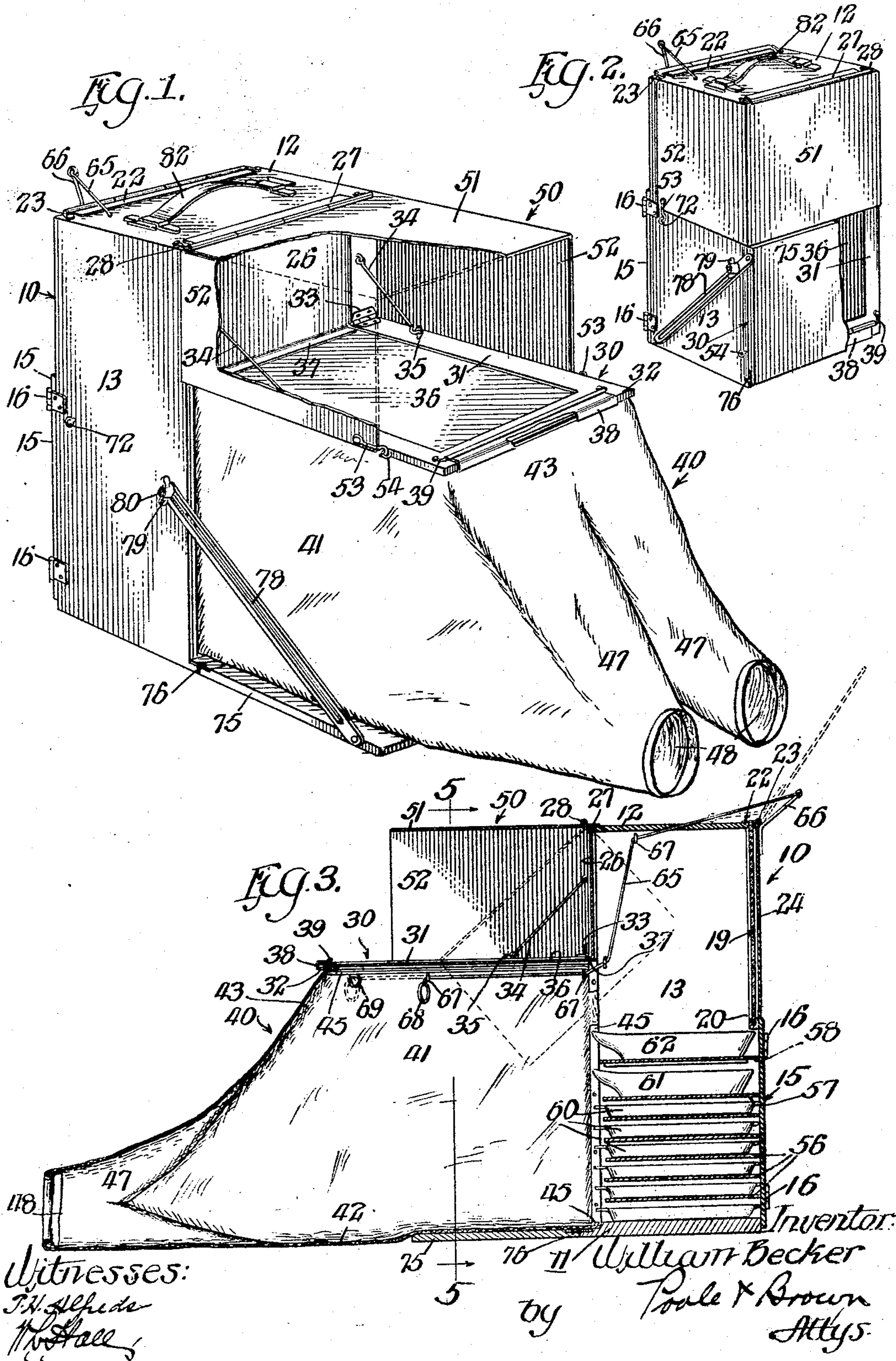


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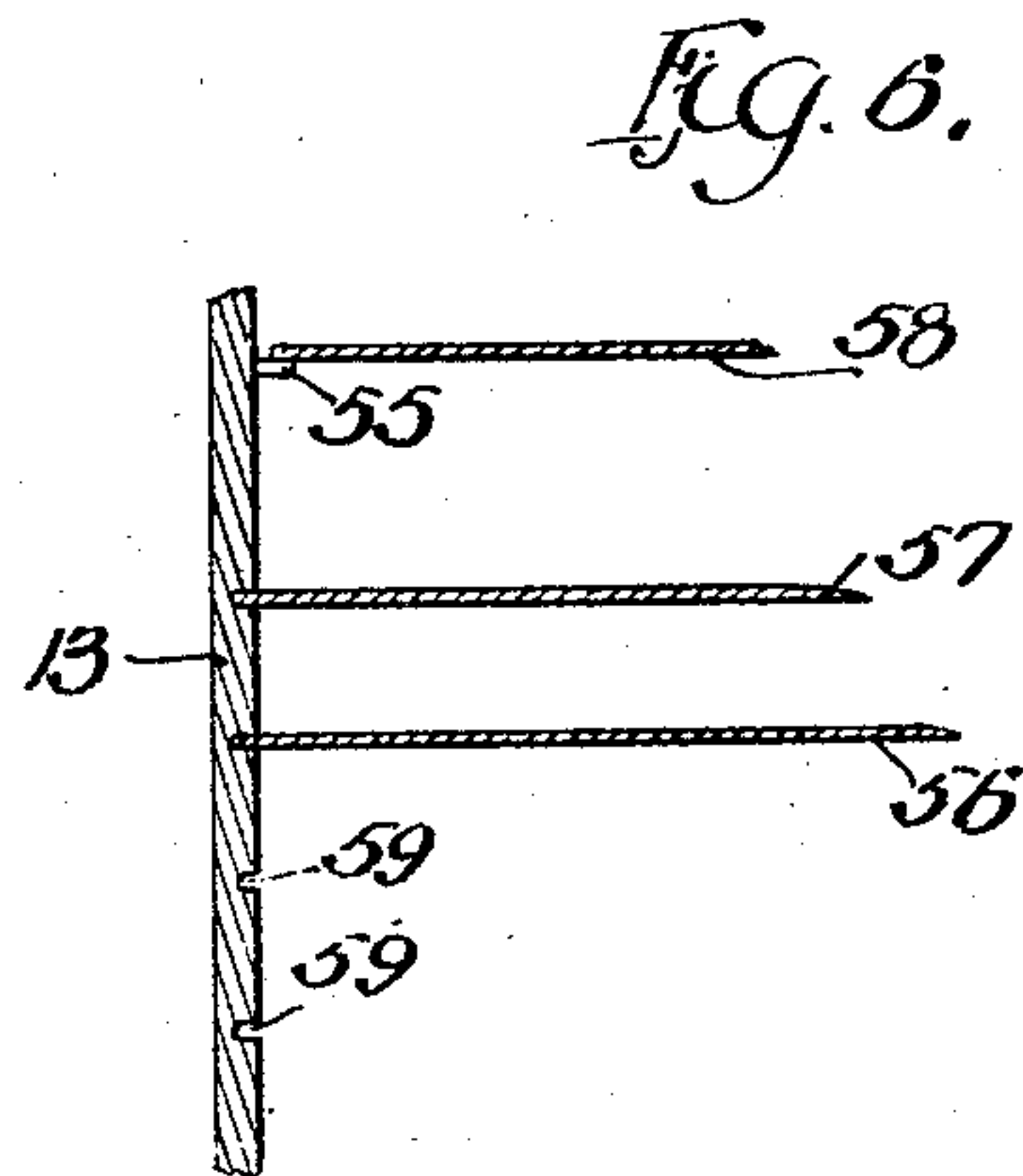
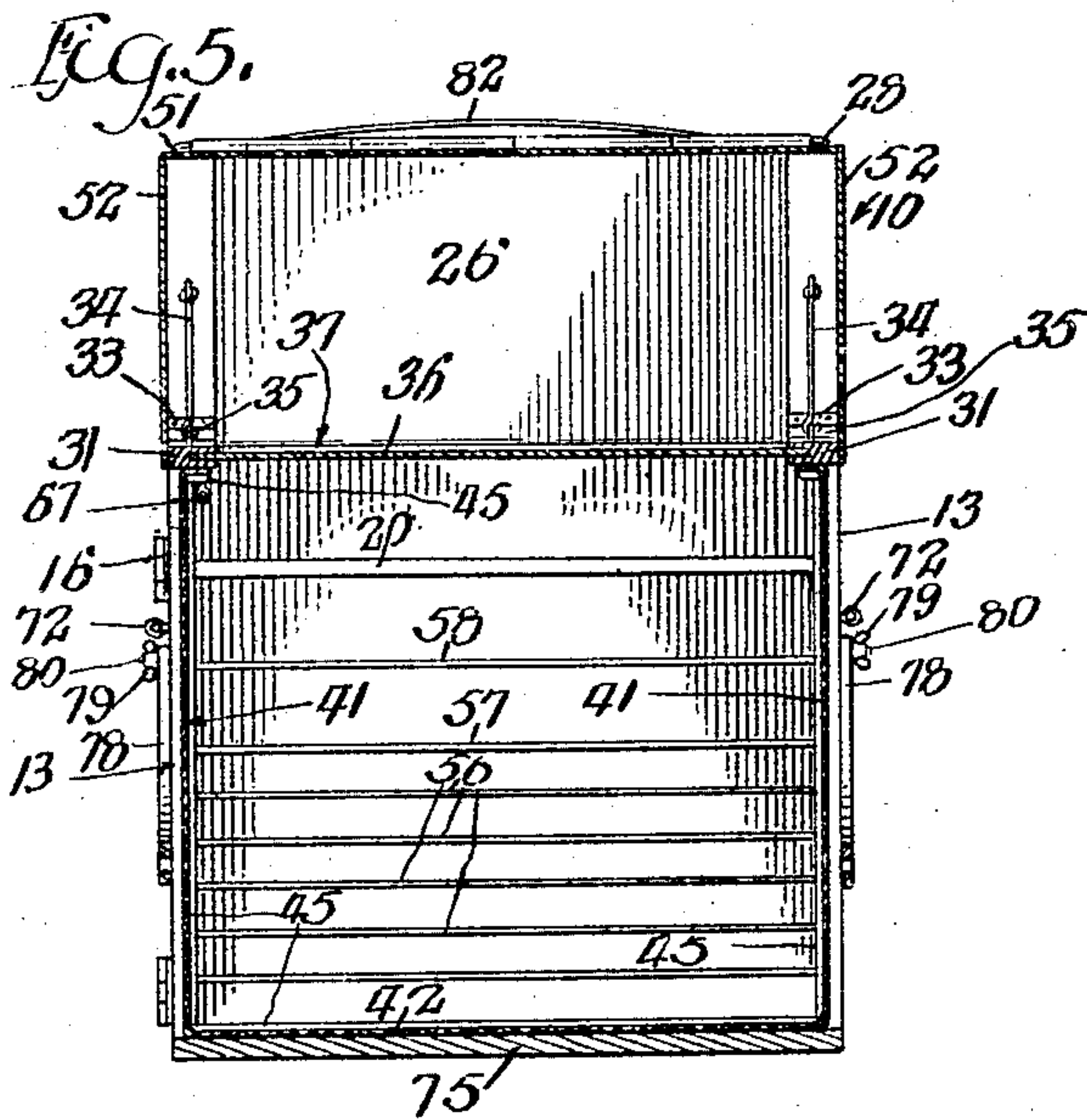
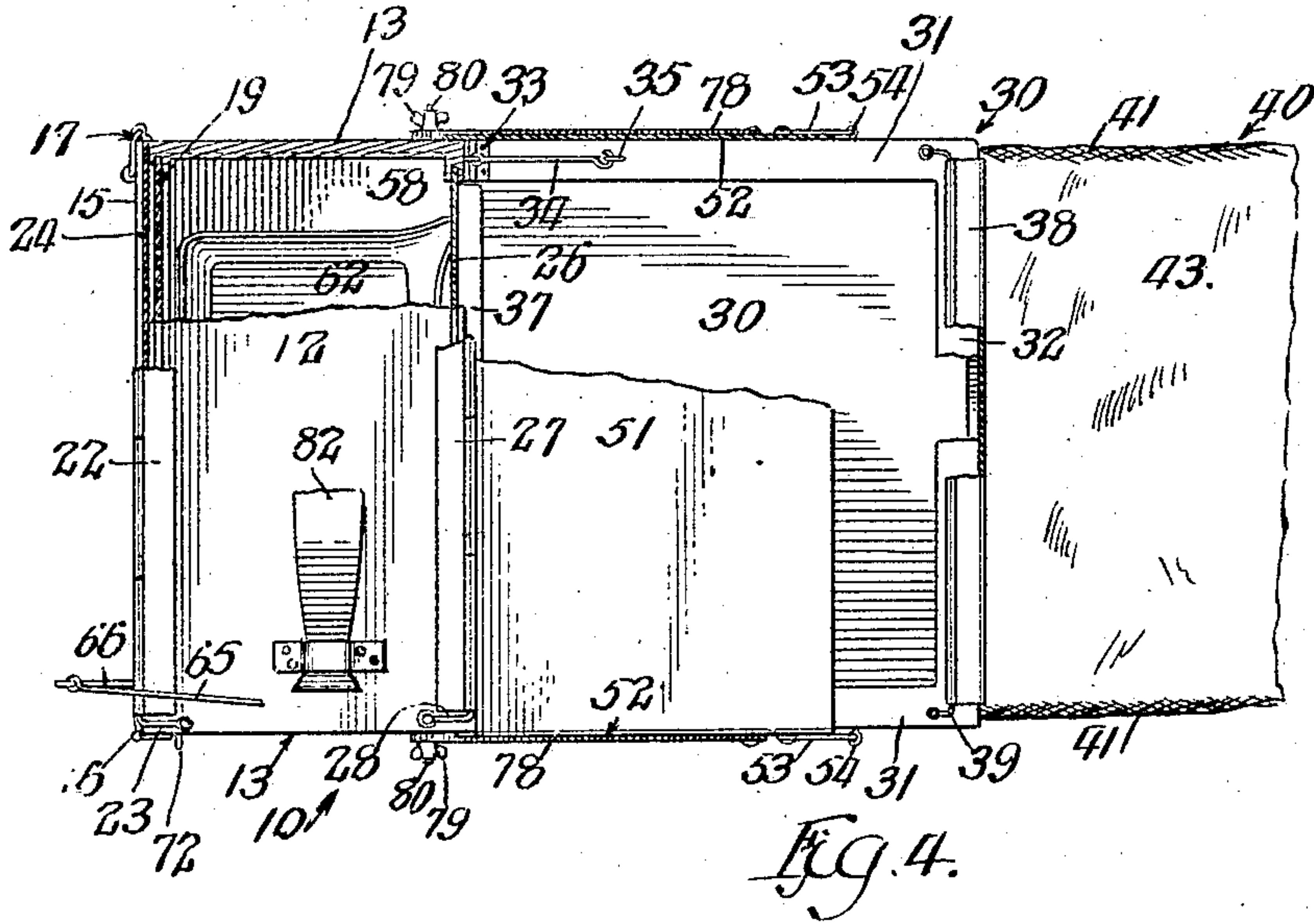
Patented Dec. 29, 1908.  
 2 SHEETS—SHEET 1.



W. BECKER.  
 APPARATUS FOR PHOTOGRAPHERS' USE.  
 APPLICATION FILED JULY 20, 1908.

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Patented Dec. 29, 1908.  
 2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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APPARATUS FOR PHOTOGRAPHERS' USE.

No. 908,064.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed July 20, 1908. Serial No. 444,399.

*To all whom it may concern:*

Be it known that I, WILLIAM BECKER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Photographers' Use; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel apparatus for use by photographers for developing photograph plates or films, developing prints struck off from said plates or films and for loading plate holders with sensitized plates.

The object of the invention is to provide a simple, economical and convenient apparatus of this character, whereby such work may be done in the day light and without the necessity of resorting to a dark room of a size to afford access thereto by the operator or doing the work at night time under conditions of natural darkness.

As shown in the drawings, Figure 1 is a perspective view of an apparatus embodying my invention, with parts broken away, showing the same set up for use. Fig. 2 is a perspective view thereof, showing the apparatus collapsed or closed. Fig. 3 is a central vertical section of the apparatus. Fig. 4 is a partial plan view, with parts broken away. Fig. 5 is a transverse, vertical section, taken on line 5—5 of Fig. 3. Fig. 6 is a detail section taken through one of the side walls of the box and one of the shelves showing the manner of supporting the shelves on said side wall.

As shown in the drawings, 10 designates, as a whole, a box-like inclosure comprising a bottom wall 11, a top wall 12 and side walls 13, 13. The back wall of the box consists partially of a swinging door 15 which is hinged at one margin by hinges 16 to one of the side walls 13 of the box and is locked to the other side wall by a latch 17. The upper part of the rear wall of the box consists of a plate of ruby glass 19 which engages at its margin grooves in the vertical side walls 13 of the box, or parts attached thereto, as shown in Fig. 4, and engages at its bottom margin an upwardly opening groove in a bar 20 extending transversely between the side walls. Said glass plate may be removably mounted in place, and when thus arranged a

swinging flap or shield 22 is located over and covers the groove in the top wall of the box through which the plate may be inserted into place. Said shield is hinged to a rod 23 extending transversely across and attached to the top wall of the box. An opaque shield 24 is located in rear of said ruby glass 19 to normally cut off the entrance of light to the interior of the box through said glass. Said shield 24 is hinged at its upper margin to the same rod 23 to which is hinged the shield 22. The upper part of the front wall of the box consists of a removable plate 26, (preferably made of thin sheet metal) which engages at its side margins vertical grooves in the side walls of the box, or parts carried thereby, and by which it is held in place. It is inserted in the said retaining grooves through a slot in the top wall 12 of the box. A narrow swinging shield 27 is located over and closes said groove in the top wall of the box, and is hinged to a rod 28 which extends transversely across and is attached to said top wall. Thus the upper section of the said front wall of the box may be removed for a purpose hereinafter to be described.

30 designates an open frame composed of parallel side members 31, 31 and a transverse end member 32. Said frame, when the apparatus is set up for use, extends forwardly from the front wall of the box at the level of the lower margin of the removable part 26, of said front wall. Said frame, as herein shown, is connected with the front wall of the box at the sides of said removable plate by means of hinges 33, whereby said frame may be swung downwardly into a vertical position and to constitute, when in the latter position, a portion of the front wall of the box, as will hereinafter more fully appear. The said frame is herein shown as supported in its horizontal position by means of hooked rods 34, 34 which are pivotally connected at their upper ends with the front side of the box at the sides of the removable plate 26 and are provided with hooks at their lower ends adapted for engagement with eyes 35 attached to the side members 31 of the frame 30. The said frame 30 carries a removable plate 36, (preferably made of sheet metal) which engages at its side margins grooves in the inner sides of the side members 31 of the frame 30 as best shown in Fig. 5, and the end member 32 of the frame is slotted or grooved in line with



the grooves of the side members (Fig. 3) to permit said removable plate 36 to be moved endwise through said end members as occasion requires. The lower margin of the removable plate 26 is formed with a horizontal flange 37 which fits flat on the upper face of the rear margin of the removable plate 36 to provide a light-proof joint at this place. The said slot or groove in the front transverse member of said frame 30 is covered or protected by a narrow swinging shield 38 which is hinged to a rod 39 extending transversely across the forward end of said frame and is attached thereto. The said shield 38 is made of L-shape in cross-section so as to fit over the top face of the forward member 32 of the frame and across the front face thereof, as clearly shown in Figs. 1, 2 and 4.

40 designates a flexible casing which, when the apparatus is set up for use, constitutes extended portions of the side and front walls of the inclosure. Said flexible casing may be made of any suitable, relatively heavy, light-proof cloth. The said flexible casing, when the box is set up in readiness for use, is of general rectangular contour, it having side walls 41, 41 which are attached at their rear margins to the inner sides of the front margins of the side walls, a bottom wall 42 which is attached at its rear margin to the upper face of the front margin of the bottom wall and a top portion 43 which is attached at its rear margin to the lower side of the front margin of the frame 30. The upper margins of the side walls 41 of said flexible casing are attached to the under sides of the side members of the frame 30. The said marginal parts of the casing may be conveniently fixed to the marginal parts of the walls and frame 30 between binding strips 45 and said walls and frame, said binding strips being attached to the walls and frame by nails or like devices extending through the margins of the flexible casing. The front end of the flexible casing terminates in two branches 47, 47 which are provided at their outer ends with hand holes 48 through which the arms of the operator may be passed into the box or inclosure to direct the operations on the inside thereof.

The material around the hand holes may be equipped with draw cords or the like to confine the ends of the branches 47 closely about the arms of the operator.

Secured to the top wall of the box, and extending forwardly a distance over the frame 30 and plate 36, is a shield 50 comprising a top wall 51 and side walls 52, 52 disposed at right angles to the top wall. The said top wall of the shield is made of the full width of the box and is hinged to the top wall of the box or inclosure by the same hinge rod 28 to which the shield 27 is hinged. The said shield 50 is held in a horizontal position, when the frame 30 occupies a hori-

zontal position, by means of swinging latches 53, 53 which are pivoted to the forward ends of the side walls of the shield near their lower margins and are adapted to engage eyes 54 secured to the lateral faces of the side members of the frame 30.

Contained within the box 10 are a plurality of shelves 56, 57 and 58. The said shelves 56 and 57 engage at their end margins grooves 59, (Fig. 6) in the inner faces of the side walls of the box. As herein shown, and as preferably constructed, the upper shelf 58 is supported on cleats or bars 55 attached to the inner sides of the walls 13 parallel with said supporting grooves. The purpose of so supporting the upper shelf 58 is to permit the same to be removed from its support forwardly into the flexible casing for a purpose hereinafter to be mentioned. The rear door 15 is made of the full width of the box so that said shelves may be inserted into the box through the rear door opening. Said shelves 56, 57 and 58 support, respectively, trays 60, 61 and 62, the upper tray 62 being designed to contain the developing bath, the next subjacent tray being designed to contain the water rinsing bath and the lower trays 60 being designed to contain the fixing bath, usually known as the "hypo" bath.

75 designates a bottom wall extension which is hinged at its rear margin by hinges 76 to a forward extension of the bottom wall 11 of the box. The said swinging extension 75 is held horizontally in the plane of the bottom wall of the box by means of slotted brace bars 78 which are pivoted at their lower ends to the side margins of the extension near the front end thereof. The said slotted bars 78 are connected with the side walls of the box by means of clamping nuts 79 which engage bolts or screws 80 extending laterally from the side walls of the box and through the slots of the braces. The engagement of the clamping nuts 79 with the bars serve to hold the same and the bottom wall extension rigidly fixed relatively to the box and the extension when thus locked constitutes a support which holds the box stable and prevents it from tipping forwardly when the device is set up and ready for use, as shown best in Figs. 1 and 2. When the apparatus is not in use it may be folded in the position shown in Fig. 2, to constitute a convenient package to be carried from place to place, and it occupies but little space for storage. When the apparatus is to be so folded, the shelves and trays are removed from the box, and the flexible extension is folded backwardly into the interior of the box. Thereafter the hook rods 34 are released from the frame 30 and the latter is permitted to drop downwardly in a vertical plane to inclose the flexible casing which is contained within the



box. Before the frame is swung down, the supporting latches 53, which hold the shield 50 in its operative position, are released. Thereafter the shield is swung downwardly into the position shown in Fig. 2 with the side members 52 thereof overlapping the side walls 13 of the box. The said shield is held in this position by engagement of the latches 53 with the eyes 72 attached to the side walls of the box. The swinging bottom extension is lastly folded upwardly against and incloses the frame 30 and is locked in this position by the brace bars 78 and clamping nuts 79. The box may be provided with a handle 82, attached to the top wall thereof, by which it may be carried.

In the use of the apparatus described for developing photographic plates I proceed generally as follows: Assuming that all or a portion of the shelves 56, 57 and 58 are removed, the plates to be developed, locked in their holders, are inserted through the box into the interior of the flexible extension 40, when the door is open. Thereafter the tray shelves are inserted into the box and the trays are placed thereon and filled with the proper liquids. I may place the trays in the box when empty and thereafter fill them in any suitable manner. For instance, the developing tray may be placed on the shelf 58 and filled from a cup of developing fluid which has heretofore been placed in the flexible extension 40. After the plate holders, the shelves and trays have been thus placed, the door 15 is closed. If the operator desires to observe the operations of removing the plates from the plate holders and placing them in their proper baths, he will first remove the plate 36 of the frame 30 and place a photographers' hood over the shield 50 and over his head. Thereafter he will insert his hands into the flexible extension 40 through the hand holes 48. He is now in position to observe the operations carried on within the inclosure or box through the open side of the shield and open frame 30, said opening of the frame 30 being properly protected by the shield 50 and the photographers' hood. When the operator works by observing the operations in this manner he will swing upwardly the shield 24 and permit the light to pass into the interior of the box through the ruby glass 19. Said shield may be swung upwardly through the medium of a flexible cord 65 which extends through the top wall 12 of the box at an angle to prevent the entrance of light therethrough, and is attached at its rear end to an arm 66 fixed to the shield below its hinge. Said cord is trained downwardly through said box and into the flexible extension through suitably located guide eyes 67. The said operating cord is provided at its end with an eye or ring 68 which is adapted to engage a hook 69 to hold the

shield in its open position. The operator is now in position to remove the plates from the plate holders and place them one by one successively into the developing bath, the rinsing bath and the fixing bath, he being enabled, through the open frame 30, to observe the various operations carried on within the box. If it be desired to more closely inspect the developing plates than they may be inspected while in the tray 62, the movable plate 26 of the front wall of the box will be raised upwardly or removed before the plates are removed from their holders and before the photographers' hood is thrown over the box and the operator's head. The developing plates may now be held by the hand of the operator within the box in front of the ruby glass, between the same and the operator's eyes, for closer and more direct inspection. If the space between the upper tray 62 and the rear part of the horizontal frame 30 be not sufficient to permit the hand of the operator to pass through said space, the upper or developing tray and its shelf may at this time be removed into the flexible casing 40.

The apparatus herein shown has been organized for developing in one continuous operation six plates, six fixing bath trays being for this purpose provided. When six plates have been developed all of the trays and the shelves and plates and plate holders are removed, after which said apparatus is ready to receive another lot or charge of plates. Films may be developed in the same manner as the plates.

The operation of developing prints impressed on such sensitized paper from developed plates or films is substantially the same operation as developing plates hereinbefore described so far as the use of this apparatus is concerned.

In addition to aiding in developing and printing, the apparatus may also be used for loading plate holders. In this use of the apparatus all of the shelves are removed and the plate holders and sealed packages of plates to be loaded in the holders are placed in the box and the door closed. When the plate loading is being done by a person familiar with this work it will not ordinarily be necessary to admit light to the interior of the box or to observe the operation through the opening in the frame 30. Such loading operation may be observed in the same manner as the developing operation, if desired. After the plates have been placed in the holder and sealed thereby they are removed.

It will be observed that the frame 30 and the removable plate or section 36 carried thereby constitute, when the box is set up in position for operation, a part of the top wall of the box or inclosure, the side walls of which inclosure immediately beneath this portion of the top wall, comprising the side



portions 41 of the flexible casing 40. It will be furthermore observed that said flexible extension is made of a size to allow considerable space within the same, and when the removable plates or section 36 of the frame 30 is removed, the operations carried on within the inclosure may be directly observed through the opening in the top wall thus provided. It will also be noted that the upper portion of the box 10 above the developing tray constitutes, in effect, an extension of said box, upwardly into which the plates may be brought in order to properly observe the same in the manner before described.

It will be observed from the foregoing that I have provided an exceedingly simple and readily usable and efficient device, whereby all the operations required for developing plates or films, printing and loading plate holders may be carried on in the daylight and without the necessity of providing a dark room for this purpose.

It will be understood that the apparatus herein disclosed is but one concrete embodiment of the essential features of the invention, and that said invention may assume other forms within the spirit of my invention. I do not wish to be limited to the details of construction, therefore, except as hereinafter made the subject of specific claims.

I claim as my invention:—

1. A photographer's apparatus comprising an inclosure composed in part of rigid side walls and a back wall, the back wall embracing in part a ruby glass having a movable shield for excluding the passage of light therethrough, a portion of the front wall being provided with an opening having a removable section to close the same and a portion of the top wall being located below said removable section of the front wall and itself provided with an opening which is closed by a removable section, and a flexible extension provided with hand holes attached to the rigid part of the box and constituting, when open, parts of the side and front walls of the box.

2. A photographer's apparatus comprising an inclosure composed in part of rigid side walls and a back wall, the back wall embracing in part a ruby glass having a movable shield for excluding the passage of light therethrough, a portion of the front wall being provided with an opening having a removable section to close the same and a portion of the top wall being located below said removable section of the front wall and itself provided with an opening which is closed by a removable section, shelves within said inclosure, one of said rigid walls having an opening, normally closed by a door, through which the shelves are admitted to the inclosure, and a flexible extension provided with hand holes attached to the rigid part of the

box and constituting, when open, parts of the side and front walls of the box.

3. A photographer's apparatus comprising an inclosure composed in part of rigid side walls and a back wall, a flexible extension at the front of the inclosure adapted to constitute parts of the side, front and bottom walls thereof, and provided with hand holes, the portion of the top wall of the inclosure located over said flexible extension being provided with an opening closed by a removable section, a ruby glass in one of the walls of the inclosure through which light may be admitted to the interior thereof, and a shield for said ruby glass.

4. A photographer's apparatus comprising an inclosure composed in part of rigid side walls and a back wall, a flexible extension at the front of the inclosure adapted to constitute parts of the side, front and bottom walls thereof and provided with hand holes, a portion of the top wall of the inclosure being swingingly mounted and provided with an opening closed by a removable section, a ruby glass in one of the rigid walls through which light may be admitted to the interior of the inclosure, a movable shield for said ruby glass and a swinging shield located over said removable section of the top wall.

5. A photographer's apparatus comprising an inclosure composed in part of rigid side walls and a back wall, a flexible extension at the front of the inclosure adapted to constitute parts of the side, front and bottom walls thereof and provided with hand holes, a portion of the top wall of the inclosure being swingingly mounted and having means to support it in its upper position, and adapted to swing downwardly against the rigid walls of the inclosure to afford a closed box to receive the flexible extension.

6. A photographer's apparatus comprising an inclosure composed in part of rigid side walls and a back wall, a flexible extension at the front of the inclosure adapted to constitute parts of the side, front and bottom walls thereof and provided with hand holes, a portion of the top wall of the inclosure being swingingly mounted and having means to support it in its upper position, and adapted to swing downwardly against the rigid walls of the inclosure to constitute a closed box to receive the flexible extension, said swinging portion of the top wall having an opening normally closed by a removable section, and a hinged shield located over said removable section and locked thereto.

7. A photographer's apparatus comprising a box, consisting of side, top, bottom and back walls, a flexible extension at the front of the box adapted to constitute extensions of the side, front and bottom walls of the box and provided with hand holes, the portion of the top wall of the box over the extension being provided with an opening closed



by a removable section, a ruby glass through which light is admitted to the interior of the box, associated with a shield to exclude the passage of light therethrough, and a hinged shield located over the removable section and provided with side members adapted to overlap the side walls of the box when the shield is swung downwardly.

8. A photographer's apparatus comprising a box, composed in part of rigid walls, the upper part of the front wall being provided with an opening having a removable section to close the same, a flexible extension located at the front of the box and adapted to constitute parts of the box inclosure and provided with hand holes adapted to admit the hands of an operator to the interior of the box, the rear walls of the box being provided in line with the removable section of the front wall with a ruby glass, a shield for said ruby glass, and means within the inclosure for opening the shield.

9. A photographer's apparatus comprising a rigid box portion provided with means for supporting shelves and with a door, a flexible extension adapted to constitute flexible extensions of the walls of the box and provided with hand holes, a portion of the top wall of the box extending over said flexible extension and forwardly from the rigid walls

of the box, the bottom wall of the box having an extension which is adapted to extend beneath the forwardly extending portion of the top wall in a manner to maintain the box stable.

10. A photographer's apparatus comprising a rigid box portion provided with means for supporting shelves and with a door, a flexible extension adapted to constitute flexible extensions of the walls of the box and provided with hand holes, a portion of the top wall of the box extending over said flexible extension and forwardly from the rigid walls of the box and hinged thereto to swing downwardly against the open front side of the box, means for holding said hinged portion of the top wall horizontal, a swinging flap hinged to and constituting a forward extension of the bottom wall of the box and braces for locking said hinged flap or extension to the sides of the box.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 16th day of July A. D. 1908.

WILLIAM BECKER.

Witnesses:

W. L. HALL,  
G. R. WILKINS.