Feb. 27, 1968 C. F. MAXTED 3,371,149

BARRIER PROTECTION OF ELECTRICAL POWER AND TELEVISION ANTENNA LEAD RECEPTACLES

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FIG. 1.

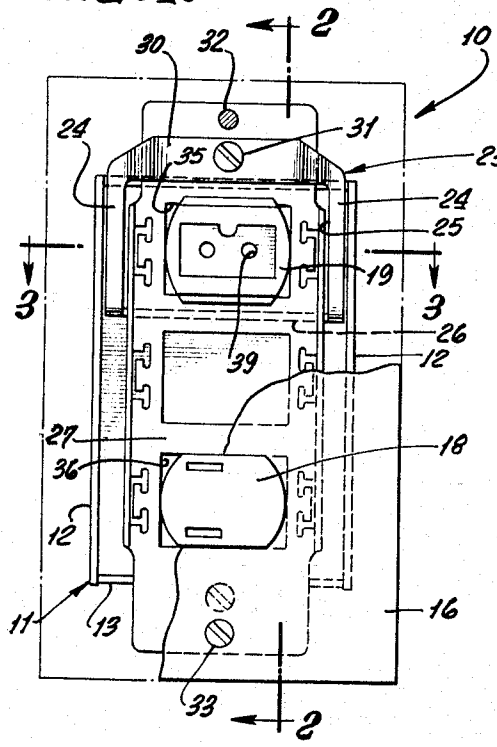


FIG. 2.

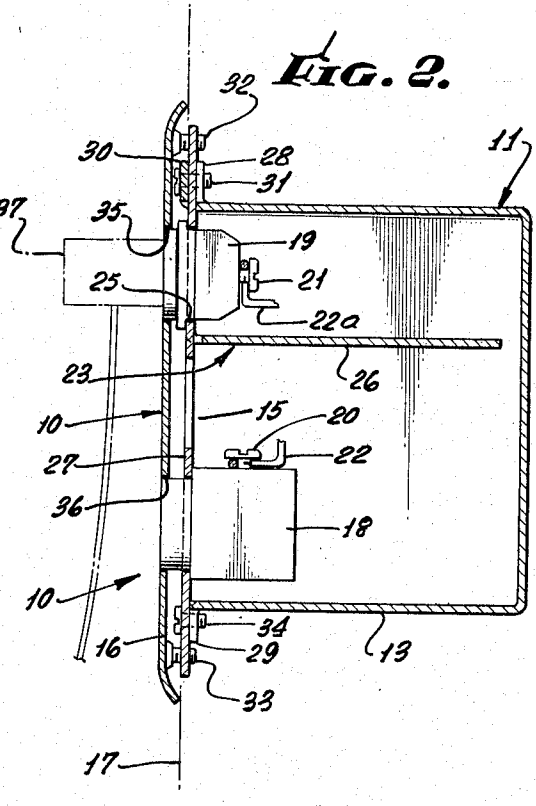


FIG. 3.

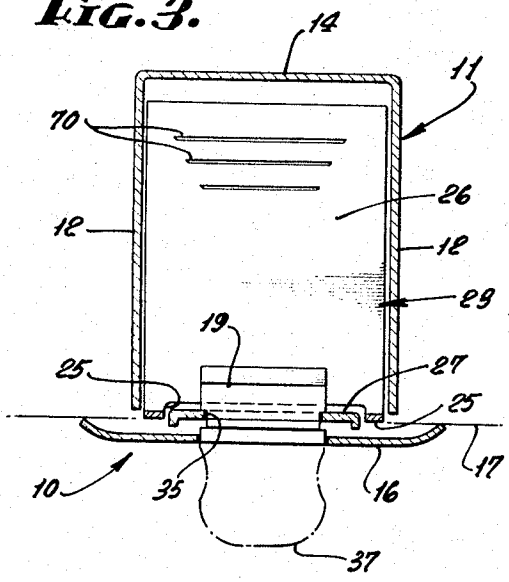
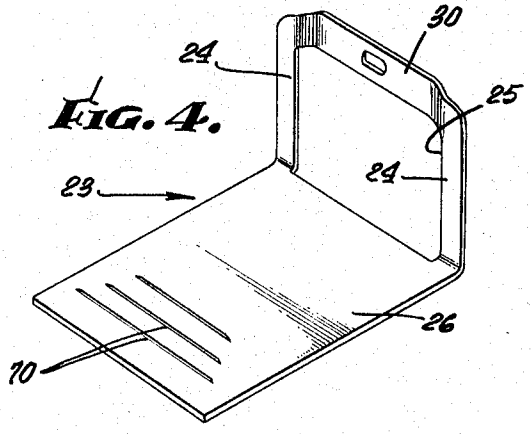


FIG. 4.



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FIG. 5.

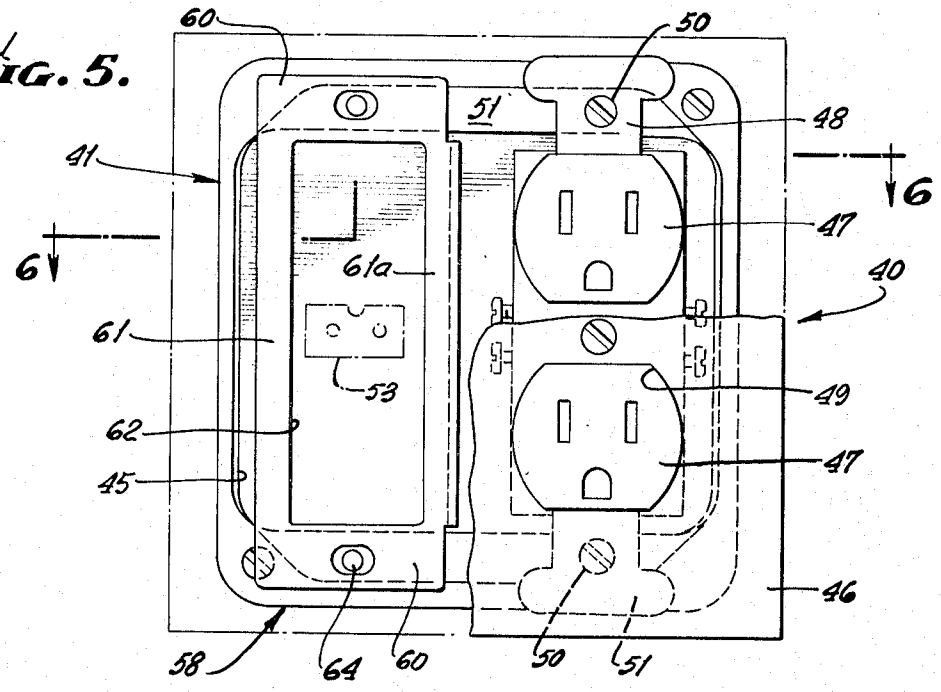


FIG. 6.

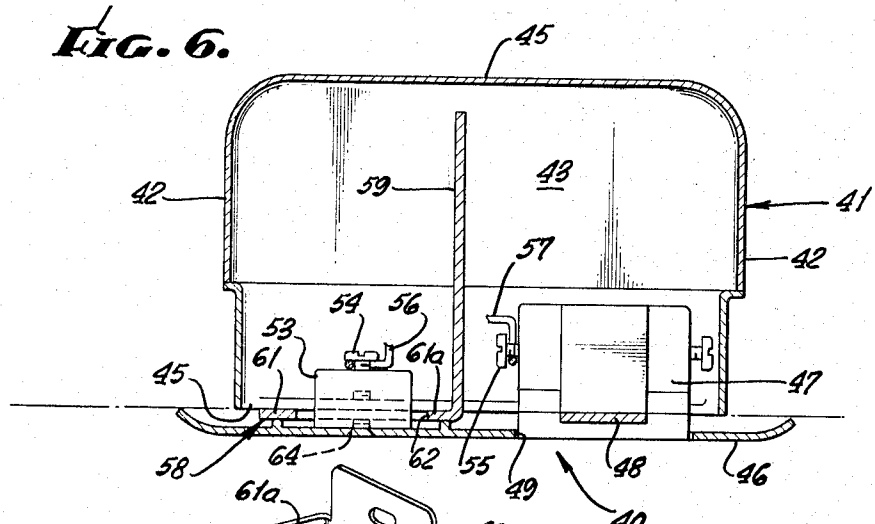
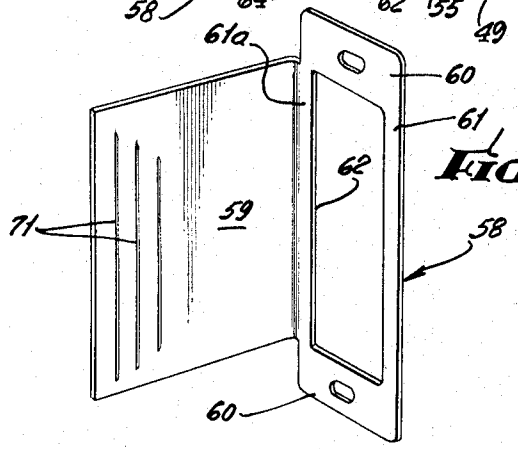


FIG. 7.



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United States Patent Office 3,371,149 Patented Feb. 27, 1968

3,371,149

BARRIER PROTECTION OF ELECTRICAL POWER AND TELEVISION ANTENNA LEAD RECEPTACLES

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Filed Oct. 18, 1965, Ser. No. 497,299
5 Claims. (Cl. 174—53)

ABSTRACT OF THE DISCLOSURE

The disclosed electrical outlet assembly includes integral L-shaped strap structure having a protective barrier plate projecting within an outlet box between an electrical power terminal receptacle and a television antenna lead terminal receptacle; the strap structure also having spaced arms and an interconnecting cross piece spaced from the barrier plate and proximate the front of the box so that one of the receptacles is receivable between the arms and also between the barrier and cross piece, and also so that the arms or cross piece may be removably retained by a fastener at the inner side of a covering face plate.

This invention relates generally to electrical outlet assemblies, and more particularly has to do with improvements in such assemblies incorporating electrical power terminal and television antenna terminal receptacles.

In a typical outlet assembly incorporating the invention there are provided a box structure having a front opening, a face plate extending in overlying relation to the front opening, an electrical power terminal receptacle and a television antenna lead terminal receptacle, both receptacles carried in such relation to the plate as to project into the box interior and to have terminal plug-in accessibility from the outer side of the plate, the receptacles having connections exposed within the box interior for establishing electrical connections with electrical power supply and television antenna leads respectively, and a first strap structure removably retained at the inner side of the face plate to project between the receptacles, thereby providing a barrier against destructive arcing between the connections. As will be seen, the barrier providing strap structure is characterized by unusually effective combination with and accommodation by the remaining structure.

Additional features of the invention include the provision of strap structure having spaced parallel arms proximate the box structure front opening and supporting the barrier, the television antenna lead terminal receptacle projecting through the space between such arms; the location of such arms to define a plane generally parallel to the face plate with the barrier defining a plane generally normal to the face plate; the provision of a box structure flange located to be attachable to a strap structure arm at the box side of the face plate by a fastener; the provision of a second strap for mounting the electrical power receptacle, the box structure having a flange proximate the front opening, and including a fastener attaching both the first strap structure and second strap to the flange at the box side of the face plate; and the integral incorporation of the television antenna lead terminal receptacle with the face plate.

These and other objects and advantages of the invention, as well as the details of an illustrative embodiment, will be more fully understood from the following detailed description of the drawings, in which:

FIG. 1 is a front elevation of an electrical outlet assembly incorporating the invention, the front cover being removed;

FIG. 2 is a section taken on line 2—2 of FIG. 1;

FIG. 3 is a section taken on line 3—3 of FIG. 1;

FIG. 4 is a perspective showing of the barrier forming strap structure used in the FIG. 1 assembly;

FIG. 5 is a view like FIG. 1, but showing a modified form of outlet assembly;

FIG. 6 is a section taken on line 6—6 of FIG. 5; and

FIG. 7 is a perspective view of the FIGS. 5 and 6 barrier forming strap structure.

Referring first to FIGS. 1–4, the electrical outlet assembly **10** includes a box structure **11** having side, end and bottom walls **12**, **13** and **14** respectively, and a front opening **15**. Overlying the latter is a face plate **16**, which may typically be non-metallic or insulative, and its edges may extend proximate a wall **17**.

Carried in such relation to the plate as to project into the box interior and to have terminal plug-in accessibility from the outer side of plate **16** are an electrical power terminal receptacle **18** and a television antenna lead terminal receptacle **19**. The receptacles may have connections **20** and **21** respectively exposed within the box interior for establishing electrical connections with electrical power supply and television antenna leads respectively, and indicated at **22** and **22***a*.

An important feature of the invention is the provision of first strap structure removably retained at the inner side of the face plate to project between the receptacles, thereby to provide a barrier against destructive arcing between the connections. In FIGS. 1–4 the first strap structure **23** has spaced parallel arms **24** and a crosspiece **30** to form a space **25** through which receptacle **19** projects. The arms **24** extend proximate the front opening **15** and support the barrier **26** which defines a plane generally normal to the face plate **16**. The plane of the arms **24** is substantially parallel to that of the face plate.

Also, as seen in FIG. 2, the receptacles **18** and **19** are carried by a second strap **27** which extends generally parallel to the face plate, between arms **24** and into overlying relation with box structure flanges **28** and **29**. Crosspiece **30** is raised relative to arms **24** so as to extend between the strap **27** and the cover plate **16**, thereby permitting a single threaded fastener **31** to attach both the first strap structure crosspiece **30** and the second strap to the flange **28** at the box side of the face plate. Another fastener **34** connects the opposite end of strap **27** to flange **29**. Finally, fasteners **32** and **33** may attach the face plate for the end portions of strap **27** beyond flanges **28** and **29**. Face plate **16** has openings **35** and **36** through which the plug-in terminals **38** and **39** of the receptacles **18** and **19** respectively are accessible, as for example to the television lead plug **37**.

Turning now to FIGS. 5–7, the assembly **40** includes box structure **41** with side, end and bottom walls **42–44** and front opening **45**, face plate **46** overlying the latter. Electrical power terminal receptacles **47** are carried by strap **48**, and are accessible through openings **49** in the plate **46**. The opposite ends of the strap **48** are fastened at **50** to box flanges **51**.

A television lead terminal receptacle **53** is integral with the face plate, and both may comprise molded plastic material. Receptacles **53** and **47** have connections **54** and **55** exposed in the box interior for establishing electrical connections with the television antenna and electrical power supply leads **56** and **57** respectively. Retained at the inner side of the face plate is strap structure **58** in the form of a right angled member having a barrier portion **59** projecting inwardly and between the receptacles **47** and **53**, affording protection against dangerous and destructive arcing or shorting as might be produced by electrical mis-connection between the connections **54** and **55**, or the exposed portions of the leads **56** and **57**.

The strap structure **58** has parallel arms **60** and cross-pieces **61** and **61***a* forming a space **62** through which receptacle **53** projects. Space **62** may be elongated, as seen, to accommodate multiple receptacles **53** if desired. Screw fasteners **64** removably attach the arms **60** to the flanges **51** and at the box side of the face plate, as well as the face plate to the flanges.

Another advantage of the strap structures **23** and **58** is their removability to allow attachment or removal of the electrical power and television antenna leads, without interference by the barriers **26** and **43**.

Finally, FIG. 4 illustrates the provision of indentations **70** on barrier **26** of strap **23**, these being spaced apart and parallel to the plane of strap **27**. Similar indentations **71** are formed on barrier **59** of strap **58**. Such indentations facilitate bending and break-off of terminal portions of the barriers, so that the latter may be fitted into box structures such as **11** and **41**.

I claim:

1. In an electrical outlet assembly, box structure having a front opening, a face plate extending in overlying relation to said opening, an electrical power terminal receptacle and a television antenna lead terminal receptacle, both receptacles carried in such relation to the plate as to project into the box interior and to have terminal plug-in accessibility from the outer side of the plate, the receptacles having connections exposed within the box interior for establishing electrical connections with electrical power supply and television antenna leads respectively, and integral L-shaped strap structure including a barrier plate projecting within the box structure between said receptacles and spaced generally parallel arms and a cross piece extending generally parallel to the plane of the face plate proximate the box structure front opening, said cross piece interconnecting said arms and being spaced from the barrier plate so that one of the receptacles projects in the space between said arms and also between the cross piece and barrier plate, there being a fastener removably retaining at least one of said arms and cross piece proximate the inner side of the face plate.

2. The combination of claim **1** in which said box structure has a flange proximate said front opening, and said fastener removably attaching at least one of said arms to said flange at the box side of said face plate.

3. The combination of claim **1** including a second strap for mounting said electrical power receptacle, said box structure having a flange proximate said front opening, and said fastener attaching said cross piece and said second strap to said flange at the box side of said face plate, said cross piece being offset to bridge said second strap.

4. The combination of claim **1** in which the television antenna lead terminal receptacle is integral with the face plate.

5. The combination of claim **1** in which the barrier has break-off indentations formed therein inwardly of the box interior.

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