Sept. 8 1970 E. A. SPACEK 3,527,914

TOGGLE SWITCH GUARD

Filed March 3, 1969

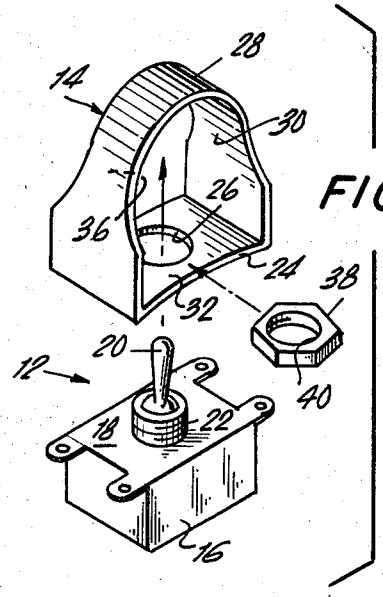


FIG. 1

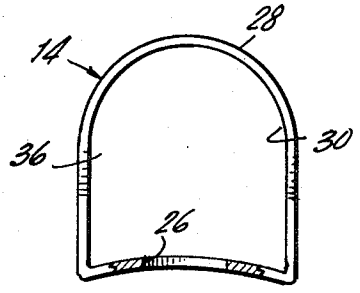


FIG. 2

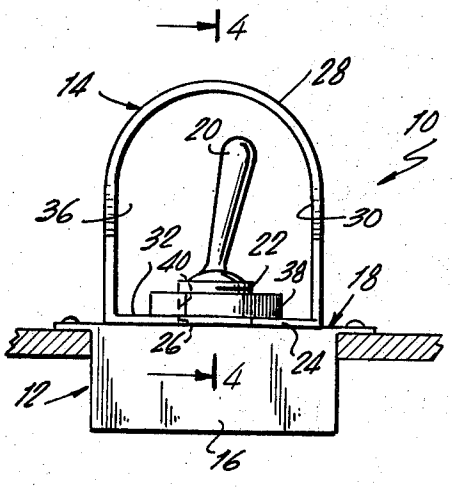


FIG. 3

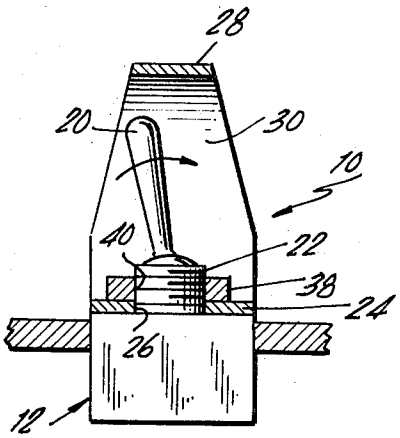


FIG. 4

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United States Patent Office 3,527,914
Patented Sept. 8, 1970

3,527,914

TOGGLE SWITCH GUARD

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Filed Mar. 3, 1969, Ser. No. 803,894
Int. Cl. H01h 9/02
U.S. Cl. 200—168 4 Claims

ABSTRACT OF THE DISCLOSURE

A guard for a toggle switch which occupies a protective position about the switch member so as to minimize inadvertent actuation of the switch member without, at the same time, rendering the switch member unduly inaccessible for switching operation.

The present invention relates generally to a toggle switch guard, and more particularly to a guard adapted to be readily and effectively assembled to this type of switch so as to minimize inadvertent actuation of the switch.

As generally understood, a toggle switch includes a switch member having a projected position from the housing of the electrical contacts and is adapted to be moved between on-off switching positions. While switches are generally subject to inadvertent actuation, a toggle switch is particularly prone to this disadvantageous occurrence. Moreover, in providing a guard about the switch member in order to minimize inadvertent striking of the switch it is necessary that the protective guard does not at the same time unduly complicate and interfere with accessibility of the switch member since this would defeat one of the primary reasons for using a toggle switch which is noted for the ease in which it is operated. Additionally, it is necessary that the assembly of the guard to the switch be as simple as possible and yet this assembly be sufficiently firm to withstand vibration if the switch is an integral part of a motor or other such apparatus which during normal operation is characterized by considerable vibration. Presently known guards for toggle switches and similar such switches fail to satisfy all of these commercial requirements.

Broadly, it is an object of the present invention to provide an improved toggle switch guard overcoming the foregoing and other shortcomings of the prior art. Specifically, it is an object to provide an improved guard for a toggle switch which is simple in its construction, easily assembled to the switch and which, once firmly assembled, remains in this condition despite even excessive vibration.

A toggle switch guard demonstrating objects and advantages of the present invention has a concavely shaped base which during attachment to the switch housing is flattened against the housing with the result that forces are induced to hold the base firmly to the switch housing despite excessive vibration. Additionally, formed as an integral part of the base is an upstanding, generally semicircular wall which cooperates with the base to define a protective compartment into the switch member of the toggle switch is projected during assembly of the guard to the switch.

The above brief description, as well as further objects, features and advantages of the present invention, will be more fully appreciated by reference to the following detailed description of a presently preferred, but nonetheless illustrative embodiment in accordance with the present invention, when taken in conjunction with the accompanying drawings wherein:

FIG. 1 is an exploded perspective view of a switch guard according to the present invention;

FIG. 2 is an isolated side elevational view of the guard;

FIG. 3 is a side elevational view illustrating the guard in its assembled condition to the switch; and

FIG. 4 is an elevational view, in section taken on line 4—4 of FIG. 3, illustrating further structural details.

Reference is now made to the drawings wherein there is shown a switch guard, generally designated **10**, demonstrating objects and advantages of the present invention. Switch guard **10** includes two major components: a switch, generally designated **12**, which preferably is a so-called toggle switch and a guard **14** which, when assembled to the switch **12**, all as will be described in greater detail subsequently herein, is effective in minimizing inadvertent actuation of the switch **12**. In achieving this function of minimizing inadvertent actuation of the switch **12**, the guard **14** nevertheless does not make it inconvenient to gain access to and to operate the switch **12**.

As generally understood, switch **12** includes a housing **16** for the usual electrical contacts and has extending from an upper wall **18**, which serves as a support for the guard **14**, a switch member **20** operatively arranged for switching movement between on-off switching positions. The member **20** additionally has an externally threaded base **22**.

The switch guard **14** is preferably fabricated of a spring-like metal and includes a concavely curved lower wall or base **24** having an opening **26** located centrally therein of a sufficient extent to accommodate the threaded base **22** in a projected position therethrough. Formed integrally with the base **24** is an upstanding, generally semicircular shaped wall **28**, the inner surface **30** of which cooperates with the inner surface **32** of the base **24** to define a protective chamber or compartment **34** for the switch member **20**. While affording this protection to the switch member **20**, however, compartment **34** has side access openings **36** through which the switch member **20** can be grasped and actuated through switching movement. On the other hand, inadvertent actuation of the switch member **20**, as may be caused by the brushing of a shoulder of a passerby against the switch member **20** is significantly minimized by the assembly of the switch guard **14** to the switch **12** with the switch member **20** within the protective compartment **34**.

In assembling the guard **14** on the switch **12** the switch member **20** and the threaded base **22** is projected through the previously noted opening **26**. This is effective in positioning the concave shaped base **32** against the substantially flat wall **18** of the housing **16**. Next, a nut **38** having a threaded central opening **40** is threadably engaged with the threaded base **22** and tightened thereon such that the concavely shaped base **32** is flattened against the smooth or planar wall **18**, all as is clearly illustrated in FIGS. 3, 4. This flattening or flexing induced in the base **32** is effective in inducing a force urgency in the base in much the same way that similar forces are induced in lock washers and is effective in holding the guard **14** firmly in its mounted position on the switch **12** despite vibration in the motor or other apparatus which switch **12** may be an integral part of.

A latitude of modification, change and substitution is intended in the foregoing disclosure and in some instances some features of the invention will be employed without a corresponding use of other features.

What is claimed is:

1. A switch guard for a switch member having a projected position from a support and operatively arranged for switching movement between operative on-off switching positions, said switch guard comprising a base, an upstanding wall connected in a clearance position from said base having an internal surface cooperating with said base to bound a protective compartment with side openings for said switch member, and connecting means for mounting said base to said support with said switch member extending into said protective compartment, whereby

inadvertent actuation of said switch member is minimized while access thereto preparatory to intended actuation therof is possible through said side openings.

2. A switch guard as defined in claim 1 wherein said base is constructed of a flexible material and has a concave shape relative to said support, and said connecting means is operatively effective in the completion of said connection of said base to said support to cause flexing in said base incident to the flattening of said concave shape of said base against said support, whereby said flexing induces holding forces between said base and said support which minimizes the loosening of the connection therebetween due to vibration.

3. A switch guard as defined in claim 2 wherein said upstanding wall is generally semicircular in shape.

4. A switch guard as defined in claim 3 wherein said switch member includes a threaded base having an operative projected position through an opening in said base,

and said connecting means is a nut adapted to be threadably engaged to said threaded base.

References Cited

UNITED STATES PATENTS

2,348,393	5/1944	Krieger.
2,813,938	11/1957	Speizman.
2,824,915	2/1958	Buturuga.
3,170,050	2/1965	Buturuga.

FOREIGN PATENTS

764,115	7/1967	Canada.

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U.S. Cl. X.R.

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