United States Patent [19]

Horn

[11] **3,777,085**

[45] **Dec. 4, 1973**

[54] **SURE FIND SAFETY BED LIGHT SWITCH**

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[52] **U.S. Cl.** ..... **200/51 LM,** 240/4

[51] **Int. Cl.** **H01r 13/70**

[58] **Field of Search** ..... 200/51 LM; 307/114; 240/4

[56] **References Cited**

UNITED STATES PATENTS

2,484,092	10/1949	Hopgood	307/114
2,851,550	9/1958	Searcy	307/114
2,706,225	4/1955	Freeman	200/51 LM
2,744,186	5/1956	Kamin	240/4
2,290,866	7/1942	Cunard	240/4

FOREIGN PATENTS OR APPLICATIONS

607,396	8/1960	Italy	200/51 LM

Primary Examiner—David Smith, Jr.

Attorney—Dean S. Edmonds et al.

[57] **ABSTRACT**

Bed mounted permanent and standard position switches for a remotely positioned bedroom light or lights, the switch being wired with only one leg of an electrica circuit to prevent fire and electrical hazards.

5 Claims, 6 Drawing Figures

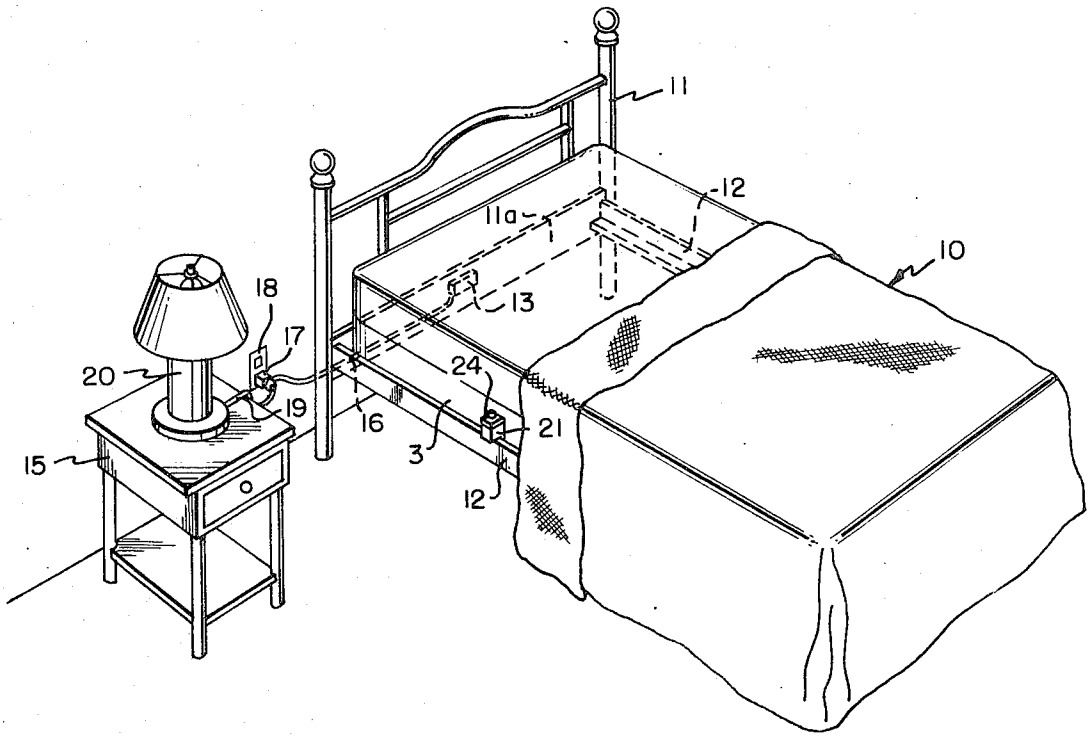


FIG. 1

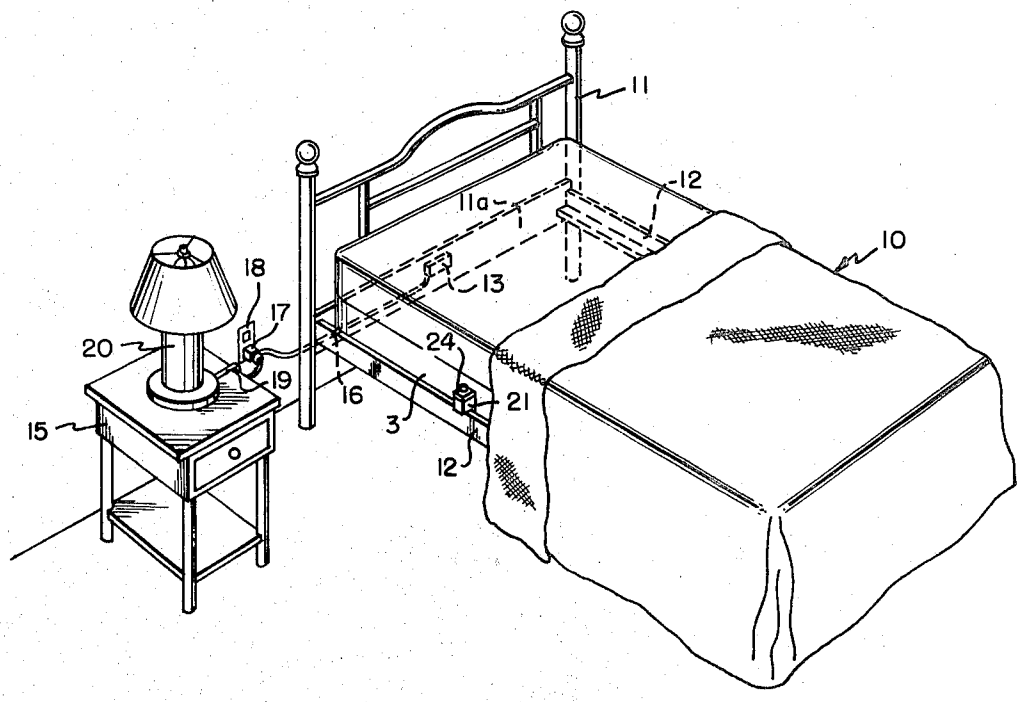

11
12
11a
10
13
18
17
20
19
16
24
21
3
15
12

FIG. 2

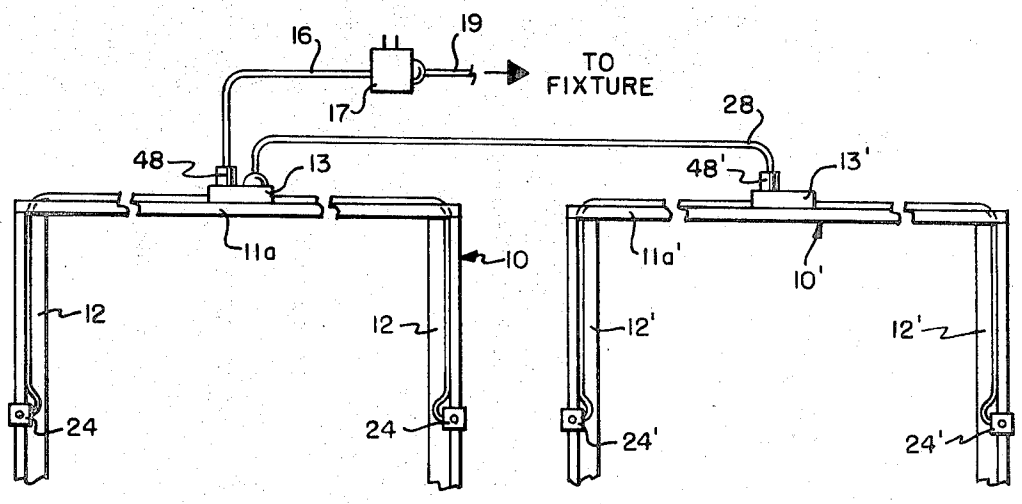

16
11
19
TO
FIXTURE
17
28
48
13
48'
13'
11a
10
11a'
10'
12
12
12'
12'
24
24
24'
24'

FIG. 5

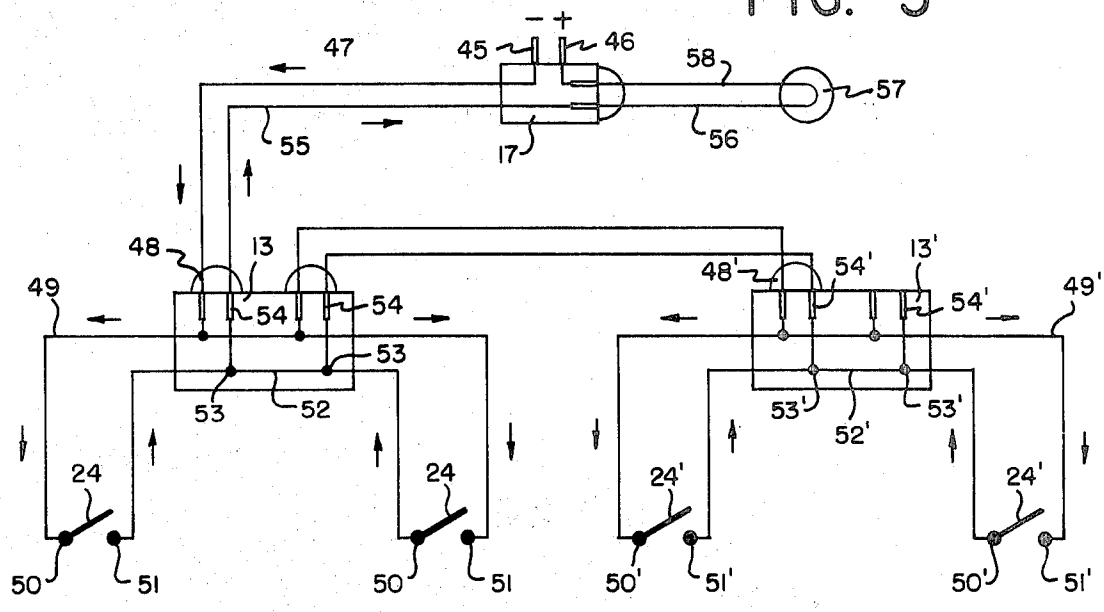


FIG. 3

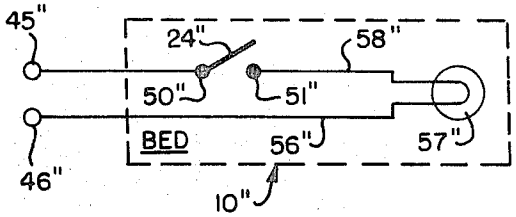


FIG. 6

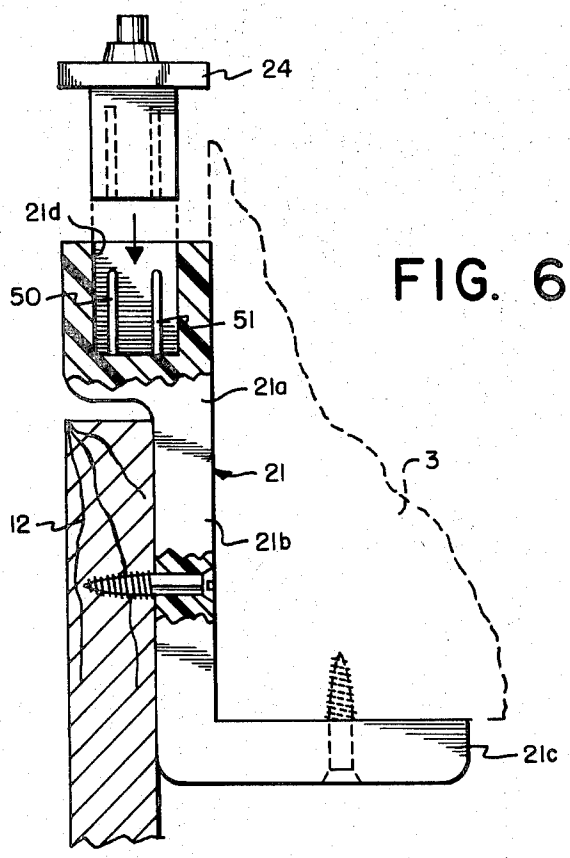
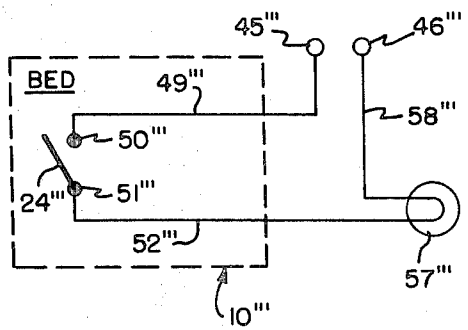


FIG. 4



SURE FIND SAFETY BED LIGHT SWITCH

BACKGROUND OF THE INVENTION

The present invention relates to bed mounted fixed switch means and associated wiring whereby it is possible for a person in bed readily to switch on or off a lamp (or lamps) which is positioned at some distance from the bed.

A person waking up suddenly or in panic in a darkened room ordinarily will find it difficult to find the lighting switch for a lamp even if the lamp is nearby on an adjacent high table. This is particularly true if one is in a strange place such as a motel or hospital. Furthermore, as a simple matter of convenience, it is desirable to provide light switch means associated with a bed for switching remotely positioned lights off when one wishes to go to sleep, without the necessity of even rising in bed.

Various attempts have been made to provide means for actuating bed mounted lamps. For example, U.S. Pat. Nos. 1,500,057 2,290,866 and 2,744,186 illustrate various bed lighting arrangements and bed mounted switches. One of the deficiencies disclosed in these patented arrangements is that the placement of switches are not standardized and are inconvenient. For example, in one instance the switch and lamp are both mounted on a bed post; whereas in another instance, a switch is mounted on a flexible cord. In none of the patented arrangements are the lamps separated from the structure of the bed. Consequently, the bed structures must be specially wired and special means provided for mounting lamps thereon which is naturally rather cumbersome and materially increases the cost of a bed. Moreover, in each instance of which we are aware, the electrical circuitry requires both positive and negative lead wires to be connected to the bed, which if a short circuit occurs is quire hazardous.

The present invention seeks to avoid the above deficiencies of the prior arrangements by providing wiring and switch means attached to a bed in permanent positions for actuating a remotely positioned lamp(s) without the electrical hazard and inconvenience which have attended the prior arrangements.

SUMMARY OF THE INVENTION

In accordance with the invention, a switch is mounted to a bed frame on either side in a position readily accessible to a person lying in bed, preferably to a side board or side frame element about 24" from the head board. A plug-in receptacle is connected electrically to a conventional wall outlet and a wire lead to the receptacle so that the ground or negative leg is connected to the switch terminal. The other switch is connected to a wire lead which returns to the receptacle therein to make contact with a wire lead connecting with a lamp or lamps set apart from the bed. Thus, only a ground connection is established through the switch. Another lead connects positive current from the plug-in receptacle to the lamp. As a consequence of this arrangement, no live current is ever connected to the bed and electrical hazard is eliminated.

The invention further provides for a plurality of bed mounted switches each of which can individually control the actuation of a lamp or lamps set apart from the bed. These and other aspects of the invention will be seen from an examination of the specification which follows and of the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective drawing of a bed and lamp(s) utilizing the safety bed light switches of the present invention;

FIG. 2 is a schematic illustration of electrical connections and wiring used in carrying out the invention;

FIG. 3 illustrates in a simplified schematic electrical diagram a typical prior art arrangement;

FIG. 4 is a simplified schematic electrical diagram illustrating the principal of the present invention;

FIG. 5 is a schematic electrical diagram illustrating the wiring arrangement of FIG. 2; and

FIG. 6 is a detail showing a switch attachment for a bed.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now to the drawing, there is shown in FIG. 1 a bed 10 having a headboard 11 and side boards or side frame members 12. Centrally attached to the headboard is a receptacle 13 which receives plug 48 connected to wire lead 16, the latter is connected to a receptacle 17 which is plugged into a conventional wall outlet 18. The receptacle 17 also receives lamp electrical lead 19 connected to the lamp 20 set apart from the bed 10 on a night stand 15. The receptacle 13 is connected by wire which extends therefrom along the headboard lower cross member 11a and along the side boards 12 to switch mounts 21. It has been found best to standardize the location of the switch mounts at about 24" from the headboard 11. The switch mount 21 can best be seen in FIG. 6 and consists essentially of a body 21*a* having leg 21*b* which fits against the inside of the sideboard 12 and another leg 21*c* which fits beneath a box spring 3. Screw attachments may be made as shown to the side board or box spring or in the absence of the side board to the box spring alone. At its upper end the switch mount 21 receives the snap out switch 24 in a receptacle 21*d* having two negative male electrical leads 50, 51.

Referring to FIG. 2, a wiring arrangement has been shown similar in all respects to that of FIG. 1 except for the addition of a second bed 10' whose headboard mounted receptacle 13' is electrically connected to the receptacle 13 on the first bed by means of wire lead 28. In the description, the reference numerals designating similar components will be primed for clarity.

Referring to FIG. 3, a simplified schematic wiring diagram representing prior art installations has been illustrated. In this arrangement, a bed 10'' has mounted upon its structure a lamp 57''. One leg of the electrical circuit 56'' is connected directly to a source of electricity 45'', 46'' such as a wall outlet while the other leg 58'' is connected to the lamp 57'' through the switch 24''. However, it will be noted that both legs 56'' and 58'' representing positive and negative current are connected to the bed 10'', as is the lamp 57''. In such an arrangement, any shorting between legs 56'' and 58'' or shorting of lamp 57'' while attached to the bed 10'' could cause a fire or could severely shock a person in the bed.

Referring now to FIG. 4, there has been illustrated a simplified schematic wiring diagram showing the arrangement of the present invention. In the representation of FIG. 4, to a bed 10''' is attached switch 24''' which is connected to leads 49''', 52''' from the negative or ground terminal 45''' of a wall outlet. A lamp

57''' is positioned at a distance from the bed and will receive the leg 52''' or ground connection when switch 24''' is closed. The other leg 58''' from the lamp is the positive leg leading to positive terminal 46'''. In this arrangement, even if a short should occur between leads 49''' and 52''' attached to the bed 10''', no fire or other electrical hazard can result. At most, the lamp 57''' would merely flicker or go out.

FIG. 5 illustrates in somewhat greater detail the concept of FIG. 4 specifically as such concept relates to the wiring arrangement of FIG. 2. As shown in FIG. 5, the receptacle 17 which is connected in FIG. 1 to the wall outlet 18, contains negative or ground terminal 45 and positive terminal 46. Ground terminal 45 is connected to ground lead wire 47 which through plug 48 and headboard mounted receptacle 13 is connected to lead wire 49 and switch terminals 50. The opposing switch terminals 51 are connected to lead 52 which is joined at points 53 within receptacle 13 to make contact with plug terminals 54. Lead 55, when plugged into 54 and the switch is closed, returns through receptacle 17 then through lamp lead 56 to lamp 57 set apart from the bed 10. Lead 58 completes the circuit through receptacle 17 by connection with positive receptacle terminal 46.

In the arrangement just described, it will be observed that ground connection only is established from the receptacle 17 to the switches 24 through bed mounted receptacle 13 and the ground leg continued back through receptacle 17 to the lamp 57 where for the first time the positive leg 58 is encountered. Thus, at no time is anything but ground connected to the bed 10.

Of necessity, being standard, the second bed, if desired, is wired exactly the same as the first as the primed numerals so indicate. This second bed will operate through receptacle 17 the same as the first bed simply by inserting a plug into receptacle 13 on each bed joined by leads 61 and 62. Thus by closing any of the four switches 24 (24') across terminals 50 (50') and 51 (51') a ground circuit is completed back to receptacle 17.

It will thus be seen that the safety bed switch arrangement of the present invention provides for standardization of the switches positioned with respect to the side boards of the bed, by placing the switches in a position readily available to one reclining in the bed. The switch and wiring arrangement is readily attached to an existing bed. Therefore, the invention lends itself to kits for this purpose; or, beds manufactured with the receptacle wiring and switch components in place. There are no loose wires to become tangled and the unit should be especially helpful to the elderly and to those confined to bed at home or elsewhere, or to anyone seeking to find a light switch quickly in the dark. Wherever there is a bed, this unit will prove extremely useful and practical.

It will be noted that a bed can be moved to other locations simply by unplugging a receptacle 13 or disconnecting the receptacle 17 from a wall outlet. Note also the simplicity of switch replacement. No knowledge of electricity is required. No wires need be cut or spliced. You simply lift out the defective switch and snap in a new one.

The installation is inexpensive and in the case of double beds permits the lighting of the same light source(s) from four different locations each standardized with respect to a bed. Costly extras such as special posts, fixture boxes and special wiring are avoided. In addition, none of the switches or brackets show when the bed is made.

It will be understood that the foregoing description has related to a particular embodiment of the invention and is therefore representative. In order to appreciate the scope of the invention, reference should be made to the appended claims.

I claim:

1. In combination with a bed frame a switch mounted in a position on the bed frame, said switch mounted in a switch mount having a vertical body portion whose upper end mounts a switch, the intermediate part of said body portion being adapted to be inserted between a side frame element and a box spring, a lower horizontal leg integrally connected to said vertical body portion adapted to underlie the bottom of said box spring, and means for attaching said vertical body portion to said side frame element and for attaching said lower horizontal leg to the bottom of the box spring, a wire lead connecting one side of a source of electrical current to one terminal of said switch, a second wire lead connecting a second terminal of said switch to a lamp positioned apart from the bed and a third wire lead connecting said lamp to the other side of said electrical source.

2. The combination according to claim 1 wherein more than one switch is mounted in a position on the bed frame, having wire leads connecting one side of a source of electrical current to one terminal of said switches, second wire leads connecting a second terminal of said switches to a lamp positioned apart from the bed and third wire leads connecting said lamp to the other side of said electrical source.

3. The combination according to claim 2 wherein the source of electrical current is a conventional wall outlet, a first receptacle is plugged into said wall outlet said first receptacle providing means for connecting ground current to said bed switches and further providing means connecting the second terminal of said switches to a lead to said lamp.

4. The combination according to claim 3 wherein a second receptacle is connected to a second bed frame said second receptacle being connected to the first receptacle, said second receptacle providing means for connecting ground current through said first receptacle to bed switches on said second bed frame and further providing means connecting the second terminal of said bed switches of said second bed frame to a lead in said first receptacle and therefrom to said wall-mounted receptacle.

5. The combination of claim 4 wherein said switches are each respectively mounted on a side frame element of said bed frame at a convenient distance from said headboard.

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