No. 853,119. PATENTED MAY 7, 1907.

J. F. RODGERS.

ELECTRIC ALARM CLOCK.

APPLICATION FILED JUNE 15, 1906.

Fig. 1.

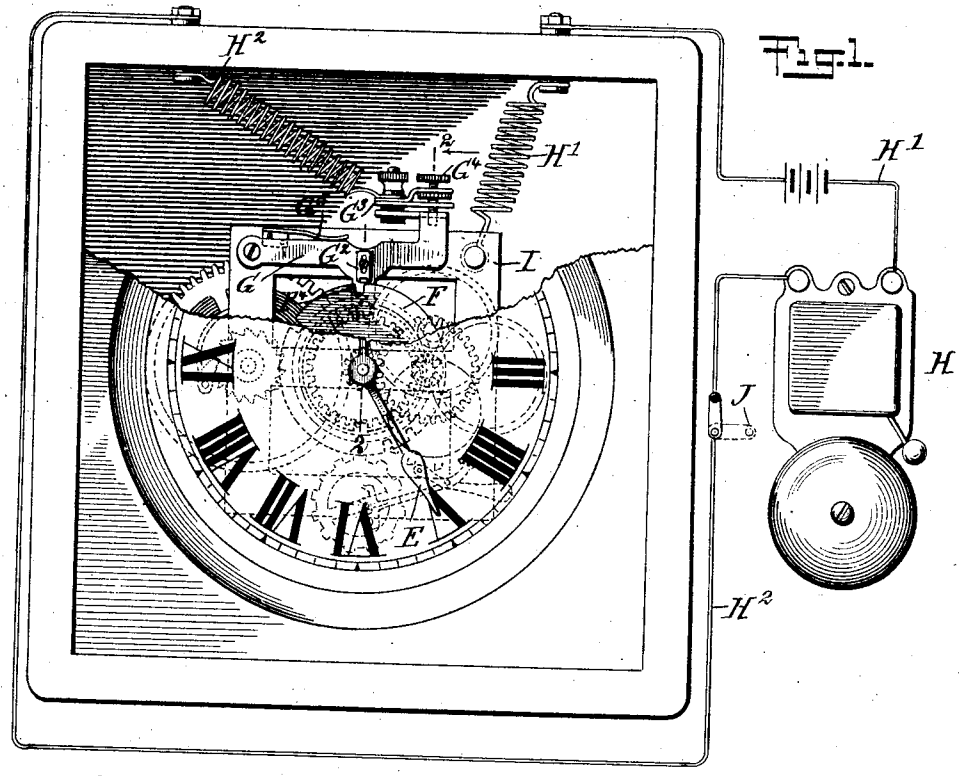


Fig. 2.

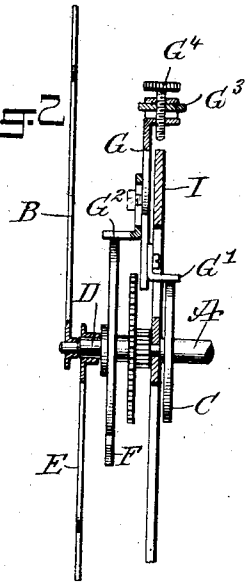


Fig. 3.

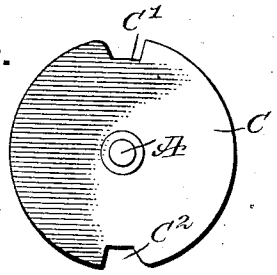
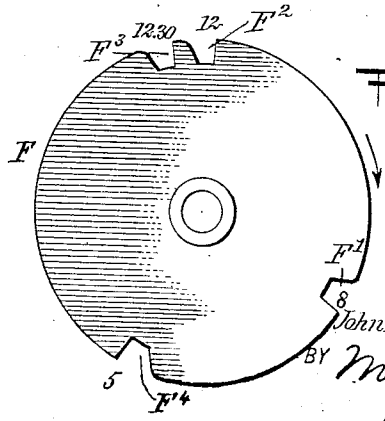


Fig. 4.



WITNESSES

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JOHN FRANCIS RODGERS, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO HARRY MAC CANLIS AND ARTHUR BARMAN, OF BROOKLYN, NEW YORK.

ELECTRIC ALARM-CLOCK.

No. 853,119. Specification of Letters Patent. Patented May 7, 1907.

Application filed June 15, 1906. Serial No. 321,843.

To all whom it may concern:

Be it known that I, JOHN FRANCIS RODGERS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Electric Alarm-Clock, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved electric alarm clock more especially designed for use in factories and other places, and arranged to give an alarm at predetermined hours, such as indicating the time for starting and quitting work.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the improvement, parts being broken out; Fig. 2 is an enlarged transverse section of the same on the line 2—2 of Fig. 1; Fig. 3 is an enlarged face view of the cam turning in unison with the minute hand of the clock, and Fig. 4 is a like view of the cam turning in unison with the hour hand of the clock.

The electric alarm clock is provided with the ordinary clock works, and on the arbor A carrying the minute hand B is secured a disk cam C, and on the sleeve D of the hour hand E is attached a disk cam F. The peripheral faces of the cams C and F are engaged by lugs G′, G² on a circuit-closing lever G for an electric alarm or enunciator H of any approved construction, the circuit wires H′, H² of the said alarm or enunciator H being connected with the frame I of the clock-work and the insulated part G³ of the circuit-closing lever G, respectively. The insulated part G³ of the circuit-closing lever G supports a contact G⁴ normally out of engagement with the frame I but adapted to make contact with the same at a predetermined time, to close the circuit for the alarm or enunciator H, to sound the same. The peripheral face of the disk C is provided with notches C′, C², and the notches F′, F², F³ and F⁴ are formed in the peripheral face of the cam F. Now when the two notches of the cams C and F are simultaneously in register with the lugs G′, G² then the circuit lever G swings into a closed position to close the circuit for the alarm or enunciator H, it being understood that a spring G⁵ pressing on the lever G facilitates the movement of the lever G. The notches C′, C² and the notches F′, F², F³ and F⁴ may be located at different points in the peripheral surfaces of the cams C and F, to sound the alarm at a predetermined time. As illustrated in Figs. 3 and 4 the cams C and F are arranged to sound an alarm at eight o'clock in the morning, at twelve noon, at 12.30 p. m. and at 5 p. m. For the purpose mentioned, the notches C′, C² are arranged on the cam C at the full and half hour, and the notches F′, F², F³ and F⁴ are arranged on the cam F at 8.00 a. m., 12 noon, 12.30 p. m. and 5.00 p. m. respectively. Now, it is evident that when the hour hand E and the minute hand B indicate 8.00 o'clock a. m. or work-starting time then the notches F′ and C′ are in register with the lugs G′, G², and consequently the lever G can swing downward from a normally open position into a closed position, to sound the alarm.

The notch C′ is sufficiently wide to permit the lever to remain in its lowered position long enough to sound a sufficient alarm. The continued rotation of the cam C, however, will finally lift the lever, thus breaking the circuit and stopping the alarm. Now, during the time from eight o'clock to twelve noon no alarm is sounded, notwithstanding the notches C² and C′ register with the lugs G at every half hour and full hour, as the lug G² holds the lever G in an open position by traveling on the peripheral surface of the cam F until twelve o'clock noon is reached, when the two notches C′ and F² again register with the lugs G′, G², and hence a noon time or work-quitting time alarm is sounded. As before stated the duration of this alarm is governed by the width of the notch C′, and when the clock reaches 12.30 p. m. then the notches C² and F³ register with the lugs G′, G² and consequently another or work-starting alarm is sounded, and at five o'clock in the afternoon another or work-quitting alarm is sounded, that is, at the time the notches F⁴ and C′ register with their lugs G′ and G².

In order to prevent the sounding of the

alarms mentioned, during the night, a suitable night switch J is arranged in the circuit for the alarm or enunciator H, and this switch is opened during the night and closed in the morning previous to beginning the day's work at the factory or other place.

It is understood that although I have given an example of sounding various alarms during the day at predetermined times, I do not limit myself to this particular arrangement, as the same can be greatly varied without deviating from the invention.

The clock is preferably located in the office of the factory, while the alarm or enunciator may be at any desired distant place in the factory, and it is also evident that a number of the said alarms or enunciators can be controlled from one central clock.

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

1. In an apparatus of the class described, the combination with the clock, of a lever pivotally mounted on the frame thereof, said lever being provided on its upper edge with a contact for engaging the frame, and on its lower edge with oppositely projecting lugs, a cam on the arbor of the minute hand and engaging one of the lugs, such cam having peripheral notches, a cam on the sleeve of the hour hand and engaging the other lug, said last named cam also having peripheral notches, a spring for holding the lugs in contact with the cams, and an electric circuit including an alarm having its terminals in the frame and the contact of the lever, respectively.

2. In apparatus of the class described, the combination with the clock, of a lever pivotally mounted on the frame thereof, and provided at its upper edge with a contact, a cam on the arbor of the minute hand and a cam on the sleeve of the hour hand, the lower edge of the lever normally resting on the periphery of said cams, and said cams being provided with peripheral notches for the purpose set forth, and an electric circuit including an alarm having its terminals in the frame and in the contact of the lever, respectively.

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

JOHN FRANCIS RODGERS.

Witnesses:

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FREDERICK J. BLOCK.