May 6, 1941. A. A. BURKE 2,241,292

SWIMMING APPLIANCE

Filed May 13, 1939

Fig. 1.

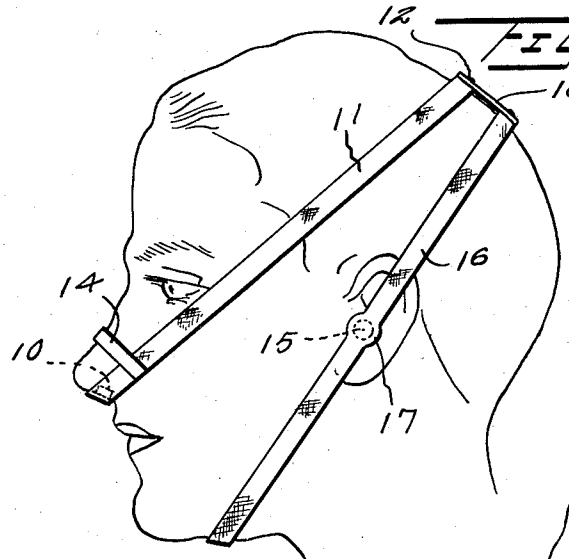


Fig. 2.

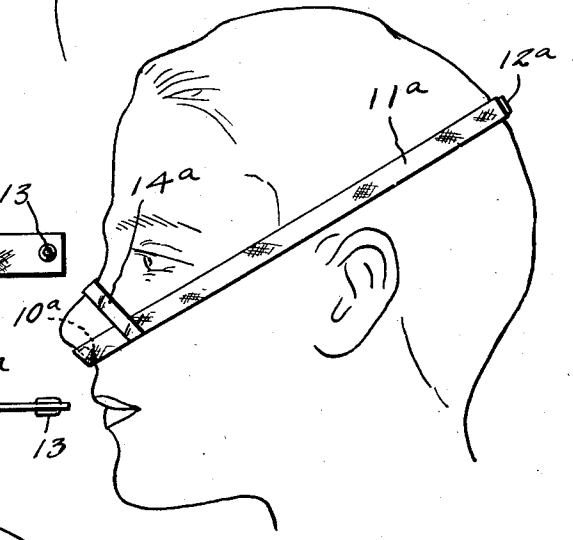


Fig. 4.

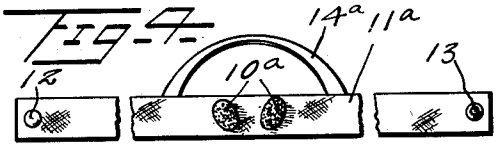


Fig. 5.

Fig. 3.

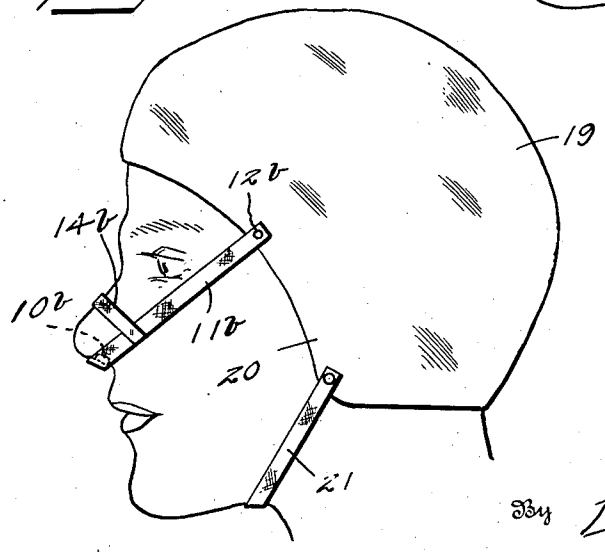
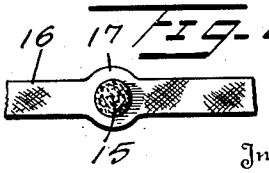


Fig. 6.



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2,241,292

UNITED STATES PATENT OFFICE

2,241,292

SWIMMING APPLIANCE

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Application May 13, 1939, Serial No. 273,565

2 Claims. (Cl. 128—132)

This invention relates to swimming appliances and more particularly to a means for preventing water from entering the nostrils.

An object of this invention is to provide a means engageable in the nostrils of a swimmer to prevent entrance of water in the nostrils and thereby eliminate the possibility of an acute infection in the Eustachian tube.

At the present time swimming pools are diluted with a disinfecting means which while effective as a disinfectant in the water has the effect of irritating and infecting the nasal chambers resulting in an acute otitis media suppurative which also results in mastoiditis and infections in the ear. It is therefore another object of this invention to provide a means to prevent water from entering the nostrils and also from entering the chambers of the ear so as to thereby eliminate any irritation or infection of the nostrils or the ear.

In many cases the infections resulting from irritation or infection of the nasal chambers or ear passages result in eczematous irritations from which boils in the ear are developed. With a device constructed according to this invention however, the water is prevented from entering the nasal chambers or passages and also from entering the ear chambers or passages, thus eliminating the source of infection in both the nasal chambers and in the ear.

A further object of this invention is to provide a device of this character which can either be used alone for the purpose of preventing entrance of water into the nostrils or may be used in combination with a swimming cap or if desired, may also be used in combination with a device engageable with the ears to prevent entrance of water into the ears.

A still further object of this invention is to provide a pair of substantially elastic or soft cushioning pads or plugs which are adapted to project partly into the nostrils, the device being formed of deformable material which will readily adapt itself to the configuration of the nostrils so as to tightly close the openings and thereby prevent entrance of water into the nostrils.

To the above objects and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawing wherein are shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a detail side elevation of a device constructed according to an embodiment of this invention, the device being shown in applied position,

Figure 2 is a modified form of this invention in applied position,

Figure 3 is a detail side elevation of a further modification of this invention in applied position,

Figure 4 is a plan view of the nostril closing device partly broken away,

Figure 5 is a detail side elevation of the structure shown in Figure 4, and

Figure 6 is a fragmentary view from the inside of the ear closing device.

Referring to the drawing and first to Figure 1, the numeral 10 designates generally a plug which as shown in Figure 4 is substantially elliptical in plan, being generally shaped to substantially the configuration of the nostrils. The plug 10 is formed of substantially soft resilient material which is readily deformable and preferably water-proof so that when the plug 10 is in applied position the plug 10 will close one of the nostrils. There are two of these plugs 10 which as shown in Figure 4 are disposed in forwardly convergent relation and these plugs 10 are adhesively or otherwise fixedly secured at one end to the inner face of an elongated elastic strap 11. That part of the strap 11 to which the plugs are secured is termed the central portion or stretch of said strap. The plugs 10 are disposed in spaced relation and arranged on opposite sides of the transverse median of strap 11. The plugs 10, when the appliance is used, extend rearwardly at an upward inclination from their secured ends and said ends are termed the forward ends of the plugs. The central stretch or portion of strap 11 is termed a carrier part and when the appliance is used extends across and abuts the lower end of the nose of the wearer.

The strap 11 is provided at one end with one part 12 of a snap fastener and the opposite end of the strap 11 is provided with a second part 13 of a snap fastener so that the strap 11 may engage about the head of the wearer as shown in Figures 1, 2 and 3 and the snap fasteners 12 and 13 may either engage each other or engage complementary devices carried by a cap as shown in Figure 3. The strap 11 at a point rearwardly from the plug 10 is provided with an elastic strap 14 which engages over the bridge of the nose. This strap 14 has the inner faces of its terminal

portions extend transversely of horizontally aligned spaced portions of the outer face of strap 11 in proximity to the plugs 10. The said terminal portions of the strip 14 are adhesively secured to the strap 11 and the said strip 14 constitutes a holding means for the strap 11 so as to prevent downward movement of the strap when in applied position.

A second pair of plugs 15 are secured to an elongated elastic strap 16 which is adapted to engage about the head of the wearer and also beneath the chin. These plugs 15 have a configuration substantially coincident with the ear passage and are readily deformable so that they will snugly engage in the ear channel and close the channel against the entrance of water. Preferably, the strap 16 is provided with an enlargement 17 adjacent each plug 15 so that the strap 16 may be quite narrow.

The two straps 11 and 16 are connected together on the top of the head by a connecting strap 18 which may be adhesively secured to each strap 11 and 16 adjacent an end of each strap. In this manner the two straps 11 and 16 are held against movement relative to each other.

In Figure 2 there is disclosed a slightly modified form of this invention where a single strap 11*a* is provided, the strap 11*a* having a pair of plugs 10*a* which are similar in every detail to the plugs 10. The strap 11*a* is provided with fastening devices 12*a* at each end so that the strap 11*a* will tightly engage about the head of the wearer with a portion thereof engaging beneath the nose. A nose engaging strap 14*a* is adhesively secured at the ends thereof to the strap 11*a* rearwardly from the plugs 10*a* and serves as a means to hold the strap 11*a* against downward movement.

In Figure 3 there is disclosed a further modification of this invention wherein the nose plugging means is combined with a swimming cap. In this form a conventional elastic cap 19 is provided which has ear engaging portions 20 and a chin strap 21. A pair of nostril engaging plugs 10*b* are secured to a holding strap 11*b* and this strap 11*b* has at least one end thereof detachably secured to the cap 19 by fastening devices 12*b*. A nose engaging strap 14*b* is secured at the opposite ends thereof to the strap 11*b* and extends across the bridge of the nose so as to hold the strap 11*b* in the desired applied position.

In the use of this device, the device shown in Figure 1 may be used where it is desired to keep the water out of both the nostrils and the ears. This device may be readily applied by positioning the straps 11 and 16 about the head with the nostril engaging members 10 projecting at least partly into the nostrils and with the ear engaging members 15 projecting partly into the ear channel. The material of which the plugs 10 and 15 are made is of a soft cushioning or resilient material, preferably soft rubber or the like which will readily deform itself without unduly extending the nostrils. In applied position the plugs 10 and 15 will thus prevent water from entering the nostrils or the ears.

Where it is not desired or considered necessary to stop up the ears, a device similar to that disclosed in Figure 2 may be used. This device is similar to that shown in Figure 1 with the exception that the strap 11*a* is adapted to engage downwardly and more to the back of the head.

Where a cap is being used, the device may be readily applied to the cap by adhesively securing one end of the strap 11*b* to one edge of the cap or if desired, placing snap fasteners or other fastening devices on the opposite sides of the cap 19 so that the strap 11*b* will extend downwardly and forwardly as shown in Figure 3.

A device constructed according to this invention can be manufactured and produced at a substantially small cost and can be used either alone, in combination with ear engaging members or in combination with a swimming cap. This device will prevent irritation or infection of the membranes of the nostrils and also prevent infections of the ear so that with the use of a device of this character, a person may freely swim in a pool having a disinfectant without causing injury to the person.

What I claim is:

1. In a swimming appliance for the purpose referred to an elongated elastic strap adapted for removably attaching to and for encompassing the head of the wearer, said strap having a portion for extending across the lower open ends of the nostrils of and for bearing against the lower end of the nose of the wearer and constituting a carrier, a pair of rearwardly extending, spaced, readily deformable plugs for disposing in the nostrils of the wearer to close them and having their forward ends secured to the inner face of said carrier, said plugs arranged adjacent opposite sides of the transverse median of said carrier and disposed in forwardly convergent relation, and a resilient holding strap for bridging the nose of the wearer and having the inner face of its terminal portions disposed transversely of and secured to the outer faces of spaced, horizontally aligned portions of said strap in proximity to said carrier, and said elongated strap having correlated means at its ends for detachably connecting them together.

2. In a swimming appliance for the purpose set forth an elongated elastic strap adapted to be attached to the head of the wearer, said strap having a portion for extending across the lower open ends of the nostrils of and for bearing against the lower end of the nose of the wearer and constituting a carrier, a pair of rearwardly extending, spaced, readily deformable plugs for disposing in the nostrils of the wearer to close them and having their forward ends secured to the inner face of said carrier, said plugs arranged adjacent opposite sides of the transverse median of said carrier and disposed in forwardly convergent relation, and a resilient holding strap for bridging the nose of the wearer and having the inner face of its terminal portions disposed transversely of and secured to the outer faces of spaced, horizontally aligned portions of said elongated strap in proximity to said carrier.

ANTHONY A. BURKE.