

A. H. NERO

LOCKING MEANS FOR SEPARABLE ELECTRIC FITTINGS

Fig. 1.

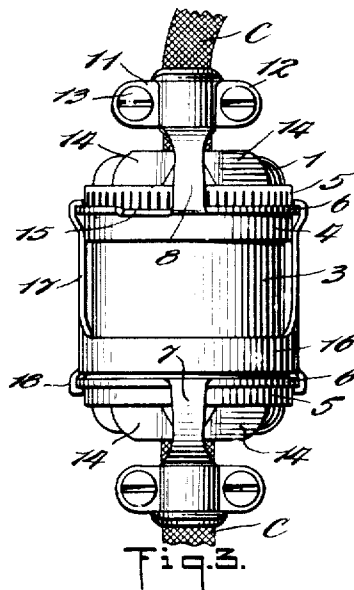


Fig. 3

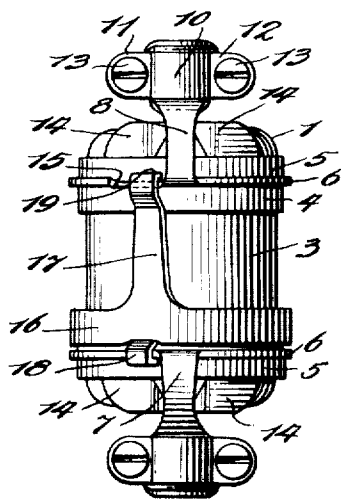


Fig. 2.

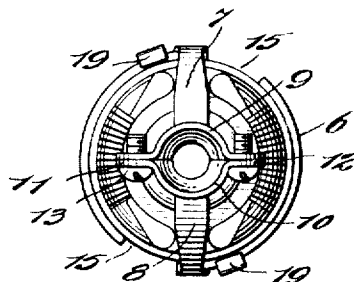


Fig. 4.

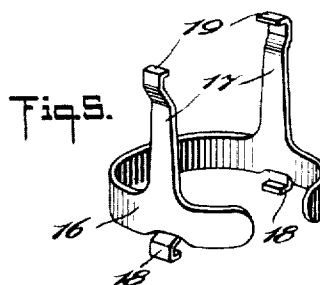


Fig 5.

Howson and Howson

UNITED STATES PATENT OFFICE

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LOCKING MEANS FOR SEPARABLE ELECTRIC FITTINGS

Application filed January 3, 1929. Serial No. 330,050.

This invention relates to locking means for separable electric fittings. Among the objects of my invention are: (1) to provide a separable electric fitting with improved means to lock the plug member to the receptacle or socket member; (2) to provide a locking means for a plug and receptacle of an electric fitting which will stand hard usage and abuse without failure; (3) to improve various features of construction hereinafter more particularly described or shown in the accompanying drawing in which:

Fig. 1 is a front elevation view showing my invention as applied to a connecting plug and socket with the lock in unlocked position and the plug and socket separated.

Fig. 2 is a front elevation view of the parts shown in Fig. 1, but with the plug and socket engaged.

Fig. 3 is a view similar to Fig. 2, except that the lock is in locked position and the electric cables are shown.

Fig. 4 is a plan view of the invention as shown in Fig. 3.

Fig. 5 is a perspective view of the locking member.

While I have shown my invention as applied to a plug and socket electric connection, it is not confined to the plug and socket construction shown, but may be applied to any similar separable electric fitting.

In the drawing I have shown the usual plug member 1, having contact fingers 2 to engage with receptacle contacts (not shown) in the usual socket 3. The plug has on it a strain relief fitting similar to that shown in my copending application, Serial No. 107,400, filed May 7, 1926, which has become Patent No. 1,837,058, December 15, 1931. The purpose of this fitting is to relieve the strain of the electric cable on the wire terminals of the plug. This fitting consists of a ring 4, adapted to be slipped over the working end of the plug 1 and to rest against an annular shoulder 5 formed thereon. Extending from op-

posite sides of an outwardly offset flange 6 on the ring 4 are arms 7 and 8, the free ends of which are shaped to form gripping jaws 9 and 10 and lugs 11 and 12 laterally projecting therefrom which lugs are apertured to receive clamping screws 13 to clamp the jaws together and in this way grip the cable C leading to the plug contacts.

Upon the socket member 3 there is located a strain relief fitting of exactly the same structure as the fitting thus far described in connection with the plug 1. The cable receiving ends of the plug and socket are identical and formed with nobs 14 which engage the sides of the arms 7 and 8 to prevent rotation of the strain relief fittings upon the plug and socket.

On the strain relief fitting of the plug the flange 6 of the ring 4 is cut away for a short distance adjacent one side of each of the arms 7 and 8 to form notches 15 diametrically opposite to each other.

Located upon the strain fitting ring 5 of the socket 3 is a locking member 16 formed of a broken annulus having diametrically opposed legs 17 projecting laterally therefrom toward the working end of the socket and also having lugs 18 projecting laterally therefrom in a direction opposite to the legs 17. To hold the locking member rotatably on the socket and strain fitting ring 5 the lugs 18 are bent over the flange 6 of the ring 5. It is now apparent that the locking member may be rotated around the socket between the arms 7 and 8 of the strain relief fitting thereon—the lugs 18 engaging the arms 7 and 8 and preventing any further rotation of the locking member.

To hold the plug and socket together the locking member's legs 17, which are of sufficient length to extend beyond the flange of the plug's strain fitting member, have their ends bent over the said flange, forming toes 19 capable of sliding on the flange, but holding the plug and socket together.

Thus locking member 16 may be rotated with respect to both the plug and socket, but it normally prevents their separation. However when the locking member is rotated to a position where the fingers 19 of the legs 17 on the locking member are in registry with the notches 15 in the flange 6 the strain fitting on the plug member, the plug and socket may be separated, but when the locking member is rotated to any other position the toes must engage the flange, and hence the plug and socket may not be separated.

Thus it will be seen that I have provided a simple dependable and rugged means for holding two parts of an electrical fitting together and I have also provided a very simple and easily operated lock which will either hold two parts of an electrical fitting together or release them as desired.

I claim—

1. A separable electric fitting having plug and socket members and a strain relief fitting on one of said members, locking means on the other of said members engaging with said fitting for holding said plug and socket members together.

2. A separable electric fitting having plug and socket members in combination with a strain relief fitting on one of said members, locking means connected with the other member, said locking means having legs co-operating with said fitting to hold said plug and socket members together.

3. A separable electric fitting having plug and socket members in combination with a strain relief fitting on one of said members, said strain relief fitting having a flange with a notch therein, and locking means having legs thereon cooperating with said flange to lock said members together or with said notch to permit said members to be separated.

4. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon, and a locking member co-operating with said fittings for holding said plug and socket members together.

5. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon said fittings comprising rings with flanges thereon, and a locking member co-operating therewith for holding said plug and socket members together.

6. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon said fittings comprising rings with flanges thereon, the flange on one fitting having a notch therein and a locking member co-operating with said notched flange for holding said plug and socket members together.

7. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon said fittings com-

prising rings with flanges thereon, the flange on one fitting having a notch therein, and a locking member having a leg co-operating with one of said fittings for holding said plug and socket members together.

8. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon, said fittings comprising rings with fingers thereon, and a locking member having legs with toes thereon co-operating with one of said fittings for holding said plug and socket members together.

9. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon, said fittings comprising rings with flanges thereon, the flange on one fitting having notches therein, and a locking member having legs with toes thereon co-operating with said notches and their adjoining flange to permit separation or locking together of said plug and socket members.

10. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon, said fittings comprising rings with flanges thereon, the flange on one fitting having notches therein, and a locking member having legs and lugs co-operating with said fittings for holding said plug and socket members together.

11. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon, said fittings comprising rings with flanges thereon, the flange on one fitting having notches therein, and a locking member having lugs engaging the other fitting, said locking member also having legs with toes thereon co-operating with said first named fitting whereby locking together or separation of said plug and socket members may be accomplished.

12. A separable electric fitting having plug and socket members in combination with strain relief fittings thereon, said fittings comprising rings with flanges thereon, the flange on one fitting having notches therein, and a locking member having lugs engaging the other fitting, said locking member also having legs with toes thereon co-operating with said notches and their adjoining flange whereby separation or locking together of said plug and socket members may be accomplished.

13. In a separable electrical connector, a pair of separable devices, flanges on said devices, and a locking member associated with said devices and engaging with said flanges to hold said devices together.

14. In a separable electrical connector, a pair of separable devices, flanges on said devices, one of said flanges being notched, and a locking member associated with said devices and cooperating with said flanges to hold said devices together and cooperating

with the notches to permit said devices to be separated.

15. In a separable electric connector, separable devices, a flange on one of said devices, a locking member positively connected to the other of said devices, legs on said member having extensions adapted to engage said flange to hold said devices together.

In testimony whereof I have signed my name to this specification.

ARVID H. NERO.

CERTIFICATE OF CORRECTION.

Patent No. 1,874,334.

August 30, 1932.

ARVID H. NERO.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 74, claim 8, for the word "fingers" read flanges; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 22nd day of November, A. D. 1932.

M. J. Moore,
Acting Commissioner of Patents.

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