Feb. 16, 1965 J. BUTURUGA 3,170,050

SAFETY GUARD FOR ELECTRIC SWITCH

Filed July 17, 1961 2 Sheets-Sheet 1

Fig. 1

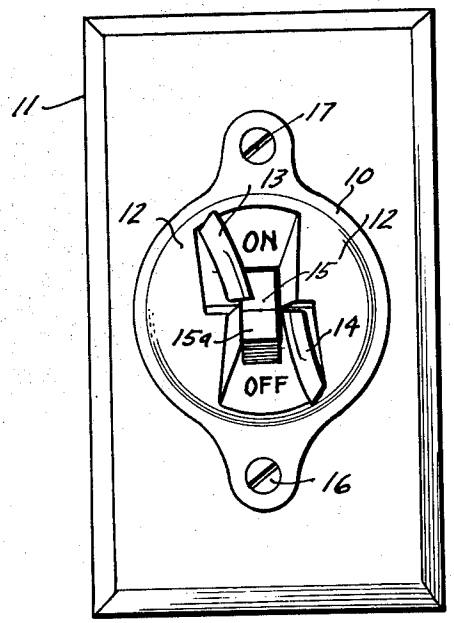


Fig. 2

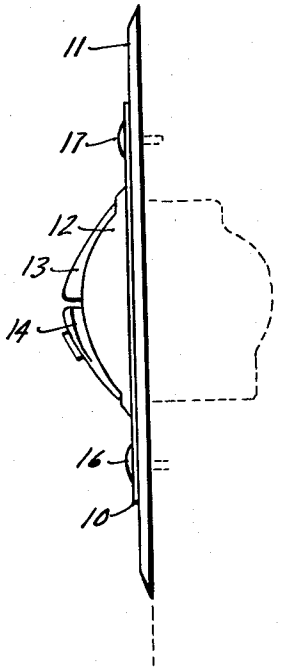


Fig. 8

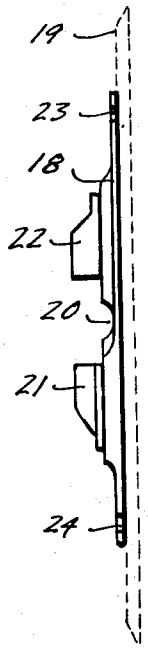


Fig. 3

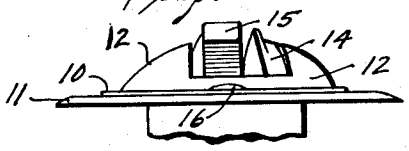
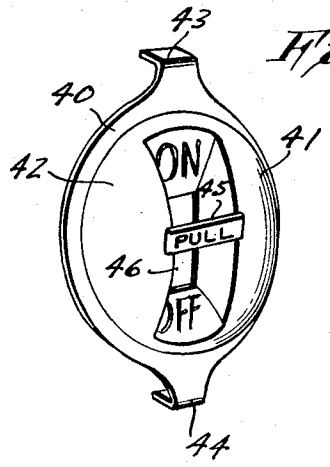


Fig. 6a



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Fig. 9

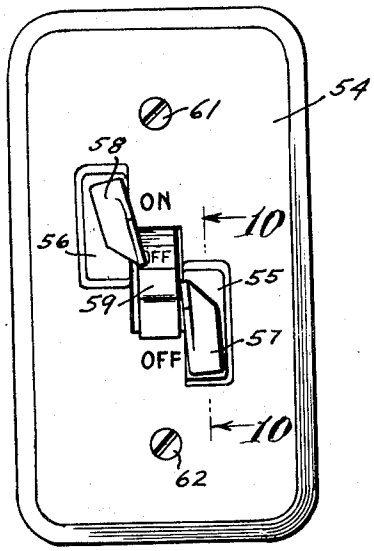


Fig. 10

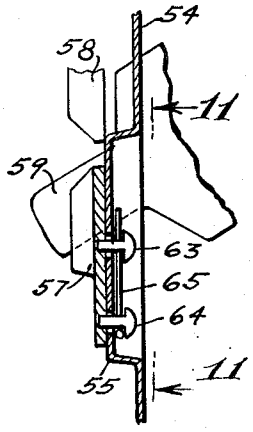


Fig. 11

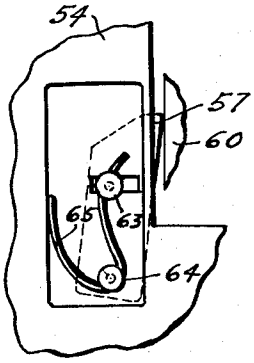


Fig. 4

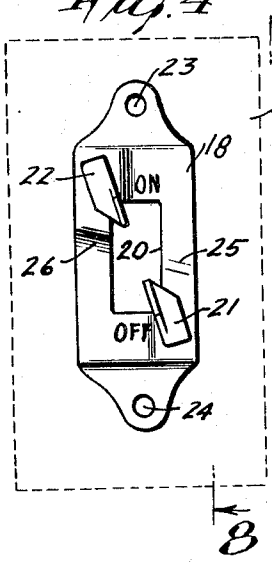


Fig. 5

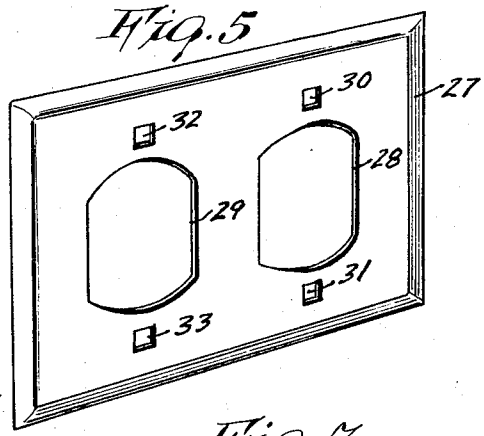


Fig. 6

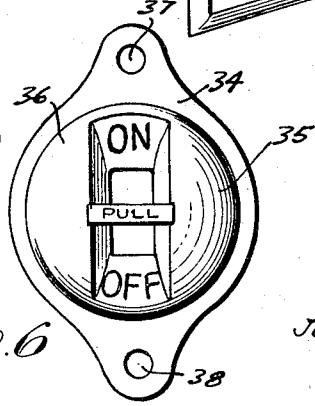
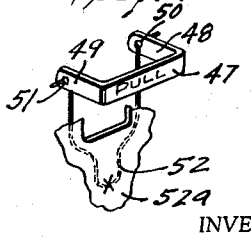


Fig. 7



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3,170,050

SAFETY GUARD FOR ELECTRIC SWITCH

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Filed July 17, 1961, Ser. No. 124,669
5 Claims. (Cl. 200—42)

This invention relates to a safety guard and lock applicable to various types of electric switches. It is an improvement over my device disclosed in Patent Number 2,824,915, of February 25, 1958.

The device disclosed in Patent Number 2,824,915, prevents accidental actuation of the switch by surrounding the switch with protective projections integral with the switch plate bracket. The projections are so formed that the switch can easily be operated although accidental actuation is greatly reduced.

The instant invention, to be disclosed herein in detail is an improved form wherein accidental actuation is positively prevented by a locking device in addition to the provision of protective projections. An adaptor is also provided which will convert a conventional switch plate bracket into a safety type bracket that cannot be accidentally actuated.

Consequently the primary object of this invention is to provide a safety bracket for an electric switch which will both protect the switch from accidental contact and positively lock the switch in the on or off position.

Another important object is to provide a removable bracket which can be mounted on a conventional switch bracket thereby converting the bracket into a safety device preventing both accidental contact and actuation of the switch.

Further objects and inventive features will become more apparent from the following detailed description, claims and appended drawings in which:

FIGURE 1 is a plan view of the preferred form of the safety guard bracket in its relationship to a conventional electric switch.

FIGURE 2 is a side elevation of the guard bracket of FIGURE 1.

FIGURE 3 is an end elevation of the guard bracket of FIGURE 1.

FIGURE 4 is a plan view of a guard bracket adapted for mounting on a conventional switch plate.

FIGURE 5 is a perspective view of a modified switch bracket adapted to accommodate two switches and a removable safety guard.

FIGURE 6 is a plan view of a removable type safety guard adapted for mounting on a bracket such as shown in FIGURE 5.

FIGURE 6A is a modification of the guard of FIGURE 6.

FIGURE 7 is a perspective view of the locking device shown in FIGURES 6 and 6A.

FIGURE 8 is a side view of the bracket of FIGURE 4.

FIGURE 9 is a plan view of another modification of the bracket FIGURE 1.

FIGURE 10 is a partial sectional view taken along plane 10—10 of FIGURE 9.

FIGURE 11 is a bottom view of bracket parts shown in FIGURES 9 and 10.

Referring to FIGURES 1, 2 and 3, the preferred embodiment of the invention is seen to comprise a bracket **10** mounted on a conventional switch plate **11** by means of screws **16** and **17**. The bracket has a spherical projection **12** which generally surround and protect an aperture **15** through which the toggle arm of a switch **15***a* projects and can reciprocate from the on to off position. A pair of latches **13** and **14** are provided each side of the aperture and project beyond the projection **12**. The

latches are spring biased (spring not shown) towards the switch **15***a*.

In FIGURE 1, latch **13** is shown overlapping the aperture **15** thereby preventing accidental actuation of the switch from the "Off" to the "On" position. By manually pressing latch **13** laterally away from aperture **15**, the switch can be moved to the on position whereupon latch **14** moves automatically over aperture **15** blocking accidental actuation of the switch to the "Off" position due to the spring action described above. To move the switch back to the "Off" position, the operator must press latch **14** away from aperture **15** and at the same time move the switch.

It is thus apparent that the construction shown in FIGURES 1, 2 and 3, will prevent accidental contact with the switch due to projection **12** and actuation of the switch can only be accomplished by manually moving the appropriate latch from the aperture **15**.

In FIGURES 4 and 8 a modification is shown wherein a bracket **18** of generally rectangular configuration is adapted for mounting on a switch plate **19**, bracket **18** includes an aperture **20** for a switch and spring biased latches **21** and **22** which are prevented from excessive outward movement by abutments **25** and **26**. Screw holes **23** and **24** are provided to receive mounting screws. Bracket **18** operates in much the same manner as the device of FIGURE 1, except that it is rectangular in form and the projections are not spherical but merely a flat plate as seen better in the elevation of FIGURE 8.

In FIGURE 5 a modified switch plate **27** is shown which provides two similar apertures to receive two switches holes **30**, **31**, **32** and **33** are provided to mount guard brackets such as **34** and **40** shown in FIGURES 6 and 6A.

Guard bracket **34** of FIGURE 6 includes spherical projections **35** and **36** which surround and protect the central switch aperture. Terminal flanges with screw holes **37** and **38** are provided to mount the bracket on a plate scuh as **27** of FIGURE 5 or a conventional bracket. A latch **39** mounted across the switch aperture on the projections **35** and **36** prevents accidental actuation of the switch. Latch **39** is biased in the guarding position by a spring arrangement as better seen in FIGURE 7 wherein a similar latch **47** with legs **48** and **49** is attached to a flat spring **52** at its end **50** and **51**. The spring is affixed at one end to the bracket at **52***a*. Thus the latch can be lifted away from the bracket against the action of the spring until there is enough clearance to actuate the snaps back against the bracket projections blocking actuation of the switch.

The bracket **40** of FIGURE 6A includes spherical projections **41** and **42** on either side of an aperture **46** and latch **45** similar to the latch of FIGURE 7. All the foregoing being similar to FIGURE 6. The difference is in the end tabs **43** and **44** which can be inserted in complementary slots in the switch plate for convenient mounting.

In FIGURES 9, 10 and 11 another form of the invention is disclosed which provides a switch plate **54** with flat projections **55** and **56** upon which latches **57** and **58** are pivotally mounted. The latches are biased towards a switch aperture **60** through which a switch **59** projects. Screws **61** and **62** are used to mount the plate **54** on a wall. The inner ends of the latches are stopped at approximately 45 degrees for a more effective locking action when engaged by the switch. Each of the latches is attached at **63** to a spring **65** (FIGURE 11) which is fixed to the bracket by rivet **64**. The attachment **63** reciprocates in a slot and thereby spring **65** forces the latch toward the aperture for engagement with the switch.

The modification of FIGURE 9 is an integral assembly which is applicable to new installations requiring a safety switch guard. Whereas, the other figures are used to adapt an existing switch plate with this safety feature.

It is now apparent that the above described embodiments will prevent accidental contact or actuation and are especially suitable for electrical installations which cannot afford an improper actuation. Despite the positive protection provided by this invention, it is also clear that authorized and proper actuation is easily had.

A grant of Letter Patent is hereby requested for the invention as defined in the following claims.

I claim as follows:

1. A safety bracket adapted to be mounted over a double throw electrical switch having a toggle arm having two positions corresponding to On and Off respectively, said bracket comprising a plate with a central aperture through which toggle arm extends, said plate having projections on opposite sides of the aperture and latches spring mounted in the projections and said latch biased to a position blocking accidental movement of the toggle arm from the particular one of said two positions in which the arm is in, said latches being movable to positions clearing said aperture and said projections protecting the aperture and arm, said latches and said arm cooperating in a manner whereby the arm must be moved manually at the same time the appropriate latch must be released manually in order to permit the arm to be moved from one position to the other.

2. A safety bracket as in claim 1 wherein the projections are of spherical contour.

3. A safety bracket as in claim 1, wherein the projections are rectangular in shape and the latches are mounted thereon.

4. A safety bracket as in claim 1 wherein the bracket is adapted with means for being mounted on a switch plate.

5. A bracket as in claim 1 wherein the latches have end surfaces inclined relative to the surface of the switch.

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