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S. L. EASTBURN

1,783,283

SWITCH STAND

Filed Jan. 22, 1929

Fig. 1

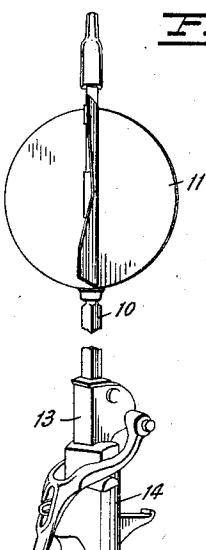


Fig. 3

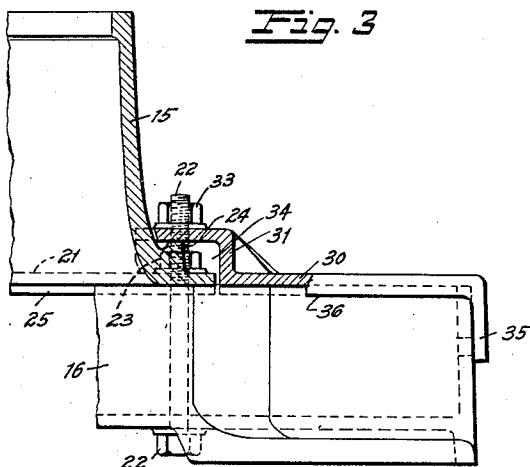


Fig. 4

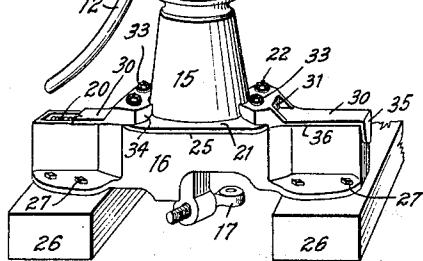


Fig. 5

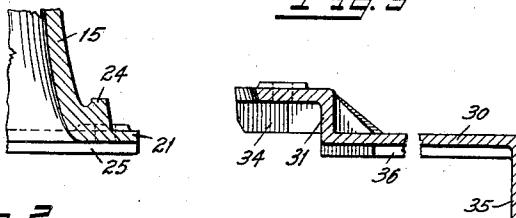
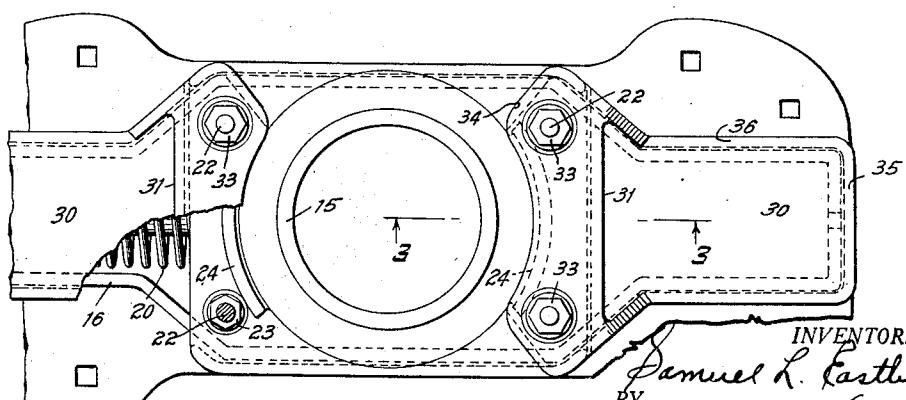


Fig. 2



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## UNITED STATES PATENT OFFICE

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## SWITCH STAND

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This invention relates to switch stands, and more particularly to stands of the automatic type and to a new and improved housing therefor by means of which the operating parts are protected from the elements.

In switch stands of the automatic type, for example, those shown in the patents to Snow et al. No. 882,024, March 17, 1908, and Strong No. 1,005,081, October 3, 1911, it is desirable to provide a housing which is capable of protecting the operating parts from sand and snow. The housing should preferably be constructed so as to permit ready access to the various parts for purposes of inspection, oiling and adjustment without interfering with the operation of the switch or the relative adjustment of the parts. It is also desirable to so construct the housing that certain portions thereof may be replaced when desired without dismantling the entire switch stand.

In accordance with the present invention the housing comprises a central casing which surrounds the spindle and automatic locking mechanism, and is supported from a suitable base member in which the star wheel, springs and other necessary parts are contained. A pair of separate cover plates are mounted on the base in a position overlying the springs and are provided with upturned flanges which cooperate with the central casing for preventing entrance of sand or snow therebetween. The cover plates are further provided with a downwardly extending flange adapted to overlie the hole which is commonly provided in the end of the base to permit the spring to be properly tensioned. These cover plates are so constructed that sand, snow and rain are prevented from entering the base member and interfering with the action of the switch stand.

The invention also consists in certain new and original features of construction and combinations of parts hereinafter set forth and claimed.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, the mode of its operation and the manner of its organization may

be better understood by referring to the following description taken in connection with the accompanying drawings forming a part thereof, in which

Fig. 1 is a perspective view of a switch stand showing the housing constructed in accordance with the present invention;

Fig. 2 is a top plan view of the housing showing the relationship of the parts;

Fig. 3 is a section taken on the line 3—3 of Fig. 2;

Fig. 4 is a detail sectional view of a portion of the casing; and

Fig. 5 is a detail sectional view of the cooperating portion of the cover plate.

Like reference characters denote like parts in the several figures of the drawings.

In the following description and in the claims parts will be identified by specific names for convenience, but they are intended to be as generic in their application to similar parts as the art will permit.

Referring to the drawings more in detail, the invention is shown as applied to a switch stand of the automatic type including a spindle 10 carrying the usual target 11 and associated with an operating handle 12 by means of which the switch is controlled. Handle 12 is shown as pivoted to a sleeve 13 and cooperating with a lock block 14 which is suitably mounted on a central casing 15. Spindle 10 extends through said casing 15 and terminates beneath base 16 in a link 17 which is operatively connected to the switch by a connecting rod (not shown). Incorporated within base 16 and extending outwardly on both sides from the central casing 15 may be a pair of operating springs 20 which cooperate with suitable mechanism carried by spindle 10 for automatically operating said switch. The particular form of operating mechanism forms no part of the present invention and is accordingly not set forth in detail. A type of apparatus which may be employed is shown in the patents to Snow et al. and Strong above mentioned.

Base 16 forms a closure for springs 20 and the associated operating mechanism and supports central casing 15. Said casing is provided with a bottom flange 21 which rests

upon base 16 and is secured thereto by bolts 22 extending through said base and clamped by nuts 23. Upstanding lips 24 are provided on opposite sides of casing 15 and form with said casing a channel which serves to catch foreign matter such as rain, snow or sand and prevent the same from reaching the mechanism enclosed within base 16. Casing 15 is also provided with side flanges 25 which extend over opposite sides of base 16 for forming a tight closure therewith. Said casing may be supported by any suitable manner as from ties 26 to which it may be secured by spikes 27.

15 Cover plates 30 are of suitable dimensions to enclose the upper portion of base 16 on opposite sides of casing 15 overlying springs 20 and associated mechanism. Said cover plates are provided on their inner ends with upturned lips 31 of sufficient elevation to pass over nuts 23 and adapted to rest on lip 24 of casing 15 and to bear against the outer face of said casing. Suitable holes may be provided in lip 31 through which bolts 22 may pass, whereby said lip may be secured by nuts 33. Plates 30 are also provided with downwardly extending shrouds 34 enclosing the end of lip 31, and forming in connection with casing 15 substantially a tight seal.

20 Said cover plates on their outer ends are provided with downwardly extending lips 35 which are adapted to cover the holes which may be provided in base 16 to give access to springs 20. Side flanges 36 fit over base 16 and form a tight closure therewith.

25 It is to be noted that in the construction above described, flanges 25 of casing 15 and flanges 36 of cover plates 30 substantially surround base member 16 and prevent access of the elements thereto. The upstanding lips of cover plates 30 permit the plates to be attached without disturbing nuts 23 which secure casing 15, and at the same time permit the cover plates to be secured without the use of additional bolts. The lips also cooperate with the upstanding lips on the central casing for forming substantially a water-tight seal, while the shrouds complete the enclosure.

30 For the purpose of adjusting springs 30, or for inspection, it is only necessary to remove nuts 33 whereby cover plates 30 may be lifted off for exposing the springs to view. This is accomplished without disturbing the central portion of the casing or any of the operating mechanism and without interrupting the action of the switch. Furthermore, should the cover plates become damaged they may be readily replaced without necessitating the replacement of the entire housing which would ordinarily require complete dismantling of the switch stand. Inasmuch as frequent inspection and oiling are essential, it is obvious that the improved cover plates

contribute to the safety of the switch stand and reduce the operating costs.

While certain novel features of the invention have been shown and described and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes in the forms and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. A housing for a switch stand comprising a base member adapted to support the switch stand and containing the switch operating mechanism, a central casing supported by said base member and separate cover plates extending on opposite sides of said casing and forming in connection therewith a substantially complete closure for said base member.

2. In combination with a switch stand including a central spindle and operating mechanism therefor, a base member carrying said operating mechanism, a central casing surrounding said spindle and mounted upon said base member, and separate outwardly extending cover plates for said base member located on opposite sides of said central casing.

3. In combination with a switch stand including a central spindle and operating mechanism therefor, a base member carrying said operating mechanism, a central casing surrounding said spindle and mounted upon said base member, separate outwardly extending cover plates for said base member located on opposite sides of said central casing, and means for effectively sealing the joint between said cover plates and said casing.

4. A housing for a switch stand comprising a central casing having upstanding lips on opposite sides thereof, and cover plates disposed on opposite sides of said casing and cooperating with said lips to form an effective seal.

5. A casing for a switch stand comprising a base member and separate cover members mounted on said base member and provided with downwardly extending flanges overlying a portion of the ends of said base member.

6. In a switch stand, a base member, a central housing mounted thereon, said housing having upstanding lips at opposite sides thereof forming in connection therewith a channel for catching foreign material, cover plates mounted on said base member on opposite sides of said central housing and provided with an upturned lip adapted to seat on said first mentioned lips for forming an effective seal.

7. In a switch stand, a base member, a central housing mounted thereon, said housing having upstanding lips at opposite sides thereof forming in connection therewith a

channel for catching foreign material, cover plates mounted on said base member on opposite sides of said central housing and provided with an upturned lip adapted to seat

5 on said first mentioned lips for forming an effective seal, said cover plates having side shrouds for closing the end of said upturned lips.

8. A cover plate for a switch stand comprising a member adapted to seat on said stand, an upturned lip on one end of said member having means associated therewith for securing said member to the switch stand, said plate having a downward lip on the opposite end thereof to overlie a portion of the end of said stand.

9. A cover plate for a switch stand comprising a member adapted to seat on said stand, an upturned lip on one end of said member having means associated therewith for securing said member to the switch stand, said plate having a downward lip on the opposite end thereof to overlie a portion of the end of said stand, and having side flanges 25 adapted to seat over the sides of said stand for forming an effective seal.

10. In a switch stand, a central casing, means for securing said casing to a base member, cover plates associated with said base member and cooperating with said casing to form an effective seal, and means whereby said cover plate may be secured to said base member independently of said casing.

11. In a switch stand, a central casing having side flanges, bolts extending through said side flanges for securing said casing to a base member, side cover plates associated with said base member, said plates being provided 40 with upturned flanges adapted to overlie said bolts whereby said plates may be positioned without detaching said casing.

12. In combination with a switch stand, a central casing therefor, means for securing said casing to a base member comprising bolts extending upwardly through said base member and nuts threaded on said bolts and overlying said casing, a cover plate for said base member having an upturned flange adapted to pass over said nuts, said bolts being extended through said flange for securing said cover plate to said base member.

13. In combination with a switch stand, a housing therefor comprising a central casing and outwardly extending cover plates and a single means for securing said casing and said cover plates, said means being adapted to permit removal of said cover plates without disengagement of said casing.

14. In combination with a switch stand, a base member therefor and a closure for said base member comprising a central casing, and sidewardly extending cover plates, said casing and said cover plates having means for forming a seal therebetween, said cover

plates having downwardly extending flanges for enclosing the ends of said base member.

In testimony whereof I have hereunto set my hand.

SAMUEL L. EASTBURN. 70

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