

Jan. 18, 1966

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3,230,320

DENTAL CHAIR

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2 Sheets-Sheet 1

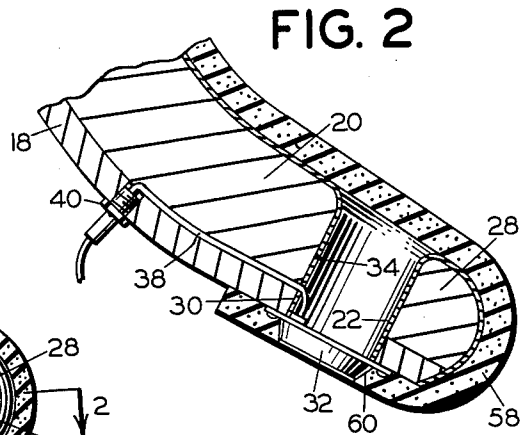
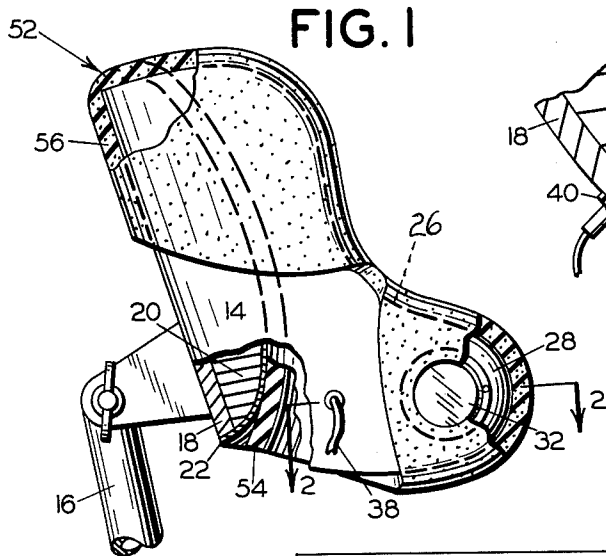
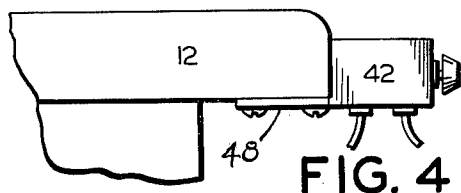
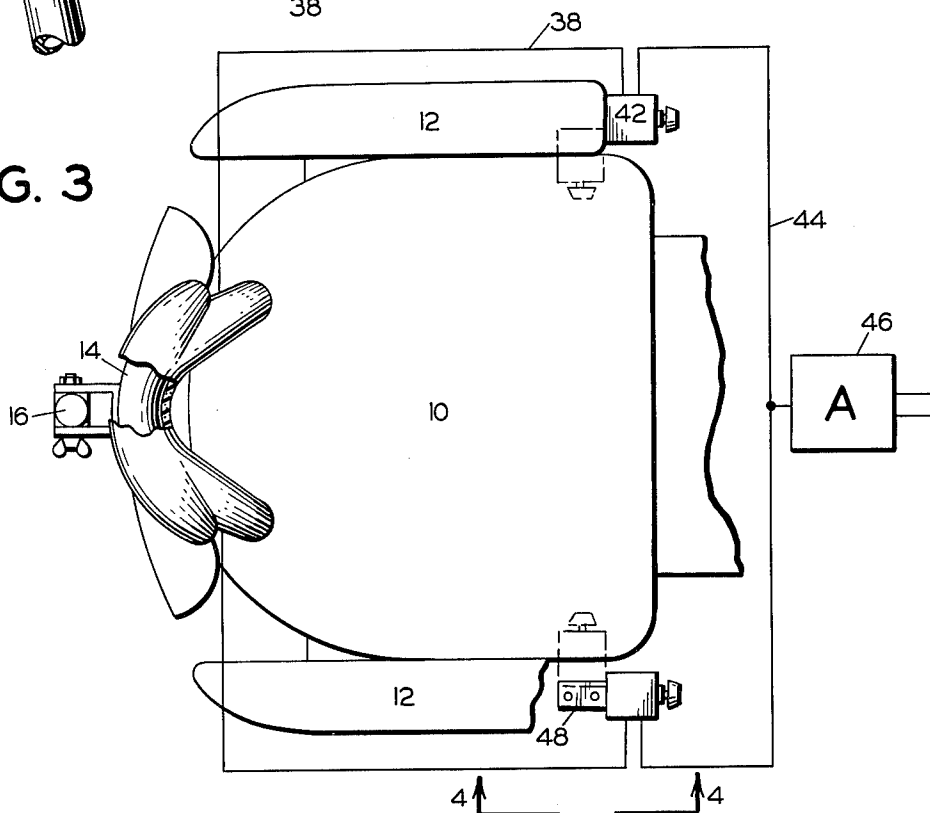


FIG. 3



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FIG. 5

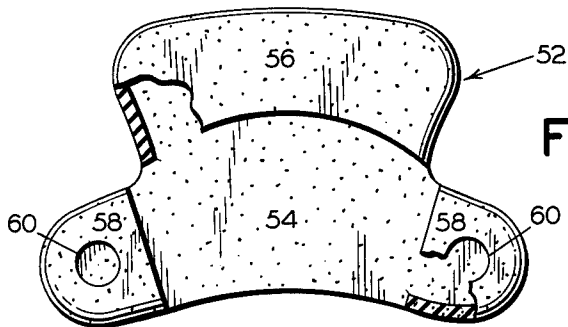
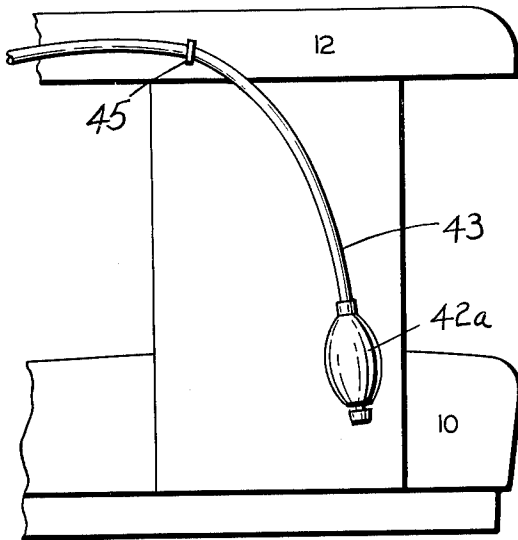


FIG. 6

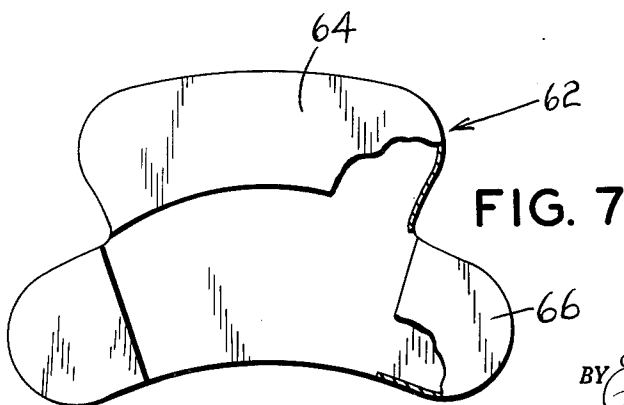


FIG. 7

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DENTAL CHAIR

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3 Claims. (Cl. 179—146)

This invention relates to new and useful improvements in dental chairs. Although the present structure is illustrated in connection with dental chairs, it is to be understood that it may have application on other types of chairs.

Primary objects of the present invention are to provide a dental chair construction employing a head rest having spaced speakers incorporated therein and control means for the speakers located on the dental chair for individual hand control, and to provide a novel arrangement for said novel sound control means on the dental chair.

Another object is to provide an improved head rest for dental chairs which incorporates means for the broadcasting of stereophonic sound.

Another object is to provide improved head rest covers for a dental chair, one of which operates in an improved manner to distribute sound from speakers in the head rest.

Briefly stated, the present dental chair comprises a head rest employing a pair of speakers one on each side thereof for the introduction of sound to each of a patient's ears, and a control for each of the speakers located in a position to provide individual hand control. The system thus is particularly adaptable for use with a stereophonic production unit. The sound control means are mounted on the arms of the dental chairs in an improved manner so that the patient has one of the control means for each hand. Also forming a part of the present invention are cover members for the head rest which serve to increase comfort for the patient and to protect the head rest. One of the covers is formed of a plastic foam material and also serves to distribute evenly the sound from the speakers.

The invention will be better understood and additional objects will become apparent from the following specification and claims considered together with the accompanying drawings, wherein the numerals of reference indicate like parts and wherein:

FIGURE 1 is a side elevational view of a head rest portion of the present dental chair, with parts broken away;

FIGURE 2 is an enlarged fragmentary sectional view of a portion of the head rest, taken on the line 2—2 of FIGURE 1;

FIGURE 3 is a plan view of a dental chair, in reduced scale, employing the principles of the present invention;

FIGURE 4 is a fragmentary elevational view, slightly enlarged, of one form of mounting arrangement for the sound control means on the dental chair, taken on the line 4—4 of FIGURE 3;

FIGURE 5 is a fragmentary elevational view of another form of mounting arrangement for the sound control means on the chair;

FIGURE 6 is a rear elevational view of a first form of head rest cover forming a part of the present invention; and

FIGURE 7 is a rear elevational view of a second form of head rest cover.

The dental chair of the present invention employs a seat 10, a pair of side arms 12, and a head rest 14, the latter being suitably supported on a rearwardly disposed standard 16. Head rest 14 is laterally arcuate as best apparent in FIGURE 3, for receiving comfortably the back side of a person's head. This member is constructed

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of a suitably contoured rear frame element 18, FIGURES 1 and 2, and front padding or cushioning 20. The entire unit is upholstered by any suitable material 22.

The terminal forwardly directed edges of the arcuate head rest have inwardly curved portions 26, FIGURE 1, so as to be disposed behind a patient's ear when his head engages the head rest whereby the ear does not engage head rest structure. The curvatures 26 lead into lower, forwardly directed projections 28 which serve in one instance as jaw supports.

Head rest frame 18 has oppositely located apertures 30, preferably in the jaw supports 28, and mounted over these apertures on the outer surface of frame 18 are speakers 32. Padding 20 also is apertured at 34 for improving transmission of sound from the speaker to the inner area of the curved head rest. The upholstery material 22 either may be apertured or turned inwardly as shown in FIGURE 2, to define the opening in the padding.

Lead wires 38 from the speakers 32 are directed along the inner surface of the frame member 18, through the latter member by suitable connecting means 40, and to sound control means 42 in circuit, by means of wires 44, with suitable amplifier means 46 of a stereophonic sound apparatus.

With particular reference to FIGURES 3 and 4, each sound control means 42 preferably comprises a box-like structure. Such structure employs an integral apertured plate 48 projecting therefrom. By means of this plate the housing 42 is mounted in spaced positions on the dental chair and preferably adjacent the front of the arms 12. As seen in full lines in FIGURE 3 the control boxes may be mounted so as to project forwardly of the arms 12 or as seen in dotted lines such boxes may be mounted so as to project angularly relative thereto. Such mounting may be accomplished by screws, not shown, engageable with the arms, or of course other attaching means may be employed.

By this arrangement, a control is available for each hand of the patient and each control operates its own individual speaker. Thus, the patient can achieve desired adjustment by controls at his finger tips and thus does not have to look or fumble for a control panel or the like.

FIGURE 5 shows another arrangement for mounting sound controls 42a on the chair. In this arrangement the controls 42a are at the terminal end of cords 43 which include the circuit wires to the speakers 32 and the amplifier 46. Cords 43 are attached to the outer sides of arms 12 by suitable means such as staples 45, an extended length of the cord being provided between the staples and the controls 42a.

The portion of the cords 43 between the staples and the controls is of predetermined length whereby the patient can reach down and grasp the controls or if desired he can swing them upwardly and lay them in his lap. Thus, when the patient does not desire to hold the controls he can let them hang alongside the chair or he can lay them in his lap.

In any case, the controls are at the patient's fingertips and he does not have to interrupt the dentist's work to find them. Controls 42a are oval-shaped to fit comfortably in the hand for ease of operation in rotating the control knobs and for permitting squeezing thereof for pacifying purposes.

It is also within the purview of the present invention to provide a head rest cover which serves the purposes of protecting the head rest, providing comfort for the patient and of distributing sound from the speakers. With reference to FIGURES 1 and 6, such head cover is designated by the numeral 52 and has a body portion 54, of the shape shown in FIGURE 4, which is adapted to cover

the entire front or concaved portion of the head rest. Body portion 54 has an upper rearwardly extending pocket portion 56 which may be formed by initially providing an extension on the body portion, folding said extension to overlie the rear surface of the body, and securing the end edges thereof to the body. As apparent in FIGURE 1, in the installed position of the head cover 52 the pocket 56 receives the upper portion of head rest 14.

Formed on the lower rear portion of the body 54 are laterally disposed pockets 58 which also may be formed by folding over a portion of the body and securing the folded portion to the body 54, the points of securement being at upper and lower edges to provide pockets opening inwardly toward each other. Pockets 58 are adapted to be fitted over the jaw supports 28, FIGURES 1 and 2, and have apertures 60 which receive the speakers 32. Engagement of the latter in apertures 60 serves to hold the pocket portions 58 firmly in place.

Head cover 52 preferably is made from a synthetic foam material such as a foamed polyester plastic. This material has been found to be readily washable to remove dirt or soiled portions and furthermore it serves to distribute and mellow the sound which is emitted from speakers 32.

With reference to FIGURE 7, there may also be provided a head rest cover 62 which is formed of paper and designed particularly to be disposable. This cover, similar to cover 52, has an upper rear pocket 64 to receive the upper portion of the head rest and rear side pockets 66 to receive the jaw supports 28. Cover 62 may be mounted directly on the head rest or may be mounted on the cover 52 when the latter is fitted on the head rest.

Thus in accordance with the principles of the present invention there is provided an improved dental chair which is adaptable particularly to a stereophonic sound set-up and which has dual sound controls available conveniently one for each hand. The head rest 52 in addition to providing comfort for the patient also serves to improve the tone of the sound emitted from the speakers.

It is to be understood that the forms of my invention herein shown and described are to be taken as preferred examples of the same and that various other changes in the shape, size, and arrangement of parts may be

resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A combination dental chair head rest and sound system comprising a laterally arcuate head supporting portion having a top edge and opposite forwardly directed edges, a forwardly extending projection on each of said forward edges adjacent the lower end thereof, the inner surface of said forward projections forming jaw supports for a patient's head engaged in the head rest, and a sound speaker mounted in at least one of said projections, said speaker opening on the inner surface of said projection and being arranged to broadcast to the patient.

2. The dental chair head rest and sound system of claim 1 including a cover member adapted to be mounted on the head rest, means on the upper portion of the cover member defining a pocket adapted to receive an upper portion of the head rest, and means on the lower portion of the cover member defining at least one pocket for receiving lower portions of the head rest.

3. The dental chair head rest and sound system of claim 1 including a body portion adapted to overlie the forward surface of the head rest, means on the upper end of said body portion defining a pocket adapted to receive the upper portion of the head rest, and means on the lower end of said body portion at each side thereof defining pockets adapted to receive the forward projections of the head rest.

References Cited by the Examiner

UNITED STATES PATENTS

2,148,347	2/1939	Gray	179—1
2,501,993	3/1950	Conradt	297—410
2,527,656	10/1950	Reinsdorf	179—156
2,986,140	5/1961	Gardner et al.	179—1
3,098,128	7/1963	Audin	179—146

OTHER REFERENCES

Article: "Audio May Reduce Dental Pain," Electronics, Dec. 9, 1960, page 49.

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