Feb. 8, 1966 R. Y. COOK 3,234,464

NEON TYPE VOLTAGE DETECTOR

Filed June 20, 1962

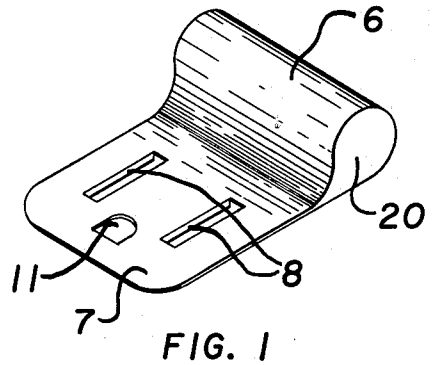

FIG. 1

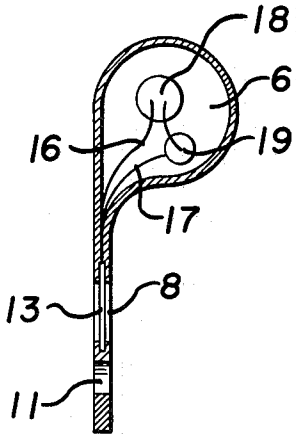

FIG. 2

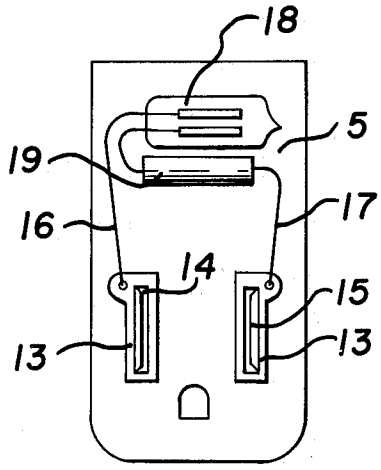

FIG. 3

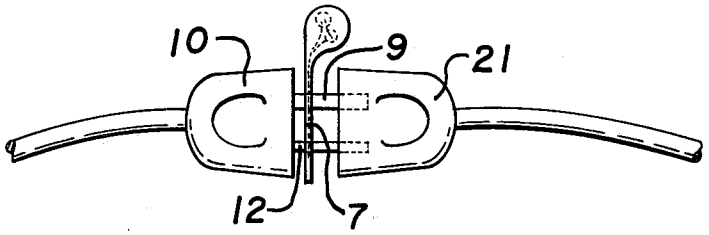

FIG. 4

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NEON TYPE VOLTAGE DETECTOR

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This invention relates generally to electrical devices and more specifically to a device for detecting the presence of a voltage or potential difference when inserting an appliance plug or extension cable into a convenience outlet.

The use of a neon bulb for indicating the presence of a potential difference is not new in the art, and many simple testing implements of this class have been developed for use in electrical work. My invention is directed towards certain new and novel improvements in such a device which enable the same to be removably installed on the prongs of an appliance plug such that there is constant indication when the plug is inserted in a live socket. There are many instances when there is no ready indication that an appliance is in operation, and a simple testing device constructed according to my invention assures the user that the outlet into which he has plugged his appliance or extension cord is live.

It is therefore a primary object of this invention to provide a detachable power indicator for mounting on a male plug and indicating the presence of available power at such location.

It is a further object of this invention to provide a voltage indicating device for use in testing for a live convenience outlet, or as a semi-permanent installation on the end of an appliance plug to assure that the outlet in use has not fused.

It is a still further object of this invention to provide a detachable power indicator for the above purposes which is constructed from a folded strip of translucent plastic and incorporates openings to receive plug prongs therethrough. These openings connect through a resistor with a neon bulb disposed within the folded end of the device.

It is yet a further object of this invention to provide a device of the above class which is simple in construction, useful and durable, and may be manufactured economically for retail at low cost.

A full understanding of the construction of this invention, together with further novel features and advantages, will be had from the following more detailed description of a preferred embodiment thereof, taken in conjunction with the attached drawings wherein:

FIG. 1 is a perspective view of the power indicator constructed according to my invention.

FIG. 2 is a cross sectional end elevation of the device.

FIG. 3 is a plan view of the device with the upper folded portion thereof removed to disclose the electrical circuit.

FIG. 4 is a side elevation showing a connecting plug and socket having the power indicator of my invention mounted over the prongs of the plug.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring now to the drawings in detail, the numeral 5 represents the indicator which is constructed from an elongated strip of translucent plastic material. The strip is folded at its centre to form a cylindrical casing 6, and then continues in a sealing engagement to form a tab 7 comprising two thicknesses of the said strip material. The plastic strip 5 is preferably about one sixty fourths of an inch in thickness such that the finished tab is only about one thirty second inch thick to permit the plug

which extends therethrough to be properly seated in a socket or outlet. Two rectangular slots 8 are punched through the tab in a spaced parallel relationship with each other and are adapted to receive the live prongs 9 of a plug 10 therethrough. An intermediate hole 11 is also formed in the tab in a symmetrically spaced manner beyond one end of the slots 8 to receive the ground terminal therethrough if such is provided.

Mounted between the two layers of plastic which form the tab and surrounding the slots 8 are two thin brass contact plates 13 which have registering slots 14 formed therethrough to align with the slots 8. A tongue 15 protrudes inwardly and along the length of each of the slots 14 so as to springingly engage and make good electrical contact with the prongs 9 of the plug. The two plates 13 are connected by wires 16 and 17 with a neon bulb 18 and a resistor 19 connected in series. A potential difference between the brass contact plates 13 will cause the neon bulb to glow and thus indicate the presence of power in the circuit where the device is installed.

The ends of the cylindrical casing 6 may be closed by suitable plastic plugs 20 to make the device waterproof and safe from the standpoint of shock. FIG. 4 shows a power tool or appliance plug 10 inserted into the female socket 21 of an extension cord. A power indicator is shown inserted betwen the plug and socket and indicates to the user that he has power at this point.

There are many uses to which this device can be utilized. For instance, when connecting a power extension cord to the engine block heater of a vehicle, it is important to know that current is actually flowing through the heater before leaving the vehicle. This device will conveniently provide assurance of this fact.

Having described the invention in a preferred form, it will be appreciated that some modifications may be made to the precise configuration, without departing from the scope or spirit of the invention, as defined by the following claims.

I claim:

1. A detachable power indicating device for mounting on the prongs of an electric plug, said device comprising an elongated strip of translucent plastic folded at its centre to form a cylindrical casing and extending to one side of the casing to form a flat tab, means sealing the ends which form the tab, slots formed through the tab to receive the prongs of a plug therethrough, contact plates mounted within said tab to register with the slots, a neon bulb and a resistor connected in series with each other and disposed within the casing, and wires connecting said plates to said bulb and said resistor.

2. A detachable power indicating device for mounting on the prongs of an electric plug, and comprising, a folded strip of thin translucent plastic material, the ends of said strip forming a flat tab, means sealing said ends, a centre portion of said strip being separated to form a hollow casing, said tab having spaced slots formed therethrough to receive the prongs of the plug, a neon bulb disposed in said casing, contact plates sealed in said tab to contact said prongs, wires connecting said bulb with said tabs, and a hole formed through said tab to freely receive a ground terminal associated with said plug.

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