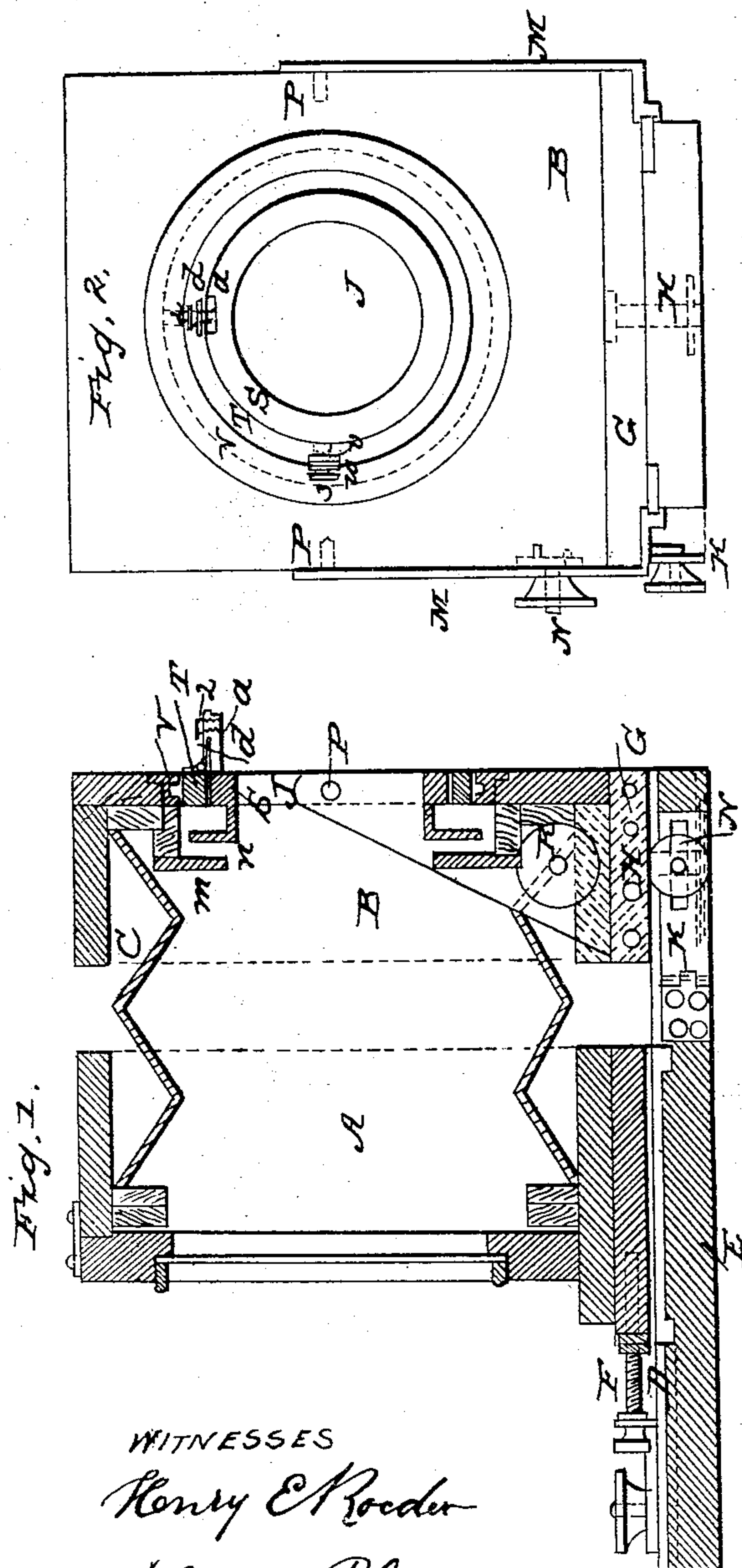


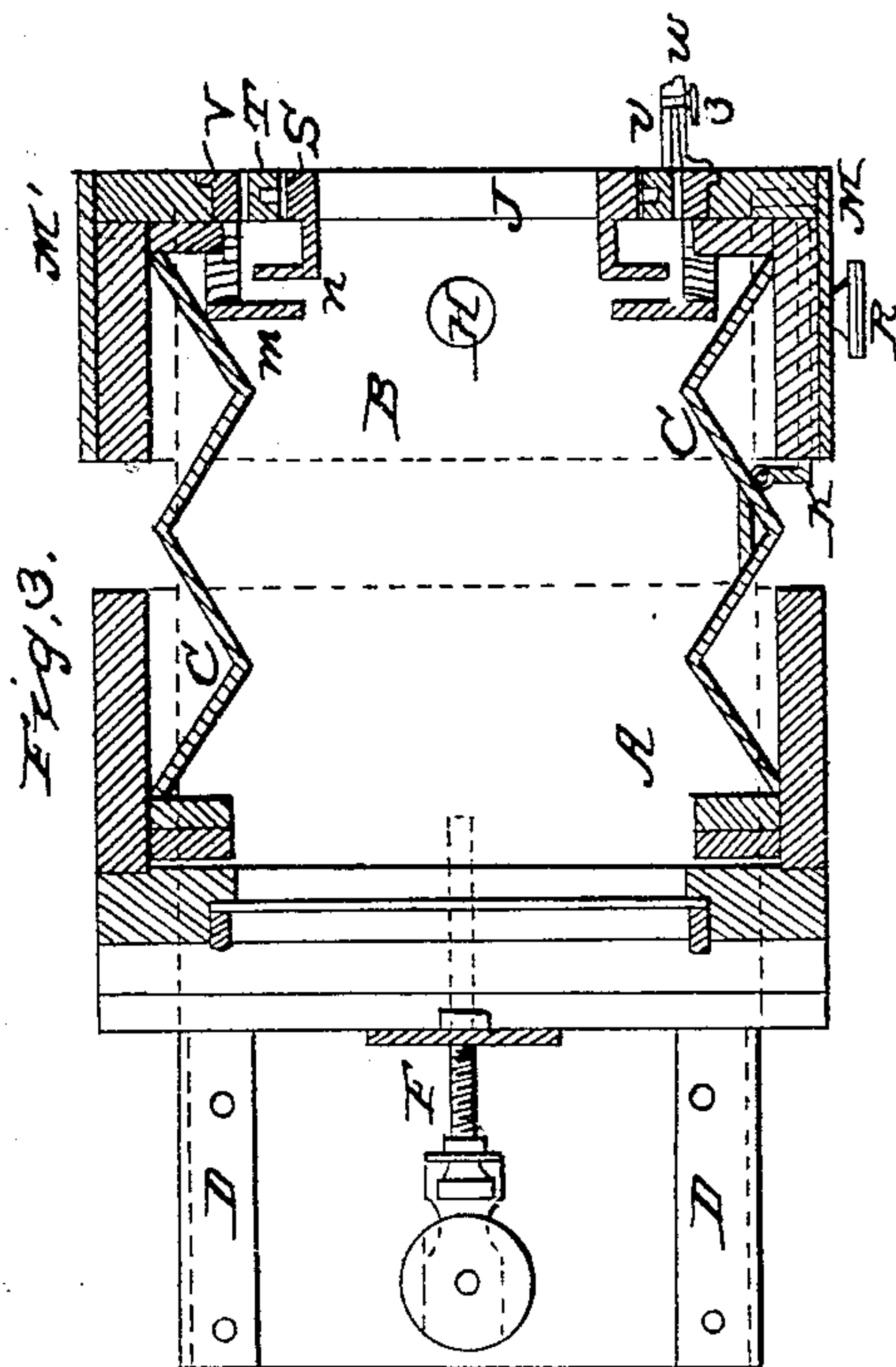
J. STOCK.  
Photographic Camera.

No. 49,315.

Patented Aug. 8, 1865.



WITNESSES  
Henry E. Roeder  
Nevlos Pike



INVENTOR  
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# UNITED STATES PATENT OFFICE.

JOHN STOCK, OF NEW YORK, N. Y.

## IMPROVEMENT IN PHOTOGRAPHIC CAMERAS.

Specification forming part of Letters Patent No. **49,315**, dated August 8, 1865.

*To all whom it may concern:*

Be it known that I, JOHN STOCK, of New York, in the county and State of New York, have invented a new and useful Improvement in Photographic Cameras; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure I represents a cross-section of my improved camera. Fig. II is an end view, and Fig. III a horizontal section, of the same.

Similar letters represent similar parts.

The nature of my invention consists in the arrangement of the front of the box in such a manner that the same can be turned upon a horizontal axis passing through the center of the aperture, and also upon a vertical axis passing through the same center; and, further, in the manner of attaching the lens tube or tubes to the front of the box by means of tubular flanges or rings, forming a universal joint, for the purpose of being able to turn the lens or lenses into any desired position to correspond with the plane of the picture to be taken.

In the accompanying drawings, A represents the after part of the camera, and B the front of the box, against which the lens-tube (or tubes) is fastened. The front of the box B is connected with the after part through the bellows C, in the usual manner, to allow the distance of the plate-holder to be increased or diminished from the lens or lenses in the tubes. The after part of the box is arranged to slide on suitable ways, D D, attached to the bottom plate, E, and is secured in any desirable position by means of the screw F.

At the forward end of the bottom plate, E, a plate, G, is arranged, turning on a central pin, H, in a line with the center of the aperture J, or of the center of the lens-tube. By means of a set-screw, N, fast to the plate G, and working in a slotted plate, K, fast to the bottom plate, E, this plate G and the parts attached to the same can be secured in any desired position.

On the sides of the plate G standards M M' are arranged, provided with pins P P, in a line with the horizontal center or axis of the aperture J or of the lens-tube. Upon those pins P P the front of the box B is hung, capable of turning, and a pin, R, fast to one side of the box B and passing through a slot in the stand-

ard M, secures said box B in any desired position. By this described arrangement of the box B it will be perceived that said box B can be turned upon a vertical axis as well as upon a horizontal axis corresponding with the vertical and horizontal axes of the aperture J, to which the lens-tube is fixed.

If it should be found necessary to turn the lens farther than the motion of the front B will permit, (which will be seldom necessary,) I have arranged the tube itself upon a universal joint, as follows: The lens-tube in this case is attached to a central ring, S, capable of turning vertically on pins fitted to a surrounding ring T, which latter ring is capable of turning horizontally on pins fitted to the front of the box B, or to a surrounding metal ring, V, attached to the front of the box. On the inner side of the ring S a plate, *n*, is attached, and a corresponding plate, *m*, or frame, is attached to the inner side of the camera-box B, by which arrangement the entrance of light into the camera is prevented when the lens-tube is moved in either direction.

To the ring S a projection, *a*, is attached, above which a projection, *d*, hinged to the ring T, is situated, and connected together by the screw 2, so as to fix and secure the position of the ring S as may be desired. A similar projection, *v*, is made on the ring T in connection with a projecting part, *w*, hinged to the metal ring V, or to the front of the box B, and connected together by the screw 3, so as to secure the ring T in any desired position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The arrangement of the front of the camera-box B so that the same turns upon a horizontal axis passing through the center of the aperture, and also upon a vertical axis passing through the same center, the bellows yielding to the motion without affecting their operation.

2. The tubular flange or ring S, to which the lens-tube is affixed, in combination with the tubular ring T, acting as a universal joint, in the manner and for the purpose substantially as set forth.

J. STOCK.

Witnesses:

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