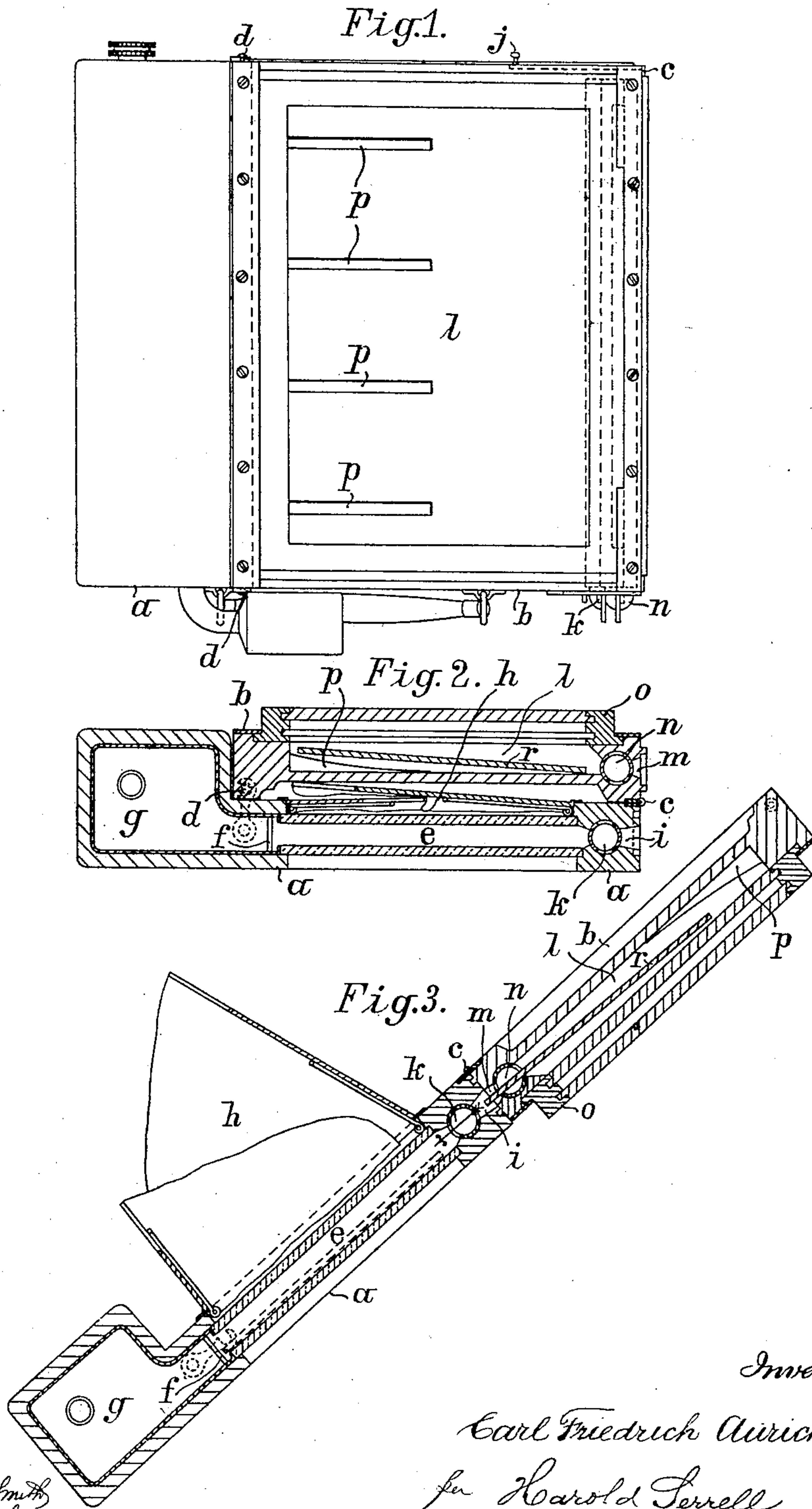


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 DAYLIGHT DEVELOPING APPARATUS FOR PHOTOGRAPHIC PLATES.  
 APPLICATION FILED JAN. 2, 1907.

903,432.

Patented Nov. 10, 1908.



Witnesses  
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his atty.



# UNITED STATES PATENT OFFICE.

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## DAYLIGHT DEVELOPING APPARATUS FOR PHOTOGRAPHIC PLATES.

No. 903,432.

Specification of Letters Patent.

Patented Nov. 10, 1903.

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*To all whom it may concern:*

Be it known that I, CARL FRIEDRICH AURICH, a subject of the King of Saxony, and resident of Dresden, Kingdom of Saxony, German Empire, have invented new and useful Improvements in Daylight Developing Apparatus for Photographic Plates, of which the following is a specification.

The present invention has for its object to provide an improved developing apparatus by means of which photographic plates may be taken from the plate-holder of the camera and developed without the aid of a dark room.

The invention consists more particularly in a developing apparatus formed of two box-like parts pivotally connected together. One of these box-like parts constitutes a developing chamber, whereas the other serves as a means for transferring the plate from the plate-holder to the developing chamber and back therefrom to a fixing receptacle. For this purpose and according to the present invention the two box-like parts are provided on their adjoining front sides with overlapping parts which come together when the apparatus is unfolded and exclude the light. These sides are also provided with corresponding slots which form passage-ways in the walls of the boxlike parts, and intersecting these slots are revoluble apertured tube members which may be closed light tight, or when the apparatus is opened up with the boxlike parts in line and said tube members turned so that the apertures thereof are in line with the slots a uniform and continuous space and passage-way will be formed in the said walls through which the photographic plate, excluded from the light, may be slid from the chamber of one part into the chamber of the other part without being knocked, shaken or the film thereof injured.

By jointing the two box-like parts together, an easy working is insured because by simply unfolding or opening out the apparatus the parts are at once fixed in such position that after opening the closing devices and on holding the parts at an appropriate inclination, the plate will be without difficulty transferred from the one part to the other by sliding.

In the drawings, Figure 1 shows a plan view of the apparatus of my invention by itself folded up. Fig. 2 is a cross section of the apparatus with a plate-holder applied

thereto, the slide thereof withdrawn and the plate deposited face down into the receptacle provided therefor. Fig. 3 is a longitudinal section through the apparatus opened out into the position for transferring the plate from the receptacle of one part into the receptacle of the other part.

The apparatus according to the present invention consists of the two box-like parts *a* and *b* which are jointed together at *c* along corresponding sides by means of hinges so that the structure can be doubled up for convenience in carrying. The other ends are not connected but are held together as desired by a hook device *d*. The part *a* includes the developing chamber *e* and comprises also the receptacle *g* for receiving the developing fluid and contains the ribs *f* which form stops for the plate when contained therein. A portion of the receptacle *g* agrees in width or thickness with the part *a*, but the major portion is of about double the thickness of the part *a* and agrees substantially with the combined thickness of the parts *a* and *b* when these parts are in the folded position shown in Fig. 2.

The developing fluid can be let into its receptacle by means of a funnel through an opening in the receptacle provided with a closing stopper. The bottom and the cover of the chamber *e* consist of ruby-red glass through which the progress of the development may be observed. Above the ruby-red glass forming the cover of the chamber can be arranged a folding shading hood or shield device *h* which, as shown in Fig. 2, is held folded by the bottom of the part *b*. Beneath the ruby-red glass bottom of the chamber *e* also a protecting slide or the like may be arranged. Along the front side of the part *a* is provided an opening or slot *i* passing through the wall of the chamber *e*. Within this slot is arranged a cock-like closing device rotatable by any suitable means such as a handle or key and consisting of a tube member *k*, the opposite walls of which are correspondingly slotted and may be caused to agree with the slot *i* in such a manner that the entrance to the chamber *e* through the slot *i* can either be opened or closed by turning the tube *k*. The meeting sides of the parts *a* and *b* have overlapping rib and groove parts fitting one another in the position Fig. 3 to prevent the entrance of light, and I provide a bolt *j* or the like shown in Fig. 1 and slidable in ways in the



ends for holding the parts in their unfolded position. The meeting side of the part *b* like the part *a* is provided with a slot *m* corresponding to and entirely covering the slot *i*. Within the slot *m* there is also arranged a tube member *n* the opposite walls of which are slotted and may be caused to correspond with the slot *m* and which can be turned by any suitable means such as a handle or key, thus enabling the admission to the chamber *l* through the slot *m* to be closed or opened at will.

The open top side of the part *b* is provided along opposite edges with suitable grooves or guides in which the plate-holder *o* containing the exposed photographic plate Figs. 2 and 3, or a suitable fixing receptacle is slid so that the chamber *l* in the closed position of the tube *n* is closed entirely light tight. In the chamber *l* there are arranged a number of ribs *p* having inclined surfaces which prevent the film surface of the exposed photographic plate from touching the bottom of the chamber *l* because only the opposite edges of the plate come in contact for the support of the plate as shown in Fig. 2 so that the image itself can not be injured.

The devices of my invention can be adapted for use with different sizes of photographic plates without changing the essential features of my invention, as such adaptation would relate to the proportion of the parts or the arrangement thereof.

In using the apparatus according to the invention the following course will be adopted: After transferring the exposed plate, as shown in Fig. 2 from the plate-holder *o* into the chamber *l*, the part *b* will be overturned from the position Fig. 2 to the position Fig. 3 and brought into line with the part *a* and the parts will then be locked by means of the bolt *j*. Afterwards the closing devices *n* and *k* are opened and the apparatus is held in an inclined position, and the plate will then as shown in Fig. 3, slide from the chamber *l* into the chamber *e*, where it is stopped by the small bars *f*. This having taken place, the closing device *k* is shut and the developing fluid is let into the chamber *g* from which it will run into the chamber *e*; the developing process will afterwards take place on slowly rocking the apparatus, the progress of which can be viewed as hereinbefore described. After completing the same the fluid is run off by the same means by which it entered and a suitable fixing receptacle is added in place of the plate-holder by sliding the same into the grooves or guides of the part *b*. Then the closing device *k* is opened and the whole apparatus held in such slanting position as to enable the developed plate *r* to slide back from the chamber *e* into the chamber *l* from which it will be transferred into the fixing receptacle; then the closing device *n* is closed and the

fixing process proceeds as usual. After the completion of the same, the fixing receptacle is removed and the part *b* is again overturned into the position shown in Fig. 1, whereupon the apparatus is once more ready for carrying.

I claim as my invention:

1. An apparatus for developing photographic plates comprising two box-like members, one of which constitutes a developing chamber and the other a receiving and transferring chamber for the photographic plates, means for pivotally connecting these box-like members in a swinging relation so that they may be doubled one on the other or out-turned into line in the same plane and means for securing said parts in either of these relations to one another.

2. An apparatus for developing photographic plates comprising two box-like members, one of which constitutes a developing chamber and receptacle for the developer and the other a receiving and transferring chamber for the photographic plates, hinges for pivotally connecting these box-like members in a swinging relation so that they may be doubled one on the other or out-turned into line in the same plane, means for securing said parts in either of these relations to one another, means for excluding the light when these parts are brought into an out-turned position in line and means opening up communication between the developing and receiving chambers for the transference of the photographic plates.

3. An apparatus for developing photographic plates comprising two box-like members, one of which constitutes a developing chamber and a chamber of greater thickness for receiving the developing fluid and the other of which constitutes a receiving and transferring chamber for the photographic plate and is provided with an open side and means for connection therewith of a sliding plate-holder, means for pivotally connecting these box-like members in a swinging relation so that they may be doubled one on the other or out-turned into line in the same plane and means for securing said parts in either of these relations to one another.

4. An apparatus for developing photographic plates comprising two box-like members, one of which constitutes a developing chamber and a chamber of greater thickness for receiving the developing fluid and the other of which constitutes a receiving and transferring chamber for the photographic plates and is provided with an open side and means for connection therewith, of a sliding plate-holder, means for pivotally connecting these box-like members in a swinging relation so that they may be doubled one on the other or out-turned into line in the same plane, slots or channels provided in the opposite meeting sides of said box-like mem-



bers alining in their out-turned position and tubular slotted members extending across said box-like members intersecting said slots and the same forming communicating devices between the receiving and developing chambers of said apparatus by which the plate received in the one chamber is slid across through to the developing chamber.

5. An apparatus for developing photographic plates comprising two box-like members, one of which constitutes a developing chamber and a chamber of greater thickness for receiving the developing fluid and the other of which constitutes a receiving and transferring chamber for the photographic plates and is provided with an open side and means for connection therewith of a sliding plate-holder, means for pivotally connecting these box-like members in a swinging relation so that they may be doubled one on the other or out-turned into line in the same plane, slots or channels provided in the opposite meeting sides of said box-like members alining in their out-turned position and tubular slotted members extending across said box-like members intersecting said slots and the same forming communicating devices between the receiving and developing chambers of said apparatus by which the plate received in the one chamber is slid across through to the developing chamber, the said adjacent sides of said box-like members having overlapping grooves and recesses for excluding light around the passage for the plate from one chamber to the other, and means for securing said box-like members to each other in either of these positions.

6. In an apparatus for developing photographic plates comprising a box-like member, a developing chamber and at one side a receiving chamber for the developing fluid, intermediate stops for the photographic plate, ruby glass plate surfaces to the developing chamber through which the photo-

graphic plate may be viewed as the development progresses and a hood or shield device connected to one side of the developing chamber for screening the light as the development is viewed by the operator.

7. In an apparatus for developing photographic plates comprising a box-like member, a developing chamber and at one side a receiving chamber for the developing fluid, intermediate stops for the photographic plate, ruby glass plate surfaces to the developing chamber through which the photographic plate may be viewed as the development progresses, a hood or shield device connected to one side of the developing chamber for screening the light as the development is viewed by the operator, a device connected to the developing chamber for receiving a photographic plate and means interposed and through and by which the plate is transferred from the receiving to the developing chamber.

8. In an apparatus for developing photographic plates, a box-like member forming a developing chamber and a second box-like member open on one side and pivotally connected to the aforesaid box-like member and adapted to swing in its relation thereto and provided with opposite edges having slide-ways adapted to receive a plate-holder with its plate or a suitable fixing liquid receptacle and also provided with ribs having inclined surfaces which when the plate is delivered into said receptacle act to prevent the surface of the film coming in contact except along its opposite edges.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this seventeenth day of December 1906.

CARL FRIEDRICH AURICH.

Witnesses:

GEORG HEUSSINGER,  
EMIL FEISSLER.