United States Patent

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[54] **DIGITAL SPLINT**

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[52] **U.S. Cl.** ..... **128/87 A**

[51] **Int. Cl.** **A61f 5/04**

[58] **Field of Search** ..... 128/87, 87 A, 89, 81

[56] **References Cited**

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[57] **ABSTRACT**

A digital splint adapted for use with a finger of a human wearer. The splint includes a generally cylindrical, substantially rigid hollow member in which the finger is inserted, and at least one spring clip member which engages the finger through a pair of mutually opposed slots in the hollow member, and which thereby secures the hollow member to the finger.

1 Claim, 4 Drawing Figures

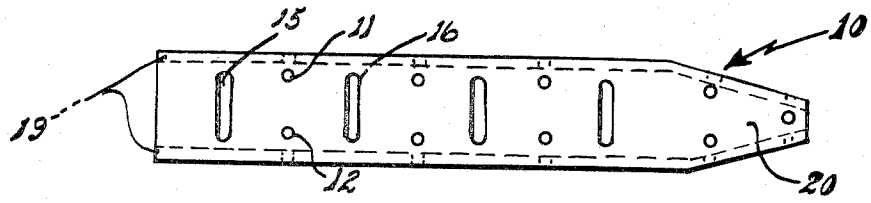
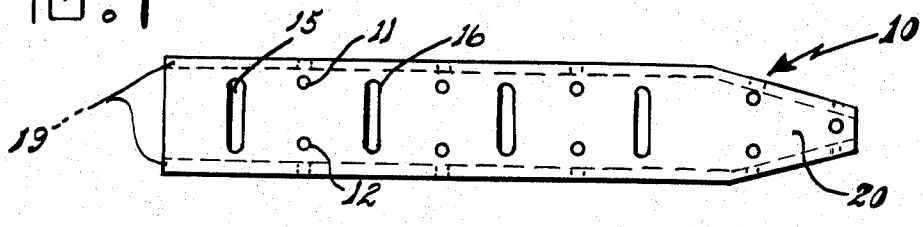


FIG. 1



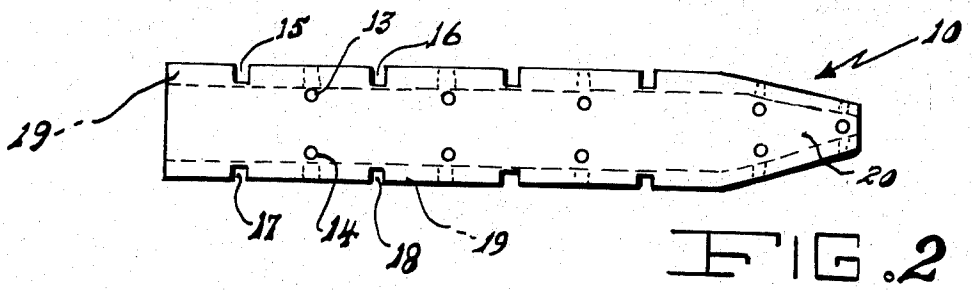


FIG. 2

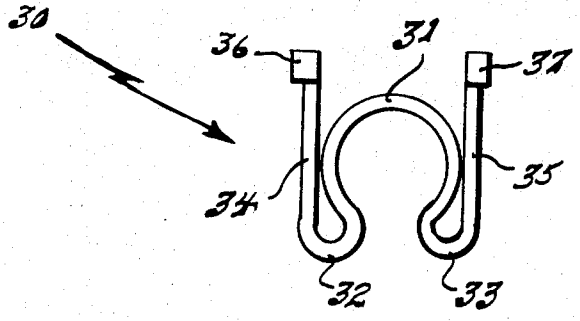


FIG. 3

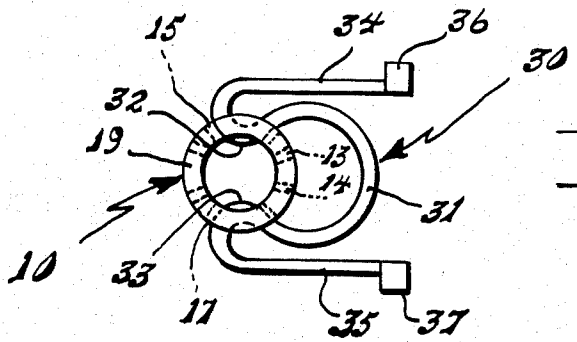


FIG. 4

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DIGITAL SPLINT

BACKGROUND OF THE INVENTION

This invention relates to splints and, more particularly, to a splint for a finger, i.e., a digit.

Although the invention will be discussed as adapted for use as a splint for a finger of a human, this is by way of illustration only, and not by way of any limitation.

Additionally, the term "finger," as used herein, is intended to mean the terminating members of a hand, including the thumb in humans.

Splints, as such, are old in the medical and healing arts. The basic purposes of a finger splint are to protect the injured finger from further injury, to immobilize it, and to support the finger. These purposes all aid and promote the healing of the finger.

Unfortunately, conventional finger splints are painful in that a fair amount of pressure on the injured finger is required in applying and in removing the splint. Also, the use of conventional finger splints requires that the injured finger by kept dry and, if wet, that the splint be replaced. Further, if the injured finger is to be soaked, the splint must be removed; and, after soaking, the finger must be completely dried and the splint must be reapplied. As can be surmised, the removal and reapplication of the splint is not only painful to the user, but also is laborious and time-consuming to the person removing and reapplying the splint.

There has been, and there still is, therefore, a critical need for a finger splint which not only protects, supports and immobilizes the finger, but which also is painless in application and in removal and which also permits soaking without removal, and adequate ventilation to aid healing.

I have made such an invention. In addition, my invention is inexpensive, in relation to conventional finger splints, and is reusable, unlike conventional finger splints.

SUMMARY OF THE INVENTION

This invention relates to a digital, i.e. a finger splint.

An object of this invention is to provide a novel digital splint which protects the injured finger from further injury, which supports the finger, and which immobilizes it.

Another object of this invention is to provide a digital splint which is painless to apply and to remove.

Still another object of this invention is to provide a digital splint which will allow soaking of the injured finger, and adequate ventilation thereafter, without removal of the splint.

A further object of this invention is to provide a digital splint which is inexpensive and, therefore, may be disposed of after use, but which may be reused if desired or if necessary.

These objects, and still other and related ones, of this invention will become readily apparent after a consideration of the description of the invention and reference to the drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of a major component of the preferred embodiment of the invention;

FIG. 2 is a side elevation view, of the major component shown in FIG. 1;

FIG. 3 is a front elevation view of another major component of the preferred embodiment of the invention; and

FIG. 4 is a rear elevation view of the preferred embodiment of the invention showing the positional relationship of the two major components shown in FIGS. 1, 2 and 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to FIGS. 1 and 2, wherein the same reference numeral denotes the same portion of the component, therein is shown major component or member 10 of the preferred embodiment of the invention. Member 10 is generally cylindrical, hollow and open at both ends. It is made of substantially rigid material which is preferably transparent, such as polyethylene. Member 10 has perforations, i.e. holes, such as 11, 12, 13 and 14, along its length. The spacing of the perforations, such as 11, 12, 13 and 14, is preferably at regular intervals, but it may be at random. Member 10 also has pairs of mutually opposed slots, such as 15 and 17, and 16 and 18, along its length. Here too the spacing is at regular intervals, but may be at random. Perforations, such as 11, 12, 13 and 14, and slots, such as 15, 16, 17 and 18, are through the wall 19 of hollow member 10. Member 10 is shown as having, but need not have, a tapered front end 20. Tapered front end 20 is in the general form of a frustum of a cone and is hollow.

In FIG. 3 is shown another major component 30 of the preferred embodiment of the invention. Component 30, which will be referred to hereinafter as "spring clip," is shaped so that the principal portion 31 is generally in the form of a "C" with bends, 32 and 33 at each end, and extensions 34 and 35 therefrom. Attached to each end of each extension 34 and 35 is a tab 36 and 37. Spring clip 30 is made of a resilient material, preferably a plastic material, although metal may be used.

In FIG. 4 is shown the positional relationship of major components 10 (i.e. hollow member) and 30 (i.e. spring clip) of the preferred embodiment of the invention. It is to be noted that bends 32 and 33 of spring clip 30 are positioned within and through, respectively, mutually opposed slots, such as 15 and 17, of hollow member 10.

MODE OF OPERATION OF THE PREFERRED EMBODIMENT

When it is necessary to place a finger in a splint, the finger is positioned within hollow member 10, FIGS. 1, 2 and 4, with the fingernail portion of the finger in the tapered front end 20, FIGS. 1 and 2. This positioning is accomplished by inserting the finger into hollow member 10, FIGS. 1, 2 and 4, while at the same time slipping the hollow member 10, FIGS. 1, 2 and 4, onto the finger. This is a quick and painless procedure.

Next, spring clip 30, FIGS. 3 and 4, is grasped by tabs 36 and 37, FIGS. 3 and 4. These tabs, 36 and 37, are moved toward each other, thereby moving bends 32 and 33, FIGS. 3 and 4, away from each other. Spring clip 30, FIGS. 3 and 4, is then fitted over and onto hollow member 10, FIGS. 1, 2 and 4, with bends 32 and 33, FIGS. 3 and 4, inserted into and positioned

through, respectively, mutually opposed slots, such as **15** and **17**, as shown in FIG. **4**. Spring clip **30**, FIGS. **3** and **4**, thereby engages, holds and secures hollow member **10**, FIGS. **1**, **2** and **4**, to the finger within the said hollow member **10**. The finger is, therefore, now protected from further injury, is supported and is immobilized.

It is here to be noted that, although reference has been made to the use of a, i.e. one, spring clip **30**, FIGS. **3** and **4**, a plurality of spring clips, such as **30**, may be used to secure hollow member **10**, FIGS. **1**, **2** and **4**, to the finger. The bends **32** and **33**, FIGS. **3** and **4**, of each spring clip, such as **30**, would in that case be inserted into and positioned through a separate pair of mutually opposed slots, such as **15** and **17**, **16** and **18**, FIG. **2**. In other words, a spring clip would engage slots **15** and **17**, another spring clip would engage slots **16** and **18**, and so forth.

It is also to be noted that the hollow member, such as **10**, is not intended to fit snugly or tightly, or to cling to the finger. Therefore, hollow members, such as **10**, are made in different diameters to suit the particular circumstance so that the hollow member, such as **10**, fits loosely on the finger, but is adjacent the surface thereof.

It is further to be noted that the finger while in the splint may, nevertheless, be soaked without being removed from the splint. This is possible because of the perforations, such as **11** and **12**, FIG. **1**, which permit the ingress and the egress of the liquid and which, additionally, permit ventilation of the finger. The ventilation also promotes healing.

While there have been shown and described the fundamental features of the invention, as applied to a preferred embodiment, it is to be understood that various substitutions and omissions may be made by those of ordinary skill in the art without departing from the spirit of the invention. For example: (1) the number and position of the slots, such as **15** and **17**, FIG. **2**, and of the perforations, such as **11** and **12**, FIG. **1**, may be varied, changed and otherwise modified; (2) the invention may be adapted for use with human limbs, e.g. arms and legs, or for use by animals; and (3) hollow member **10**, FIGS. **1**, **2** and **4**, may be made with a flexture, at the location of a joint of the finger, to permit bending of the finger, if the joint is not injured.

What is claimed is:

1. A digital splint, adapted for use with a finger of a human wearer thereof, comprising:

a. a generally cylindrical, substantially rigid, hollow member, open at both ends;

1. with said hollow member being perforated along its length to allow soaking and ventilation of the finger;

2. and, with said hollow member having pairs of mutually opposed slots through said hollow member along its length thereof;

b. and, means, engaging said slots, to secure said hollow member to a finger of a human wearer thereof, wherein said means includes at least one spring clip member, of resilient material, which engages a pair of mutually opposed slots of said hollow member and the finger inserted within said hollow member;

whereby the finger of the human wearer is protected, supported, and immobilized within and by said hollow member.

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