CIRCUIT MAKE-AND-BREAK DEVICE.

APPLICATION FILED APR. 26, 1909.

957,578.

Patented May 10, 1910.

Fig. 1.

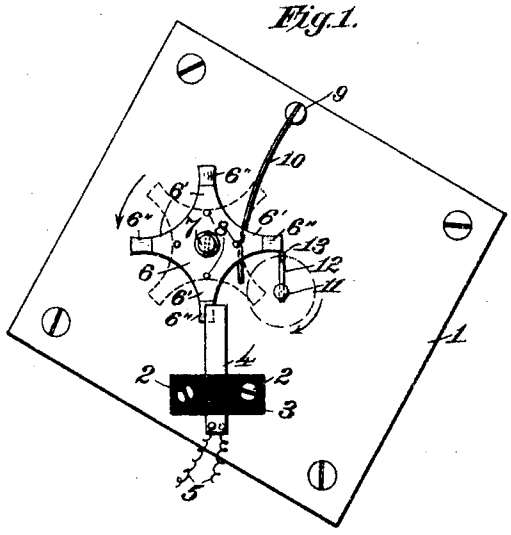


Fig. 2.

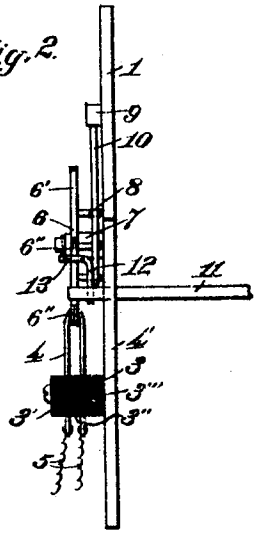
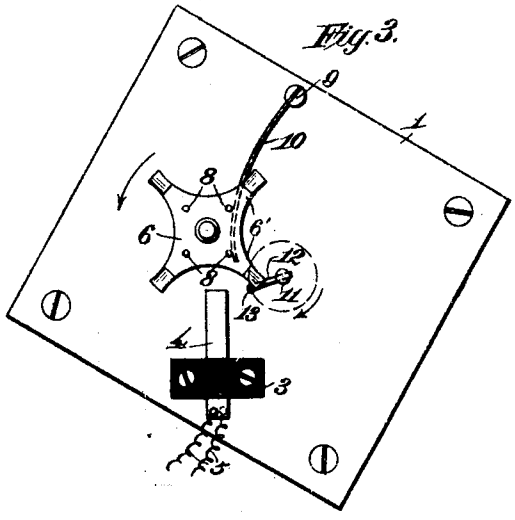


Fig. 3.



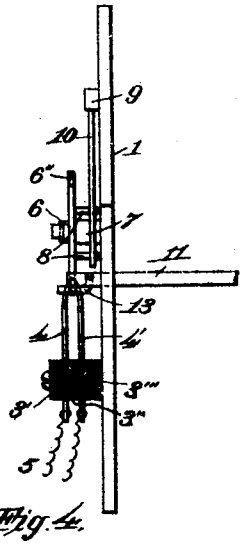


Fig. 4.

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CIRCUIT MAKE-AND-BREAK DEVICE.

957,578. Specification of Letters Patent. Patented May 10, 1910.

Original application filed January 8, 1909, Serial No. 471,280. Divided and this application filed April 26, 1909. Serial No. 492,278.

To all whom it may concern:

Be it known that I, JAMES E. SCOVILL, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Circuit Make-and-Break Devices, of which the following is a specification.

My invention relates to circuit make-and-break devices, and particularly to the make-and-break device illustrated and described in my co-pending application, Ser. No. 471,280, filed January 8th, 1909, upon which Letters Patent No. 940,483 were issued on November 9th, 1909, of which this application is a division.

The object of my invention is to provide an improved circuit make-and-break device which is particularly adapted to be actuated by clock-work to make and break the circuit to electrically operated chime ringing mechanism.

A further object of my invention is to provide a device as mentioned which shall be simple of construction, of positive action, and one which shall not readily get out of order.

Other objects will appear hereinafter.

With these objects in view my invention consists generally in a pair of spaced contact pieces arranged in the circuit, a star wheel rotatably mounted adjacent thereto, the ends of the arms of said wheel being adapted to pass between said contact pieces and engage the same to close the circuit intermittently, a clock-work driven arbor, means on said arbor for engaging said star wheel and adapted to impart initial movement thereto and a spring adapted to complete the movement of the wheel and maintain the same in normal position.

My invention further consists in various details of construction and arrangements of parts all as will be fully described hereinafter and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which—

Figure 1 is a side elevation of the device illustrating the star wheel in position to close the circuit, Fig. 2 is an end elevation of the same, Fig. 3 is a side elevation illustrating the parts in normal position, and Fig. 4 is an end elevation of the same.

Referring now to the drawings, 1 indicates a base plate on which the mechanism is mounted. Secured to the plate 1 as by the screws 2 is an insulating block 3 formed of the three parts 3′, 3″ and 3‴, between which are secured the contact pieces 4 and 4′ arranged in the circuit 5 which leads to the mechanism to be operated by the closing of the circuit.

Rotatably mounted adjacent to the contact pieces 4, 4′ is a star wheel 6, preferably having four arms 6′ which are brought successively between the contact pieces to close the circuit. To facilitate the passage of the arms between said contacts the ends of said arms are formed wedged-shaped as at 6″. The wheel 6 is mounted upon a stud shaft 7 secured to the plate 1, and is preferably spaced a considerable distance from said plate. Extending from the rear face of said wheel are a plurality of pins 8. These correspond in number to the number of arms 6′ and are preferably arranged one at the base of each arm as shown in Figs. 1 and 3. By arranging the wheel 6 at a distance from the plate 1 the pins 8 may be arranged between the same which economizes space. Extending from the face of the plate 1 is a post 9 in which is secured a spring 10 which is adapted to bear against two of the pins 8 at a time to normally hold the wheel in the position shown in Fig. 3, and to assist in actuating the wheel as will be described hereinafter.

Extending through the plate 1, and parallel with the shaft 7 is a clock-work actuated arbor 11. Secured to the arbor 11 is a radially extending arm 12 which rotates in a plane parallel with the plate 1 and wheel 6, and the end of said arm is bent at right angles thereto as at 13 into the path of the arms 6′. The arbor 11 is positioned with relation to the wheel 6 and the length of the arm 12 so proportioned that the end 13 thereof will engage one of the arms 6′ at each revolution and impart a partial revolution to the wheel as indicated in Fig. 1. This brings the end of one of the arms into engagement with the contact pieces 4, 4′, closing the circuit 5, and it will also be noted that at the end of the movement imparted to the wheel by the arbor 11 the spring 10

is in engagement with but one of the pins 8. The tension of the spring 10 by bearing against said pin continues to turn the wheel until it has made a quarter revolution, breaking the circuit and bringing the wheel into normal position as shown in Fig. 3.

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

1. A current make-and-break device comprising a pivotally mounted wheel provided with radially projecting arms; circuit making and breaking means adapted to be operated by a passage of said arms; a rotatable shaft; an arm on said shaft adapted to impart a partial rotation to said wheel; a series of projections on said wheel, there being one of said projections for each arm on the wheel; and a spring adapted to engage said projections to continue the partial rotation of said wheel and hold said wheel in position, substantially as described.

2. A current make-and-break device comprising a pivotally mounted wheel provided with four radially projecting contact arms; two adjacent electrical contacts set to close an electrical circuit when one of said arms passes between them; a rotatable shaft; an arm on said shaft adapted to impart a partial rotation to said wheel; a series of pins on said wheel, there being a pin at the base of each of said arms; and a spring adapted to contact with two of said pins simultaneously, substantially as described.

3. A current make-and-break device comprising a pivotally mounted wheel provided with four radially projecting contact arms having wedge shaped ends; two adjacent electrical contacts set to close an electrical circuit when one of said arms passes between them; a rotatable shaft; an arm on said shaft adapted to impart a partial rotation to said wheel; a series of pins on said wheel, there being a pin at the base of each of said arms; and a spring adapted to contact with two of said pins simultaneously, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES E. SCOVILL.

Witnesses:

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JANET E. HOGAN.