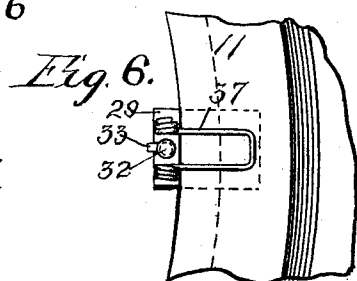
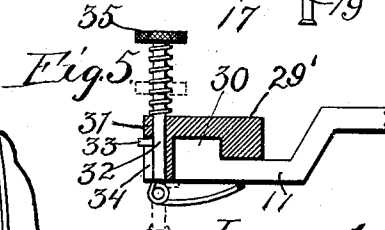
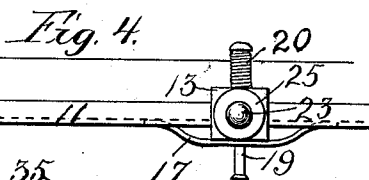
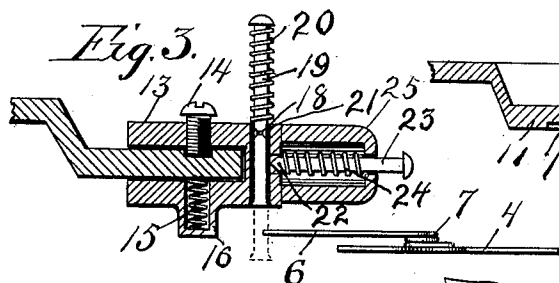
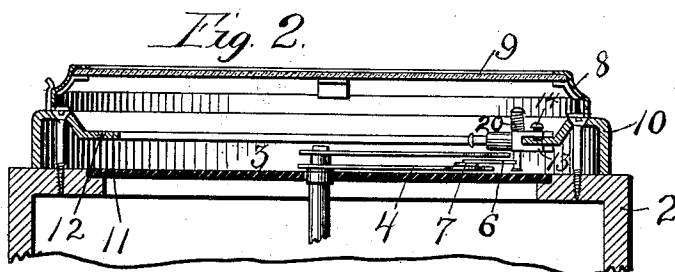
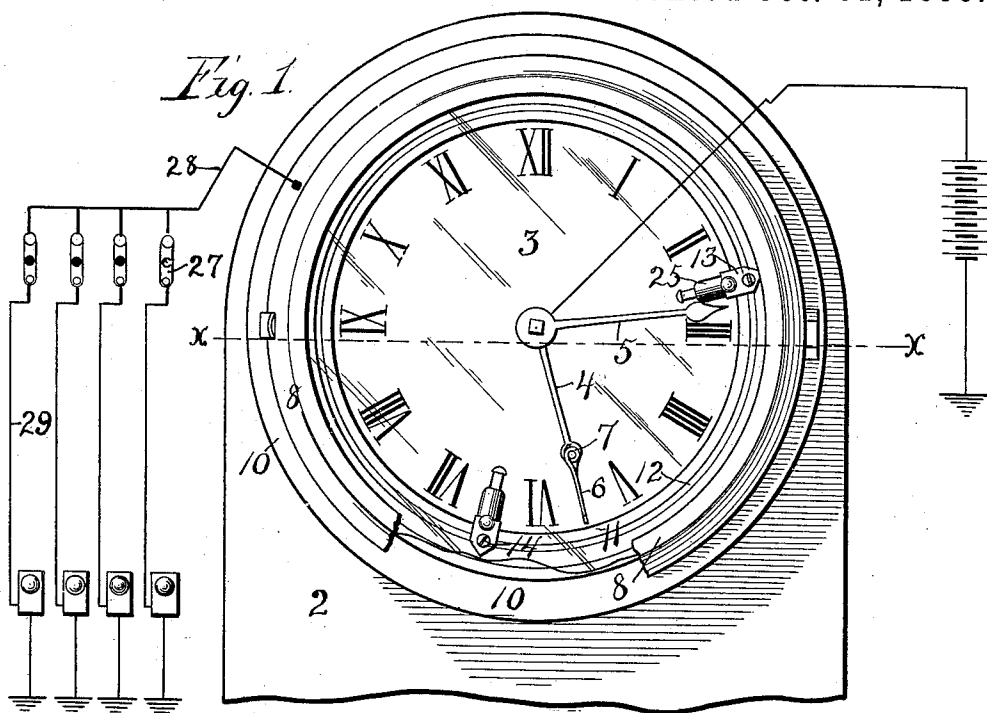


(No Model.)

C. F. WYMAN.
ELECTRIC ALARM CLOCK.

No. 507,959.

Patented Oct. 31, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

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AND HENRY W. KNAPP, OF ST. PAUL, MINNESOTA.

ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 507,959, dated October 31, 1893.

Application filed November 29, 1892. Serial No. 453,521. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. WYMAN, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain Improvements in Electric Alarm Attachments for Clocks, of which the following is a specification.

My invention relates to means adapted for employment with clocks of the ordinary construction, and by the use of which an electric bell or bells may be operated at predetermined times for which the instrument is set.

The object of the invention is to provide a device of cheap and simple construction adapted for attachment to any clock and provided with an adjustable contact or contacts whereby the use of a large number of stationary contacts is dispensed with, thereby greatly reducing the cost of manufacture and, in consequence, the selling price.

To this end my invention consists in the combination with a metal ring, arranged about the clock face, of a slidable contact block or blocks provided on said ring and having a pin or pins to be engaged by the hour-hand, the bell being included in a circuit the terminals of which are respectively the post of the clock and said ring.

The invention further consists in details of construction and in combinations all as hereinafter described and particularly pointed out in the claims, and will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 shows the face of a clock provided with an alarm attachment embodying my invention. Fig. 2 is a cross section thereof on the line $x-x$ of Fig. 1. Fig. 3 is an enlarged sectional detail of the contact block. Fig. 4 shows a section of the ring with modified means for securing the block thereon. Figs. 5 and 6 are detail views of a modified block.

As shown in the drawings, 2 represents the frame of the clock and 3 the dial thereof. The hour and minute hands, 4 and 5 respectively, are of the usual form with the exception that the hour hand is provided with the contact finger 6 secured in a coil 7 upon the end of the hour hand. The contact finger or wire is so coiled to prevent straining of the hour hand. Between the usual rim 8 carrying the

glass front 9 and the frame of the clock I interpose the metal ring 10 having the inwardly projecting flange 11. This flange is provided with an annular groove 12. The sliding contact is composed of a bifurcated block 13 to embrace the flange or ring 11 and is secured thereon by the short screw 14 projecting into the groove 12. The block is prevented from slipping upon the ring by a spring 15 arranged in the boss 16 on the inner side of the block, the hole being a continuation of the screw hole in the outer side. In place of this spring I may substitute the flat bow spring 17 secured to the under side of the block and pressing on the ring, but I prefer the coiled spring 15 as the same occupies less space, and the two contact points may be moved so close together as to form contacts a quarter of an hour apart. In place of the screw 14 and the groove on the outside of the ring, I may provide a similar groove 17' on the inner side and of a width to accommodate the ends of the flat spring 17, which entering the same will prevent the pulling off the block. In the hole 18 of the block I provide the spindle or pin 19 normally supported by the light coiled spring 20. The inner end of this pin is preferably upset, as shown, to prevent its pulling out of the block. The pin is provided with a V groove 21 and when pressed down the pin is held in place by the spring catch 22 entering this groove and composed of a small headed pin 23 pressed inwardly by the coiled spring 24, arranged in the stud 25 forming the inner end of the block. When the spindle 19 is thus pressed down it is in position to be engaged by the finger 6 upon the hour hand, when the hour hand has advanced to a point on the dial opposite the pin.

I preferably provide from two to six of the small blocks for each clock and, if desired, a number of small switches or loop cords 27 may be provided in connection with the line 28 extending from the middle ring.

A grounded line, including battery, is connected with the post of the clock or with the frame thereof. The separate bell circuits 29 are connected to the switches 27 and the bells being arranged in several rooms of a house, one or more of the same may be rung at the

same time. If it is desired to call different persons at different times I provide a common switch board and loop cords to be connected to the sliding blocks.

5 To aid in the proper adjustment of the contact blocks I sometimes mark the surface of the flange 11 to correspond with the marks and characters upon the dial.

In place of the block shown in Figs. 1 to 10 I may substitute a smaller form shown in Figs. 5 and 6. The rim remains practically the same with the exception that the outside shoulder of the groove is made somewhat larger. The block 29' is grooved on its under 15 side to receive this shoulder 30 and is provided with the hole 31 to receive the spring spindle or pin 32, which spindle has a lug 33 projecting into the slot 34 which extends into the hole 31. The pin is provided with a milled 20 head 35 and when the pin is forced down the head is turned so as to carry the lug out of the line of the pin and beneath the bottom of the block to let the pin down. For preventing the slipping of the block upon the ring I 25 provide the looped spring 37, the coiled ends of which are secured on the under side of the block.

Having thus described my invention, I claim as new and desire to secure by Letters 30 Patent—

1. The combination of a clock, and the dial and hands thereof, of a metal ring arranged about said dial, a slidable contact block or blocks arranged upon said ring and each provided with an adjustable contact pin or spindle, said ring and the hour hand forming the 35 terminals of an alarm circuit, substantially as described.

2. The combination of a clock and the dial 40 and hands thereof, of a metal ring arranged upon the clock in proximity to the dial thereof

and concentric with the same, an annular groove provided in said ring, a slidable block arranged thereon and provided with the projection extending into said groove, a spring 45 for holding the block in place upon the ring, an adjustable contact pin provided on said block, and an alarm circuit having for its terminals said ring and the hour hand, substantially as described. 50

3. The combination with the clock frame, of the dial and the hands of the clock, with the metal ring arranged upon said frame concentric with said dial, said ring provided with the groove, a bifurcated movable block arranged on the ring and having a projection 55 extending into said groove, a pressure spring arranged on the block to engage the ring, the spindle 19, the coiled spring 20 thereon, said spindle provided with the groove 21 and a 60 battery circuit or circuits of which the hour hand and said ring form the terminals, substantially as described.

4. The combination of a clock frame, with the dial and the hands thereof, the flanged 65 ring 10, said ring provided with an annular groove, a bifurcated block provided with a pressure spring and a projection extending into the groove, the spindle 19 arranged in the block, the coiled spring 20, said spindle 70 provided with the groove 21, the stud 25 on the block, and the pointed spring latch 22 to engage the spindle 19 and hold the same against the spring 20, and an electric circuit of which the hour hand and said ring form the terminals, substantially as described. 75

In testimony whereof I have hereunto set my hand this 19th day of November, 1892.

CHARLES F. WYMAN.

In presence of—

C. G. HAWLEY,
F. S. LYON.