dental chair which meets the above requirements. The chair of this invention is characterized by that an instrument holding structure or wing for holding dental instruments thereon is provided at one side of the chair body and is swingable relative to the chair body, and also that as the chair is moved, the wing automatically swings relative to the chair body.

IN THE DRAWINGS

One embodiment of the invention will be described with reference to the accompanying drawings, wherein:

FIG. 1 is a perspective view of one embodiment of the invention;

FIG. 2 is a top plan view of FIG. 1, with a patient on an operating chair schematically shown to illustrate the relation to the chair;

FIG. 3 is a top plan view similar to FIG. 2 but showing another embodiment wherein the wing is automatically turned in ganged relation to the movement of the chair;

FIGS. 4 to 6 are sectional views showing how the instruments are held.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawings, the reference numeral 1 generally designates a chair body for a dentist to be seated in, which comprises a support column 3, a rod 4 vertically movable relative to the column 3, a support 5' secured to the rod, a shell or cover 5 and a seat 6 secured to the support 5'. The numeral 8 designates a foot controller which is operated by the foot of a dentist to control the rotation of the rotary dental instruments to be described later. The reference numeral 9 is a bar which connects the lower end of the column 3 and the foot controller 8 and which is pivoted intermediate its length by a pin 10 to, say, the floor of the clinic. When the dentist sitting in the chair turns it as occasions demand during dental treatment, the chair is moved along

an arc of a circle having its center on the pivot pin 10. The bar 9 is formed with a slot 11 in which the pivot pin 10 engages, so that the bar is also movable longitudinally within the limit of the length of the slot 11.

Therefore, it is possible for the dentist to move the bar 9 longitudinally to bring the chair into a position most suitable for the treatment, without changing the relative position of the chair and the foot controller 8. Needless to say, the connecting bar 9 encloses electrical wires, not shown, connecting the foot controller 8 and the dental instruments.

In the illustrated embodiment, the pivot pin 10 is positioned directly below the oral cavity 14 of a patient 13 lying on an operating chair 12, as shown in FIG. 2. With this arrangement, when the dentist's chair 1 is turned about the patient, the distance between the dentist and the oral cavity 14 remains unchanged, so that in the new position he can perform treatment as smoothly as before.

A wing 21 for holding dental instruments 22 is connected by a pivot shaft 23 to the right-hand side of the chair body 1, as viewed from the dentist seated therein, so as to be swingable relative thereto. The wing 21 is provided with a plurality of holes 24 into each of which a dental instrument has its one end portion inserted to be held therein, as shown in FIGS. 4 to 6. A mechanism for paying out the hose connected to each of the dental instruments is enclosed in the chair body 1. A tray 25 may be attached to the wing 21, if desired.

With the above arrangement, when the chair 1 is positioned at the back of the patient 13 as shown by real lines in FIG. 2, or when the chair 1 is positioned at the right-hand side of the patient 13 as shown by dashed lines in FIG. 2, the instruments 22 are always positioned near the chair 1, and the relative position of the instruments and the dentist on the seat 6 remains much the same. In other words, in whatever position the chair 1 may be, the instruments are always within easy reach of the dentist seated in the chair 1. Since the wing 21 for holding the instruments is swingable relative to the chair 1, when the chair is moved from the position at the back of the patient to the right-hand side thereof, the dentist can move the wing 21 away from the chair body 1, thereby preventing the wing from hitting against the operating chair 12 or the patient 13 thereon.

The above is the case in which the dentist manually moves the wing 21. It is possible to automatically cause the wing 21 to swing as the chair body 1 is turned. FIG. 3 shows an arrangement that enables such automatic swinging of the wing 21. A lever 31 has its one end connected to the bottom of the wing 21 and its opposite end pivoted to the floor by a pin 32 at a different position from the pin 10. With this arrangement, when the chair 1 is positioned at the back of the patient, the wing is held in its position nearest to the chair body 1. However, as the chair is turned counterclockwise about the pin 10 to the right-hand position of the patient, the wing 21 is turned about the pin 32 so that due to the displacement of the pin 10 and 32 the wing 21 is turned clockwise about the shaft 23 relative to the chair body 1. As a result the wing 21 is held away from the operating chair 12 or the patient 13 and is never brought into contact therewith.

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Thus, in accordance with the invention, since the chair for the dentist to be seated in is provided at one side thereof with a swingable wing for holding dental instruments, the dentist can easily reach for the instrument without very much moving his body and consequently easily perform treatment. When the chair is moved around the patient, the wing is swung away from the operating chair or the patient thereby preventing the patient from feeling uneasy.

What I claim is:

1. In combination, a reclining or semi-reclining chair for a dental patient, which chair has a support thereon on which the patient rests his head so that the cavity of his mouth substantially coincides with a given vertical line, a seat for the dentist which is shiftably mounted adjacent the chair, guide means interconnected with the seat and pivotally mounted to rotate about the line to maintain the seat within a prescribed range of radial distance about the line, as the seat is shifted about the chair, a carrier for the dentist's instruments which is pivotally connected to the seat, adjacent one side thereof, and conjointly shiftable with the seat about the chair, and means operatively associated with the seat and the chair to cause the carrier to rotate in relation to the seat, when the seat is shifted in relation to the chair, whereby as the one side of the seat approaches the

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chair, the carrier is pivoted in relation to the seat to avoid hitting the chair.

2. The combination according to claim 1 wherein the guide means includes an elongated bar-like member, and means on the floor of the dentist's clinic forming a fulcrum for the barlike member.

3. The combination according to claim 2 wherein the bar-like member has a longitudinally extending slot therein, and the fulcrum takes the form of a pin which is slidably engaged in the slot.

4. The combination according to claim 3 wherein the bar-like member is disposed in a substantially horizontal plane, and the pin is upstanding on the floor in the slot thereof.

5. The combination according to claim 2 wherein the seat is shiftably mounted on the floor of the clinic, and is pivotally connected to one end portion of the bar-like member.

6. The combination according to claim 2 wherein the bar-like member has foot controls mounted thereon, for the instruments.

7. The combination according to claim 1 wherein the carrier is pivotally connected to the seat about a vertical axis.

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