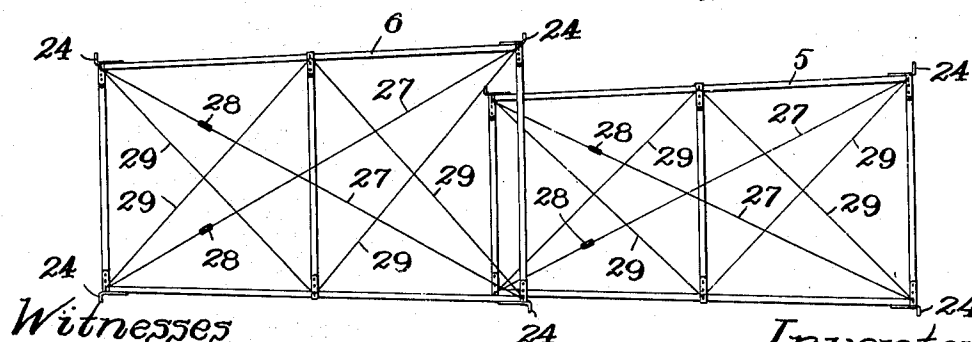
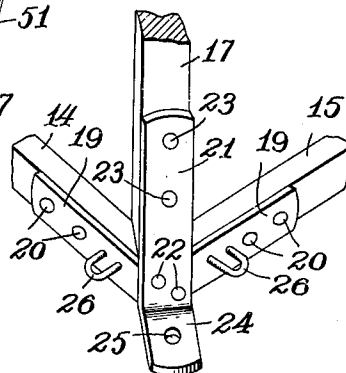
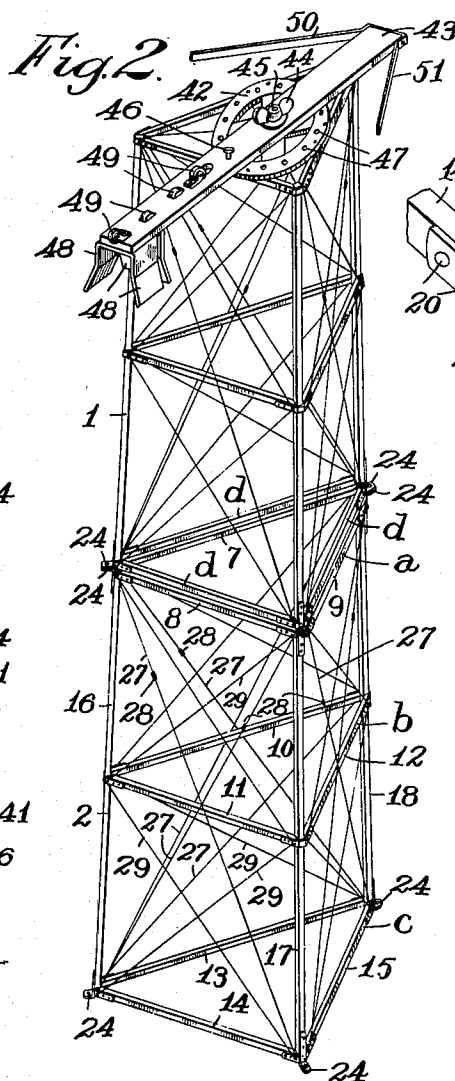
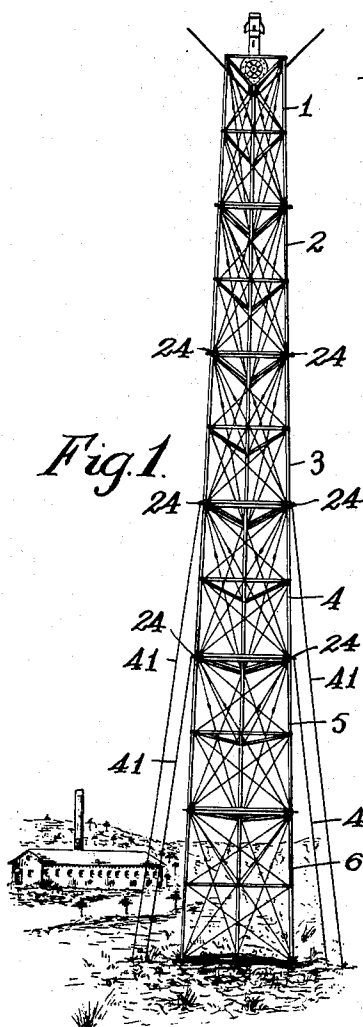


1,054,737.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.



Witnesses

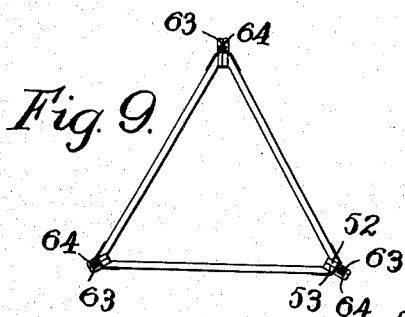
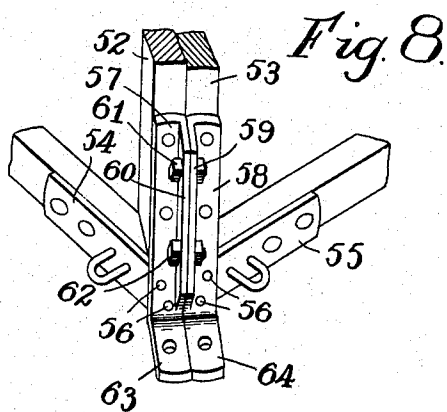
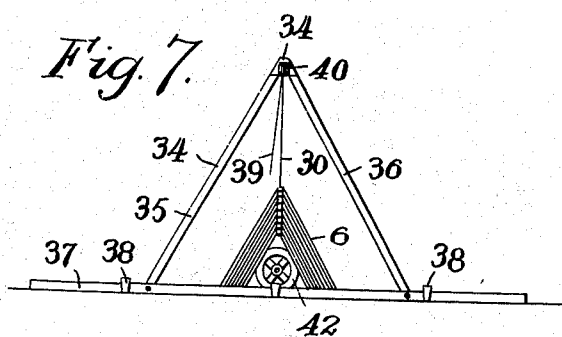
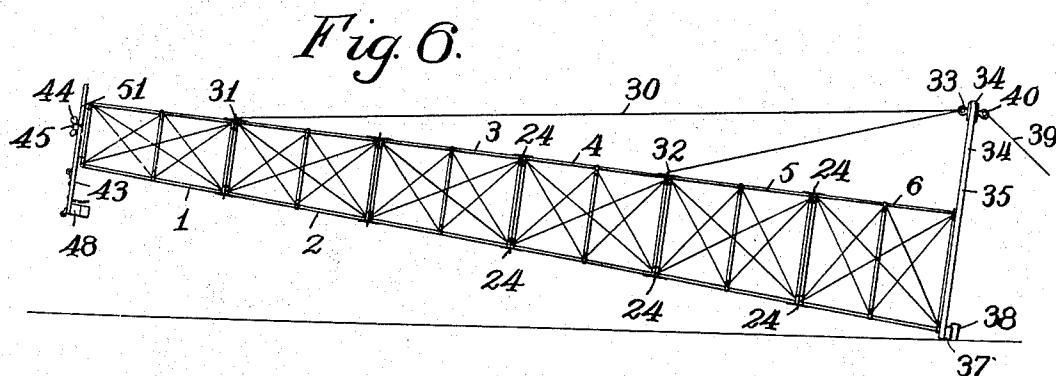
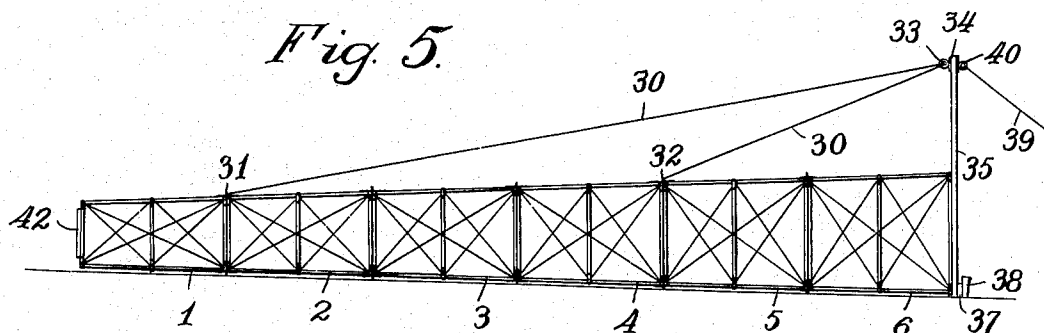
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Fig. 3.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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EXTENSION-SUPPORT.

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Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed June 16, 1909. Serial No. 502,499.

To all whom it may concern:

Be it known that we, JOHN C. WOODBURY and JOHN E. WOODBURY, citizens of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Extension-Supports, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

Figure 1 is a perspective view of our improved support in an elevated position. Fig. 2 is a perspective view of the upper portion shown on a larger scale. Fig. 3 is a side view of two contiguous separated sections, shown in a horizontal position and illustrating the method of telescoping one section within the other. Fig. 4 is a perspective view of one of the metallic corner clips. Fig. 5 is a side view of the support in a horizontal position, showing the apparatus for raising the same. Fig. 6 is a side view of the support shown in a partially raised position. Fig. 7 is an end view of the support with the raising apparatus applied thereto. Fig. 8 is a perspective view of a modified form of the metallic corner clips, and Fig. 9 is an end view of one section, showing a modified form in which the sides of each section are separable.

Similar characters refer to similar parts in the different figures.

Our invention relates to a stand or support adapted, as shown in the accompanying drawings, for supporting in an elevated position a camera to facilitate its use in the operation of taking "bird's eye" views or plan views of an extended area.

Our improved extension support is also valuable for other purposes, such, for example, as supporting the apparatus employed in wireless telegraphy, and it consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

A completed structure showing our improved extension support is shown in Fig. 1 in a raised position, and carries upon its top apparatus for supporting a camera and also for enabling the operator to determine the area within the field of the lens.

Our improved support consists of a series of separable sections, in the present instance six in number, the two upper sec-

tions 1 and 2 being shown on a larger scale in Fig. 2 of the drawings. As the sections are duplicates of each other, except as to size, a description of section 2, Fig. 2, will apply to the remaining sections. Each of the sections is triangular in cross section and consists, as illustrated by section 2, Fig. 2, of three triangular frames each preferably made of three light strips of wood, connected at their corners to upright strips of wood by means of metal clips.

The uppermost of the three triangular frames consists of three wooden strips 7, 8 and 9, the middle frame consists of similar strips 10, 11 and 12, and the lower frame consists of similar strips 13, 14 and 15. The three triangular frames, which we designate *a*, *b* and *c* respectively, are united at their corners to upright strips 16, 17 and 18. The upper and lower frames *a* and *c* are united to the upright strips by metal clips, one of which is shown in perspective view in Fig. 4. Each of the metal clips comprises a strap 19, bent at the proper angle to contact with the corresponding strips of a triangular frame, such as 14 and 15, to which they are attached by bolts 20. To the center of the strap 19 we attach a vertical strap 21 by means of rivets 22. One end of the strap 21 is attached to one of the vertical wooden strips of the framework, such as 17, by means of bolts 23, and the opposite end of the strap 21 is bent outward at right angles to form a lug 24 which is provided with a bolt hole 25. The lugs 24, upon the lower end of each section, are bent to rest upon corresponding lugs upon the upper end of each frame, the contacting lugs of each contiguous section being united by bolts passing through the bolt holes 25.

The uppermost triangular frame of each section is smaller than the lowermost frame of the same section, but of the same size as the lowermost frame of the next upper section so that, when the sections are placed together end upon end, the triangular frame at the lower end of the upper section with its projecting lug 24 will rest upon and be supported by the uppermost triangular frame of the next lower section. In Fig. 2 the lowermost triangular frame *d* of section 1 is of the same size as the uppermost triangular frame *a* of section 2, and the lugs 24 at the lower end of section 1 rest upon cor-

responding inverted lugs 24 upon the upper end of section 2.

The metal straps 19 are provided near their centers with staples 26 which are connected by cables extending diagonally across the sides of each section, as shown at 27, Figs. 2 and 3. Each of the diagonal cables 27 is provided with a turn-buckle 28, by which the cables may be drawn taut. The central portions of each of the upright strips 16, 17 and 18 are braced by the central triangular frame *b*, consisting of the strips 10, 11 and 12, which are united to the upright strips 16, 17 and 18 by metal clips similar to the straps 19, but omitting the straps 21 and lugs 24. Each of the panels formed by the central triangular frame *b* is provided with diagonal cables 29, attached to the staples 26 in the same manner as the diagonal cables 27.

Owing to the gradually reduced size of each succeeding section from the bottom upward, it is possible to telescope the sections, when separated, by sliding section 5 into the larger end of section 6, section 4 into section 5, and so on throughout the entire structure in the manner shown in Fig. 3, thereby placing the entire structure in a compact form for transportation.

When the structure is to be erected, several sections are bolted together by bolts passing through the projecting lugs 24, with the connected sections lying in a horizontal position upon the ground, as shown in Fig. 5. The structure is then raised in the manner illustrated in Fig. 6 by attaching the ends of a cable 30 to the structure at the separated points 31 and 32, with the cable passing through an eye-bolt 33, which is held at the apex of an inverted V-shaped support 34 formed of two bars 35 and 36, which are bolted at their lower ends to a horizontal bar 37 resting upon the ground and in contact with the base of the lower section 6. The horizontal bar 37 is held from slipping on the ground by pins 38 which are driven securely into the earth. A cable 39 is attached to an eye-bolt 40 held upon the support 34 opposite the eye-bolt 33. As the support 34 is rocked by pulling upon the cable 39, the completed structure is raised from the ground, as shown in Fig. 6, until it is brought into a vertical position when it may be stayed, if desired, by guy ropes 41.

Mounted upon the top of the upper section 1 is a circular plate 42, having a cross bar 43 resting upon the plate 42 and held in position by a nut 44 and bolt 45. By loosening the nut 44, the cross bar 43 may be swung around the bolt 45 in any desired position and held by a pin 46, passing through the cross bar 43 and entering one of a series of holes 47 in the circular plate 42. The cross bar 43 is provided at one end with depend-

ing guides 48 between which a camera may be drawn by means of ropes attached thereto and, passing over pulleys 49, be returned to the ground. To the opposite end of the cross bar 43 we attach bars 50 and 51, which inclose between them an angular space corresponding to the angle of the camera lens, so that a person standing upon the ground will be able to determine by ranging upward against the bars 50 and 51 approximately the field included within the capacity of the camera lens.

By standing sufficiently at the rear of the support the planes of the bars 50 and 51 may be extended to the vision of the operator so that the position of a certain object may be located, either within or without these planes. The position of the object with relation to the extended planes will indicate its location with relation to the completed picture.

In Figs. 8 and 9 we have shown a modified form of construction, in which the vertical strip at each corner of the triangular sections is made in two parts as shown at 52 and 53, Fig. 8. The metal straps 54 and 55 are also separate and are attached by rivets 56 to the vertical straps 57 and 58, which are provided with flanges 59 and 60 united by bolts 61 and 62. By removing the bolts 61 and 62, each of the three sides of the section may be separated and packed flat one upon the other in convenient position to be boxed or crated. In the modified forms shown in Figs. 8 and 9 the upright straps 57 and 58 are each provided with an independent lug 63 and 64, resting upon corresponding lugs upon the adjacent section.

We claim,

1. An extension support, consisting of a series of separable sections, each section having a transverse frame at each end, similar in shape to the completed section, and longitudinal posts with their ends attached to the corners of said frames, with the frame at the bottom of one section arranged to rest upon the frame at the top of the section next below in the completed support.

2. An extension support, consisting of a series of separable sections, each section having a transverse frame at each end, each frame formed from strips united at their ends by angular clips, and longitudinal posts connecting the corners of said frames, with the frame at the bottom of one section arranged to rest upon the frame at the top of the section next below in the completed support, and means for detachably fastening the contacting frames of adjacent sections.

3. An extension support, consisting of a series of separable sections, each having a transverse frame at its upper and lower ends, said frames formed from a number of strips connected at their ends by angu-

lar clips, said frames attached at each corner thus formed to longitudinal posts, with the lower frame of one section arranged to rest upon the upper frame of the section next below, and projecting lugs from the ends of said posts by means of which adjacent sections of said support are fastened together.

4. An extension support, consisting of a series of separable sections, each triangular in cross section and comprising a transverse triangular frame at each end of said section, with a central triangular frame arranged to brace said section, said frames each formed from three strips united at their ends by angular clips, a longitudinal post at each corner of said frames, with each end of said posts attached to the angular clips of said outer frames and provided with projecting lugs by means of which adjacent sections of said support are fastened together.

5. An extension support, consisting of a series of separable sections arranged to be placed one upon the other, each section comprising three transverse angular frames, one at each end and one in the midway of said section, longitudinal posts connected to the corners of said frames, thereby completing said section, and a series of diagonal cables upon each side of said section connecting the corners of said three frames.

6. An extension support, consisting of a series of triangular sections, each section having transverse triangular frames at each end composed of three strips with their ends united, and three longitudinal posts connecting the corners of said frames, with the frame at the bottom of one section arranged to rest upon the frame at the top of the section next below in the completed support, and means projecting from said corners for detachably attaching said contacting frames.

7. An extension support, consisting of a framework of separable sections, and provided at one end with means for raising

said support, comprising a triangular frame larger than the cross section of said support, with a flexible connection between the apex of said triangular frame and said support.

8. An extension support, consisting of a series of separable sections, each section comprising a number of transverse frames formed from strips, with their ends attached to longitudinal posts arranged in pairs in contact, and means for attaching each pair of contacting posts together.

9. An extension support, normally vertical, consisting of a series of separable sections, said sections arranged to be fastened together endwise in a horizontal position, and means for raising said support to its vertical position, comprising means for preventing the longitudinal movement of said support and for exerting a lifting strain upon one end.

10. An extension support, normally upright, consisting of a series of separable sections, arranged to be bolted together end to end in a horizontal position, means for holding one end of said completed support, and means for rocking said support by pulling on the opposite end, thereby raising said support to its upright position.

11. An extension support, normally upright, consisting of a series of triangular sections, arranged to be fastened together with one side of each section in a horizontal position, a triangular frame at one end of said support also with one side in a horizontal position, with said triangular frame arranged to receive a cable attached to the other end of said support, and means for preventing the longitudinal movement of said support.

Dated this tenth day of June 1909.

JOHN C. WOODBURY.
JOHN E. WOODBURY.

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