

P. PTOK.
ELECTRIC CIRCUIT CONTROLLER.
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1,128,373.

Patented Jan. 5, 1915.

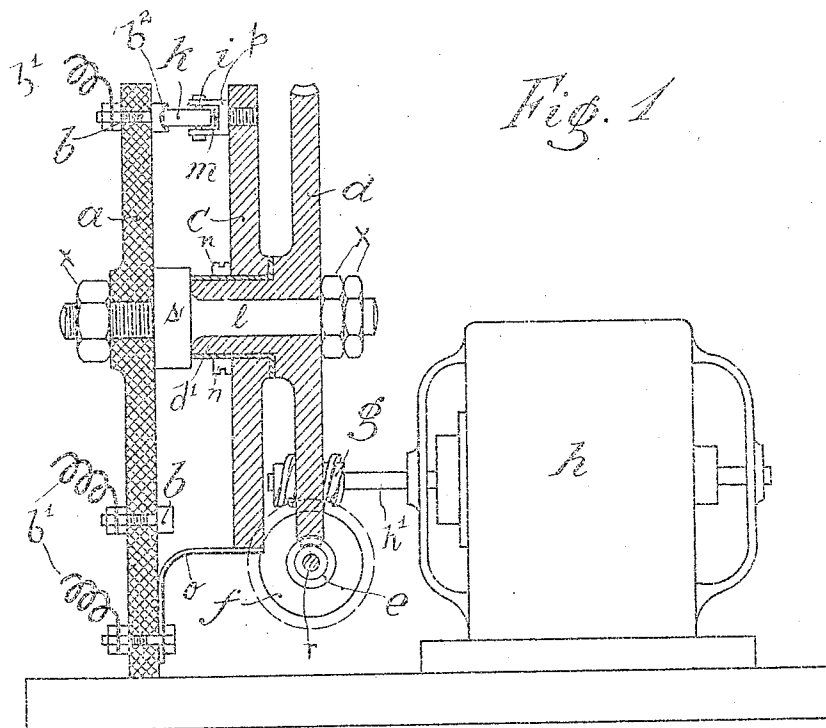


Fig. 1

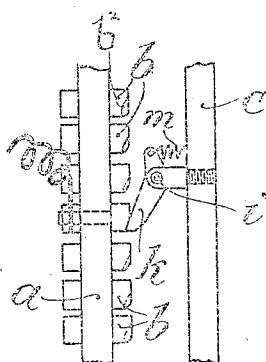


Fig. 2

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ELECTRIC-CIRCUIT CONTROLLER.

1,123,373.

Specification of Letters Patent

Patented Jan. 5, 1915.

Application filed September 23, 1913. Serial No. 791,383.

To all whom it may concern:

Be it known that I, FRANZ PROK, a subject of the German Emperor, residing at Munich, Germany, have invented certain new and useful Improvements in Electric-Circuit Controllers, of which the following is a specification.

My invention relates to electric circuit controllers generally, and has particular reference to an automatically operating make-and-break device for the lighting circuit used in connection with electric display signs and the like.

The principal object of the invention is to provide a make-and-break device, which may be cheaply constructed owing to its simplicity of detail and arrangement, and which will operate reliably without requiring frequent attention.

One preferred embodiment of the invention is illustratively exemplified in the accompanying drawing, wherein—

Figure 1 is a side elevational view, partly in section; and Fig. 2 is a fragmentary plan view of the contact arrangement.

The invention includes a stationary support, such as an insulating disk, to which the terminals of the lighting circuit or circuits are connected; a rotatable member carrying the contact maker designed for co-operation with the terminals on the stationary support; and means for rotating the rotatable member.

Referring by reference characters to the drawing, *a* denotes the stationary support, here shown as a disk of insulating material. The disk *a* carries a series of terminals *b* to which the ends of the wires *b'* of the lighting circuit, are attached. The terminals *b* are arranged in a circular series near the periphery of the disk *a*, and each terminal has its head preferably beveled or inclined at *b'* as shown.

Supported by the fixed disk *a* is a shaft *l* near one end of which is revolubly mounted a worm wheel *d*, the latter having an elongated hub *d'* embracing the shaft *l* and extending inwardly in the direction of the disk *a*. Secured to the hub *d'* by screws *n*, is a metal disk *c*, which is revoluble with the worm wheel. One of the terminals *b* engages one end of a bent spring *m*, the other end of said spring being positioned to make sliding contact with the periphery of the disk *c*.

Screwed into the disk *c* at a point near its periphery is a yoke *p*, the arms of which support a pin *i* serving as a pivot for a pawl *k*. The pawl *k* is acted upon by a spring *m* which tends to maintain the pawl in a position where, during rotation of the disk *c*, the said pawl will successively make and break contact with the series of terminals *b*.

Below the plane of the shaft *l*, and extending at right angles thereto, is a second shaft *r*, carrying near one end thereof a worm *e* in mesh with the worm wheel *d*. Spaced from the worm *e* and fixed on the shaft *r* is a worm wheel *f* in mesh with a worm *g* carried on the end of the shaft *h'* of any suitable motor, such as the electric motor *h* shown in the drawing.

The shaft *l* is provided intermediate its ends with a shoulder *s* against which one end of the hub *d'* abuts whereby proper spacing between the disks *a* and *c* is maintained. Nuts *t* are provided on opposite ends of the shaft *l* to retain the disks and worm wheel *d* in position.

The operation may be briefly described as follows:—During operation of the motor *h*, the shaft *h'* will rotate causing revolution of the disk *c* through the intermediary of the gearing *e*, *f*, *g* and *d*. It is assumed that the wires *b'* lead to lamps or the like, and that a battery or equivalent source of current is included in circuit with the wires. Through the spring *m* the rotatable disk *c* is also included in this circuit. As the disk *c* rotates the pawl *k* will successively make contact with the terminals. As the pawl engages one of the terminals *b* its circuit will be completed causing the lamp to glow, and as the pawl leaves the terminal its circuit will be broken, and the lamp will be extinguished. It has not been deemed necessary to illustrate the arrangement of lamps in this application, as such arrangement, and the wiring therefor, are well known in the art.

Owing to the fact that the forward face of each terminal *b* is beveled, a sufficiently large contact surface is presented when the pawl engages one of the terminals and as this pawl is acted upon by the spring *m* the pawl will be drawn away from the terminals quickly to prevent sparking.

What I claim as new and desire to secure by Letters Patent is:—

1. A circuit controller embodying a shaft

and a disk of conducting material revoluble about said shaft, a double-armed spring-pressed pawl pivotally carried near the periphery of said disk, a second disk of insulating material fixed on said shaft adjacent said first named disk, a series of terminals spaced about said fixed disk adjacent its periphery and having deeply beveled heads positioned to be engaged by an arm of said pawl, and means for revolving said first named disk to cause engagement of said pawl with successive terminals.

2. A circuit controller, embodying therein a disk of insulating material, a series of terminals spaced about the periphery of said disk, each of said terminals having its head deeply beveled, a shaft supported by said disk, a disk of conductive material mounted for rotation on said shaft, electrical connec-

tions between one of said terminals and said second disk, a double armed pawl pivotally carried on the face of said second disk adjacent said first disk, a spring acting on one arm of said pawl to project the other arm thereof substantially at right angles to the plane of the second disk into yielding contact with said terminals, a gear wheel on said shaft, said gear wheel having an extended hub on which said second disk is carried, and means acting on said gear wheel to rotate the same and said second disk.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRANZ PTOK.

Witnesses:

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