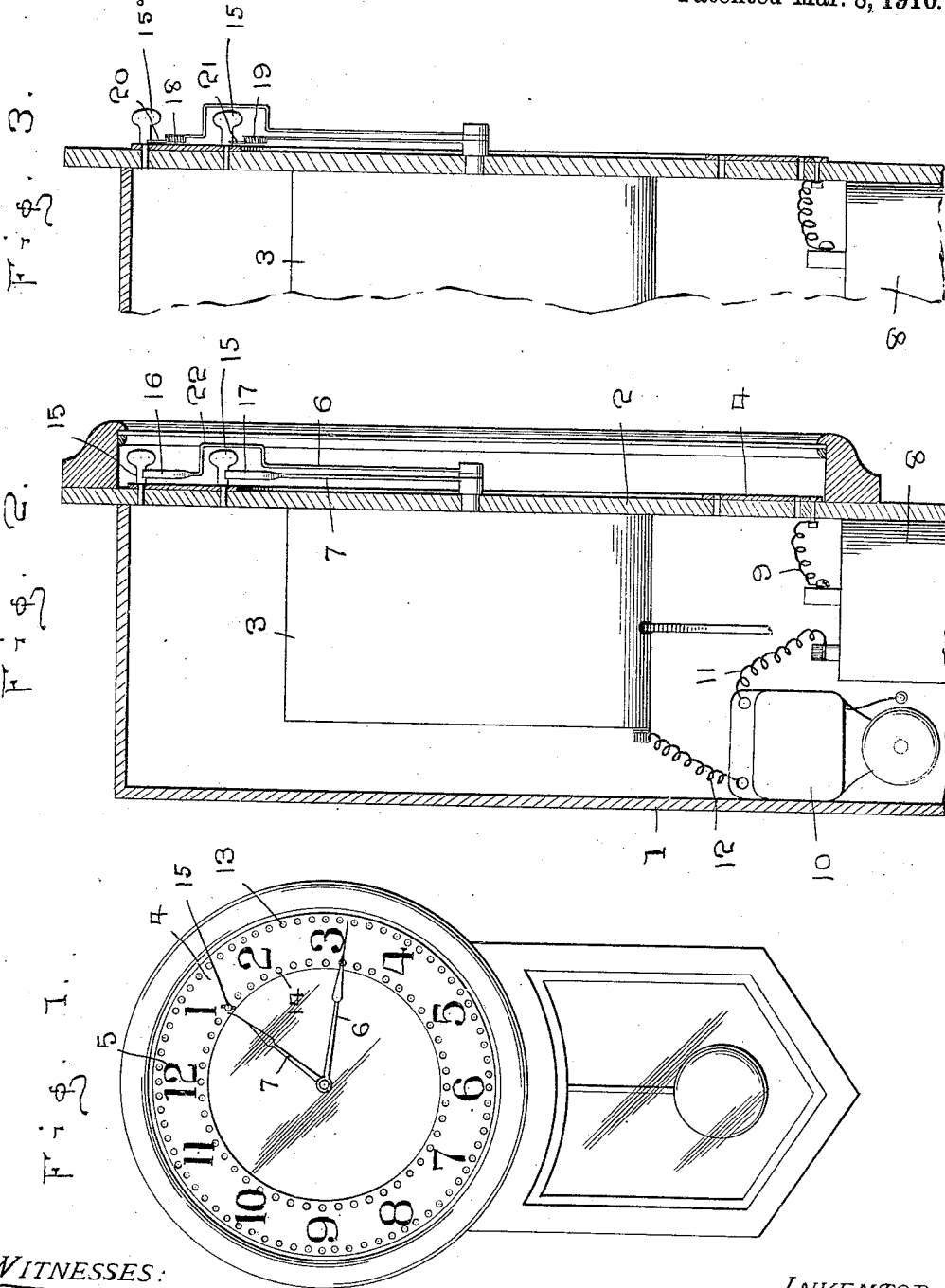


H. MACDONALD.
 SIGNALING DEVICE.
 APPLICATION FILED SEPT. 29, 1908.

951,537.

Patented Mar. 8, 1910.



WITNESSES:

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HUGH MACDONALD, OF KINGSTON, MICHIGAN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HUGH MACDONALD, a citizen of the United States, residing at Kingston, in the county of Tuscola and State of Michigan, have invented certain new and useful Improvements in Signaling Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in signaling devices and more particularly to that class adapted to be used in connection with clocks for sounding an alarm and my object is to provide a plate on the dial of the clock and connect the same with a battery, whereby the plate may be energized.

A further object is to provide means adapted to extend into the path of the hands of the clock and complete an electric circuit through the clock works and plate on the dial and operate one or more signaling devices connected to the circuit between the plate and clock works and a still further object is to provide means for varying the time of closing the circuit.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claim.

In the accompanying drawings which are made a part of this application, Figure 1 is a front elevation of a clock, showing my improved signaling device attached thereto. Fig. 2 is a transverse sectional view on an enlarged scale through the upper portion of the clock frame showing my improved signaling device attached thereto, and, Fig. 3 is a similar view showing slightly modified form of clock hands.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the clock case, which may be constructed in the usual or any preferred manner, said case being provided with a dial 2, to the rear face of which is secured any suitable form of metallic clock works 3.

Secured to the outer face of the dial 2 is a circular plate 4, which plate 4 is fixed in any suitable manner on the dial and is provided with numerals 5 or any suitable form of characters to indicate the hours, the plate 4 being so located that the outer ends of the

minute and hour hands 6 and 7, respectively, will travel thereover.

Located at any suitable point is the usual or any preferred form of battery 8, one pole of which is connected to the plate 4 through a wire 9, while the opposite pole is secured to any suitable form of signaling device 10, through the medium of a wire 11, the signaling device being in turn secured to the works 3 of the clock through a wire 12, and as the dial 2 is constructed of non-conducting material, preferably of wood, I provide means for utilizing the hands 6 or 7 for closing the circuit between the plate and works. In following out this construction, the plate 4 is provided with a plurality of openings 13 and 14 at the outer and inner edges of the plate, respectively, the openings 13 being so spaced as to correspond with the minutes of the hour, while the openings 14 are so spaced as to indicate the quarter hours and in closing the circuit through the medium of the hour hand, for instance, I provide a plug 15 which is seated in the required one of the inner series of openings 14 and in the path of the outer end of said hand, whereby when said hand encounters the plug, the circuit will be closed and the signal operated at the given hour.

In operating the signal for the fraction of an hour, a plug 15^a is inserted into the required one of the outer series of openings 13, and in the path of the outer end of the minute hand, whereby, when contact is made by said hand with said plug, the required signal will be given.

In order to permit the hands to readily pass by the plugs 15 without retarding the movement of the clock, the ends of the hands are preferably flattened and made comparatively thin, as best shown at 16 and 17, respectively, in Fig. 2, but if preferred, the ends of the hands may terminate in coils as shown at 18 and 19 in Fig. 3, the outer ends of the coils being provided with fingers 20 and 21 which are adapted to engage the plug.

As the plug, when located in the opening, is in the path of the hand 6, that portion of the hand immediately in the path of the openings 14, is provided with an offset 22, so that said hand will readily pass the plug when in the openings 14.

This form of signaling device may be employed for various purposes and any number

of signals may be provided and the signals may be operated at any predetermined hour or fraction of an hour by properly locating the plug in one of the series of openings.

5 It will likewise be seen that my improved signaling device may be attached to any form of clock employing metallic works for operating the same, and may be applied to
10 the ordinary clock being to provide the plate and also hands having yielding points and the parts of the signaling device may be applied at a very nominal cost.

What I claim is:

15 A device of the character described, comprising a face plate, an annular plate secured upon said face plate and having an annular arrangement of numerals thereon, indicative of the hours of a day, and two
20 annular concentric rows of apertures in said plate, between which is arranged said annular arrangement of numerals, one row be-

ing spaced and in number according to the number of minutes in an hour, and the other row being spaced to indicate quarter hour 25 intervals, removable plugs insertible into said rows of apertures, respectively, said plugs outstanding from said plate, and hour and minute hands having extended resilient terminals adapted to engage the shanks of 30 said plugs, respectively, electrical connections with said annular plate, and means for actuating said hands, said minute hand being provided with an outstanding bridge-like portion adapted to allow of its passage 35 over one of said plug.

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

HUGH MACDONALD.

Witnesses:

J. B. BEVERLEY,
B. W. MILLER.