

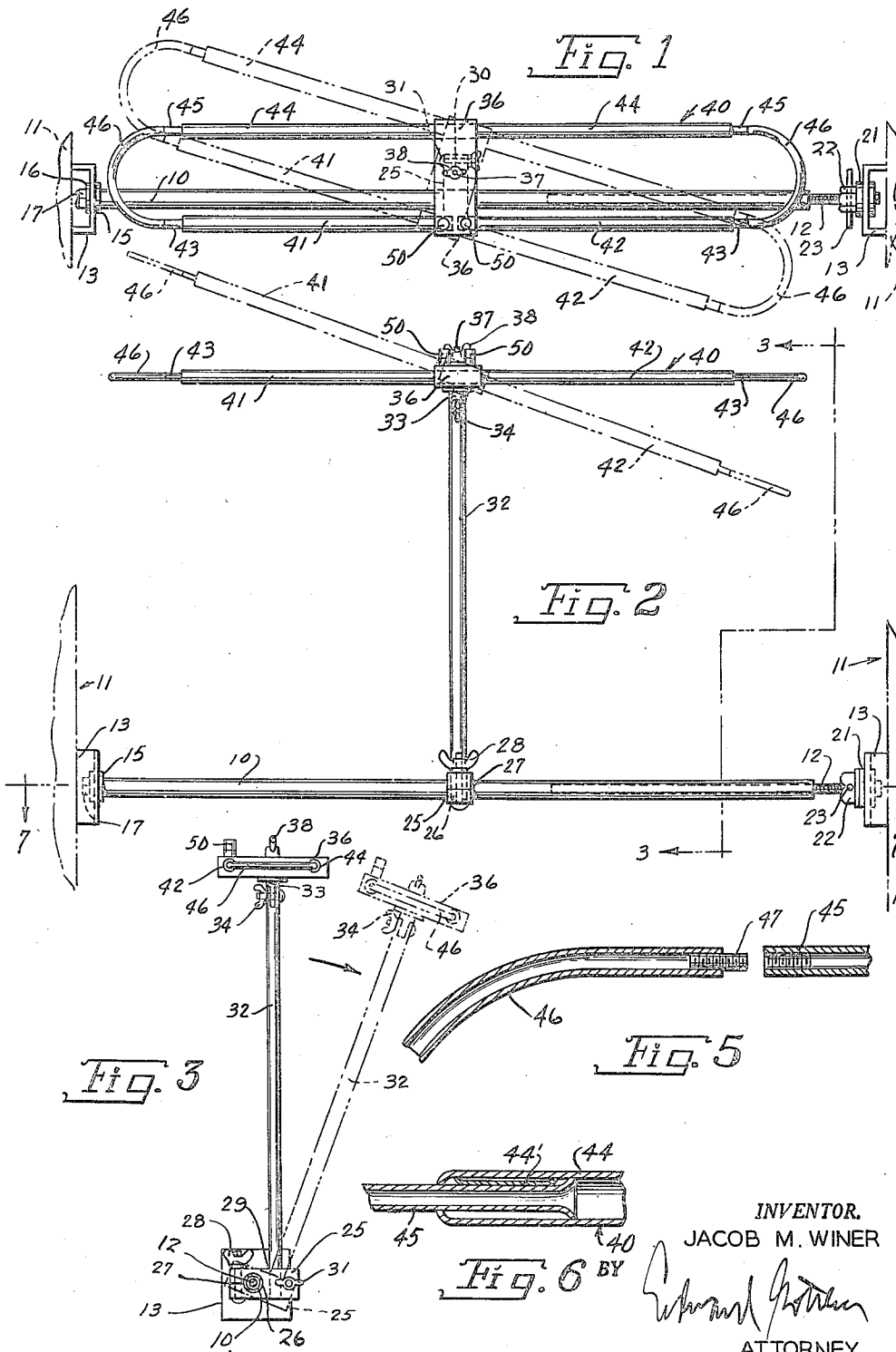
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J. M. WINER
TELEVISION ANTENNA

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2 Sheets-Sheet 1



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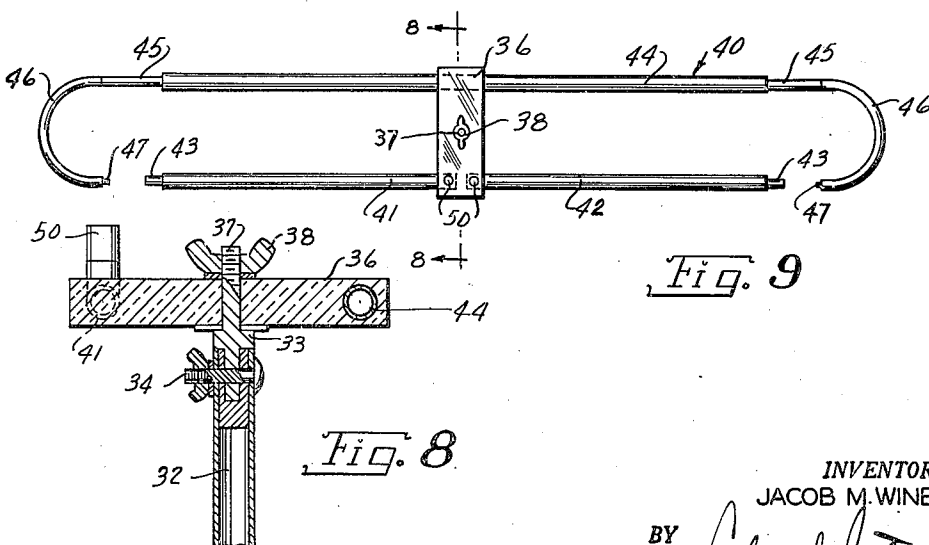
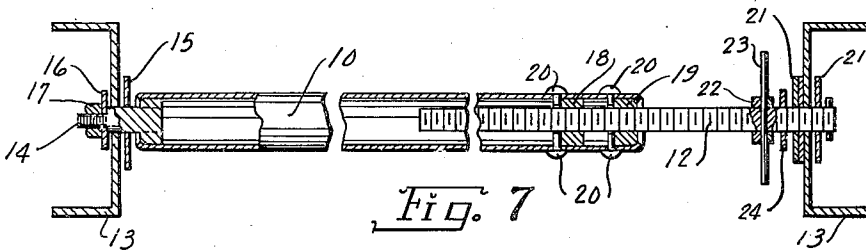
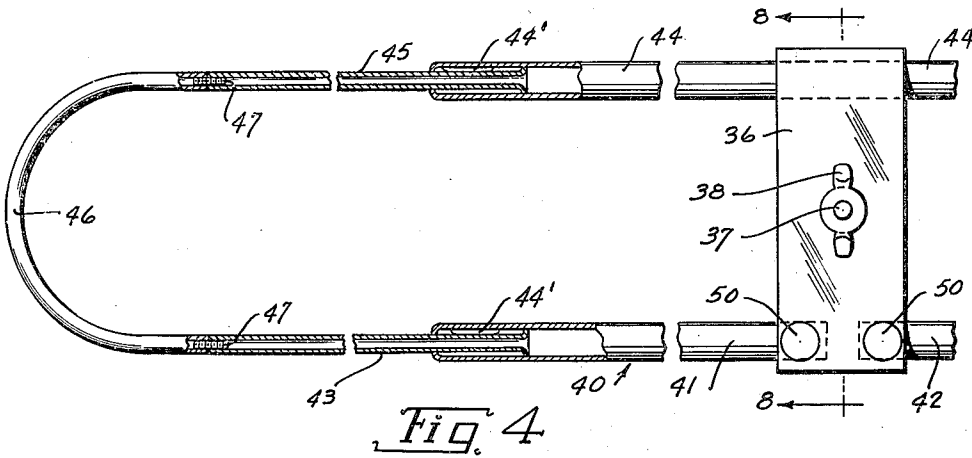
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TELEVISION ANTENNA

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1 Claim. (Cl. 250—33)

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This invention relates to new and useful improvements in television and FM antennae.

The invention particularly proposes a television and FM antenna which may be mounted outside of a window upon the window frame, or upon any other frame having two side arms. It is proposed to so construct the new antenna that it may readily be mounted in position without the use of tools, except for a turning key for firmly locking a clamp nut in position.

The invention makes use of a new antenna assembly made from a number of sections, certain of which are telescopic in order that the antenna assembly may be extended and retracted, and other sections of which are releasably connected with each other so that the antenna assembly may act in different ways, namely, it may constitute a folded di-pole, or di-pole and reflector, or a di-pole and deflector.

The invention further contemplates simple mechanism for supporting the antenna assembly in universal positions. With this arrangement the antenna may be suitably directed and adjusted to a most optimum position for any television or FM station, so as to intercept the signal from any point of the compass.

Another object of the invention is the construction of a television and FM antenna as described, which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure—

Fig. 1 is a plan view of a television and FM antenna constructed in accordance with this invention.

Fig. 2 is a front elevational view of the antenna shown in Fig. 1.

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary enlarged detailed view of a portion of the antenna assembly, certain parts being broken away to disclose interior parts.

Fig. 5 is an enlarged detailed sectional view of a portion of Fig. 4 illustrated with two of the sections of the antenna assembly separated.

Fig. 6 is another enlarged detailed sectional view of a portion of Fig. 4.

Fig. 7 is an enlarged horizontal sectional view taken on the line 7—7 of Fig. 2.

Fig. 8 is a sectional view taken on the line 8—8 of Fig. 4.

Fig. 9 is a plan view of the antenna assembly with certain sections thereof disconnected from

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each other to convert the assembly to a di-pole and a reflector or deflector.

The television and FM antenna, in accordance with this invention, includes a horizontal support 10 for extending across a window frame schematically shown on the drawings and indicated by reference numerals 11. The horizontal support 10 is associated with clamp means for mounting said support 10 in position across the frame 11. This clamp means includes a threaded rod 12 threadedly associated with the support 10. Clamp channels 13 are mounted on the outer ends of the threaded rod 12 and the support 10.

The support 10 is in the nature of a tube. A stud 14 is mounted in and projects from one end of the support 10 and passes through the back of one of the channels 13. Suitable washers 15 and 16 engage on the stud 14. The outer end of the stud 14 is threaded and provided with a nut 17. The other end of the support 10 is equipped with a pair of spaced nuts 18 and 19 which are held from shifting by being clamped by the material of the support 10 and furthermore by abutting against studs 20 mounted through the support 10 and engaging the inner sides of the nuts 18 and 19. The threaded rod 12 threadedly engages through the nuts 18 and 19. The outer end of the threaded rod 12 passes centrally through the back of the other channel 13. A group of washers 21 is mounted upon the outer end of the threaded rod 12 on opposite faces of the back of the channel 13. A nut 22 is engaged on the rod 12 and is held in a fixed position with a cross pin 23 engaged through the nut 22 and the rod 12.

A lock washer 24 is engaged in between the nut 22 and the adjacent washer 21. The horizontal support 10 may be firmly clamped in the frame 11 merely by turning the rod 12 to extend the rod 12 so as to expand the channels 13 to engage the rails in a window frame or other parts thereof. When the channels 13 firmly grip the rails, a turning tool, such as a length of pipe or a special turning tool is engaged upon the pin 23, and the rod 12 is strongly turned for tightly clamping the horizontal support 10 in position.

A clamp connector 25 is turnably mounted on the support 10 in order to assume various turned positions on said support 10. This clamp connector 25 is in the nature of a block having an opening 26 through which the support 10 passes. The opening 26 connects with a slot 27 extending to the end of the connector 25. A clamp screw and nut 28 engage through this end of the connector 25 by which the connector 25 may be clamped on the support 10 or released.

The other end of the clamp connector 25 is provided with a vertical opening 29 communicating with a vertical slot 30, see Fig. 1. A clamp screw and nut 31 engages through the latter end

of the connector 25 by which a post may be clamped in the opening 29. A post 32 is mounted on and projects from the connector 25 by having its bottom end engage in the opening 29. This post 32 extends in a plane at right angles to the axis of said support 10. A clamp knuckle 33 controlled by a clamp screw 34 is disposed on the top of the post 32 and is bendable in a plane substantially common with the axis of said support 10.

An insulation member 36 is turnably mounted on said clamp knuckle 33. More particularly, the clamp knuckle 33 is provided with a vertical stud 37 passing through an opening formed centrally in the insulation member 36. A clamp nut 38 is mounted on the top of the stud 37 by which the insulation member may be clamped in various turned positions upon the clamp knuckle 33. An antenna assembly 40 is mounted on said insulation member 36. Said antenna assembly comprises a pair of tubes 41 and 42 aligned with each other and projecting from opposite sides of one end of the insulation member 36 and connecting with terminal posts 50 mounted on the insulation member 36.

Tubes 43 telescopically engage in the outer ends of the tubes 41 and 42. A small spring 44' is engaged in each of the tubes 41 and 42 and engages against the sides of the tubes 43 for frictionally holding the tubes 43 in adjusted positions. The insulation member 36 supports another tube 44 extended through its other end and arranged parallel to the tubes 41 and 42. Telescopic tubes 45 engage in the ends of the tube 44. Small springs 44' are mounted within the ends of the tube 44 and engage the inner ends of the tubes 45 for frictionally holding the tubes 45 in extended or retracted positions. The outer ends of the tubes 43 and 45 are connected by U-shaped connectors 46. These U-shaped connectors 46 are provided with thread studs 47 at their ends which threadedly engage in the outer of the tubes 43 and 45. The connectors 46 are in the nature of bent tubes, see particularly Fig. 5.

The antenna assembly 40 may act as a folded di-pole when the U-shaped connectors 46 are connected with the tubes 43 and 45, as illustrated in Fig. 1. In this position the tubes 43 and 45 may be extended or retracted to control the spread of the antenna assembly. If desired either the tubes 43 or the tubes 45 may be turned so as to unscrew from the studs 47 of the connectors 46 to cause the antenna assembly to act as a di-pole with a reflector or deflector. In Fig. 9 the antenna assembly is shown in this condition.

The operation and use of the new television and FM antenna may be understood from the following:

The horizontal support 10 is mounted across the sides of a window frame or other frame. Then the post 32 may be pivoted to various positions by causing the connector 25 to turn about the support 10. One of these positions is schematically indicated in Fig. 3 by the dot and dash lines. In any selected position of the post 32, the antenna assembly 40 may be pivoted on the stud 37, as for example schematically indicated by the

dot and dash lines in Fig. 1. Furthermore, the antenna assembly 40 may be pivoted by pivoting the clamp knuckle 33 as indicated by the dot and dash lines in Fig. 2.

The main feature of the new television and FM antenna resides in the fact that it may easily be mounted across a window frame or other frame, and then the antenna assembly adjusted to a position best suited for reception from any particular television or FM station. Moreover, the antenna assembly may be adjusted to act as a folded di-pole or as a single di-pole and reflector or deflector for eliminating ghosts on the television picture.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

A television and FM antenna, comprising a horizontal support for extending across a window or other frame, clamp means for mounting said support in position across said frame, a clamp connector axially turnably mounted on said support in order to assume various turned positions on said support, a post mounted on and projecting from said connector in a plane at right angles to the axis of said support, a clamp knuckle on the top of said post bendable in a plane substantially common with the axis of said support, an insulation member turnably mounted on said clamp knuckle, means for clamping said insulation member in various turned positions on said clamp knuckle, a di-pole mounted on and projecting from said insulation member and having telescopic extendable and retractable end sections by which said di-pole may be extended and retracted, a reflector or deflector directional tube mounted on and projecting from said insulation member parallel to said di-pole and having telescopic extendable and retractable end sections, and U-shaped end sections releasably connected with the outer ends of the telescopic sections of said di-pole and directional tube in order to form a folded di-pole, and said U-shaped end sections being releasable for disconnecting said telescopic sections in order that said di-pole and directional tube act independently.

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