March 6, 1928. 1,661,930

C. L. DIETRICH

AERIAL MAST OR SUPPORT

Filed Dec. 30, 1925 2 Sheets-Sheet 1

Fig. 1.

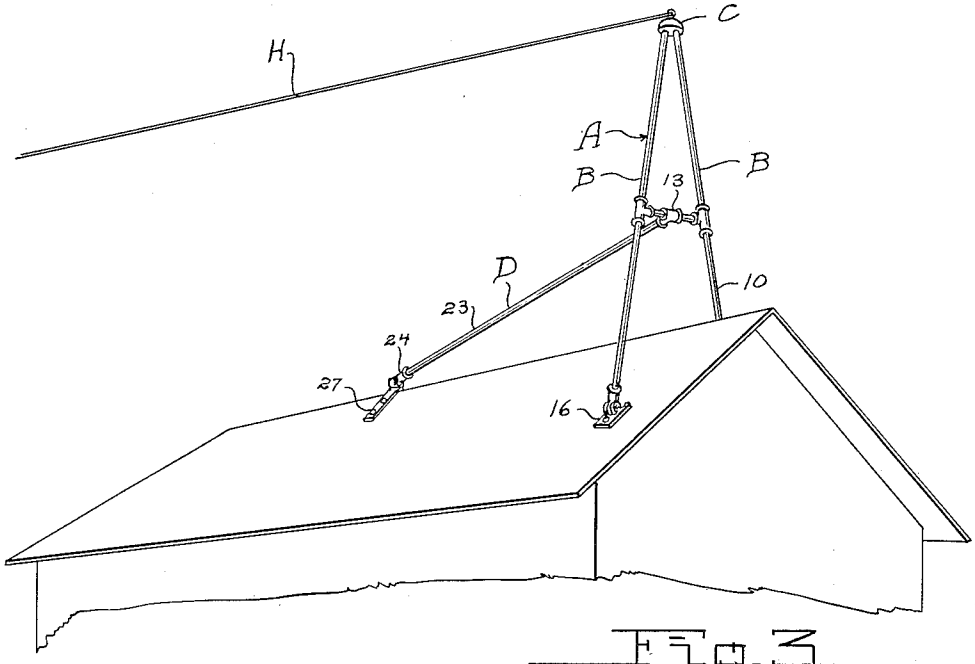



Fig. 3.

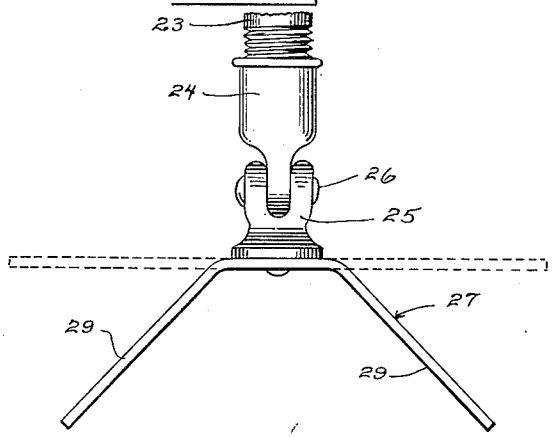
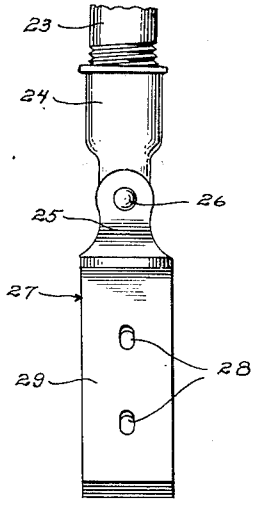



Fig. 4.




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Fig. 2.

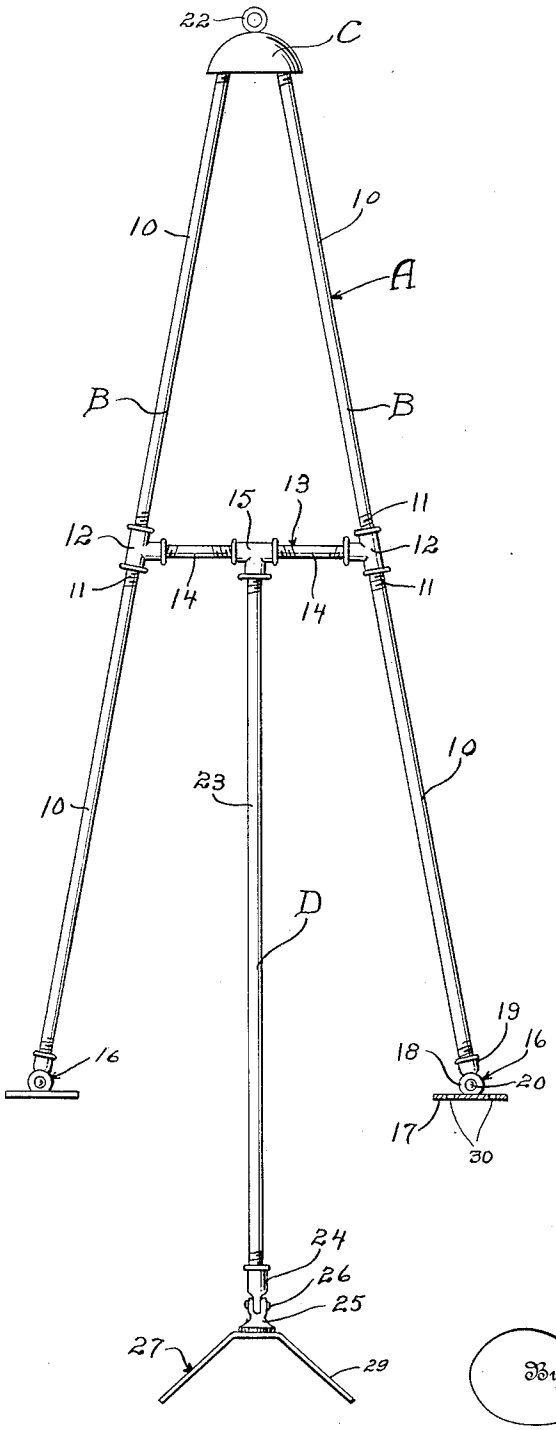
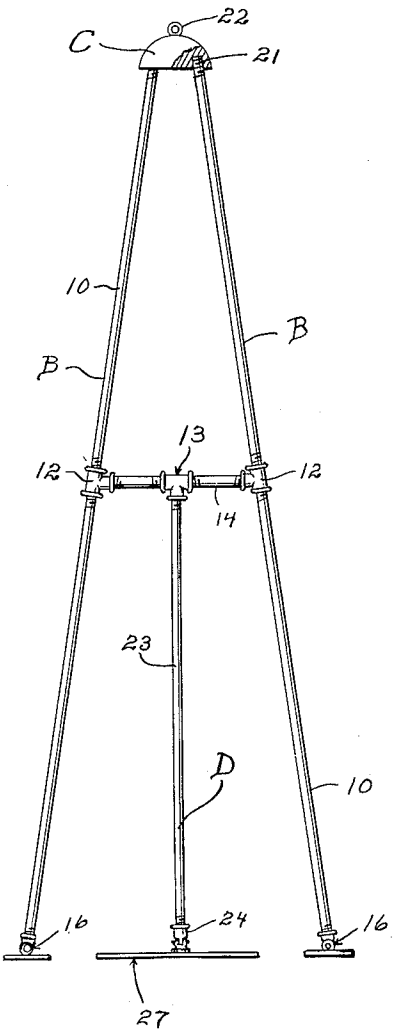



Fig. 5.




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# UNITED STATES PATENT OFFICE.

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## AERIAL MAST OR SUPPORT.

Application filed December 30, 1925. Serial No. 78,444.

The present invention relates to sectional masts or supports, and more specifically to masts particularly well adapted for use upon roofs of various descriptions for the supporting of an aerial or antenna.

As is now the common practice for supporting an aerial for radio apparatus upon house tops, a single mast is erected and which mast must be braced by guy wires extending in several directions from the mast. The erection of such masts is more or less difficult, due to the several different points at which the guy wires must be attached to different parts of the roof, and which arrangement aside from being unsightly, in time becomes insecure due to the stretching of the guy wires.

It is therefore a primary object of this invention to provide an improved self supporting and self bracing aerial mast which may be easily erected without the requiring of any guy wires, and which mast when in position presents a more sightly appearance.

A further object of the invention is to provide an improved aerial mast which may be readily erected upon various types of roofs and which mast automatically adjusts itself to the various angles or pitches of the particular type of roof upon which the mast is erected.

A still further object of the invention is to provide an improved aerial mast embodying a number of rigid sections which may be readily disassembled for permitting of the mast being collapsed into a compact condition for shipping purposes.

A still further object of the invention is to provide improved aerial masts embodying sectional standards and a brace section, the standards and brace section all being provided at their lower ends with swivel bearing plates which may readily adjust themselves to the inclination of the roof at the particular point below the bases of the respective sections.

Other objects and advantages of the invention will be apparent during the course of the following detail description, taken in connection with the accompanying drawings, forming a part of this specification, and in which drawings,

Figure 1 is a perspective view showing the improved aerial mast erected upon a gable roof.

Fig. 2 is an enlarged front elevation of the improved mast.

Figure 3 is an enlarged front elevation of the foot of the bracing section.

Figure 4 is a side elevation of the foot portion of the bracing member.

Figure 5 is a front elevation of the improved aerial mast and showing the feet of the various sections in position for erection of the mast upon a flat roof.

Referring to the drawings in detail, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates generally the improved aerial mast embodying a pair of supporting standards B rigidly held together at their upper ends by means of an attaching fixture C; and bracing means D for supporting of the standards in a vertical position.

Each of the supporting standards B embodies a number of leg sections 10 which may either be of solid or tubular formation, and which leg sections are provided at their opposite ends with screw threads 11. These leg sections 10 which extend in upwardly converging relation to one another, are preferably connected by means of substantially T shaped fittings 12 having internal threads for receiving the threaded ends of the leg sections. A cross tie 13 comprising rod sections 14 for threaded engagement at their outer ends with the respective fittings 12, have their inner ends oppositely screw threaded for engaging in a centrally disposed T fitting 15. Carried by the lower end of each of the standards B, are attaching feet 16 each comprising an attaching or bearing plate 17 having upwardly extending spaced apart ears 18. A socket 19 adapted for screw threaded reception of the lower end of each standard, has a portion thereof extending between the spaced apart ears 18 for pivotally receiving a pivot pin 20 extending through the ears. Thus it will be seen that by reason of the threaded connection of the socket with the leg section, and the pivot pin 20, that the bearing plate 17 may be disposed at various angular positions with respect to the axis of the leg section. Referring now to the attaching fixture C, and which may be formed of metal or insulating material, the same is provided with diverging screw threaded sockets 21 for threaded

reception of the leg sections 10. A suitable eye 22 may be formed at the top of the fixture C, and which eye forms a suitable anchorage for one end of the antenna H.

A bracing means D and which may be disposed at either side of the standards B, comprises a stay rod or bar 23 threaded at each end, and one threaded end of which is adapted for threaded connection with the T fitting 15. A socket 24 which is adapted for screw threaded connection with the opposite or lower end of the rod 23, is adapted to be pivotally connected with an anchor block 25 as by a transversely extending pivot pin 26. Secured to the block 25 and extending in parallel relation with the pin 26, is a bendable strap like anchoring plate 27 provided with apertures 28 through which suitable fastening elements may be passed. By so attaching the strap 27 merely at its center to the block 25, the attaching end 29 of the strap may be readily bent downwardly over the ridge of a gable roof so as to conform with the angular pitch of the roof to each side of the ridge. By so having the fitting 15 receiving the oppositely threaded inner ends of the rod section 14, it will be seen that the stay 23 may be raised or lowered by pivoting about the cross tie 13.

In Figure 5, the improved mast is shown with the various base portions thereof in a position to permit of the mast being erected upon a flat roof. It is preferred that the anchoring plate 27 be left in a flat position as illustrated in Figure 5 in order that the same may either be left flat or shaped in any desired manner by the person erecting the mast to conform to the particular type of roof upon which the mast is being erected.

It will be seen that the mast may be readily erected on any type of roof, since the two pivotally connected feet 16 will automatically adjust themselves to the pitch or slant of the roof, and since the brace means D is swingable about the cross tie 13, the same may be readily raised or lowered at its lower or anchoring end in accordance with the variations in height between the feet 16 and anchoring slots 25, such variations being due to the various pitches of gable roofs and which pitches would determine the distance below the ridge of the roof at which the feet 16 would contact with the roof.

The bearing plates 17 are provided with apertures 30 through which suitable fastening elements may be passed for anchoring of the plates to the roof.

While the standards B have been shown as embodying merely two leg sections, it will be apparent that if so desired to provide a higher mast, that additional leg sections and cross ties may be provided, and if so desired a bracing means such as indicated by the letter D may be connected with each cross tie.

It will be seen that by so having the mast formed of sections as illustrated, the same may be readily shipped in a small and compact condition and yet when assembled will form a substantial mass suitable for the supporting of antenna wires.

From the foregoing description it will be apparent that an extremely simple and novel aerial mast has been provided which is extremely neat in appearance, and one which may be readily erected upon various types of roofs without the necessity of employing a plurality of guy wires for retaining the mast in proper position.

Various changes may be made in the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. An aerial mast comprising a pair of upwardly converging supporting standards joined together at their upper ends, a cross tie connecting the intermediate portions of the standards, bearing plates pivotally connected to the base of each standard, a stay rod pivotally connected at one end to said cross tie, and an anchoring block pivotally connected to the opposite end of said stay rod.

2. An aerial mast comprising a pair of sectional supporting standards joined together at their upper ends, a cross tie, couplings serving for connecting the sections of said standards and the cross tie at its ends to the standards, attaching feet pivotally carried by the base of each standard, a stay rod pivotally connected at its upper end to said cross tie, and an anchoring block pivotally carried by the lower end of said stay rod.

3. An aerial mast comprising a pair of supporting standards joined together at their upper ends, a cross tie connecting the intermediate portions of said standards, attaching feet pivotally carried by the lower end of said standards and having their pivot pins extending in right angular relation to said cross tie, a stay rod pivotally connected at one end to said cross tie, and an anchoring plate pivotally carried by the lower end of said stay rod and having its pivot pin extending parallel with said cross tie.

4. An aerial mast for the purpose specified comprising a pair of upwardly converging standards joined together at their upper ends and having a cross tie connecting the intermediate portions of the standards, brace means for retaining the standards in an erect position comprising a stay rod pivotally connected at one end to said cross tie and swingable in an arc vertically to various angular positions with respect to the standards, a socket carried by the free end of said stay

rod, an anchor block pivotally connected to the socket, and a bendable strap like anchoring plate connected at its medial portion to said anchor block and extending parallel with the pivotal axis of the anchor block.

5. A sectional aerial mast comprising a pair of supporting standards each embodying upper and lower sections having threaded terminal portions, connecting means for the upper ends of the standards, a T fitting connecting the sections of each standard in axial alignment and having their angular openings in confronting relation, a cross tie for the standards comprising rod sections connected at their outer ends in the angular openings of said T fittings and provided with oppositely threaded inner ends, and a T fitting having the terminals of its straight way opening oppositely threaded for threaded reception of the threaded inner ends of said rod sections, pivotal attaching feet threaded upon the lower end of each standard, a stay rod having one end threaded into the angular opening of the cross tie fitting, and a pivoted anchoring block threaded upon the lower end of the stay rod.

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