F. KUHN.

TERMINAL CONTACT PLUG.

APPLICATION FILED SEPT. 8, 1913.

1,170,167. Patented Feb. 1, 1916.

Fig. 1.

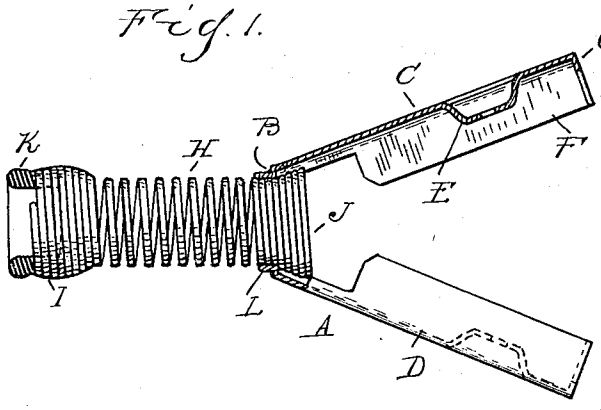


Fig. 1a

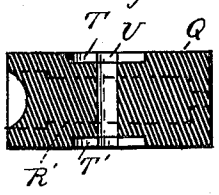


Fig. 1b

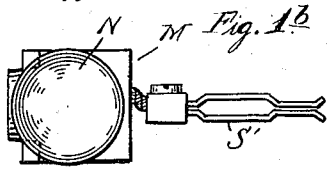


Fig. 2.

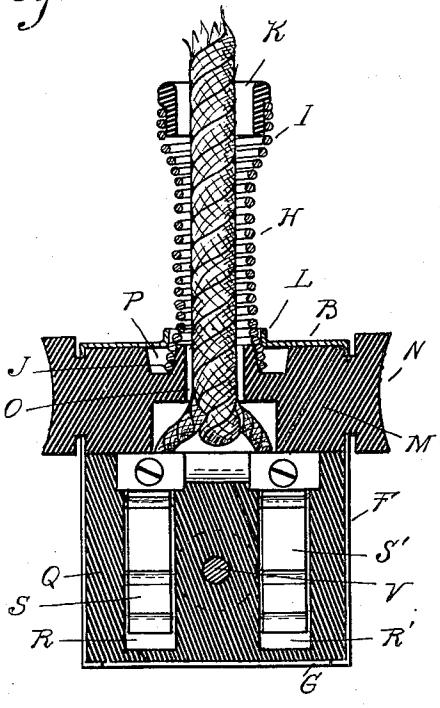
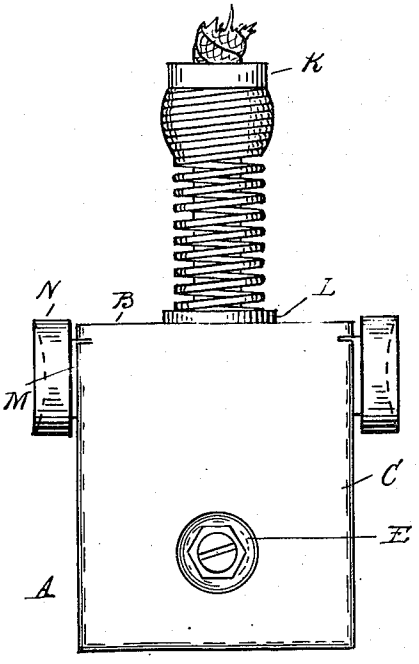


Fig. 3.



Witnesses

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TERMINAL CONTACT-PLUG.

1,170,167. Specification of Letters Patent. Patented Feb. 1, 1916.

Application filed September 8, 1913. Serial No. 788,713.

To all whom it may concern:

Be it known that I, FRANK KUHN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Terminal Contact-Plugs, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to terminal contact plugs more particularly designed for use in connection with electrical heaters.

It is the primary object of the invention to obtain a construction which both electrically and mechanically is thoroughly protected and which may be inserted or withdrawn without danger of burning the hands.

In the drawings, Figures 1, 1ª, and 1ᵇ are sectional elevations showing the several parts inclosing the fitting detached and ready for assembly; Fig. 2 is a section at right angles to Fig. 1 showing the parts assembled; and Fig. 3 is an elevation.

It is one of the objects of the invention to simplify and cheapen the construction of the insulator in which the terminal contacts of the plug are located by making said insulator in sections which are held together by a metallic outer casing or armor. It is a further object to utilize the armor for the plug as a means of attachment for the resilient bushing which surrounds the insulated electrical conductor and prevents the same from being broken.

Still another object is to avoid contact with the metallic parts when the plug is inserted or withdrawn by extending one of the insulator members out through the armor to form finger grips.

In detail, A is a metallic armor formed from sheet metal having an end portion B and opposite side portions C and D. These side portions are provided with inwardly-projecting lug portions E for receiving the head and nut of a clamping screw, and are further provided with side flanges F and end flanges G for embracing the respective sides and ends of the insulator.

H is a coil of resilient wire forming a bushing or entrance tube for the electrical conductor, this coil being flared at I and J at its opposite ends. The flaring outer end I is adapted to receive an insulator bushing K, while the flaring inner end J engages a flanged nipple L struck out from the end B of the armor so as to hold the coil from detachment.

M is an insulator member which is preferably formed of a material which has heat insulating properties as well as electrical insulation. This member is arranged to extend transversely of the plug near the outer end thereof and has projecting end portions N which extend through openings in the side of the armor adjacent to the flanges E. The projecting ends N are preferably rounded and slightly cupped, thereby forming the means for holding the plug by grasping the opposite ends between the thumb and finger. The member M is centrally recessed at O for the passage of the conductor cord, with an inner enlargement for the knot in said cord. The member M is also cut away at P to receive the enlarged end J of the coil H.

Q is a second insulator member which has the recesses R and R′ therein for receiving the terminal contacts S and S′. This member is preferably formed of different material than that composing the member M, as the latter is not subjected to as high a heat as the former. The member Q is further provided with recesses T and T′ upon its opposite side for engagement with the lugs E on the armor and with a central aperture U through which the clamping bolt V passes.

In use, when the parts are once assembled the insulators are thoroughly protected by the metallic armor, while the projecting finger grips N on the insulator M enable the operator to insert or withdraw the plug without contact with the metal. The resilient guard H is held from outward movement by the enlargement at its inner end and from inward movement by engagement with the recess P in the member N. The single bolt V clamps the armor in position and holds the parts from detachment.

What I claim as my invention is:

1. An electrical terminal plug, comprising an outer armor, an insulator inclosed thereby, an electrical conductor passing through the end of said armor into said insulator, and a resilient guard surrounding said conductor, formed of a coil having an enlarged inner end, said enlarged end being clamped between said armor and insulator.

2. An electrical terminal plug, comprising an outer armor struck up from sheet metal and having an apertured end portion and

side portions, an insulator clamped by said armor between the side portions thereof, an electrical conductor passing through the aperture in the end of said armor into said insulator, and a resilient guard surrounding said conductor, engaging the aperture in the end of said armor and having an enlarged inner end engaging the aperture in said insulator.

3. An electrical terminal plug, comprising an outer armor struck up from sheet metal, an insulator inclosed within said armor, said insulator having an aperture, an electrical conductor, a resilient guard for the electrical conductor formed of a coil of wire having enlarged outer and inner ends, the inner end engaging the aperture in said insulator and preventing the outward detachment of the guard, and an insulating bushing within the enlarged outer end of said guard.

4. An electrical terminal plug, comprising an outer armor, an insulator inclosed by said armor, said armor being provided with an aperture and said insulator being provided with a projection extending through an aperture in said armor and forming a finger grip.

5. An electrical terminal plug, comprising an outer armor provided with apertures, and an insulator therein formed of complementary sections, one of said sections being provided with outwardly-projecting portions passing through the apertures in said armor and forming finger grips.

6. An electrical terminal plug, comprising an outer armor struck up from sheet metal with a central end portion, opposite side portions and flanged edge portions provided with apertures, and an insulator inclosed by said armor, said insulator having opposite projections passing through apertures in said edge portions and forming finger grips.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK KUHN.

Witnesses:
WM. J. BELKNAP,
JAMES P. BARRY.