Aug. 24, 1948. R. K. CUTTER 2,447,844

SNAKE BITE KIT

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Fig. 1

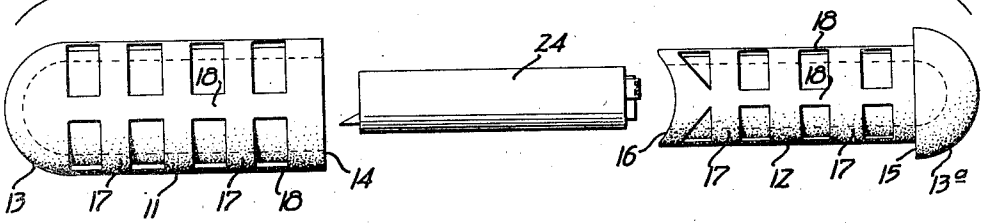


Fig. 2

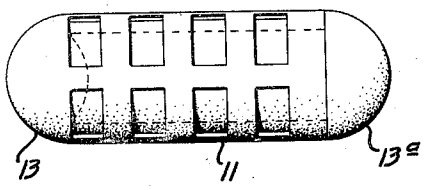


Fig. 3

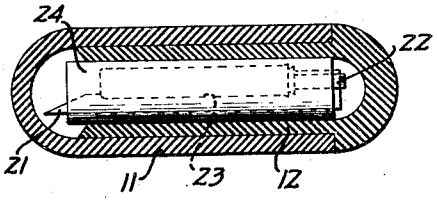


Fig. 4

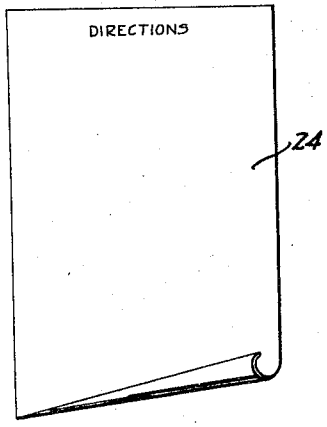


Fig. 5

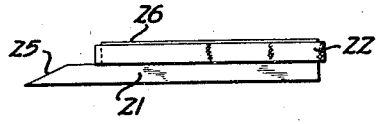
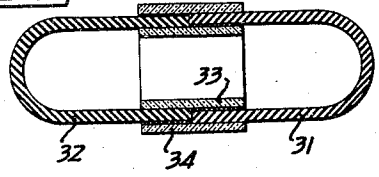


Fig. 6



Fig. 7



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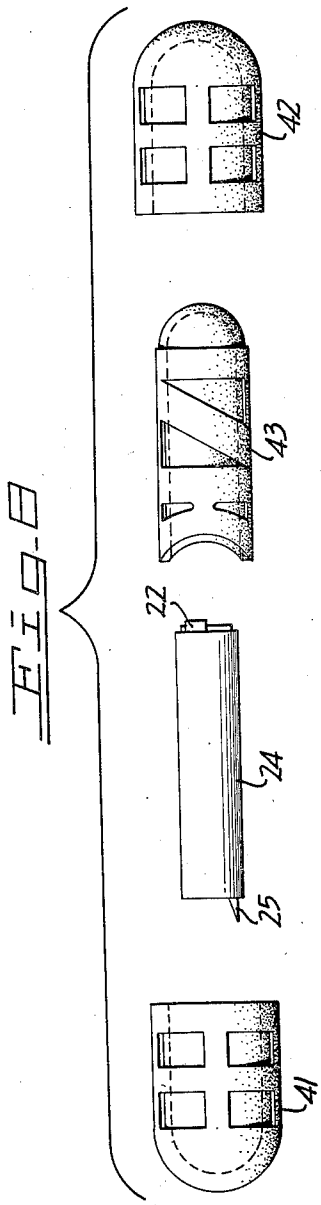


FIG. 8

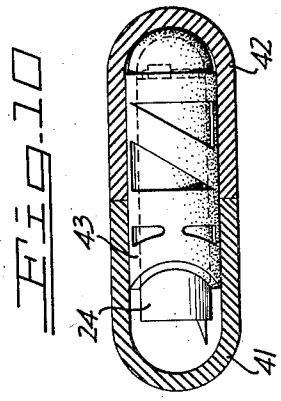


FIG. 10

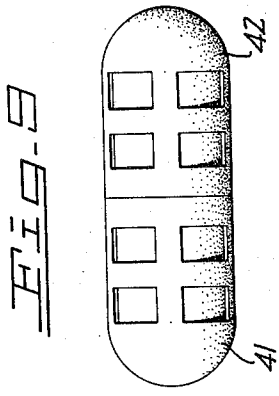


FIG. 9

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SNAKE BITE KIT

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Application November 30, 1944, Serial No. 565,937

5 Claims. (Cl. 206—63.2)

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This application is a continuation in part of my prior application Serial Number 297,478, filed on October 2, 1939, for improvements in a snake bite kit.

This invention relates to a snake bite kit suitable for ready use in the field.

To be of any real use, a snake bite outfit must be immediately available at the time that the bite is inflicted and consequently it must be of such size that it can be conveniently carried in the user's pocket. It should contain a tourniquet, a lancet, an antiseptic applicator, and a suction device. Although there are now available on the market snake bite outfits containing all of these essential articles, they are of such size as to be considered excess baggage by individuals who are out hunting or fishing and desire to travel as light as possible. The smallest size kit now on the market of which applicant has knowledge is 2" wide by 4⅛" long, and although this may appear to be relatively small, it is considered by many sportsmen, because of its size, as excess baggage. Furthermore, the kits now available are invariably packed in relatively hard containers which are uncomfortable to carry about in the pockets of wearing apparel.

In general, the object of this invention is the provision of a compact, efficient, and relatively water-tight snake bite outfit which can be readily and comfortably carried in any pocket of the user and be forgotten until occasion requires its use.

Another object of the invention is the provision of a snake bite outfit in which the receptacle for the tourniquet, lancet, and applicator serves as a suction device.

Still another object of the invention is the provision of a suction device having a concave mouth for conforming about a portion of the surface of a finger or other curved part of the body so as to form an effective vacuum seal.

A still further object of the invention is the provision of a knife or lancet formed with a spool for the reception of a tourniquet, and with an antiseptic container.

A further object of the invention is the provision of a snake bite outfit receptacle formed of a relatively soft material having appreciable frictional resistance with fabrics, so as to avoid any chance of its slipping from the pocket of a user.

The invention possesses other advantageous features, some of which with the foregoing will be set forth at length in the following description where those forms of the invention which have been selected for illustration in the drawings accompanying and forming a part of the present specification are outlined in full. In said drawings, several forms of the invention are shown, but it is to be understood that it is not limited to such forms, since the invention as set forth in the claims may be embodied in a plurality of other forms.

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Referring to the drawings:

Figure 1 is an exploded view of a snake bite outfit embodying the objects of my invention.

Figure 2 is a side elevation of my device in its closed position.

Figure 3 is a vertical mid-section taken through the device as shown in Figure 2 and showing the directions, tourniquet, lancet, and applicator assembled within the suction members.

Figure 4 is a plan view of the direction sheet within which the lancet, tourniquet and applicator are rolled as shown in Figure 3.

Figure 5 is a plan view of the lancet and the tourniquet wrapped on a spool formed integral with the lancet.

Figure 6 is a plan view of the antiseptic applicator.

Figure 7 is a longitudinal mid-section taken through a modified form of receptacle.

Figure 8 is an exploded view of further modification of my kit.

Figure 9 is a side elevation of the kit shown in Figure 8.

Figure 10 is a longitudinal section of the kit shown in Figure 9.

In carrying out the objects of my invention and as shown in Figures 1, 2, and 3, I resort to the use of a pair of telescoping tubular receptacles 11 and 12. Preferably each of these receptacles is made of rubber of such character as to be compressible and resilient so that each can be used as a suction device for withdrawing venom from a snake bite inflicted on any part of the body. The receptacle 11 is formed with a hemispherical closed end or dome 13 and with a straight open mouth 14. The outer diameter of the receptacle 12 should be substantially equal to the inner diameter of the receptacle 11. Formed on the closed end of the receptacle 12 is a hemispherical dome 13a of a diameter equal to the diameter of the receptacle 11 and which provides a shoulder 15 against which the mouth 14 of the receptacle 11 may be sealed. The mouth 16 of the receptacle 12 is made concave so as to conform more readily to the surface of any portion of the body having a considerable curvature, such as for example a finger. Molded on the outer surface of each of the receptacles 11

and 12 are a plurality of longitudinally spaced circumferential ribs 17 and a plurality of circumferentially spaced longitudinal ribs 18. These ribs reinforce the relatively thin compressible walls of the receptacles so that after being laterally compressed when applying them to a bite, they will quickly reassume their normal cylindrical form, thereby to create a partial vacuum over the bite. Furthermore, due to the fact that the ribs on the smaller receptacle 12 only permit a fraction of its surface to come into contact with the inner walls of the larger receptacle 11, the frictional resistance between the two receptacles when being opened or closed is materially reduced. This frictional resistance, which of course also depends upon the relation between the external diameter of the smaller receptacle and the internal diameter of the larger receptacle, should be sufficient normally to hold the receptacles closed and still not so great as to cause inconvenience in opening them. The ribs on the outer surface of the larger receptacle 11 form an irregular surface which increases the frictional resistance between the receptacle and fabrics with which it may come in contact. This feature is of considerable importance, for due to it the chances of a snake bite outfit accidentally slipping out of a user's pocket and thereby being lost are greatly diminished.

Disposed within the smaller receptacle 12 and closed by the larger receptacle 11, is a lancet 21, a tourniquet 22, and an antiseptic applicator 23, all tightly wrapped in a direction sheet 24.

The lancet 21 is formed of a strip of metal provided with a pointed blade 25 and with a lateral extension or spool 26 about which the tourniquet 22 may be wound. The tourniquet 22 preferably consists of a section of $\frac{3}{16}$'' tape of sufficient length to be wrapped around the arm or leg so as to cut off further circulation through the lymph vessels lying just below the skin.

The applicator simply contains iodine or other antiseptic for disinfecting the lancet and the bite.

The assembled device as shown in Figure 2 is three inches long and one inch in diameter and can therefore be carried by a sportsman in any pocket ready for use with no more inconvenience than carrying a pocket knife. The receptacles 11 and 12 forming the container for the rest of the equipment may each be used as a suction cup, and this feature is highly desirable, for in spite of the use of a constrictor or tourniquet, the venom gradually progresses in all directions through the lymph vessels, thereby making the use of a number of incisions and suction cups advantageous. It will therefore be seen that my device has the double advantage of providing a pair of efficient suction cups and of providing a very compact kit by utilizing the suction cups as a container for the other necessary equipment. Due to the resiliency of the container so formed, its freedom from sharp edges and corners, and its adherence to fabrics, it may be conveniently and comfortably carried in a pocket without any appreciable danger of losing it. Furthermore the device is relatively water-proof and therefore short intervals of immersion will in no way impair its contents.

In Figure 7 a modified receptacle is shown comprising a pair of abutting rubber vacuum cups 31 and 32. Disposed within these cups and secured to the cup 31 either by frictional engagement or by cement is a transparent plastic sleeve 33 preferably made of Lucite or other similar material. Surrounding the outer surfaces of the vacuum cups 31 and 32 and secured to the cup 32 is a similar transparent sleeve 34. When the cups 31 and 32 are pulled apart, the sleeve 33 adheres to the cup 31 and the sleeve 34 to the cup 32. Each transparent sleeve therefore serves as a window for its associated vacuum cup, through which the user may ascertain the quantity of venom being withdrawn by the device.

Obviously a tubular window of this character may be spliced or added to the open ends of the suction cups shown in Figures 1, 2, 3, and 4.

The modification shown in Figures 8, 9, and 10, comprises a pair of identical, closed ended tubular members 41 and 42 similar to but relatively shorter than the receptacle 11 shown in Figures 1, 2 and 3. Arranged for telescopic engagement within the members 41 and 42 is receptacle 43 similar to the receptacle 12 shown in Figures 1, 2 and 3 but which is not provided with a dome extending outwardly beyond its lateral walls as is the receptacle 12. Telescopically disposed within the receptacle 43 is a rolled direction sheet 24 containing the required accessory equipment as shown in Figures 5 and 6. From this description and from a study of Figures 1, 2, 3, 8, 9 and 10, it will be observed that in this latter modification the inner receptacle 43 is telescoped and entirely housed with the outer end receptacles 41 and 42 and that all three receptacles can be used as vacuum cups. Furthermore the overall size of this modification need be no larger than the modification shown in Figures 1, 2 and 3.

In conclusion, it should be noted that in the removal of venom from a patient bitten by a snake, incisions are progressively made away from the wound and as many vacuum cups applied to them as are available. It is for this reason among others that the modification last described is particularly advantageous for, as above stated, it provides three vacuum cups without any increase in size.

I claim:

1. A pair of telescopically disposed compressible resilient tubular members having opposed closed ends, said members together forming a container for accommodating the accessory equipment of a snake bite outfit and each forming a suction device for the removal of venom from a snake bite or incision.

2. A compressible and resilient tubular receptacle closed at one end and provided at its opposite end with a transparent ring, said receptacle serving as a container for accessory equipment of a snake bite outfit and as a suction device for the removal of venom from a snake bite.

3. A pair of coaxial tubular members closed at opposite ends, and together forming a container for the reception of the accessory equipment of a snake bite outfit, one of said members being formed of compressible, resilient material and provided at its open end with a sleeve of transparent material arranged to telescopically engage the open end of the other of said members.

4. A pair of opposed, coaxial, compressible and resilient tubular members each closed at its outer end and each provided at its inner end with a sleeve of transparent material having telescopic engagement with the open end of its opposed member, said members together forming a container for the reception of the accessory equipment of a snake bite outfit and individually forming a suction device for the removal of venom from a snake bite or incision.

5. A snake bite kit of the character described

comprising: a first resilient tubular member having a closed end and an open end arranged to receive first aid equipment; and second and third resilient tubular members snugly disposed over said first tubular member, the outer ends of said second and third members being closed and each of said first, second and third tubular members being designed to serve as a suction device for the removal of venom from a snake bite.

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