

No. 837,218.

PATENTED NOV. 27, 1906.

J. GODDARD.
BELLOWS SUPPORT FOR CAMERAS.
APPLICATION FILED MAR. 23, 1906.

Fig. 1.

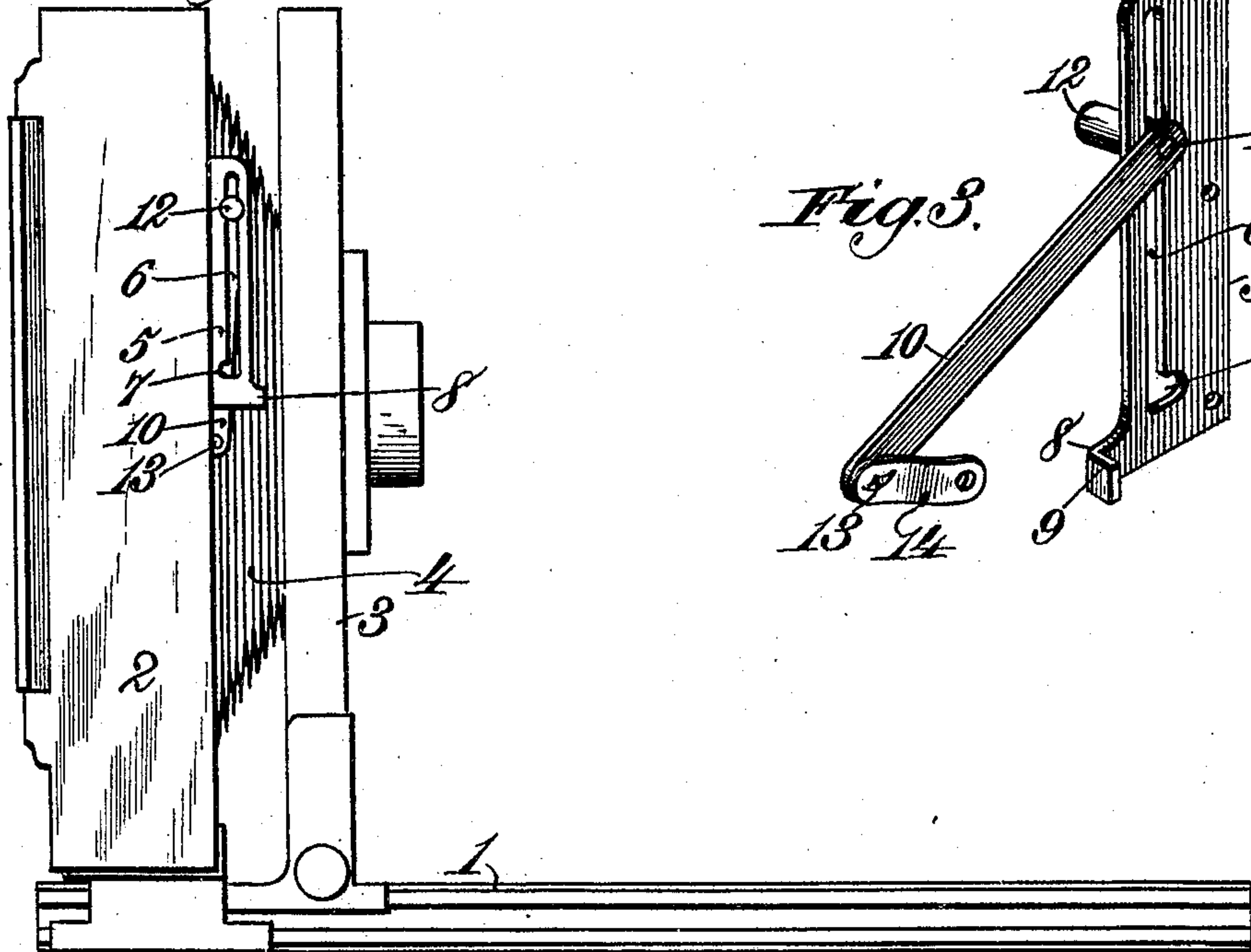


Fig. 3.

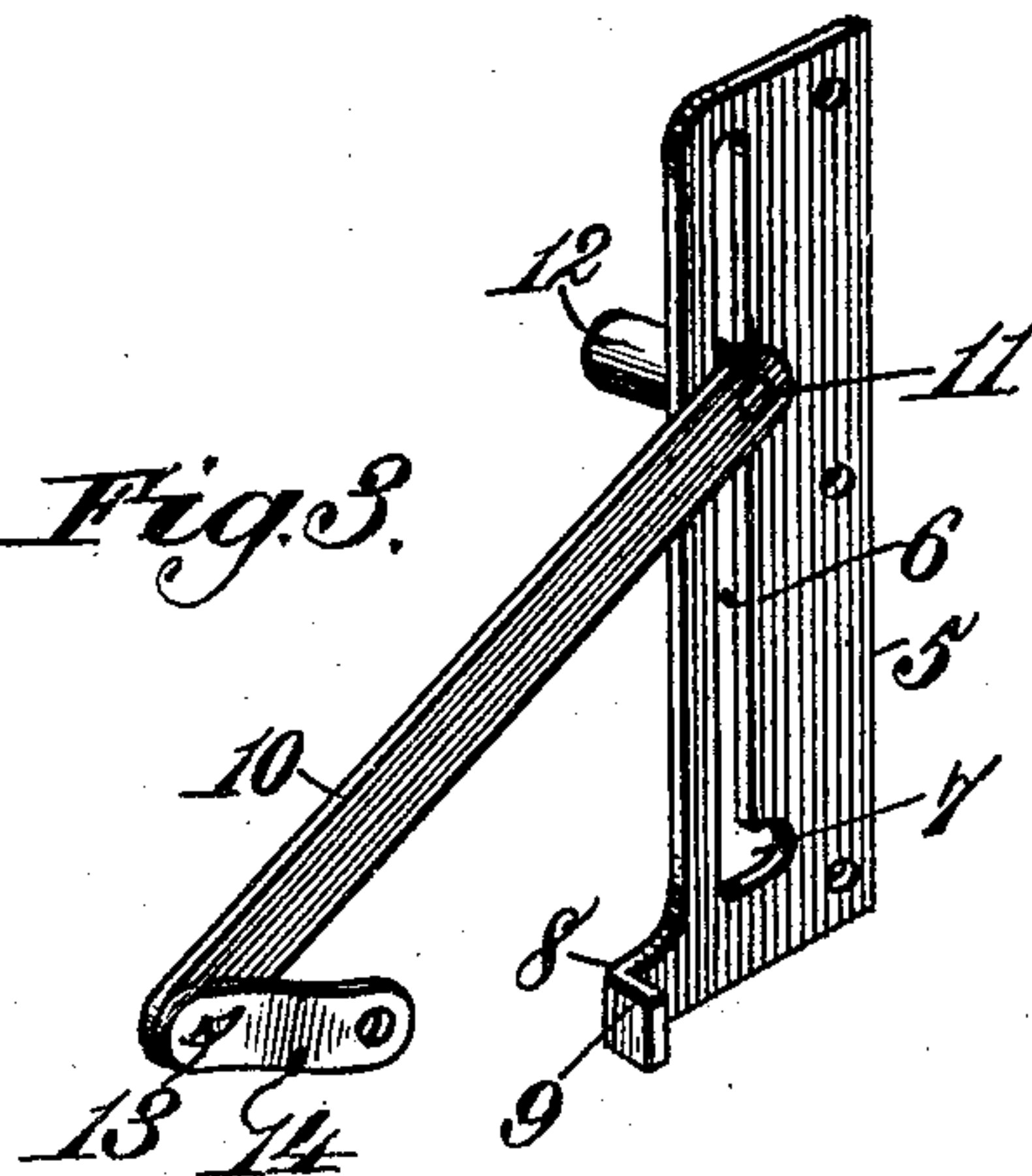
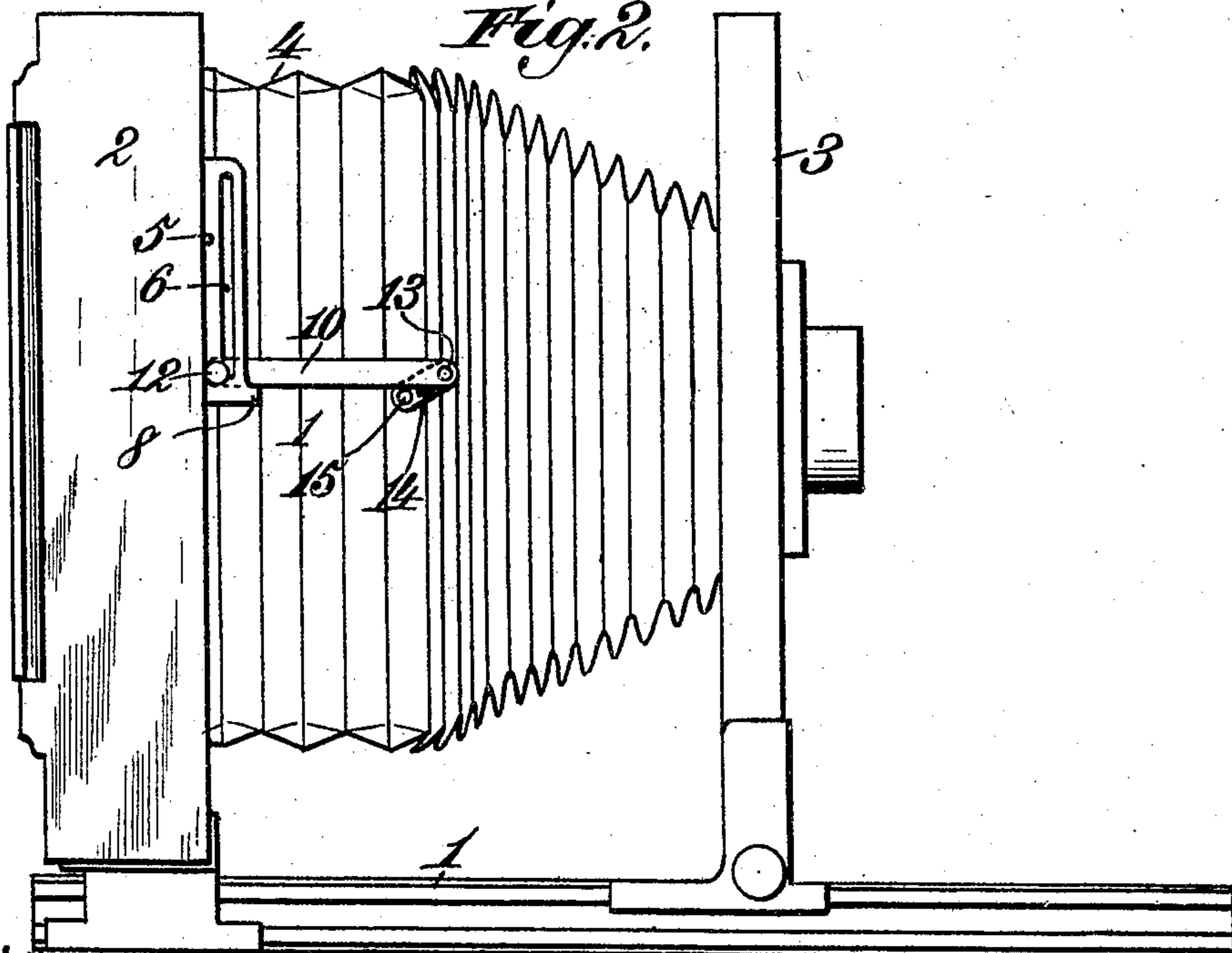


Fig. 2.



Witnesses.
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Att'y.

UNITED STATES PATENT OFFICE.

JOSEPH GODDARD, OF ROCHESTER, NEW YORK, ASSIGNOR TO SENECA
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BELLOWS-SUPPORT FOR CAMERAS.

No. 837,218.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed March 23, 1906. Serial No. 307,653.

To all whom it may concern:

Be it known that I, JOSEPH GODDARD, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Bellows-Supports for Cameras, of which the following is a specification.

This invention relates to cameras, and has for its object to provide a novel bellows-support.

Heretofore the bellows has been provided at suitable points on its upper and lower sides with straps having rings, and the lens-support would be provided with suitable hooks, so that by taking hold of one or the other of these straps and pulling the folds of the bellows apart and placing the ring thereof over the hook the bellows would be held in a distended position and prevented from sagging. Such devices are limited in application to the extent of distention of the bellows, and when the lens-frame has been moved along the bed away from the camera-box beyond a given point such straps cannot be used at all, because the folds of the camera cannot be further distended to permit the rings on the strap to be placed over the hooks. Where two or more straps are provided to obviate this objection, the result will be that the forward portion of the bellows will be supported, while the rear portion adjacent to the camera-box will not be supported and will be allowed to sag.

In addition to the action as a support my device in operation also operates to distend or flatten the folds of the camera, so as to prevent them from projecting across the sensitized field of the plate.

The device as illustrated is shown as adapted to support the rear portion of the bellows, or that portion adjacent the camera-box; but of course it may be increased in size or otherwise modified to apply to a greater portion of the bellows.

In the accompanying drawings, illustrating the invention, Figure 1 is a view in side elevation, showing more or less conventionally the position of the camera-sections with the bellows collapsed. Fig. 2 shows the lens-frame separated some distance from the camera-box and my improved supporter in operative position, and Fig. 3 is a detail per-

spective view showing the supporter removed from the camera.

Referring now to the drawings, 1 indicates generally the bed of the camera, 2 the camera-box, and 3 the lens-frame, which two latter parts are slidably mounted on the bed, as usual.

4 indicates a bellows which is secured at one end to the camera-box 2 and at its other end to the lens-support slidably mounted in the frame 3 in the usual manner. Secured on the inner side of the camera-box 2 and at each side thereof is a metal guide-plate 5, which guide-plate projects forwardly beyond the edge of the camera-box and in such projecting portion is provided with a vertically-extending slot 6, terminating at its lower end in a bayonet-slot 7. At its lower end the plate 5 is provided with a forwardly-projecting portion 8, which is bent inwardly at right angles at its outer end to provide a stop 9, the upper edge of which is located in a plane below the bottom side of the bayonet-slot 7.

10 indicates an arm, which is provided at its inner end with a pin 11, adapted to work and engage in the slots 6 and 7, and is provided with a head or handle 12 for the purpose of manipulation. At its outer end the arm 10 is pivotally connected, by means of a rivet 13, with one end of a link 14, of relatively stiff leather or other suitable material, which link in turn is pivotally connected at its other end by a rivet 15 with a bellows 4.

The parts last above described constitute one of my improved bellows-supporters, and it will be understood that the opposite side of the camera to that shown is provided with a similar supporter.

In operation the frame 3 is moved from the camera-box a sufficient distance to permit the handle 12 to be pressed downward to carry the pin 11 to the bottom of the slot 6 or until the outer end of the arm 10 strikes the upper side of the stop 9. The relative proportions of the parts is such that when the arm 10 strikes the stop 9 the pin 11 will be slightly above the bayonet-slot 7, and it will be necessary to press down on the head 12 to elevate the outer end of the arm carrying the pivot 13 before the pin 11 can be made to enter the slot 7. In this operation the stop 9 acts as a

fulcrum to the arm 10 and the movement is effected in opposition to a slight resistance offered by the pull of the link 14 on the bellows. When the head 12 has been so depressed, a slight rearward movement thereof causes it to enter the slot 7 and to be locked in position. As the pin 11 is pressed downward toward the bottom of the slot 6 the outer end of the arm 10 is moved toward the frame 3, pulling the folds of the bellows between the point of attachment 15 of the link 14 thereto and the point of connection of the bellows with the camera-box apart, and causing this portion of the bellows to assume a substantially flat appearance between the points indicated. When the arm 10 has been locked in position, as above described, the rear portion of the bellows will not only be supported—that is, so as to prevent it from sagging—but the folds of the bellows will be held flat and thus prevented from cutting across the sensitized field of the plate. To release the engagement of the parts, it is only necessary to impart a forward and upward push to the heads 12, which will carry them out of the slot 7 and start them upward in the slot 6, when the bellows may be again folded, as usual, and the parts will occupy the position shown in Fig. 1.

I claim—

1. The combination of a camera-box and bellows, of a stiff arm connected with the box for vertical sliding motion and flexibly connected with the bellows and movable from an angular position to a substantially horizontal position, and means for positively holding said arm in said latter position.

2. A bellows-support involving a fixed plate having a slot provided with a notch, a pivotal member carried by the bellows intermediate the ends of the latter and in sliding engagement with the slot and adapted to be moved to a locked position in the notch to hold the bellows in a distended position.

3. In combination with a camera-box and bellows, a slotted element fixed to the camera-box, a pivotal element associated at opposite sides of the bellows intermediate the ends of the latter and slidably engaging the slot for supporting and holding the bellows in a distended position and means for retaining the pivotal element in a locked position.

4. In a camera having a distended bellows,

a guide-plate carried by the camera and oppositely-disposed pivotal means carried by the bellows intermediate its ends and in engagement with the guide-plate to support and hold the bellows in a distended position.

5. In combination with a camera-box and bellows, a bellows-support comprising an arm pivotally associated at one end with the bellows and slidably associated at its other end with the camera-box, and means for locking said arm in a horizontal position.

6. In combination with a camera-box and bellows, a bellows-support comprising a plate secured to the camera-box and having a vertically-disposed slot, an arm pivotally associated at one end with the bellows, and provided with a pin working in said slot, and means for locking said pin at the lower end of said slot.

7. In combination with a camera-box and bellows, a plate secured to the camera-box and having a vertically-disposed slot and a horizontally-disposed slot communicating therewith at the bottom thereof, a stop on said plate, an arm pivotally associated at one end with the bellows and having at its other end a pin adapted to work in said vertical slot and to engage in said horizontal slot, said stop being so disposed as to engage the under side of said arm before the pin has reached a position opposite to said horizontal slot.

8. In combination with a camera-box and bellows, a plate secured to the camera-box and having a vertically-disposed slot and a horizontally-disposed slot communicating with said vertical slot at the base thereof, a stop on said plate located below the plane of said horizontal slot, an arm, a link pivotally connected with one end of said arm and with the bellows, and a pin on the other end of said arm adapted to work in said vertical slot and to engage in said horizontal slot, said stop being so positioned as to engage the under side of said arm before the pin reaches a point opposite the opening of said horizontal slot.

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

JOSEPH GODDARD.

Witnesses:

JOHN J. SKELLY,
F. K. TOWNSEND.