No. 779,897. PATENTED JAN. 10, 1905.

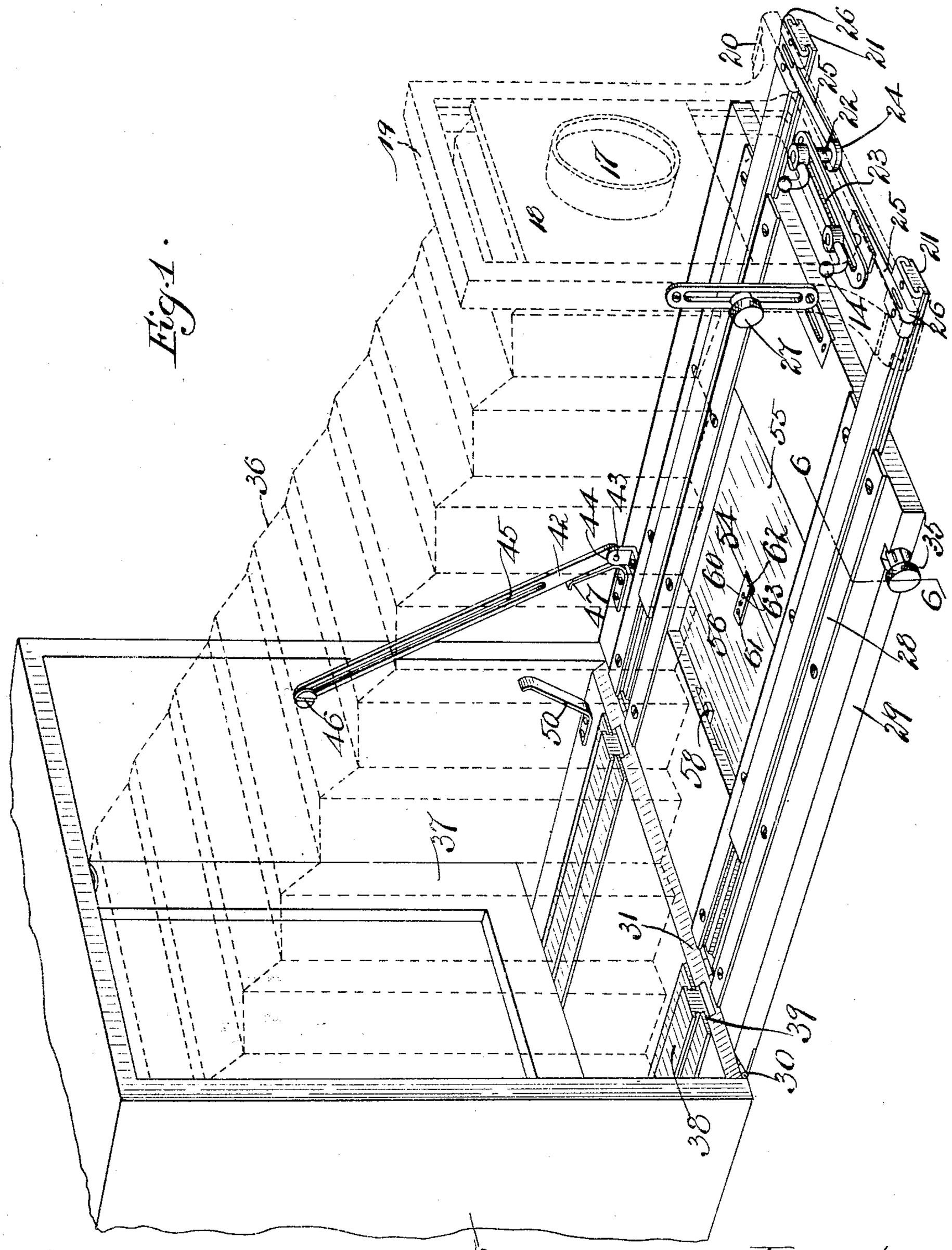
J. S. WRIGHT.

DROP FRONT FOR CAMERAS.

APPLICATION FILED MAY 16, 1904.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

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Louis H. Jones.

Inventor:

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3 SHEETS—SHEET 2.

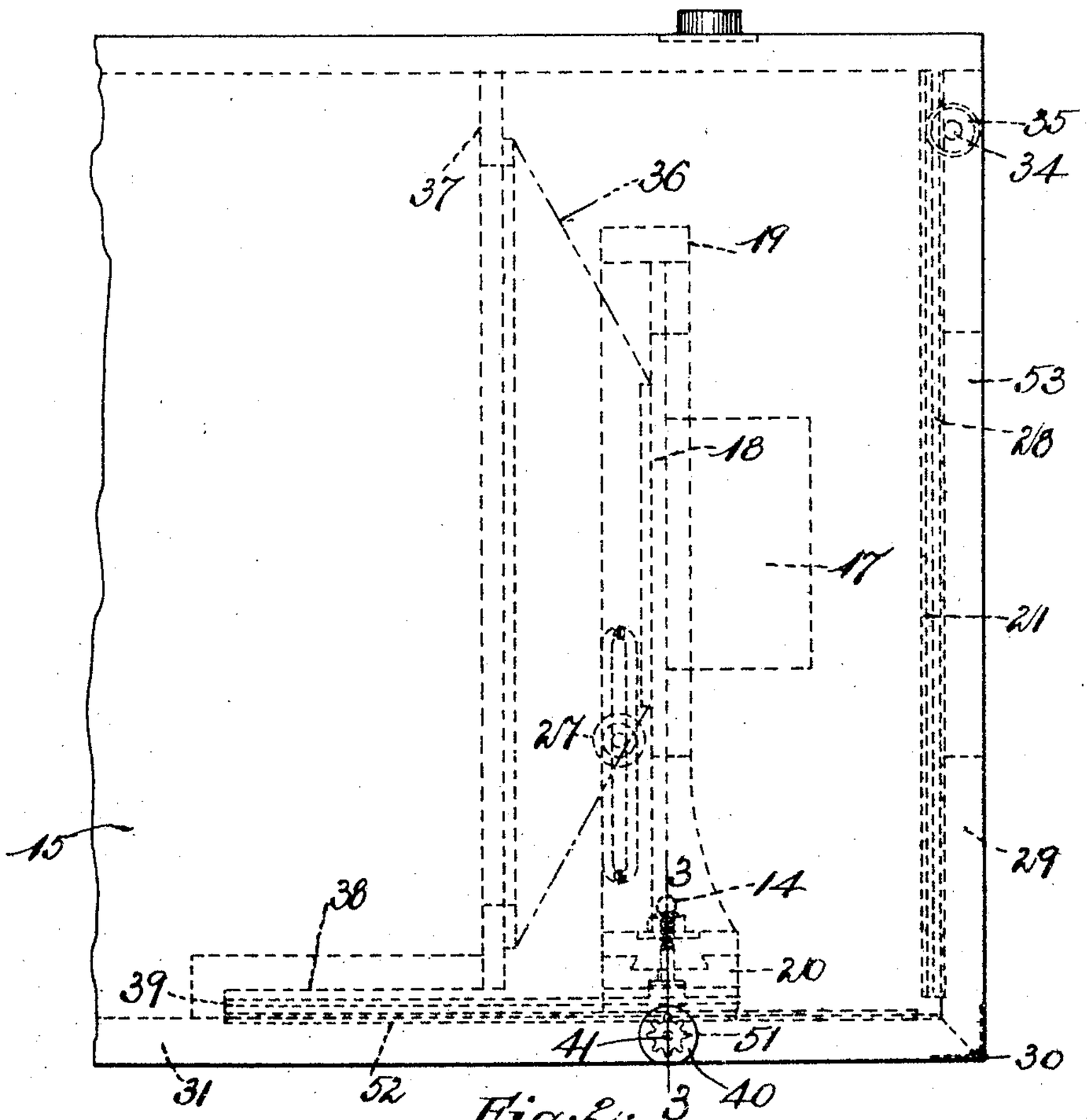

Fig. 2.

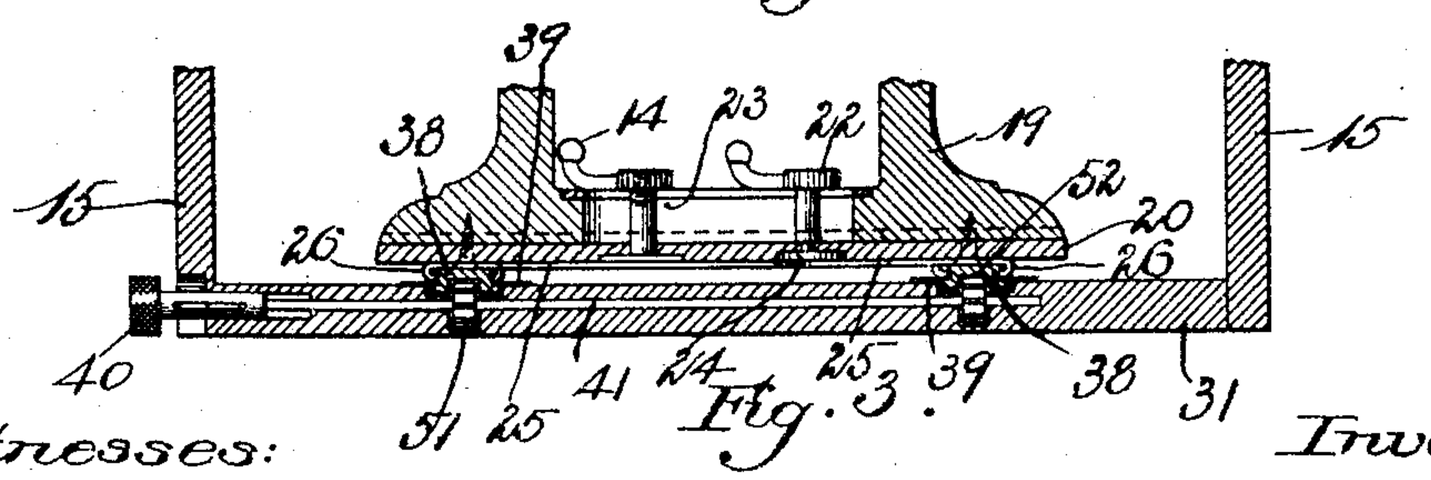

Fig. 3.

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3 SHEETS—SHEET 3.

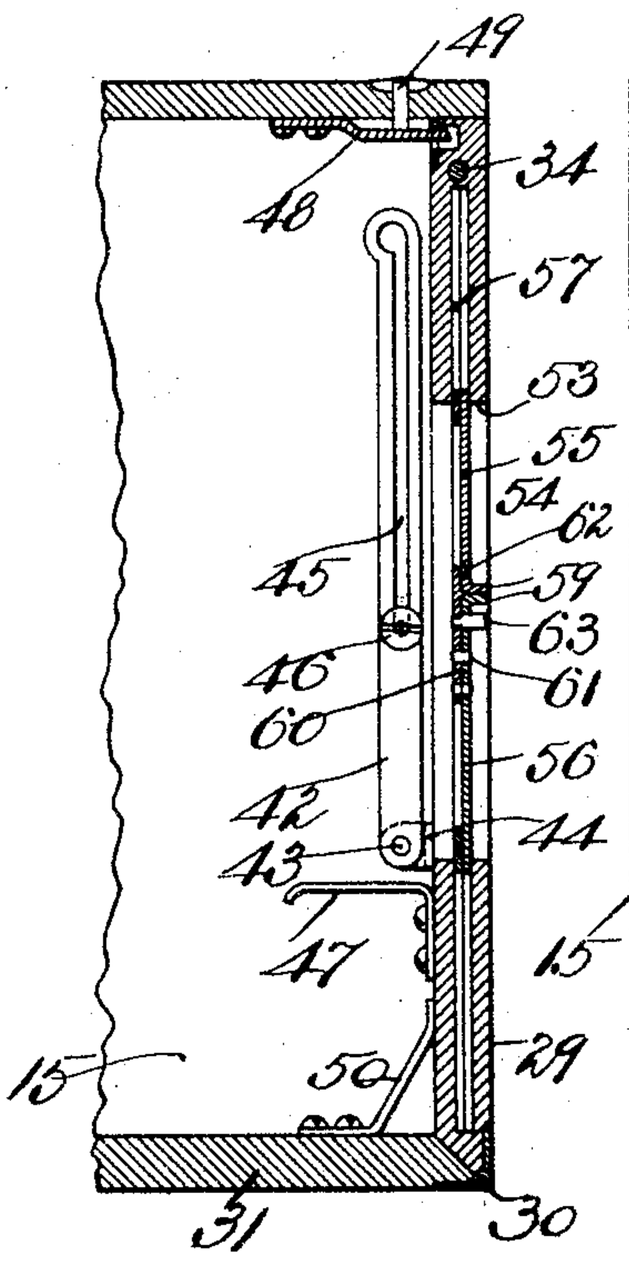

Fig. 5.

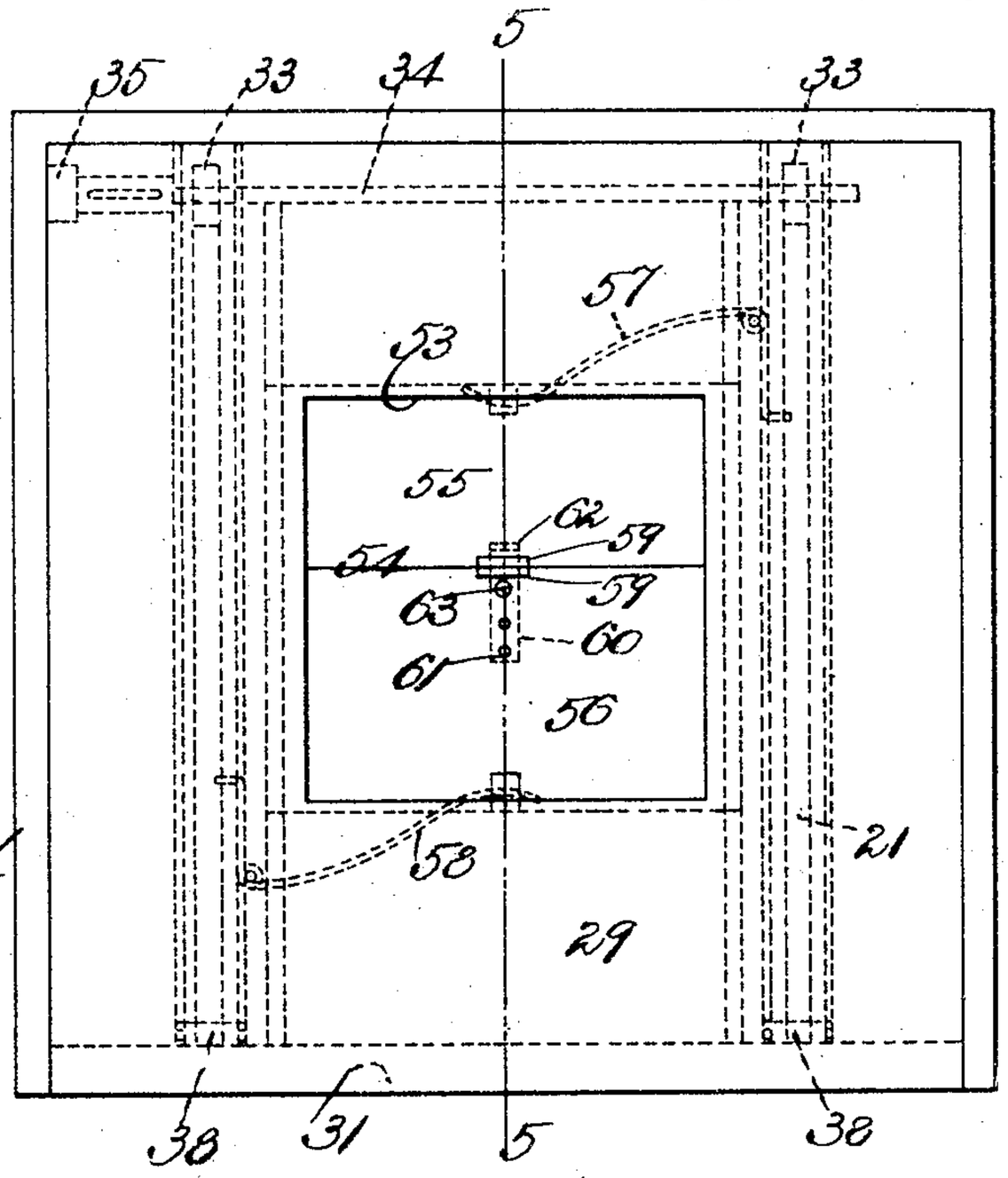

Fig. 4.

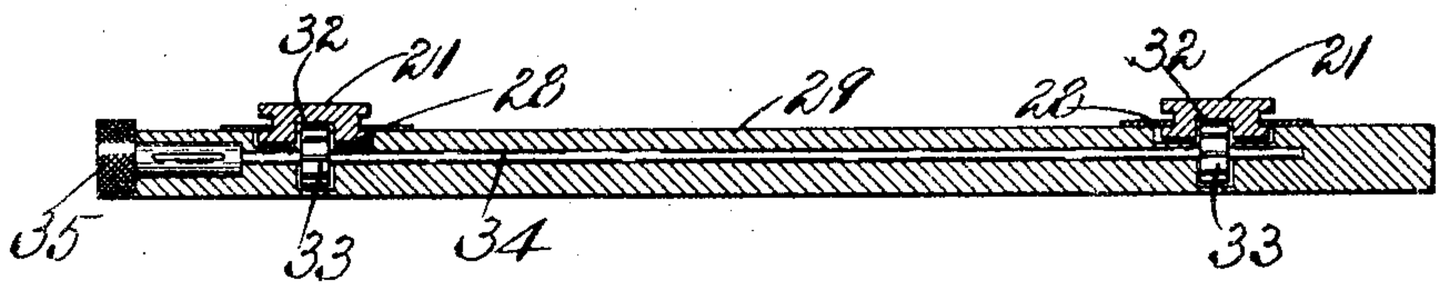

Fig. 6.

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No. 779,897. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

JOHN S. WRIGHT, OF DUXBURY, MASSACHUSETTS.

DROP-FRONT FOR CAMERAS.

SPECIFICATION forming part of Letters Patent No. 779,897, dated January 10, 1905.

Application filed May 16, 1904. Serial No. 208,100.

To all whom it may concern:

Be it known that I, JOHN S. WRIGHT, a citizen of the United States, residing at Duxbury, in the county of Plymouth and State of Massachusetts, have invented new and useful Improvements in Drop-Fronts for Cameras, of which the following is a specification.

This invention relates to an improvement in cameras, the object of the invention being to provide a camera capable of taking pictures at a long or short distance from the object.

The invention consists in certain improvements connected with a drop-front, as set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a perspective view of a portion of my improved camera, illustrating the drop-front lowered to a horizontal position with the lens-board, slide-front, and bellows in dotted lines. Fig. 2 is a side elevation of a portion of my improved camera with the drop-front raised to a vertical position and the lens-board, slide-front, and bellows inside the camera-casing. Fig. 3 is a detail section taken on line 3 3 of Fig. 2. Fig. 4 is an enlarged end elevation of the drop-front. Fig. 5 is a detail section taken on line 5 5 of Fig. 4. Fig. 6 is a section taken on line 6 6 of Fig. 1.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 15 is the casing of my improved camera. A lens 17 of any desirable construction is supported upon a lens-board 18, adjustably secured to a slide-front 19. The slide-front 19 is constructed to slide transversely of the camera upon a base 20, to which it is fastened by a clamp 14. The base 20 is in turn clamped to guide-tracks 21 21 by a rotary clamp-post 22, journaled to rotate in the base 20 and projecting upwardly therefrom through a slot 23, provided in the slide-front 19. The rotary clamp-post 22 has a disk 24 integral with the lower end thereof, to which are eccentrically pivoted one end of each of the clamp-links 25 25. The outer ends of the clamp-links 25 25 are curved downwardly at 26 to engage the outer edges of the guide-tracks 21 21. It will be obvious that as the clamp-post 22 is rotated in the proper direction the eccentrically-pivoted links 25 25 will be drawn toward or away from the tracks 21 21, and thus will clamp or unclamp, respectively, the base 20 and slide-front 19 to or from the guide-tracks 21 21.

The lens 17 is adjusted vertically in the slide-front 19 by raising and lowering the lens-board 18 and clamping the same in position with the clamp-screw 27. The lens-board 18 is moved transversely of the guide-tracks 21 and clamped to the base 20 by means of the clamp 14. The lens-board 18, together with the lens 17 and slide-front 19, is movable longitudinally of the tracks 21 21 and is then clamped thereto by means of the rotary clamp-post 22, which clamps the base-board 20 to the tracks 21 21. The tracks 21 21 are constructed to slide in ways 28 28, formed in the drop-front 29, said drop-front being hinged at 30 to the bottom 31 of the camera-casing 15. The guide-tracks 21 21 are provided upon the under side thereof with racks 32 32, which mesh into pinions 33 33, fast to a spindle 34, journaled to rotate in the drop-front 29. A rotary motion is imparted to the spindle 34 by a handle 35, fast to said spindle, as shown in Figs. 1 and 6. It will be evident that by rotating the handle 35 a longitudinal movement will be imparted to the tracks 21 21 by means of the pinions 33 33 and racks 32 32.

A bellows 36 is connected at one end thereof to the lens-board 18 and at the other end to a vertical partition 37. Tracks 38 38 are provided in the interior of the camera-casing, arranged to slide in ways 39 39, fast to the bottom 31, the tracks 38 and ways 39 being in line with the tracks 21 and ways 28 when the drop-front is lowered to the position shown in Fig. 1. The guide-tracks 38 are movable longitudinally thereof in the ways 39 by means of a handle 40, Figs. 2 and 3, said handle being fastened to a spindle 41, which has pinions 51 fast thereto and meshing into racks 52, provided upon the bottom of the tracks 38 38, Fig. 3, similar in construction to the pinions 33 and racks 32, by

which the guide-tracks 21 are given a longitudinal movement, as hereinbefore described.

When the drop-front is lowered, as shown in Fig. 1, the slide-front 19 is adjusted, together with the lens thereon, by means of the handle 35, as hereinbefore described, and when used in this position the camera is adapted to take pictures at a distance of over one hundred feet from the object. The drop-front is held in the position shown in Fig. 1 by a side brace 42, pivoted at 43 to a bracket 44 upon said drop-front. The brace 42 is provided with a slot 45, which engages a pin 46, fast to the camera-casing. A spring 47, fast to the drop-front 29, holds the brace 42 upwardly, Fig. 1, so that the upper end of the slot 45 at its offset portion engages the pin 46 and holds said drop-front locked in position.

When it is desired to take pictures at a distance of less than one hundred feet from the object, a short-focus lens is used. The slide-front 19 is disengaged from the guide-tracks 21 by rotating the clamp-post 22 in the proper direction and pushing the slide-front 19 back into the interior of the casing 15. The drop-front 29 is then placed in a vertical position, closing the end of the camera-casing, and is locked in this closed position, as shown in Fig. 5, by the spring-catch 48. The spring-catch 48 is disengaged from the drop-front by pressing downwardly upon the pin 49 and tipping said drop-front outwardly from the vertical position shown in Fig. 5 to the horizontal position shown in Fig. 1. When the pin 49 is pressed downwardly to release the spring-catch 48 and allow the drop-front 29 to fall forward, said forward motion is assisted by a spring 50, fast to the bottom 31 of the camera-casing.

The lens is adjusted to bring the object in focus by rotating the handle 40, thus moving the slide-front 19 toward the right or left, as may be desired, as shown in Fig. 2.

The drop-front 29 is provided with an opening 53, extending therethrough, and a sliding door 54, arranged to extend across said opening. Said sliding door is made in two parts 55 and 56, which are normally held apart by springs 57 and 58, respectively. The parts 55 and 56 are drawn together, as shown in Figs. 4 and 5, by means of the projections 59 59 thereon and are locked together by a spring-catch 60, said spring-catch 60 being fastened by a rivet 61 to the lower part 56 of the sliding door 54. The spring-catch 60 is provided with a projection 62, which extends into a notch in the upper portion of the door above the projection 59 and locks the two parts of the door together against the action of the springs 57 and 58. Said spring-catch is disconnected from the upper part of the door 54, so as to allow the two parts 55 and 56 to be opened by the springs 57 and 58 by pressing upon a pin 63, fast to the spring-catch 60 and extending through an opening provided in the lower portion of the sliding door 54.

The general operation of my improved camera is as follows: When it is desired to take pictures of an object at a distance of less than one hundred feet, the camera is used with a short-focus lens and the slide-front 19 in the interior of the camera, as shown in Fig. 2. The sliding door 54 is opened by pressing upon the locking-pin 63 and releasing the two parts 55 and 56 of said door, whereupon the springs 57 58, respectively, will cause said parts to slide upwardly and downwardly, respectively. The apparatus is now in position for the operator to observe the reflection of the picture upon the ground glass and adjust the lens to proper focus by means of the handle 40.

When it is desired to take a picture at a distance of over one hundred feet from the object, a long-focus lens is used. The drop-front 29 is lowered to a horizontal position, as shown in Fig. 1, and the slide-front 19 moved from the interior of the camera to engage the guide-tracks 21 upon said drop-front. The lens is then focused by means of the handle 35 and the picture taken, as hereinbefore described, when the slide-front was within the camera-casing.

Having thus described my invention, what I claim, and desire by Letters Patent to secure, is—

1. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, and a sliding door in said drop-front arranged to extend across said opening.

2. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, means to lock said drop-front to said casing, and a spring-actuated sliding door in said drop-front arranged to extend across said opening.

3. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, a sliding door in two parts arranged to extend across said opening, means to lock said parts together, and springs normally holding said parts apart at opposite sides, respectively, of said opening.

4. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, a sliding door in said drop-front arranged to extend across said opening, and guide-tracks located upon opposite sides, respectively, of said opening.

5. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending

therethrough, a sliding door in said drop-front arranged to extend across said opening, guide-tracks constructed to slide in ways provided in said drop-front, and means to move said tracks longitudinally thereof in said ways.

6. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, a sliding door in said drop-front arranged to extend across said opening, guide-tracks constructed to slide in ways provided in said drop-front, means to move said tracks longitudinally thereof in said ways, a slide-front constructed to slide upon said tracks, and means to clamp said slide-front to said guide-tracks.

7. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, a sliding door in said drop-front arranged to extend across said opening, guide-tracks constructed to slide in ways provided in said drop-front, means to move said tracks longitudinally thereof in said ways, a slide-front constructed to slide upon said tracks, means to clamp said slide-front to said guide-tracks, a rotary clamp-post journaled upon said slide-front, and clamp-links eccentrically pivoted at one end thereof to said clamp-post and connected at the other end thereof to said guide-tracks.

8. A camera comprising in its construction a drop-front hinged to the casing of said camera and provided with an opening extending therethrough, a sliding door in said drop-front arranged to extend across said opening, guide-tracks constructed to slide in ways provided in said drop-front, and means to move said tracks longitudinally thereof in said ways; in combination with guide-tracks constructed to slide in ways provided in the interior of said casing, in line with the tracks upon said drop-front, and means to move said tracks in the interior of said casing longitudinally of said ways.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN S. WRIGHT.

Witnesses:
CHARLES S. GOODING,
ANNIE J. DAILEY.