

EUROPEAN PATENT APPLICATION

Application number: 86301322.3

Int. Cl.⁴: **A61G 13/00**

Date of filing: 24.02.86

Priority: 26.02.85 US 705897

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Date of publication of application:
 24.09.86 Bulletin 86/39

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Designated Contracting States:
DE FR GB NL SE

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Head and chin rest for face down operations.

For face-down operations, a head and chin rest comprises a base (10), a cushioned forehead support (12) pivotably mounted on the base, and a cushioned chin rest (14) telescopically cantilevered from the forehead support by a pair of thin metal rails (15). This affords both comfortable support for a patient's head and also excellent access to the patient's nose and mouth. Extending from the base are the ends of a generally U-shaped rod (22) to prevent the head and chin rest from tipping.

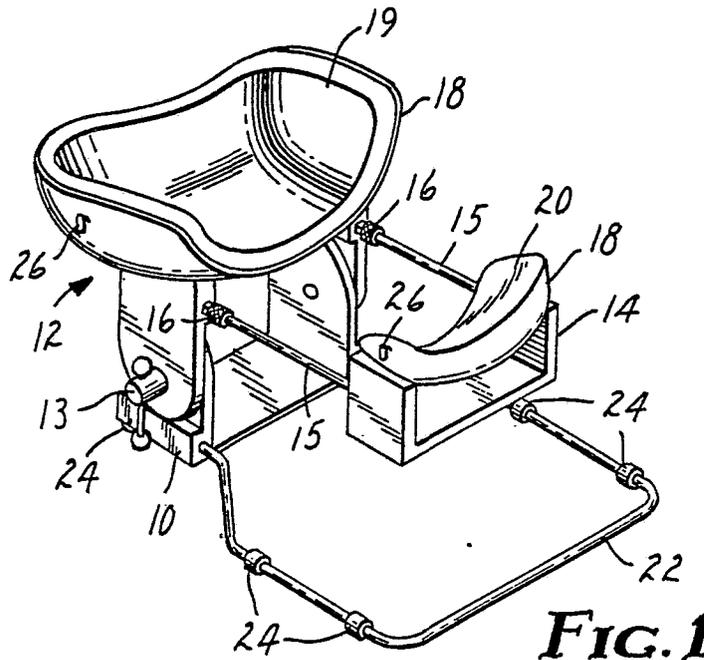


FIG. 1

EP 0 195 536 A2

HEAD AND CHIN REST FOR FACE-DOWN OPERATIONS

Field of the Invention

The invention concerns a head and chin rest for face-down operations and is especially directed to the need both for patient comfort and for convenient access by the anesthesiologist to the nose and mouth.

Background Art

In face-down operations with the patient either in a prone or prone sitting position, the patient's head is commonly turned to the side even though this puts the cervical spine into an abnormal position and often leaves the patient with a sore neck after a long operation. The sidewise head position constricts the trachea and larynx, thus tending to produce throat soreness when there is a tube in the patient's throat. When the patient is in a prone position, the head can be positioned face-down on an annular cushion that rests on a support cantilevered from the head end of the operating table. However, the prone sitting position requires a kneeling attachment to be fastened to the foot of the operating table, and to use an annular cushion would require a hole to be formed in the bed of the operating table.

The operating table of U.S. Patent No. 2,577,177 has "a concave head rest 31 to engage the forehead of a patient" (col. 4, lines 52-53) which enables the head to be face-down and also provides good access to the nose and mouth. U.S. Patent No. 3,289,674 shows in Fig. 1 a similar forehead cushion 108, but both of those head rests leave the chin unsupported, thus producing a lordotic curve in the cervical spine and resulting in problems similar to the consequences of turning the head sidewise. A head rest which is similar except being pivotably supported is shown in "Chick Surgical Table CST Series SE 2001," a brochure of Chick Surgical Systems, Professional Medical Products, Inc., Greenwood, SC, USA.

Disclosure of Invention

The present invention concerns a head and chin rest for face-down operations which allows the patient's head, chin and neck to be comfortably supported in a natural position while affording excellent access to the nose and mouth. Like the head rest of the Chick brochure, that of the invention comprises a base and a forehead support pivotably supported by the base. The novel head and chin rest differs from that of the Chick brochure by having

a chin support and

a pair of thin rails by which the chin support is telescopically cantilevered from the forehead support to provide an adjustable spacing between the forehead and chin supports while affording good access to the mouth and nose between and around the rails.

The telescopic cantilevering permits the chin rest to be moved in and out to fit heads and faces of various sizes and then locked in position. By pivoting the forehead support, the patient's chin can be raised or lowered relative to the forehead. The base should extend beneath the chin support and include resilient feet allowing it to stand on a flat operating table surface.

Preferably each of the forehead and chin supports includes a rigid frame or platform to which a contoured cushion may be removably attached. Each cushion may be a foamed plastic carrying a layer of repositionable pressure-sensitive adhesive on its lower face. The cost of the cushions should be sufficiently low to permit them to be disposable after each operation. While the base and the rigid frames or platforms may be metal for cleanliness, they can be wholly or partly molded plastic at significantly lower cost, thus possibly allowing for economical disposability.

The Drawing

In the drawing, each figure of which is schematic;

Fig. 1 is a perspective view of a first head and chin rest of the invention; and

Fig. 2 is a perspective view of a second head and chin rest of the invention.

The head and chin rest shown in Fig. 1 has a rigid base 10 pivotably supporting a rigid forehead support 12. A clamp 13 cooperates with hidden detents to prevent the forehead support from pivoting until it is unlocked. A rigid chin support 14 is cantilevered from the forehead support 12 by a pair of metal rails 15 which telescopically fit into knurled locking nuts 16 that project from the forehead support 12. The locking nuts 16 permit the rails to be locked at infinitely differing spacings between the forehead and chin supports. Each of the forehead and chin supports has a rigid concave frame or platform 18 formed from sheet metal and into which are fitted disposable contoured cushions 19 and 20, respectively. Fixed within openings in the base 10 are the ends of a generally U-shaped rod 22 which extends beneath the chin support 14 to prevent the head and chin rest from tipping. The base 10 and its rod 22 have six resilient feet 24 allowing the head and chin rest to be stably positioned on a flat operating table. Fixed to the sides of each concave frame 18 are two hooks 26 for securing the straps of an anesthetic mask being worn by the patient.

In a prototype of the head and chin rest shown in Fig. 1, the concave frames 18 were formed from stainless steel having a thickness of about one mm, and each of the cushions 19 and 20 was 20-pound polyurethane foam without any covering.

The head and chin rest of Fig. 2 has a rigid base 28 on which a rigid forehead support 29 is pivotably mounted at a hinge 30. Fixed to a rigid chin support 32 are a pair of metal rails 34, each of which telescopically fits into a knurled locking nut 36 that projects from the forehead support 29, thus cantilevering the chin support from the forehead support. The forehead and chin supports have flat platforms on which are mounted contoured cushions 38 and 40, respectively. Each of the cushions 38 and 40 may be a block of plastic, e.g., polyurethane, foam that has a layer of repositionable pressure-sensitive adhesive by which it is attached to its platform. Fixed to the base 28 is a U-shaped rod 42 which extends beneath the chin support 32.

Fixed to each side of the base 28 is a soft-metal sector plate or protractor 44 that can be clamped at any point along its arcuate perimeter 45 by a knurled nut 46 projecting from the side of platform of the forehead support 29. Not shown are a pair of closely spaced, case-hardened steel pins which have been pressed into holes in each side

of the platform immediately beneath the knurled nut 46. When the knurled nuts are tightened, the tips of the steel pins bite into the inward-facing surface of the softer protractor to guard against slippage under the weight of the patient's head. In a prototype of the head and chin rest of Fig. 2, each steel pin had a length of about 5 mm, a diameter of about 1.5 mm, and a rounded tip which protruded about 0.5 mm beyond the surface of the platform.

The head and chin rest of Fig. 2 has a low profile that permits the upper-chest-support cushion to be quite low and hence both inexpensive and laterally stable. The height of the patient's head above the operating table is adjustable by stocking the cushions 38 and 40 in various thicknesses.

Claims

1. Head rest for face-down operations comprising a base and a forehead support pivotably supported by the base, characterized by having:

a chin support and

a pair of thin rails by which the chin support is telescopically cantilevered from the forehead support to provide an adjust-

able spacing between the forehead and chin supports while affording good access to the mouth and nose between and around the rails.

5 2. Head rest as defined in claim 1 and further characterized in that the base includes a rigid extension beneath the chin support to prevent the head and chin rest from tipping when standing on a flat operating table surface.

10 3. Head rest as defined in claim 2 and further characterized in that said extension comprises a generally U-shaped rod, and the base and rod have resilient feet allowing the head and chin rest to be stably positioned on a flat operating table surface.

15 4. Head rest as defined in any preceding claim and further characterized in that each support has a rigid concave frame into which a contoured cushion is fitted.

20 5. Head rest as defined in any of preceding claims 1-3 and further characterized in that each support has a substantially flat platform and a contoured block of plastic foam is releasably adhered to each flat platform.

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