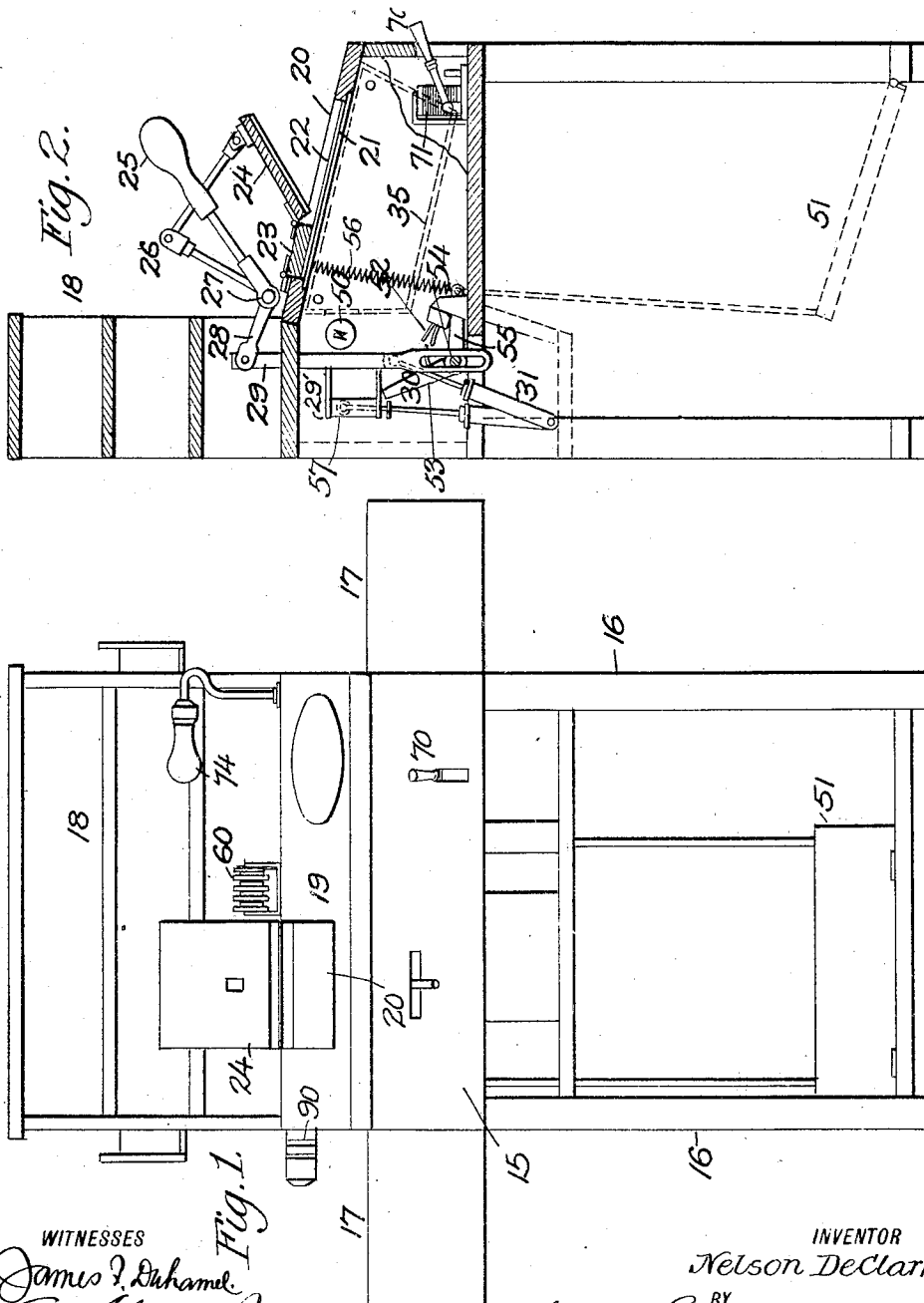


N. DE CLARK.
 PHOTOGRAPHIC PRINTING STAND.
 APPLICATION FILED MAR. 2, 1912.

1,051,700.

Patented Jan. 28, 1913

5 SHEETS-SHEET 1.



WITNESSES
James F. Duhamel
Geo. Ackman Jr.

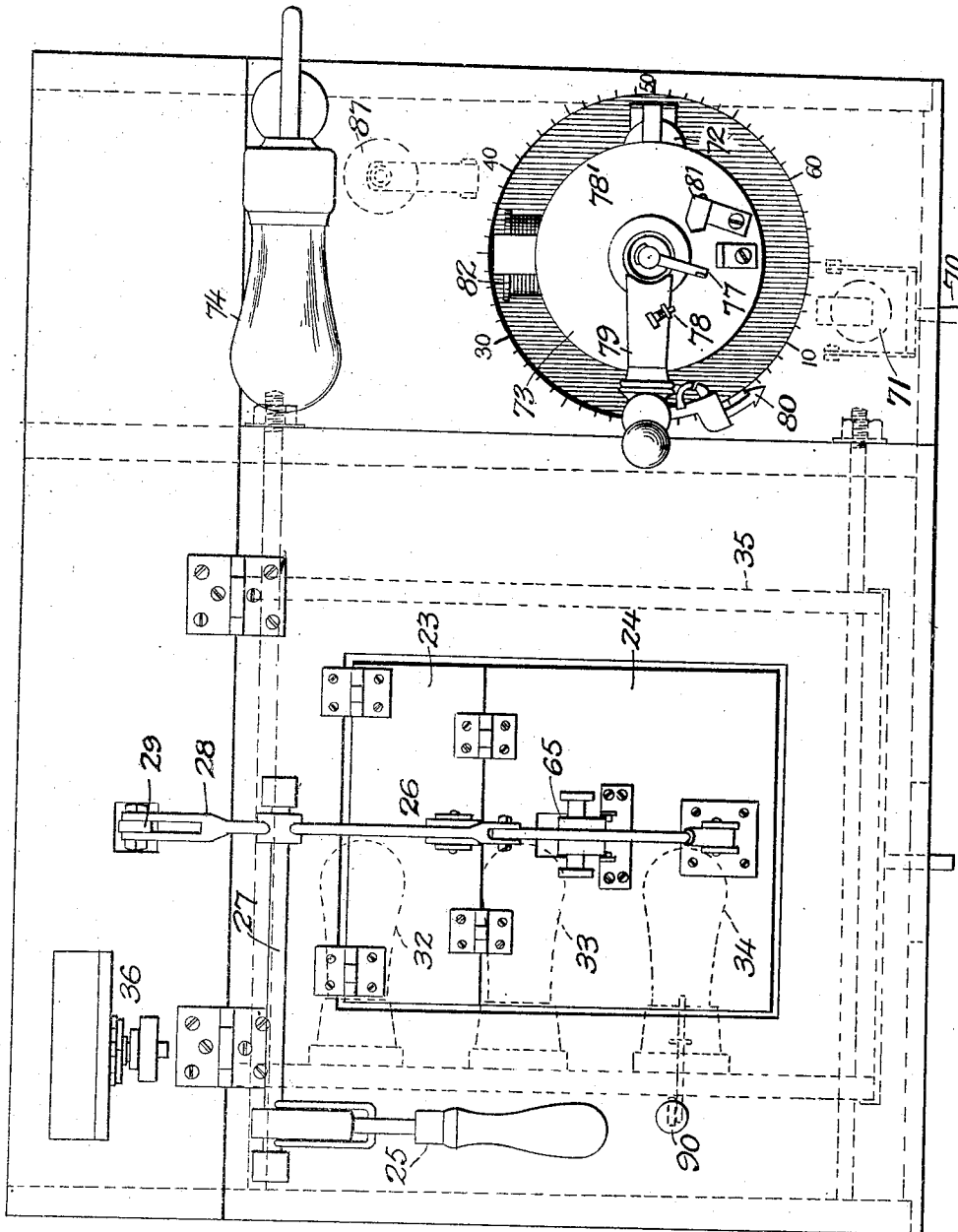
INVENTOR
Nelson DeClark
 BY
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5 SHEETS—SHEET 2.



WITNESSES

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Fig. 3.

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5 SHEETS—SHEET 3.

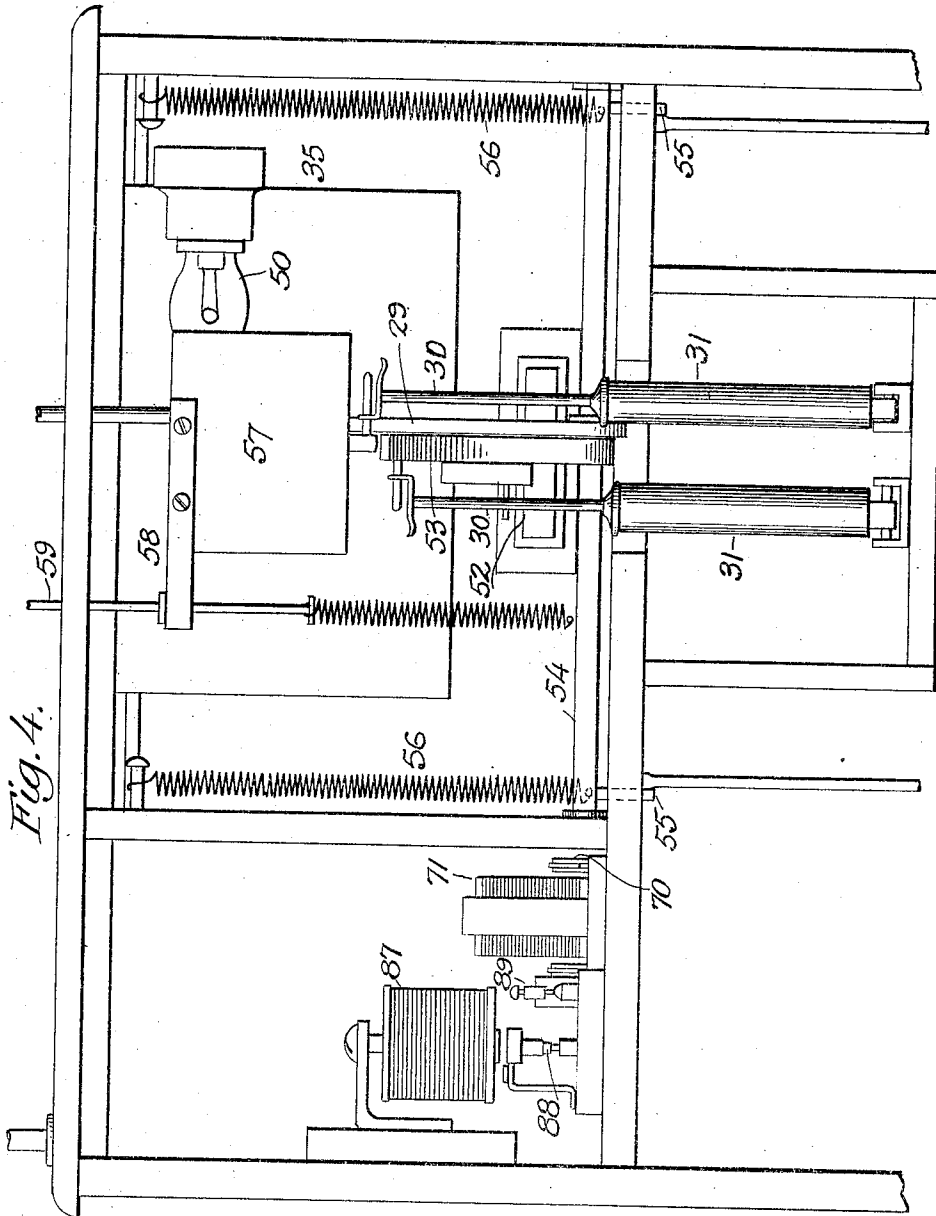


Fig. 4.

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5 SHEETS--SHEET 4.

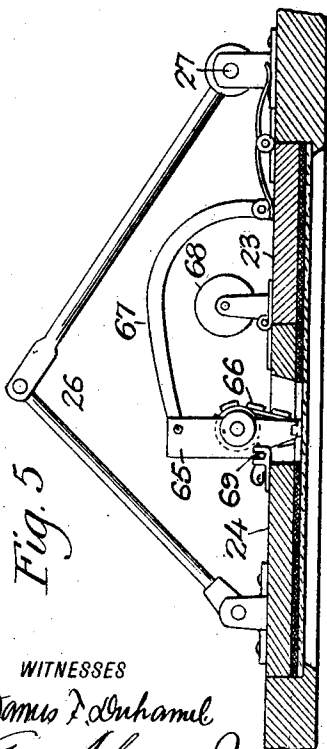
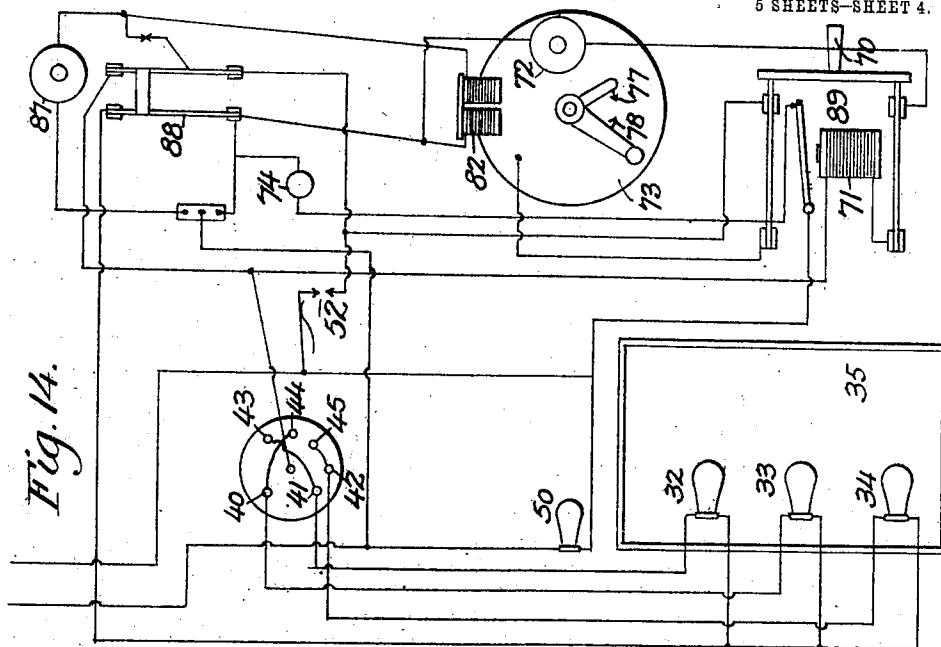


Fig. 5

WITNESSES

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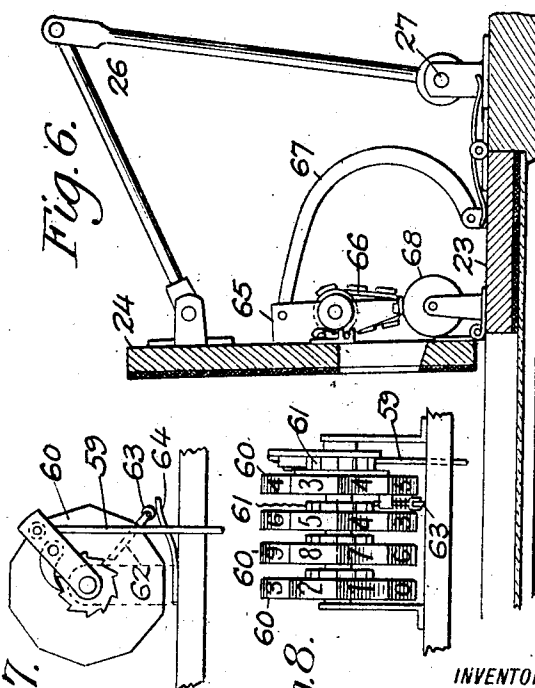


Fig. 6.

Fig. 7.

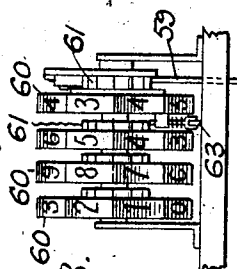


Fig. 8.

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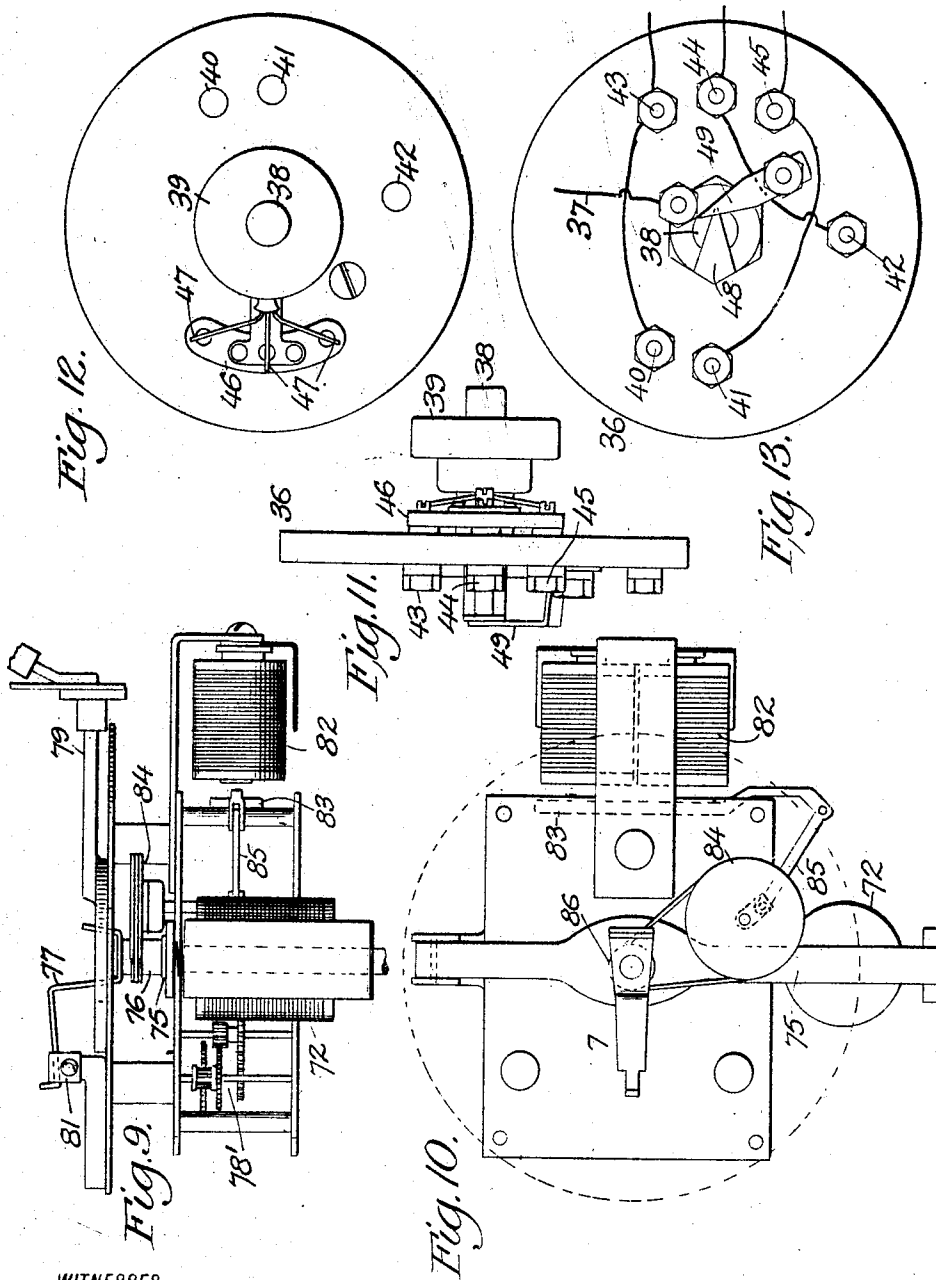
ATTORNEY

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5 SHEETS—SHEET 5.



WITNESSES
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UNITED STATES PATENT OFFICE.

NELSON DE CLARK, OF JERSEY CITY, NEW JERSEY.

PHOTOGRAPHIC-PRINTING STAND.

1,051,700.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed March 2, 1912. Serial No. 681,085.

To all whom it may concern:

Be it known that I, NELSON DE CLARK, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Photographic-Printing Stands, of which the following is a specification.

This invention relates to photographic printing stands and comprises certain new and novel features, the object being to provide a machine in which the sensitized paper is exposed to the light of electric lamps for certain periods, the time of exposure being automatically regulated and certain signal lights being provided to indicate the length of time which the print has been exposed when the printing lights are shut off. These and other details or objects of the invention are more fully described in the following specification, set forth in the claims and illustrated in the drawings; wherein,—

Figure 1 is a front elevation of the improved stand. Fig. 2 is a vertical sectional view through the printing frame. Fig. 3 is a plan view of the stand. Fig. 4 is a view from the rear of the stand. Fig. 5 is a sectional view through the printing frame. Fig. 6 is a similar view with the back partly elevated. Fig. 7 is a side elevation of the numbering device. Fig. 8 is a front view of same. Fig. 9 is a side view of the time mechanism. Fig. 10 is a plan view of same with the upper plate removed. Fig. 11 is a side view of the main switch. Fig. 12 is a front view of same. Fig. 13 is a rear view of the switch. Fig. 14 is a diagrammatic view of the wiring.

The device consists of a box 15 mounted on legs 16 and having side troughs 17 and shelves 18 at its back. The top 19 of the box is inclined and has an opening 20 at one side with a frosted glass bottom 21. On this bottom is placed the negative 22 from which prints are to be obtained. The plate 21 is frosted in order to diffuse the light and produce an even arrangement of the light rays to effectually print pictures from the negative 22.

The opening 20 is provided with doors 23 and 24 actually constituting one door made in two parts, hinged together and closed by means of the toggle levers 26 carried on the shaft 27. The shaft 27 is provided with an arm 28 which is connected

with a plunger 29 carrying at its lower end a piston 30, working in a cylinder 31 and acting as a cushion to prevent the rapid operation of the doors. This plunger 29 carries lateral bars 29' on which rest a weight and against the lower bar rides an arm 53 on the shaft 54 which is rocked by the arm 55 connected by means of a rod with the treadle 51.

The paper to be printed is placed on the frosted glass and the treadle 51 pressed downward, causing first section of door 23 to close and hold paper in position while the hand is withdrawn. Further pressure on the treadle causes section 24 to close and hold the paper tight against the negative 22 while the printing is being performed.

The printing is done by means of electric lamps 32, 33 and 34 carried in a box 35 and so arranged beneath the negative at a point to produce the best results. These lamps are controlled by means of a switch 36 which will be best illustrated in Figs. 11, 12 and 13 and which conducts the electric current through the wire 37 to the shaft 38 of the knob 39. From the contacts 40, 41, 42, 43, 44 and 45, wires run to the various lamps as is shown in Fig. 14 so that as the contact finger 46 connected with the shaft 38, is swung around the base of the switch, one of its contacts will either make connection with the point 42, two of them with the points 40 and 41 or all three will make contact with the points 43, 44 and 45 so that either the lamp 33 may be lighted or lamps 33 and 32 may be lighted or all three may be lighted in order to print a large or obscure photograph or the lights arranged to correct defects in the negative by proper shading.

The contact finger 46 has three points which are connected by means of wires 47, with the shaft 38 of the switch, and the finger 48 is also connected with the shaft, and when depressed makes contact with a finger 49 connected with the various lamps to produce the circuit as a test to prove that the same is in working order.

Within the box 15 is a small lamp 50 which is continually lighted, and in order to close the circuit and render the whole apparatus operatable, the treadle 51 is pressed downward, closing the switch 52 carried by the short arm 53 on the shaft 54 and having arms 55 connected with the treadle but having return springs 56 which break the circuit and shut off the lights, besides re-

leasing the weight 57 of the plunger 29 so that the doors 23 and 24 will jump open.

Connected with the plunger 29 by means of the weight 57 and fork 58, is a rod 59 which passes through the top of the box 15 and connects with the numbering device shown in Figs. 7 and 8, consisting of a series of disks 60 with numbers on their edges and each one having a ratchet 61 to be engaged by a pawl 62 which is pressed inward every time the number disk on the right in Fig. 8 makes a rotation so as to force the roller 63 at the end of the pawl against the cams 64 on the top of the box. This engagement results in the primary disk rotating the next disk after having counted ten units. Each disk is provided with one of these pawls to consecutively number each exposure.

The operation of the lever performs two functions. The first movement swings the arm 53 beneath the weight 57 and elevates the plunger 29 so as to partly close the doors, the lower end of the plunger being slotted and through which passes the shaft 54 to act as a guide for the plunger during its movement. The arm 53, after it completes its movement in closing the doors, still continues to move while the doors are held down and the paper secured and locked against the glass and its continued movement throws in the switch 52 and illuminates the interior of the box 35. When the pressure on the treadle is released, the springs 56, acting on the arms 55, return the arm 53 to its inoperative position, quickly shutting off the lights while the dash part 31 relieves the parts of any sudden jar. The release of the weight 57 throws the plunger 29 downward and opens the doors, the second dash part also relieving the weight of too rapid movement.

As will be seen in Figs. 5 and 6, a numbering device 65 consisting of the rubber band or bands 66, carrying consecutive numbers, is pivoted on the door 24 and operated by a lever 67 so that when the door is swung upward as shown in Fig. 6, the number is inked by means of the roller 68 and as the door is swung down as shown in Fig. 5, the number on the band 66 will be printed on the paper exposed to the negative. With each operation of the doors, the printer is swung on its pivot 69 and either inked or caused to print on the back of the sensitized paper.

As will be seen in Figs. 2, 3, and 14, a switch 70 is provided and which may be operated from the front of the box 15. This switch is connected with a coil 71, which is in circuit with the magnet 72 of the time mechanism 73 so that the device may be used with the printing lights only or have the time mechanism thrown in to notify the operator of the expiration of a certain time limit. When the current passes

through the coil 71, it extinguishes a lamp 74 which is a red light to indicate that the time mechanism is in operation and the coil 72 draws down a brake 75 which normally presses against the under side of the hub 76 of the index 77 so that when the hub is released, the clock-work 78 causes the index to rotate toward a contact screw 78 on the handle 79. The handle 79 is journaled about the center of the index shaft and carries a pointer 80 to designate the time which the index has to travel.

As best shown in Fig. 3, it will be seen that the time mechanism is set within a recess at the right hand side of the box 15 and which has second points around its edge. The current is now on magnet 72 and the index 77 is traveling between the contacts 81 and 78. When the index makes contact with the point 78, energizing the coils 82, they act upon the armature 83 to rotate a pulley 84 by means of a link 85, and this pulley acts upon a similar pulley 86 on the shaft of the index, immediately returning it to the contact 81. At the same time the current is sent through an electromagnet 87 which actuates the switch 88 and opens the circuit of the lamps 32, 33 and 34, extinguishing them so that further printing is prevented. When the electromagnet 72 is dormant, it closes the switch 89 which illuminates the red light 74 and shows that the printing is not being performed. At the same time the brake 75 is released so that the index may be returned to its starting point 81. Upon the release of the treadle 51, all of the circuits are destroyed and the device rendered inoperative by opening the switch 52. The doors 23 and 24 are then thrown up and the print removed. The switch 70 is used only to make a complete circuit with the timing device and when it is open, the timing device is not working. The machine can be worked with or without timing device by using switch 70. The light 74 is extinguished and the operator knows that the circuit is complete and the work is being performed. The index 77 has been released from its starting point 81 and is traveling the predetermined distance to the contact 78, when, upon reaching that point, the lights are extinguished as indicated by the signal 74.

It is obvious that the details of the invention may be otherwise arranged and modified without departing from the essential features above described and the device may be operated to advantage and perform a great amount of work in consequence of the device being compact and all the parts within reach of the operator who is notified of the expiration of the time which the prints should be exposed.

The side compartments 17 may be used for baths, or any other desired purpose so

that the operator during the interval of exposure may be developing the prints that no time will be lost. A button 90 is located at one side of the printing frame and carries a lever to tilt the negative in order to readily manipulate the print.

What I claim as new and desire to secure by Letters Patent is:—

1. In a photographic printing stand, the combination with a stand having a box with an opening in its top, of a lid for the opening, a box carrying the lamps, an electric circuit embracing the lamps, a signal lamp, means for closing the circuit and lighting the lamps, and means in the circuit for extinguishing them at a predetermined interval and a numbering device carried by the lid.

2. In a photographic printing stand, the combination with a box having openings, of a lid to one of the openings, an electric circuit, lamps carried in a traveling box beneath the opening with the lid, a signal lamp at the outside of the box, clock-work in the other opening, a movable arm carrying a contact point forming a part of the circuit, an arm actuated by the clock and adapted to make connection with the contact, a brake adapted to hold the latter arm for movement, means connected with the contact point for returning the contact arm to its normal position, and means for cutting out one or more of the printing lamps.

3. In a photographic printing stand, the combination with a box having openings in its top, of a lid to one of the openings, a lever and toggle joints for closing the lid, an open box with lamps beneath the opening with the lid, an electric circuit embracing

the lamps, a signal lamp in the circuit, an indicator in a second opening, clock-work for the indicator, a traveling arm operated by the clock-work, means for completing the electric circuit and releasing the arm and lighting the lamps, a contact point on the indicator arm, a cooperating contact on the traveling arm and adapted to extinguish the lamps, and means for returning the latter arm to its starting point.

4. In a photographic printing frame, the combination with a box mounted on legs and having troughs at each side, of a top with openings, a lid for one of the openings, means for closing the lid, an electric circuit, a switch in the circuit, a treadle adapted to close the lid and the switch, a movable box with lights, a scale, an indicator adapted to be moved around the scale and carry a contact point in the circuit, a movable finger adapted to engage the contact and also in the circuit, an electromagnet adapted to release the finger when the treadle is operated, an electromagnet energized when the finger makes contact, clock-work operating the finger, a pulley operated by the armature of the last electromagnet to return the finger to its starting point, means for cutting out the lights when the contact is made, a numbering stamp automatically operated when the lid is closed, and a roller for inking stamp when the lid opens.

In testimony whereof I affix my signature in presence of two witnesses.

NELSON DE CLARK.

Witnesses:

ROY L. CALAMIA,
EDWARD M. TAYLOR.