L. G. RILEY.

CONTROL APPARATUS.

APPLICATION FILED FEB. 3, 1916.

1,332,066. Patented Feb. 24, 1920.

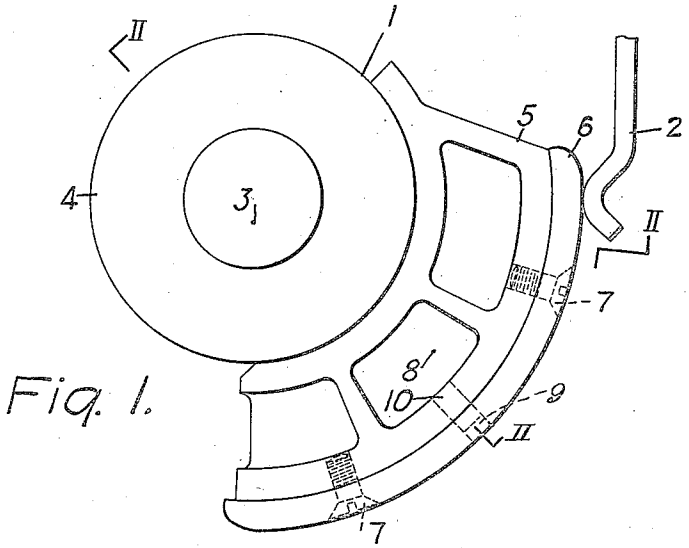



Fig. 1.

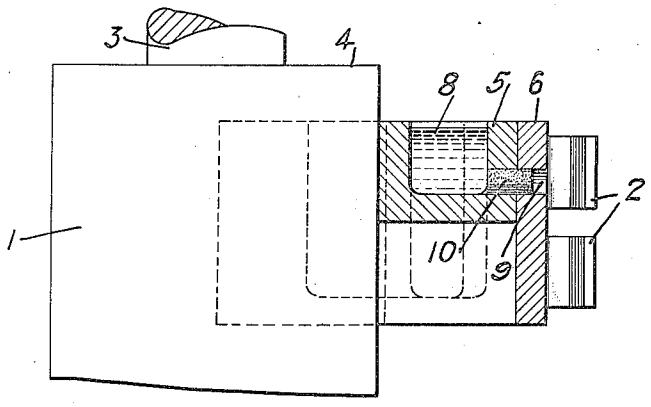



Fig. 2.

WITNESSES:

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## CONTROL APPARATUS.

1,332,066. Specification of Letters Patent. Patented Feb. 24, 1920.

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*To all whom it may concern:*

Be it known that I, LYNN G. RILEY, a citizen of the United States, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Control Apparatus, of which the following is a specification.

My invention relates to controllers for electric circuits and particularly to means for supplying a lubricant to the contact surfaces thereof.

One object of my invention is to provide a means which may be embodied in a controller drum to automatically lubricate the contact surface thereof and thereby reduce the wear of movably related contact parts.

Another object of my invention is to provide a controller of the above-specified class that will operate reliably without attention for comparatively long periods of time.

Means have heretofore been proposed for automatically lubricating controller contact members but such means have been external to the controller drum. My invention provides a lubricating means that may be embodied in the controller drum.

Figure 1 of the accompanying drawing is a plan view of a portion of a controller embodying my invention, and Fig. 2 is a sectional view on the line II—II of Fig. 1.

The portion of the controller shown in the drawing comprises a rotatably mounted drum member 1 and a plurality of stationary contact fingers 2 which are adapted to coöperate therewith. The controller drum 1 comprises a shaft 3 having an enlarged cylindrical portion 4 to which is secured a conducting structure 5 that may be of any well known form but is shown as embodying an auxiliary surface-contact segment 6 which is secured thereto by suitable screws 7. The conducting structure 5 has a pocket or lubricant-containing reservoir 8 embodied therein and a passageway 9 provided to supply lubricant to the contact surface of the segment 6. An absorbent material 10, which regulates or restricts the conduction of lubricant through the passageway 9, is shown as interposed between the reservoir 8 and the contact surface of segment 6. The reservoir 8 may, if desired, be provided with absorbent material.

In operation, as lubricant is delivered to the opening 9 by the absorbent material 10, or other suitable means, a controller finger 2, passing over the opening 9 during its travel across the face of the contact segment 6, distributes the lubricant evenly over the contact surface of the controller drum. A number of controller fingers may be supplied with lubricant from the single opening 9.

When it is considered that the periods of time intervening between the inspections of control apparatus are largely determined by the time that the controller will operate reliably without renewed lubrication, the importance of an automatically-lubricated controller drum will at once be apparent.

Inasmuch as my invention resides in the embodiment of a lubricant-containing reservoir in the drum of the controller and pertains in no way to the remainder of the apparatus, except as the various portions thereof perform the functions of an operative combination, I deem it unnecessary to show more than one controller finger associated with a contact drum. It will be understood, however, that my invention may be readily embodied in a great many different types of controllers and I desire, therefore, that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. The combination with a controller drum and a coöperating controller finger, of a lubricant-containing reservoir embodied within said drum and means for supplying the lubricant to the contact surface of said drum.

2. The combination with a controller drum and a controller finger coöperating therewith, of a liquid-containing reservoir embodied within said controller drum and communicating with the surface thereof.

3. The combination with a controller drum having a conducting segment, of means embodied within said drum for supplying lubricant to the surface of the conducting segment.

4. The combination with a controller drum and a contact member coöperating therewith, of a lubricant-containing reservoir carried by, and communicating with the surface of, the controller drum.

5. In a controller, the combination with a contact member and a movably related member having a conducting segment adapted to

engage said contact member, of means carried by said movably-related member for supplying lubricant to the conducting segment.

6. A controller comprising a drum member having a conducting segment mounted thereon, a plurality of controller fingers adapted to coöperate with said segment, a lubricant-containing reservoir embodied within said drum member and having an opening from the reservoir to the surface of the conducting segment, and absorbent means in said opening for delivering lubricant to the surface of the conducting segment.

7. In a controller, the combination with a stationary controller finger and a movable controller drum having a contact surface, of means carried by said drum for supplying lubricant to the contact surface thereof.

8. A controller embodying a movable member having a conducting segment mounted thereon and also having a lubricant-containing pocket and a restricted passage from said pocket to the contact surface of said segment.

9. A controller embodying a rotatable drum member having a conducting segment mounted thereon and also having a lubricant-containing vertically-extending pocket open at its upper end and a restricted passage from the outer side of said pocket to the contact surface of said segment.

10. The combination with a plurality of controller fingers in side-by-side relation, of a coöperating controller drum provided with a conducting member having a single lubricant-containing reservoir and a restricted passage for supplying the lubricant from said reservoir to said plurality of controller fingers.

11. The combination of a vertically-disposed controller drum provided with a conducting member having a single lubricant-containing reservoir connected to the surface of said member by a restricted passage, absorbent means in said passage for delivering lubricant to the surface of said member and a plurality of vertically-disposed controller fingers for coöperating with said member, an upper one of said fingers being disposed adjacent to said passage.

In testimony whereof I have hereunto subscribed my name this 22nd day of Jan., 1916.

LYNN G. RILEY.