April 20, 1926. 1,581,325

R. J. SANDS

EXTENSIBLE MAST AND SUPPORTING MEANS THEREFOR

Filed Feb. 4, 1925

Fig. 1.

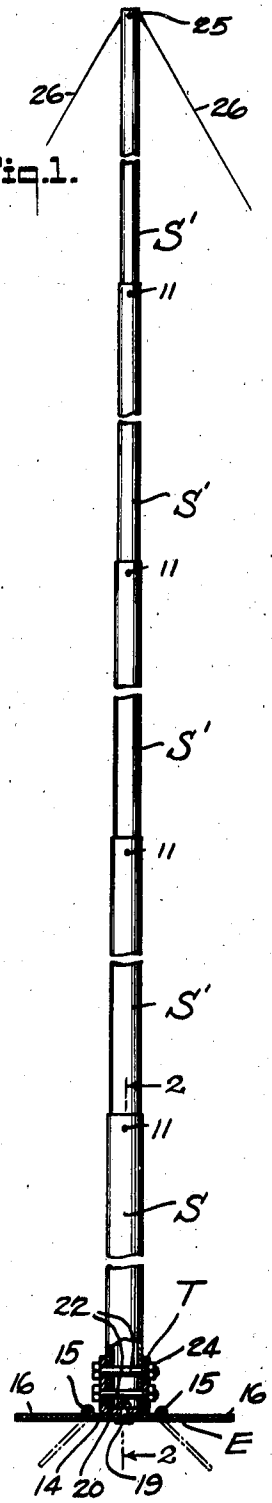


Fig. 2.

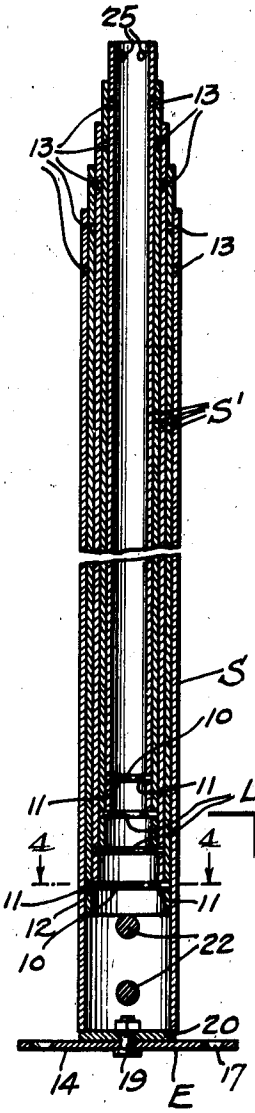


Fig. 3.

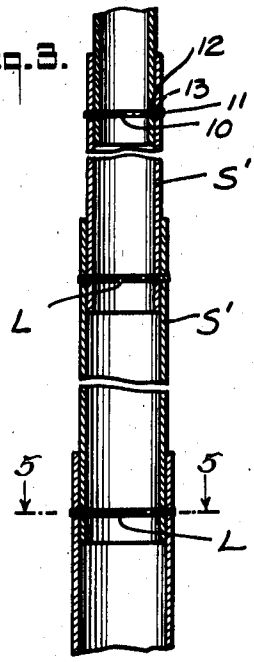


Fig. 4.

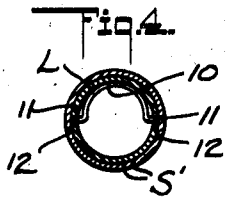


Fig. 5.

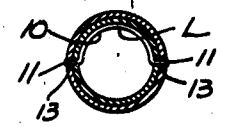
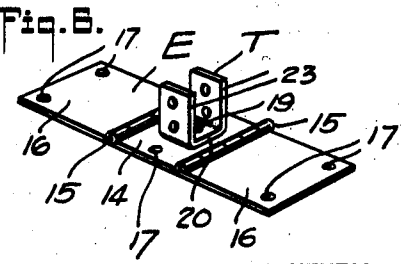


Fig. 6.



INVENTOR.
RUSSELL J. SANDS
BY Munn & Co.
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

RUSSELL J. SANDS, OF PASADENA, CALIFORNIA.

EXTENSIBLE MAST AND SUPPORTING MEANS THEREFOR.

Application filed February 4, 1925. Serial No. 6,874.

To all whom it may concern:

Be it known that I, RUSSELL J. SANDS, a citizen of the United States, and a resident of Pasadena, in the county of Los Angeles, State of California, have invented certain new and useful Improvements in Extensible Masts and Supporting Means Therefor, of which the following is a specification.

My invention relates to and has for its purpose the provision of an extensible mast having the desirable qualities of simplicity, lightness of weight, and durability, which is particularly adapted, although not necessarily, for use in supporting a radio antenna or the like in elevated position, and which comprises a plurality of sections extensibly associated with each other and having incorporated therein, simple and positive locking means for effectively securing the sections in extended position.

Another purpose of my invention is the provision of a member for supporting the mast in an upright position, the member having movable portions which are adjustable in a manner to permit the member to be secured to gable roofs of different pitches.

I will describe only one form of extensible mast and supporting means therefor embodying my invention and will then point out the novel features thereof in claim.

In the accompanying drawings:

Figure 1 is a view showing in side elevation one form of extensible mast and supporting means therefor embodying my invention with the sections in extended position, the lowermost section being broken away to disclose its connection with the supporting member.

Figure 2 is an enlarged vertical sectional view taken on the lines 2—2 of Figure 1 showing the sections in collapsed position.

Figure 3 is a view similar to Figure 2 showing a number of the sections locked in extended position.

Figures 4 and 5 are horizontal sectional views taken on the line 4—4 and 5—5 of Figures 2 and 3 respectively, and

Figure 6 is a detail perspective view of the supporting member.

Referring specifically to the drawings in which similar reference characters designate similar parts in each of the several views, my invention in its present embodiment comprises a casing or section S preferably formed of metal tubing having mounted therein a plurality of sections S′, also formed of metal tubes of graduated diameters which are telescopically associated with each other so as to occupy either an extended or a collapsed position. The sections S′ are each provided with a locking member L, extending transversely of the section and constructed from a single length of flexible wire bent to provide a resilient semi-circular body portion 10 having its ends bent oppositely to form latching bolts 11 extending into diametrically opposite openings 12 formed in the walls of each of the sections. The members L are graduated in size to loosely fit within their respective sections and occupy a contracted position when the sections are collapsed, with the ends of the latching bolts 11 urged into contact with the inner periphery of the next larger section, this position being clearly shown in Figures 2 and 4. Formed in the walls of the sections S and S′ near the upper ends thereof are openings 13 which are adapted to register with, and receive the locking bolts 11 of the next smaller section when the sections S′ are moved to extended position.

As shown in Figure 1, the section S is adapted to be secured to a supporting element or bracket E, preferably constructed of sheet metal and comprising a central section 14, to the opposite sides of which are adjustably secured by means of hinged connections 15, wing sections 16 of rectangular outline. The wing sections 16 are adapted to be swung about the hinges 15 so as to permit them to lie flat against the opposed sides of gabled roofs having different pitches. The central section 14 and wing sections 16 are provided with openings 17 to receive screws or other fastening members for securing the bracket E as a unit at the apex of the roof.

To secure the section S to the bracket E in a manner to provide a swiveled connection therebetween, a U shaped stirrup T is rotatably mounted upon the central section 14 by means of a bolt 19 extending through the central section and the base portion 20 of the socket, and which is provided with a nut 21 for securing the bolt in position. The section S is adapted to seat within the stirrup T and is supported therein by means of bolts 22 extending through registering openings formed in the vertical arms 23 of the socket and in the walls of the section S. The bolts 22 are provided with nuts 24 which clamp the section between the

arms 23 and thus serve to support the mast in upright position when the bracket E is attached to a roof. As shown in Figure 1 the uppermost section S′ is provided with a series of openings 25 for receiving the antenna or guy wires 26 the latter being secured at their opposite ends to any convenient support (not shown) and serving to prevent swaying of the mast during windy weather.

In practice, when it is desired to set up the mast, the bracket E is secured to the desired roof or other support and the section S bolted to the socket T. The antenna or guy wires are then attached to the uppermost section, it being understood that the sections are arranged in the collapsed position shown in Figure 2. The sections are then extended until the locking bolts 11 of one section are in registration with the openings 13 of the next larger section, in which position the bolts will be urged into the openings 13 by the expansion of the body portion 10 of the locking member from its contracted position, thereby effectively locking the sections together in extended position.

Should it be desired to return the sections to the collapsed position, a suitable instrument is inserted in the openings 13 and the locking bolts 11 forced inwardly against the outward urging action of the body portion 10 until the locking bolts clear the openings 13 and thus permit the sections to be moved to collapsed position. Furthermore, if it is desired to obtain a mast of less height than that provided with all sections extended, one or more of the sections can be collapsed and the mast thus reduced in height.

From the foregoing description it will be manifest that I have provided an extensible mast which is easily extended or collapsed, and which is provided with simple and positive means for securing the mast in upright position upon a gable roof.

Although I have herein shown and described only one form of extensible mast and supporting means therefore embodying my invention, it is to be understood that various changes and modifications may be made therein without departing from the spirit of the invention and the spirit and scope of the appended claim.

I claim as my invention:

An extensible mast comprising a plurality of telescopic sections movable to occupy collapsed and extended positions, said sections having openings therein, expansible members in the sections, each of which is constructed from a single length of flexible wire bent to provide an expansible body portion having lateral extensions at its free ends to form latching bolts urged outwardly from each other so as to extend through the openings in their respective sections when the latter occupy collapsed position, and to be projected into the openings of the next larger section under the expansive action of the body portion when the sections are moved to extended position, and thereby secure the sections against relative movement.

RUSSELL J. SANDS.