

No. 780,590.

PATENTED JAN. 24, 1905.

J. N. ANDERSON.
CAMERA.

APPLICATION FILED JULY 12, 1902. RENEWED MAY 21, 1904.

4 SHEETS—SHEET 1.

Fig. 1.

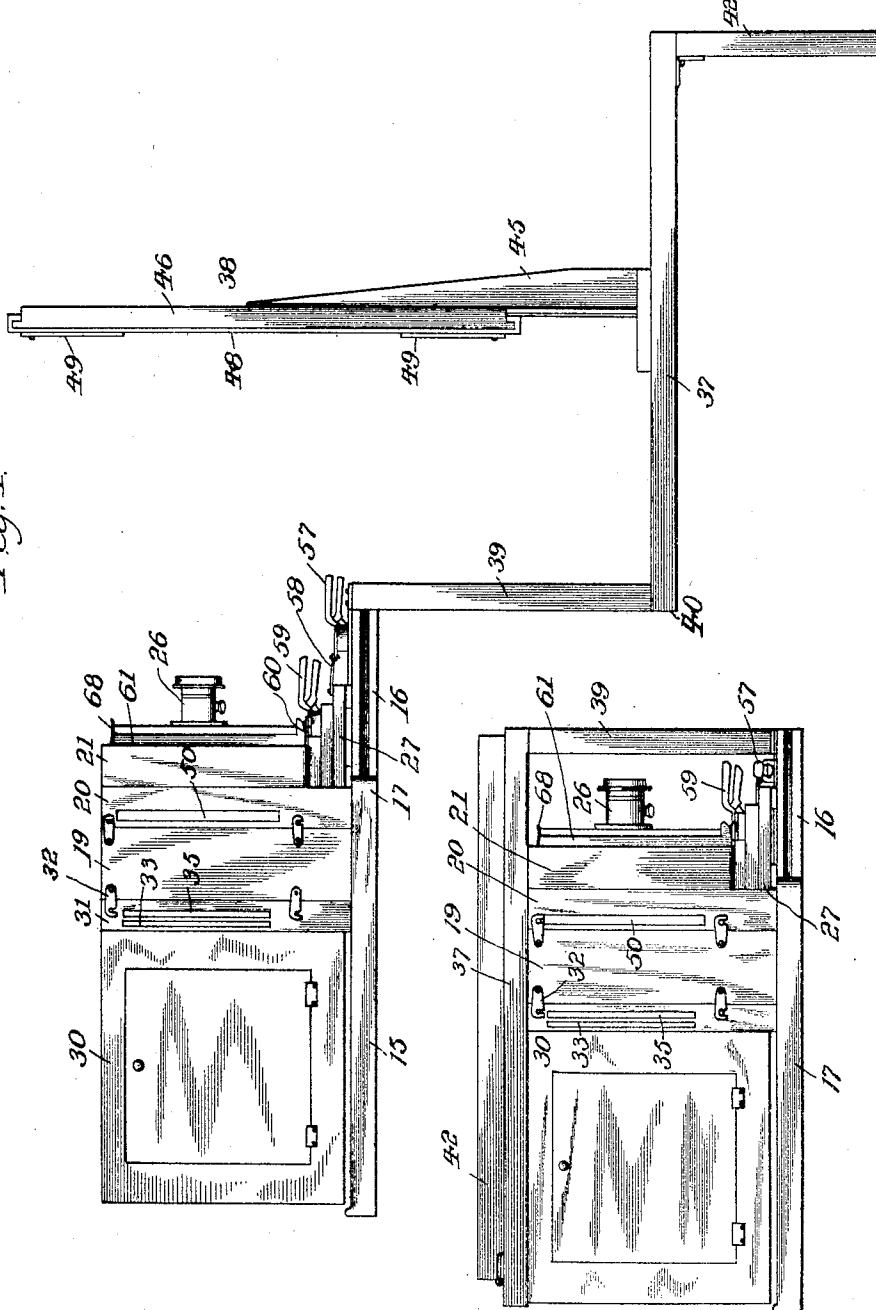


Fig. 2.

Witnesses:
Lute S. Allen
Arthur B. S. S. S.

Inventor:
John A. Anderson
By Louis H. Gilson
Attorney

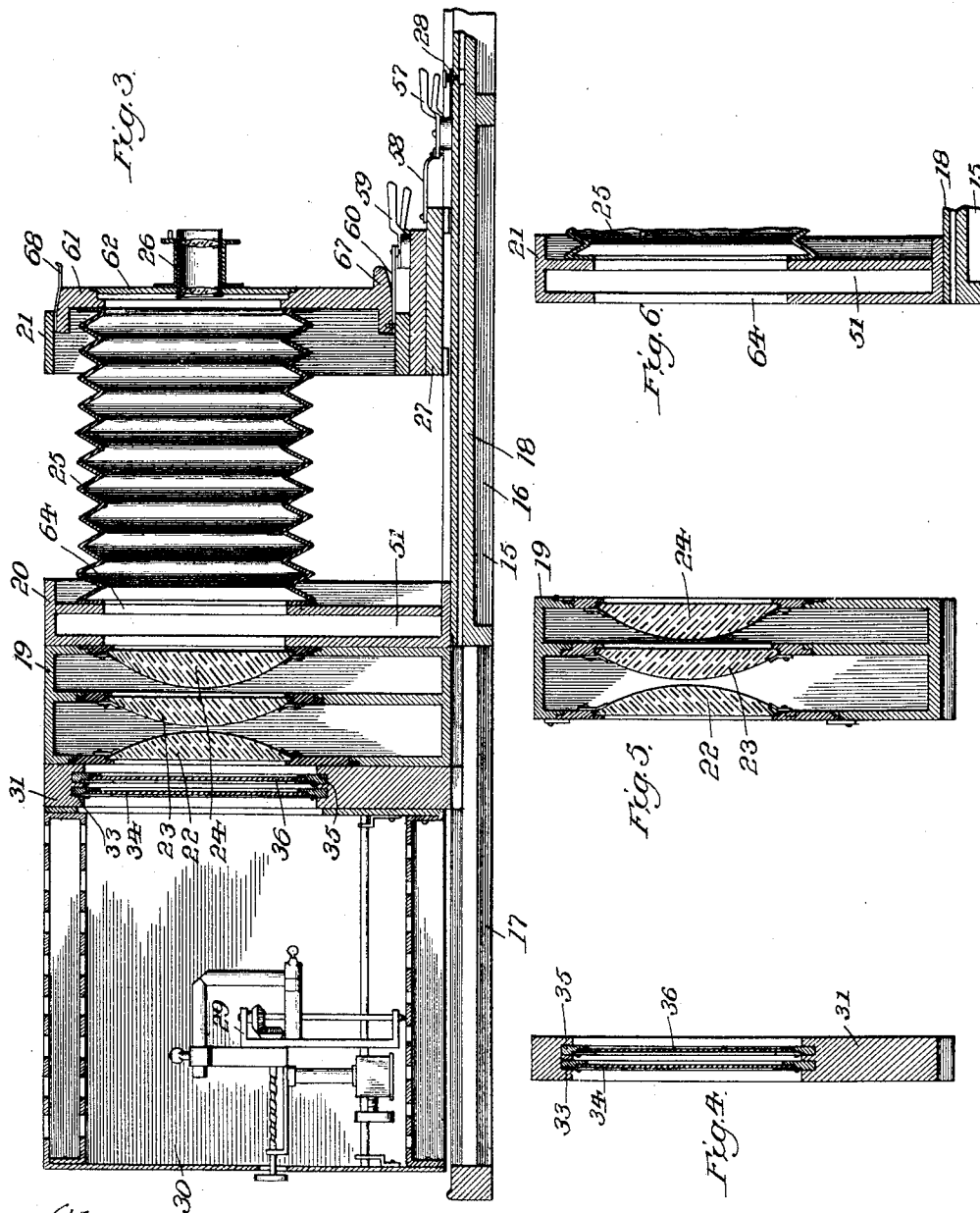
No. 780,590.

PATENTED JAN. 24, 1905.

J. N. ANDERSON.
CAMERA.

APPLICATION FILED JULY 12, 1902. RENEWED MAY 21, 1904.

4 SHEETS—SHEET 2.



Witnesses:
Lute S. Altro
Arthur B. Seibert

Inventor.
John N. Anderson
By Louis A. Gilson
Attorney.

No. 780,590.

PATENTED JAN. 24, 1905.

J. N. ANDERSON.

CAMERA

APPLICATION FILED JULY 12, 1902. RENEWED MAY 21, 1904.

4 SHEETS—SHEET 3.

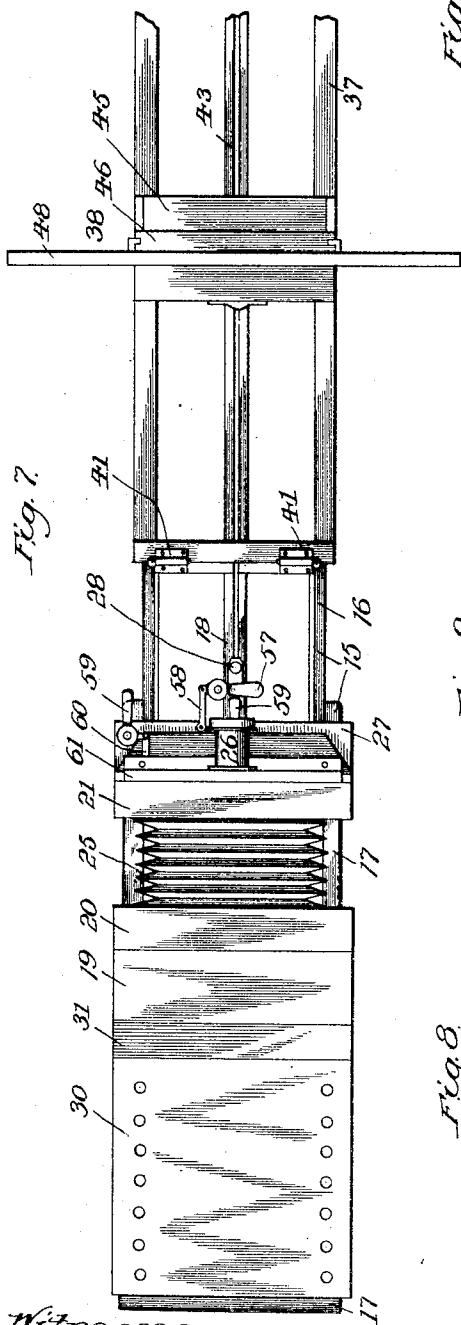


Fig. 7.

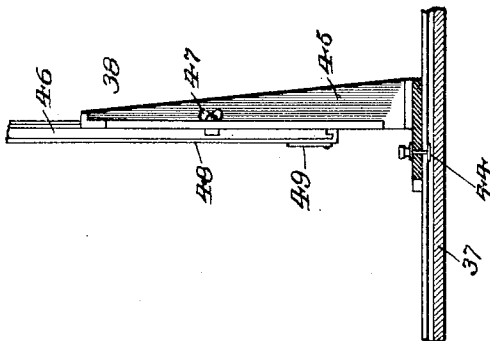


Fig. 10.

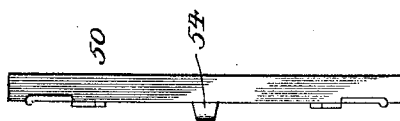


Fig. 9.

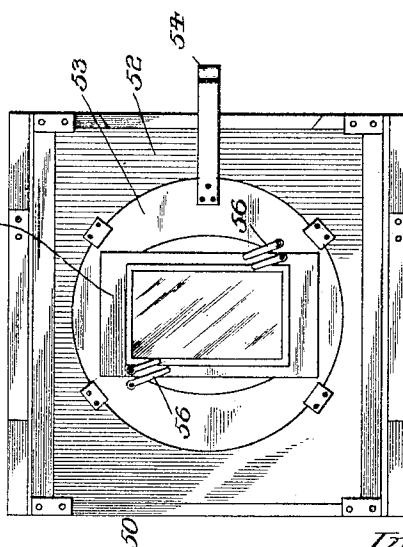


Fig. 8.

Witnesses:
Lute S. Alter
Arthur D. Seibred.

Inventor:
John A. Anderson
By Leonard. Gibson
Attorney.

No. 780,590.

PATENTED JAN. 24, 1905.

J. N. ANDERSON.
CAMERA.

APPLICATION FILED JULY 12, 1902. RENEWED MAY 21, 1904.

4 SHEETS—SHEET 4.

Fig. 12.

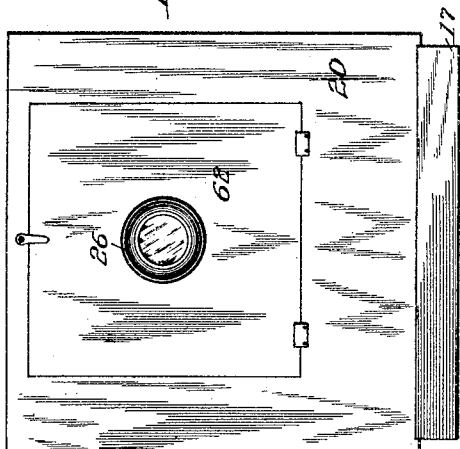


Fig. 13.

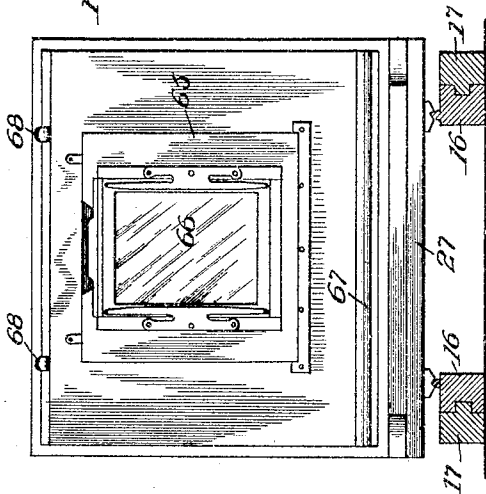


Fig. 11.

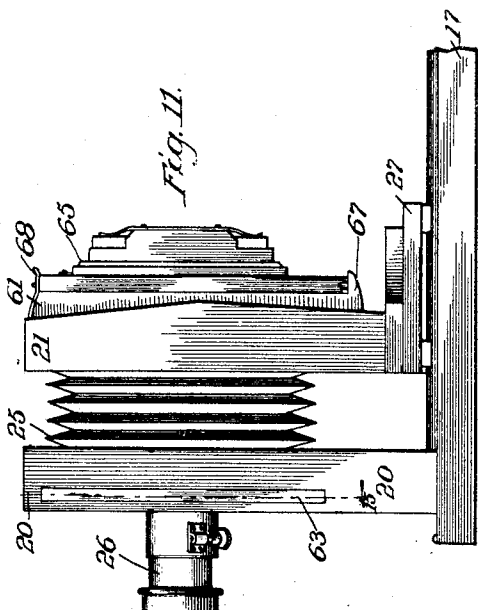


Fig. 14.

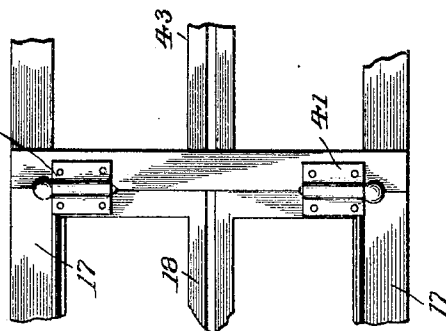


Fig. 15.



Witnesses:
Lute S. Alter
Arthur Seibred.

Inventor:
John N. Anderson
By Louis K. Gilson
Attorney.

UNITED STATES PATENT OFFICE.

JOHN N. ANDERSON, OF CHICAGO, ILLINOIS.

CAMERA.

SPECIFICATION forming part of Letters Patent No. 780,590, dated January 24, 1905.

Application filed July 12, 1902. Renewed May 21, 1904. Serial No. 209,046.

To all whom it may concern:

Be it known that I, JOHN N. ANDERSON, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Cameras, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

This invention relates particularly to that type of camera which is used for enlarging; and its object is to provide a construction of camera which, while capable of use for this purpose, may be readily transformed into a "taking-camera" for studio-work; and a further object is the general improvement in this style of instruments.

The usual practice in enlarging photographs is to do it by means of an elaborate outfit, which involves the use of an entire room. When artificial light is used, the lamp or lantern is usually placed on the outside of the room and an aperture provided in the wall, within which there is fitted the condensing-lens, and an easel or some form of support is set up within the room and independent of the other parts of the camera. This practice of course involves a considerable investment of capital, and as a consequence the ordinary photographer's studio is not equipped with an enlarging apparatus, and when the photographer receives an order for portrait-photographs including pictures of varying sizes he must either make a plurality of negatives or send his negative away to an enlarging-studio, and this latter course he must always take if his order is for a picture of any considerable size.

One of the objects, therefore, of the present invention is to enable a photographer to provide himself, without material increase of investment, with a studio-camera which will enable him to both "take" and "enlarge." After the sitting, by which he secures a single negative from which he will directly print the photographs of ordinary size, he may remove his camera to his dark room and in a very short time transform it into an enlarging instrument and after developing his negative simply mount it in the negative-holder of the camera

and at once print a large picture from it, which may be immediately developed to mount and finish for delivery.

A further advantage in my improved instrument is that the camera and frame for supporting the sensitive paper used in enlarging work are mounted together on a single frame and made adjustable for the purpose of determining the degree of enlargement and securing the focus without disturbing the alignment.

The invention consists in the construction hereinafter fully described and which is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the camera with its frame extended. Fig. 2 is a side elevation of the same with the frame folded. Fig. 3 is a central longitudinal section of the camera, only a portion of the frame being shown. Fig. 4 is a detail sectional view of the frame to which the lamp is attached. Figs. 5 and 6 are detail sectional views of two camera-sections. Fig. 7 is a plan view of the camera with its frame extended, some portions of the latter being broken away. Fig. 8 is a face view of the holder carrying the negative to be enlarged. Fig. 9 is an edge view of the same member. Fig. 10 is a side elevation of the adjustable support for holding the sensitized material. Fig. 11 is a side elevation of the camera arranged for primary work. Fig. 12 is a front elevation thereof. Fig. 13 is a rear elevation of the same. Fig. 14 relates to a detail of the hinged frame, and Fig. 15 is a section on the line 15 of Fig. 11.

A bed-frame 15, comprising an inner rectangular frame 16 and an outer frame 17, having guide-strips in the side bars thereof entering guide-grooves in the side bars of the frame 16, so that the frame 17 may slide longitudinally of and on the frame 16, and a central longitudinal track member 18, fixed to the frame 15, carries the camera, which is composed of the box-like sections 19, 20, and 21. Three condensing-lenses 22, 23, and 24 are preferably used and carried by removable holders mounted in the camera-section 19, although the number is not material and their arrangement may be other than that described.

The condensing-lenses are plano-convex in form, and two of them, as 22 23, may be disposed with their convex faces adjacent or toward each other, the third one, 24, having its convex face directed toward the other two. One end of the bellows 25 is secured to the section 20 and the other end to the section 21, and the latter being the front section carries the lens-tube 26.

The sections 19 and 21 are independently movable, the section 19 being slidable and removably mounted on the side rails of the outer frame 17, while the section 21 is mounted on a base 27, sliding on the side rails of the inner frame 16 and held in engagement therewith by a T-clamp 28, attached to the said base and running in a correspondingly-shaped channel in the track 18.

Any suitable lamp, such as the arc-lamp 29, is used and is inclosed within an opaque casing or lantern 30, having a front frame 31, by means of which it is secured to the rearward end of the camera, any suitable means, such as the hooks 32, projecting from the frame 31, being provided for holding the said frame against the section 19. Instead of an arc-lamp any other suitable lighting agent, as an acetylene-gas lamp, may be employed.

A slide 33, carrying a ground-glass screen 34, is preferably mounted within the frame 31, so as to soften the light from the lamp, and a similar slide, 35, provided with a ruby glass 36 to be employed when it is desired to light the dark room, may also be mounted in the frame 31.

A frame 37 is provided for carrying the support 38, upon which the sensitized material is carried for receiving the enlarged image. The frame 37 is oblong rectangular and is attached to the base 15 by means of an intermediate frame 39, fixed, as at 40, to the frame 37, and hinged, as shown at 41, to the base 15. The length of the frame 39 is the same as the height of the camera, so that when the support 38 is removed from the frame 37 the latter may be folded over upon the top of the camera, as shown in Fig. 2.

A leg 42 is hinged to the outer end of the frame 37, so that it may fold against the latter, as shown in Fig. 2, and may be extended to rest upon the floor and support the frame when the latter is in service. It will be understood that the base 15 is adapted to rest upon a suitable support or standard. (Not shown.)

The frame 37 is provided with a longitudinal track 43, in alinement with the track 18, and the support 38 is removably and slidably engaged with this track by means of a T-clamp 44. This support comprises a standard 45, a vertically-adjustable plate 46, in engagement therewith and provided with a locking-clamp 47, and a transversely-sliding plate 48, in engagement with the plate 46 and adapted to receive the sensitized material, which is secured thereto by means of spring-fingers 49.

The negative-holder frame 50 enters laterally within the camera-section 20, seating itself in a chamber 51 therein, and is in the form of a rectangular frame carrying a plate 52. This plate is centrally apertured to receive a disk 53, which may be oscillated by means of a handpiece or stem 54 projecting through a suitable slot in the frame 50, the said disk being centrally apertured to receive the negative-carrier 55, which is secured in place by the spring-fingers 56.

By means of the various adjustments provided as hereinbefore described the camera is conveniently extended or contracted for focusing purposes. The negative may be adjusted accurately with reference to the lens. The support 38 is always true with reference to the camera and is guided in its movement to and from the lens strictly in line therewith, and the plate carrying the sensitized material may be readily adjusted in all directions.

The mechanism shown for adjusting the lens-tube in order to secure a fine adjustment, and consisting of the hand-lever 57, anchored to the T-clamp 28 and connected by a link 58 to the sliding base 27 of the section 21, and the pivoted levers 59, connected by links 60 to the oscillatable frame 61, carrying the lens-tube plate 62, need not be described in detail, as they are well known in the art and form no part of my invention.

When the camera is not in use, the sliding frame 17 may be telescoped or pushed in on the frame 16, thereby moving the camera-sections and lamp into the compact form shown in Fig. 2, and the support 38 having been removed from the frame 37 the latter may be folded over to the top of the camera, and the whole takes up but very little space and may be conveniently packed for shipment.

It not infrequently happens that because of lack of room or for economical reasons a photographic studio is not provided with an enlarging-camera, and for that reason it becomes necessary for the artist to employ others to do such enlarging as he may receive orders for.

One of the purposes of the present invention is to provide a camera which may be readily reorganized for use either as a primary or taking camera or as an enlarging-camera. Its form for the latter use has already been described. To adapt it for primary use, the lantern 30 is removed, the condensing-lens section 19 taken away, the negative-holder 50 is withdrawn, and the aperture for receiving it is closed by a strip 63. The plate 62, carrying the lens-tube, is removed from the oscillatable frame 61 of the camera-section 21, and it is inserted in the opening 64 of the camera-section 20, and a frame 65, carrying a focusing-screen 66 and adapted to receive the plate-holder in the usual manner, is secured to the front of the camera-section 21,

engaging pins in the projecting foot-piece 67 of the section 21 and being secured at the top by spring-clamps 68. When thus organized, the camera is reversed from its previous form.

5 The hinges 41 are preferably of such form that their two leaves are easily disconnected, so that the frame for carrying the support 36 may be quickly removed and be out of the way of the operator when using the camera
10 for taking purposes.

In order to insert and remove the middle condensing-lens 23, the opening for the holder of one of the outer lenses, as 22, is made larger than the middle-lens holder, so that
15 the latter may readily be passed through the said opening.

I claim as my invention—

1. A photographic camera having its lens-carrier reversible from end to end of the
20 camera.

2. In a photographic camera, in combination, a box, a lantern removably attached to one end of the box, and a lens-carrier attachable to either end of the box.

25 3. In combination, a base, a camera adjustably mounted on the base, a support for a sensitized sheet, a frame upon which the support is removably mounted, and a connection attached to the frame and hinged to the base
30 to permit of the frame being folded over the camera.

4. In combination, a camera, a base upon which the camera is slidably carried, a frame hinged to the base and having a track in parallel plane with the path of the camera, and a support for a sensitized sheet slidably mounted on such track.
35

5. In combination, a base, a lens-carrying frame attached to and slidable on the base, a
40 support for a sensitized sheet, a frame upon which the support is mounted, a right-angle connection fixed to the frame and hinged to the base to permit of the latter frame being folded over the top of the lens-carrying frame,
45 and a track on the folding frame parallel with the axis of the lens for guiding the support.

6. In combination, a camera, a base upon which the camera is slidably carried, a frame hinged to the base and in parallel plane with
50 but located below the path of the camera, and a support for a sensitized sheet slidably mounted on such frame.

7. In combination, a camera, a base upon which the camera is slidably carried, a frame

hinged to the base and in parallel plane with 55 but located below the path of the camera, a standard slidably mounted on such frame and projecting above the camera-base, and a vertically and laterally adjustable support carried by the standard. 6c

8. In combination, a camera, a horizontal base upon which the camera is carried, a supporting-frame in parallel plane with but located below the base, and a vertical frame rigidly fixed to the supporting-frame and hinged 65 to the base, whereby the supporting-frame may be folded over the camera.

9. In combination, a camera, a horizontal base upon which the camera is carried, a supporting-frame in parallel plane with the base, a vertical frame of a length equal to the height of the camera rigidly fixed to the supporting-frame and hinged to the base, whereby the supporting-frame may be folded over the camera, and a support removably mounted on 75 the supporting-frame.

10. In an enlarging-camera, in combination, a base, a focusing-lens-carrying section slidable on the base, a second section mounted on the base and provided with a chamber for receiving the negative to be enlarged, a bellows 80 connected to the said sections, and a condensing-lens section mounted on the base back of the second-mentioned section.

11. In an enlarging-camera, in combination, 85 a base, a focusing-lens-carrying section slidable on the base, a second section mounted on the base and provided with a chamber for receiving the negative to be enlarged, a bellows connected to the said sections, a condensing- 90 lens section removably mounted on the base back of the second-mentioned section, and a lamp carried by the base and detachably connected to the condensing-lens section.

12. In an enlarging-camera, in combination, 95 a pair of telescoping frames constituting a base, a focusing-lens-carrying section slidable on the base, a second section mounted on the base and provided with a chamber for receiving the negative to be enlarged, a bellows connected to the said sections, and a condensing- 100 lens section mounted on the base back of the second-mentioned section.

JOHN N. ANDERSON.

Witnesses:

LOUIS K. GILLSON,
ARTHUR B. SEIBOLD.