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2,299,989

CONNECTOR FOR TEMPORARY LAMP CIRCUIT

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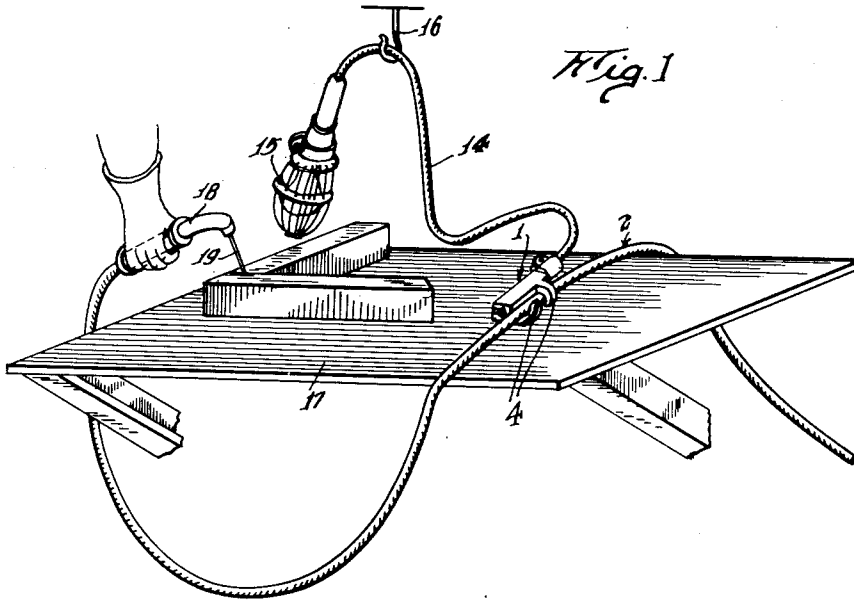


Fig. 2

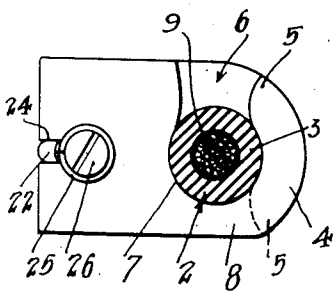
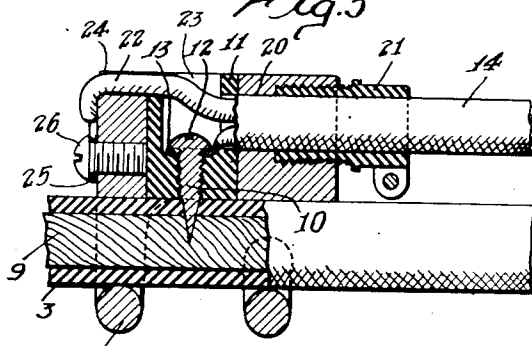


Fig. 3



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UNITED STATES PATENT OFFICE

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CONNECTOR FOR TEMPORARY LAMP
CIRCUITS

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5 Claims. (Cl. 173-340)

This invention relates to a connector for connecting up a local electric light circuit to a welder's cable. In conducting welding operations, the welder is frequently located in situations where the lighting system does not provide sufficient light for conducting these operations. They are frequently conducted on the work where it would be very difficult to provide for regular lighting.

One of the objects of this invention is to provide a connector of simple construction, which can be readily applied to the welder's cable, and which will supply current to a lamp which can be supported in a position to throw light on the work.

A further object of the invention is to provide a device of this kind, which can be readily applied to the exterior of the welder's cable without using special tools.

In practicing the invention, an insulated tapered spur or contact device is preferably employed to penetrate the insulation of the welder's cable, and to effect electrical contact with the conductor within the cable. This terminal supplies current to the lamp in the local lighting circuit. One of the objects of the invention is to provide simple means for effecting the grounding of the return wire from the lamp circuit.

Further objects of the invention will appear hereinafter.

The invention consists in the novel parts and combination of parts to be described hereinafter, all of which contribute to produce an efficient connector for temporary lamp circuit.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing:

Fig. 1 is a perspective illustrating a welder's cable and contiguous parts including the terminal holder of the welding device, and illustrating an electric light cord or cable connected to the welder's cable by means of a connector embodying this invention. Fig. 1 indicates the work and a support for the same, and certain parts broken away.

Fig. 2 is an elevation upon an enlarged scale of the adjacent end of the connector as illustrated in Fig. 1.

Fig. 3 is a side elevation and partial section of a portion of the welder's cable, and illustrating the connector in longitudinal section. Associated with the connector a short portion of the electric light cord or cable is indicated broken away.

In practicing the invention I provide a connector 1 that preferably has a body, the axis of which is intended to extend substantially parallel with the welder's cable 2 to which it is to be attached. This body is provided with means for securing it to the exterior of the cable, which is a sheath 3 of insulation or insulating material. The body 1 is preferably constructed so that it can be readily applied to the cable by moving the same laterally toward the cable, and at the same time manipulating the cable so as to engage it between two hooks 4 which extend out at the side of the connector. These hooks are spaced from each other along the body, and project off from the body in opposite directions. This arrangement produces a space between the hooks, into which the cable can be introduced with its axis extending in a general transverse direction to the axis of the body after which, by orienting or rotating the body 1 to bring its axis more into parallelism with the axis of the cable, the connector will attach itself to the cable. In this connection attention is called to Fig. 2, indicating that at the ends of the bills 5 of the hooks, a throat such as the throat 6 is formed, through which the cable must pass, and this throat is of slightly smaller width than the diameter of the cable. The insulation is, of course, slightly compressible, so that the cable can be forced through this throat and into the larger socket 7 adjacent the bight 8 of the hook.

In order to effect the electrical contact with the conductor 9 within the welder's cable, I prefer to provide a tapered conical spur 10 which may be in the form of a long screw, the shank of which is threaded in an insulating block or bushing 11, the tapered point being sharp enough to enable it to be pushed through the insulation 3 into contact with the strands of the cable 9. By reason of the threads on the shank of this terminal, it will operate as a binding post when a screwdriver is inserted in the slot 12 on the head of this screw. This enables the screw head to be tightened up on one of the wires 13 of the electric light cord or cable 14. This cable 14 carries an electric lamp 15 at its end which, of course, would be adapted to the voltage being used in the welding circuit. If desired, some temporary or permanent means could be provided such as a hook 16 for supporting this light cord to hold the lamp in a position to cast its light on the work. In the present instance this work is illustrated as supported on a table 17. The current through the lamp should be grounded beyond the lamp filament. The welder holds the electrode holder 18

in his hand and applies the electrode 19 to the place, where the weld is to be made.

The electric light cord 14 is held in a cylindrical socket or bore 20 that preferably extends into the body 1 from one end in which an insulating bushing 21 may be provided. In the present instance the return wire 22 passes across the bore 23 of the insulating block or bushing 11, and is carried through a notch or socket 24 near the forward end of the body 1, from which point the bare wire 25 extends under a terminal or binding screw 26 which is threaded into the end of the body 1 to ground this wire at the connection.

It should be understood that the body 1 is preferably constructed of metal so as to make it easy to ground the lamp circuit at the connector if it is desired to ground the circuit at that point. It is merely necessary, however, that when the connector is lying on its support, a ground will be established for the return wire 25. It is most convenient to have the body 1 made of metal because merely by lying upon a grounded support such as the work, or a grounded table 17, a proper ground will be established.

In many cases where the welder is working on large work such as the welding of tubing or boilers, or other large industrial parts, the body can merely be permitted to lie on the work itself to establish the ground.

Many other embodiments of the invention may be resorted to without departing from the spirit of the invention.

What I claim is:

1. A connector for establishing an electric light circuit fed by an insulatingly sheathed welder's cable, comprising an elongated body having means for attaching the same to the exterior of the insulating sheath of the cable with the longitudinal axis of the body substantially parallel with the axis of the cable, said body having an insulated spur of conducting material to penetrate the insulating sheath to contact with the conductor within the cable, said spur having an insulated terminal for attaching a wire for the electric light circuit; and a second terminal grounded on the said body for connecting the other wire of the light circuit.

2. A connector for establishing an electric light circuit fed by an insulatingly sheathed welder's cable, comprising an elongated body having means formed with a gap on its side for enabling the body to be attached to the exterior of the insulating sheath of the cable by moving the body laterally toward the cable with the longitudinal axis of the body substantially parallel with the axis of the cable, said body having an insulated spur of conducting material to penetrate the in-

insulating sheath to contact with the conductor within the cable, said spur having an insulated terminal for attaching a wire for the electric light circuit; and a second terminal grounded on the body for connecting the other wire of the light circuit.

3. A connector for establishing an electric light circuit fed by an insulatingly sheathed welder's cable, comprising a body having spaced hooks projecting from the body enabling the body to be attached to the exterior of the insulating sheath of the cable by a lateral movement of the body toward the cable, said body having an insulated spur of conducting material to penetrate the insulating sheath to contact with the conductor within the cable, said spur having an insulated terminal for attaching a wire for the electric light circuit; and a second terminal grounded on the said body for connecting the other wire of the light circuit.

4. A connector for establishing an electric light circuit fed by an insulatingly sheathed welder's cable, comprising a body having a pair of spaced hooks, said hooks projecting from said body and extending in opposite directions at the side of the body, and each hook having a gap beyond its bill capable of passing a cable, said hooks enabling the body to be attached to the exterior of the insulating sheath of the cable by a lateral movement of the body toward the cable, and by compressing the cable, said body having an insulated spur of conducting material to penetrate the insulating sheath to contact with the conductor within the cable, said spur having an insulated terminal for attaching a wire for the electric light circuit; and a second terminal grounded on the said body for connecting the other wire of the light circuit, said body having an insulating bushing carrying the insulating terminal, and having a bore through which the electric light wires may be passed in securing the same to the body.

5. A connector for establishing an electric light circuit fed by an insulatingly sheathed welder's cable, comprising an elongated body having means extending laterally therefrom to partially encircle, and attach, the same to the exterior of the insulating sheath of the cable with the longitudinal axis of the body substantially parallel with the axis of the cable, said body having an insulated spur of conducting material to penetrate the insulating sheath to contact with the conductor within the cable, said spur having an insulated terminal for attaching a wire for the electric light circuit, and means associated with the electric light circuit for grounding the same beyond the lamp.

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