

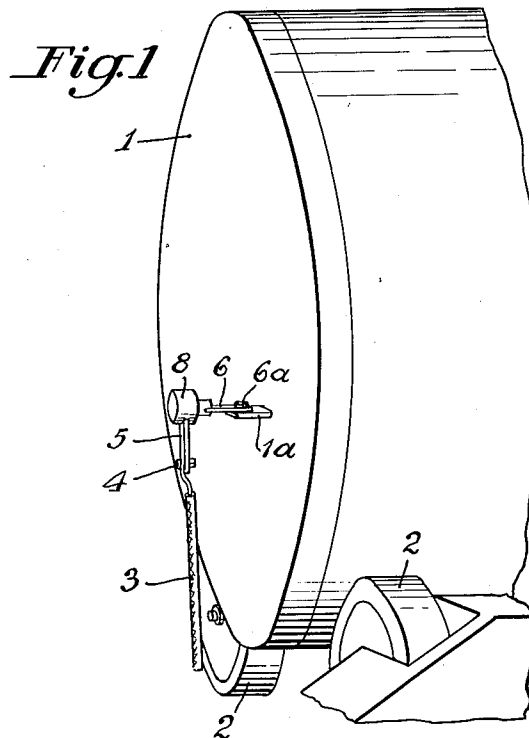
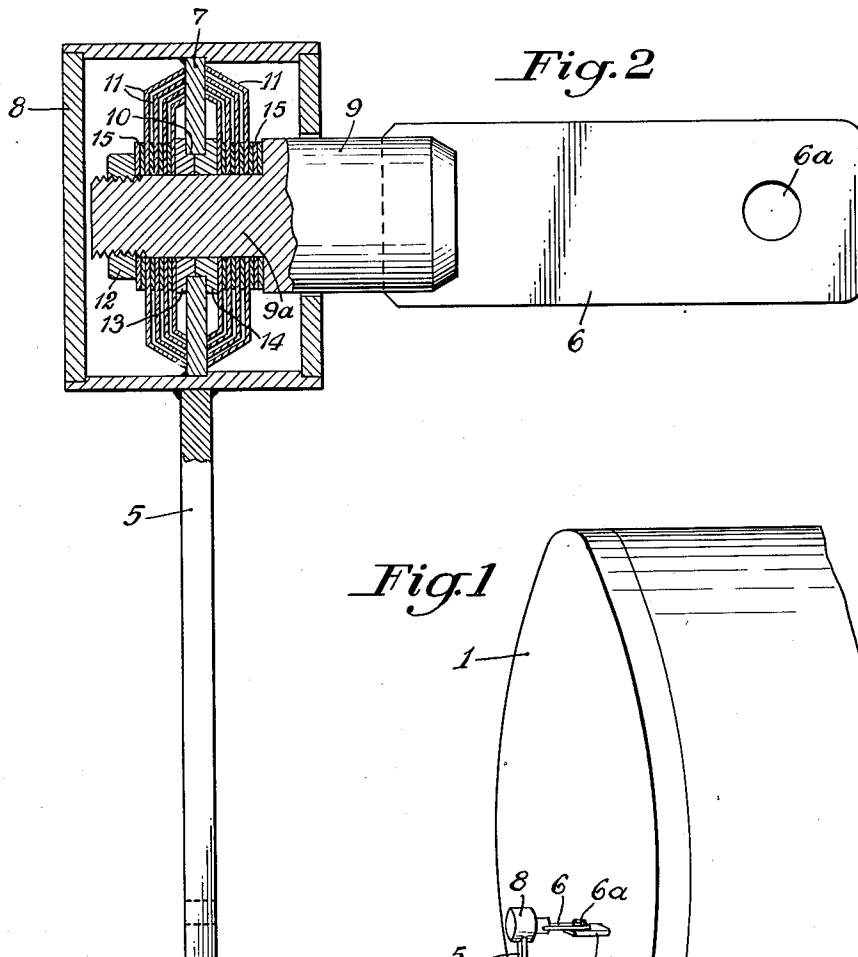
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ELECTRICAL CONNECTOR FOR ROTARY DRUM

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ELECTRICAL CONNECTOR FOR ROTARY DRUM

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1 Claim. (Cl. 339-8)

The present invention relates to a device for the supply of electric current to rotatably mounted bodies, in particular to bodies of rotation to be welded, having a conductor detachably to be connected to the rotatably mounted body and to be attached to an external current source.

Known devices of this kind connected the cable effecting the supply of current directly to the rotatably mounted body, e.g. to a cylindrical drum to be welded. Upon turning the drum as required for the welding the cable was twisted about itself and the entanglement formed had to be unraveled from time to time, which had the consequences of early destruction of the cable and of repeated loss of time.

It is the primary object of the present invention to provide a device of the kind referred to wherein the aforesaid disadvantages are overcome and any entangling of the supply cable is safely prevented.

With this and other objects in view, as will become apparent later from the following specification and accompanying drawing, I provide a device for the supply of electric current to rotatably mounted bodies and more particularly to bodies of rotation to be welded, comprising in combination: a conductor detachably connected to the said rotatably mounted body, a conductor connectable to an external source of current, a disc consisting of electrically conductive material connected to one of the said conductors, a bolt arranged co-axially to the said disc and connected to the other one of the said conductors, and resilient contact members mounted on the said bolt so as to be restrained from rotating relative thereto and to electrically contact and resiliently abut the said disc.

These and other features of my said invention will be clearly understood from the following description of a preferred embodiment thereof given by way of example with reference to the accompanying drawing, in which:

FIG. 1 is a diagrammatic perspective view of a general arrangement,

FIG. 2 is a longitudinal part-section of the particular device on a larger scale.

Referring now to the drawing,

In FIG. 1 a support structure of conventional type for a drum 1 to be welded is indicated by two rollers 2 only. As well known, the drum 1 is set in rotation on such rollers 2 in order to produce weld seams running in a circumferential direction. The supply of current to the drum 1 is effected by a cable 3 which is connected by means of a clamp 4 to a conductor 5 as well as, by components of the device to be described later, to the conductor 6 screwed to the drum 1 at 6a. The conductor 6 may be attached to any desired or convenient point of the rotary drum 1, for instance to an eccentrically positioned tab 1a projecting from the end wall of the drum.

These aforesaid components of the device which prevent the cable from getting entangled, comprise a disc

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7 connected electrically conductively and preferably fixedly to the conductor 5, which disc consists of a material having good electrical conductivity and at the same time sufficient resistance to mechanical wear. As suitable for this purpose a bronze alloy has been found which is known under the proprietary name of Mallory.

The disc 7 has a central bore and forms a partition wall in a round casing 8 into which enters a bolt 9 conductively connected to the conductor 6.

As will be seen from FIG. 2 the reduced forward end 9a of this bolt 9 penetrates a central bore 10 of the disc 7, which is supported on the bolt end 9 by oppositely arranged shoulders on two abutting apertured circular plates 13 and 14. In order to pass the electric current from the conductor 5 to the conductor 6, resilient contact members 11 are mounted on the bolt 9. These conductive contact members are connected to and restrained rotationally relative to the bolt 9 by means of washers 15 and a nut 12. They abut resiliently with their outer margins on the disc 7 and since they contact the same electrically conductively all over their circumferences a large contact area is established, which is also maintained constantly during operation.

The contact members 11 have preferably a dished shape. They are mounted on the bolt 9 pre-stressed between the washers 15 in such a manner that they resiliently bear on the disc 7.

In the embodiment according to FIG. 2, the contact members are arranged substantially symmetrically to the disc 7. In certain circumstances it may, however suffice to provide the same at one side of said disc only.

The device described, which has proved to be very effective in practice, assures a good and sufficient contact area between the relatively movable contact members and therefore a safe supply of current, and prevents safely any entangling of the current supply cable 3, since the same can no longer be twisted when turning the drum 1.

While I have herein described and illustrated in the accompanying drawing what may be considered a typical and particularly useful embodiment of my said invention, I wish it to be understood that I do not limit myself to the particular details and dimensions shown and described; for obvious modifications will occur to a person skilled in the art.

What I claim as my invention and desire to secure by Letters Patent, is:

In combination with a rotary body to be seam-welded, a cylindrical casing, a radially extending member connected thereto having a connector adapted to be electrically connected to a source of electrical energy, a partition wall in said casing located between the ends thereof and extending radially inward, a threaded bolt member adapted to be connected to the end of said rotary body having a reduced threaded end portion extending through an opening in an end wall of said casing and projecting through a central opening in said partition, a series of dish-shaped contact members arranged in spaced relation on the reduced end of said threaded bolt member and disposed on opposite sides of said partition with their peripheral edges yieldingly urged into frictional contact with the radial walls of said partition, and a retaining nut threaded on said reduced end of said threaded bolt member to retain said dish-shaped contact members in

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position, said partition wall being rotatably mounted on said threaded bolt member and forming the sole support of said housing with respect to said threaded bolt member.

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