

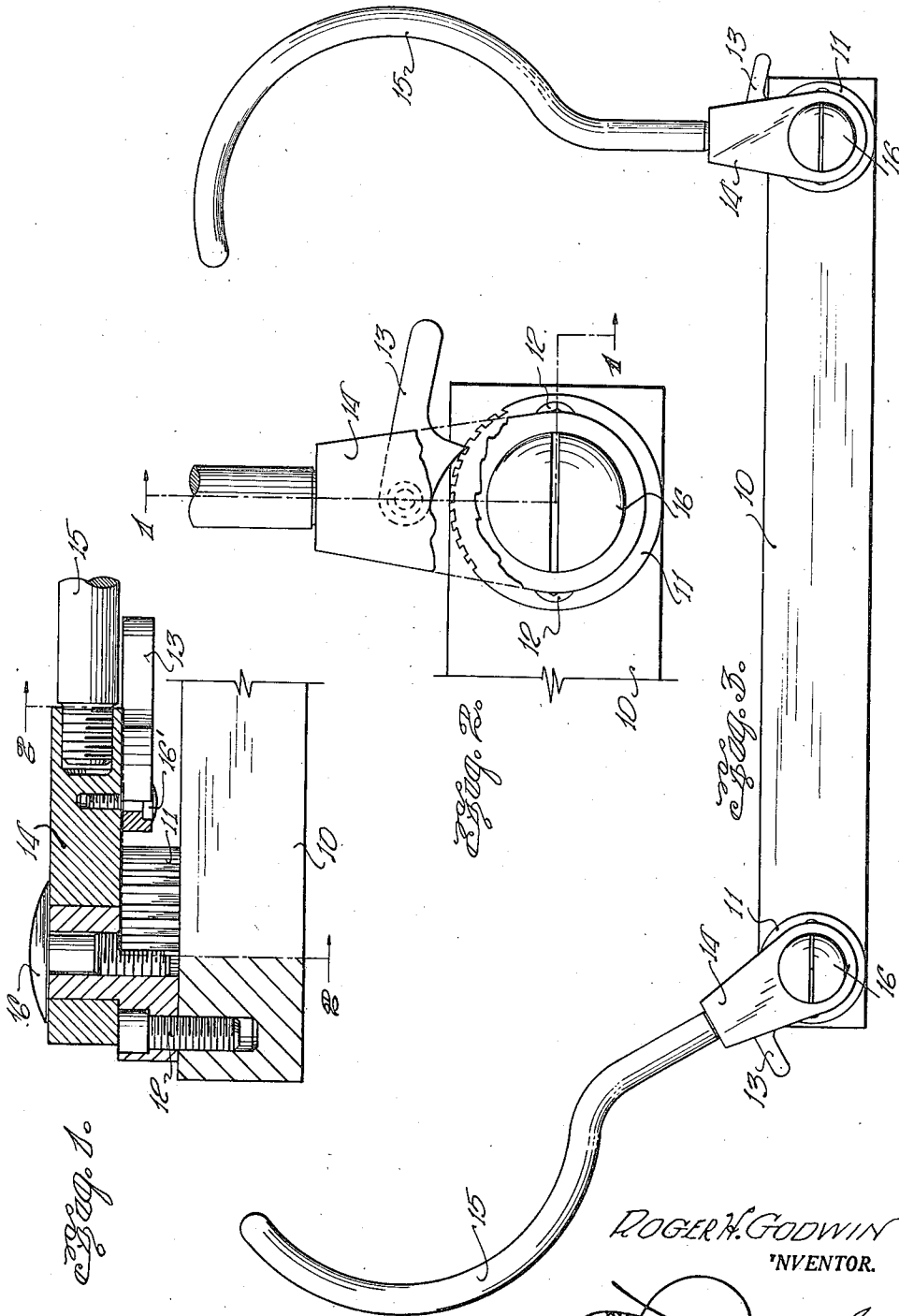
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R. H. GODWIN

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ADJUSTABLE CLAMP

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ROGER H. GODWIN
'NVENTOR.

BY *[Signature]*
ATTORNEY

UNITED STATES PATENT OFFICE

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ADJUSTABLE CLAMP

Roger H. Godwin, Dallas, Tex.

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1 Claim. (Cl. 128—303)

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This invention relates to clamping and restraining devices and more particularly to adjustable clamps adaptable for use in securing the limbs or torso in a stable and predetermined position.

During the performance of certain types of surgery it is necessary to administer a general anesthetic while the patient is in a recumbent position. Operations of this kind are generally performed with the patient in a reclining chair such as is used in the practice of dental surgery. As a result of the administration of a general anesthetic, total nervous and muscular relaxation is effected and the patient tends to slump into a position such as to make an operation difficult to perform.

It is the purpose of this invention to restrain the patient in a normally reclining position throughout the operation without requiring the services of an attendant.

In their performance of duty it is sometimes necessary for law enforcement officers to transport prisoners in vehicular conveyances from a point of arrest to a place of confinement. This invention is adaptable for use as a means of preventing the escape of such prisoners while in transit.

Other uses include its adaptability as a safety appliance or restraining means for occupants of airborne vehicles.

The principal object of the invention is to provide a restraining device useful in holding a patient in a desired position while under the influence of a general anesthetic.

Another object of the invention is to provide an adjustable clamping device adaptable for use upon patients of different sizes.

Still another object of the invention is to provide a mechanical means of restraining prisoners or others inclined toward violence because of mental disorders.

With the foregoing objects as paramount, the invention has reference to certain features of accomplishment and adaptability for various uses, which will become apparent as the description proceeds, taken in connection with the accompanying drawings, wherein:

Figure 1 is a fragmentary side elevational view shown in section, at points corresponding to line 1—1 in Figure 2.

Figure 2 is a fragmentary top plan view of one of the locking devices, cut away to show the means of obtaining various adjustments, and

Figure 3 is an elevational view of the clamping arms, constructed according to the invention,

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mounted on a lateral member at the front of a seat.

Continuing with a more detailed description of the drawings, reference numeral 10 denotes a frame member such as may extend across the front of a seat or at the edge of a fixture used in the performance of surgical operations. A plate 11 is attached to the frame or seat portion 10 by means of screws 12. A portion of its periphery is milled as shown in Figure 2 to permit the engagement therewith of a tapered part of a gravity-actuated locking arm 13, thereby obstructing reverse movement of a sleeve 14 and an arcuated arm 15. A screw 16 extending through the locking arm 13 into the sleeve 14 provides a pivot for the arm 13 to permit its manual disengagement with the milled edge of the stationary plate 11. A screw 16 retains the sleeve 14 in its position encircling a cylindrical, internal threaded protuberance or boss of the plate 11.

In operation as a part of the equipment necessary in the practice of dental surgery, the clamps are securely attached to the front edge of a dental surgeon's chair. When not in use the arcuated arms 15 are vertically dependent from the screw 16. After the patient is seated, the arcuated arms 15 are revolved outwardly and over the patient's legs immediately above the knees, forcing the knees together and into firm contact with the chair seat. The tapered points of the locking arms 13 engage the dogs in the periphery of the plate 11 thereby preventing release of the clamp until desired. Should a general anesthetic be administered, with its resultant relaxing effect upon a patient, the patient's body is held firmly in its predetermined position until the patient regains complete nervous and muscular control. The clamp is removed by exerting upward movement to the locking arm 13, a slight inward pressure upon the arcuated arm 15 being necessary to release the tapered point of the arm 13 from its engaging dog in the plate 11. The arcuated arms 15 are then revolved outwardly and down to their vertically dependent normal positions.

A similar arrangement and application may be used in handling prisoners, rabid or hysterical persons, and the violently insane.

For use as a safety appliance in aerial passenger transportation, the arcuated arms 15 are designed to conform to the contour of that part of the anatomy it is meant to sustain. The mechanics of operation are similar to that herebefore described.

Manifestly, the construction as shown and de-

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scribed is capable of some modification and such modification as may be construed to fall within the scope and meaning of the appended claim is also considered to be within the spirit and intent of the invention.

What is claimed is:

In an arm and leg clamp, the combination comprising a mounting bar, a substantially circular plate affixed to each end of said mounting bar having spaced teeth in a segment of its periphery and further provided with a centrally disposed, internally threaded boss, an arcuated clamping arm, a clamping arm supporting member oscillatably mounted on said boss and into one end of which an end of said clamping arm is threaded, a detent pivotally connected to said supporting member, a gravity controlled locking arm integral with said detent to hold the latter

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normally in engagement with the teeth of said circular plate to hold said clamping arm against movement in one direction and means entering the internal threads of said boss to hold said clamping arm supporting member against displacement thereon.

ROGER H. GODWIN.

REFERENCES CITED

- 10 The following references are of record in the file of this patent:

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