E. E. THRASHER.

MAGAZINE PLATE HOLDER.

APPLICATION FILED SEPT. 29, 1917.

1,260,596.

Patented Mar. 26, 1918.

2 SHEETS—SHEET 1.

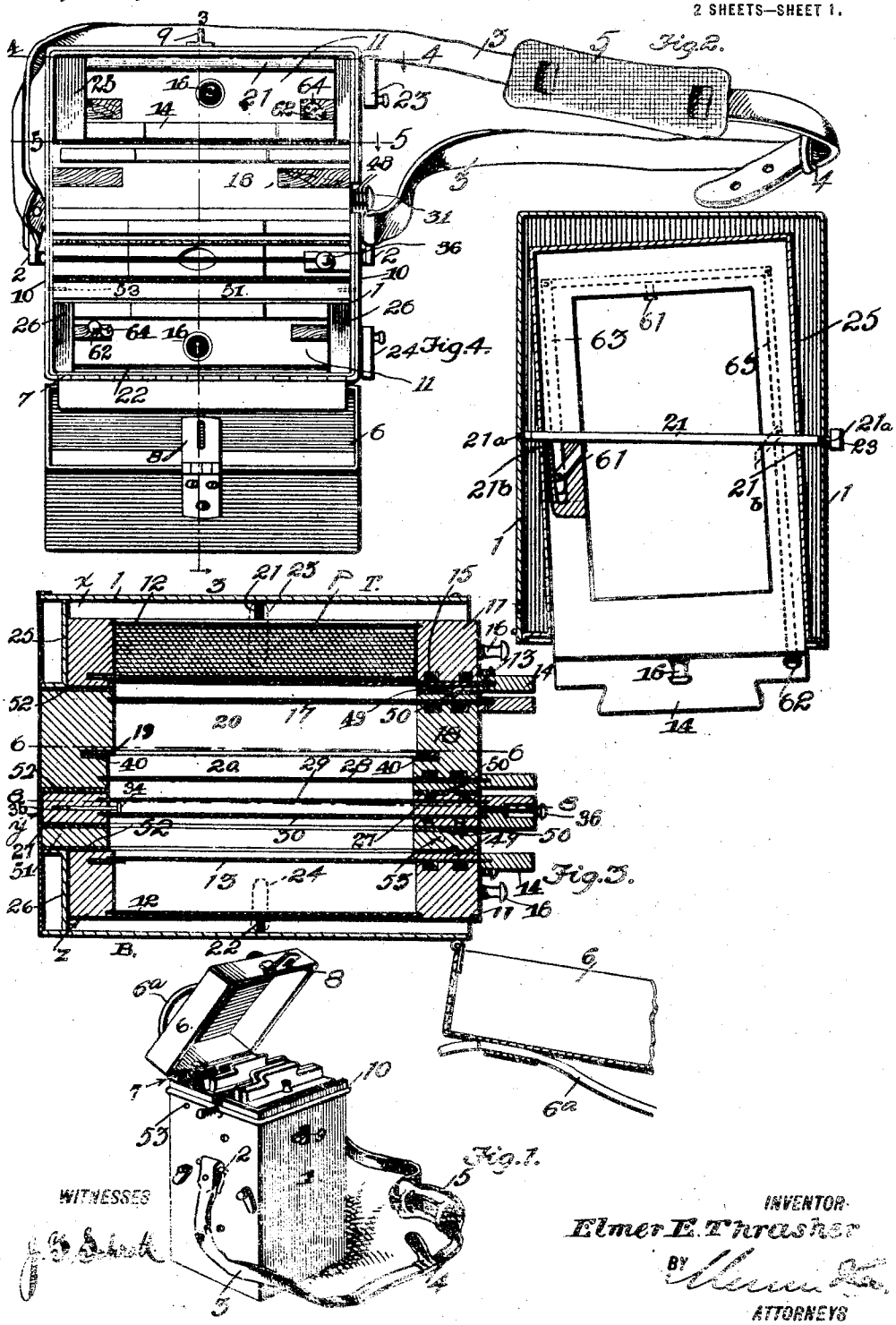


Fig. 2.

Fig. 4.

Fig. 3.

Fig. 1.

WITNESSES

INVENTOR

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BY

ATTORNEYS

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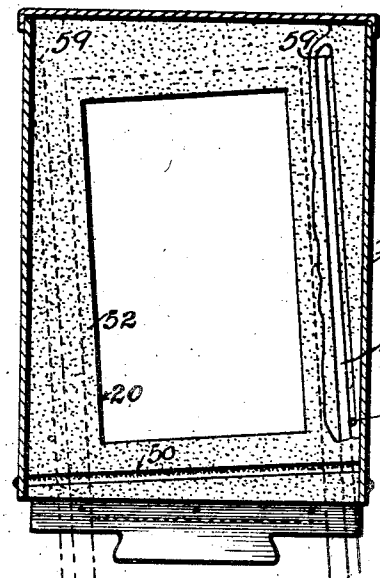


Fig. 5.

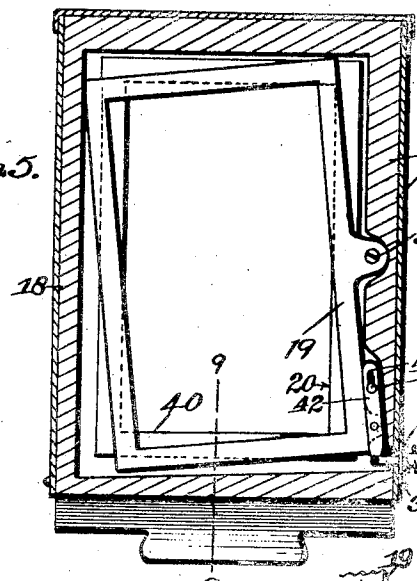


Fig. 6.

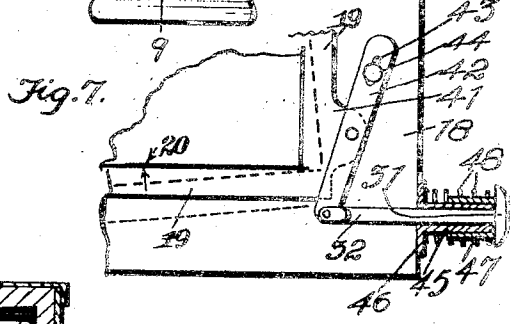


Fig. 7.

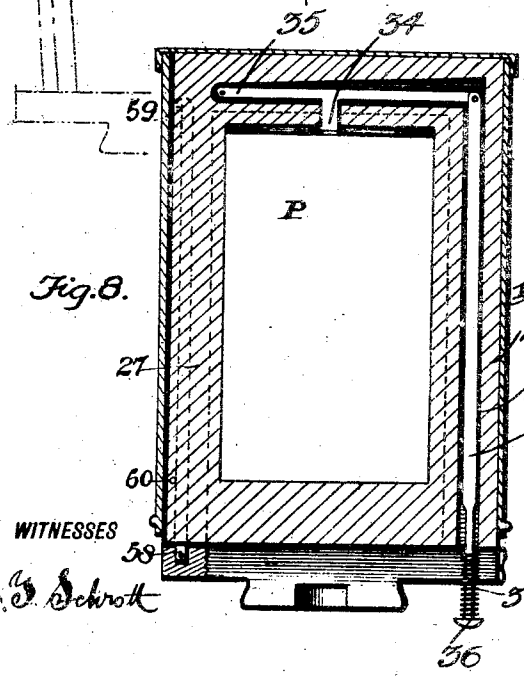


Fig. 8.

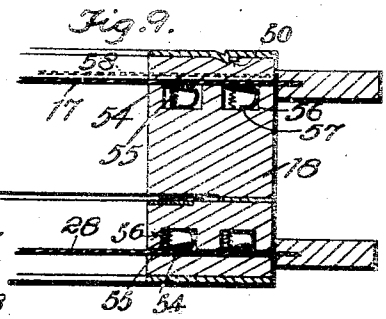


Fig. 9.

WITNESSES

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UNITED STATES PATENT OFFICE.

ELMER E. THRASHER, OF CUMBERLAND, MARYLAND.

MAGAZINE PLATE-HOLDER.

1,260,596. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed September 29, 1917. Serial No. 193,961.

To all whom it may concern:

Be it known that I, ELMER E. THRASHER, a citizen of the United States, and a resident of Cumberland, in the county of Allegany and State of Maryland, have invented a new and useful Improvement in Magazine Plate-Holders, of which the following is a specification.

My invention relates to improvements in plate holders, and it consists in the constructions, combinations, and arrangements herein described and claimed.

An object of my invention is to provide a magazine plate holder embodying means whereby a plate storage box may be emptied into a secondary storage box or magazine, and subsequently employed to receive the exposed plates after having been dropped into a plate holder, exposed in a camera, returned to the magazine plate holder, and then dropped into the empty plate storage box, as above described.

Another object of the invention is to provide a magazine plate holder consisting of a box containing various devices for handling a photographic plate, so that an unexposed plate may be transferred into a camera plate holder, exposed in the camera, and returned to the device without fogging the plate, the above operations being capable of performance in broad daylight.

Another object of the invention is to provide a portable magazine plate holder containing plate interchanging devices arranged in such a manner that the photographic plates are passed through the device from top to bottom in the regular order, said devices including a plate storage box for holding a plurality of unexposed photographic plates, the arrangement of the device being such that only a single plate holder is employed and is necessary.

Another object of the invention is to provide a novel oscillatory transfer frame by which, but a single plate is discharged from the magazine at a time.

Another object of the invention is to provide a novel light excluding shield coöperating with the various slides.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawings in which:

Figure 1 is a perspective view of the magazine plate holder.

Fig. 2 is a front elevation.

Fig. 3 is a vertical section on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal section on the line 4—4 of Fig. 2.

Fig. 5 is a horizontal section on line 5—5 of Fig. 2.

Fig. 6 is a horizontal section on the line 6—6 of Fig. 3.

Fig. 7 is a detail view illustrating the operation of the oscillatory transfer frame.

Fig. 8 is a horizontal section on the line 8—8 of Fig. 3, and

Fig. 9 is a detail cross section on the line 9—9 of Fig. 6.

In carrying out my invention I provide a box 1 which may be made of metal, or any other suitable material, the principal object being that it be light and yet strong enough for the purposes intended. The box 1 is provided with strap supports 2 on each side, wherein a carrying strap 3 is fastened. The strap members are fastened together at the buckle 4, and one of the strap members carries a slidable shoulder piece 5 which rests upon the shoulder of the operator in carrying the magazine plate holder about.

The box 1 has a lid 6 which is hinged thereto at 7 and has a hasp 8 fitting over a staple 9 so that the lid may be locked upon the box. The box 1 has a bead 10 near the upper edge, against which the edge of the lid 6 rests when the box is closed.

The magazine plate holder is employed in transferring the unexposed photographic plates P, from the top to the bottom, when T indicated in Fig. 3, is considered the top and B is considered the bottom. The photographic plates P are carried in a plate storage box 11. Two plate storage boxes are shown in Fig. 3.

The plate storage boxes 11 are intended to be filled with unexposed plates P, before the photographer begins a tour. Ordinarily the photographer may fill a dozen plate storage boxes with plates P, although the number of plate storage boxes that he may carry, will of course, depend on the length of the tour he intends to make. The plate storage box 11 may either have a solid bottom or be provided with a plate 12 which acts as the bottom. The unexposed plates P are put into the box 11 in a dark room, and a slide 13 which has a finger-board 14, is slid over the plates P in a slide opening

15 in the body of the box 11, as clearly indicated in Fig. 3.

The plate storage box 11 having been filled, is inserted into a compartment *x* adjacent to the top T in Fig. 3, by grasping a knob 16 on the front of the box 11, which is provided for the purpose. The slide 13 is now withdrawn, as is also a slide 17 of a magazine 18. The pile of plates P then falls above an oscillatory transfer frame 19, which is disposed at an angle with respect to the opening 20 in the magazine 18, so that the corners of the lower one of the plates P only, may rest upon portions of an opening below the transfer frame, in a manner which will be more fully explained.

The pile of plates P is now located in the space 20 in the magazine or secondary storage box 18. The now empty storage box 11 at the top is taken out and put into the bottom compartment *z*. The storage boxes 11 are clamped in their respective compartments *x* and *z*, by eccentrically mounted clamp bars 21 and 22, respectively. The bars 21 and 22 are respectively actuated by crank handles 23 and 24 on the outside of the box 1. In Fig. 4, the upper clamp bar 21 is shown. Here it will be seen that the clamp bar has bearing portions 21^a which rest in the box 1. The clamp bar 21 also works in a slot 21^b formed in the sides of a spacing member 25 which is disposed at an angle with respect to the walls of the compartment *x*.

The structure of the clamp bar 22 at the bottom is similar to the bar 21 at the top. The bar 22 works in similar slots in a spacing member 26, the walls of which are parallel to those of the compartment *z*. It will be understood that the crank handles 23 are first turned around so that the clamp bars 21 and 22 will be out of the way. The boxes 11 are then inserted in the respective compartments, and the crank handles 23 and 24 are again moved inwardly so that the bars 21 and 22 engage the boxes and hold them in place.

It has been stated that the plates P now occupy the space 20 in the magazine 18, and certain corners of the lower plate rests upon the transfer frame 19 in such a manner to support the whole pile. The plates are transferred one by one, from the magazine 18 to a plate holder 27. The plate holder 27 is slidable into and out of a compartment *y* located intermediately of the compartments *x* and *z*.

When it is desired to load the plate holder 27 by dropping a single plate into it, a slide 28 at the bottom of the magazine 18 is pulled out, and a slide 29 at the top of the plate holder 27 is also pulled out. The plate holder 27 has a second slide 30 just beneath the slide 29, which however, is not pulled out but acts as the bottom upon which the plate will directly fall. The transfer frame 19 is now operated to discharge a single plate from the bottom of the pile P, by pressing on the button 31 of a plunger 32 shown in Fig. 6, which moves the transfer frame 19 to the position indicated in Fig. 7, on the screw 33 on which the frame is pivoted.

The slides 28 and 29 having been pulled out, clear the passage for the plate which drops by the action of the frame 19, to the plate holder 27 wherein it rests on the slide 30. The slides 28 and 29 may now be pushed in again. The plate now in the holder 27, is locked in place by a lock 34 carried by a pivoted bar 35, as shown in Fig. 8. The bar 35 is actuated from a push-button 36 on the front of the plate holder 27. The button 36 is carried by a rod 37 movable in a passage 38 in the plate holder 27, and connected to the bar 35. A spring 39 normally presses the rod 37 outwardly and consequently, the lock 34 inwardly. It is now clear, that by pressing in on the button 36, the lock 34 is moved away from the plate which then drops onto the slide 30. The button 36 being released, permits the lock 34 to spring back and lock the plate.

The manner of discharging a plate through the action of the transfer frame 19 is as follows: It will be observed in Fig. 6 that the transfer frame 19 stands at an angle with respect to the lower portion of the passage 20 in the magazine 18. The walls of the lower portion of the passage 20, that is the portion below the transfer frame 19, are square with the box 1 as clearly shown in Fig. 6. Similarly, it will be understood that the upper portion of the passage 20 is at an angle with respect to the lower square portion 20. The opening in the frame 19 therefore normally coincides with the upper portion of the passage 20 substantially as indicated in Figs. 3 and 5.

A wear plate 40 is located beneath the transfer frame 19 as shown in Fig. 6. The opening in the transfer frame 19, exposes three of the corners of the lower portion 20 of the passage bounded by the wear plate 40. The pile of plates P in falling into the upper passage 20 naturally rest upon these exposed corners, and at an angle with respect to the lower square passage 20. The position of the parts then assumed is indicated in Fig. 9. The transfer frame 19 is a little thinner than a glass plate P. The button 31 is now pressed as above stated, and the lower plate of the pile P is partly turned around until it coincides with the lower portion of the passage 20, into which it drops in a manner which can be easily understood by referring to Figs. 6 and 7.

The frame 19 has an ear 41 to which a rocker arm 42 is pivoted. The rocker arm

42 has a slot 43 through which the shank of a pin 44 passes, and by which, the rocker arm is fulcrumed on the magazine frame 18. The plunger 32 is pivoted to the other end of the rocker arm 42. The plunger 32 moves in a sleeve 45 which has a base 46 secured to the magazine 18. The button 31 in turn has a sleeve 47 which slides over the sleeve 45. A spring 48 normally presses the parts apart so that the transfer frame 19 normally assumes the position shown in Fig. 6.

The plate storage boxes 11 are provided with cleats 49 which engage depressions 50 in the adjacent portions of the magazine 18 and of a spacer frame 51. The plate holder 27 has similar cleats 49 which engage similar depressions in the lower surface of the magazine 18 and the upper surface of the frame 51. The obvious purpose of the cleats and depressions just mentioned, is to exclude the light. To this end, felt pads or washers 52 are also provided and laid between the respective members of the magazine storage box, as clearly indicated in Fig. 3. It will be observed that the spacer frame 51 is held in place by pins 53 at the front, to prevent the dislocation of said frame.

Reference is now directed to Fig. 9 wherein a novel arrangement for excluding the entrance of light around the slides 17 and 28 in the magazine 18, is shown. This arrangement is duplicated at each of the boxes 11 and also the plate holder 27. Referring again to Fig. 9, a plurality of strips 54 of celluloid or other flexible material, are pressed into engagement with the various slides by small coil springs 55. The coil springs 55 and the strips 54 are located in transversely disposed recesses 56. As many of the springs 55 as may be found necessary in actual practice, are provided. A fabric wiper 57 coöperates with each of the flexible strips 54. One end of the wiper is secured in the botom of the recess, while the other end is folded over between the strip 54 and the slide. The arrangement thus obtained works satisfactorily to the complete exclusion of light.

Each of the slides in the device is limited in its outward movements by a guide strip 58. Reference is directed to Fig. 5 wherein the guide strips of the slide 17 of the magazine 18 are shown. One of the guide strips 58 is located at each side of the slide 17, and terminates in an abutment or hook-like end 59 which strikes a stop 60 when the slide is drawn out as indicated in dot and dash lines.

Incidentally, it will be observed in Fig. 5, that the slide 17 is also disposed at an angle with respect to the finger-piece by which the slide is drawn out. This arrangement of course evolves from the peculiar disposition of the upper portion of the passage 20 which is arranged on a bias as above fully explained.

The operation of the device is as follows: The photographer loads as many of the plate storage boxes 11 in a dark room as he may require on a tour. The knobs 16 are numbered on the front so that a box of previously exposed plates may not be put into the top part of the device through an error. Referring to Fig. 2, the box 11, numbered "1" on the knob 16 is put into the compartment x at the top T in the position indicated, and locked by the bar 21. The slide 13, and the slide 17 of the magazine 18 are withdrawn, permitting the pile of plates P to fall into the space 20.

The box 11 numbered "1" on the knob 16 is then taken out, turned over and put into the lower compartment z where it is locked in place by the bar 22. A second box, number "2" on the knob 16, is then inserted in the compartment x in readiness for use when the plates in the magazine 18 are exhausted. The lower one of the pile of plates P in the magazine 18, rests upon the exposed portions of the wear plate 40 indicated in Fig. 6. The pile of plates is disposed at an angle with respect to the box 1, similarly as is the transfer frame 19 in which the pile of plates P stands. The upper portion of the passage or space 20 is disposed at an angle with respect to the box 1 as just indicated, while the lower portion, that is the portion 20 beneath the frame 19, is square with the box 1.

Should it now be desired to discharge the lower plate of the pile P from the magazine 18 into the plate holder 27, the slides 28 and 29 are pulled out. The button 31 is now pressed so as to rock the transfer frame 19, revolving the lower plate until it coincides with the lower portion 20, whereupon the plate falls upon the slide 30. The slides 28 and 29 are again pushed in, and the plate holder 27 may be taken out and inserted into a camera. The push-button 36 is pressed to retract the lock 34 and permit the discharged plate to properly seat itself on the slide 30. It is then that the slides 28 and 29 are again shoved in.

The plate in the holder 27 having been exposed in the camera, is transferred into the lower empty box 11 by replacing the holder 27 in the compartment y of the box 1. The plate holder 27 having been replaced, the slides 30 and 13 of the plate holder 27 and lower box 11, respectively, are pulled out. The exposed plate then falls through into the empty box 11 on the plate 12, whereupon the slides 30 and 13 are again shoved in. The same steps above enumerated, are repeated in loading the plate holder 27 again, and subsequently transferring the exposed plate to the lower box 11 on top of the previously deposited plate.

It should be mentioned that the box 1 is carried about by a handle fitted on the top 6. That is to say, the strap 3 is slung over

the shoulder of the photographer, and the handle 6ª on the lid 6 is taken into the hand to assist in supporting the box. It will also be apparent that with the use of my device, only one plate holder 27 is necessary. Ordinarily a single plate holder is employed for every plate used.

In conclusion, attention is directed to Fig. 4. Here, a plurality of retractable latches 61 are shown. The latches 61 normally project a slight distance into the plate storage box 11 just above the slide 13. The purpose of the latches 61 is to support the pile of plates P independently of the slide 13. The provision of the latches is a precautionary measure to prevent the plates from sticking in the plate chamber should the slide 13 be withdrawn slowly. In practice the slide 13 is withdrawn, and the latches 61 are retracted to quickly release the pile of plates, by pressing on a spring-pressed button 62 which is connected to the various latches by the connections 63. There may be times when it is desired to keep the latches 61 retracted and for this purpose a pawl 64 is provided to engage a portion of the shank of the button.

The boxes 11 are previously packed with unexposed plates and are carried along to be loaded one by one, into the single plate holder 27, instead of carrying a great number of plate holders.

Instead of making the storage boxes 11 of wood and metal thus requiring the services of a cabinet-maker, the plates may be shipped in storage boxes made of cardboard stiff enough to serve the purposes brought out above. It is also emphasized that the arrangement of my device provides a plate holder wherein the plates are rotated through the device from top to bottom in the manner which is fully described in the foregoing description.

While the construction and arrangement of the device is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a magazine plate holder, a box, a magazine, a plate holder, a plate storage box carrying a plurality of unexposed plates adapted to be discharged into the magazine, said plate storage box being transferred to a position below the plate holder, and means for transferring said plates from the storage box through the magazine and plate holder into the storage box beneath the plate holder.

2. In a magazine plate holder, a box, a magazine, a plate storage box carrying unexposed plates adapted to be discharged into the magazine, a plate holder adapted to receive plates one by one from the magazine, and a second plate storage box located beneath the plate holder for receiving the plate previously deposited therein upon exposure of said plate and return of the plate holder to the box.

3. In a magazine plate holder, a box, a plate storage box having a plurality of unexposed plates, said storage box being located in the top of the box, an empty plate storage box in the bottom of the box, and means for handling the unexposed plates and transferring them to the empty storage box subsequently to exposure.

4. In a magazine plate holder, a box, a plate storage box located at the top of said box and having a plurality of unexposed plates, an empty plate storage box in the bottom of the box, and means adapted to handle said plates singly, and to transfer them to the empty storage box subsequently to exposure.

5. In a magazine plate holder, a box, a plate storage box having a plurality of unexposed plates, said storage box being insertible in the top of the box, and manually controlled handling devices for transferring said plates from the top to the bottom of said box.

6. In a magazine plate holder, a box, a plate magazine carried by the box, a plate storage box carrying a plurality of unexposed plates and insertible over the magazine, means for transferring said plates into the magazine, the plate storage box being then removed and inserted in the bottom of the box, a plate holder located between the magazine and the empty plate storage box, means for discharging a single plate from the magazine into the plate holder, said plate holder being removed from the box for the exposure of the plate and being re-inserted into the box upon the exposure of the plate, and interposed slides adapted to be operated to permit the discharge of the exposed plate into the storage box from the plate holder.

7. In a magazine plate holder, a container, a magazine fixed in the container and arranged to provide a compartment thereabove, an insertible plate storage box adapted to be inserted into the compartment, slides in the storage box and the magazine adapted to be retracted to discharge the plates from the box to the magazine, and an angularly disposed support for catching the lower plate of the pile when discharged from the storage box.

8. In a magazine plate holder, a container, a magazine arranged in the container to leave a compartment thereabove, the magazine having passages at angles with respect to each other to provide a plate supporting ledge, a plate storage box containing a pile of unexposed plates, insertible in the compartment, retractable slides in said

box and the magazine for discharging the plate pile into the magazine, and means located at the junction of the angularly disposed passages, for acting upon a single plate to discharge it from beneath the pile.

9. In a magazine plate holder, a container, a magazine arranged in the container to leave a compartment thereabove, the magazine having passages at angles with respect to each other to provide a plate supporting ledge, a plate storage box containing a pile of unexposed plates, insertible in the compartment, slides in said box and the magazine operative to discharge the plates from the box into the magazine, the plates resting upon the ledge, and an oscillatory transfer frame located at the juncture of the angularly disposed passages, for dislocating a plate from the bottom of the pile.

10. In a magazine plate holder, a container, a magazine located in the container, the magazine having a passage including portions at angles with respect to each other providing a plate supporting ledge, a peripheral recess being provided at the ledge, an oscillatory transfer frame pivoted in the recess and having an opening in normal coincidence with one of the magazine passages, a rocker arm connected to the frame, a plunger having an exposed button for manual pressure to oscillate the frame, means arranged around the plunger for excluding the light at the plunger passage, and a spring acting upon the button to keep the frame in the normal position.

11. In a magazine plate holder, a container, a magazine located in the container, the magazine having a lower passage with sides parallel to the container, and an upper passage with sides at an angle to the lower passage, portions of the lower passage forming a ledge supporting a plate pile, and an oscillatory transfer frame pivoted at the ledge and adapted to be oscillated to transfer the lower plate of the pile from the upper to the lower passage.

12. In a magazine plate holder, a container, a magazine located in the container, the magazine having a passage including portions at angles with respect to each other, providing a ledge at the juncture of the passages, a retractable slide closing the lower passage, and an oscillatory transfer frame located at the ledge arranged to act upon the lower plate of a pile supported on the ledge and transfer said plate to the lower passage, said slide being retracted to permit the passage of the plate.

13. In a magazine plate holder, a container, a magazine located in the container, the magazine having upper and lower passages at angles with respect to each other, the juncture of the passages providing a plate supporting ledge, a plate holder located beneath the magazine and having an opening coinciding with the lower passage, an oscillatory transfer frame pivoted at the ledge and adapted to act upon the lower plate of the pile to transfer said plate into the lower passage, and slides closing the lower passage and the plate holder, adapted to be retracted to permit the transferred plate to fall into the plate holder.

14. In a magazine plate holder, a container, a removable plate holder inserted in the container and having an opening with an upper and a lower slide, a magazine located above the plate holder and having a lower passage providing a plate supporting ledge, means for displacing the lower plate of the pile to permit said plate to drop upon the lower slide of the plate holder, a slide normally closing the lower passage, said slide and the upper plate holder slide being retracted to permit the passage of the plate, and locking means in the plate holder for locking the plate in position.

15. In a magazine plate holder, a container, a removable plate holder inserted in the container and having an opening with an upper and lower slide, the upper slide being retracted to permit a plate to fall upon the lower slide, a plate magazine located in the container above the plate holder and having means for discharging a single plate into the plate holder, and a finger operated latch carried by the plate holder between the slides, with a button on the outside adapted to be pressed to operate the latch and lock the plate in position.

16. In a magazine plate holder, a container, a magazine fixed in the container to leave a compartment thereabove, said magazine having a passage with portions disposed at angles with respect to each other to provide a plate supporting ledge, a plate storage box insertible into the compartment above the magazine, said box having a chamber for a pile of plates, slides closing the chamber in the box and the upper passage portion in the magazine, said slides having finger-boards on the outside for retracting the slides to permit the plate pile to drop from the box upon the supporting ledge, and means coöperating with each of the slides for excluding daylight when the slides are pulled out.

17. In a magazine plate holder, a container, a magazine and a superposed plate storage box, the box having a chamber holding unexposed plates, the magazine having an upper passage adapted to receive the plates, interposed slides in the box and the magazine adapted to be retracted and permit the passage of the plates, and means located in one end of the box and the magazine, respectively, coacting with the slides to exclude daylight, said means including flexible spring pressed members.

18. In a magazine plate holder, a con-

tainer, a magazine fixed in the container leaving a compartment thereabove, a plate storage box insertible into the compartment, and having a chamber containing plates, a clamp rod including an eccentric engageable with the top of said box to lock the box upon the magazine, an exposed crank handle on the clamp rod, and compression members located between the box and the magazine.

19. In a magazine plate holder, a container, a magazine fixed in the container leaving a compartment thereabove, said magazine having an upper passage disposed at an angle with respect to the container, a plate storage box insertible in the compartment, said box having a chamber square with the edges of the box, spacing members located in the compartment for disposing the box chamber in coincidence with the upper angled magazine passage, and a locking means for locking the plate storage box into said position.

20. In a magazine plate holder, a container, a magazine fixed in the container leaving a compartment thereabove, a plate storage box insertible into the compartment and having a plate chamber, a slide closing the plate chamber, retractable supporting means for supporting a pile of plates in the chamber when the storage box is inserted in the compartment, and an externally located manually operative button for retracting the supporting means to permit the plate pile to drop subsequently to the withdrawal of the slide.

21. In a magazine plate holder, a container, a magazine fixed in the container leaving a compartment thereabove, the magazine having an angularly disposed upper passage, an insertible plate storage box disposed in the compartment with a plate chamber coinciding with the upper passage, retractable slide members permitting a pile of plates to drop from the storage box to the upper passage of the magazine, and auxiliary retractable supporting means in the plate storage box for normally supporting a pile of plates, said means being operative from the outside to retract the supporting means and release the pile of plates.

22. In a magazine plate holder, a container, a magazine fixed in the container leaving a compartment thereabove, a plate storage box insertible in the compartment above the magazine, said box having a plate-holding hamber, a slide closing the chamber, an auxiliary supporting means for supporting a pile of plates independently of the slide, a manually operated button for retracting said supporting means at will, and a locking means engaging a portion of the button for holding said supporting means in the retracted position.

23. In a magazine plate holder, a container, a hinged cover for the container, a magazine fixed in the container leaving a compartment thereabove, a spacer below the magazine leaving a compartment therebelow and an intermediate compartment between said spacer and the magazine, said magazine having passage portions at angles with respect to each other, the spacer having a passage coinciding with the lower passage portion, a charged plate storage box in the upper compartment, an empty storage box in the lower compartment, means for transferring the plates in the upper box to the upper magazine passage, transferring means for discharging plates singly from the upper to the lower magazine passage, and a plate holder insertible into the intermediate compartment arranged to receive the discharged plate for exposure, said plate holder being re-insertible into the intermediate compartment whereupon the exposed plate may be transferred into the lower empty storage box.

24. In a photographic plate handling device, a container, a magazine and a spacer arranged in the container to leave compartments at the respective sides thereof, said magazine and spacer being instrumental to a passage of photographic plates through the device; a plate storage box in the compartment above the magazine for initially charging said magazine, said storage box being transferred to the compartment below the spacer for subsequently catching the exposed plates, and a plate holder slidable into the compartment intermediate the spacer and the magazine for intercepting the unexposed plates for exposure.

25. In a magazine plate holder, a container, a plate magazine fixed in the container leaving a compartment thereabove, a spacer disposed below the magazine with a pivotal connection to the container and leaving a compartment therebelow, plate storage boxes in the said upper and lower compartments, spacing means in said compartments contacting the sides of the storage boxes, and locking means in each compartment for engaging the respective boxes to press them against the magazine and spacer, respectively.

26. In a magazine plate holder, a plate storage box having a slide, means disposed directly above said slide for supporting a pile of plates, and externally operative means for retracting said means to release the pile of plates when the slide is withdrawn.

27. In a magazine plate holder, a plate storage box having a slide, a plurality of latches projecting into the box above the slide to support a pile of plates, common connecting means for all of said latches, a portion of said means being exposed and having a button, and a spring disposed between the button and the adjacent portion of said storage box.

28. In a magazine plate holder, a plate storage box having a slide and a pair of guide strip channels in the body of the box, a guide strip occupying each of the channels and secured to the head of the slide, the end of each guide strip having a hook, and a pin in each channel near the other extremity, engageable by the hook for limiting the outward movement of the slide.

29. In a magazine plate holder, a magazine having a transverse depression, a plate holder having a transverse cleat, and a fabric washer fitted between the magazine and the plate holder, the cleat being adapted to press a portion of the washer into the depression to exclude the light.

ELMER E. THRASHER.