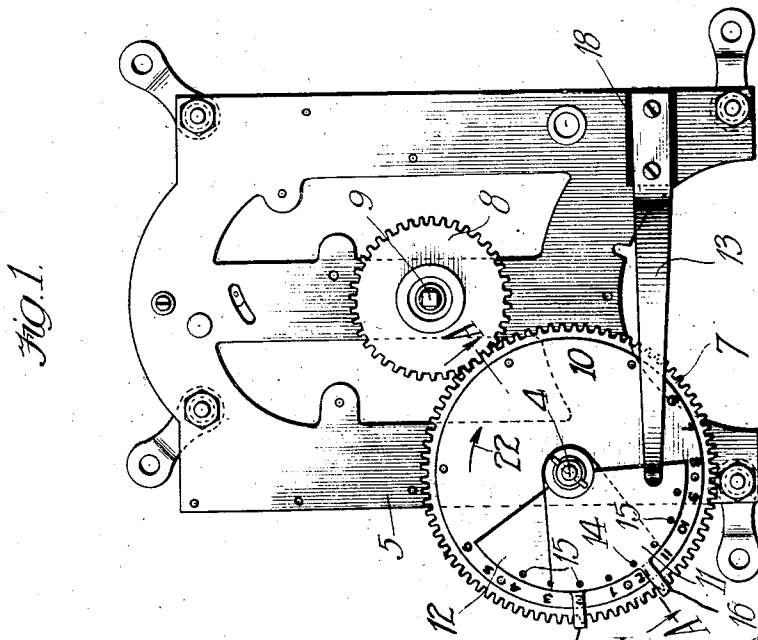
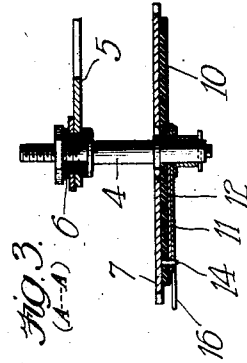
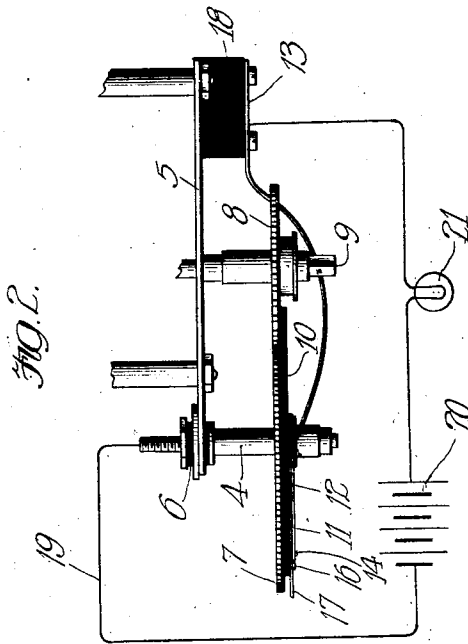


A. B. EGGLER.
 AUTOMATIC TIME SWITCH.
 APPLICATION FILED MAY 6, 1912.

1,058,664.

Patented Apr. 8, 1913



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UNITED STATES PATENT OFFICE.

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AUTOMATIC TIME-SWITCH.

1,058,664.

Specification of Letters Patent.

Patented Apr. 8, 1913.

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To all whom it may concern:

Be it known that I, AUGUST B. EGGLE, a citizen of the United States of America, and a resident of Dundee, county of Kane, State of Illinois, have invented certain new and useful Improvements in Automatic Time-Switches, of which the following is a specification.

The main objects of this invention are to provide an improved form of automatic time switch for opening and closing electric circuits at certain predetermined points of time, and allowing the circuits to respectively remain open and closed for certain predetermined periods of time; to provide improved means for adjusting the times at which the circuit is to be opened or closed and the relative lengths of time it is to remain so; and to provide a device of this kind which is simple and inexpensive in construction and effective in operation.

An illustrative embodiment of this invention is shown in the accompanying drawings, in which:—

Figure 1 is a front elevation of an electric switch constructed according to this invention as mounted to be operated by a clock, the clock being diagrammatically represented. Fig. 2 is a plan view of the same including a diagrammatic representation of an electric circuit which is to be controlled by the switch. Fig. 3 is a fragmentary sectional view of a part of the switch mechanism taken on the line A—A of Fig. 1.

In the construction shown in the drawings, a shaft 4 is rotatably mounted on the clock frame 5 and insulated therefrom, as by a bushing 6. A gear 7 is mounted to rotate with the shaft 4 and is connected by the pinion 8 to the hour arbor 9 of the clock. The ratio of the gears 7 and 8 is herein shown to be respectively 2 to 1, so that the switch mechanism carried by the gear 7 will make one revolution in 24 hours.

The switch mechanism comprises an insulating disk 10, metallic sectors 11 and 12, and a spring contact member 13. The disk 10, which may be of any suitable material, such as fiber, is fixed on the face of the gear 7. The sectors 11 and 12 are formed of thin metal, preferably copper, and pivotally and electrically connected to the shaft 4. The sectors 11 and 12 are each herein shown to be substantially equal to a quarter area of the disk and are arranged to overlap and be relatively shifted so as to expose any desired

portion of the area of the disk between certain maximum and minimum limits as respectively determined by the area of one of the sectors when they are superimposed or the combined area when shifted to their fully extended positions. The exposed area of disk consequently determines the exposed area of the sectors.

The disk 10 and sectors 11 and 12 are provided with co-acting shoulders in the form of a pin 14 secured to the disk and notches or apertures 15, arranged in the arc of a circle adjacent to the peripheral edge of the sectors. This pin and apertures are adapted to have interfitting engagement for the purpose of securing the sectors in any desired position. The disk 10 has indicated thereon, outwardly of the peripheral edges of the sectors, figures which represent the hours from 6 p. m. to 6 a. m. which serve as a guide for setting the sectors so as to obtain the closing or opening of the circuit during the desired periods of time. The sectors 11 and 12 are provided with the integral fingers 16 and 17 by which the sectors are lifted clear of the pin 14 and shifted to a desired position. These fingers extend outwardly beyond the periphery of the gear so as to be readily accessible.

The brush 13 is herein shown to be mounted on the clock frame 5 with a block of insulating material 18 interposed between it and the frame.

The end of the spring contact bears upon the face of the disk 10 and the sectors 11 and 12 and co-acts therewith for opening and closing the circuit. The conductor wires of the circuit 19 are respectively connected to the shaft 4 and to the contact member 13, and include a source of electricity, herein represented as a battery 20, and an electric consuming device 21, as for instance, a lamp.

The operation of the device is as follows: The sectors 11 and 12 are set to their respective positions which will expose the faces thereof and the face of the disk 10 an amount which will cause the circuit to be open and closed at the desired points of time and remain so for the desired periods of time. For instance, suppose it were desired to have the circuit closed from 6 p. m. to 8 a. m., the sectors 11 and 12 would be lifted clear of the pin 14 and the sector 12 shifted so that an aperture 15 registered with the pin 14 which would locate the one

edge of the sector even with the numeral 6 on the disk 10. The other sector would be similarly shifted to bring the opposite edge to register with the numeral 8. The disk being now rotated in the direction of the arrow 22, the spring arm 13 would enter into contact with the sector 12 at 6 o'clock in the evening, whereupon the circuit 19 would be closed and the lamp 21 lighted. During the continued rotation of the gear 7, the arm would travel across the faces of the sectors 12 and 11 during the period intervening until at 8 o'clock in the morning when the spring contact would recede from the sector 11 and engage the face of the disk 10, whereupon the circuit would be opened and the light 21 would go out. The circuit would then remain open until the gear 7 had completed a sufficient amount of its revolution to again bring the sector 12 into position to engage the contact 13, whereupon the cycle would be repeated.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:—

1. In a time switch, the combination of a shaft, a disk of insulating material carried by said shaft; a pair of metallic sectors pivotally connected to said shaft in substantially superimposed relation on said disk, said sectors being adapted to be relatively adjusted with respect to each other and said disk to vary the exposed surface thereof and of said disk; a contact member arranged to bear against the face of said disk and sectors; an electric circuit connecting said sectors and contact member with a source of electricity and an electric consuming device; and means for rotating said disk to cause said circuit to be respectively opened and closed through the coaction of said contact member with said disk and sectors.

2. In a time switch, the combination of a shaft; a disk of insulating material carried by

said shaft; a pair of metallic sectors pivotally connected to said shaft and adapted to be relatively adjusted with respect to each other on the face of said disk; a pin carried by said disk, said sectors having apertures formed therein in the arc of a circle concentric with said shaft, and adapted to engage said pin for securing said sectors in position on said disk; a spring contact member arranged to bear against the face of said disk and sectors; an electric circuit connecting said sectors and contact member with a source of electricity and an electric consuming device; and means for rotating said disk to cause said circuit to be respectively opened and closed through the coaction of said contact member with said disk and sectors.

3. In a time switch, the combination of a shaft; a disk of insulating material carried by said shaft; a pair of flexible metallic sectors pivotally connected to said shaft in substantially superimposed contacting relation, said sectors being adapted to be relatively adjusted on the face of said disk; a pin carried by said disk, said sectors having apertures formed therein in the arc of a circle about said shaft and adapted to engage said pin for securing said sectors in position on said disk; a finger carried by each of said sectors and adapted to be used in flexing said sectors for causing the disengagement of said pin and apertures and for shifting said sectors; a spring contact member arranged to bear against the face of said disk and sectors; an electric circuit connecting said sectors and contact member with a source of electricity and an electric consuming device; and means for rotating said disk to cause said circuit to be respectively opened and closed through the coaction of said contact member with said disk and sectors.

Signed at Chicago this 3rd day of May 1912.

AUGUST B. EGGLEY.

Witnesses:

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