

L. MANDEL.  
MAGAZINE CAMERA.  
APPLICATION FILED JULY 16, 1913.

1,093,341.

Patented Apr. 14, 1914.

Fig. 1.

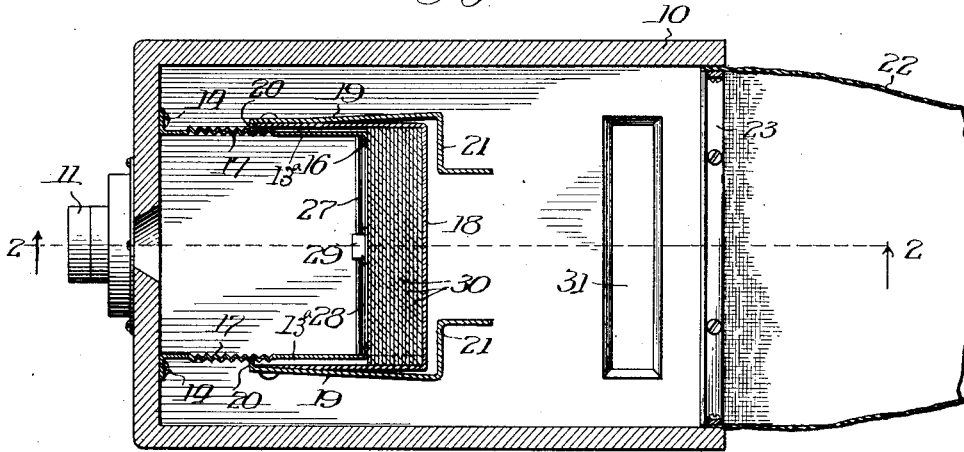


Fig. 2.

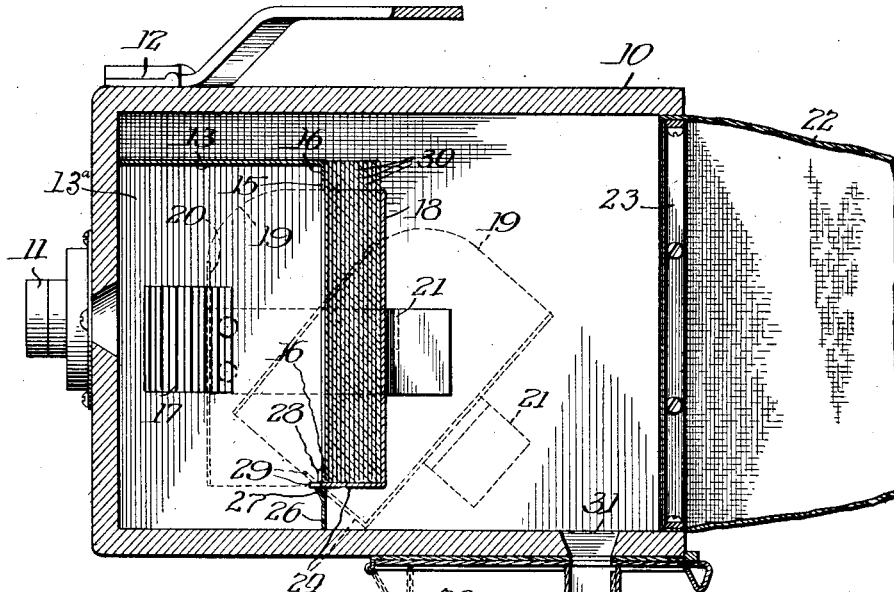
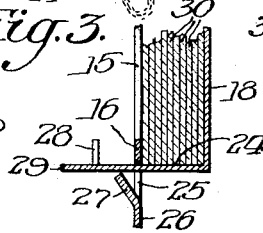


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## MAGAZINE-CAMERA.

1,093,341.

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Application filed July 16, 1913. Serial No. 779,250.

*To all whom it may concern:*

Be it known that I, LOUIS MANDEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Magazine-Cameras, of which the following is a specification.

This invention relates to improvements in magazine photographic cameras which is adapted to receive in the daylight, a charge or supply of sensitized plates, and which plates, by the aid of a flexible changing cuff, are adapted to be manipulated and shifted to successively bring the plates into position to be photographed upon, so as to permit the exposed plate to be removed from the pack or supply and from the magazine, without disturbing the other plates.

A further object is to provide an improved camera of this type in which the magazine or plate holder is adjustable to firmly hold any number of plates within certain limits.

To the attainment of these ends, and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty, in substantially the construction, combination and arrangement of the several parts, hereinafter more fully described and claimed, and shown in the accompanying drawing exemplifying the invention, and in which:—

Figure 1 is a horizontal sectional view of a camera having an improvement applied thereto, constructed in accordance with the principles of this invention. Fig. 2 is a vertical longitudinal sectional view as taken on line 2—2 of Fig. 1. Fig. 3 is an enlarged detail view in section showing the manner in which the cooperating elements of the plate magazine are connected together.

Referring more particularly to the drawing and in the present exemplification of this invention, the numeral 10 designates a camera body having the lens 11 and the finder 12.

Within the camera body is arranged a magazine or plate holder which comprises a frame 13 comprising side walls 13<sup>a</sup>, a top and a rear wall 26. This frame is secured in position in any suitable manner, such as by means of fastening devices 14 passing through a flanged portion of the frame and engaging one wall of the camera. The frame is secured in position adjacent the lens opening, and the rear of the frame is provided with an opening 15 having a flange 16

extending therearound, and this opening is in alinement with the lens opening. The frame is constructed of any suitable material, preferably metal, and its side walls 13<sup>a</sup> are provided with teeth or shoulders 17 formed in any suitable manner, such as by cutting and deflecting portions of the material of the side walls. A plate holder designated generally by the reference numeral 18 coöperates with the frame thus formed, and is itself preferably of a substantially U-shape formation having a back and side walls. The plate holder is arranged adjacent the opening 15 in the frame, and stands astride of the opening with the side walls 19 adjacent the outer faces of the respective side walls of the frame. These walls of the plate holder are preferably of elastic or spring construction and are provided with a laterally deflected or toothed portion 20 adjacent their forward extremities, and which toothed portions coöperate with the respective shoulders or portions 17. The plate holder is of such a width that when the parts are in the position shown in Fig. 1, the elasticity or spring of the side walls will cause the portions 20 to engage the respective shoulders 17 and thereby secure the parts against adjustment.

Handles 21 are connected with the portions 19 of the plate holder, and preferably extend to the rear of the holder and in positions to be grasped by the hand of the operator, when the hand is inserted through the flexible changing cuff 22 that is secured over the opening 23 in one of the walls of the camera body 10.

The holder 18 is provided with a ledge or support 24 extending from the rear wall and between the side walls 19 thereof. This ledge or support projects through an opening 25 in a portion of the rear wall 26 of the frame 13, and which opening 25 is preferably formed by cutting away a portion of the material of the wall and deflecting another portion as at 27. Portions of the extremity of the ledge or support which extend through the opening 25 are deflected as at 28 to form a flange which coöperates with the flange 16 of the frame for holding the parts against separation.

The plates 30 are arranged between the holder 18 and the frame 13, and rest upon and are supported by the ledge 24, in such a position that when the support 18 assumes a position as shown in Fig. 1, portions of the

foremost plate will engage the flange 16, and all of the plates will be clamped in position.

5 Arranged in the bottom of the camera is an aperture 31 through which the plates are inserted into a receptacle 32 containing a developing solution.

10 In operation, the film pack is inserted into the camera body through the flexible cuff 22, the holder 18 being first adjusted into the position shown in dotted lines in Fig. 2. The plates are then placed upon the holder, and the latter swung about a pivot formed by the flanges 28 and 16, and the slot 25 and ledge or support 24 of the holder. When the plates 15 are in position the operator grasps the handles 21 and moves the holder from the dotted to the full line position shown in Fig. 2. This will cause the projections or teeth 20 to engage the shoulders 17, and when the holder 20 18 is moved to the limit of its forward movement, the plates will be clamped in position. During the adjustment of the holder 18, the ledge or support 24 will move through the slot 25.

25 After an exposure has been made, which may be accomplished while the hand of the operator is inserted through the cuff 22, the operator grasps and pinches the handles 21. This operation will cause the side portions 30 19 of the holder to be sprung outwardly, to move the teeth or portions 20 out of engagement with the portions 17. Thus released, the holder may be swung about a pivot into the dotted line position shown in Fig. 2. 35 The operator may then remove the foremost plate, and then pass it through the aperture 31 in the bottom of the camera into the receptacle 32. After this operation is completed the holder 18 is swung about its pivot 40 in the opposite direction and bodily adjusted with respect to the frame 13 to clamp the remaining plates in position. This operation may be repeated as long as any plates or films remain in the holder.

45 With this improved construction, it will be manifest that while one exposure is being made, another plate is being developed, and, furthermore, the plates may be readily adjusted and shifted, and a new supply of 50 plates inserted in the camera in the daylight and very readily.

While in the present form of the invention the preferred construction and arrangement of the parts have been shown and described, 55 it is to be understood that numerous changes may be made in the details of construction, and in the combination and arrangement of the several parts without departing from the spirit of this invention.

60 It is to be understood that the term plate as employed in the specification and claims, is to be interpreted in the broadest sense to mean any sensitized element which is adapted to be used with the improvements herein 65 shown and described.

What is claimed as new is,—

1. The combination of a camera body, a plate magazine within the body, said magazine embodying a fixed and a relatively movable portion between which portions the plates are clamped, and a catch for securing the said portions in clamping relation. 70

2. The combination of a camera body, a plate magazine within the body, said magazine embodying a fixed and a relatively movable portion between which portions the plates are clamped, and a catch housed within and accessible only from the interior of the camera body for securing the parts in adjusted position and for permitting such relative movement to clamp and release the plate. 75 80

3. The combination of a camera body, a plate magazine, said magazine embodying two cooperating and relatively adjustable elements housed within the body and between which elements the plates are arranged, and manually controlled means housed within and accessible only from the interior of the body for securing the elements together for adjustment to clamp and release the plates. 85 90

4. The combination of a camera body, a plate holder embodying two cooperating and relatively adjustable elements housed within the body and between which the plates are arranged, and manually controlled interengaging means entirely housed within the body and connected with the elements for adjustably securing the elements together. 95 100

5. The combination of a camera body, a plate holder embodying two cooperating and relatively adjustable elements housed within the body and between which elements the plates are arranged, manually operable means housed within and accessible from the interior of the camera body for causing such relative adjustment and for securing the parts together. 105 110

6. The combination of a camera body, a plate holder embodying two cooperating and relatively adjustable elements housed within the body and between which the plates are arranged, and yielding manually controlled means housed within and accessible from the interior of the camera body for holding the parts in their adjusted positions. 115

7. The combination of a camera body, a plate holder therein and embodying two cooperating elements relatively adjustable, one of said elements constituting a support for one or more plates, interengaging means between the elements for securing them in their adjusted positions, manually operable means within the camera body for releasing the elements for relative adjustment. 120 125

8. The combination of a camera body, a plate holder therein and embodying two co- 130

- operating elements relatively adjustable and between which elements the plates are arranged, one of said elements constituting a support for one or more plates, means for securing the parts together in their adjusted positions, the said supporting element being capable of a swinging movement with respect to the other element.
9. A plate magazine of the class described, embodying a fixed and an adjustable element between which the plates are arranged, one of the elements adapted to hold one or more plates, the said adjustable element being adapted for a bodily and a pivotal movement with relation to the other element, and means for securing the elements to clamp the plates.
10. A plate magazine of the class described, embodying a fixed and an adjustable element between which the plates are arranged, and means whereby the elements may be relatively adjusted to clamp and release the plates, one of the elements being also adapted for a pivotal movement with respect to the other element.
11. A plate magazine of the class described, embodying a fixed and an adjustable element between which the plates are arranged, interengaging means between the elements for securing them together for relative adjustment to clamp and release the plates, and means for rendering the said interengaging means inactive with respect to each other to permit an adjustment of the said elements.
12. The combination of a camera body, a plate magazine therein and embodying relatively adjustable elements between which the plates are arranged and clamped, means for securing the elements in active and in inactive clamping relation, said body having an opening, and a flexible cuff connected with the opening and through which the hand of the operator is passed to adjust the said elements with respect to each other.
13. The combination of a camera body, a plate magazine therein and embodying relatively adjustable elements between which the plates are arranged and clamped, means entirely incased within the camera body for securing and releasing the elements, all of said parts being arranged within the camera body, said body having an opening and a flexible cuff connected with the opening.
14. A plate magazine embodying two cooperating elements relatively adjustable and between which the plates are arranged and clamped, one of the elements having yielding portions standing astride of the other element, and means for holding the elements against adjustment.
15. A plate magazine embodying two cooperating elements relatively adjustable and between which the plates are arranged and clamped, one of the elements having a spring portion, interengaging means between the said spring portion and the other element for securing the parts together, and means for shifting the said spring portion.
16. A plate magazine embodying two cooperating elements relatively adjustable and between which the plates are arranged, one element adapted for pivotal movement with respect to the other, elastic fastening means between the said elements, and means for controlling the fastening means.
17. A plate magazine embodying two cooperating elements relatively adjustable and between which the plates are arranged, one element constituting a plate support and adapted for bodily and pivotal movement with respect to the other element, elastic fastening means between the elements, and means for controlling such fastening means.
18. A plate magazine embodying two elements, one of the elements having a sliding and a pivotal connection with the other element, and means securing the elements in their adjusted positions.
19. A plate magazine embodying a frame, a plate support connected with the frame for adjustment with respect thereto, said support and frame being one provided with a toothed spring portion and the other with cooperating shoulders for securing the support in its adjusted positions.
20. A plate magazine embodying a frame, a plate support connected with the frame for adjustment with respect thereto, said support and frame being one provided with a spring toothed portion and the other with cooperating shoulders for securing the support in adjusted position, and a gripping device for releasing and adjusting the support.
21. A plate magazine embodying a frame, a plate support connected with the frame for adjustment with respect thereto, said support and frame being one provided with a spring toothed portion and the other with cooperating shoulders for securing the support in adjusted position and a gripping device for releasing and adjusting the support, the said support being capable of pivotal movement.
22. A plate magazine embodying a frame having side portions and an open end, a plate support arranged astride of the said open end and having spring side portions adjacent the side portions of the frame, interengaging means between the said spring portions and the side portions of the frame for securing the support in its adjusted positions, means connecting the support to the frame for pivotal movement, and means for shifting the said spring portion to release the support.
23. A plate magazine embodying a frame having side portions and an open end, a

plate support arranged astride of the said open end and having spring side portions adjacent the side portions of the frame, inter-engaging means between the said spring portions and the side portions of the frame for securing the support in its adjusted positions, means connecting the support to the frame for bodily and pivotal movement, and means for shifting the said spring portion to release the support.

24. A plate magazine embodying a frame having side walls and an open end, said end being also provided with a slot, a plate support standing astride of the open end and having a portion thereof extending through the slot for connecting the support to the frame for bodily and pivotal movements, the sides of the support adjacent the side walls of the frame being elastic, said elastic portions and side walls of the frame being one provided with a projection and the other with cooperating shoulders, and a hand grip connected with the said elastic portions for shifting them to disengage the said projection and shoulders.

25. A plate magazine embodying a frame having side walls and an open end, said end being also provided with a slot, a plate support standing astride of the open end and hav-

ing a portion thereof extending through the slot and being deflected to form a flange for connecting the support to the frame for bodily and pivotal movements, the sides of the support adjacent the side walls of the frame being elastic, said elastic portions and side walls of the frame being one provided with a projection and the other with cooperating shoulders, and a hand grip connected with the said elastic portions for shifting them to disengage the said projection and shoulders.

26. A plate magazine embodying a fixed and a relatively movable portion, between which portions the plates are clamped, one of the portions also adapted for pivotal movement with respect to the other, yielding securing means between the said portions, and means for controlling the said securing means.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 12th day of July, A. D. 1913.

LOUIS MANDEL.

Witnesses:

FRANK N. REED,  
J. H. JOCIUM, Jr.