(No Model.) 3 Sheets—Sheet 1.

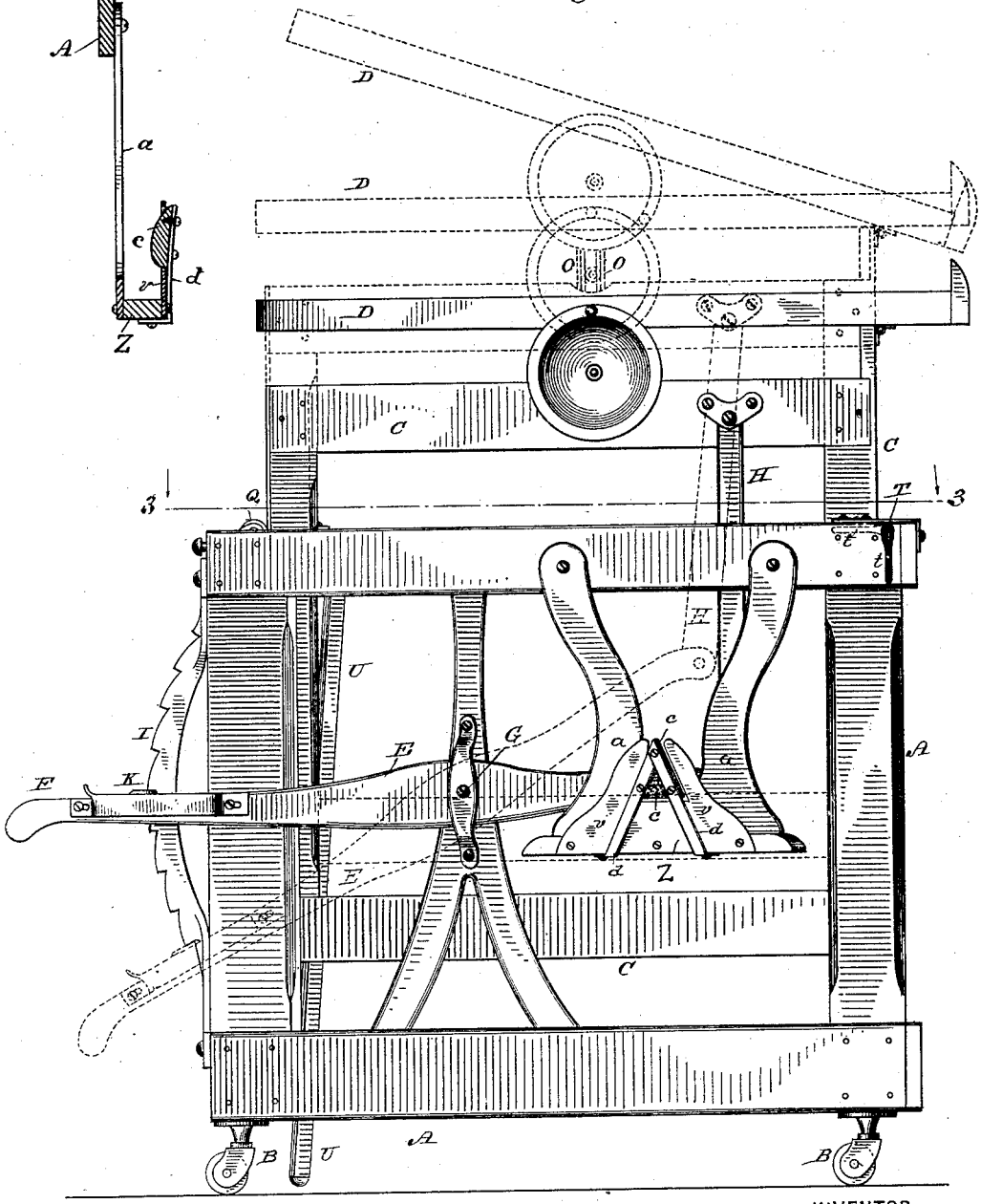
R. A. BONINE.

CAMERA STAND.

No. 345,949. Patented July 20, 1886.

Fig. 6.

Fig. 1.



WITNESSES

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(No Model.)

3 Sheets—Sheet 2.

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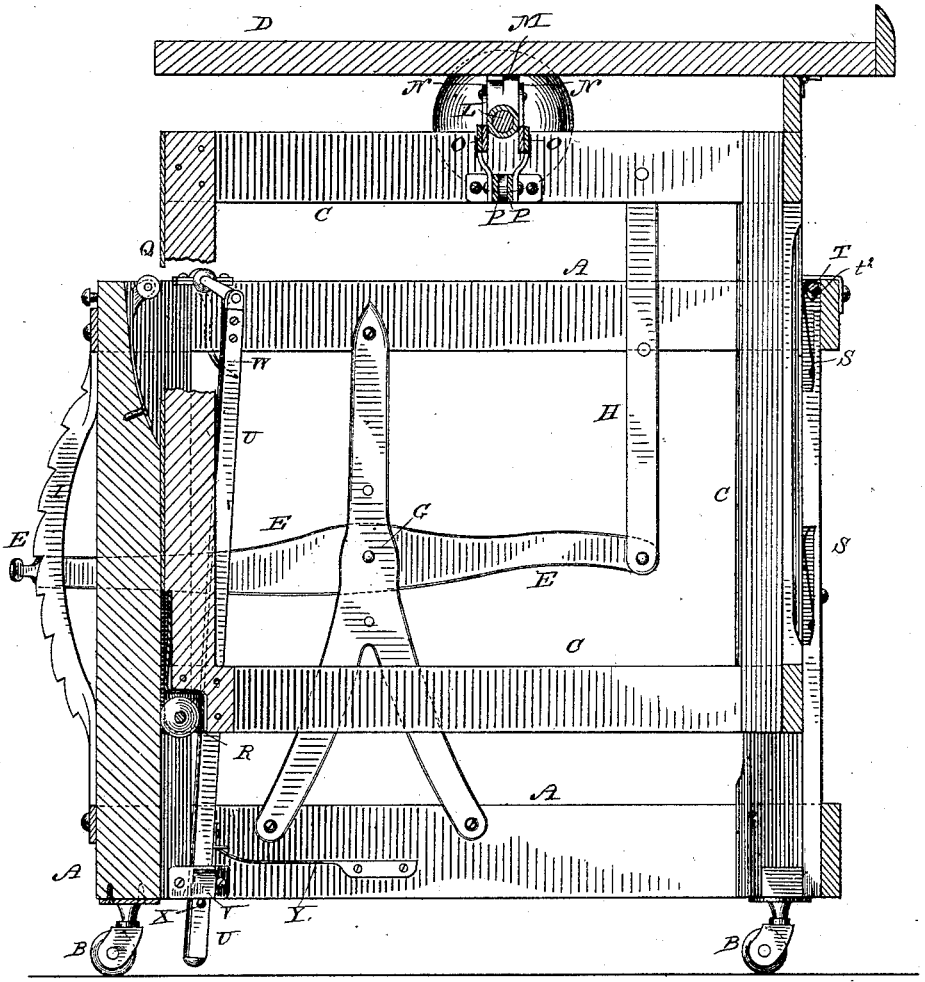
Fig. 2.



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(No Model.) 3 Sheets—Sheet 3.

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Fig. 3.

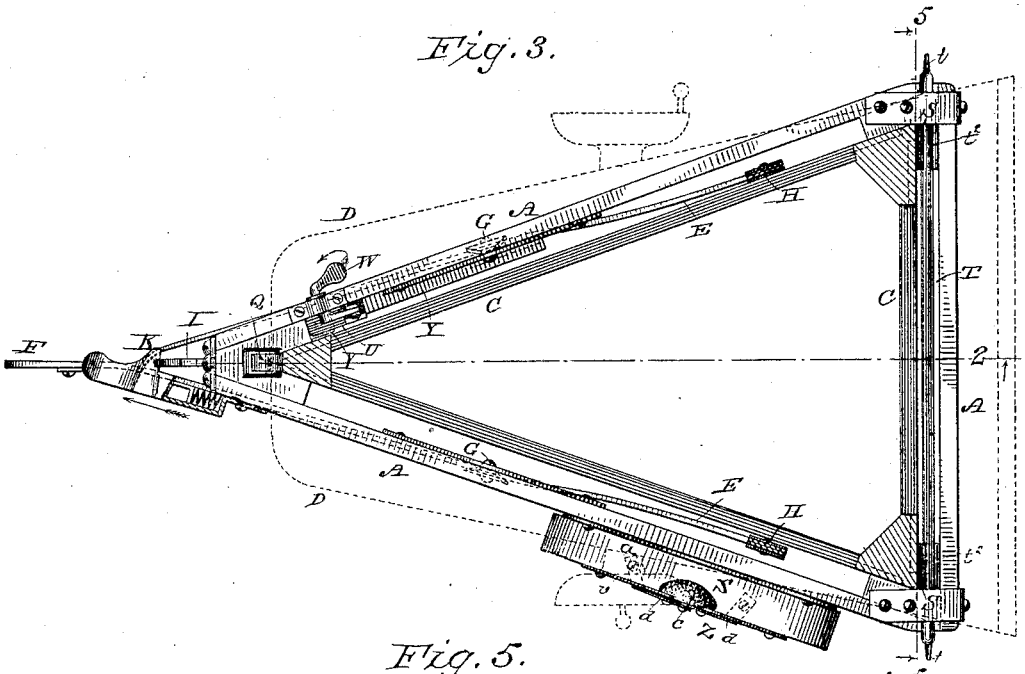

Fig. 5.

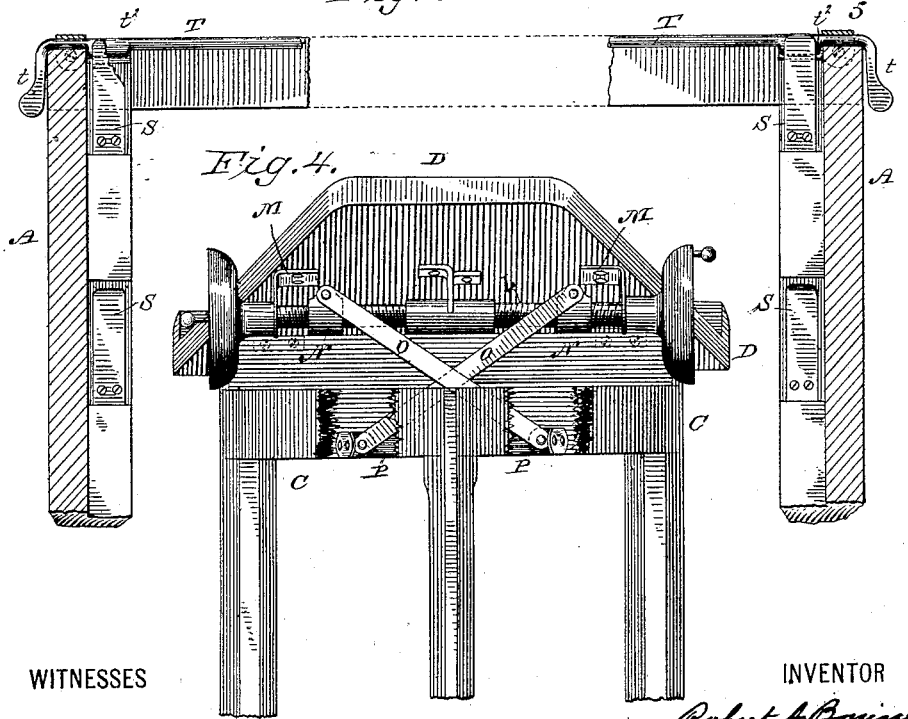

Fig. 4.

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UNITED STATES PATENT OFFICE.

ROBERT A. BONINE, OF ALTOONA, PENNSYLVANIA.

CAMERA-STAND.

SPECIFICATION forming part of Letters Patent No. 345,949, dated July 20, 1886.

Application filed December 31, 1885. Serial No. 187,261. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. BONINE, of Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Camera-Stands for Photographers' Use, of which the following is a specification, reference being had to the accompanying drawings.

My improvements are embodied in a stand of triangular form, composed of a stationary frame upon casters for convenience of moving about, which carries within it another triangular vertically-adjustable frame, on the top of which is a hinged table for immediately supporting a camera. I also have means for accomplishing the vertical adjustment of the movable frame, and means for tilting and adjusting the table-top. So far as these general features are concerned, thus generally indicated, I claim nothing; but my improvements consist in certain additions of a useful character, which I will now describe in detail, by reference to the drawings, and sum up succinctly in my claims.

In the drawings, Figure 1 is a side elevation of my improved apparatus; Fig. 2, a vertical central section on the line 2 2 of Fig. 3; Fig. 3, a cross-section on the line 3 3 of Fig. 1; Fig. 4, a detail view illustrating the mechanism for adjusting the table, and Fig. 5 a detail view in section on the line 5 5 of Fig. 3. Fig. 6 is a sectional view showing the construction of the plate-holder.

Referring to the letters on the drawings, A indicates the main supporting-frame, of triangular form, for economy and convenience of construction and use, provided with ordinary casters, B, and carrying within it the vertically-movable frame C, hinged to the top of which at one side is a table-top, D.

I provide for raising and lowering the frame C by means of levers E, both connected to a single handle, F. These levers are centrally pivoted to a part of the frame A, at G, and again at their ends to links or supports H, pivoted near the top of the movable frame. These links are within the frame A, so as to be out of the way.

I indicates a segmental toothed rack-bar, and K is a spring-catch adapted to engage with the toothed rack-bar.

In order to tilt and adjust the table-top as desired, I provide a right and left crank-screw, L, supported upon bracket-bearings M, beneath the table-top, and provided with nuts N. Pivoted to these nuts are cross-braces O, which at their opposite ends are pivoted to a cross-bar, P, attached to the upper part of the movable frame. It is obvious that by turning the right and left screw in one direction or the other the table-top will be tilted as desired; but this means of tilting it I do not claim to be new.

In order to provide for the easy adjustment of the frame C up and down, I employ an anti-friction roller, Q, secured to the stationary frame, and another anti-friction roller, R, secured to the movable frame at the rear end of the apparatus, as shown. At the front end I provide springs S, secured in the front standards of the stationary frame and bearing against the front standards of the movable frame, as shown. These springs and anti-friction rollers accommodate the easy vertical movement of the movable frame, and the springs will accommodate variations due to expansion and contraction under different conditions of the movable frame. Besides this they prevent rattling and looseness of action of the parts.

In order to add to the security of adjustment of the movable frame in any given position, I provide a brake-rod, T, having thumb-pieces t and brakes t^2, so that when the rod is turned to bring the thumb-pieces into horizontal position the brakes will bear firmly against the front surfaces of the front uprights of the movable frame and hold the frame in place. By turning the rod so that the thumb-pieces are in a vertical position the movable frame is free to slide up and down.

In order to prevent the stand from moving upon its casters when it is desired that it should be stationary, I provide a brake-rod, U, working up and down in a way, V, secured to the stationary frame by means of a bell-crank lever, W, pivoted on the main frame, as illustrated. I provide a stop, X, to limit the upward movement of this brake-rod, and a spring, Y, which normally tends to thrust it up and hold it there, so that its lower end will not be in contact with the floor. When it is desired to hold the stand from rolling, the bell-

crank lever is turned so as to throw the rod down against its spring, thrusting its lower end against the floor. It then sustains a portion of the weight of the stand and prevents it from rolling out of place. Upon one side, preferably the right-hand side, of the stationary frame, I provide a spring-clamp plate-holder, Z, consisting of a bracket, *a*, having a lip, *v*, with an opening through it, in which is placed a pad or clamp, *c*, supported on a spring or springs, *d*. These springs tend to keep the pad or clamp within the pocket of the carrier which is to hold the photograph-plates. This is a very convenient attachment to a camera-stand for a photographer's use.

Some of my improvements may be used without the others.

Having thus described a stand embodying my improvements, what I claim to be new, and desire to secure by Letters Patent of the United States, is—

1. In a triangular camera-stand, the combination of a fixed frame, A, a movable frame, C, the friction-rollers Q and R, and the springs S, substantially as set forth.

2. In a triangular camera-stand, the combination of a fixed frame, A, a movable frame, C, the friction-rollers Q and R, the springs S, and the brake-rod T, substantially as set forth.

3. In combination with a camera-stand having a fixed frame, A, and movable frame C, the brake rod U, and the bell-crank lever W, substantially as set forth.

4. In combination with a camera-stand having a fixed frame, A, and a movable frame, C, the brake-rod U, the bell-crank W, the spring Y, and the stop X, substantially as set forth.

5. In combination with a camera-stand, the plate-holder composed of the bracket *a*, the lip *v*, having an opening through it, the pad *c*, and the springs *d*, substantially as set forth.

6. In a triangular camera-stand, the combination of a fixed frame, A, a movable frame, C, the levers E, worked by a single handle, F, the pivoted links H, within the frame A, the segmental rack-bar I, and the spring-catch K, substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

ROBERT A. BONINE.

Witnesses:
AUGUSTUS VICK,
JOHN R. KEMP.