

May 20, 1947.

K. LANE

2,420,887

AUDIBLE TIMER

Filed Jan. 5, 1944

2 Sheets-Sheet 1

Fig. 1.

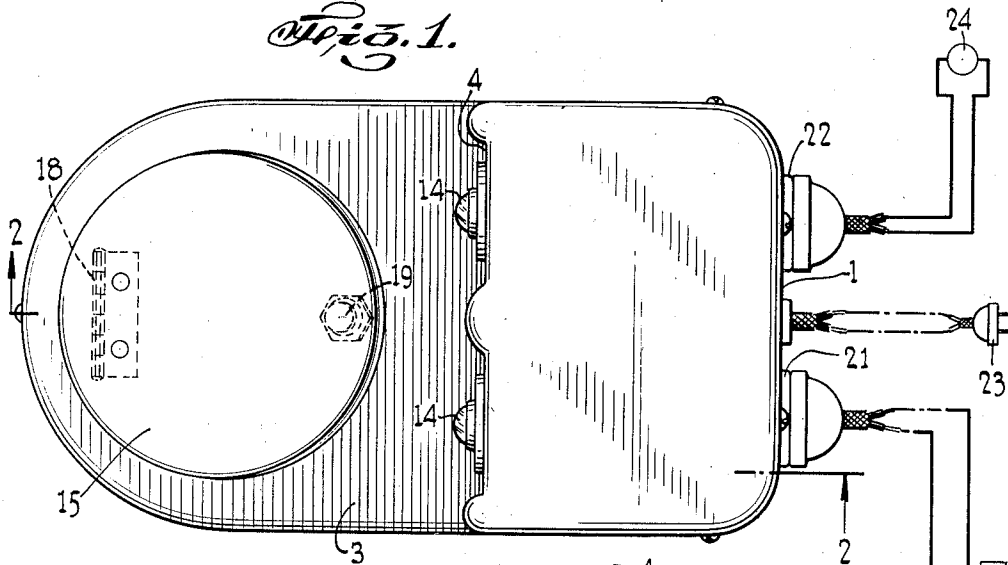


Fig. 2.

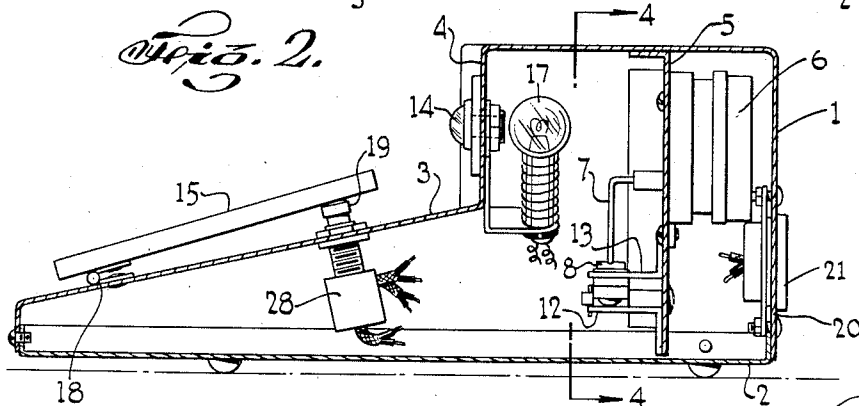
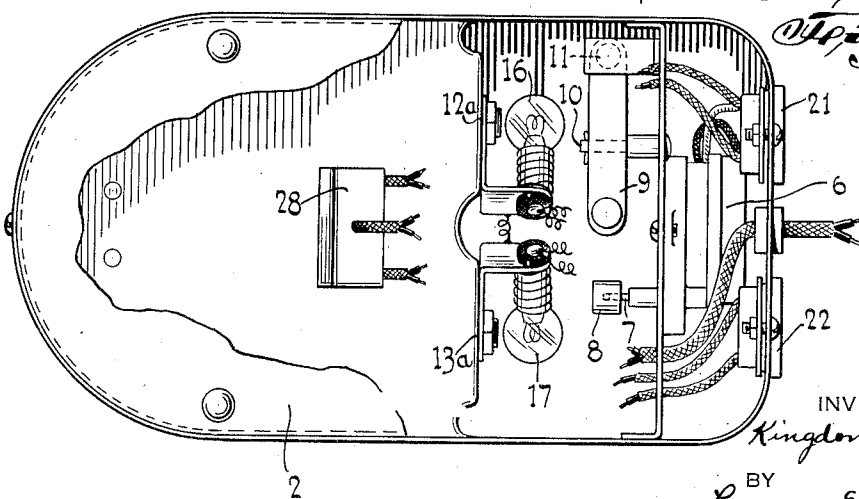


Fig. 3.



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Fig. 4.

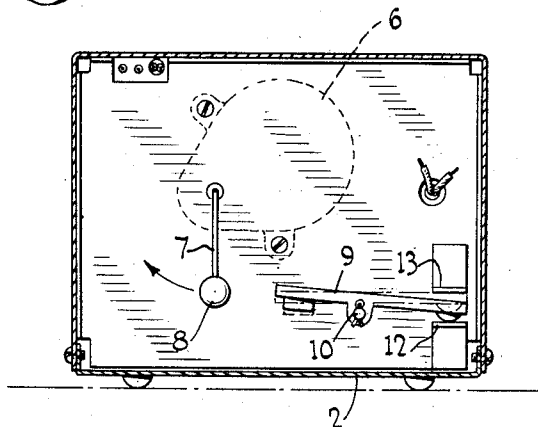
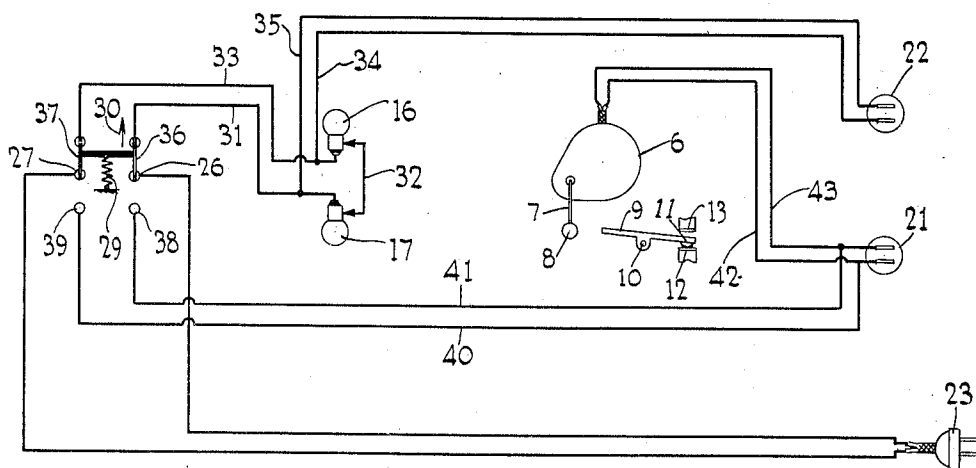


Fig. 5.



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3 Claims. (Cl. 161—26)

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This invention relates to photography, particularly to printing, and more especially to timing and lighting therefor.

A principal object of this invention is the production of a device which may be operated by the foot and which includes therein a device for producing an audible tap, or click, or sound of some nature at a predetermined interval after the first operation by the foot and continuously thereafter just so long as it is being operated and which simultaneously extinguishes a safe lamp used to illuminate the foot operable member and extinguishes a safe lamp used for general illumination and lights a printing lamp so that in the operation of printing, both hands of an operator will be free and there will be no light showing other than the printing light.

Other objects and advantages will appear as the description of the particular physical embodiment selected to illustrate the invention progresses, and the novel features will be particularly pointed out in the appended claims.

In describing the invention, and the particular physical embodiment selected to illustrate the invention reference will be had to the accompanying drawing and the several views therein, in which like characters of reference designate like parts throughout the several views and in which:

Figure 1 is the top plan view of a device embodying my invention; Fig. 2 is a cross sectional view of the device as shown by Fig. 1, on the plane indicated by the line II—II, viewed in the direction of the arrows at the ends of the line; Fig. 3 is a bottom plan view of the device with the bottom wall broken away in order to more clearly show the internal construction; Fig. 4 is a cross sectional view on the plane indicated by the line IV—IV, of Fig. 2, viewed in the direction of the arrows at the ends of line; Fig. 5 is a diagrammatic view illustrating the circuits of the invention.

Numeral 1 designates a hollow container, preferably formed of sheet metal, having a bottom wall 2 adapted to rest upon a plane surface, such as a floor; a top wall 3 positioned at an acute angle to the wall 2, that is, to a floor upon which the device may be positioned; and a vertical wall 4 rising from the acute angle wall 3.

Within the container, supported in any suitable or appropriate manner, as on a cross partition wall 5 is a motor 6. The motor 6 is of any of the usual and ordinary well known forms of electric synchronous motor and, as usual, is provided with an armature connected to an out-

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tated by the energization of the motor, is rotated. The arm 7 has a tapper 8 on the end thereof which when rotated contacts the pivoted member 9 once at each revolution and always starts from the pendant position, as shown in Fig. 2 as the member 8 is of such weight that it moves to its lowest position when not operated upon by the motor armature. The lever 9 is pivoted mid-way of its ends, as on the pivot 10, and is weighted so that it falls with its end 11 resting upon the bracket 12. When the lever 9 is struck by the member 8 the end 11 of lever 9 rises and hits a fixed object such as bracket 13 and in so doing makes an audible sound such as a tap or click. The positioning of member 8 and the end of lever 9 is such that when the member 8 strikes 9 and moves it, 8 may then pass lever 9 so that lever 9 is struck once upon each rotation of 8, and so a single click is made for each rotation of 8.

The vertically rising wall 4 is pierced at two points as at 12^a and 13^a. In each of these piercings a suitable transparency, such as 14 is positioned. This transparency may be of any of the usual or ordinary materials, such as colored glass. The color selected should be one which is least likely to affect a photographic printing paper. These transparencies allow light to radiate therefrom to illuminate a pedal 15.

Back of transparencies in the vertical wall 4 are positioned lamps. One 16 is back of piercing 12^a and one 17 is back of piercing 13^a.

The acute angle positioned top surface 3 has a suitable means attached thereto, as hinge 18, to which is attached, the pedal or foot operable member 15. By pressing downwardly upon 15, as shown in Fig. 2, the pedal 15, when depressed, depresses the spring pressed plunger 19 downwardly and so controls electric circuits to be hereinafter more fully described.

In the vertical wall 20 of the container there are positioned two receptacles 21 and 22. These receptacles are of the ordinary or usual form for receiving a pronged plug by which connection may be made to a printing lamp and to a safe lamp.

The electric circuits are best shown in Fig. 5. Plug 23 is connected to a source of alternating electric potential. 21 is the receptacle for plugging in the printing lamp. 22 is the receptacle for plugging in the safe lamp. The safe lamp is designated 24 and the printing lamp is designated 25.

The two conductors from plug 23 are carried, one to one side 26 and the other to the other side 27 of the double pole double throw switch,

designated as a whole in Fig. 2 by 20, and spring pressed by spring 29 in the direction of the arrow 33, that is, upwardly as viewed in Fig. 2.

Normally, current flows through the switch from 25 to wire 31 and so through lamp 17 and thence by wire 32 to lamp 16 and thence by wire 33 to 27. This energizes lamps 16 and 17. These lamps are preferably both 110-120 volt lamps. Being connected in series, they last much longer.

At the same time that lamps 16 and 17 are energized, a branch circuit by wires 34 and 35 energized safe lamp 24 so that both lamps 16 and 17 illuminating the pedal are energized together with safe lamp 22.

When foot pedal 15 is depressed, plunger 19 is depressed and acting against spring 29 bars 36 and 37 connect 26 and 27 with 38 and 39 respectively. When this connection is made, wires 40 and 41 energizes printing light 25 and at the same time by branch circuit including wires 42 and 43 the motor 6 is energized.

From the hereinbefore given description it will be now understood that the device as a whole may be placed upon the floor of a photographic print room. Normally the safe lamp 24 will be lighted and the printing lamp 25 will be unlighted and foot pedal illuminating lamps 16 and 17 will be normally lighted. If the operator desires to printing and to time his printing, at the proper moment, by means of the foot, he depresses pedal or disk 15. Immediately the motor 6 is energized and in a definite time thereafter produces an audible click by means of lever 9 and as long as it continues to run, that is, as long as pedal 15 is depressed, an audible click or sound is produced at the end of each predetermined interval. Simultaneously with the start of the motor, lamps 16 and 17 are extinguished and safe lamp 24 is extinguished but at the same time printing lamp 25 is energized.

From the hereinbefore given description it will now be apparent that a timer and switch control for the usual lamps employed in a printing room have been provided which enables an operator to do his timing and control his lights by his foot so as to leave his hands entirely free for any manipulation which he may desire to carry on and enable him to do printing without any effect whatsoever from lights other than the printing light.

Although I have particularly described one physical embodiment of my idea of means, nevertheless, I desire to have it understood that the form selected is merely illustrative but does not exhaust the possible physical embodiment of means underlying my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An audible timer, in combination; a normally unenergized electric synchronous motor; a source of alternating potential; a safe-lamp, normally connected to the source of potential; means operated by the motor when running producing an audible sound always at the same definite length of interval after starting and thereafter at predetermined intervals and means for simultaneously connecting the electric motor to the source of potential and disconnecting the safe-lamp from the source of potential.

2. An audible timer, in combination; a normally unenergized electric synchronous motor; a source of alternating potential; a safe-lamp, said safe-lamp normally connected to the source of potential; a printing lamp normally unenergized; means operated by the motor producing

an audible sound always at the same definite interval after starting and thereafter at predetermined intervals and means for simultaneously connecting the motor and the printing lamp with the source of potential and disconnecting the safe-lamp therefrom.

3. An audible timer, in combination; a normally unenergized electric synchronous motor; a source of alternating potential; a safe-lamp, said safe lamp normally connected to the source of potential; a printing lamp normally unenergized; means operated by the motor producing an audible sound always at the same definite intervals after starting and thereafter at predetermined intervals and means for simultaneously connecting the motor and the printing lamp with the source of potential and disconnecting the safe-lamp therefrom, said means for connecting including manually operable means.

4. An audible timer, in combination; a normally unenergized electric synchronous motor; a source of alternating potential; a safe-lamp, said safe lamp normally connected to the source of potential; a printing lamp normally unenergized; means operated by the motor producing an audible sound always at the same definite interval after starting and thereafter at predetermined intervals and means for simultaneously connecting the motor and the printing lamp with the source of potential and disconnecting the safe-lamp therefrom, said means for connecting including a foot operable electric switch.

5. An audible timer, in combination; a normally unenergized electric synchronous motor; a source of alternating potential; a safe-lamp, said safe lamp normally connected to the source of potential; a printing lamp normally unenergized; means operated by the motor producing an audible sound at predetermined intervals; means for simultaneously connecting the motor and the printing lamp with the source of potential and disconnecting the safe-lamp therefrom, said means for connecting including a foot operable electric switch; a normally lighted electric lamp positioned to illuminate the said foot switch and means operable by the said foot switch to disconnect the foot switch illuminating lamp simultaneously with the connection of the motor.

6. An audible timer, in combination; a normally unenergized electric synchronous motor; a source of alternating potential; a safe-lamp, said safe lamp normally connected to the source of potential; a printing lamp normally unenergized; means operated by the motor producing an audible sound at predetermined intervals; means for simultaneously connecting the motor and the printing lamp with the source of potential and disconnecting the safe-lamp therefrom, said means for connecting including a foot operable switch; two concealed electric lamps, normally energized from the source; two safe-light transparencies positioned to receive light radiated from the said two lamps and illuminate the foot operable switch and means for simultaneously disconnecting said two lamps from the source of potential on connecting the electric motor to the source.

7. In an audible timer, in combination; a hollow container formed of sheet metal walls having a broad base adapted to rest upon a floor and a partial top wall at an acute angle to the floor; a plate adapted to receive a human foot pivoted at one end to the upper surface of the acute angle positioned top wall; an electric switch operating plunger spring pressed upwardly ex-

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tending through the acute angled positioned upper surface and positioned beneath the pivoted foot receiving member; a stop member; a synchronous electric motor positioned within the hollow container; said motor provided with an armature and an outstanding arm connected to and rotatable by the armature; a pivoted member in the path of said rotatable arm, said pivoted member having one end positioned and adapted to contact with the stop member when struck by the rotating arm whereby an audible sound is produced; said hollow container having a substantially vertical wall rising from the acute angle upper surface, said vertical wall being pierced at two points and each piercing provided with a transparency transmitting only safe light; two electric lamps, one positioned behind each transparency; a source of alternating potential; means for connecting the source of potential with electric motor, the electric lamps and the electric switch whereby the electric lamps are normally lighted and the electric motor is normally unenergized but when the foot operable member is operated the electric lamps are disconnected from the source and the electric motor is connected to the source.

8. In an audible timer, in combination; a hollow container formed of sheet metal walls having a broad base adapted to rest upon a floor and one top wall at an acute angle to the floor; a plate adapted to receive a human foot pivoted at one end to the upper surface of the acute angle positioned top wall; an electric switch operating plunger spring pressed upwardly extending through the acute angle positioned upper surface and positioned beneath the pivoted foot receiving member; a stop member; a synchronous electric motor positioned within the hollow container, said motor provided with an armature and an outstanding arm connected to and rotatable by the armature; a pivoted member in the path of said rotatable arm, said pivoted member having one end positioned and adapted to contact with the stop member when struck by the rotat-

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ing arm whereby an audible sound is produced; said hollow container having a substantially vertical wall rising from the acute angle upper surface, said vertical wall being pierced at two points and each piercing provided with a transparency transmitting only safe light; two electric lamps, one positioned behind each transparency; a source of alternating potential; means for connecting the source of potential with the electric motor, the electric lamps and the electric switch whereby the electric lamps are normally lighted and the electric motor is normally unenergized but when the foot operable member is operated the electric lamps are disconnected from the source and the electric motor is connected to the source; a receptacle attached to the container for receiving a pronged plug for making electric connection to a safe lamp; a receptacle attached to the container for receiving a pronged plug for making electric connection to a printing lamp and connections within the container whereby the safe lamp is normally lighted and the printer lamp is normally unlighted and whereby an operation of the switches by the foot operable member causes the safe-lamp to be extinguished and the printing lamp to be lighted.

KINGDON LANE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,900,311	Spear	Mar. 7, 1933
2,163,419	Warren	June 20, 1939
1,599,507	Abrahamson	Sept. 14, 1926
1,754,204	Green	Apr. 8, 1930
2,268,268	Simmon	Dec. 30, 1941
2,195,255	Myers	Mar. 26, 1940
2,071,173	Owen	Feb. 16, 1937
1,789,044	Jauch	Jan. 13, 1914