No. 697,146. Patented Apr. 8, 1902.

C. W. HOWARD.

TRIPOD OR STAND.

(Application filed Mar. 29, 1901.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

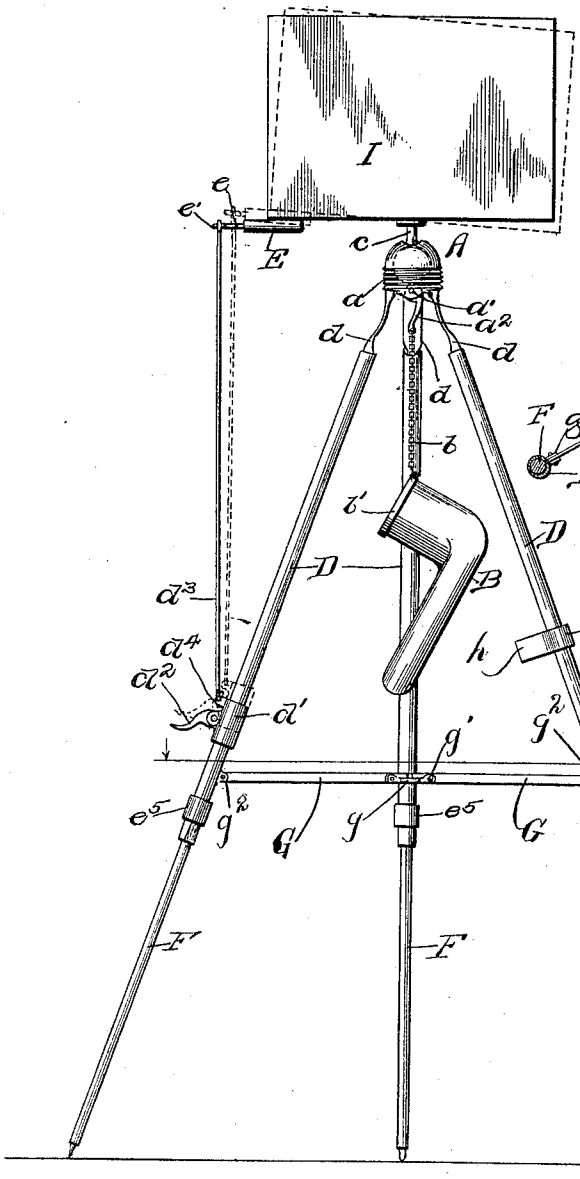
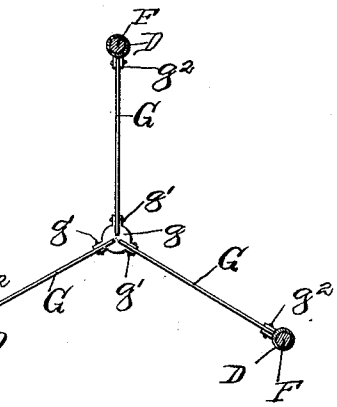


Fig. 2.



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Fig. 9.

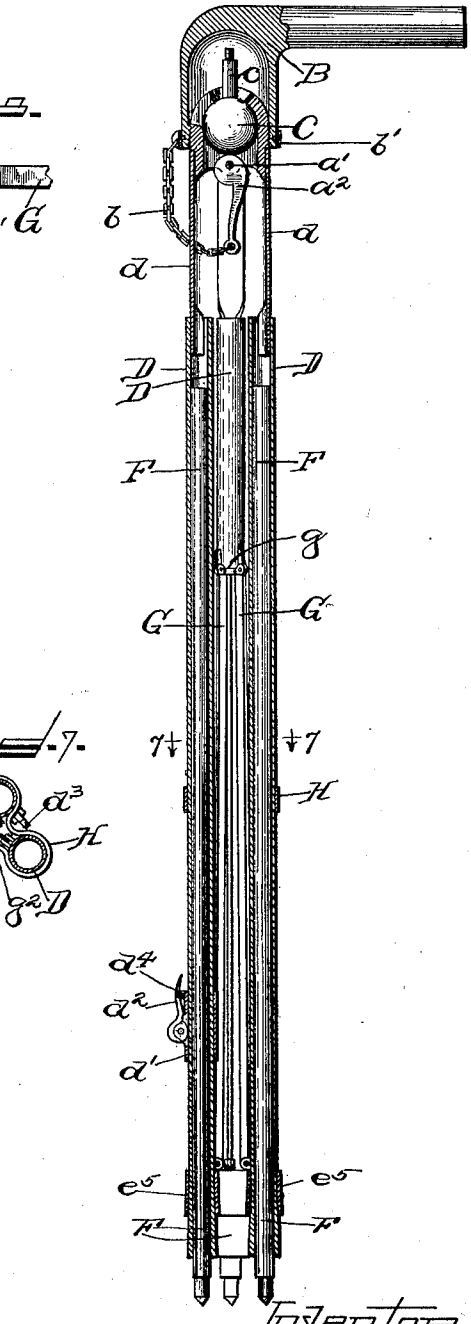


Fig. 3.

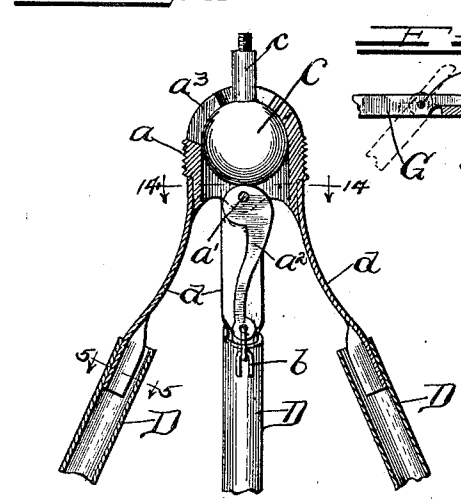


Fig. 8.

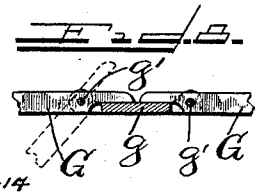


Fig. 4.

Fig. 5.

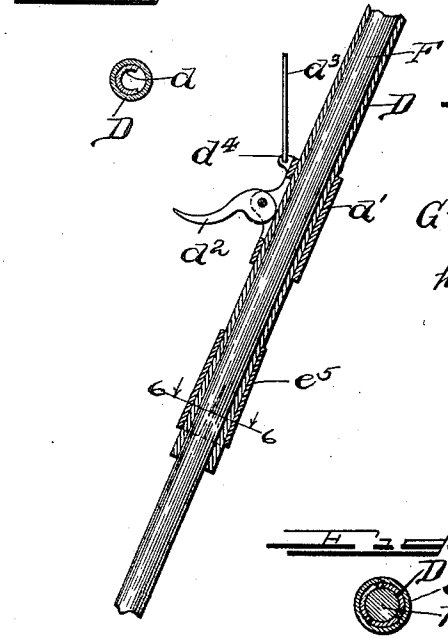


Fig. 7.

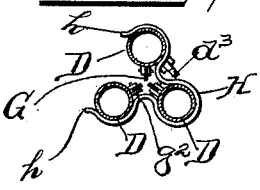


Fig. 6.



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FIG. 15.

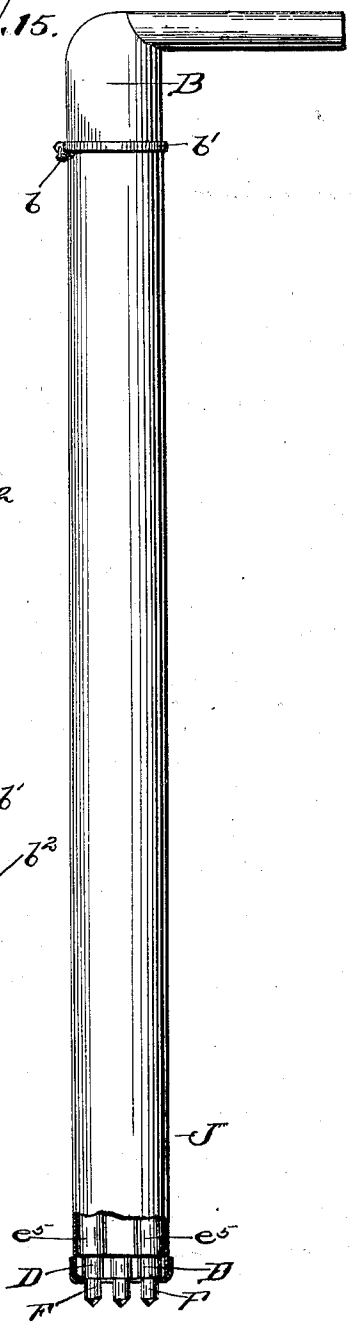


FIG. 10.

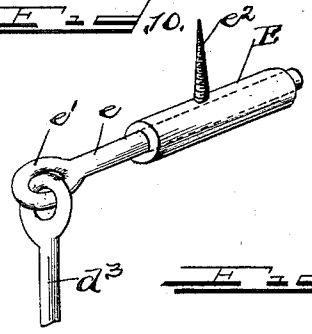


FIG. 11.

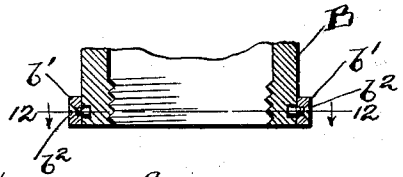


FIG. 13.

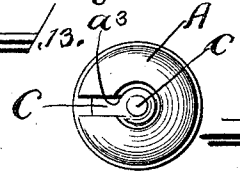


FIG. 12.

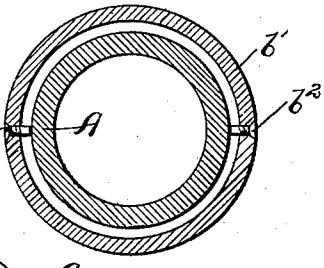
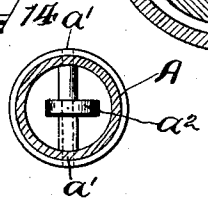


FIG. 14.



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UNITED STATES PATENT OFFICE.

CLARENCE W. HOWARD, OF KIRKWOOD, ILLINOIS.

TRIPOD OR STAND.

SPECIFICATION forming part of Letters Patent No. 697,146, dated April 8, 1902.

Application filed March 29, 1901. Serial No. 53,393. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE W. HOWARD, a citizen of the United States, residing at Kirkwood, in the county of Warren and State of Illinois, have invented a new and useful Tripod or Stand, of which the following is a clear, full, and exact description.

My invention relates to tripods or stands adapted to serve as supports for photographic cameras, surveying instruments, and other apparatus, and has for its object to provide a simple construction by which the apparatus may be securely fastened in a great variety of positions; and a further object of my invention is to so construct the support that it will be capable of being folded into a very compact shape.

The mechanism in which I embody my invention and by which I accomplish these purposes will be hereinafter fully described and the features of novelty pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of my tripod with a photographic camera attached thereto. Fig. 2 is a detail view of the device by which the legs of the tripod when spread are held firmly in position. Fig. 3 is a detail view of the tripod-head with certain parts broken away to show the construction. Fig. 4 is a detail view of part of a leg of the tripod. Fig. 5 is a cross-section of the upper part of one of the tripod-legs, taken on line 5 5 of Fig. 3. Fig. 6 is a cross-section of one of the tripod-legs, taken on line 6 6 of Fig. 4. Fig. 7 is a detail view of the clamp attached to one of the legs and having spring members by which the legs when closed together are securely retained in position. Fig. 8 is a detail view showing the construction of the central part of the leg-spreading device shown in Fig. 2. Fig. 9 represents my tripod compactly folded together in shape to be carried about with certain parts broken away in order to show the construction. Fig. 10 is a detail view of the device by which the supporting arm or rod attached to one of the tripod-legs is connected with a photographic camera. Fig. 11 is a detail view, in vertical section, of the lower part of the cover or handle B. Fig. 12 is a cross-section of the lower part of said cover or handle, taken on line 12 12 of Fig. 11. Fig. 13 is a detail top view of the tripod-head. Fig. 14 is a cross-section of the tripod-head, showing the upper end of the cam-lever pivoted to the head. Fig. 15 shows my tripod folded together in shape to be carried about with the cover or handle attached and the sheath drawn over the legs.

A is the tripod-head containing the ball C and forming with it a ball-and-socket joint. The ball C has a shank c, to the end of which the camera I or other instrument may be screwed or attached in the ordinary manner. The head A has a slot a^3 extending from the top of the head down to the side of it, in which the shank c may move from a vertical to a horizontal position, so that the camera or other instrument may be turned to positions at right angles with each other and to any intermediate position without removing the camera from the shank. The ball C is tightly clamped in any desired position by means of the cam-lever a^2, pivoted at a' to the head A. The head A has the screw-thread a, on which when the camera or other instrument is removed is adapted to screw the cover or handle B. The cover B has a loose collar b', held in position by small screws or pins b^2, whose inner ends are retained in an annular groove in the handle B, so that the collar may revolve around the handle B. The collar b' is attached to the cam-lever a^2 by the small chain or cord b, so that the handle B may not become lost. The legs D are hollow and are connected with the head A by spring members d, so that the legs may be sprung out when it is desired to use the tripod and may be sprung together when it is desired to carry the tripod about. These legs are telescoping and contain extension legs or rods F, which are retained in any desired extension by the loose sleeve e^5, which compresses the split lower end of the leg D tightly on the extension-rod F when the sleeve e^5 is drawn down. One of the legs has the clamp H, having spring members h, adapted to receive and tightly hold the other legs D when all are folded together. To each leg is pivoted at g^2 an inwardly-extending arm G, pivoted at its inner end to the small disk g at g', so that when the legs are

folded together the arms G are folded upward and when the legs are spread the arms G are retained in a horizontal position by the construction shown in Fig. 8, thus strongly bracing the legs when spread. For the purpose of steadying the camera or other instrument I have provided a rod attached at its lower end to one of the legs and at its upper end adapted to be attached to the camera or other instrument. This device is preferably constructed as follows: The rod d^3 is attached, as at d^4 or in any suitable manner, to the loose sleeve d' on one of the tripod-legs D. This sleeve d' may be clamped in any desired position on the leg by means of the cam-lever d^2. The rod d^3 is at its upper end attached to the camera or other instrument in any desired way, as by means of the sleeve E, which is attached to the camera by the screw e^2, the sleeve E holding by friction the pin e, which is pivoted at e' to the rod d^3 and may be withdrawn from the sleeve E when it is desired to remove the camera from the tripod.

After the stand or tripod has been used in the manner described the camera or other instrument may be removed from the tripod, the cover B screwed on the head A, the legs folded together, the extension legs or rods F drawn in, the rod d^3 folded alongside the legs, and a sheath J, of any suitable material, as leather, for instance, drawn over the legs, when the tripod will resemble a closed umbrella and may be readily carried about.

I have given the preferred form of construction of my invention; but it will be understood that I do not confine myself to such construction above detailed and shown in the drawings, but reserve the right to use any suitable construction to carry out my invention particularly pointed out in the claims.

I claim as new and desire to secure by Letters Patent—

1. A tripod or stand which consists of a head, legs, and means connecting the legs to the head consisting of spring members at the upper ends of the legs adapted to be sprung or bent inwardly to close the legs, and outwardly to spread the legs.

2. In a tripod or stand which consists of a head carrying a support for a photographic camera or other instrument, legs, and an additional support for said instrument, consisting of a rod adapted to be detachably secured at its upper end to said instrument, a clamping-sleeve secured to the lower end of said rod, and engaging one of the legs of the tripod, and a cam-lever pivoted to said sleeve and adapted to hold the same against movement.

3. In a tripod or stand which consists of a head carrying a support for a photographic camera or other instrument, legs, and an additional support for said instrument, consisting of a rod, a pin pivoted to the upper end of said rod, a sleeve removably holding said pin, and suitable means for securing said sleeve to the instrument; the lower end of said rod being secured to one of the legs of the tripod.

4. In a tripod or stand which consists of a head carrying a support for a photographic camera or other instrument, legs, and an additional support for said instrument, consisting of a rod, a pin pivoted to the upper end of said rod, a sleeve removably holding said pin, and suitable means for securing said sleeve to the instrument; a clamping-sleeve secured to the lower end of said rod, and engaging one of the legs of the tripod, and a cam-lever pivoted to said clamping-sleeve and adapted to hold the same against movement.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLARENCE W. HOWARD.

Witnesses:
R. R. DAVISON,
R. W. HOUSTON.