

No. 713,794.

Patented Nov. 18, 1902.

H. G. OSTERMANN.
TRIPOD.

(Application filed May 17, 1902.)

(No Model.)

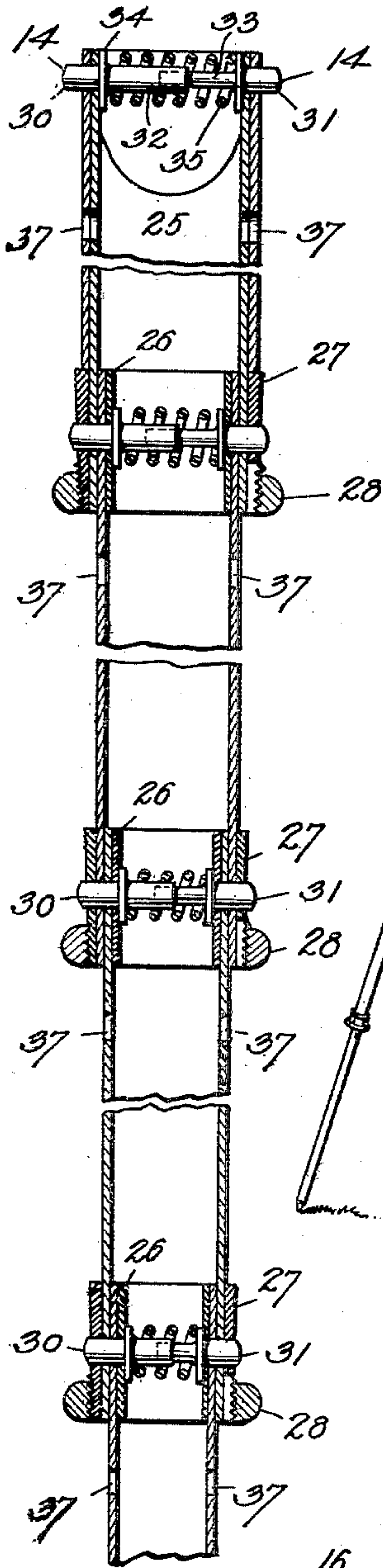


Fig. 5.

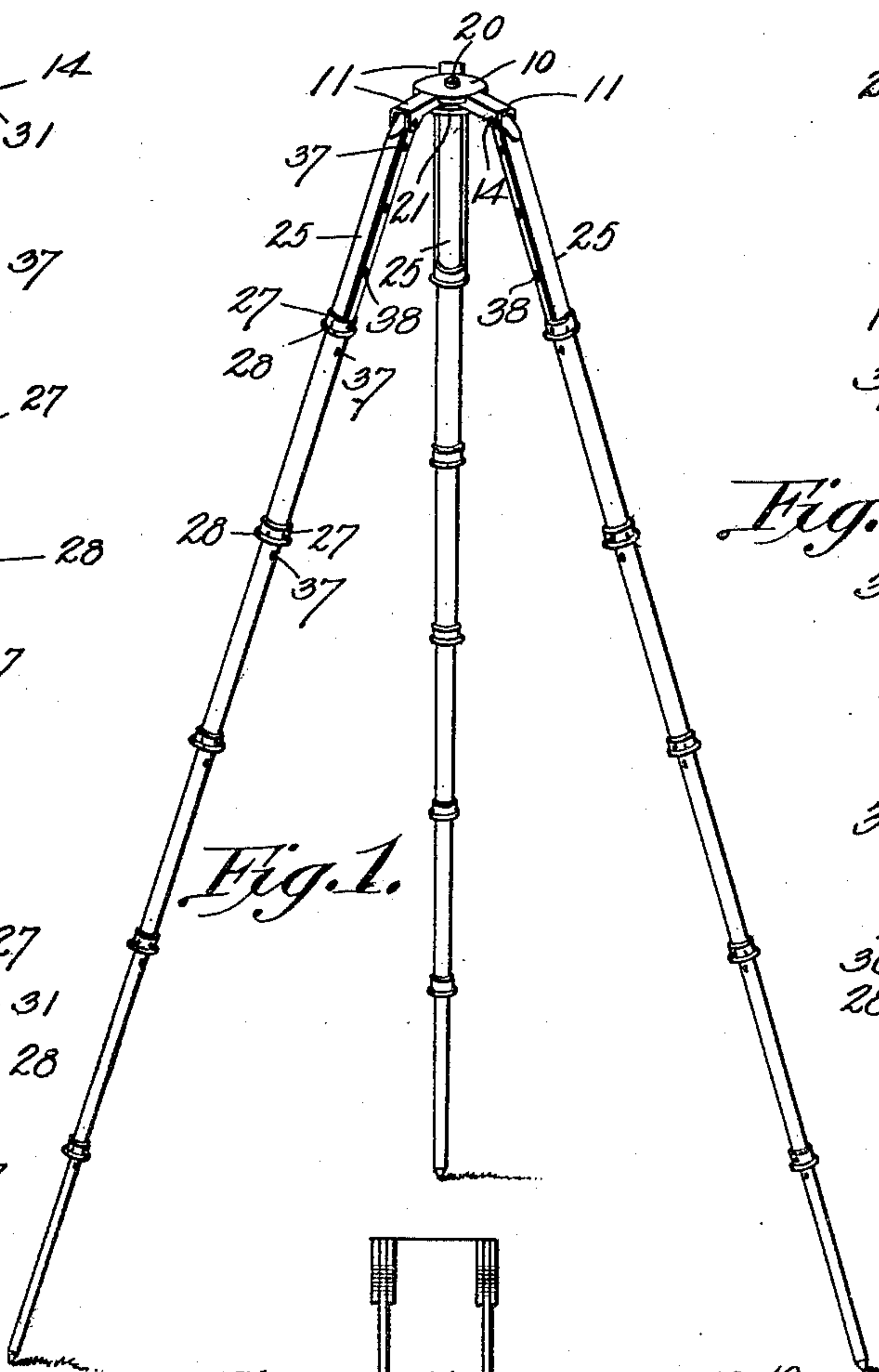


Fig. 1.

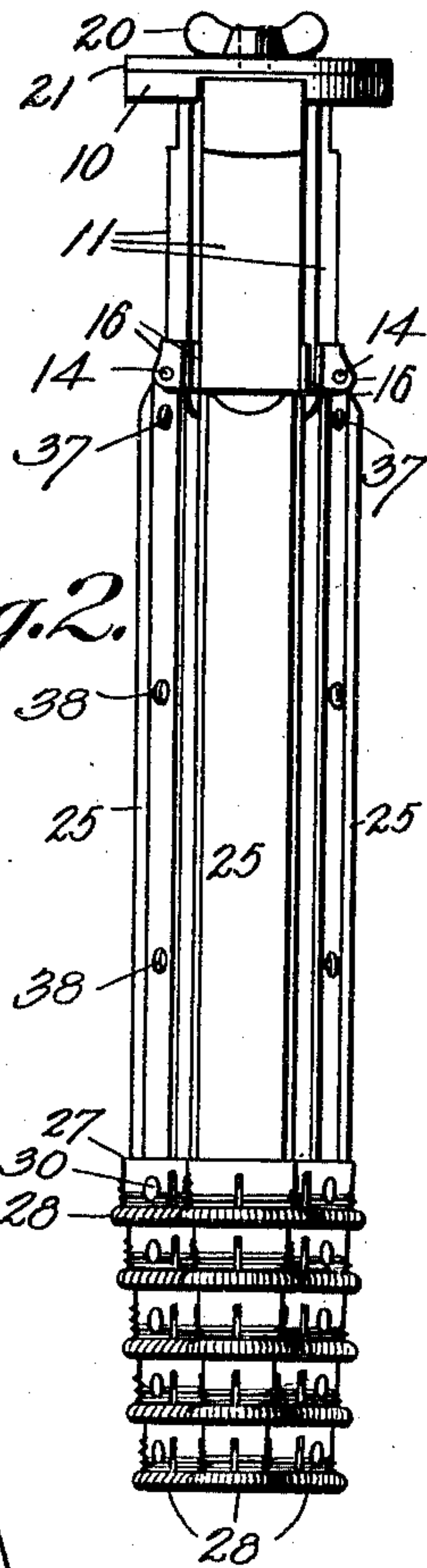


Fig. 2.

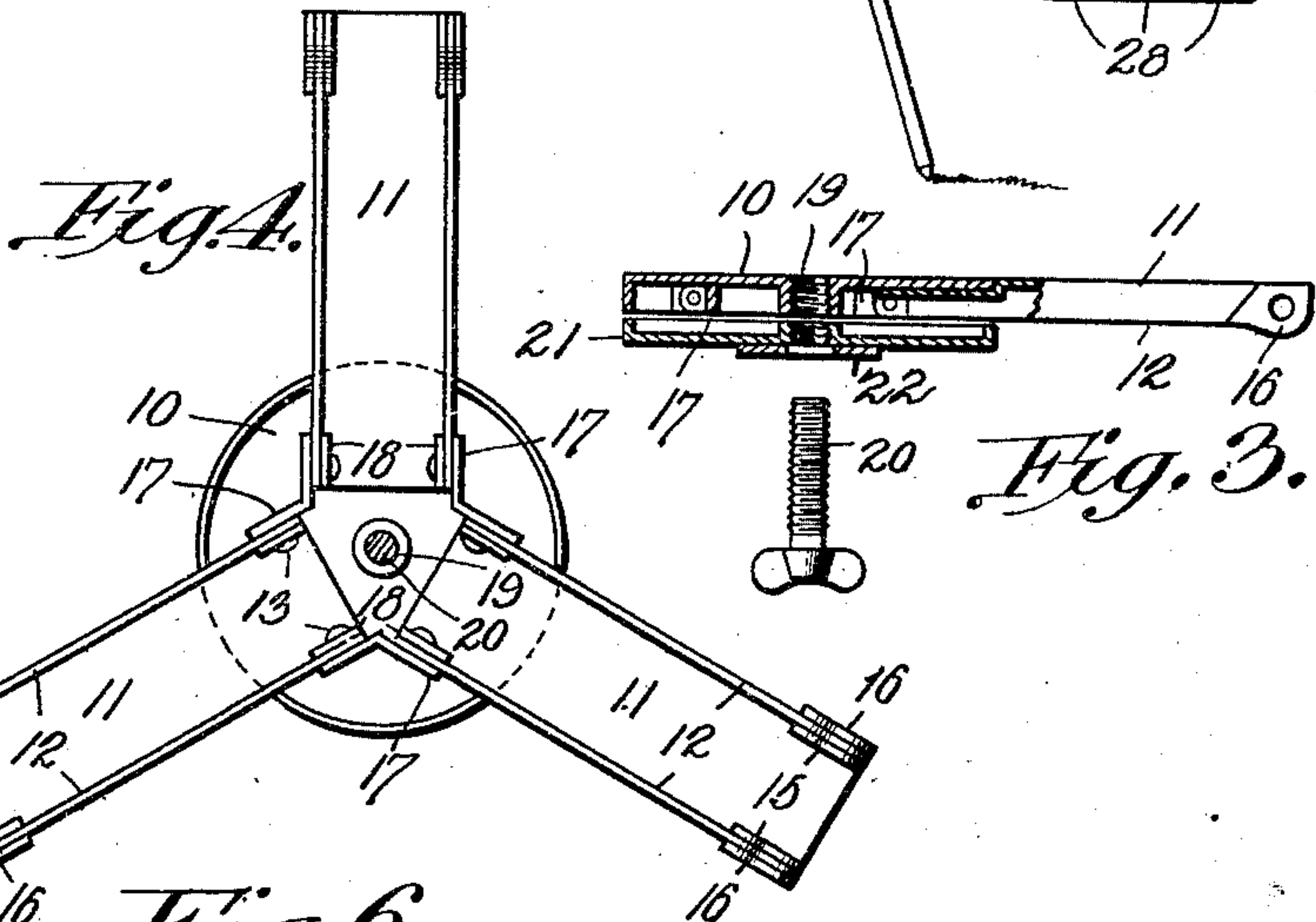


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

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TRIPOD.

SPECIFICATION forming part of Letters Patent No. 713,794, dated November 18, 1902.

Application filed May 17, 1902. Serial No. 107,837. (No model.)

To all whom it may concern:

Be it known that I, HENRY GEORGE OSTERMANN, a citizen of the United States, residing at Galva, in the county of Ida and State of Iowa, have invented a new and useful Tripod, of which the following is a specification.

This invention relates to certain improvements in telescopic tripods for the support of cameras, telescopes, and the like, and has for its principal object to construct a tripod of light weight and which may be folded into very small compass when not in use.

A further object of the invention is to construct a tripod which may be readily adjusted to any desired height and each of the legs adjusted independently of the others for the purpose of securing any desired inclination of the supporting-platform.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of an adjustable tripod constructed in accordance with my invention, illustrating the same in open position and in readiness for use. Fig. 2 is a side elevation of the tripod in folded position. Fig. 3 is a sectional elevation of the tripod-bed drawn to a somewhat larger scale. Fig. 4 is an inverted plan view of a portion of the bed with the lower washer removed. Fig. 5 is a longitudinal sectional elevation, on an enlarged scale, of a portion of one of the tripod-legs. Fig. 6 is a sectional elevation of a form of bed which may be used for smaller cameras or similar articles.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The bed proper, 10, is formed of a disk of thin sheet metal stamped or spun into cup shape form, the peripheral flange of the cup being cut away at three places to permit the passage of arms 11, which may be moved to a position at about right angles to the surface of the table when the tripod is in folded position. Each of the arms 11 is formed of sheet metal having side flanges 12, in which are formed openings for the reception of inner and outer pivots 13 and 14, respectively, the

openings at the outer end of the arm serving to receive the spring-pressed pivot-pins carried by the upper ends of the leg-sections. At the outer end of each of the arms the depending flanges 12 are further strengthened by inner and outer blocks or strips 15 and 16, respectively, which may be soldered, brazed, or otherwise rigidly secured to the opposite faces of the flanges. Secured to the lower side of the bed 10 are three angular lugs 17, to which the inner ends of the arms are pivoted, the flanges of the arms from the inner ends to the peripheral line of the bed being of a depth somewhat less than the remaining portions of the flanges, so that when the arms are opened to the position illustrated in Fig. 1 the upper surface of the arms will be in the same plane with the top of the bed. The inner ends of the flanges are also strengthened at the pivot-point by auxiliary plates or blocks 18, these auxiliary strengthening-plates being preferably employed at the required points instead of forming the whole of the device out of heavier sheet metal, that may be necessary for ordinary purposes.

In some cases, especially where a comparatively small supporting-bed is sufficient, the arms are omitted and the downturned flanges of the bed are provided with pivot-openings 14', as illustrated in Fig. 6.

In the center of the bed is a threaded socket 19 for the reception of a thumb-screw 20, by which the camera or other device may be secured to the tripod. When the arms are in the open position, they are held extended by an auxiliary flanged washer 21, having a central opening which may be somewhat strengthened by a plate or washer 22. The thumb-screw is passed through this opening and screws into the threaded socket 19 and thence into the base of the camera and serves to hold the arms extended should it be necessary to carry the tripod from place to place while in open position. When the arms are to be folded down, as indicated in Fig. 2, the lower washer is removed to permit the arms to swing inwardly on the pivots 13, the washer being then placed on top of the bed and engaged by the thumb-screw 20 to hold it in proper position.

Each tripod-leg is formed of a number of telescopic sections adjustable independently,

and the upper sections are so constructed as to provide for a number of adjustments in order that the inclination of the bed or platform may be varied at will without stooping to adjust the lower members of the legs. Each leg is formed of any desired number of sections depending on the height desired, and each section is of substantially the same construction. The upper section 25 is formed of a tube of thin sheet metal, having at its upper end an internal strengthening-ring 26 and at its lower end an external strengthening-ring 27, the latter being preferably split and threaded for the reception of a milled nut 28, which may be screwed on the tapered ring to bind the lower portion of the top section to the upper portion of the second section of the leg. The upper end of the tube is tapered somewhat and fits between the flanges of one of the pivoted arms 11, and near the upper end of the tube are openings extending through the tube and strengthening-ring and serving to receive the knobs or heads 30 and 31 of a pair of telescopic tubes 32 33, which extend across the tube-section and form a pivotal connection between the tube and the arm. Near the outer end of each of the telescopic pivot-pins are enlarged disks 34, between which extends a coiled compression-spring 35 normally tending to maintain the pivot-pin in an extended position, with the knobs or heads 30 and 31 projecting through the openings in the tube and strengthening-ring. The upper end of each of the tube-sections is provided with a telescopic pivot-pin of precisely the same construction as that described, and in the lower end of each of the tube-sections, except the bottom section, are openings for the reception of these pins. The heads or knobs are slightly rounded and of such diameter that they may be depressed by the fingers for a distance sufficient to permit their disengagement from the lower end of the tube-section when it is desired to fold or reduce the height of the tripod. When the several sections are telescoped or folded in the position illustrated in Fig. 2, the pivot-pins engage in auxiliary openings 37, formed in the tubes at a short distance below the upper pivot-pins, so that they may be retained in telescoped form while being carried from place to place. The upper tube-section is provided with a plurality of openings 38, formed at short intervals in the length of the tube and adapted to receive the ends of the pivot-pins carried by the second tube-section. In this manner the person using the tripod may readily adjust the height of one leg without adjusting the others and without stooping to adjust any of the lower sections or shifting the points of the legs.

When folded, the device is very compact and may be readily carried from place to place without difficulty.

While the construction herein described and illustrated in the accompanying draw-

ings is the preferred form of the device, it is obvious that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim is—

1. The combination in a tripod, of the upper disk forming a bed adapted for the reception and support of a camera or other instrument, a plurality of radially-disposed arms pivoted under said bed and maintained in an open position by contact with the lower surface thereof, the arms having flat upper faces which when in open position are in the same horizontal plane with the upper surface of said disk, and legs pivotally connected to said arms.

2. The combination in a tripod, of the upper supporting-bed, a series of arms pivotally connected to the under side of the bed and projecting beyond the periphery thereof, the upper surface of the bed and arms being in a common plane, legs pivotally connected with the arms, and an auxiliary clamp for maintaining the arms in extended position.

3. The combination in a tripod, of the bed, and a series of arms pivotally connected thereto, a washer adjustably secured to the bed and between which and the bed the arms are clamped in an extended position, and legs pivotally connected to said arms.

4. The combination in a tripod, of the bed, a series of arms pivotally connected to the under side of the bed at a point within the peripheral line thereof, a removable washer, means for securing the washer to the bed and to thereby clamp the arms in an extended position, and legs pivotally connected to said arms.

5. The combination in a tripod, of a flanged disk forming the bed of the tripod and provided with cut-away portions, a series of arms pivoted to the under side of the bed and extending through the recessed or cut-away portions of the flange, the upper faces of the outer portions of the arms being disposed in a plane with the surface of the bed, strengthening-plates carried by said arms, legs pivotally connected to the outer ends of the arms, and means for clamping and holding the arms in extended position.

6. The combination in a tripod, of the metallic bed having a centrally-disposed threaded socket, a removable washer having a threaded opening, a thumb-screw adapted to the opening and socket, a series of arms carried by the bed and clamped between the bed and washer, and legs pivotally connected to the outer ends of said arms.

7. The combination in a tripod, of the bed, and a series of telescopic legs, each leg being formed of a plurality of tubular sections provided at each end with strengthening-rings, pin-receiving openings formed in both the upper and lower portions of each tube and its

strengthening-rings, telescopic pins adapted to said openings and having their outer ends projecting slightly beyond the outer surface of the tube member for engagement by the
5 fingers of the operator, and a spring serving to separate said pins.

8. A tripod-leg formed with a series of tubes, each tube having at its upper and lower ends a pair of diametrically disposed pin-receiving
10 openings, telescopic pins disposed in the upper openings of each tube and adapted to pass through the lower openings of the next adjacent tube, enlarged disks carried by the pin-sections for contact with the inner wall of
15 the tube, and compression-springs surrounding the tube-sections and bearing against said disks.

9. A tripod-leg formed of a series of tubes, each having at its upper end an internal
20 strengthening-ring and at its lower end an external strengthening-ring, spring-pressed pins carried by the internal rings and upper portions of the tube-sections, and pin-receiv-

ing openings arranged in the lower portions of the tubes and lower strengthening-rings for
25 the reception of said rings.

10. A tripod-leg formed of a series of telescopic tubes each tube being provided with a lower set of diametrically opposed openings and its upper portion being provided with a
30 plurality of sets of diametrically opposed openings, telescopic pins carried by the upper openings and adapted to engage the lower openings of an upper tube to maintain the tripod-leg in extended position, and being
35 further adapted to engage with one of the upper sets of openings of said upper tube to lock the tripod-leg in contracted or telescoped position.

In testimony that I claim the foregoing as
40 my own I have hereto affixed my signature in the presence of two witnesses.

HENRY GEORGE OSTERMANN.

Witnesses:

CHAS. C. MILLEN,
WM. LICHT.