April 8, 1947. L. B. STALLCUP 2,418,561

ARM REST

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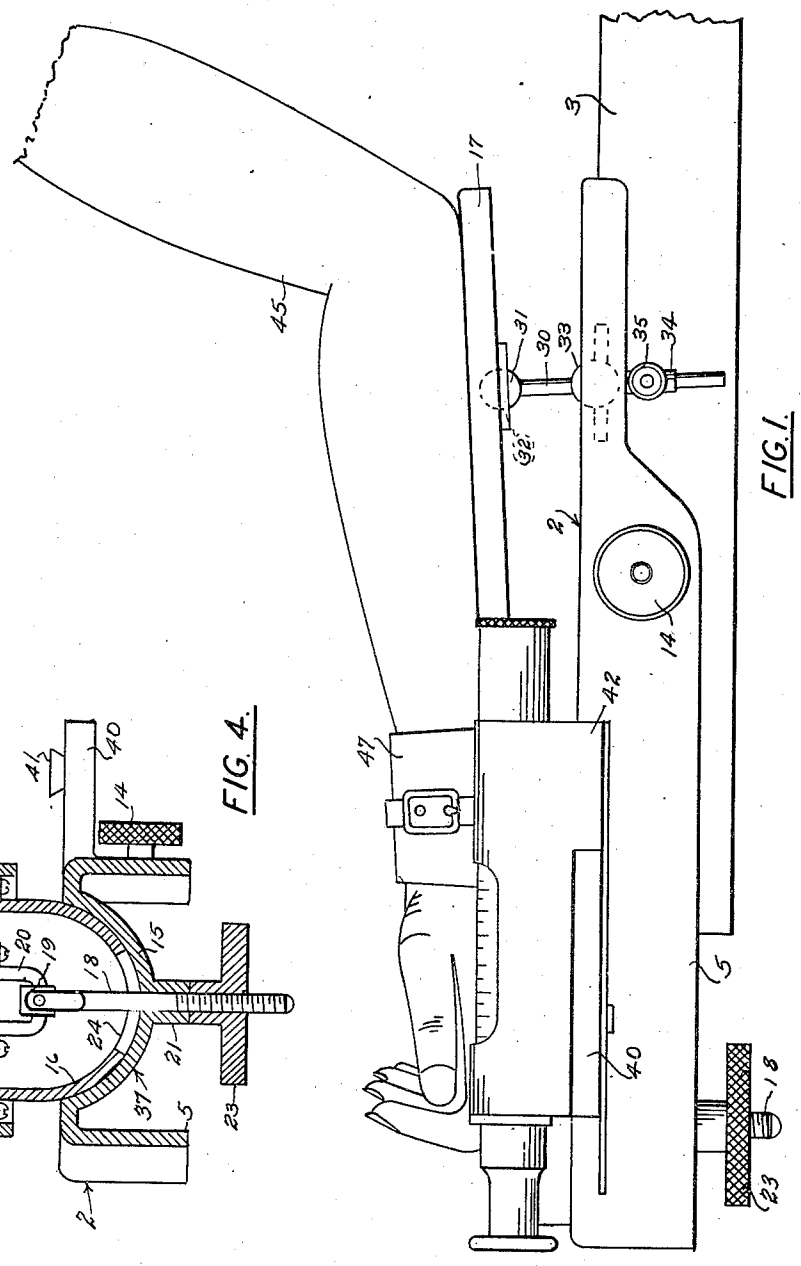


FIG. 1.

FIG. 4.

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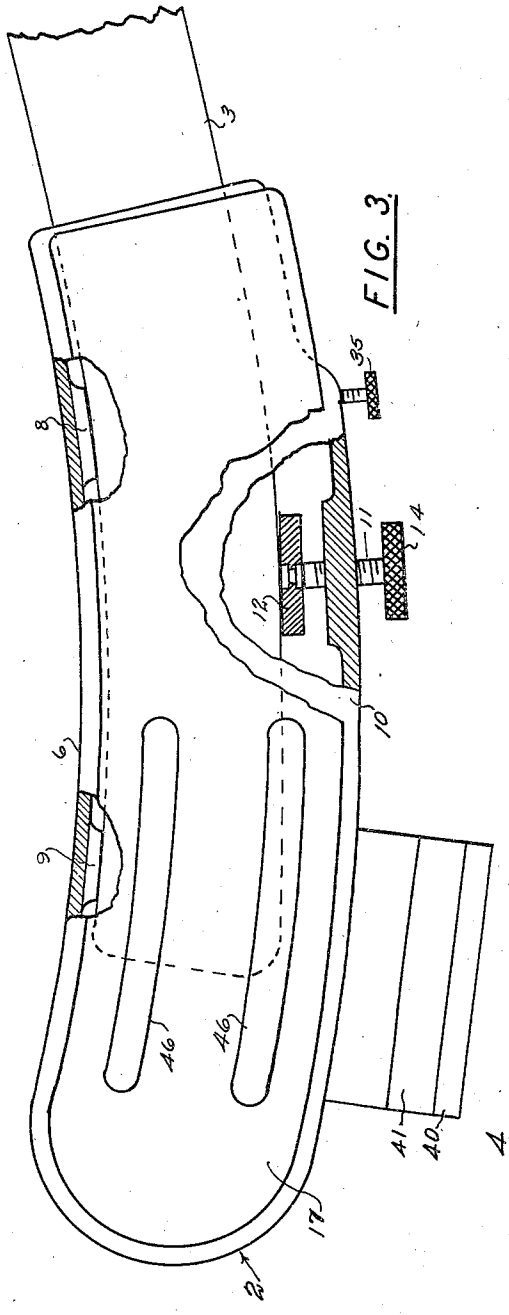


FIG. 3.

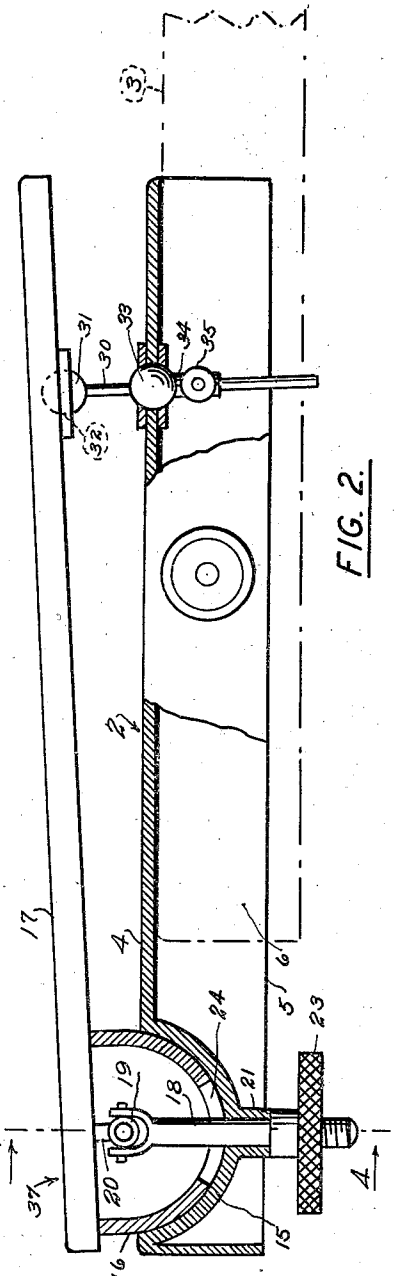


FIG. 2.

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ARM REST

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3 Claims. (Cl. 128—133)

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This invention pertains to arm rests for use on operating chairs in connection with intravenous administration of anesthetics, or the like.

It has for its objects, first, the provision of an arm rest which can be clamped to the arm of a dental or physician's chair, and will receive and hold the arm of the patient in a natural, relaxed and convenient position adjacent injection apparatus. Second, the provision of an arm rest pairing a lower part adapted to be removably attached to a dental chair arm, an upper part adapted to receive and hold the arm of a patient sitting in said chair, and an adjustment mechanism between said two parts so that both the longitudinal angle and the lateral angle between said parts may be adjusted. Third, the provision of a device as above mentioned having a base adapted for easy attachment and detachment to a chair arm, with an arm board joined thereto so that both the longitudinal and lateral plane of the arm board may be adjusted relative to said base; and with a bracket adapted to receive and retain intravenous injection apparatus positioned along one side of said base in convenient position for operation.

Other objects will appear hereinafter.

I attain the foregoing objects by means of the device illustrated in the accompanying drawings in which—

Figure 1 is a side elevation showing the device applied to a chair arm;

Figure 2, a side elevation with portions sectioned off the near face to show interior construction;

Figure 3, a plan view of the device as shown in Figure 2 with portions broken away to show interior construction and Figure 4, an end sectional elevation taken substantially on line 4—4 Figure 2.

Similar numerals refer to similar parts in the several views.

The base 2 is preferably made of cast aluminum. It has an arcuate plan conformable to the plan of a chair arm 3. A rim 5 depends from an upper plate 4 of this base on both sides and at the front. This forms a shell which fits over the chair arm. The rear is open so that the under face of top plate 4 will rest on the top face of the chair arm. On the inner face of the inner rim 6 there are stationary pads 8 and 9 adapted to contact the inner side of the chair arms. Threaded into the outer rim 10 there is a screw 11 which carries a pad 12 positioned longitudinally between inner pads 8 and 9. Operation of this screw by knurled nut 14 forces pad 12 to engage the outer side face of chair arm 3.

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In the forward part of plate 4 there is a semi-spherical socket 15, which receives a rounded semi-ball 16, attached to the underside of the arm board 17. A screw 18 is attached by a universal joint 19 to a lug 20 on the underside of the arm board, extends downward through a boss 21 on the bottom of socket 15, and carries a knurled nut 23 on its lower end. A hole 24 is formed in the center of socket 16 large enough to give sufficient rotative movement in socket 15 to allow a considerable longitudinal and lateral movement of arm board 17. The extent of this movement is governed by the size of this hole. When nut 23 is tightened up the contacting surface of the semi-ball 16 and socket 15 are brought into frictional engagement sufficient to hold the board in the position desired. To assist in supporting the weight of the patient's elbow an additional support is provided at the rear of the arm board. This consists of a rod 30 having a ball 31 at its upper end operative in a socket 32 formed on the underside of the board near its outer edge. The rod slides in a ball 33 held in a socket formed in the upper plate of base 2 near the outer edge. Ball 33 has a boss 34 through which the rod 30 extends, and a set screw 35 threaded radially into this boss holds the rod at the desired position along its length.

From this arrangement it will be seen that the ball and socket joint 37 at the forward end of the arm board provides a universal joint, allowing movement in three planes, i. e.: longitudinally, laterally and pivotally. The joint may be tightened and the board secured at the adjusted position. The ball mounted rod 30 will follow the movement of the rear of the arm board and support it against vertical displacement, but obviously will not hold it against lateral twisting movement. This, however is unnecessary because the forward joint 37 is adequate to hold the arm against turning and lateral tilting.

A shelf 40 is added to the outside of base 2 near the forward end. This is provided with a dove tail slide 41 adapted to receive the underside of a syringe frame 42 shown in Figure 1. The syringe frame is shown only generally here since its structure pertains to a different art. This merely illustrates one use of the arm rest, and to those familiar with the art, many other uses will be apparent.

In use the base 2 is clamped to the chair arm 3, by operation of screw 11. The patient is placed

in the chair with his arm **45** resting on arm board **17**. Slots **46** in the board receive the cuff **47** and this is placed over the patient's wrist so that the arm lays on the board with the palm side of the hand upward. The board is then raised, tilted and rotated until the patient's arm rests in the most comfortable position. When this position is attained nut **23** is set to lock the board in position, and set screw **35** set on rod **30**. The cuff may then be tightened as desired, and the syringe connections applied according to the practice.

Having now fully described my invention and explained its use I wish to be limited only by the following claims.

I claim:

1. An adjustable arm rest for operating chairs comprising, in combination, a base having a hollow under side adapted to conform to the contour of an operating chair arm, a screw clamp operative on said chair arm to secure said base thereon, an arm board attached to said base near the forward end by a semi-ball and socket joint, a screw and nut operative in said joint adapted to secure said ball and socket joint by frictional engagement of its contacting surfaces, a vertical support on the rear of said arm board including a rod mounted by a ball joint on the rear of said arm board slidably mounted in a ball joint on the rear of said base and means for engaging said rod in said slidable mount.

2. An adjustable arm rest for operating chairs, comprising in combination, a base shaped to conform to the contour of the chair arm having a depending rim at the front and along the side edges, a socket formed in the front portion thereof, arm gripping pads on the inner face of the inner depending rim, and a gripping pad mounted on a transverse screw threading thru said outer rim; an arm rest having means for attachment of a wrist cuff, a semi-ball formed on the lower side of its front portion provided with a central opening, a tightening screw secured within said semi-ball by a universal joint, a nut operative on said screw below said base socket to draw said ball into said socket; means for supporting the rear of said arm board including a rod retained in a ball joint on the underside of said board, a ball having a boss with a rod clamping screw, mounted in a socket in said base, and adapted to slidably receive said rod; and a shelf extending outward from the outer edge of said base adapted to receive a syringe.

3. An adjustable operating chair arm rest to hold a patient's fore-arm in relaxed position accessible for intravenous injection techniques, comprising in combination, a base plate conforming to the plan and contour of an operating chair arm having means for clampable attachment thereto, an outwardly extending instrument holding shelf, and a forward projecting portion provided with a semi-spherical upwardly opening socket with a depending boss thereon having a hole to receive a locking screw, an arm rest plate adapted to receive and retain the patient's forearm, and means for attaching said arm rest plate to said base plate to secure lateral and horizontal adjustment including a semi-spherical ball on said arm rest plate operative in said base plate socket adapted to frictional engagement therein, a circular opening in the center of the bottom of said ball portion, a tightening screw extending from the underside of said arm plate centrally alined with said opening, having a universal joint concentric with said ball and socket and a threaded portion extending thru the boss on said socket, and a hand nut thereon, together with a height adjusting bar at the rear of said arm plate secured by a ball and socket joint therein, depending therefrom and secured in a boss mounted on a ball and socket support on the rear portion of said base.

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