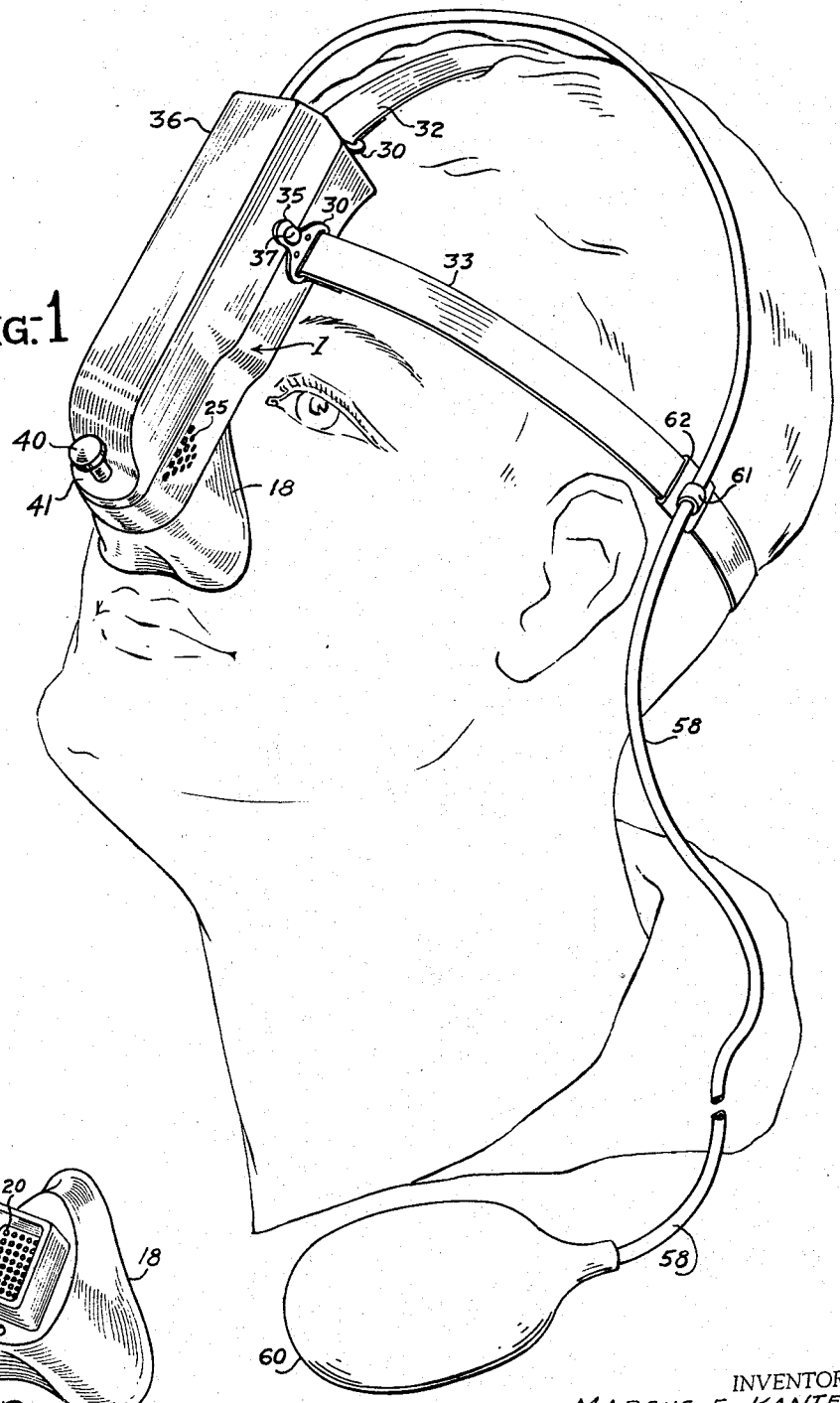
Aug. 11, 1942. M. E. KANTER ET AL 2,292,568

ANALGESIA DEVICE

Filed July 8, 1941 2 Sheets-Sheet 1

FIG. 1



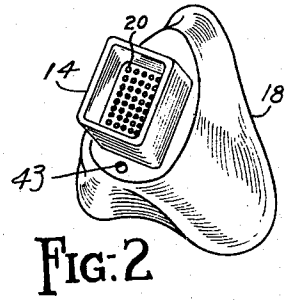


FIG. 2

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ANALGESIA DEVICE

Filed July 8, 1941 2 Sheets-Sheet 2

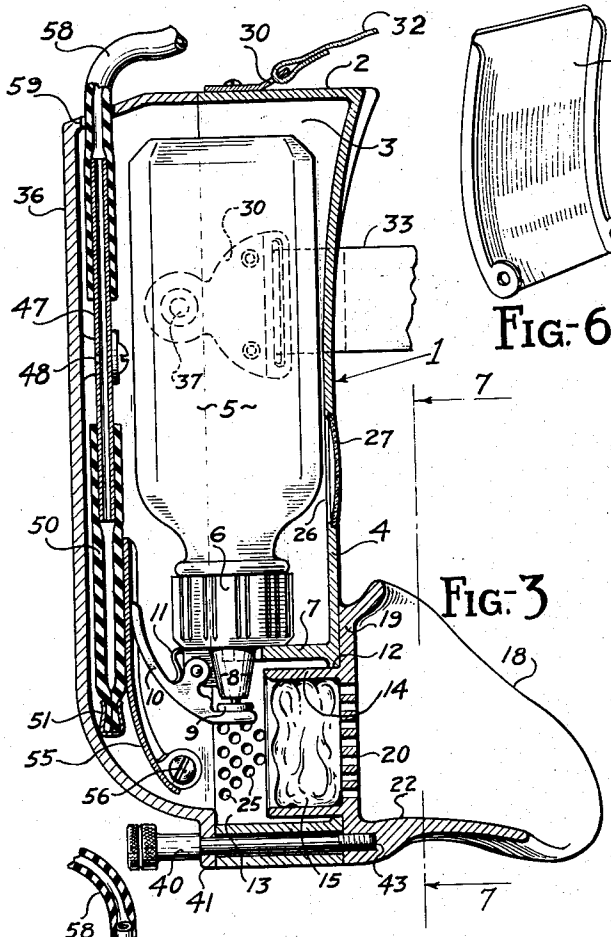

FIG. 3

FIG. 6

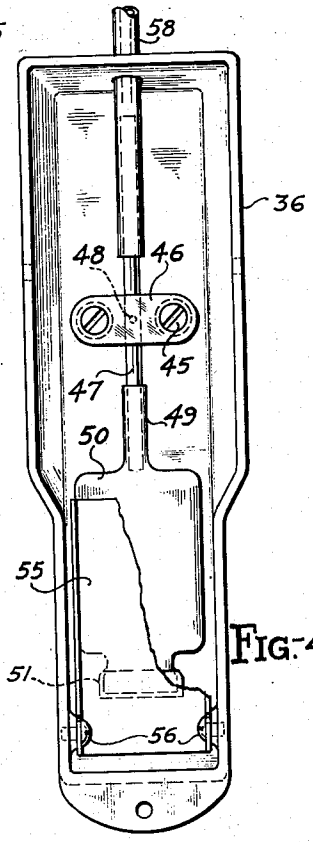

FIG. 4

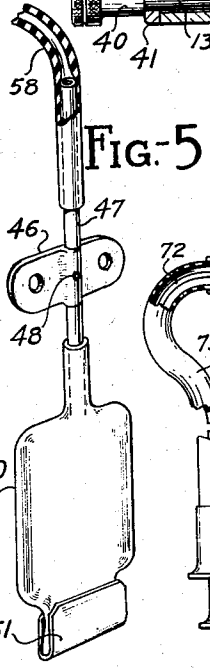

FIG. 5

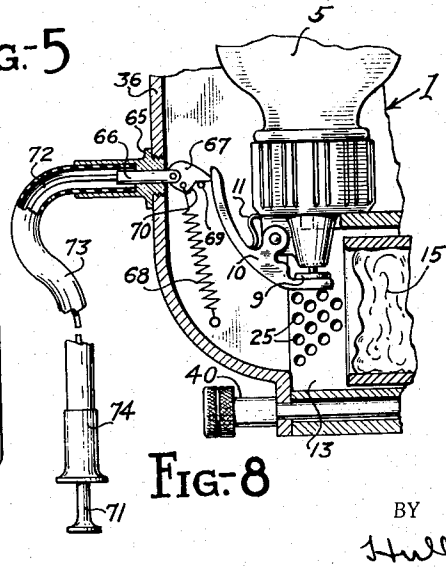

FIG. 8

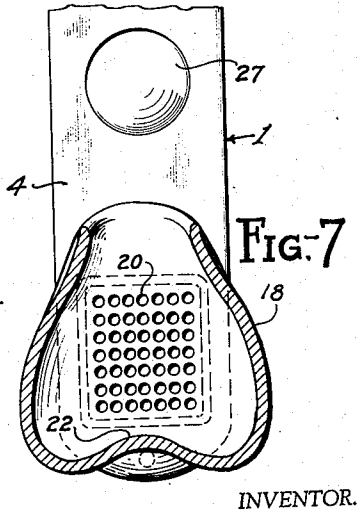

FIG. 7

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UNITED STATES PATENT OFFICE

2,292,568

ANALGESIA DEVICE

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Cleveland, Ohio

Application July 8, 1941, Serial No. 401,454

13 Claims. (Cl. 128—198)

Our invention relates to a device for the self-administration of an analgesic agent, such as ethyl chloride or other highly volatile fluid that is suited to the purpose.

Analgesia, which may be described as an early, arrested stage of anesthesia, and which is characterized by the relief of pain while consciousness is retained, is being used to a constantly increasing extent in dental and surgical operations aside from those of the major class requiring complete anesthesia, and when self-administered has not only the psychological benefit of keeping the patient interested and his mind occupied by a sense of cooperation, but it has the more practical advantage of allowing the patient to arrest application at the proper stage before the excitement period is reached and insures against overdosage by reason of the fact that when a proper stage has been attained the patient relaxes and is devoid of such physical activity as would be required to continue the application.

Heretofore, however, in the self-administration of the analgesic agent, relatively large fear-inspiring machines or apparatus have been employed, which had to be shifted about on the floor, and involving tanks, tubes, valves, etc., or contrivances have been used which are more or less make-shift or require attention, valve adjustment and control quite unadapted to a patient's handling.

The fundamental purpose of our invention is to provide a relatively small and compact device, that is light of weight, which may be applied directly to the head of a person and held in place by a comfortable headgear that is convenient of adjustment, and which device consists of a self-contained unit including a dispensing receptacle or container for a liquid analgesic agent and a remote actuator for effecting the discharge of the agent from the receptacle whereby a dental patient, for example, may sit in a dental chair with his head reclining against the headrest in the usual manner and, with the device attached to his head and the actuator in his hand, administer the analgesic by a simple manipulation, repeating the operating at any time he feels resumption of pain. In the use of the device, the patient is unhampered in his movements by the presence of the device, and with customary freedom may wash out his mouth, drink, expectorate and talk. The operator is likewise unhindered in his work, the mouth of the patient being entirely uncovered and freely accessible and capable of normal movements.

A further object of the invention is to provide a thoroughly reliable device of the aforesaid character that incorporates a simple safety feature which insures against overdosage in case the patient should involuntarily retain a prolonged grip on the actuating element.

Another object is to provide a self-contained analgesia device resembling in size and general character a nasal inhaler, and which provides for free and easy breathing, ample air supply, and wherein the nose cap is so shaped as to properly serve with noses of various sizes and contours within a wide range and which is designed to so cooperate with the under side of the nose as to positively avoid obstructing or shutting off the nostrils.

Another and very important object of our invention is to provide, in a device of the character aforesaid, a nose cap that may be readily detached for sterilizing purposes and which desirabily incorporates a retainer for a pack of gauze or other suitable absorbent material to which the analgesic is delivered so that the absorbent may be changed each time the nose cap is replaced. Thus it will be seen that the only parts requiring sterilization and replacement are readily separable and accessible.

A further object of the invention is to provide an analgesia device wherein the analgesic is protected from light, since certain volatile fluids suited to this purpose, such as ethyl chloride, better retain their effectiveness if kept in the dark.

Another object is to provide a device of the above mentioned character wherein a glass bottle, equipped with the customary cap including a self-closing valve, may be used as the dispensing receptacle or container for the analgesic agent; and a still further object is to provide a sight opening in the device through which the contents of the bottle is visible thereby to indicate when replenishment of the supply is necessary.

An additional object is to provide an analgesic device that comfortably fits the forehead of a person and extends down over and about the nose, and which is relatively narrow where it is disposed between the eyes so as not to obstruct vision.

The foregoing objects, with others hereinafter appearing, including simplicity of construction, economy of production, and absence of adjustments and controls, are attained in the embodiment of the invention illustrated in the accompanying drawings; and while, by the use of reference characters, we shall proceed to describe

said embodiment in detail, it will be understood that we do not limit ourselves to the illustrated structure further than required by the terms of the claims appended hereto.

In the drawings, Fig. 1 is a perspective view showing our improved analgesic device attached to the head of a person; Fig. 2 is a similar view of the detached nose cap and shows the absorbent retainer as an integral part thereof; Fig. 3 is a central longitudinal section of the device; Fig. 4 shows the cover of the casing removed and as viewed from its open side and reveals the operating mechanism therein, a part of the flapper through which the valve lever of the analgesic dispensing receptacle is actuated being broken away; Fig. 5 is a perspective view of a part of the operating mechanism detached from the cover; Fig. 6 is a perspective view of the flapper that constitutes a part of said mechanism; Fig. 7 is a section on the line 7—7 of Fig. 3, and Fig. 8 is a sectional detail showing a modification of the mechanism for operating the valve of the analgesic dispensing receptacle.

The device comprises a relatively narrow open front casing that is designated generally by the reference numeral 1, the approximate size of which may be ascertained by a comparison thereof with the person's head in Fig. 1. The casing includes a top wall 2, side walls 3 and a rear wall 4. The side walls 3 are spaced far enough apart throughout the upper portion of the casing to accommodate between them a dispensing receptacle or container 5. This receptacle or container desirably consists of a standard glass bottle adapted to be placed within the casing in an inverted position so that the screw cap 6 thereof rests upon a horizontal partition 7 that is notched at its forward edge to receive the nozzle 8 of the cap through which the analgesic is adapted to be discharged when a valve 9 is removed from the end of the nozzle through the action of a lever 10 that is pivotally connected to a lug of the cap and is urged in a direction to maintain the valve closed by a spring 11.

Adapted to be extended through an opening 12 in the rear wall of the casing 1, so as to be disposed in an air passage 13 below the partition 7, is what may be termed a retainer 14, the same being in the nature of a rectangular wall or enclosure for a loose, porous pack or body 15 of absorbent material, such as a folded strip or sheet of gauze. The retainer 14 is carried by, and is shown as an integral part of, a nose cap designated generally by the reference numeral 18, the front wall 19 of which fits against the rear wall of the casing when the retainer 14 is projected through the opening 12. The wall 19 is provided with air conducting means or what is, in effect, a screened opening, between the space occupied by the pack 15 of absorbent material and the interior of the nose cap, the said means being constituted of closely spaced perforations 20. The cap 18 is shaped to enclose the lower portion of the nose and to bear on the face about such portion and to cross the nose at the relatively soft part of the front thereof so that the cap will serve for use with noses of various sizes and shapes within a relatively large range and shut off the admission of air about the edge of the cap. The only point where the cap is liable not to fit some noses is across the front of the nose below the bridge, and in instances where this occurs the space may be filled with a small wad of gauze, absorbent cotton, or the like. The bottom of the nose cap is formed to provide a central ridge 22 that extends from front to rear and which presses upwardly on the central portion of the under side of the nose, when the device is strapped to the head, and the effect on the nose is to keep the nostrils distended, thereby enhancing free breathing. The depressions on the opposite sides of said central ridge 22 insure against obstructing or shutting off of the nostrils.

The side walls 3 adjacent the lower end of the casing 1 are provided with air openings 25; and the rear wall 4 has a sight aperture 26 that is desirably closed by a lens 27 of suitable transparent material, desirably a non-breakable plastic, and through which the contents of the receptacle or container may be observed.

Shown as secured to the top wall 2 and side walls 3 of the casing 1 are the base portions of metal loops 30 to which are attached the ends of bands 32 and 33 that extend over and about the head of the person and are adjustable to heads of different sizes, as by including slides, buckles, or elastic sections, or a combination thereof. The adjustability of the bands being such an obvious expedient, detailed illustration is deemed unnecessary.

The base portions of the metal loops 30 that are applied to the side walls 3 are formed with forwardly projecting apertured ears 35, and a cover 36 is fitted to the front of the casing between the ears 35 and is held in place partially by screws 37 that are extended through the apertures of the ears 35 and are screwed into tapped holes in the sides of the cover, said screws desirably having ornamental spherical heads. Also serving to hold the cover to the casing is a thumb screw 40 having a relatively long shank that is projected through a hole in a lug 41 that forms the lower terminus of the cover and through a bore in the thickened bottom wall of the casing and is screwed into a tapped hole 43 of the nose cap, the screw 40 thus serving not only to bind the cover and casing together, but to detachably connect the nose cap to the casing.

Fastened to laterally spaced lugs on the inner side of the front wall of the cover 36, as by screws 45, is a bridge plate 46 to which is secured a conduit 47, having a small port 48 that is preferably located on the front side of the conduit within the width of the plate 46. Stretched over the lower end of the conduit so as to have an air-tight connection therewith is a neck 49 of a sack 50 of rubber or the like that is shown as closed at its end remote from the neck 49 by a metal clip 51. The sack is made open at said end to facilitate manufacture. The sack constitutes a sort of expanding diaphragm that is confined between the front wall of the cover and a flapper 55 that is pivotally connected to the side walls of the cover adjacent the lower end thereof, as indicated at 56. The flapper 55 overlies or extends alongside the end of the lever 10 that controls the valve 9 of the analgesic dispensing receptacle or container 5.

One end of a rubber tube 58 is led in through a hole 59 in the top of the cover 36 and is stretched over the upper end of the conduit 47 for an air-tight connection therewith, and the opposite end of the tube has attached to it a bulb 60. The tube 58 is long enough to allow a person, with one of his hands lying in his lap or resting on the arm of the dental chair, or at his side if in a recumbent position, to hold the bulb

60 comfortably in the hand; and to retain the portion of the tube 58 adjacent the head in a convenient position the tube may be extended through an eye 61 on a slide 62 that is mounted on the head band 33.

In the use of the device, it is attached by the bands 32 and 33, in the manner illustrated in Fig. 1, to the head of a person on whom some dental or other operation is to be performed. As appears from Fig. 3, the upper portion of the rear wall of the casing 1 is curved laterally and longitudinally so as to properly fit the forehead. Also, by reason of the fact that the connections of the bands 32 and 33 are adjacent its rear side, the device is held firmly but comfortably on the head against lateral or longitudinal rocking movement, the nose cap 18 nicely supporting the lower end of the device through its relatively broad purchase against the face. With the device thus applied and the bulb 60 held comfortably in his hand, the person may squeeze the bulb and in so doing causes an inflation of the sack 50 which depresses the flapper 55 and rocks the lever 10 against action of the spring 11 to lift the valve 9 from the end of the nozzle 8. The highly volatile nature of the liquid analgesic causes an appreciable vapor pressure to prevail in the container, and this pressure ejects a quantity of the liquid through the nozzle when the valve is opened; and by reason of the inclination of the device as it rests on the head of the wearer, the liquid analgesic drops onto the pack 15 of absorbent material and is immediately diffused therein. While liquids of the kind in question are volatile by their very nature, feeding of the liquid in our case is not dependent on the vapor pressure, because of the inverted position of the receptacle or container. Instantly upon the compression of the bulb 60 and the resultant creation of air pressure throughout the lengths of the tube 58 and conduit 47 and within the sack 50, the air begins to escape through the relatively small port 48 in the conduit 47, and as a consequence the sack immediately after performing its function relaxes, allowing the lever 10 and the flapper 55 to resume their former positions through the action of the spring 11, thus effecting the closing of the valve 9. This action insures against overdosage, and while the same result might be accomplished in the absence of the port 48 by the person sensibly relaxing his grip on the bulb 60, should the person, on the other hand, in the state of analgesia, involuntarily retain a grip on the bulb, the effect thereof would instantly be lost by reason of the escape of air through the port 48 and the supply of the analgesic would automatically be shut off.

As the person breathes, air is drawn in through the air openings 25 into the passage 13 and thence through the saturated pack 15, becoming laden with the analgesic vapors. The mixture then passes on through the screened opening provided by the perforations 20 into the nose cap and is inhaled by the person, and as a result of a few successive operations of the device, the person passes into the first stage of analgesia, preceding the less desirable stage of excitement. The dental or other operation is then proceeded with while the person is conscious yet insensible to pain; and when the person feels the recurrence of pain and is thus informed that the analgesic is losing its effect, he repeats the performance above described until he again relapses into a proper stage of analgesia.

After the device has been used, the operator removes the thumb screw 40, thus releasing the nose cap; and upon removal of the nose cap for sterilizing purposes, he withdraws the pack 15 from the retainer 14 and discards it. After sterilization of the nose cap and before the device is again used, a fresh pack 15 is placed within the retainer 14 and the nose cap re-applied to the casing and the screw 40 inserted and tightened to hold the parts firmly together.

While we have shown pneumatic means for actuating the valve 9, it will be readily understood that other means may be utilized for effecting momentary opening of the valve from a remote point such, for example, as the flexible contrivance used for operating camera shutters. In fact, use of such a contrivance in an experimental model of our device proved its practicability.

An embodiment of the invention incorporating actuating means of the kind just referred to is illustrated in Fig. 8. Where parts appearing in the previous views are duplicated in Fig. 8, they are designated by the same reference characters. Shown as screwed through an aperture in the front wall of the cover 36 is a fitting 65 within which a plunger 66 is guided. To the inner end of the plunger 66 is pivoted a finger 67 that normally reposes in a position to engage the end of the lever 10 of the valve 9. A spring 68 holds the finger 67 in contact with a pin 69 that is supported by the cover 36 and wherewith is adapted to engage a cam portion 70 of the finger when the latter is thrust rearwardly to operate the lever 10. This rearward movement of the finger occurs when the plunger 66 is projected rearwardly by the depression of a button 71 to which the plunger is connected through a wire or the like 72. The wire is sheathed in a flexible casing 73 that has one of its ends attached to the fitting 65 and its opposite end connected to a tubular head 74 that is common to such contrivances and is adapted to be held between the fingers when depressing the button 71 by means of the thumb. It is understood that, following the usual practice, a spring (not shown) is incorporated in the contrivance for retracting the plunger 66 projecting the button 71. When the plunger 66 is retracted, the finger 67 is in the position shown in Fig. 8. Now, upon depression of the button, the plunger 66 will be projected and the finger 67 thrust rearwardly. The initial rearward movement of the finger swings the lever 10 on its pivot enough to open the valve 9 and release a small quantity of the analgesic, but almost instantly the finger is deflected away from the lever by the engagement of the cam portion 70 with the pin 69, thereby to permit the spring 11 to swing the lever 10 in a direction to close the valve 9. When the button 71 is released and is returned to normal position by the previously mentioned spring (not shown), the plunger 66 and finger 67 will return to their normal positions. Thus, upon each depression of the button 71, a small quantity of the analgesic will be discharged from the container into the passage 13, or, more accurately, onto the pack 15.

Having thus described our invention, what we claim is:

1. A self-contained analgesia device comprising a relatively narrow casing adapted to rest with its upper end portion on the forehead of a per-

son and to extend down over the nose and being of such length that when properly engaged with the forehead its lower end terminates slightly beyond the under side of the nose, a nose cap extending rearwardly from the lower end portion of the casing with the underneath surfaces of the nose cap and casing in substantially the same plane, the casing enclosing an air passage wherewith the nose cap communicates, a dispensing receptacle for a liquid analgesic, the same having a discharge opening and being arranged within the casing with said opening in a position to deliver the analgesic to said passage, a valve controlling said opening and biased toward closed position, means exterior of the casing for operating said valve, and means for holding the device to the head of a person so that the same is supported solely by and is movable freely with the head.

2. A self-contained analgesia device comprising a relatively narrow casing adapted to rest with its upper end portion on the forehead of a person and to extend down over the nose and being of such length that when properly engaged with the forehead its lower end terminates slightly beyond the under side of the nose, the casing enclosing an air passage, a nose cap engaged with the rear side of the lower end portion of the casing, the casing and nose cap having openings through which said passage and the interior of the nose cap communicate, the underneath surfaces of the nose cap and casing being in substantially the same plane, means detachably connecting the nose cap to the casing, a dispensing receptacle for a liquid analgesic having a discharge opening and arranged within the casing with said opening in discharging relation to the aforesaid passage, a valve controlling said opening and biased toward closed position, means exterior of the casing for operating said valve, and means for holding the device to the head of a person so that the same is supported solely by and is movable freely with the head.

3. A self-contained analgesia device comprising a relatively narrow casing adapted to rest with its upper end portion on the forehead of a person and to extend down over the nose and being of such length that when properly engaged with the forehead its lower end terminates in approximately the plane of the underside of the nose, the casing enclosing an air passage, a nose cap extending rearwardly from the lower end portion of the casing and communicating with said passage, the underneath surfaces of the nose cap and casing being in substantially the same plane, a dispensing receptacle for a liquid analgesic having a discharge opening and arranged within the casing with said opening in discharging relation to the aforesaid passage, a valve controlling said opening and biased toward closed position, means exterior of the casing for operating said valve, a head gear adapted to be fitted to the head of the person, and means extending laterally from the upper end portion of the casing adjacent its rear side to which parts of the head gear are connected thereby to firmly hold the device to the head.

4. A self-contained analgesia device comprising a relatively narrow casing adapted to rest with its upper end portion on the forehead of a person and to extend down over the nose and being of such length that when properly engaged with the forehead its lower end terminates in about the plane of the under side of the nose, the casing enclosing an air passage adjacent its lower end, a nose cap engaged with the rear side of the lower end portion of the casing, the casing and nose cap having openings through which said passage and the interior of the nose cap communicate, the underneath surfaces of the nose cap and casing being in substantially the same plane, means detachably connecting the nose cap to the casing, a dispensing receptacle for a liquid analgesic having a discharge opening and arranged within the casing with said opening in discharging relation to the aforesaid passage, a valve controlling said opening and biased toward closed position, means exterior of the casing for operating said valve, a head gear adapted to be fitted to the head of the person and to which the casing is attached, and a retainer on the nose cap for removably supporting a pack of absorbent material and disposing it in receiving relation to said discharge opening when the nose cap is applied to the casing.

5. A self-contained analgesia device consisting of an elongated casing including a nose cap, means for securing the casing to the head of a person with its upper end resting upon the forehead and said cap engaged over the nose and so that the casing is supported solely by and is movable freely with the head, the casing being constructed to provide a passage through which air is supplied to the nose cap, the cap being adapted to be fitted to the face and nose in such manner as to preclude leakage of air about its edge, a bottle adapted to contain liquid analgesic and that is completely enclosed within the casing, the bottle being equipped with a cap having a valved outlet and being arranged to deliver the analgesic to said passage, mechanism within the casing for effecting momentary opening of the valve and consequential delivery of a limited amount of the analgesic to said passage, an actuator adapted to be located remote from the casing in convenient reach of the person's hand, and flexible connections between the actuator and said mechanism whereby the latter may be operated by the former.

6. A self-contained device consisting of a casing, and a nose cap separated therefrom, means for securing the device to the head of a person so that the device is supported solely by and is movable freely with the head with the nose cap engaged over the nose of the person, the casing being constructed to provide a passage through which air is supplied to the nose cap, a bottle adapted to contain liquid analgesic and that is completely enclosed within the casing, the bottle being equipped with a cap having a valved outlet and being arranged so that said outlet directs the analgesic to said passage, a pack of absorbent material in said passage in receiving relation to the supply of analgesic, the same being accessible for replacement when the nose cap is removed, means detachably connecting the nose cap to said body portion, mechanism within the casing for effecting delivery of the analgesic to said pack, an actuator adapted to be located remote from the unit in convenient reach of the person's hand, and flexible connections between the actuator and said mechanism whereby the latter may be operated by the former.

7. An analgesia device consisting of a casing, a glass bottle completely enclosed by said casing and adapted to contain a liquid analgesic and incorporating a valve for controlling the discharge of the analgesic from the bottle, a nose cap carried by the casing, the casing including a passage into which the analgesic is delivered and

wherewith the nose cap communicates and being provided with air admission means for conducting air to said passage and being otherwise closed excepting through the nose cap, the casing having a sight aperture through which the contents of the bottle is visible, a transparent closure for said aperture, means for attaching the casing to the head of a person with the nose cap engaged over the nose, and mechanism including an actuator exterior of the casing for opening the valve of the container.

8. An analgesia device comprising a casing having an opening on its rear side adjacent its lower end and enclosing an air passage wherewith the opening communicates, a nose cap detachably connected to the rear side of the casing and having an air inlet opening that communicates through the former opening with said air passage, means for attaching the casing to the head of a person with said cap engaged over the person's nose and the upper end of the casing overlying the forehead of the person, a dispensing receptacle for a liquid analgesic supported within and entirely enclosed by the casing in a position to deliver the analgesic to the air passage, a valve controlling the delivery of the analgesic, mechanism within the casing for operating the valve, and an actuator remote from the casing having operative connection with said mechanism.

9. An analgesia device consisting of a casing enclosing an air passage in the lower portion thereof and having an opening in its rear wall leading into said passage, a nose cap detachably connected to the casing and having air conducting means through which it communicates with the air passage, a dispensing receptacle for a liquid analgesic having a discharge opening and supported within and entirely enclosed by the casing with said opening in a position to deliver the analgesic to said passage, a closure for said opening controlling said delivery, a pack of absorbent material, a retainer therefor carried by the nose cap for supporting the pack in receiving relation to the discharge opening of the dispensing receptacle, means detachably connecting the nose cap to the casing, means within the casing for operating the aforesaid closure, an actuator remote from the casing and operatively connected to said mechanism, and means for attaching the casing to the head of a person with its upper end overlying the forehead and with the nose cap engaged over the nose of the person.

10. An analgesia device comprising an open front casing enclosing an air passage adjacent its lower end and provided with an opening in its rear wall leading to said passage, a bottle for a liquid analgesic supported in an inverted position within the casing, the bottle being provided with a cap having an outlet opening and equipped with a valve normally closing the same, a nose cap applied to the rear side of the casing and communicating with said air passage through the first mentioned opening, an analgesic sustaining and diffusing means adapted to be placed in and removed from the air passage through the latter opening, a cover for the open side of the casing, means detachably connecting the cover to the casing, means similarly connecting the nose cap to the casing, the bottle being completely enclosed by the cover and casing mechanism for operating the aforesaid valve, an actuator remote from the casing and operatively connected to said mechanism for causing the latter to momentarily open and then effect the closing of the valve upon each operation of the actuator, and means for attaching the casing to the head of a person with its upper end overlying the forehead and the nose cap engaged over the nose of such person.

11. An analgesia device comprising a casing that is open on its front side from top to bottom and enclosing an air passage adjacent its lower end and provided with an opening in its rear wall leading to said passage, a bottle removably supported in an inverted position within the casing, a cap for the bottle provided with an outlet opening and equipped with a valve normally closing the same, a nose cap applied to the rear side of the casing and having air conducting means communicating with said passage through the first mentioned opening, a pack retainer carried by the nose cap and projecting through the latter opening into an air passage of the casing, a pack of absorbent material supported by said retainer so that air passing from said passage to said air conducting means is obliged to penetrate said pack, a cover for the open side of the casing, means detachably connecting the cover to the casing, means similarly connecting the nose cap to the casing, the aforesaid bottle being completely enclosed by the cover and casing mechanism within and carried by the closure for operating the aforesaid valve, an actuator remote from the casing and operatively connected to said mechanism, and means for attaching the casing to the head of a person with its upper end overlying the forehead and the nose cap engaged over the nose of such person.

12. An analgesia device comprising an open front casing having a transverse partition dividing a bottle compartment thereabove from an air passage therebelow, the rear wall of the casing having a relatively large opening that leads into said passage, a bottle for a liquid analgesic, the same being provided with a cap having a discharge opening and equipped with a valve controlling the discharge of the analgesic through said opening and including an operating element biased in a direction to close said valve and movable in the opposite direction to effect the opening of the valve, a nose cap for application to the rear side of the casing and having a projecting part extending through the aforesaid opening into the air passage of the casing, said part constituting a pack retainer, a pack of absorbent material supported by the retainer in a position to receive the analgesic from said bottle, the nose cap having perforations within the area of said pack so that air drawn into the nose cap from the aforesaid passage is obliged to penetrate said pack, means adjacent the upper portion of the casing for detachably connecting the cover to the casing, the lower end of the cover and casing having aligned bores and the nose cap a threaded hole registering with the bore of the casing, a screw projecting through the bores of the cap and casing and threaded into the hole of the nose cap for holding the parts together, a flapper pivotally supported adjacent the bottom of the cover and overlying the operating element of the aforesaid valve, an expansible element confined between a wall of the cover and said flapper, a conduit communicating with said expansible element, said conduit having a small exhaust port, a relatively long flexible tube connected to the end of the conduit opposite the expansible element and extending through a cut-away portion of the cover to the exterior thereof, and a bulb attached to the end of the tube remote from the conduit.

13. An analgesia device comprising a casing enclosing an air passage, a nose cap communicating with said passage, a dispensing receptacle for a liquid analgesic, the same having a discharge outlet and being arranged to deliver the analgesic to said passage, valve means controlling said outlet and including an operating element biased in a direction to close the valve and movable in the opposite direction to open the same, a pivotally supported flapper overlying the operating element, an expansible element supported in a position to swing the flapper on its pivot when expanded, an actuator remote from the casing for creating air pressure, air conducting means including a relatively long flexible tube through which the expansible element and actuator communicate, the conducting means, expansible element and actuator thus forming an intercommunicating system, the same being provided with venting means of small capacity and being otherwise closed, and means for attaching the casing to the head of a person with the nose cap engaged over the nose of such person.

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