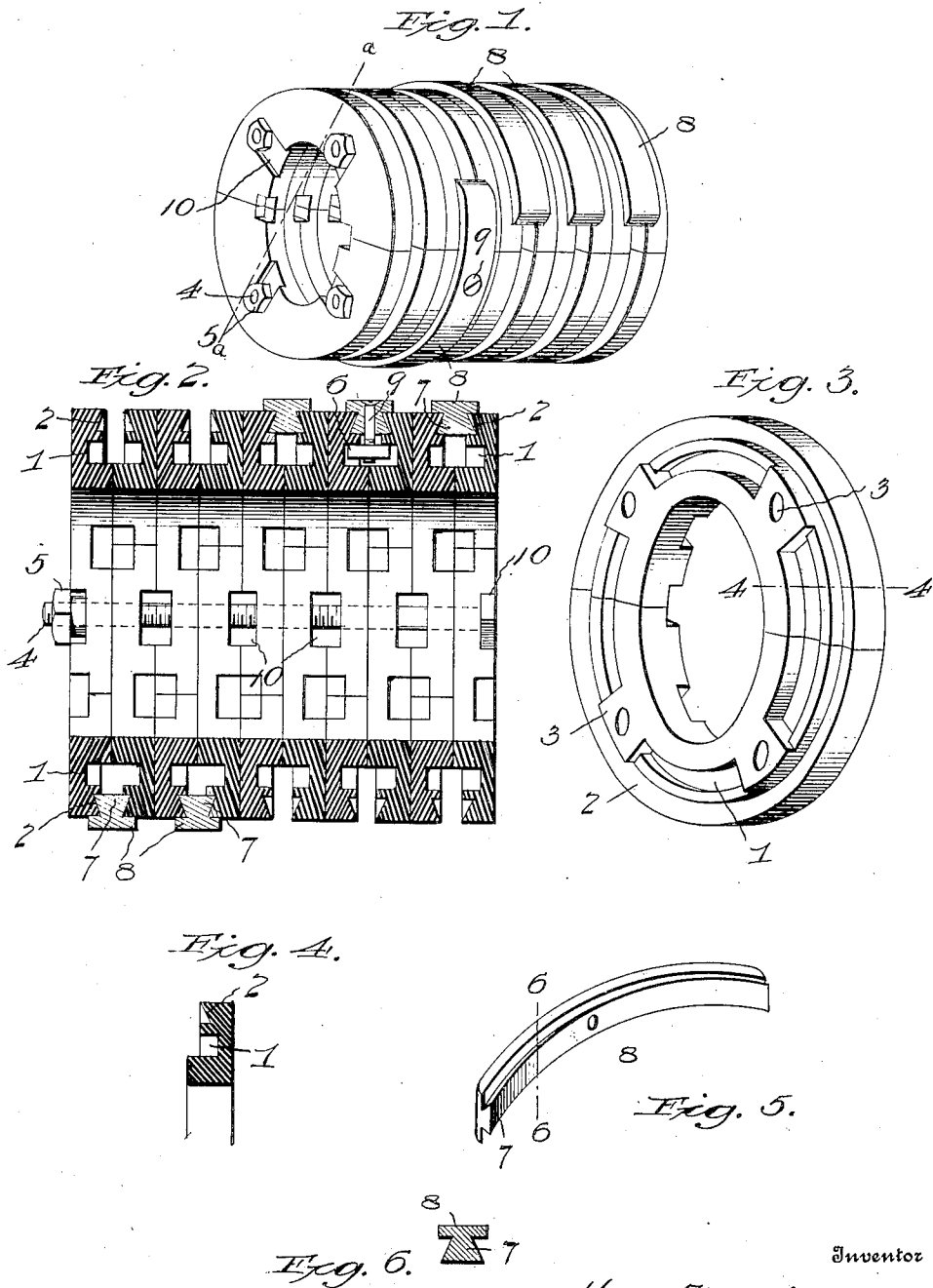


H. M. ABERNETHY.
ELECTRIC CIRCUIT CONTROLLER.
APPLICATION FILED MAY 25, 1908.

1,049,636.

Patented Jan. 7, 1913.



Witnesses
J. L. Rockwell
J. M. Cleary.

Inventor
Harry M. Abernethy
By Jas. L. Skidmore
His Attorney.

UNITED STATES PATENT OFFICE.

HARRY M. ABERNETHY, OF CLEVELAND, OHIO, ASSIGNOR TO THE AMERICAN RAILWAY SIGNAL COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

ELECTRIC-CIRCUIT CONTROLLER.

1,049,636.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed May 25, 1908. Serial No. 434,762.

To all whom it may concern:

Be it known that I, HARRY M. ABERNETHY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Electric-Circuit Controllers, of which the following is a specification.

This invention relates to electric circuit controllers, and its primary object is, to provide a circuit controller of simple and inexpensive construction provided with a series of adjustable contact plates and means for preventing the accidental movement or disarrangement of said plates, and is especially designed for use in connection with electrically operated railway semaphore signals.

A further object of the invention is to provide a circuit controller comprising a series or plurality of independent rings or sections adapted to be assembled and secured together upon a supporting sleeve or shaft, a series of metallic contact plates adjustably secured upon said rings or sections, and means for preventing the accidental movement or displacement of said metallic contact plates.

The construction of the improvement will be fully described hereinafter, in connection with the accompanying drawing, which forms a part of this specification, and its features of novelty will be set forth and defined in the appended claims.

In the drawing—Figure 1 is a view in perspective of a circuit controller embodying the invention. Fig. 2 is a longitudinal section of the same on the line *a—b* of Fig. 1. Fig. 3 is a perspective view of one of the rings or sections of insulating material employed, the same being formed of two segments. Fig. 4 is a section on the line *4—4* of Fig. 3. Fig. 5 is a view in perspective of one of the contact plates, and Fig. 6 is a section on the line *6—6* of Fig. 5.

The hollow cylindrical structure constituting the body portion of the controller is made up of a series of rings of insulating material, said rings being preferably divided centrally to provide segments to adapt them to be readily placed in position upon a supporting sleeve or shaft (not shown) and the rings are so assembled as to break

joints as shown in Fig. 1. As all of the sectional rings are of similar construction a specific description of one will suffice for all.

One face of the ring is formed with two concentric grooves designated by the reference numerals 1 and 2 respectively, the inner groove 1 being of rectangular cross section, while the outer groove 2 is of triangular cross section. Extending across the inner groove 1 from the inner side of the ring are a series of equidistant perforated lugs 3, the lugs of all of the rings alining to receive bolts 4 which secure the rings together and are provided with nuts 5. Within the groove 1, or the spaces between the lugs 3 are arranged nuts 6, and the outer groove 2 receives a dovetail rib or flange 7 projecting from the inner surface of a segmental metallic contact plate 8.

It will be apparent from the section shown in Fig. 2, that the outer grooves 2 of the two adjacent rings provide a dovetail seat for the rib or flange 7 of the contact plate, said flange being held between the two rings. To clamp the contact plates against longitudinal movement a screw 9 is passed through an opening formed in the plate and into one of the nuts 6. The tightening of the screw 9 clamps the nut firmly against the outer wall of the inner groove 1 and thus holds the contact plate against movement. The nuts 6 which are not engaged by the screw are loosely supported within the groove 1, the lugs 3 serving as stops to limit their movement. When it is desired to adjust the contact plate the screw 9 is disconnected from the nut which holds it, after which the plate is adjusted to the desired point and the screw is connected to the nut adjacent thereto. It is obvious that any desired number of rings may be employed, and also that the segmental contact plates may be of any desired length and number.

The several rings are interchangeable and the flat face of each is countersunk as at 10 to receive the heads of the bolts and the nuts which secure said bolts.

I would have it understood that the invention includes all such variations and modifications in the details of construction as may fall within the terms and scope of the following claims.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A circuit controller comprising, a series of sections or members each formed on one side with concentric grooves, adjustable metallic contacts, and movable means carried by and between two of the sections adapted to secure said metallic contacts.

2. A circuit controller comprising, a series of grooved sections or members each member formed on one side with concentric grooves, means for securing said sections or members, adjustable dovetail metallic contacts, and movable means carried by and between two of the sections for securing said contacts to the said sections or members.

3. A circuit controller comprising a hollow cylinder made up of rings of insulating material each ring formed on one side with concentric grooves, means for securing said rings together, metallic contact plates adjustably secured upon said rings and movable securing means carried by and between two of the rings for preventing accidental displacement of said contact plates.

4. A circuit controller comprising a hollow cylinder made up of rings of insulating material each ring formed on one side with concentric grooves, means for securing said rings together, segmental metallic contact plates adjustably secured upon said rings and provided on their inner faces with dovetail ribs and movable securing means carried by and between two of the rings for preventing accidental displacement of said contact plates.

5. A circuit controller comprising a hollow cylinder consisting of rings of insulating material each formed on one side with concentric grooves, means for securing said rings together, segmental metallic contact plates provided on their inner faces with dovetail ribs fitting within one of said

grooves, and means within the other groove for preventing accidental displacement of said contact plates.

6. A circuit controller comprising a hollow cylinder consisting of rings of insulating material each formed on one side with concentric grooves, means for securing said rings together, segmental metallic contact plates provided on their inner faces with dovetail ribs fitting within one of said grooves, and means within the other groove for preventing accidental displacement of said contact plates, comprising nuts adapted to receive screws extending through said plates.

7. A circuit controller comprising a hollow cylinder made up of independent rings of insulating material, each formed on one side with concentric grooves, and with equidistant lugs serving as stops the spaces between said lugs being adapted to receive nuts, means for securing said rings together, segmental contact plates provided on their inner faces with dovetail ribs fitting within the outer grooves of the rings, and means for preventing accidental displacement of said plates.

8. A circuit controller comprising a hollow cylinder made up of independent rings of insulating material, each formed on one side with concentric grooves, and with equidistant lugs, means for securing said rings together, segmental contact plates provided on their inner faces with dovetail ribs fitting within the outer grooves of the rings, and means for preventing accidental displacement of said plates comprising screws extending through said plates, and nuts arranged within the inner grooves of said rings between said lugs.

HARRY M. ABERNETHY.

In presence of—

MAY M. PLYER,

F. O. McCLEARY.