July 19, 1932. S. N. JORDAN 1,868,208

AUTOMOBILE STARTING DEVICE

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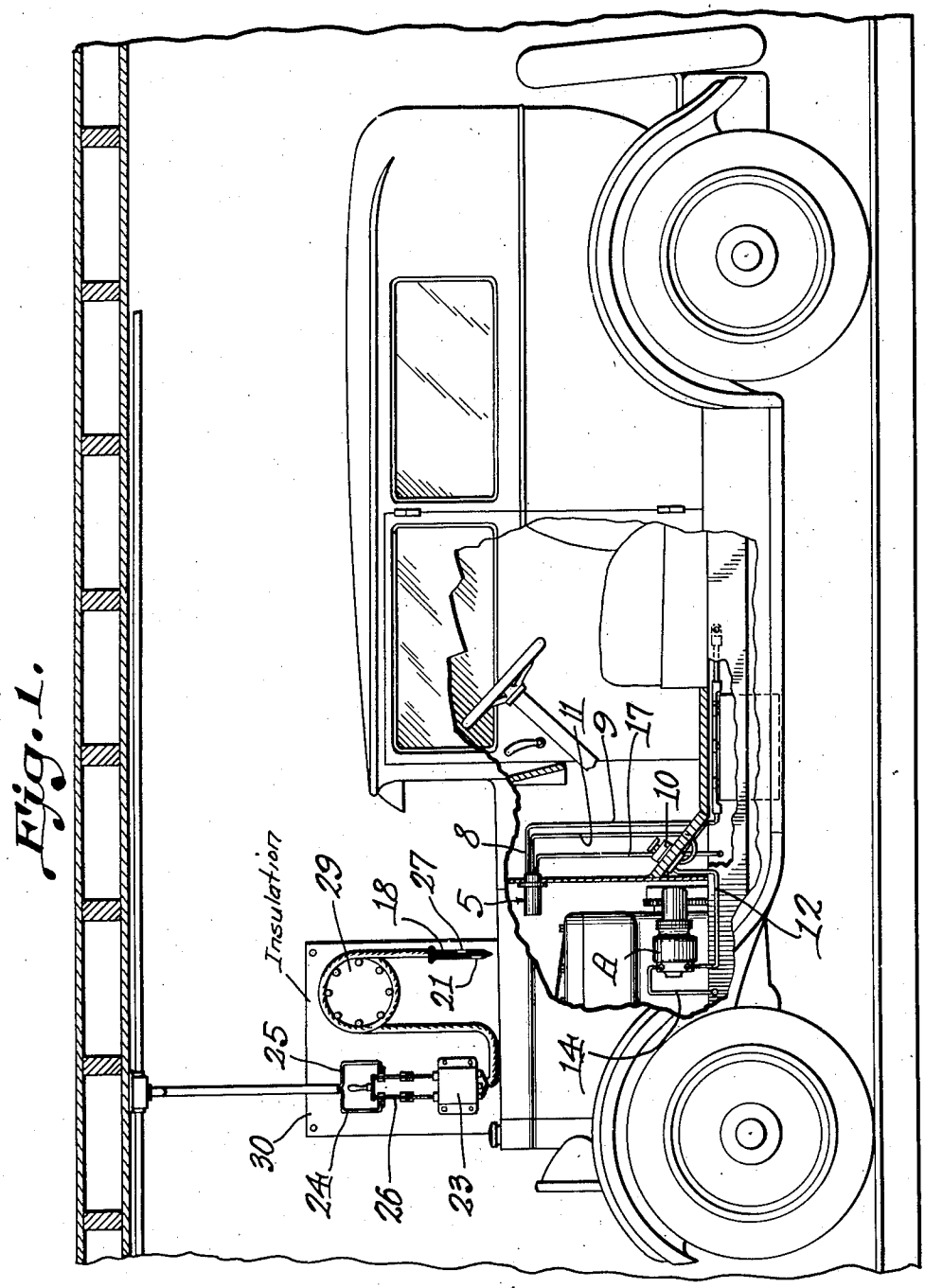


Fig. 1.

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Fig. 5.

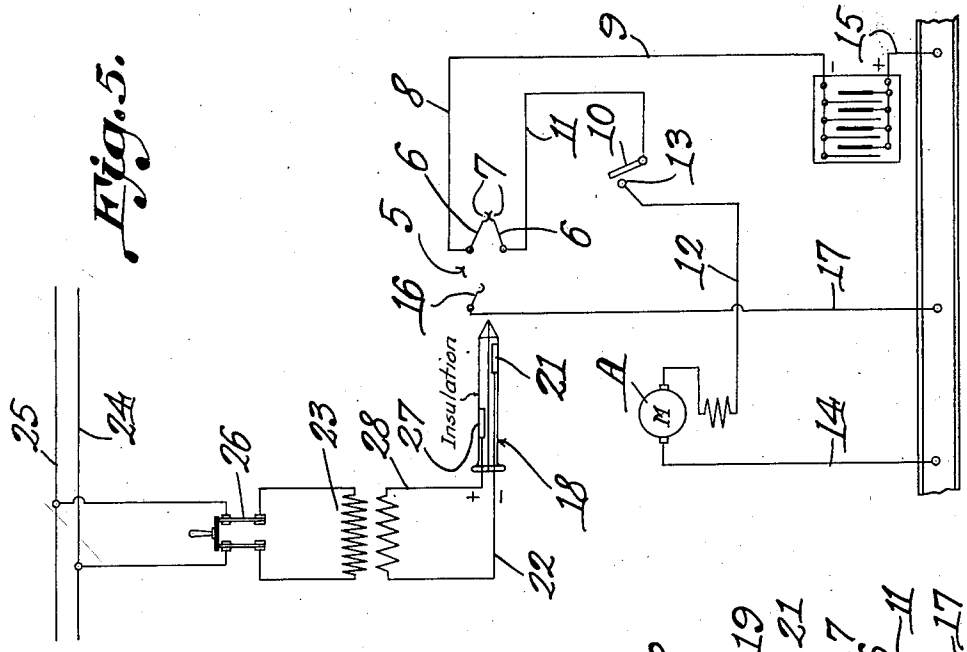


Fig. 2.

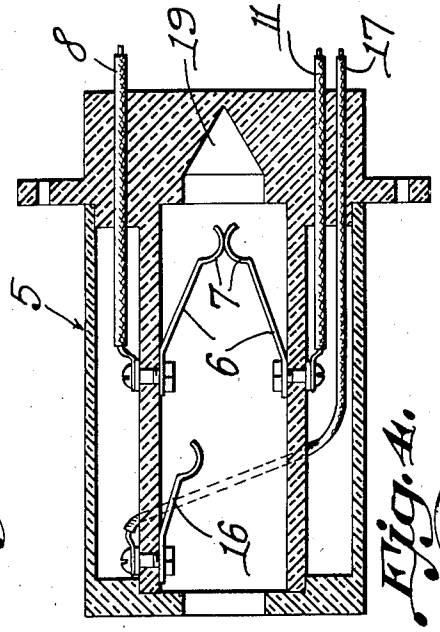


Fig. 4.

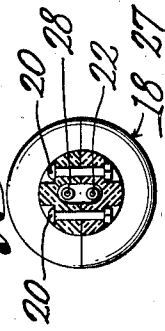
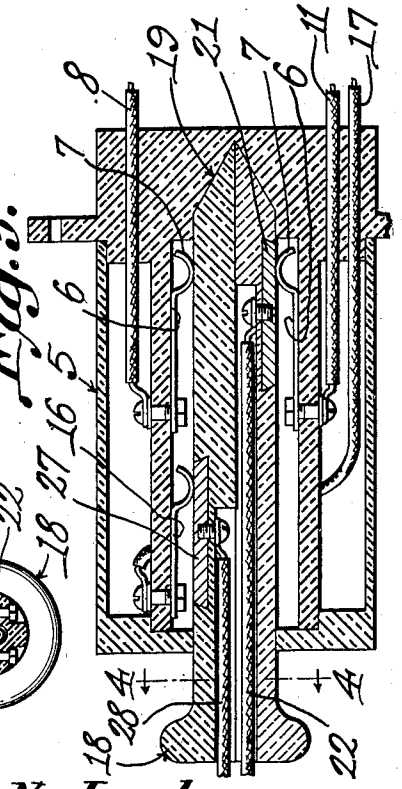


Fig. 3.



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UNITED STATES PATENT OFFICE

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AUTOMOBILE STARTING DEVICE

Application filed April 9, 1929. Serial No. 353,787.

This invention relates to a device designed for use in supplying electric energy from the usual lighting circuit of a building, to the starting motor of a motor vehicle, thereby eliminating the possibility of exhausting the electric energy of the battery of the vehicle during cold weather.

An important object of the invention is to provide a switch in the form of a plug to be inserted in a socket in circuit with the battery and starting motor, the plug being of a construction to automatically break the circuit between the battery and starting motor, and complete a circuit between the motor and lighting circuit of the building or garage in which the vehicle is housed.

Another object of the invention is to provide a socket member having contacts therein which contacts complete a circuit between the battery and motor when the plug is removed, so that the starting switch may be actuated in the usual and well known manner for starting the vehicle.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a view illustrating the use of the device forming the subject matter of this invention.

Figure 2 is a longitudinal sectional view through the socket member of the device.

Figure 3 is a longitudinal sectional view through the socket member and plug.

Figure 4 is a sectional view taken on line 4—4 of Figure 3.

Figure 5 is a diagrammatic view showing the circuits.

Referring to the drawings in detail, the device embodies a switch including a socket member 5 which is secured to the motor vehicle at any convenient location, and as shown the socket member includes spring contact arms 6 that have curved ends 7 normally contacting to complete a circuit therethrough. One of the arms 6 is in circuit with the battery of the motor vehicle, through the wires 8 and 9 while the opposite arm is in circuit with the starting switch 10, through the wire 11.

The wire 12 completes the circuit between the motor A and contact member 13 of the starting switch, while the wire 14 is the ground wire leading from the motor. Thus it will be seen that under normal conditions the starting motor A may be thrown into operation to start the motor of the vehicle, by operating the starting switch 10. The ground wire for the battery, is indicated by the reference character 15.

The socket member 5 also includes a contact arm 16 to which the ground wire 17 is connected. Cooperating with the socket member is a switch plug 18 which is of a diameter to closely fit within the opening of the socket member, the forward end of the plug being tapered to fit within the tapered opening 19 in the forward end of the socket member. This plug is constructed of insulating material and is sectional in formation, the sections of the plug being held together by means of the bolts 20 that pass through aligning openings in the sections.

Adjacent to the forward end of the plug, is a contact plate 21 to which the wire 22 is connected, which wire leads to the transformer 23 which is in circuit with the wires 24 and 25 that constitute the lighting circuit of the garage or building in which the vehicle supplied with the device forming the subject matter of this invention is housed, thereby providing a switch 26 for controlling the circuit.

Another contact plate is secured to the plug, and is indicated by the reference character 27, which plate is in circuit with the wire 28 constituting the positive wire of the circuit.

The wires forming the circuit between the plug and transformer are wound on the reel 29 which is mounted on the plate 30, that in turn is secured to the wall of the garage or building so that the wires may be readily

unreeled when the plug is to be inserted in the socket member.

From the foregoing it will be obvious that during cold weather when it is desired to start the motor of a motor vehicle equipped with the device, it is only necessary to lift the hood and place the plug in the socket member whereupon the circuit between the motor vehicle battery and starting motor is broken by the contact of one of the switch arms 6 with the insulated side of the plug. Electric energy now will pass through the transformer from the lighting circuit of the building, from where the circuit will pass to the arm 16 through the plate 27 to the ground wire 17. Electric energy will also pass through the wire 22, plate 21, and contact arms 6 through the starting switch 10 and wire 12 to the motor A causing the motor to operate to start the internal combustion engine or motor of the vehicle, thereby relieving the usual battery of the vehicle of undue strain.

I claim:

1. In a device of the class described, a starting motor, a source of electricity supply, wires providing a circuit between the source of electricity supply and motor, a normally closed switch connected with the wires to complete the circuit to the motor, an auxiliary source of electricity supply, wires leading from the auxiliary source of electricity supply, a plug connected with the last mentioned wires, and said plug adapted to be inserted in the switch to simultaneously break the circuit to the motor and complete the circuit between the plug and motor.

2. In a device of the class described, a starting motor, a source of electricity supply, wires providing a circuit between the source of electricity supply and motor, a switch member connected with the wires, said switch member including a pair of normally engaged contact arms, an auxiliary source of electricity supply, a plug, wires providing a circuit between the plug and auxiliary source of electricity supply, said plug adapted to pass between the contact arms to break the circuit to the motor, and said plug having contact plates to complete the circuit between the auxiliary source of electricity supply and motor, to operate the motor.

3. A starting system for internal combustion engines comprising, an electric starting motor, an electric circuit connected to said motor including a battery, a transformed source of electric supply, means for connecting said transformed source of electric supply to said motor and disconnecting said battery from said motor, and a starting switch common to both sources of electric supply and said motor.

4. An auxiliary starting system for internal combustion engines having an electric starting motor normally operated by a battery, a switch for said starting motor, an electrical supply circuit, a secondary circuit including said starting motor and said switch but not including said battery, and a converter for transforming the current in said supply circuit into the form of current required in said secondary circuit to operate said starting motor.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

SETH N. JORDAN.