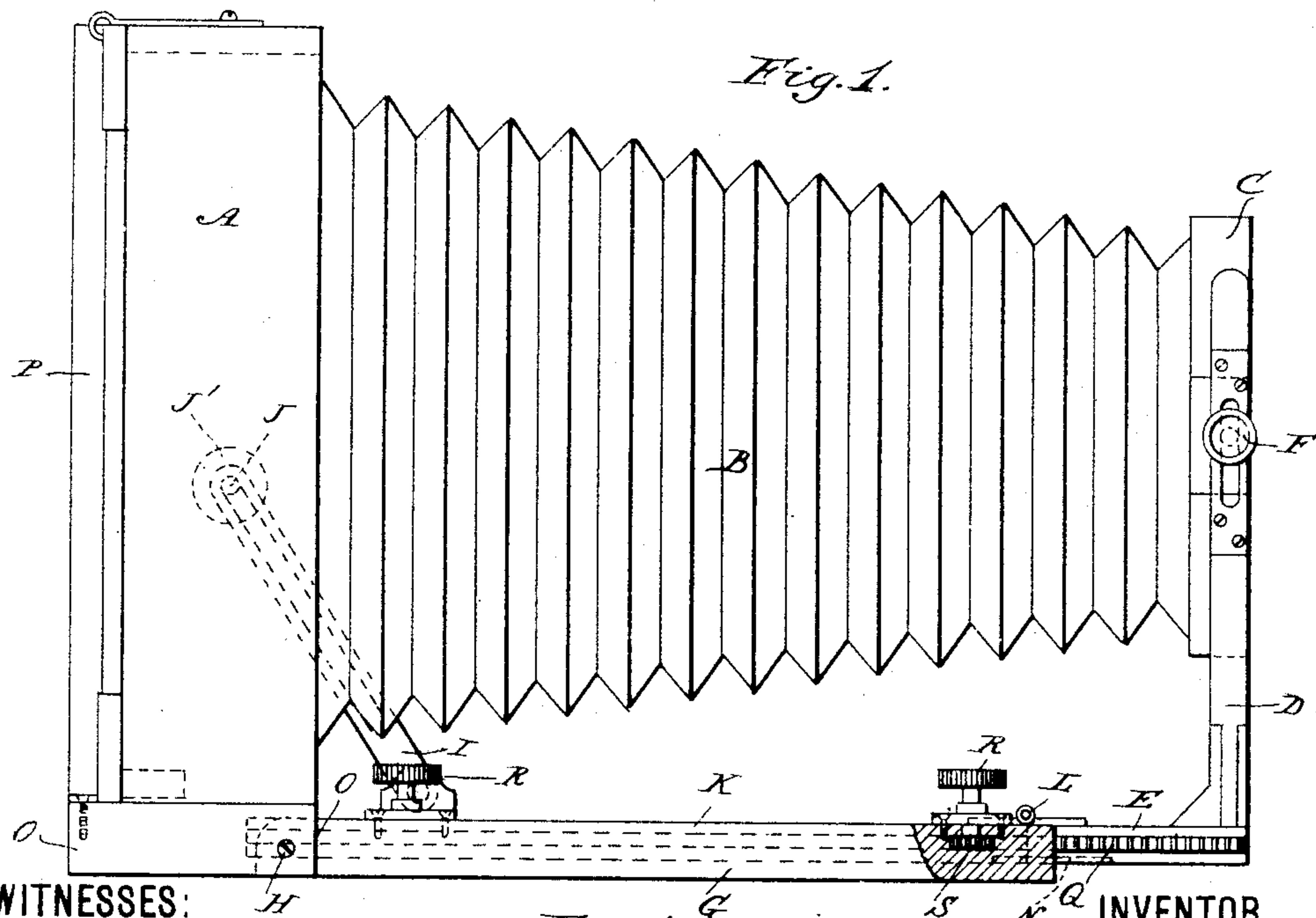
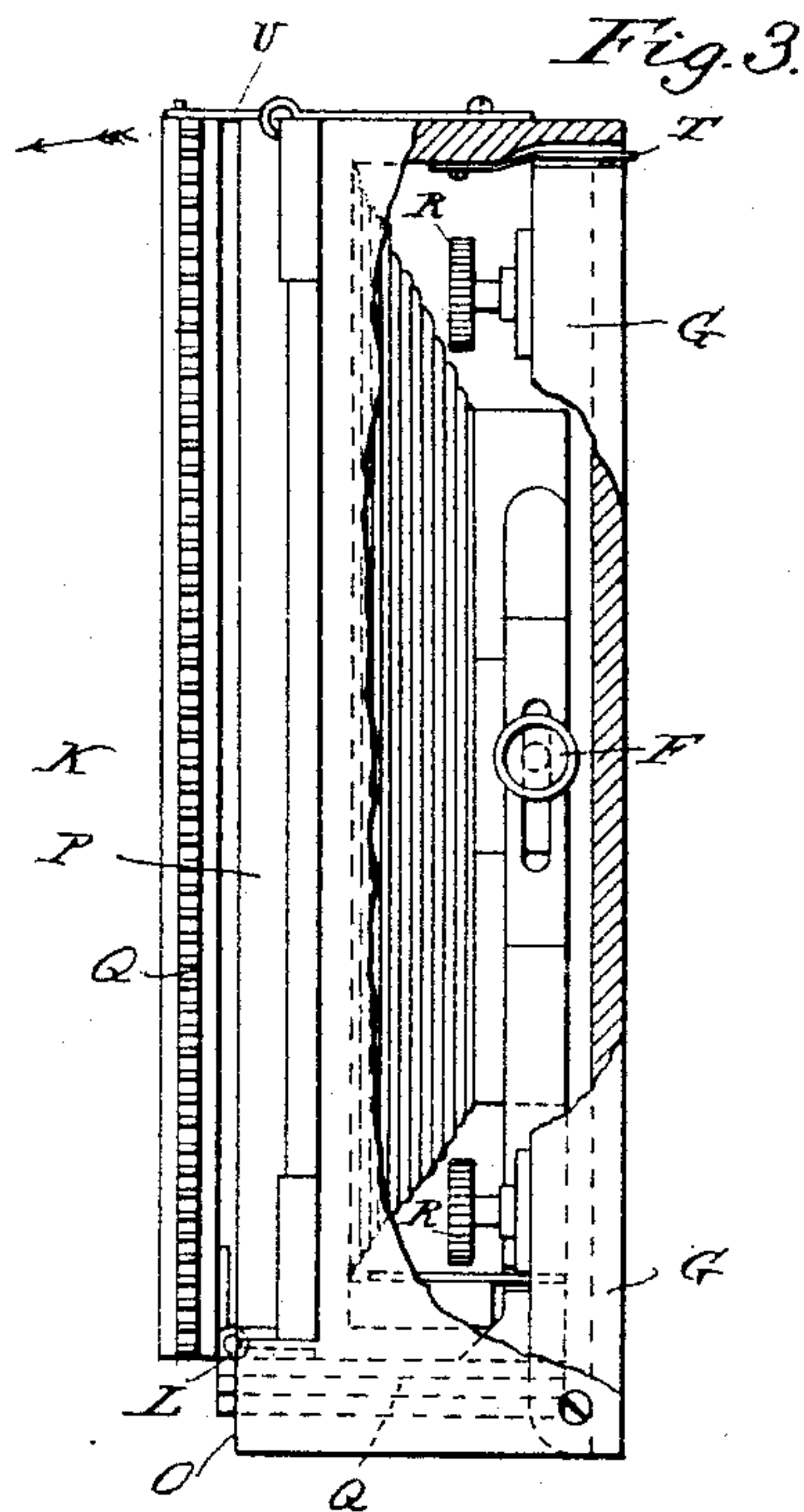
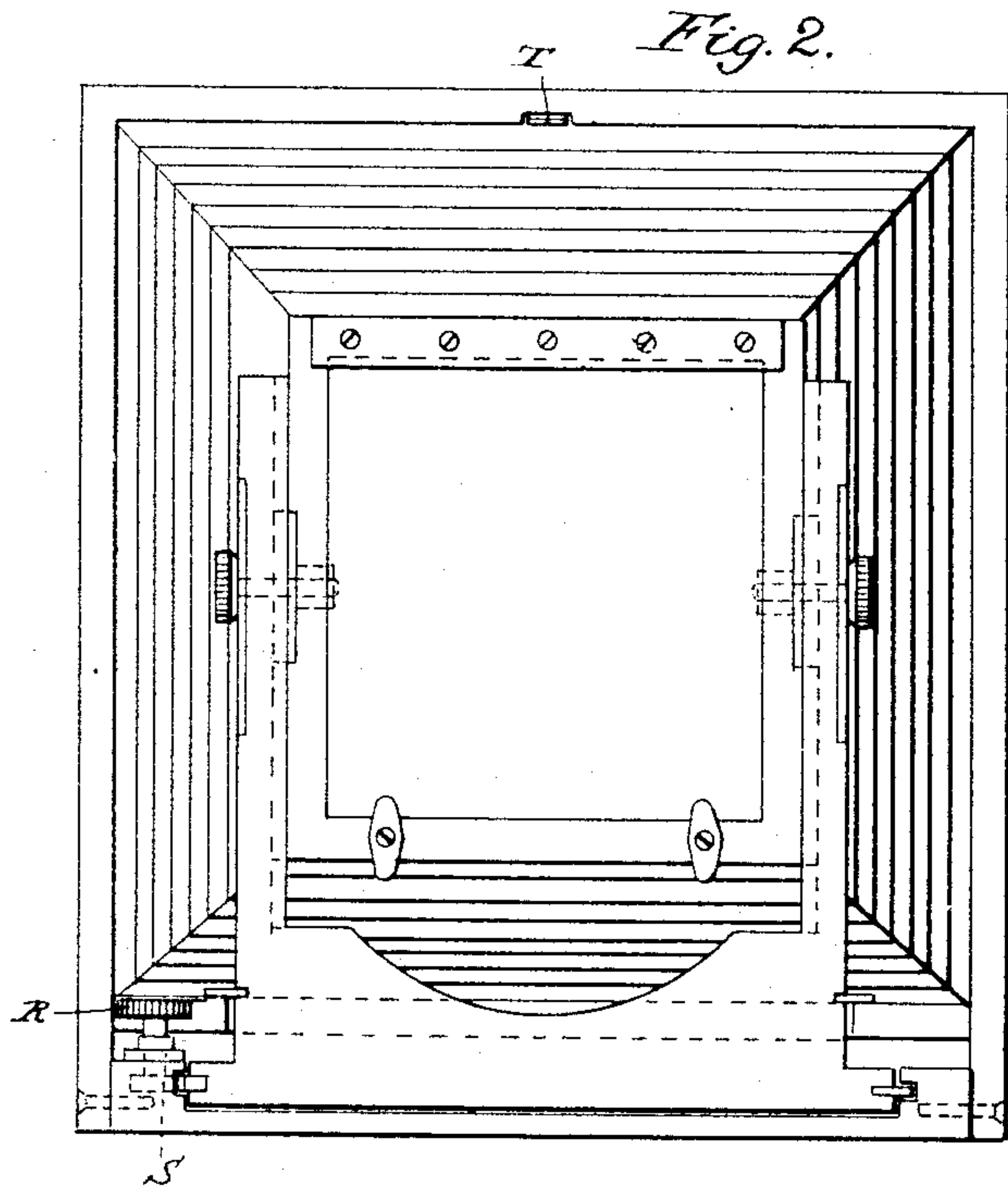


(No Model.)

E. B. BARKER.
PHOTOGRAPHIC CAMERA.

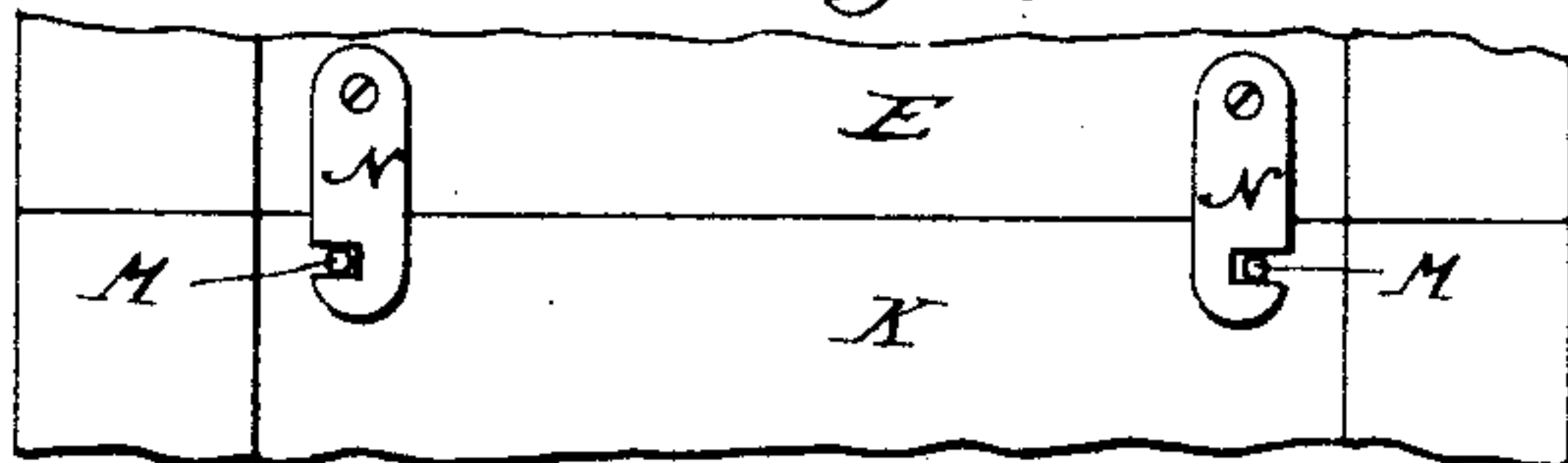
No. 444,806.

Patented Jan. 13, 1891.



WITNESSES:

D. B. Reusch
John Rittenband



INVENTOR

Erastus B Barker

BY

Phillips Abbott
his ATTORNEY

UNITED STATES PATENT OFFICE.

ERASTUS B. BARKER, OF NEWARK, NEW JERSEY, ASSIGNOR TO E. & H. T. ANTHONY & COMPANY, OF NEW YORK, N. Y.

PHOTOGRAPHIC CAMERA.

SPECIFICATION forming part of Letters Patent No. 444,806, dated January 13, 1891.

Application filed May 22, 1890. Serial No. 352,780. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS B. BARKER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Photographic Cameras, of which the following is a specification.

My invention relates to improvements in photographic cameras; and it consists in the peculiar construction of the camera, whereby it may be folded or collapsed, thus greatly reducing its size during transportation and when not in use.

In the drawings the same reference-letters indicate the same parts in all the figures.

Figure 1 illustrates a side elevation of the camera as extended ready for use. Fig. 2 illustrates an end elevation of the camera as viewed from the right of Fig. 1. Fig. 3 illustrates a side elevation, partly broken away, of the camera when folded for transportation or storage. Fig. 4 illustrates a bottom view of portions of the two-part extension-frame, showing the clips whereby the two parts are held in alignment with one another during use.

A is the main frame or box of the camera.

B is the bellows.

C is the lens-holding frame.

D is a standard attached at right angles to E, which is one part of the extension-frame.

F is a set-screw whereby the angle of the lens-frame C may be adjusted, as usual.

G is the base-frame. It is pivoted to the box A, as at H, in any suitable manner.

I is a slotted brace attached to the base-frame G at one end and engaging with a pin J, provided with a set-screw J' or its equivalent on the box. I prefer to employ two of these braces, one on each side of the camera. By means of the slot they permit the base-frame to fold up against the side of the box, the pin J sliding along the slot during the folding operation.

K is the other part of the two-part extension-frame. It is hinged to the other part E thereof by hinges L L and is provided with pins M M on its under side, with which clips N N, pivoted to the part E, engage when the apparatus is in use. Thus these two parts E

and K, which together form the extension-frame, are, when in use, held by the clips N N rigidly in a straight line, practically as though they were one piece.

The box A has an opening through it, as at O O, through which the extension-frame slides from one side to the other, and the part E of it is provided with suitable stops (not shown) which engage with some suitable part of the box A when the extension-frame has passed so far through the box that it attains the position shown in Fig. 3. Then the part K of the extension-frame may be folded up against the back of the camera, thus making it compact, and also it then acts as a cover or shield for the ground glass or plate which is contained in a suitable frame P at the rear of the box.

Q is a rack which extends along one side of both parts of the extension-frame, and R R are two thumb-screws set on the base-frame G and which actuate pinions S, set on their spindles, and they engage with the racks on the two parts of the extension-frame. Part of the time they may both be simultaneously engaged with these racks, and when the extension-frame is approaching the limit of its extension one only of them—i. e., the one at the right—will be engaged with the rack.

T is a spring-latch or equivalent device which holds the base-frame G in its folded position, and U is any suitable fastening device which in like manner holds the part K in its turned-up position.

It will be noted that both the base-frame and the extension-frame are solid or filled-in frames, so that when they are folded up against the front and rear of the camera-box, respectively, they close the same and thus protect the lens on the front side and the ground glass or sensitive plate on the other.

The operation is as follows: Assuming the device to be in its folded position, as shown in Fig. 3, the part K is first turned down, swinging in the direction of the arrow in Fig. 3, until it is in line with the part E, which is at this time between the sides of the box A. The clips N N are then engaged with the pins M M. The base-frame G is then turned down at right angles with the box, which of course remains in a vertical position. The set-screws

J' are then set up to hold the slotted arm I. The extension-frame is then, both parts of it, shoved through the box. In so doing the bellows are of course extended, since they are attached at one end to the lens-frame C, which moves outwardly with the extension-frame. As soon as the rack Q on the extension-frame engages with the pinions S, one or both, they may be used to further project the extension-frame, or it may, by the application of sufficient force, be pushed directly forward, the pinions turning meantime until approximately the desired position of the parts has been attained, and then the focusing may be accomplished by means of the thumb-screws. To collapse the camera the same movements and manipulations are performed, but in reverse order, or substantially so.

It is obvious that many alterations may be made in the details of construction—as, for instance, the rack Q may be arranged centrally in the extension-frame and the pinions be set on little shafts which extend crosswise of the frames projecting laterally from the base-frame, in which event recesses should be made in the front edge of the box A to receive the thumb-screws, or there may be beveled gears connecting the thumb-screws if in their present position meshing into like gears on such cross-shafts; also, other means than those shown may be employed to hold the two parts of the extension-frame in alignment with each other, and many other modified constructions may be employed without departing from my invention.

I claim—

1. The combination of a box, a base-frame adapted to fold against one side of the box, a two-part extension-frame adapted to move through the box, one part to remain therein and the other to fold up against the rear of the box, substantially as set forth.

2. The combination of a box, a base-frame

adapted to fold against one side of the box, a two-part extension-frame adapted to move through the box and one part of it to fold up against the rear thereof, and means whereby the two parts of the extension-frame may be held in alignment with each other, substantially as set forth.

3. The combination of a box, a base-frame adapted to fold against the front side of the box, a two-part extension-frame adapted to move through the box, one part whereof folds up against the rear of the box, and mechanism on the extension-frame whereby the camera may be focused, substantially as set forth.

4. In a folding camera, a base-frame adapted to fold up and close one side of the box and an extension-frame supported and guided by the base-frame and constructed and arranged to close the other side of the box, whereby both the lens and the plate-holder or ground-glass frame are protected during transportation, substantially as set forth.

5. In a camera, an extension-frame comprising two parts, to one of which the lens-frame is attached and the other of which is constructed and arranged to fold against the rear of the box for the protection of the plate-holder or ground glass, substantially as set forth.

6. In a camera, a frame sliding within another frame, adapted to two positions, in one of which it holds the bellows in their projected position and in the other it protects the ground-glass or plate-holding frame, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 21st day of May, A. D. 1890.

ERASTUS B. BARKER.

Witnesses:

PHILLIPS ABBOTT,
FREDERICK SMITH.