R. KROEDEL.

CAMERA CARRIAGE.

APPLICATION FILED APR. 22, 1918.

1,274,561. Patented Aug. 6, 1918.

Fig. 1

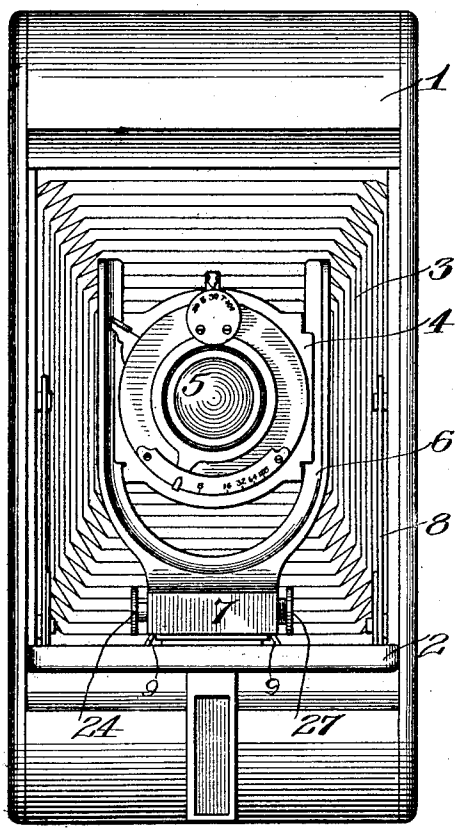


Fig. 2

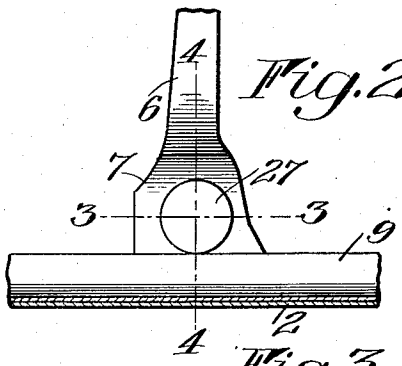


Fig. 3

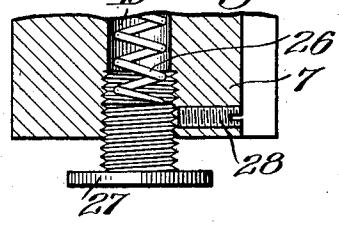


Fig. 6

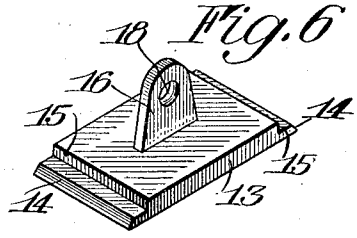


Fig. 4

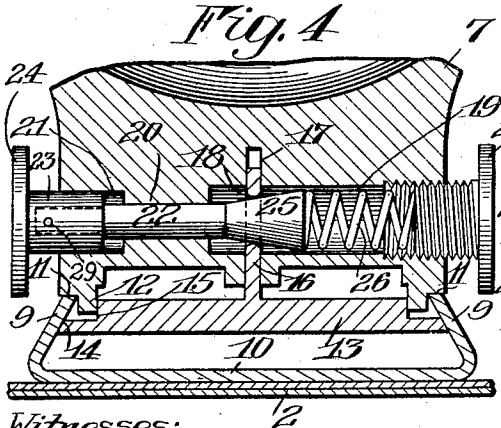
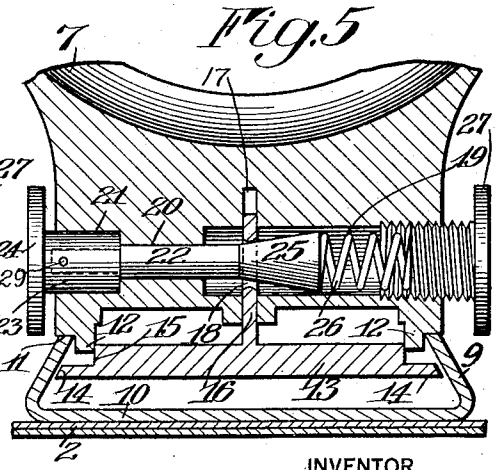


Fig. 5



Witnesses:

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CAMERA-CARRIAGE.

1,274,561. Specification of Letters Patent. Patented Aug. 6, 1918.

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To all whom it may concern:

Be it known that I, ROBERT KROEDEL, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Camera-Carriages; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to photography and more particularly to photographic cameras and it has for its object to provide a simple, efficient and quick acting mechanism for clamping a lens carriage to the bed or track upon which it is movably mounted and securing it in the different positions of adjustment along the axial line of the lens. In my preferred construction, I employ an actuating spring for the clamping mechanism and a further object of the invention is to provide means for regulating the tension of the spring and thereby adjusting the clamping action. To these and other ends the invention resides in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a front elevation of a camera provided with a lens carriage constructed in accordance with and illustrating one embodiment of my invention;

Fig. 2 is an enlarged fragmentary side view of the track and carriage;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is an enlarged section taken substantially on the line 4—4 of Fig. 2 showing the clamping mechanism in operative position;

Fig. 5 is a view similar to Fig. 4 but showing the clamp in inoperative position, and

Fig. 6 is a detail perspective view of the clamping element or crosshead.

Similar reference numerals throughout the several views indicate the same parts.

In the present instance, I have shown a hand camera of the familiar folding type comprising a body 1, a hinged door 2 at the front thereof and a bellows 3 connecting the body to a front or lens board 4 carrying the lens 5 and supported on the upstanding arms 6 of a carriage 7. The door 2 as usual, is supported horizontally when the camera is extended as in Fig. 1 by links 8 and thereby forms a bed upon which the carriage 7 is slidable.

Fixed to the bed 2 is a track 9 formed by upwardly and inwardly turned flanges on a plate 10. The carriage 7 consists of a block having lateral track engaging portions 11 that ride on top of the track and guiding ribs 12 extending downwardly on the inner sides of the track flanges to prevent lost motion in a lateral direction. A crosshead 13 extends transversely between the tracks and embodies inclined engaging faces 14 adapted to clamp against the inner inclined sides of the track flanges under the guiding influence of shoulders 15 which coöperate with the ribs 12 on the carriage. Rising from the center of the crosshead 13 is a flat stem or ear 16 disposed in a plane parallel to the direction of movement of the carriage and occupying a vertical slot or recess 17 in the carriage block. The stem has a central aperture 18 the edges of which are rounded and which is in alinement with a cylindrical chamber 19 extending transversely about half way through the carriage, there being an intersection of the chamber 19 and slot 17. In further alinement with the chamber 19 is a transverse bore 20 counterbored at 21 to respectively receive and guide the plunger 22 and the collar 23 of a finger-piece 24 at the outer end of the plunger and arranged laterally of the carriage. The plunger carries at its inner end a cone-shaped cam 25 occupying the aperture 18 of the stem 16. When this plunger is thrust to the left as in Fig. 4, the cam cone 25 centers itself in the aperture 18 and draws the crosshead 13 upwardly into clamping engagement with the track. The plunger is so actuated by a coil spring 26 arranged in the chamber 19 and reacting against a finger-piece 27 arranged on the other side of the carriage in opposition to the first mentioned finger-piece 24. This last mentioned finger-piece is preferably in the form of a screw threaded into the carriage so that by turning it, the compression of the spring 26 may be regulated. The screw is locked in a position of adjustment by a set screw 28 shown in Fig. 3.

It will be seen that the spring 26 normally

holds the clamping mechanism in operative position and locks the carriage to the track. When the carriage is to be drawn out or pushed back, the operator grasps it by the finger-pieces 24 and 27 which, when pinched together, causes the cam cone 25 to partially withdraw from the aperture 18, allowing the stem 16 to settle down upon a smaller diameter and release the cross head 13 from the track, as in Fig. 5. When this pressure is released from the finger-pieces, both the cam and the finger-piece 24 are returned to normal operative position by the spring 26.

It will be observed that a carriage with a clamping mechanism constructed in accordance with my invention may be assembled easily and quickly. The mode of procedure is thought to be obvious. The plunger 22 being inserted from the right in Figs. 4 and 5, before the finger-piece 27 is applied, and the finger-piece 24 being carried to position last, it is secured to the plunger by pin 29 shown in Figs. 4 and 5.

I claim as my invention:

1. In a camera, the combination with a track and a carriage movable thereon, of a track gripping member comprising a crosshead adapted to engage the track in opposition to the carriage and a stem on the crosshead, and a sliding member guided for rectilinear movement on the carriage and cooperating with the stem of the gripping member, one of said last mentioned elements having a cam surface engaging the other to move the crosshead against the track.

2. In a camera, the combination with a track and a carriage movable thereon, of a track gripping member comprising a crosshead adapted to engage the track in opposition to the carriage and a stem on the cross head, and a sliding member guided in the carriage for rectilinear movement transversely thereof and of the track and terminating in a laterally arranged finger piece, said member being adapted to coöperate with the stem of the gripping member and one of said elements being provided with a cam engaging the other element to move the crosshead against the track.

3. In a camera, the combination with a track and a carriage movable thereon, of a track gripping member, means embodying a laterally arranged finger-piece for drawing the track gripping member into clamping engagement with the track, a spring for actuating said means and finger-piece and a second laterally arranged finger-piece opposed to the first and adjustably mounted in the carriage to engage and regulate the tension of the spring.

4. In a camera, the combination with a track and a carriage movable thereon, of a track gripping member comprising a cross head adapted to engage the track in opposition to the carriage and a stem on the crosshead having an aperture therein, of a push rod slidable in the carriage and embodying a cone-shaped cam adapted to work in the aperture of the crosshead stem to affect the relationship of the crosshead and track.

5. In a camera, the combination with a track and a carriage movable thereon, of a track gripping member comprising a crosshead adapted to engage the track in opposition to the carriage and a stem on the crosshead having an aperture therein, of a transverse push rod slidable in the carriage and terminating in a laterally arranged finger-piece, said push rod being provided with a cone-shaped cam working in the aperture of the crosshead stem, a spring for moving the push rod in one direction and a second laterally arranged finger-piece threaded into the carriage in opposition to the first and coöperating with the spring to control its tension.

ROBERT KROEDEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."