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L. F. SCHERER

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ELECTRICAL PLUG LOCKING DEVICE

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Fig. 1

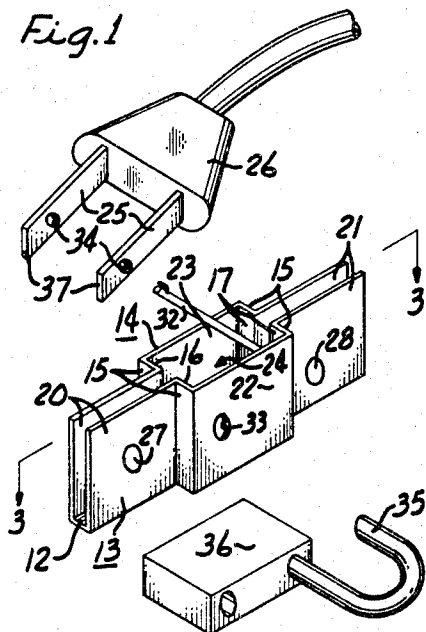


Fig. 2

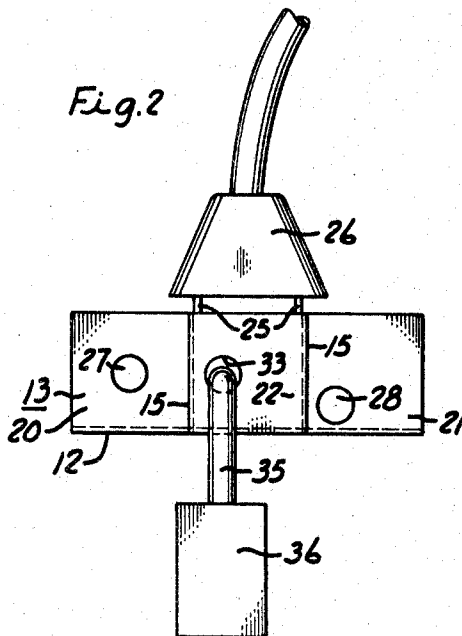


Fig. 4

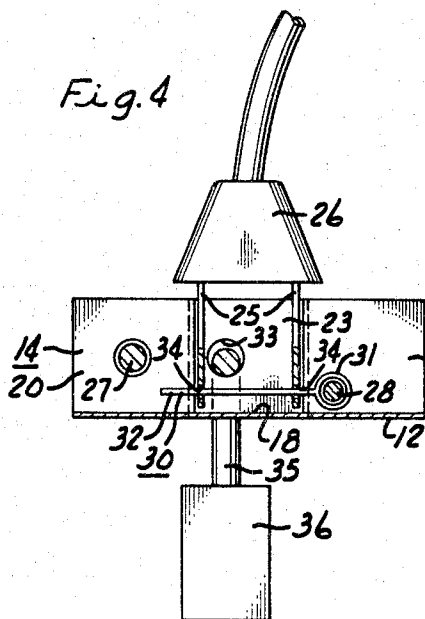
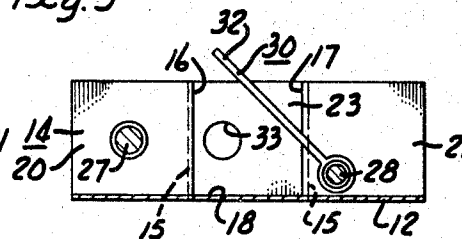


Fig. 3



INVENTOR.
LAWRENCE F. SCHERER
BY
CAROTHERS & CAROTHERS
HIS ATTORNEYS

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ELECTRICAL PLUG LOCKING DEVICE

Lawrence F. Scherer, Allegheny County, Pa.
(1026 Oakland Ave., Port Vue, McKeesport, Pa. 15133)
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ABSTRACT OF THE DISCLOSURE

A device for enveloping the male prongs of a conventional electrical plug or connector and retain the prongs securely within the device upon the application of a lock to prevent the use of the electrical plug in inserting the same in a conventional receptacle.

Background of the invention

This invention relates to electrical plugs or connectors with movable non-use covering means to prevent unauthorized use of the plug.

Summary of invention

This invention relates to a locking device for conventional electrical plugs provided with a central compartment having an opening on one side large enough to receive the prongs of a conventional plug. A rotatably supported pin is provided to pass through the opening into the compartment after the same has been passed through the openings adjacent the ends of the plug prongs. These latter openings are characteristic of all electrical connectors and plugs commonly used today.

Substantially aligned openings are provided in the sides of the compartment to receive the shackle of a conventional lock between the plug prongs and above the pin of the locking device, the pin having already been passed through the openings in the plug prongs and the combination inserted into the compartment. Thus, the shackle prevents the withdrawal of the plug prongs from the compartment of the locking device.

A principal object comprising the present invention is the provision of a locking device to prevent the plugging of a conventional electrical male plug or connector into a standard conventional receptacle in a simple and efficient manner. The locking device comprising this invention can be readily placed upon any of the presently available conventional electrical male plugs on connectors.

Another object comprising the present invention is to provide a locking device for a conventional electrical male plug or connector that is neat in appearance and which may be easily attached to the prongs of the male plug while enveloping the same in an efficient manner.

Still another object of the present invention is to provide a locking device to prevent the use of conventional male plug or connector which can be easily produced, packaged and sold in large quantities at a comparatively low cost, and may be conveniently utilized wherever needed.

Other objects and advantages of this invention appear hereinafter in the following description and claim.

The accompanying drawings show, for the purpose of exemplification without limiting the invention or the claim thereto, certain practical embodiments illustrating the principles of this invention wherein:

FIG. 1 is a perspective view of the locking device for electrical plugs comprising this invention in position for acceptance of a conventional electrical plug including a conventional lock as the securing device.

FIG. 2 is a view in side elevation of the locking device illustrating the electrical plug in secured and locked position.

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FIG. 3 is a cross-sectional side view taken along the line 3—3 of FIG. 1.

FIG. 4 is a cross-sectional side view of the structure shown in FIG. 2.

Referring specifically to FIGS. 1 to 4, the conventional electrical male plug locking device 10 made in accordance with the present invention is shown to include a narrow channeled base 12 formed between parallel side walls 13 and 14. Each of the side walls 13 and 14 have the formed shoulders 15 which serve as end walls 16 and 17.

The shoulders 15 in the side walls 13 and 14 enlarge the base 12 in the central interior portion of the locking device designated at 18. The shoulders 15 also divide the side walls 13 and 14 into the pairs of closely adjacent side walls 20 and 21 at the end portions of the side walls 13 and 14, and also central parallel side walls 22 and 23 which are spaced apart the same distance as the width of the base 18.

As can be seen from FIG. 1, the end walls 16 and 17, the base 18, and the parallel side walls 22 and 23 form a central compartment 24, which is sufficiently wide to permit the entrance of the prongs 25 of the conventional electrical plug 26 into the compartment area.

Conventional fastening means 27 and 28, such as rivet members, are provided in the parallel side walls 20 and 21, respectively, to maintain the space relation of side walls 20 and 21. Fastening means 28 also provides a mounting upon which the eyelet 31 of the locking pin 30 may be rotatably supported to freely pivot from between the parallel side walls 13 and 14 initially from a horizontal position parallel to base 18 and thence out of the compartment 24 to the position as shown in FIGS. 1 and 3. In this connection, it should be noted that the stem 32 of the pin 30 is of greater length than the length of the compartment 24 and must be of sufficient length to pass the position of the oppositely disposed apertures or openings 33 in the side walls 22 and 23 and through the second or last opening of the openings 34 in the electrical plug 26. The openings 34 are characteristic of all plugs of this general type.

The openings 33 are substantially aligned relative to each to accommodate a securing device such as the shackle 35 of the conventional lock 36.

The operation of the electrical plug locking device can be readily understood upon examination of FIGS. 1 to 4 wherein the openings 34 of the prongs 25 are aligned to receive the stem 32 of the locking pin 30, the stem 32 being passed through the aligned openings 34.

The pin 30 together with the prongs 25 of the plug 26 are then pivotally moved into the compartment 24 of the locking device 10 until the ends 37 of the prongs 25 contact the compartment base 18 or at least the stem 32 of the pin 30 is positioned below the substantially aligned openings 33.

The shackle 35 of the lock 36 is then passed through the openings 33 and the lock 36 thereafter may have its shackle 35 secured in locked position. Thus, the pin stem 32 having been passed through the openings 34 of the plug prongs 25, the shackle 35 maintained over the stem 32, as shown in FIG. 4, when the retained plug prongs together with the pin stem are passed into the locking device compartment 24, prevents the removal of the locking device from the plug prongs 25. The prongs 25, being completely enclosed, are incapable of being used in connection with a conventional receptacle, unless the lock 36 is removed from the locking device 10 to permit the plug 26 to be removed from the compartment 24 and thence from the stem 25.

While my invention has been described with particular reference to the structure shown in FIGS. 1 to 4, it would be understood that various changes could be made to the

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structure, as shown, and still be within the spirit and scope of the present invention as defined in the following claim.

I claim:

A locking device for electrical plugs comprising, in combination, a base and parallel side walls forming a channel, said parallel side walls intermediate the ends being spaced apart a distance greater than the distance separating the end portions thereof, whereby a compartment is formed to receive the prongs of a conventional plug, first means maintaining the spacing of said parallel side walls adjacent one end thereof, said parallel side walls defining said compartment means having oppositely disposed openings, said openings being disposed approximately midway between the base and the top of said parallel side walls, second means maintaining the spacing of said parallel side walls adjacent the opposite end thereof and spaced nearer said base than said oppositely disposed openings, a pin pivotally mounted on said second means,

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said pin having a length greater than the length of said compartment, whereby when the pin is passed through the openings adjacent the ends of the prongs of a conventional electrical plug, said prongs may be rotated into said compartment and retained therein against unauthorized use by passing the shackle of a conventional lock through said oppositely disposed openings.

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MARVIN A. CHAMPION, *Primary Examiner.*

PATRICK A. CLIFFORD, *Examiner.*