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HOSPITAL SIGNALING APPARATUS

Filed March 5, 1930

Fig. 2.

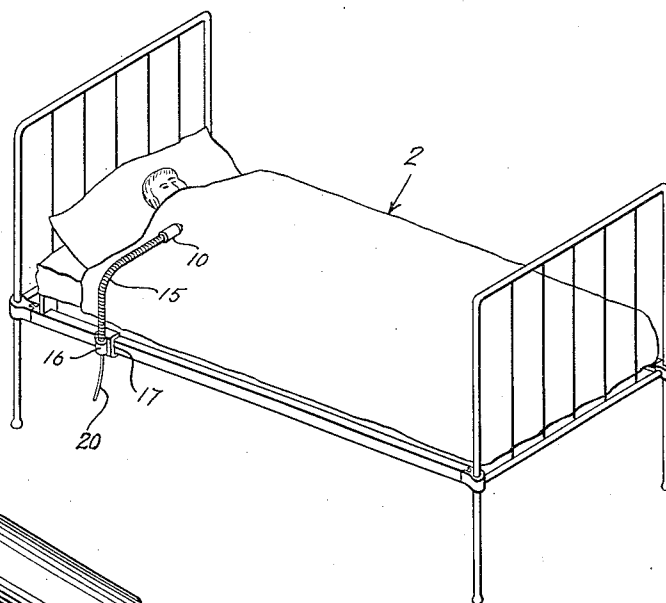
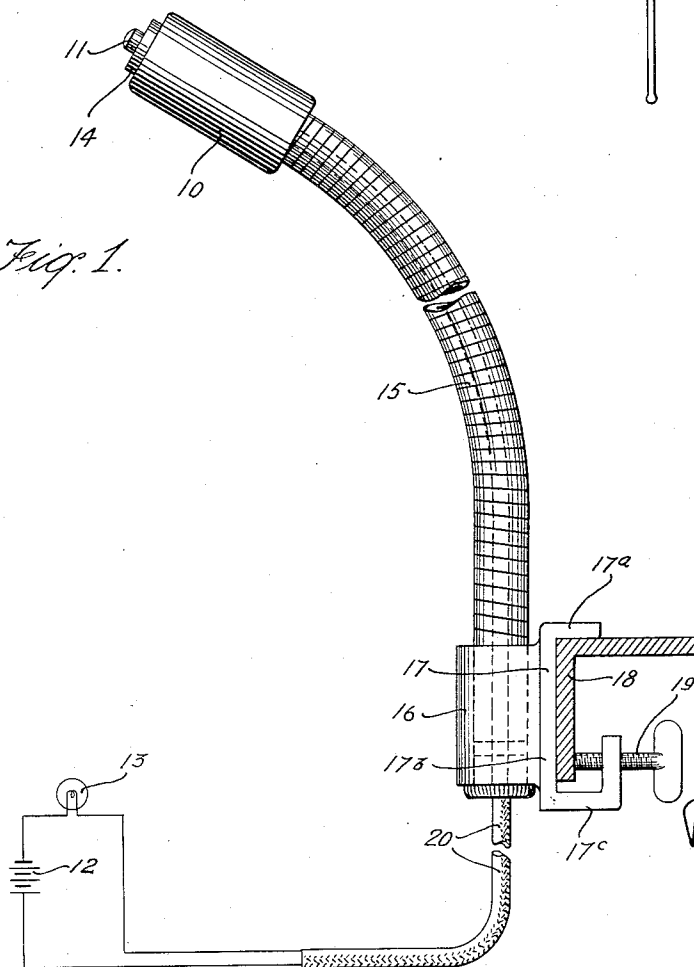


Fig. 1.



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HOSPITAL SIGNALING APPARATUS

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This invention relates to hospital signaling apparatus and more particularly to bedside signaling apparatus.

One of the objects of this invention is to provide a simple and practical bedside signaling apparatus for operation by the patient and which will be capable of relieving the patient from most if not all of the discomforts that are attendant upon the operation of signaling apparatuses heretofore known. Another object is to provide a bedside signaling apparatus which will meet the maximum comforts of the patient when the latter finds it necessary to signal for the nurse or other attendant and which will eliminate all possibility of interfering with the comfort and ease of the patient when the latter finds it unnecessary to signal for a nurse or attendant. Another object is to provide a bedside or patient-operated push button switch mounting capable of supporting the push button switch within convenient access thereto by the patient while keeping the push button switch itself or any related parts entirely out of the way of the patient and particularly keeping the switch or related parts free from interference with the bedclothes. Another object is to provide a switch mounting of the above-mentioned nature in which most convenient access by the patient to the push button switch is maintained without necessitating attachment of the push button switch to the bedclothes or without having the weight of the push button switch or related parts affect the comfort of the patient. Another object is to provide a push button switch mounting of the above-mentioned character capable of a wide range of action, ease of manipulation, and ready adaptability to meet the varying conditions of practical use. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is

shown a preferred form of various possible embodiments of my invention,

Figure 1 is a view in perspective showing the assembled apparatus, certain parts being shown diagrammatically, and

Figure 2 is a perspective view on a smaller scale illustrating the apparatus in one of various possible conditions of practical use.

Similar reference characters refer to similar parts throughout the several views of the drawing.

As conducive to a clearer understanding of certain features of my invention, it might at this point be noted that, in hospital signaling systems, the patient is provided with a push button switch attached generally to a flexible cord, this switch being generally of the self-locking but releasable type; that is, the operation of the push button switch by the patient locks the switch in closed position and the lock is releasable only upon the manipulation by the nurse or attendant answering the call. These bedside signaling switches are the cause of considerable discomfort and annoyance to the patient exactly at the time when discomforts or annoyances should be avoided, namely, when the patient is about to call for help; at such times the patient has to grope around in the attempt to find the push button switch which, unless secured to the bedclothes by such haphazard makeshifts as safety pins, is lost in the bedclothes. Moreover, the use of safety pins, as well as the great amount of manipulation to which the push button switch on the end of the flexible cord is subjected, rapidly depreciates the flexible cord itself, necessitating frequent repair or replacement. It is among the dominant aims of this invention to eliminate such difficulties and disadvantages as these.

Referring now to the drawing, I have indicated generally at 10 a bedside push button switch preferably encased in a non-metallic or insulating housing and provided with a push button 11 which is actuated by the patient, the latter depressing the button 11. The mechanism which per se is not my invention and which need not, therefore, be described in detail, is such that depression

of the button 11 not only closes a signaling circuit but locks the circuit closed as by locking the button 11 against retrograde movement.

5 The circuit thus controlled by the push button 11 may include a source of current 12 and any suitable device generally indicated at 13, the latter being, for example, either a visual or audible signal. Depression of the
10 button 11 thus actuates the signaling device 13 and maintains it in actuated condition until it is reset by release of the push button 11 by the nurse or attendant arriving at the bedside in answer to the signal or call. The
15 resetting device may comprise a ring-like or annular plunger 14 surrounding the push button 11 and it is this annular member 14 which the attendant depresses to unlock the locked push button 11 and the switching
20 mechanism actuated thereby.

The push button switch 10 is rigidly secured to the free end of a spirally wound sheet metal tube or conduit 15, the turns of which are suitably interlocked or interfitted.
25 The other end of the flexible tube 15 fits into a metal sleeve-like member 16 which forms part of or is attached to a bracket generally indicated at 17. The bracket is preferably shaped substantially as indicated in Figure 1, and it will be noted that it has a substantially horizontal portion 17^a adapted to rest upon the upper face of the angle iron side rail 18 of the bedstead, and a vertical portion 17^b adapted to rest against the side face
30 of the angle iron side rail 18, the portion 17^b being substantially U-shaped at its lower part, as is indicated at 17^c, in order that it may envelope a lower portion of the vertical part of the side rail 18. A screw, preferably
40 a thumb screw 19, is threaded into one arm of this U-shaped portion 17^c and is adapted to abut against the side rail 18, thus securely holding the parts 16 and 17 to the side rail 18.

The device 16—17—19 is readily attach-
45 able or detachable with respect to the side rail 18. For example, to remove the device, it is necessary simply to loosen up the set screw 19 sufficiently to permit the device to swing in counter-clockwise direction, as
50 viewed in Figure 1, so as to permit the vertical portion 17^a to clear the top of the side rail 18, whence the device may be moved downwardly to free the angle iron from the U-shaped seat 17^c. Attachment of the device to the bedstead proceeds, of course, in the reverse manner.

The flexible tube 15 has extending there-
through the flexible cord 20 which leads to a suitable outlet box (not shown) in the wall
60 or floor, whence the conductors of the signaling circuit proceed to complete the circuit in which is included the signaling device 13 and the source of current 12. The flexible tube 15, referring now to Figure 2, is of sufficient
length to reach upwardly and horizontally

so that it may adequately clear the bedding, as well as the patient itself, and reach, for example, at least half way across the bed. Moreover, the tube 15, while flexible, is of
70 sufficient rigidity to support its own weight, as well as the weight of the push button switch 10. In the use of the device, the nurse or attendant simply positions the clamping device 17—18, and hence the supporting sleeve 16, at a suitable position along the side
75 rail 18 of the bed 21, bearing in mind the position occupied by the patient and bearing in mind, for example, which arm or hand is most convenient for the patient or is available to the patient for actuating the push
80 button switch 10, and gives the tubing 15 such bends that the push button switch 10 is held free and clear of the bedding and of the patient though within convenient reach of the free hand or reach of the patient. The pa-
85 tient thus always finds the push button handy and convenient and need not grope around nor search for it. Moreover, there is no possibility of the push button becoming lost in the bedclothes nor is there any chance of the push button weighing down upon the bed-
90 clothes or upon the patient. Furthermore, should the patient, for example, move around or turn over so as to engage the button 10 or the tubing 15, the latter parts are simply
95 moved upwardly where they remain and are held in such raised position. Also, the flexible cord 20 carrying the conductors is not subjected to possible misuse, as by the application thereto of safety pins and, on the con-
100 trary, is adequately protected and long life thereof assured.

It might also be pointed out that should the nurse or attendant have occasion to have access to the patient, or for example, to move the patient or change the bedclothes, it is simply necessary to take hold of the push button switch 10 and move it into any convenient position within the range or length of the flexible tube 10 until such time as it is
110 to be replaced in a position for access thereto by the patient. In fact, referring to Figure 2, from which such advantages as those pointed out above will readily appear, it is possible to swing the push button switch 10 and the tubing 15 downwardly completely under the bed or, if preferable, into substantial
115 alinement with the side rail 18.

It will thus be seen that there has been provided in this invention an apparatus in which
120 the various objects hereinabove pointed out, together with many thoroughly practical advantages are successfully achieved. It will be seen that the apparatus is of thoroughly practical construction, is of dependable ac-
125 tion, and well adapted to meet the varying conditions of hard practical use.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment
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above set forth, it is to be understood that all matter hereinbefore set forth, or shown in the accompanying drawing, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In a hospital signaling apparatus, the combination with an electric signaling device and a bedside switch for controlling said device, of a flexible metal tube carrying said switch at one end thereof, an attaching device having means for attaching it to a part of the bedside and having a sleeve-like portion into which the other end of said flexible metal tube extends and is secured, an insulating bushing secured in that end of said sleeve portion remote from the end into which said tube extends, and conductors leading from said signaling device to said switch and extending through said bushing, said sleeve, and said metal tube.

2. In a hospital signaling apparatus, in combination, a push button switch adapted to be operated by a patient in bed, a bracket shaped to substantially interfit with the side rail of the bed, means for clamping said bracket to said side rail, a sleeve-like member carried by said bracket, a section of flexible tubing secured at one end to said sleeve-like member and carrying said push button switch at its other end, said tubing being received in one end of said sleeve-like member, and a conductor-carrying cable leading from said push button through said tubing and out through the other end of said sleeve-like member.

3. In a hospital signaling apparatus, the combination with an electric signaling device and a bedside switch for controlling said device, of a bendable but non-resilient tube carrying said switch at its free end and provided with means at its other end for attachment thereof to a part of the bedstead, and conductors leading from said signaling device to said switch and extending through said tube.

4. In hospital signaling apparatus, in combination, a push button switch adapted to be operated by a patient lying in bed, clamping means for detachable engagement with a spring-supporting frame part of the bed, and semi-rigid and yieldably bendable mechanical means interposed between said push button and said clamping means for holding said switch in operative relation to said bed and within reach of the patient, said semi-rigid means having sufficient rigidity to support the weight of said push button whereby, even though the push button rests upon a part of the bed, the patient is relieved of the weight thereof, and said semi-rigid means being bendable in horizontal and vertical planes whereby said switch may be moved into a position most convenient for the patient.

In testimony whereof, I have signed my name to this specification this 25th day of February 1930.

ROBERT S. EDWARDS.