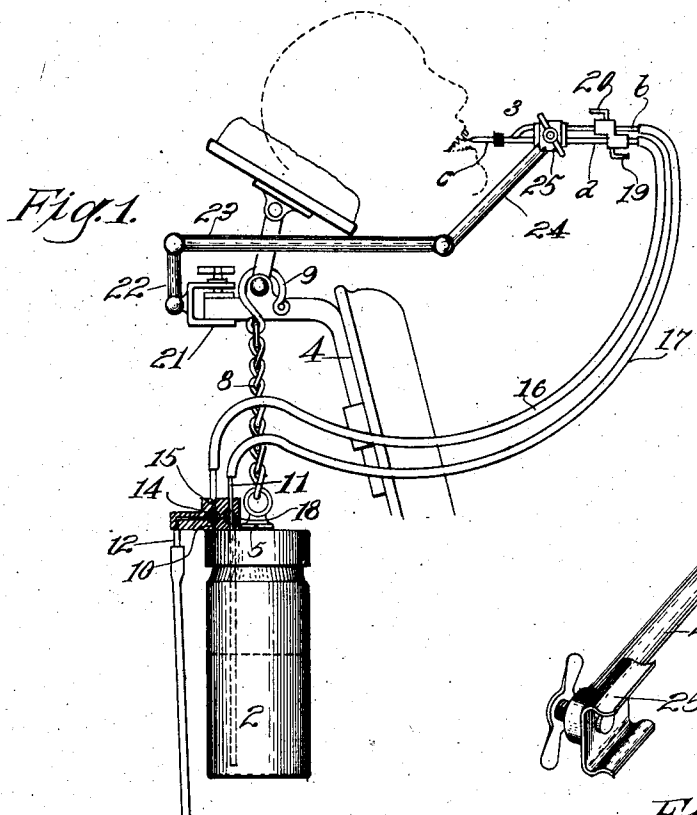
No. 834,594. PATENTED OCT. 30, 1906.

C. VAN WYCK.

OBTUNDING APPARATUS.

APPLICATION FILED MAY 7, 1906.

Fig. 1.



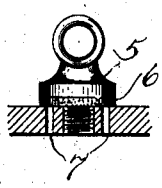
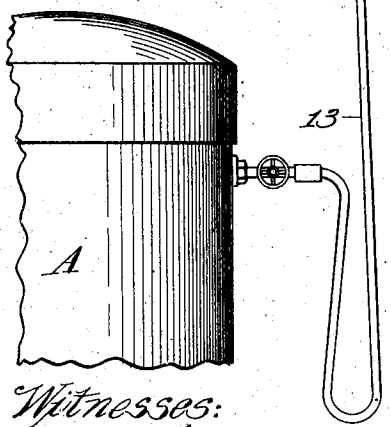


Fig. 3.

Fig. 4.



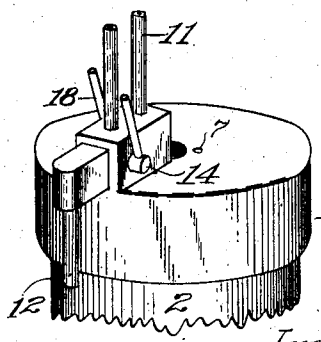


Fig. 2.

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UNITED STATES PATENT OFFICE.

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OBTUNDING APPARATUS.

No. 834,594. Specification of Letters Patent. Patented Oct. 30, 1906.

Application filed May 7, 1906. Serial No. 315,540.

To all whom it may concern:

Be it known that I, CRITTENDEN VAN WYCK, a citizen of the United States, residing in the city and county of San Francisco, and State of California, have invented new and useful Improvements in Obtunding Apparatus, of which the following is a specification.

My invention relates to obtunding apparatus for use in dental operations.

The apparatus includes, essentially, a liquid-containing reservoir to contain ether or other suitable anesthetic under pressure, an ejector, and fluid connections between the ejector and reservoir and between the ejector and a source of air-supply under pressure, whereby a finely-atomized spray of the anesthetic may be directed upon the part to be treated.

The particular purpose of my invention is to reduce expense of manufacture and installation in connection with such an apparatus and to provide an apparatus which shall take up a minimum amount of room when in use, which apparatus will not interfere with the work of the operator and which will have means for adjustably supporting the nozzle in operative position on the chair.

It has other objects and advantages which will be apparent from a more complete description of the apparatus and its method of operation.

The invention consists of the parts and the construction and the combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a view showing the application of my apparatus. Fig. 2 is a perspective view of the reservoir-top. Fig. 3 is a sectional view showing the vents in same and plug, and Fig. 4 is a perspective view of the holder.

A represents a tank or equivalent source of compressed-air supply.

2 is a container or reservoir for the anesthetic, and 3 is the ejector for spraying the anesthetic on the tooth or other part to be treated.

The reservoir and ejector are both preferably supported on the chair 4, as here shown, for the reason to be pointed out later.

The reservoir 2, while it may be of any suitable size, shape, or material, is preferably in the form of a small glass jar having a suitable metal sealed top and adapted to contain a supply of ether or other anesthetizing agent sufficient for one or more operations. The advantage of having this container of glass is that it enables the operator always to see just how much liquid there is in the jar and so be sure that he has enough to last him through the operation.

The top of the jar has a filling-opening into which screws a metal plug 5, which is provided with annular packing 6 to close over the small air-vent openings 7. The latter are provided for the purpose of allowing the air to escape when a funnel is inserted into the filling-opening of the top to fill the reservoir. When the plug 5 is screwed down, it not only closes the filling-opening, but also closes the vents 7, so as to render the reservoir air-tight. A short chain 8 is attached to an eye in the plug 5. This chain carries a hook 9, by which the jar can be hung on the back of the head-rest or other suitable support convenient to the head of the patient.

The top of the jar has an air-inlet port 10 and a liquid-pipe 11. The port 10 is connected through the short pipe-section 12 and the flexible tube 13 with the air-tank A.

A three-way cock 14, carried by the jar-top, is adapted to regulate the admission of air into the top of the jar for the purpose of creating pressure on the top of the liquid to force the latter out through the pipe 11 and also to regulate the amount of air passing through a port 15 and a flexible tube 16 to the jaw, this three-way cock being arranged, preferably, to control simultaneously the passage of air into the reservoir and the passage of air to the ejector.

The ejector preferably comprises two parallel tubes *a b*, respectively connected with the air-tube 16 and an ether-tube 17, which latter is suitably connected with the outlet-pipe 11.

The outlet-pipe 11 extends down into the liquid nearly to the bottom of the jar and is provided with a cock 18. The tubes *a b*, which have respective controlling-cocks 19 20, are joined to one another, so that the jet of liquid passing through *b* may be met by a current of air passing through *a* and discharged in the form of a fine spray through nozzle *c*. The parts *a b c* and their controlling-valves are herein spoken of collectively as the "ejector."

Any suitable means may be employed to support this ejector with respect to a patient's mouth. In a former patent I have

shown means by which the same may be supported on the head of a patient. While this is advantageous in some respects there are certain reasons why it is better to have the ejector supported entirely independent of both the patient and the operator, and therefore I have here shown the ejector as supported on the head-rest or other convenient part of the chair. This support is here represented as comprising a removable clamp member 21 and the articulated adjustable members 22 23 24 25. The members 22 23 24 are in the form of short links having suitable adjustable ball-and-socket connections which permit them to turn in a great variety of ways, so as to bring the holding member 25 around into proper position with respect to the patient's mouth, and enable the ejector to be held in the desired fashion.

The holder 25 consists of a spring-clip adjustably pivoted to the arm 24 and is adapted to embrace and hold rigidly the ejector. The part 25 is independently adjustable, so that the ejector may be pointed either up or down, according as it is desired to work on the upper or lower teeth. The lateral adjustment of the drill afforded by the swiveled movements of the parts 22 23 24 allow the spray to be directed and to be maintained upon any given tooth and from any position. This means of holding the ejector independent of both patient and operator allows the operator the entire and free use of his hands and enables him to so position the ejector as not to interfere with the free movements in all directions of the drill-point. The importance of this in dental operations is very great.

Among the advantages of my apparatus which may be enumerated are its extreme simplicity, neatness, and compactness. By having the ether-reservoir attached directly to the chair a very considerable saving in rubber tubing is effected. Making the jar of glass enables the operator to see at a glance whether he has liquid enough for an operation. By using a three-way air-cock, as 14, the control of air both to the ether-reservoir and to the ejector is controlled by a single movement of the hand in one direction or the other.

The support of the ejector independent of both the operator and the patient is relieving to both and permits of the most delicate workmanship on the part of the operator. Also it enables the drill-point to be changed or for the operator to turn from the tooth under operation and give his attention elsewhere for a few minutes without necessarily removing the spray from the tooth, and so allow the latter to return to its normal sensitive temperature, as it is certain to occur where the ejector is supported on the headpiece.

The articulated supporting-arm comprising the members 22 23 24 is quickly taken off or put on the chair, and this arm, together with the swiveled holder 25, has such a wide range of adjustment as to permit the ejector to be inserted into the mouth or positioned with respect to the mouth to direct the spray in any desired direction.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In obtunding apparatus, the combination with a chair, of an ejector, means for adjustably supporting the ejector on the chair with respect to the patient's mouth, and suitable connections with the ejector for the anesthetizing agent.

2. In obtunding apparatus, the combination with a chair, of an ejector, means for adjustably supporting the ejector on the chair with respect to the patient's mouth, and suitable connections between the ejector and the anesthetizing agent, said ejector-supporting means comprising an adjustable articulated removable arm.

3. In obtunding apparatus, the combination with a chair, of an ejector, means for supporting the ejector directly on the chair, a reservoir for the anesthetic supported on the chair, connections between said reservoir and the ejector, connections with said reservoir for a suitable source of air-supply, and connections between the ejector and a source of air-supply.

4. The combination with a chair, of an ejector, means for supporting said ejector directly on the chair, said means comprising a clamp member removably secured to the chair, a jointed arm carried by the clamp member, and a pivoted holder for the ejector on the arm, and connections with the ejector for a suitable anesthetizing agent.

5. In obtunding apparatus, the combination with a chair, of an ejector having separate air and ether passages, a reservoir having means for removably attaching it to the chair, said reservoir having an air-inlet and a liquid-outlet, connections between said liquid-outlet and the ether-passage of the ejector, connections between the air-passage of the ejector and said air-inlet, a three-way cock in said air-inlet and controlling simultaneously the admission of air to the reservoir and the delivery of air to the ejector, and connections between said air-inlet and a source of compressed-air supply.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CRITTENDEN VAN WYCK.

Witnesses:
HENRY P. TRICOU,
S. H. NOURSE.