Feb. 7, 1933. P. I. CHANDEYSSON 1,896,164

PNEUMATICALLY OPERATED CONTACTOR

Filed Aug. 27, 1930

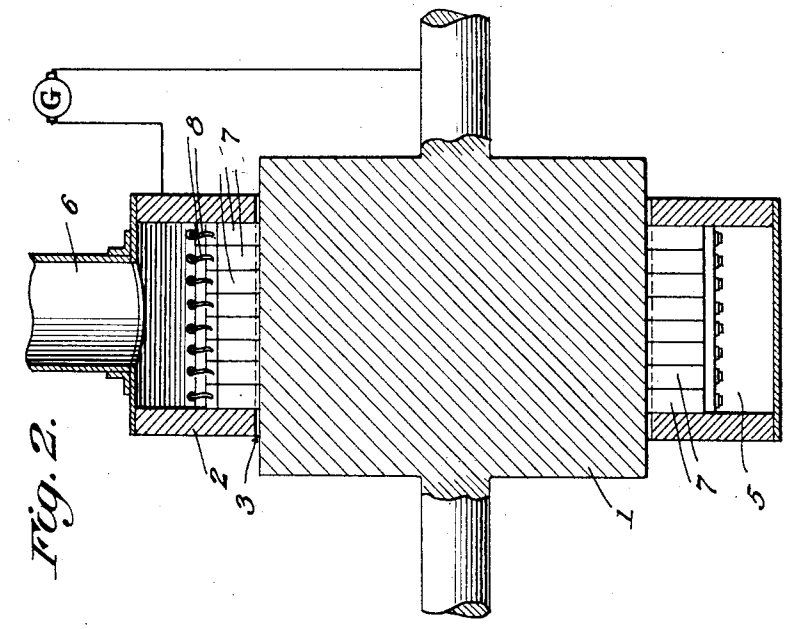



Fig. 2.

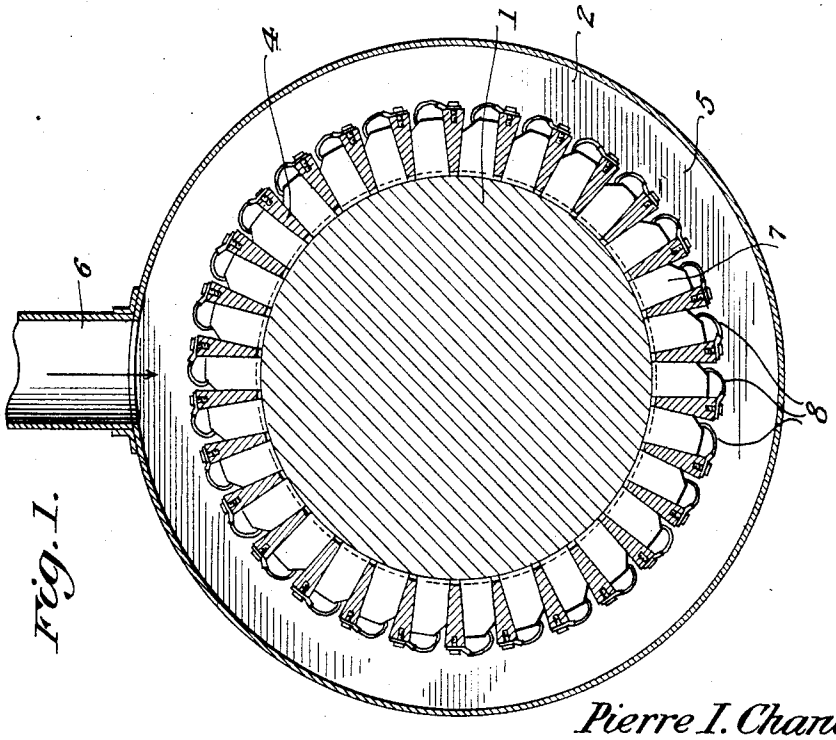



Fig. 1.

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# UNITED STATES PATENT OFFICE

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## PNEUMATICALLY OPERATED CONTACTOR

Application filed August 27, 1930. Serial No. 478,167.

This invention relates to means for holding one member against another member by a constant and steady pressure, the invention being mainly designed for holding brushes of an electrical device such as a homopolar generator against an armature or other part of the device, the general object of the invention being to provide pneumatic means for holding the brushes against the member with which they contact, which not only acts to hold the brushes with a constant and steady pressure against the member, but also acts as cooling means for the parts.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a vertical sectional view showing the invention in use on a current transmitting device.

Figure 2 is a vertical sectional view through Figure 1.

In these views, the numeral 1 indicates a revolving drum and the numeral 2 indicates a casing surrounding the drum and slightly spaced therefrom, as shown at 3. An annular row of bars 4 is arranged in the casing and these bars are of substantially wedge shape in cross section, with their small ends spaced slightly from the drum and their outer ends spaced from the circumference of the casing so as to form an annular chamber 5 which is connected by a conduit 6 with a source of compressed air or the like.

A number of brushes 7 is located between each pair of bars and each brush is connected by a conductor 8 to a bar. These brushes may be formed of any suitable material and fit between the bars in such a manner as to permit radial movement of the brushes.

Thus it will be seen that when compressed air or the like is forced into the chamber 5, it will act on all the brushes and thus force the brushes inwardly against the drum so that the brushes are held against the drum with a constant and steady pressure and the air passing between the brushes and the bars will contact the drum and escape through the spaces 3 between the drum and casing, thus cooling the parts.

It will, of course, be understood that a vacuum may be produced at the inner ends of the brushes to hold them against the drum, this being done, for instance, by providing a vacuum chamber at one side of the casing and around the drum and connecting this vacuum chamber with exhaust means. Thus this vacuum will cause the pressure exerted by the atmospheric air on the outer ends of the brushes to hold the brushes against the drum.

While the drawing shows the drum and casing of cylindrical shape, it will, of course, be understood that the invention can be applied to hold sliding contactors against surfaces of various shapes and having various movements, the main idea being to hold one or more contactors against a surface by pneumatic pressure so as to hold the parts together while one part is being moved relative to the other part.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device for the purpose indicated comprising a cylindrical armature, circular series of brushes bearing end-on on the surface of the armature, a plurality of bars of wedge shape in cross section, said bars being disposed between adjacent brushes of each circular series and extending axially of the armature throughout the whole series, the brushes adjacent each bar being electrically connected with the bar, and all of the latter at their inner edges being spaced from the armature, and means for supplying pneu-

matic pressure directly on top of the brushes to keep them in firm contact with the periphery of the armature.

2. A device for the purpose indicated comprising a cylindrical armature, circular series of brushes bearing end-on on the surface of the armature, a plurality of bars of wedge shape in cross section, said bars being disposed between adjacent brushes of each circular series and extending axially of the armature throughout the whole series, the brushes adjacent each bar being electrically connected with the bar, and all of the latter at their inner edges being spaced from the armature, a casing in surrounding relation to the armature and open on that side facing the latter, with its side edges spaced slightly from the armature, and an air supply pipe for the casing for the introduction of pneumatic pressure into the latter on top of the brushes.

In testimony whereof I affix my signature.

PIERRE I. CHANDEYSSON.