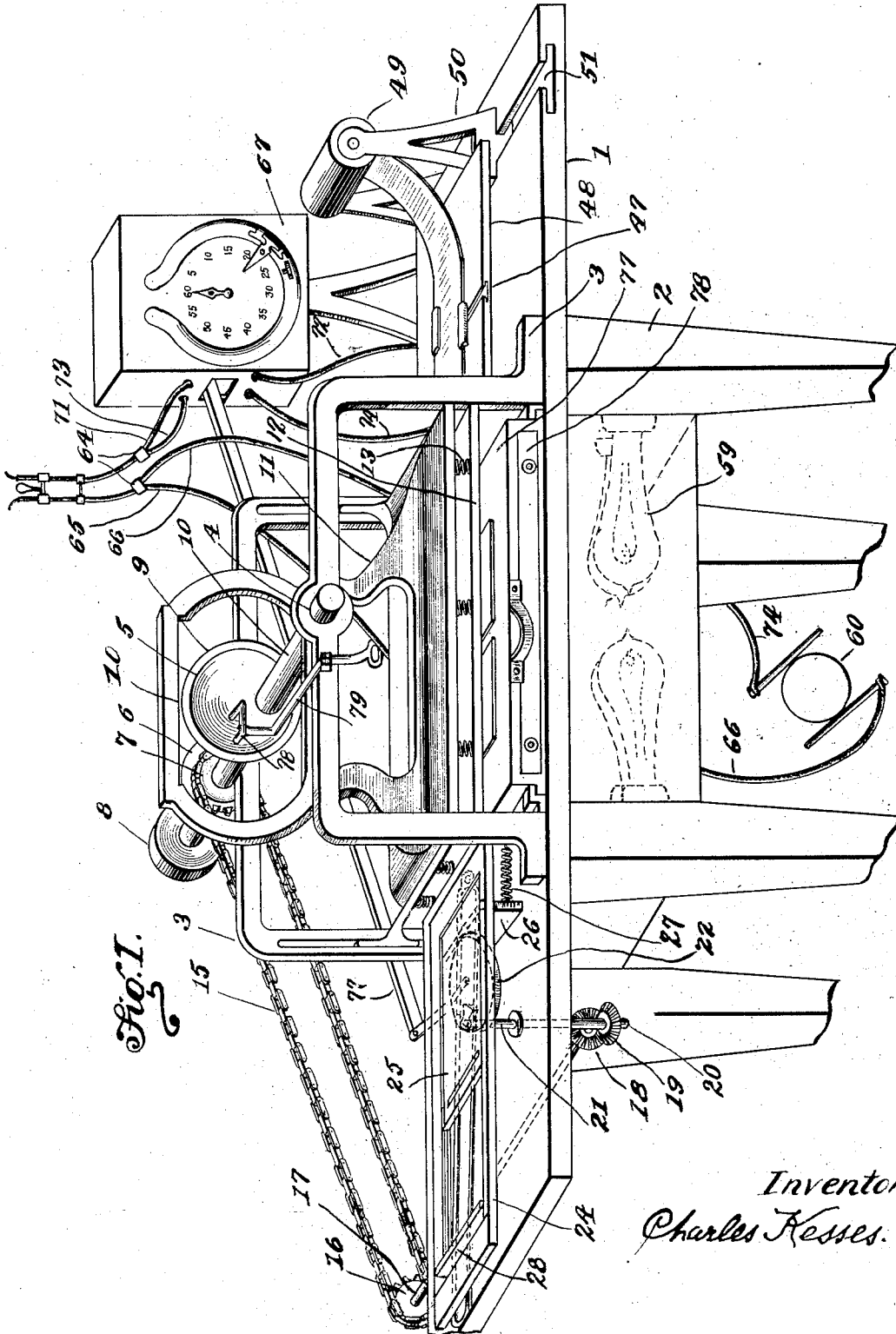


C. KESSES.
 PHOTOPRINTING MACHINE.
 APPLICATION FILED OCT. 27, 1920.

1,417,832.

Patented May 30, 1922.

2 SHEETS—SHEET 1.

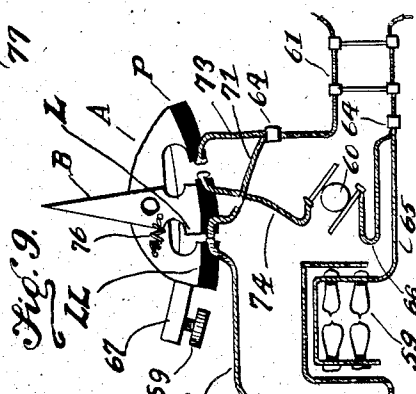
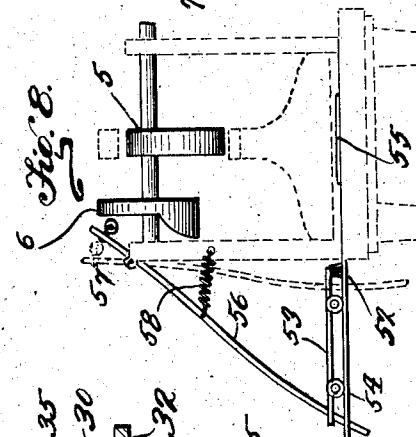
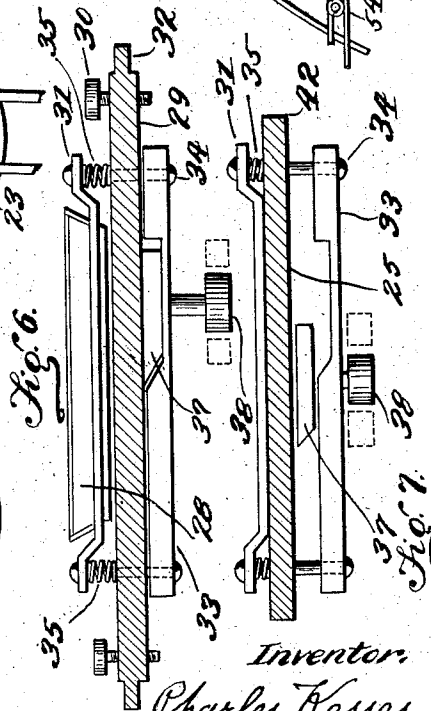
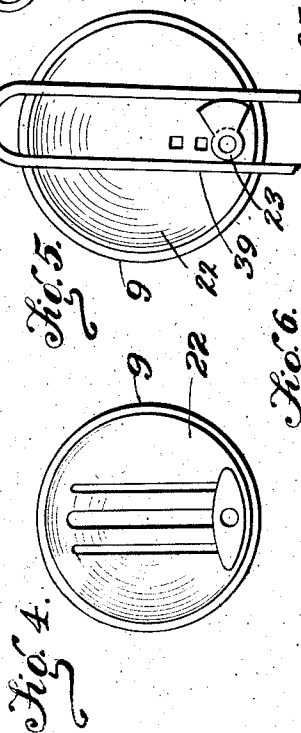
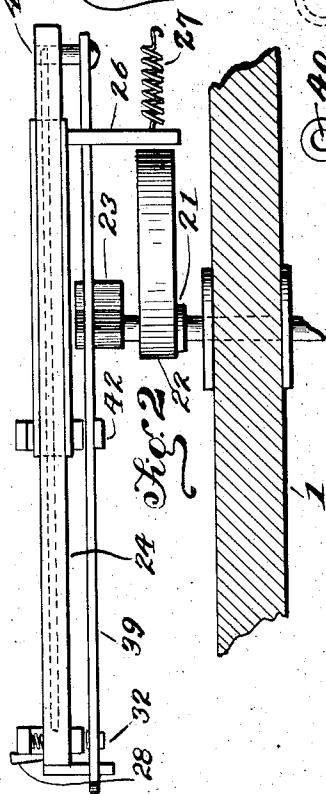
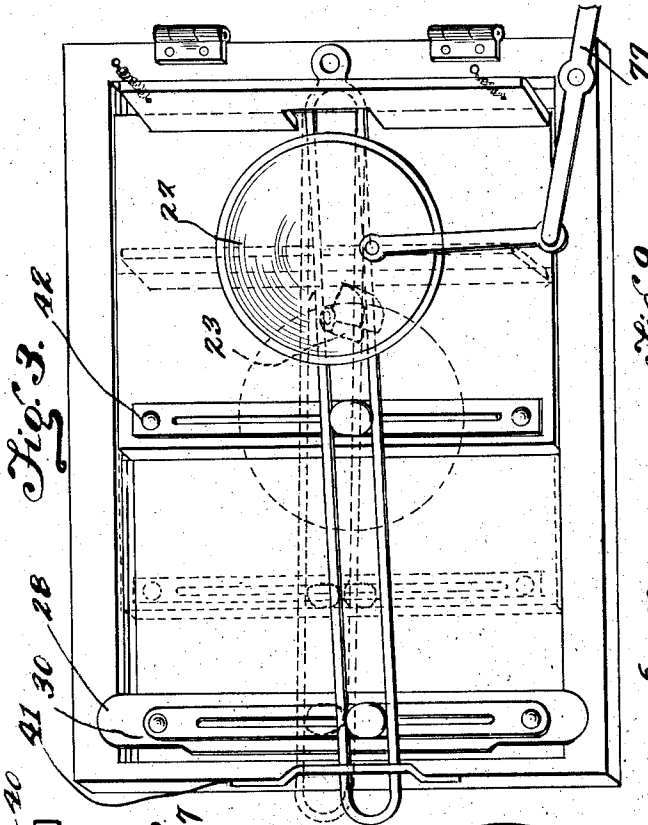


Inventor:
 Charles Kesses.

1,417,832.

Patented May 30, 1922.

2 SHEETS—SHEET 2.



Inventor:
Charles Kesses.

UNITED STATES PATENT OFFICE.

CHARLES KESSES, OF NEW YORK, N. Y.

PHOTOPRINTING MACHINE.

1,417,832.

Specification of Letters Patent. Patented May 30, 1922.

Application filed October 27, 1920. Serial No. 419,927.

To all whom it may concern:

Be it known that I, CHARLES KESSES, a citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Photoprinting Machines, of which the following is a specification.

My invention is related to my Patent No. 1,228,784 for a combination photo and type printing machine. This application has the same objects; to expose with one or more flat negatives successive, single or combination photos on a roll of sensitive paper and the machine can be regulated for different size negatives and different widths of paper strips and the new objects are, first; to operate in conjunction with an exposing clock, application filed Oct. 21, 1920, Serial No. 418,553, which can be regulated to expose pictures from 1 to 60 seconds, second; to build this machine as plain and compact as possible, so it is useful for every photographer, third; to feed single sheets by hand without changing the machine or the exposing clock, fourth; to use the same current for electric light to expose the negative and after for power to operate the machine, fifth; it is very important to dust the negatives therefore an automatic brush dusts the plate after each exposure, sixth; a combination paper cutting and advancing mechanism, which can be regulated for the size of successive pictures in the height and the length required.

I attain these objects by the mechanism illustrated in the accompanying drawings in which—

Fig. I is a perspective view of the entire machine including an exposing clock.

Fig. II is a horizontal view of the left hand extension board, which is secured to the reciprocating or printing carrier.

Fig. III is a view of the bottom of said extension board, having a sliding board which is reciprocated by a cam 22 and a second cam 23 which reciprocates a lever in a transverse direction.

Fig. IV is a top view of a cam, comprising a regulator which can be adjusted in different positions in said cam for the purpose to regulate the sizes of the pictures.

Fig. V is a second view of said cam showing fixed positions for regulating the sizes of the pictures and showing a second cam which operates a lever.

Fig. VI is a side view of a device to hold and cut the paper, said device can be secured to the extension board in different positions for the size of pictures required.

Fig. VII is a device to hold and release the paper and is secured in the reciprocating board and must be used with the pointed bolt in the opposite direction to the above view.

Fig. VIII is a side view of the machine, a cam 6 to reciprocate a brush carrier to dust the negatives with said brush when the printing paper is in its upper position.

Fig. IX is a front view of a regulator which is movable adjusted around the dial, two switches on said regulator can be opened or closed by the lever B through the movement of the hand around the dial and a view of the wires leading from said switches to the motor for driving the machine and to the lamps for exposing the pictures.

Similar numbers refer to similar parts throughout the several views.

The table 1, its legs 2, a front and a rear support 3 for holding a reciprocating carrier 11, said supports are secured to said table. A shaft 4 carrying a cam 5, a cam 6, a sprocket wheel and a belt wheel 8 is journaled in said supports. The cam 5 runs in bearings in a rim 9, which is operative between plane rail surfaces 10, 10, to reciprocate a carrier 11 in suitable rails in the supports 3. A pad 12 to press the paper to the negative is secured with short springs 13 to said carrier. A sprocket wheel 7 is connected with a chain 15 to the sprocket wheel 16, to turn the shaft 17. A bevel gear 18 secured to said shaft is meshed to the bevel gear 19 which turns the shaft 20, which runs in bearings in the table 1. A socket 21 is secured to said shaft, above said socket the shaft must be 4 cornered to fit in corresponding openings in the cam 22 and in a cam 23 shown in Fig. III. Said openings in said eccentric are for the different widths of pictures to be advanced.

An extension board 24 is secured with suitable hinges to the carrier 11 and must be in a plane position with the paper hanging underneath the pad 12 so that said extension board is reciprocated with said carrier. A sliding board 25 is running in grooves in the extension board and carries at its upper end a bracket 26, springs 27 secured to said bracket and said carrier to push said sliding board toward the eccentric, shown in a sec-

ond position on Fig. III. A cutter and a holder 28 for paper is slidably arranged on a board 29 in said extension board and can be secured with the screws 30 in different positions for the width of photos required, shown in Fig. VI. An upper rail 31 is secured through a sliding board 29 to a lower rail 33 with the screws 34, springs 35 around said screws for lifting said upper rail above said sliding board carries a holder and a cutter for the paper. A pointed bolt 37, shown in Fig. VI and in Fig. VII in a second position is slidably arranged in said lower rail. Said bolt carries below a wheel 38, which is slidably arranged in a lever 39 which is secured with its upper end with a pin 40 to the extension board 24, the lower end of said lever is movably arranged in a bracket 41, which is secured to the said board. A second holder 42 for the paper is similarly arranged, with the pointed bolt in the opposite direction and is secured in the sliding board 25.

When the machine is in operation the lever 39 which is reciprocated by the cam 23 moves the pointed bolts 37 which changes the operation of the cutter 28 and the holder 42.

By moving said lever one way, then the holder and the cutter 36 will be in operation and the holder 42 will be lifted from the paper and by moving said lever in the opposite direction the holder with the cutter 28 will be lifted and the holder 42 will be in operation and advances the paper to the cutter 28. A rail 46 in the sliding board 25 has guide rails which can be adjusted to hold different widths of paper in position the same as a rail 47, which is in the right extension board 48, which is secured with hinges to the carrier 11.

The bracket 26 and the cam 23 must be high enough to allow for up and down movement of the cam on said bracket and for movement of the cam in the lever 39 when the carrier 11 is reciprocated.

A roll of paper 49 is likewise arranged with brackets 50 which are slidably arranged in a rail 51, secured in the table 1, to hold different widths of paper rolls in perfect position.

The dusting mechanism is shown in Fig. VIII by an outline of a view from the left side of the machine showing the cam 5 and the cam 6 on the main shaft. A brush 52 is slidably arranged on rails which run in guide rails 53, wheels 54 secured to said rails to run alongside the negative 55, when the carrier 11 is in a higher position. This brush carrier is reciprocated by the levers 56, which are secured to the rear support 3, above the support, said levers running together and carry a wheel 57 which is operative on the cam 6, as to move the brush over the negative and the spring 58 secured

to said levers and said support to return the brush.

Before the positive current coming from the switch 61 is connected to the machine, it is lead through an exposing clock shown in Fig. I, an application for said clock was filed Oct. 21, 1920, Serial No. 418,553, for the purpose of regulating the time of each exposure. Said clock is operated by a lever 77 which is connected to the printing machine. The main shaft of the clockwork is in two parts, the front part carries a moving arm which operates a lever B on a regulator A shown in Fig. IX for connecting and disconnecting the currents to the motor 60 and to the lamps 59, said arm is returned after each exposure to a fixed position by a spring. The rear shaft is secured to the driving mechanism of the clock. Clutches on both shafts are operated by the lever 77 to connect or disconnect both shafts. The regulator A is carried by a support which is movably secured around the shaft in the rear of the dial, a screw on said switch to secure the same on a rim 67 in any position around the dial. The regulator carries two contact plates P and LL.

A lever B arranged on said regulator carries the contact plates PP and L. A spring not shown to close the switch L and LL.

The two wires 71 and 73 parts of the positive wire 64 coming from the switch 61 are lead through the casing of the clock, around a pulley, through the switch support to the switches P and L. The extension wires coming from said switches going the same way out of the casing, the extension wire from the switch P is secured to the motor 60, the other from the switch L to the lamps 59.

One part of the negative wire 65 coming from the switch 61 are secured to the motor and the other part to the lamps.

To place a negative in the printing frame 77 secure the same with suitable clamps to the plate glass in the printing frame. Insert a suitable mat, to cover all the light around said negative in the drawer 78. Place a roll of paper for the size required on the brackets 50. Run the paper between the guiderails in the right side extension board, run paper over the negative, between the guiderails on the left extension board, underneath the paper holder 42 and under the cutter and holder 28 and set the regulator for the second of exposure, and the eccentric wheel 22 must be set for the size of the pictures required.

The lever 77 is operatively connected to the machine by the lever 39 and the machine is connected to the motor with a belt.

Now, I show the co-operation of the several parts throughout a complete circle of movements involved in the machine and the opening and closing of the circuit of the current, for advancing the paper and the

exposing for printing one of the successive photos.

The carrier 11 is lifted by the eccentric 5, a sliding board 25 is moved by the eccentric 22, the holder 42 pulls the paper towards the cutter and holder 28, the lever 39 moves the bolts 37 to the opposite direction, thus cutting and holding the paper on the cutting board 28, lifts the holder 42 from the paper, the brush to dust the negative is moved in and out over the negative, the eccentric 22 turns in the opposite direction, the lever 77 is moved to release the clutch in the exposing clock from the front shaft, releasing the hand from the clockwork, said hand is returned to its fixed position by a spring, the carrier 11 goes down the sliding board 25, returns the bolts 37 exchange their pressure, the carrier 11 presses against the paper and the negative, the lever 77 moves the clutches to connect the hand to the clockwork, and the lever B on the regulator is pulled back by the spring 76 to close the circuit L and LL to expose the next picture. To expose successive combination pictures with 2 or more negatives, secure same to the printing frame, regulate the machine for one of these negatives and print as usual.

To print single sheets by hand, move the lever 79 which is secured on the front support 3 thereby stopping the movement of the machine on a bolt 78 which is secured to the cam 5 for holding the carrier in an upper position. The drawer 77 can be used for securing the sheet to the negative, pull the lever 79 for exposing the picture and the machine will be stopped for the next exposure by said lever 79. I am aware that prior to my invention photo printing machines have been made which printed rotary and also automatic postal card printers, but I have never seen a machine except my photo

and type printing machine, Patent No. 1,228,784 which exposes in a plane form successive pictures on a roll of paper.

What I claim as my invention and desire to secure by Letters Patent is—

1. An intermittently operating motor operated photo printing machine, including an exposure regulating device, lamps for making the prints, circuits for supplying current to the operating motor and the lamps, said circuits being controlled by said exposure regulating device, means for holding a negative, a feeding mechanism for feeding a strip of sheet material, said feeding mechanism including a carrier connected to the motor for intermittent reciprocation, a gripping device on said carrier to grip the paper when the carrier moves from the negative, a stationary gripping device to grip the paper when the carrier moves toward the negative and means to lift the paper from the negative while it is being advanced by the carrier.

2. A device as in claim 1, in which the motor also operates a press for pressing the paper against the negative.

3. A device as in claim 2, in which the means for operating the press from the motor includes, a shaft carrying an eccentric to operate the press, said shaft also carrying a cam, a lever operated by said cam, and a brush connected to the lever in such a position so that rocking of said lever by the cam will move the brush over the negative.

4. A device as claimed in claim 1, provided with means for cutting the prints from the negative, said cutting means being located adjacent the stationary gripping means.

Signed at New York in the county of New York and State of New York this 26 day of Oct. A. D. 1920.

CHARLES KESSES.