

(No Model.)

R. AUCOCK.
TRIPOD.

No. 532,517.

Patented Jan. 15, 1895.

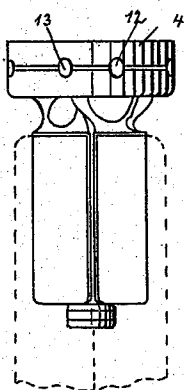


Fig. 1.

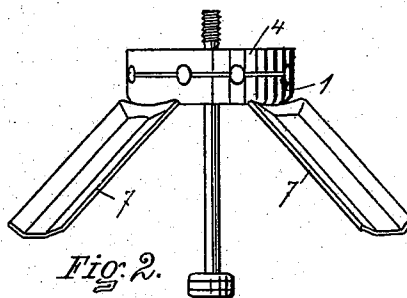


Fig. 2.

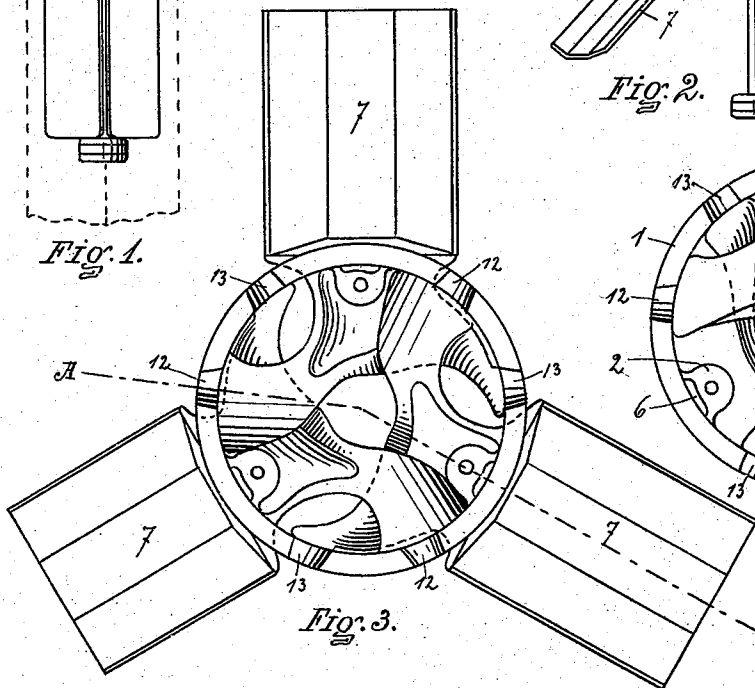


Fig. 3.

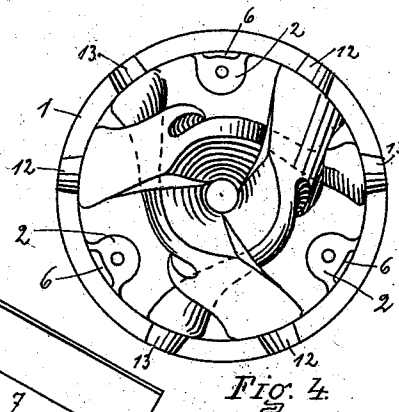


Fig. 4.



Fig. 5.

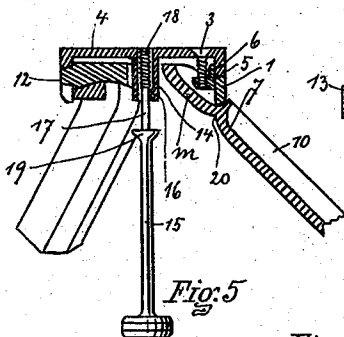


Fig. 6.

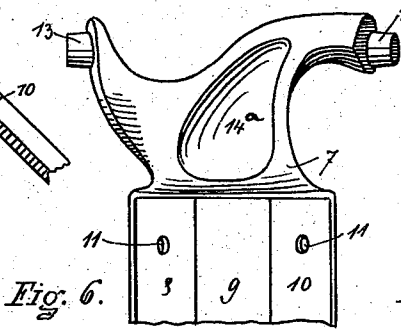


Fig. 7.

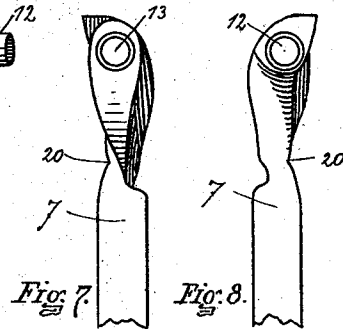


Fig. 8.

WITNESSES.
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UNITED STATES PATENT OFFICE.

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TRIPOD.

SPECIFICATION forming part of Letters Patent No. 532,517, dated January 15, 1895.

Application filed April 19, 1893. Serial No. 470,931. (No model.)

To all whom it may concern:

Be it known that I, ROBERT AUcock, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Tripods; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My present invention relates to improvements in heads for tripods, adapted for use with cameras or surveying instruments, or with numerous other devices.

In the drawings which accompany and form a part of this specification and in which similar figures of reference refer to corresponding parts in the several figures, Figure 1 shows the tripod head in folded position. Dotted lines indicate the manner in which the legs are applied to the head. Fig. 2 shows the same parts shown in Fig. 1 in open or extended position. Fig. 3 shows a plan view of the device in open or extended position with the upper surface plate removed. Fig. 4 shows the same parts shown in Fig. 3 with the parts in folded position. Fig. 5 shows on a smaller scale a section on line A—B of Fig. 3. Fig. 6 shows a side view of the upper end of one of the leg butts. Figs. 7 and 8 show the two edge views of the same device. Fig. 9 shows an end view of the leg butt.

Referring more particularly to the reference numerals marked on the drawings in a more specific description of the device, 1 indicates the main or base ring which is provided with notches or depressions in its edge which constitutes half of the bearing of the pivots of the leg butts. The base ring 1 is also provided with inwardly projecting lugs 2, 2, &c., for the reception of the screws 3, which secure the top or face plate 4 on to the base ring. The top plate 4 is provided with a downwardly projecting rim 5 which contains the other half of the bearing for the pivot of the leg butts. The plate 4 is retained in position from horizontal displacement

on the ring 1 by means of projecting shoulders 6 at ears 2. The several butts 7 are provided with means for attaching the leg, and in the construction shown in the drawings, I provide a sort of plate having three integral parts or faces 8, 9 and 10 on which the inner side of the leg rests, and it may be secured to the leg by screws or rivets passing through the openings 11, 11, &c. The butt is provided with an irregularly shaped head which supports the conical pivots 12 and 13. These are the pivots before referred to which are received in the bearings in ring 1 and plate 4; substantially half being in each. The pivots engage the head almost in a diametrical line through the head; and at the extreme thereof. Hence the supporting and hinging lines of the legs are almost coincident with and intersect each other substantially at the axial line of the head. The head of the butt is provided with a hollow or cavity 14 adapted to receive the ear 2 when the leg is in extended position. On the surface or face plate 4 is provided a downwardly extending thimble 14 which projects into or through the opening always remaining between the heads of the several butts, the thimble being adapted to carry the thumb-screw 15 by which the camera or other instrument is attached to the tripod. The lower end of the thimble is provided with a contracted screw-threaded opening 16, through which passes the shank 17 of the thumb-screw 15. The upper end of the thumb-screw 15 is provided with a section of screw 18 for engaging with the camera or other instrument, and at 19 is shown a shoulder of the bolt 15 for engaging on the lower end of the thimble, so that when the screw-threaded end 18 is engaging with the camera or other instrument, and the shoulder 19 is engaged on the end of the thimble the instrument will be firmly secured on the plate.

The relative lengths of the thimble 14, the shank 17 and the screw-threaded portion 18 of the thumb-screw are such that the screw-threaded end of the thumb-screw will be entirely received below the surface of the plate when not in use.

In the butt plate there is provided a recess adapted to receive the shoulder or rim 19

on the thumb-screw when the device is in folded position, and thus prevent lateral movement of the thumb-screw.

It will be noted that in use the legs of a tripod having the head herein shown and described, are entirely independent in their swinging movements from their most extended position to their complete folded position. Each leg in this device may be said to have a pivotal point coincident with the axial line of the device. Aside from this, the butts interlock with each other and with the base ring so as to make the device very substantial and capable of sustaining a heavy weight if desired. A particular advantage of this construction of tripod is that the legs are brought to an apex and the weight is sustained on the apex. The objectionable feature of a head supported at distant and removed points by each leg permitting a wobbling of the head on the supporting legs is obviated in this construction. This combination also enables the legs to be folded together so as to engage each other throughout their lengths having no unutilized space adjacent to the head and at the same time the leg has a wide base or hinging line obviating any side swing which is objectionable and which is a weakness in a tripod. The outer sides of the legs may be of a shape to make the bundle of legs circular when folded.

It is evident that many changes and variations in and from the construction herein described may be made without departing from the equivalents of my construction.

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

1. In a tripod, the combination of a head and three legs, each having two pivots engaging the head in three separate vertical planes, each plane substantially coinciding with the axial line of the head.

2. In a tripod, the combination of a base ring, three interlocking leg butts passing within the base ring, and each having two

pivots engaging in the upper surface of the base ring, substantially as set forth.

3. In a tripod, the combination of a base ring, three interlocking leg butts passing within the ring and engaging in bearings in the upper face of the ring, and a surface plate having the complement of the bearing secured on the base ring, substantially as set forth.

4. In a tripod, the combination of a base ring, three interlocking leg butts passing within the ring and having conical bearings in the ring, substantially as set forth.

5. In a tripod, the combination of a base ring, three interlocking leg butts passing within the ring, each having two conical bearings therein, in a hinging line, passing through or close to the axial line of the head, substantially as set forth.

6. In a tripod, the combination of a base ring, a leg butt passing within the ring and having two conical bearings therein, in a hinging line passing through or close to the axial line of the head, substantially as set forth.

7. A head and folding legs each mounted on two pivots, the arms carrying the pivots overlapping each other giving a wide hinging base to each leg.

8. A head and folding legs, each hinged in the head on pivots, the hinging or turning line of which is substantially in the diametral line of the head.

9. In a tripod, the combination of a head and folding legs, each mounted on pivots in the head, the hinging line between the pivots of each leg intersecting the line between the pivots of each of the other legs.

In witness whereof I have affixed my signature in presence of two witnesses.

ROBERT AUCOCK.

Witnesses:

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GEORGE C. CARTER.