No. 688,489. Patented Dec. 10, 1901.

J. SATTEL.

CAMERA TRIPOD.

(Application filed Aug. 19, 1901.)

(No Model.)

Fig. 1.

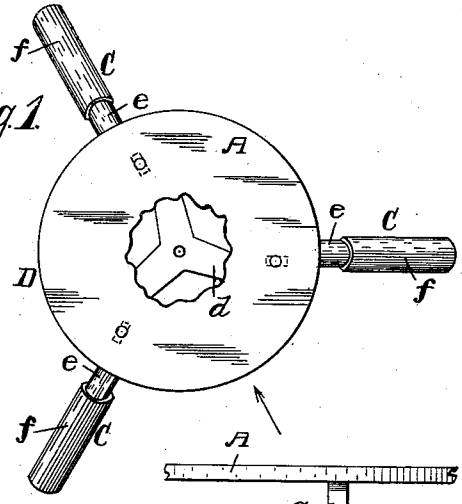
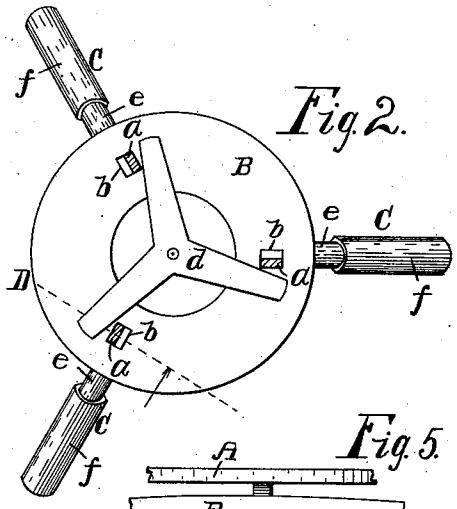


Fig. 2.



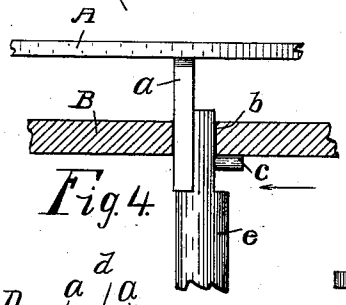


Fig. 4.

Fig. 5.

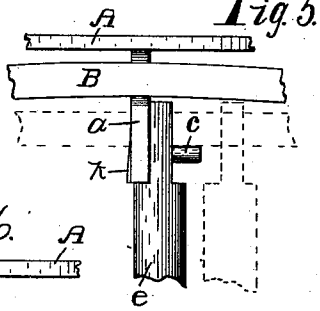


Fig. 6.

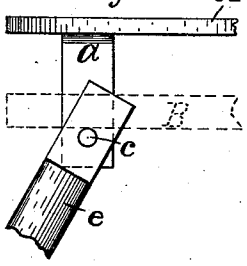
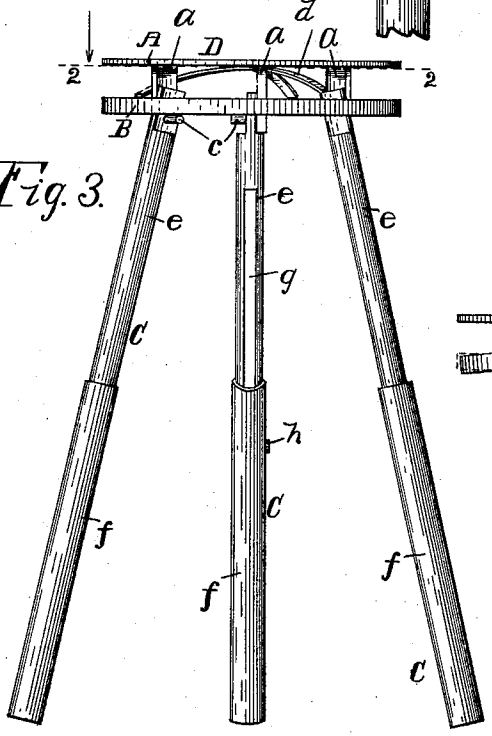


Fig. 3.



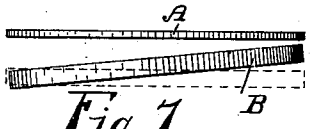
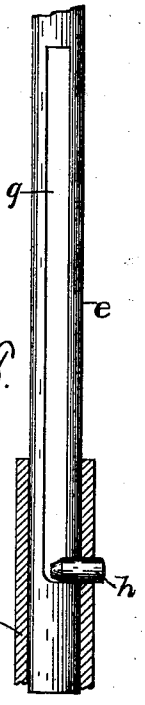


Fig. 7.

Fig. 8.



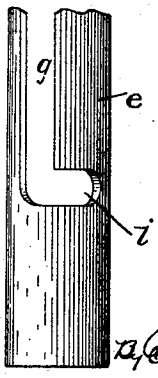


Fig. 9.

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UNITED STATES PATENT OFFICE.

JACOB SATTEL, OF ROCHESTER, NEW YORK.

CAMERA-TRIPOD.

SPECIFICATION forming part of Letters Patent No. 688,489, dated December 10, 1901.

Application filed August 19, 1901. Serial No. 72,543. (No model.)

To all whom it may concern:

Be it known that I, JACOB SATTEL, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Camera-Tripods, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a knockdown or reducible camera-tripod designed more particularly for fieldwork, the same being hereinafter fully described, and more particularly pointed out in the claims.

The object of the invention is to produce a tripod of simple construction for supporting a camera so constructed as to be quickly and conveniently taken apart and reduced to small dimensions for convenience of carrying or packing.

In the drawings, Figure 1 is a view of the device looking down on top of the same. Fig. 2 is a similar view with the top plate removed, the section being as on the dotted line 2 2 in Fig. 3. Fig. 3 is a side elevation of the device as in use, seen as indicated by arrow in Fig. 1. Fig. 4 is a side elevation of parts at the upper end of a leg, further showing the construction, the section being as on the dotted line in Fig. 2. Fig. 5 is an elevation of parts similar to that shown in Fig. 4, parts being shown in two positions by full and dotted lines. Fig. 6 is a side elevation of parts at the top of a leg, further showing the construction. Fig. 7 is a skeleton view drawn to show the operation of the lower plate, the latter being shown in two positions by full and dotted lines. Fig. 8 shows the connection of the sections of a leg, a part being longitudinally sectioned. Fig. 9 shows the form of a part of a section of a leg. Figs. 1, 2, 3, 4, and 7 are drawn to a scale smaller and Figs. 8 and 9 to scales larger than that of Figs. 5 and 6.

D in the drawings is the head of the tripod, consisting of a light circular plate A, constituting the floor upon which the camera box or body is placed, and a similar though thicker plate B beneath and parallel with the plate A. The plate A is provided with three rigid downwardly-extending prismatic arms *a a a*, equally spaced around a circle concentric with the plate, the arms being radial as to their width or larger horizontal dimensions and forming right angles with the plate. The lower plate B is pierced by rectangular openings *b b b*, Figs. 2 and 4, opposite and in position to receive the respective arms *a*, as shown. To each of these arms is secured a leg C of the tripod, said legs being thus connected with the upper plate A and controlled by the plate. The arms are provided with rigid studs *c*, extending out horizontally therefrom, upon which studs the legs C are hung, respectively, the latter being made flat or practically rectangular in cross-section where they meet the arms. The upper flat ends of the legs pass upward through the respective openings *b* in the plate B, said openings being made just wide enough to receive snugly in each an arm *a* and the associated end of a leg without unnecessary lost space or room at the side.

A spring *d*, preferably trifurcated, as shown, is fixed rigidly to the center of the plate A on its under surface, one branch of which spring bears against the plate B adjacent to each opening *b* or the associated arm *a*, as shown. The tendency of the spring is to push the upper and the lower plates apart or control them, the normal position of the lower plate being against the studs *c* below it, as appears in Fig. 4. The legs are adapted to turn on the respective carrying-studs, and when it is wished to detach a leg from the head D the adjacent part of the plate B is tilted upward against the spring, as shown in Fig. 5. This releases the leg from the plate B and allows it to be slipped laterally off of the stud, as indicated by the dotted position of the leg in said Fig. 5. To attach the legs to the head, the plate B is tilted in a similar manner for each leg. When the lower plate is down to its normal position of horizontality, all the legs are locked to place upon the studs and confined snugly against the respective arms *a*. When the device is taken down for the purpose of carrying or packing, the studs *c* control the lower plate and prevent it becoming separated from the upper plate.

I sometimes find it desirable to construct the arms *a* with slightly-tapered parts *k* near their lower ends opposite the studs, as shown in Fig. 5. This is for the purpose of causing the lower plate when pressed down to its normal position after the legs are put in place

upon the respective studs to press the contiguous parts of the legs firmly against the arms. There being broad bearing-surfaces between the legs and the associated arms, this pressing of the parts firmly together tends to stiffen the structure and cause the legs to better maintain their places.

The legs are preferably made tubular in form, each comprising two or more telescoping sections *e f*, as shown, so as to be capable of being reduced or closed to short lengths. All the sections of each leg above the lower ones *f* (sometimes more than two are used) are formed with longitudinal slits *g*, Figs. 3, 8, and 9, the adjacent ends of the lower sections having rigid pins *h* to traverse the slits when the sections are moved longitudinally upon each other to vary the length of the legs. At its lower end each slit terminates in a right-angled portion, as shown in Fig. 9, forming a rest *i* for the pin of the overlapping section. When the pins of all the legs occupy these rests, the sections are locked together and the legs rendered stable as to length.

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

1. A camera-tripod having a head consisting of an upper and a lower plate relatively movable, a controlling-spring engaging both plates, and supporting-legs passing through the lower plate and connected with the upper plate, substantially as shown and described.

2. A camera-tripod having a head comprising an upper and a lower plate relatively movable and the latter being perforated, and the upper plate having arms projecting downward through the perforations in the lower plate, a spring between the plates, and supporting-legs extending upward through the lower plate, and joined to the respective arms of the upper plate, substantially as and for the purpose specified.

3. A camera-tripod having a head comprising parallel relatively movable circular plates one over the other, a spring between said plates, arms rigid with the upper plate equally spaced around a circle concentric with the upper plate and extending downwardly through the lower plate, laterally-projecting pins in the arms below the plate, and supporting-legs held pivotally by said pins, substantially as shown and set forth.

4. A camera-tripod having a head consisting of an upper and a lower plate, a spring between the plates and bearing directly on both of them, and supporting-legs piercing the lower plate and controlled by the upper plate, said plates being relatively movable and the lower plate being constructed and arranged to tilt against the spring, substantially as and for the purpose stated.

5. A camera-tripod having a head consisting of an upper and a lower circular plate, said plates being movable relatively to each other, a spring held by the upper plate to engage and control the lower plate, and supporting-legs piercing the lower plate and detachably connected with the upper plate, with the lower plate normally bearing on the pivots of the legs, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand, this 14th day of August, 1901, in the presence of two subscribing witnesses.

JACOB SATTEL.

Witnesses:
ENOS B. WHITMORE,
MINNIE B. SMITH.