May 7, 1929. R. R. GLIDDEN 1,712,301

SWIVEL JOINT

Original Filed March 6, 1925

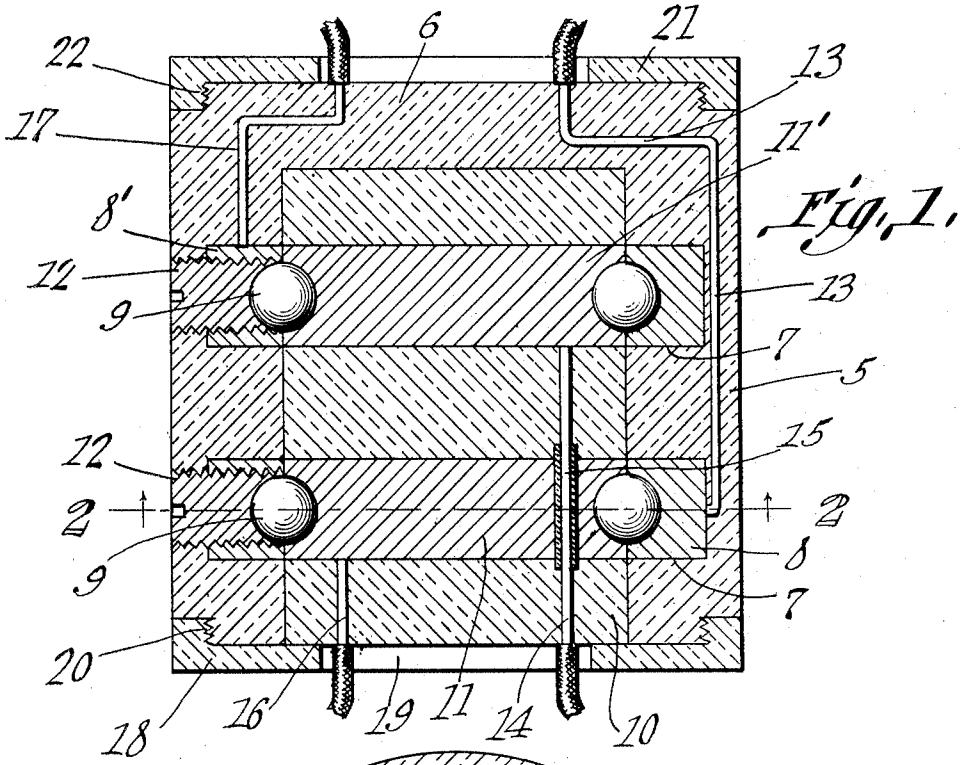


Fig. 1.

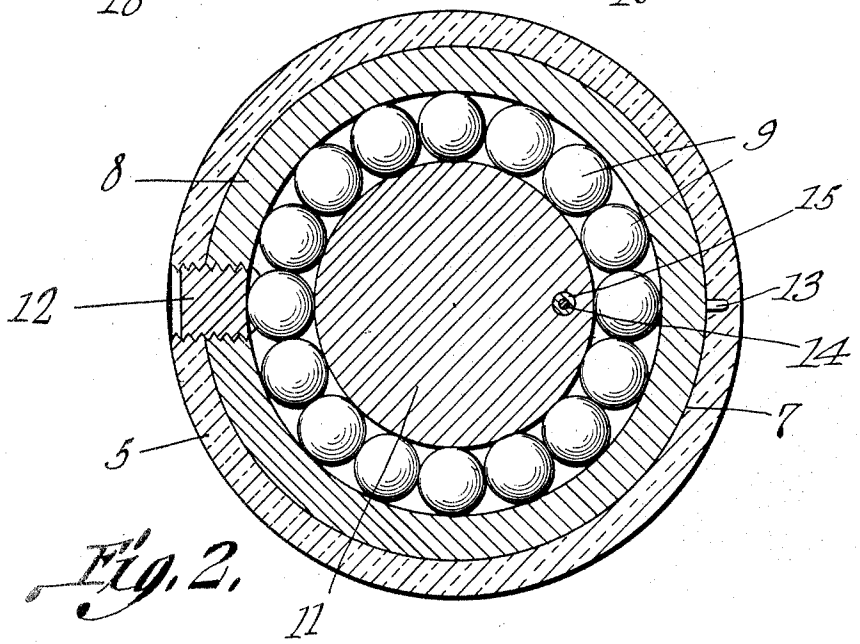


Fig. 2.

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UNITED STATES PATENT OFFICE.

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SWIVEL JOINT.

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This invention relates to a swivel joint to be employed in connection with circuit wires used with electrical appliances, the primary object of the invention being to provide means to permit of movement of one section of wire with respect to the other section of wire to insure against twisting of the wire while the appliance is in use.

Another important object of the invention is to provide a device of this character which may be readily and easily assembled and the wires leading to the elements of the swivel easily connected thereto.

A still further object of the invention is the provision of a swivel whereby movement of one section of the swivel with respect to the remaining section will be permitted upon the slightest tendency of the wires to twist.

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 drawing:

Figure 1 is a longitudinal sectional view through a device constructed in accordance with the present invention.

Figure 2 is a transverse sectional view taken on line 2—2 of Figure 1.

Referring to the drawing in detail, the device includes a cylindrical body portion 5, one end thereof being closed by means of the integral end wall 6, the opposite end thereof being opened to permit the inner section of the device to be placed within the body portion.

The body portion 5 is formed of insulating material and as shown, is provided with spaced circular grooves 7 in which are positioned contact rings 8 and 8′ which are provided with semi-circular grooves providing seats for the balls 9 providing anti-friction devices between the inner and outer sections of the device.

The inner section which is indicated at 10 is also formed with insulating material and supports the circular contact members 11 and 11′ which are secured between the layers of insulating material forming the inner section 10.

Grooves are formed in the contact members 11, and 11′ which grooves also accommodate the balls 9 in such a way that when the grooves of the members 8 and 8′ and 11 and 11′ are brought together, passageways are provided to completely house the balls 9. In order that the balls 9 may be positioned within the passageways, the members 8 and 8′ are formed with threaded openings of diameters to receive the balls, which threaded openings establish communication between the passageways and outer edges of the members 8 and 8′, the openings being normally closed by the plugs 12 which are threaded in the openings.

Embedded in the body portion 5 is a wire 13, which extends to a position to engage the ring member 8. A wire 14 is also provided and connected with one of the contact members 11′ to complete the circuit thereto, the wire 14 being however insulated from the contact member 11 through which it extends by means of the insulating tube 15.

The reference character 16 indicates a wire which may lead to the electric appliance, which wire makes circuit with the contact member 11 as shown by Figure 1 of the drawing.

The reference character 17 indicates one of the wires leading from the source of electric supply, which wire is embedded in the insulating material of which the body portion 5 is formed and has contact with the ring member 8′ in any suitable and well known manner.

In order that the inner section may be held within the body portion 5, a cap 18 is provided, which cap is formed with an enlarged central opening 19 through which the wires 14 and 16 may extend. Threads 20 are formed on the cap 18 and cooperate with threads formed on the body portion 5 to secure the cap.

A finishing cap indicated at 21 is secured to the opposite end of the device by means of the screw threads 22, the cap 21 being also formed with an enlarged central opening to permit the wires 13 and 17 to extend into the body portion.

From the foregoing it will be obvious that due to this construction, the inner section may

rotate with respect to the body portion, or vice versa, to the end that any possibility of the wires twisting will be eliminated.

I claim:—

In a device of the character described, a cylindrical body portion formed of insulating material having threaded openings contact rings embedded in the body portion, said rings having grooves, an inner movable section formed of insulating material alternating with contact members formed with grooves aligning with the contact members of the body portion, said rings having threaded openings communicating with the threaded openings of the body portion and aligning with the grooves, balls adapted to be positioned within the grooves, through the threaded openings, and threaded plugs extending into the openings of the body portion and aligning openings of the first mentioned rings to secure the balls within the grooves.

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

ROY R. GLIDDEN.