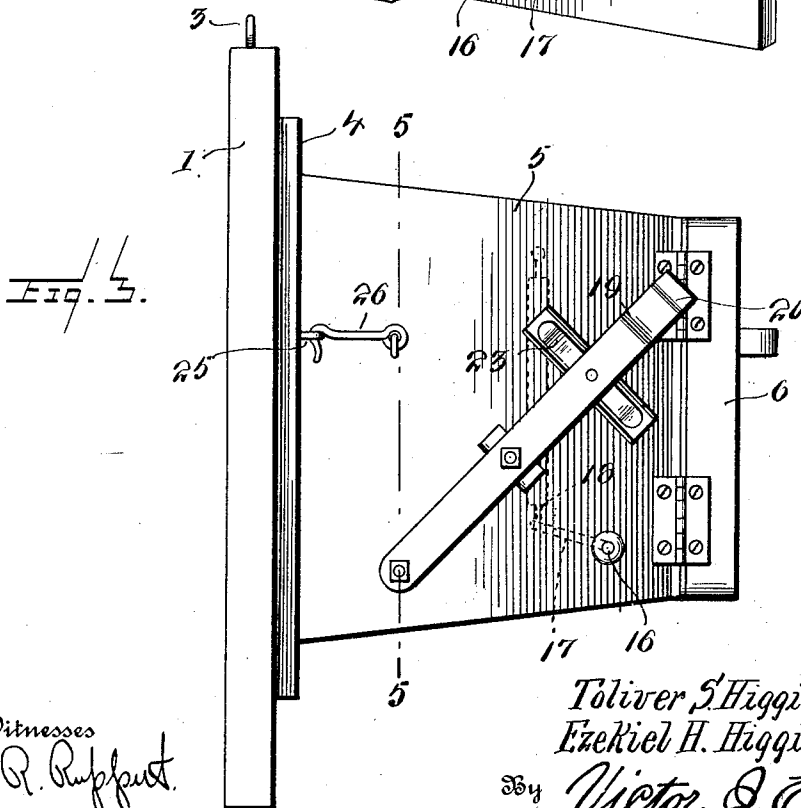
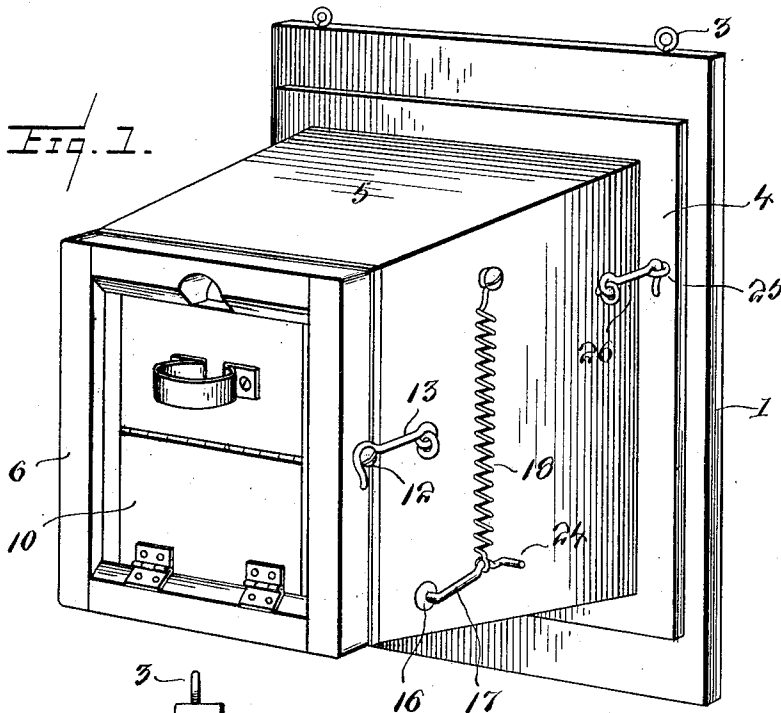


T. S. & E. H. HIGGINBOTHAM.
 PHOTOGRAPHIC PRINTING MACHINE.
 APPLICATION FILED JULY 23, 1910.

1,013,492.

Patented Jan. 2, 1912.

2 SHEETS—SHEET 1.



Witnesses
 E. R. Ruppert.

James A. Ketch

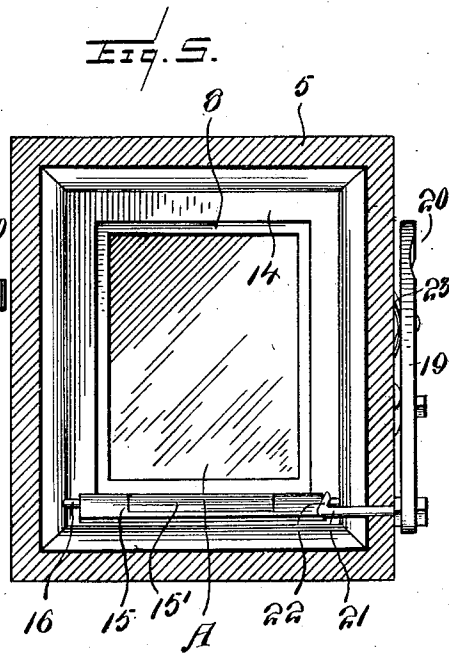
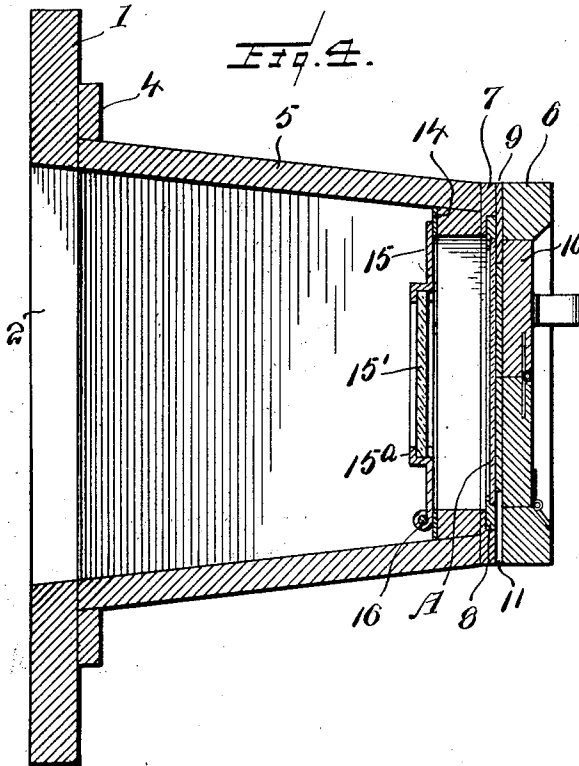
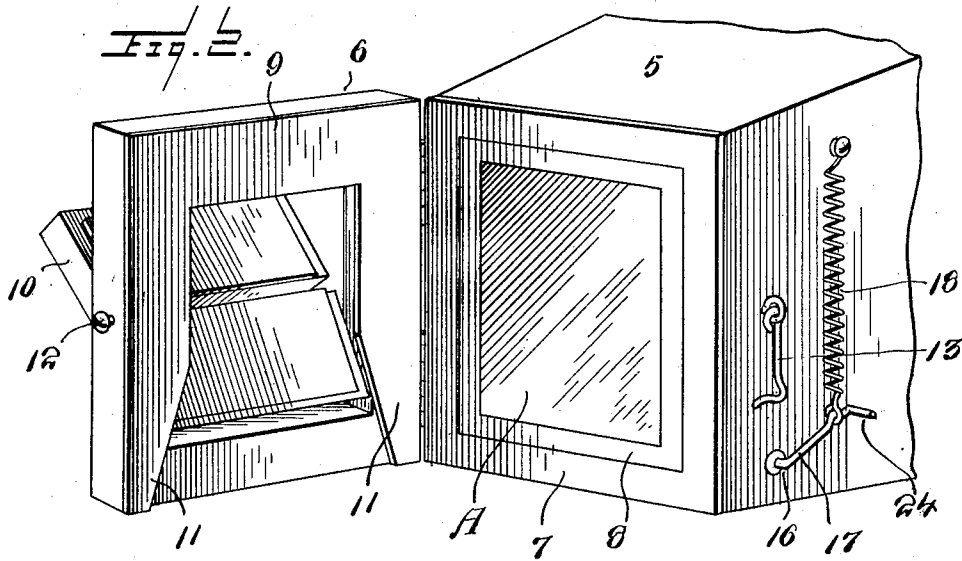
Inventors,
 Toliver S. Higginbotham and
 Ezekiel H. Higginbotham
 By Victor J. Evans
 Attorney

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Witnesses
 E. R. Ruppert.
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UNITED STATES PATENT OFFICE.

TOLIVER S. HIGGINBOTHAM AND EZEKIEL H. HIGGINBOTHAM, OF ANSON, TEXAS.

PHOTOGRAPHIC-PRINTING MACHINE.

1,013,492.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed July 23, 1910. Serial No. 573,390.

To all whom it may concern:

Be it known that we, TOLIVER S. HIGGINBOTHAM and EZEKIEL H. HIGGINBOTHAM, citizens of the United States of America, residing at Anson, in the county of Jones and State of Texas, have invented new and useful Improvements in Photographic-Printing Machines, of which the following is a specification.

10 This invention relates to photographic printing machines and especially to one designed to print the pictures by artificial light, and it has for an object to provide a machine of this character which may be readily installed in a dark room and arranged in direct line with a suitable opening for the introduction of light.

15 A still further object of the invention is to provide a novel form of shutter which may be conveniently and readily operated to exclude the light after the desired exposure of the picture has been obtained.

20 A still further object of the invention is to provide an improved construction of plate or negative holder and a novel form of frame which is designed to hold the negative or plate in an operative position and to also hold the sensitized paper correctly positioned on the plate.

25 A still further object of the invention is to so construct the frame that on movement of the presser-head thereof to a released position the printed photograph will be automatically released and allowed to fall by gravity from the machine, thereby obviating undue necessity of handling the printed photograph.

30 In the drawings, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a detail perspective view of our improved photographic printing machine. Fig. 2 is a similar view showing the frame in an open position and showing the presser-head of the frame in an open position. Fig. 3 is a detail side elevation of the machine. Fig. 4 is a vertical longitudinal section therethrough showing the shutter in a closed position. Fig. 5 is a detail vertical section taken on the line 5—5 of Fig. 3 showing the shutter in an open position.

35 This invention consists of a support 1 which is provided with an opening 2 which is designed to be arranged in line with a suitable opening in a dark room. If desired, this opening may be placed immedi-

ately in line with a window or in line with a suitable lamp. The support is provided with supporting devices 3 which may be engaged with hooks, (not shown), or with any other suitable suspending means. The support 1 is provided at one side with a rectangular frame 4 which surrounds the opening 2 and as shown, the inclosure 5 has its inner end fitted in the frame 4 and engaged directly against the support, 1 entirely around the opening 2.

40 The inclosure 5 may be of any well known design which may be found most suitable for the purpose intended, but as illustrated, it is of rectangular form in transverse section and its walls converge rearwardly so that the largest part of the inclosure is in direct line with the opening 2. The outer end of the inclosure is open as is obviously necessary while the inner end is closed by the hinged frame 6. The inclosure is of a light-proof construction and it is preferably made from a single piece of material. At the inner or front end, the inclosure is provided with a negative or plate-receiving frame 7 which is rabbeted for the reception of the mat 8. The mat is rabbeted for the reception of the negative A shown in Fig. 4 of the drawings. When the mat is in its applied position it lies flush with the plate-receiving frame. The hinged frame 6 is provided on its inner face with a substantially inverted U-shaped portion 9 whose inner edges extend into the opening of the frame so that the hinged sections 10 of the frame can be brought to bear directly against one side of the said portion 9. The side arms 11 of the portion 9 are flared downwardly and outwardly and they are spaced from each other so that when the sections 10 of the inclosure are in their open positions an opening will be formed between the front or inner end of the inclosure and the frame 6 to allow the escape of the printed photograph. The frame 6 is provided at one side with a keeper 12 to be engaged by the latch 13 on the inclosure so as to hold the frame in a closed position.

45 Rearwardly of the negative-supporting and receiving frame is a cushion 14 against which the shutter 15 is adapted to bear. The shutter is of the pivoted type and the trunnions 16 thereof are suitably journaled in the sides of the inclosure 5. One trunnion is formed to provide a crank arm 17 to which is secured one terminal of a helical extensile spring 18, the opposite end of the

said spring being suitably secured to the inclosure so that the shutter is held under tension of the spring. Shutter-releasing mechanism is located at one side of the inclosure 5 and as illustrated, it comprises a pivoted lever 19 having a manipulating portion 20 near the upper end of the casing. Near the lower end of the casing the lever is provided with a keeper 21 which is slidable through one wall of the inclosure. This keeper is provided with a beveled portion 22 which extends directly into the inclosure in the path of the shutter 15 so as to engage the same when it is in an open position to hold it against the tension of the spring 18. By forming the keeper with the beveled portion 22 the said beveled portion will readily permit the shutter to move to its full open position and then readily be engaged with the keeper as shown in Fig. 5 of the drawings. A leaf spring 23 is secured to the lever 19 and its terminals are yieldingly engaged with the inclosure so that the manipulating portion of the lever is normally elevated and positioned so that when pressure is brought to bear there against the keeper may be moved to a withdrawn position to disengage the same from the shutter. Through this construction the shutter may be instantly closed when the desired exposure of the photograph has been obtained. The crank arm of the shutter is formed to provide a manipulating portion 24 which is designed to be engaged by the hand of the operator so that the shutter can be conveniently moved to an open position.

In order that access can be conveniently gained to the interior of the inclosure 5 it is preferable to mount the same in a detachable manner on the support 1 and in view thereof suitable keepers 25 are provided on the support and designed to be engaged by the latch members 26 on the inclosure. The shutter 15 is formed with a central opening 15' which is covered by a ruby glass 15^a. From this construction it will be obvious that when the shutter is closed sufficient light will be carried to the negative holder to enable the operator to accurately place the picture.

We claim:—

1. A printing machine comprising a receptacle having an opening therein at its

outer end, a negative support closing the inner end of the receptacle, a shutter located in the receptacle at the rear of the negative support, trunnions formed on the shutter and pivoted in the walls of the receptacle, one of the trunnions being formed to provide a crank portion, a spring having one end attached to the receptacle and having its opposite end attached to the crank portion of the trunnion to hold the shutter normally in a closed position, a slidable keeper normally disposed in the path of movement of the shutter, said keeper adapted to be engaged by the shutter in its path of movement whereby to hold the shutter open against the tension of the spring, and means for moving the keeper laterally relatively to the shutter so as to release the same.

2. A printing machine comprising a receptacle having an opening therein at its outer end, a negative support closing the inner end of the receptacle, a shutter located in the receptacle at the rear of the negative support, trunnions formed on the shutter and pivoted in the walls of the receptacle, one of the trunnions being formed to provide a crank portion, a spring having one end attached to the receptacle and having its opposite end attached to the crank portion of the trunnion to hold the shutter normally in a closed position, a slidable keeper normally disposed in the path of movement of the shutter, a lever secured to the side of the receptacle, the lower end of said lever being rigidly secured to said keeper, a spring interposed between said lever and the receptacle and normally holding said keeper in the path of movement of the shutter, and said lever being manually operable to withdraw said keeper from the path of movement of the shutter.

In testimony whereof we affix our signatures in presence of two witnesses.

TOLIVER S. HIGGINBOTHAM.
EZEKIEL HIGGINBOTHAM.

Witnesses as to signature of Toliver S. Higginbotham.

H. C. MAXEY,
CLAUDE E. JONES.

Witnesses as to signature of Ezekiel Higginbotham:

C. C. EBBERSOL,
H. L. DAVIS.