May 14, 1940. C. T. MASON 2,200,338

ANTENNA MAST

Filed Aug. 29, 1938

Fig. 1.

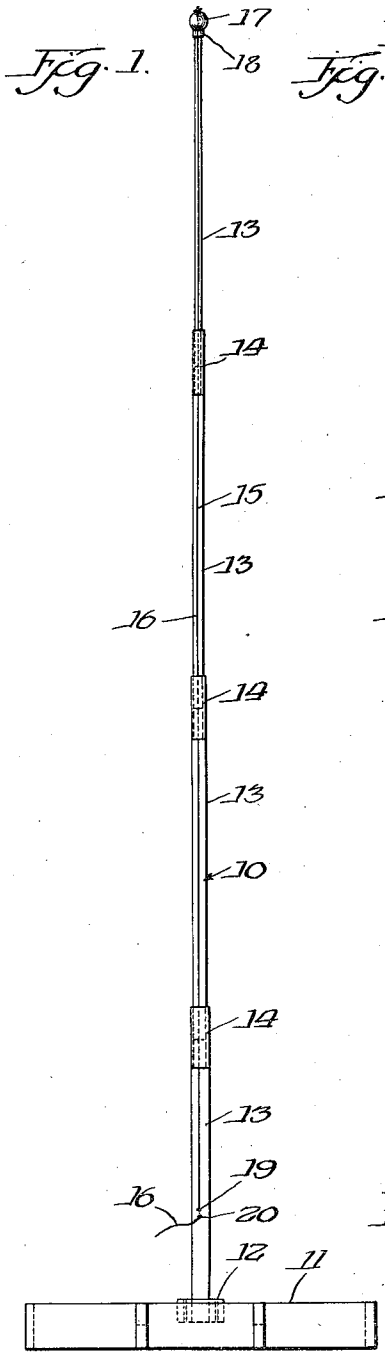


Fig. 2.

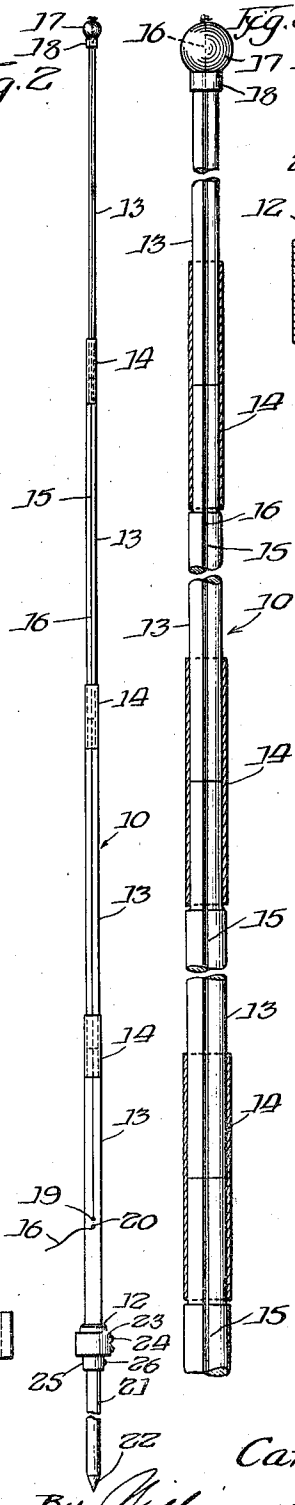


Fig. 3.

Fig. 4.

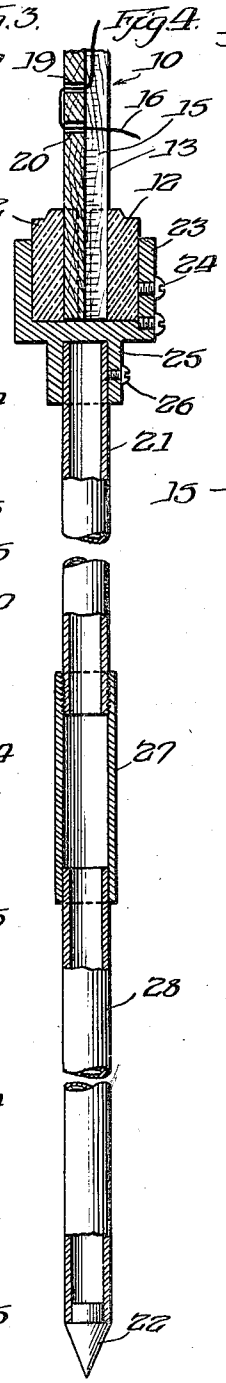
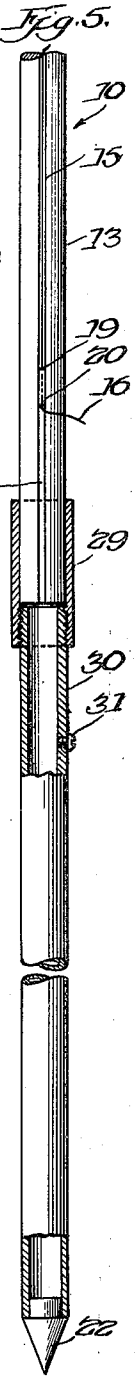


Fig. 5.



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ANTENNA MAST

Carl T. Mason, Chicago, Ill.

Application August 29, 1938, Serial No. 227,266

1 Claim. (Cl. 250—33)

My invention relates to an antenna mast, for use particularly in receiving and transmitting radio signals, and has particular reference to a sectional antenna mast which when erected may be used in a variety of places for both receiving and sending purposes.

Another object of my invention is the provision of an antenna mast comprising a plurality of sections of non-conducting material, such as wood or the like, with suitable members for connecting these sections in end-to-end relation with each other, with a channel in the side of the various sections within which an antenna is mounted, the antenna preferably extending from the top substantially to the bottom or base of the radio mast.

Another and further object of my invention is the provision of an antenna mast which may be mounted in a large variety of places, such as on the roofs of buildings with a special socket member being provided for the purpose if the mast is mounted directly on the building; upon automobiles and other moving vehicles by means of a socket provided for that purpose; or upon the ground or upon flat top buildings by means of a proper base provided for that purpose, or directly in the ground by driving a suitable tubular member having a point thereon directly into the ground and mounting the mast thereon.

In the use of radio masts for receiving and transmitting purposes, the all metallic mast has become in common use but the commercial handling of these devices is difficult, particularly for shipping purposes either by mail or express, and in these jointed masts the joints become loose and noisy, resulting in noise being picked up by the antenna and transmitted to the receiving set, and miscellaneous other difficulties which prevent the mast now in use from giving complete satisfaction. In my improved mast, these difficulties are overcome. There is no noise produced by the movement of the various sections of the antenna which can be transmitted into the radio receiving sets or upon the sending waves.

Another and further object of my invention is the provision of a radio mast which can be made in various sizes, dimensions and lengths for use in a variety of purposes and which can be packed for shipment and transmission in a comparatively small area and assembled by the user or erector of the radio set in a variety of places and positions to be determined by the necessities or desires of the operator.

These and other objects of my invention will be more fully and better understood by reference to the accompanying sheet of drawings, in which—

Figure 1 is an elevational view of my improved antenna mast mounted in a base;

Figure 2 is a vertical view of a mast mounted for insertion directly into the ground;

Figure 3 is a detailed elevational view of the various parts of the sections making up the mast;

Figure 4 is a view partially in elevation and partially in section of a mounted member for use in mounting the mast in the ground, with a lightning arrester at the top of the base member; and

Figure 5 is a view of a modified form of base mounting member for mounting the mast in the ground.

Referring now specifically to the drawing, and in which like reference characters refer to like parts throughout, the mast 10 is shown mounted in a base 11, the mast 10 being held by brackets 12 inserted in the base member 11 adapted to receive the base of the mast 10. The mast 10 is made up of a plurality of sections 13, 13 made of wood or some other suitable nonconducting material, and held in end-to-end relation with each other by means of ferrules 14, 14 into which the ends of the members 13 extend so that the continuous mast, such as 10, is formed by placing together these sections, particularly as shown in detail in Figure 3. Each of the sections 13 has a channel 15 extending longitudinally thereof, the channels 15 being adapted, when the sections 13 are assembled, to be in register and to have an antenna 16 extending longitudinally thereof, the antenna being fixedly mounted in a ball 17 mounted at the upper end of the mast 10 and at the end of the topmost section 13 with a small ferrule 18 being positioned around the end of the topmost section 13 to hold the antenna 16 in a position in the mast 10 and to protect the end of the topmost section 13.

In the lowermost section, a pair of transverse holes 19 and 20 are provided so that in placing the antenna 16 in position it is threaded down from the top in the channels 15 and under the ferrules 14, and placed transversely through the hole 19 and back through the hole 20, with the free end being provided for attachment to the radio receiving or sending apparatus as may be desired. The antenna is preferably made of braided or woven strands of wire, fabric or otherwise covered if desired, which of course is flexible and can be threaded through these openings, and when drawn taut in the channel 15 and threaded through these openings, 19 and 20, is held in fixed position with respect to the mast 10.

For the purpose of mounting the mast 10 in the ground in one form, a section of pipe 21 is shown having a pointed end member 22 inserted therein, on the upper end of which a socket member 23 is provided, within which the bracket members 12, 12 may be positioned, a clamping screw 24 being provided extending through the side wall of the member 23 and providing means by which the base of the radio mast 10 is clamped between the members 12 mounted in the socket 23. An extension 25 of the member 23 is adapted to fit over the section of pipe 21 with a screw 26 extending therethrough, which holds the member 25 in engagement with the section of pipe 21 and also provides means for the attachment of a ground connection from the radio receiving set, if such may be desired.

In case it is desired to lengthen the pipe, a member 27 may be provided into which the member 21 is threaded, and another section of pipe 28 placed therein and the point 22 mounted thereon so that the device may be driven into the ground as desired.

A further form of the mounting of the device in the ground is shown in Figure 5, wherein a socket member 29 is provided which is internally threaded at its lower end and is threaded to another section of pipe 30 having a screw 31 in the walls thereon to provide ground connection, with the point 22 being provided so that the device may be driven or otherwise placed in the ground to hold the mast 10 in position, the lower end of which is inserted into the socket 29 so that it is held in vertical position with the antenna 16 extending in the sides thereof as shown and described heretofore.

The erection and operation of the device will be readily understood in that the sections 13 are jointed together by inserting into the ferrule 14, with the antenna 16 being first placed in position in the topmost section 13 and drawn taut, and inserting the ferrule 14 into the channel of the second section 13, with the antenna in each instance inserted underneath the ferrules 14 until the bottom is reached, when it is threaded through the lowermost section as heretofore described. The mast 10 may then be inserted in the base member 11 through the medium of the bracket member 12 and set upon a flat roof or flat ground, the base 11 being of sufficient breadth and width to prevent the mast from overturning or from being blown over by the wind. The radio receiving set may then be connected to the antenna 16 as desired, and for purpose of sending the tapping off the sending antenna may be made at various points intermediate the length of the antenna 16 to provide for various sending wave lengths.

In case the device is to be driven into the ground, the base members are first placed in position and the lower end of the mast inserted in the sockets provided therefor, which will be sufficiently strong to hold the mast in the vertical position desired when the base members are driven or otherwise placed in the ground.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form and the proportion of parts and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit or scope of my invention.

I claim:

A radio antenna mast comprising in combination a plurality of elongated non-conducting sections, each of said sections having a continuous channel in its outer face extending from end to end thereof, tubular ferrules fitted over the ends of adjacent sections whereby the sections are held in end-to-end relationship with each other, a conducting, non-rigid antenna member extending longitudinally of said mast in said channels, the ferrules enclosing the antenna member, a conductive anchor member to which an end of the antenna is secured at the upper end of the top mast section, and means for anchoring the lower portion of the non-rigid antenna member to the lower mast section.

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