

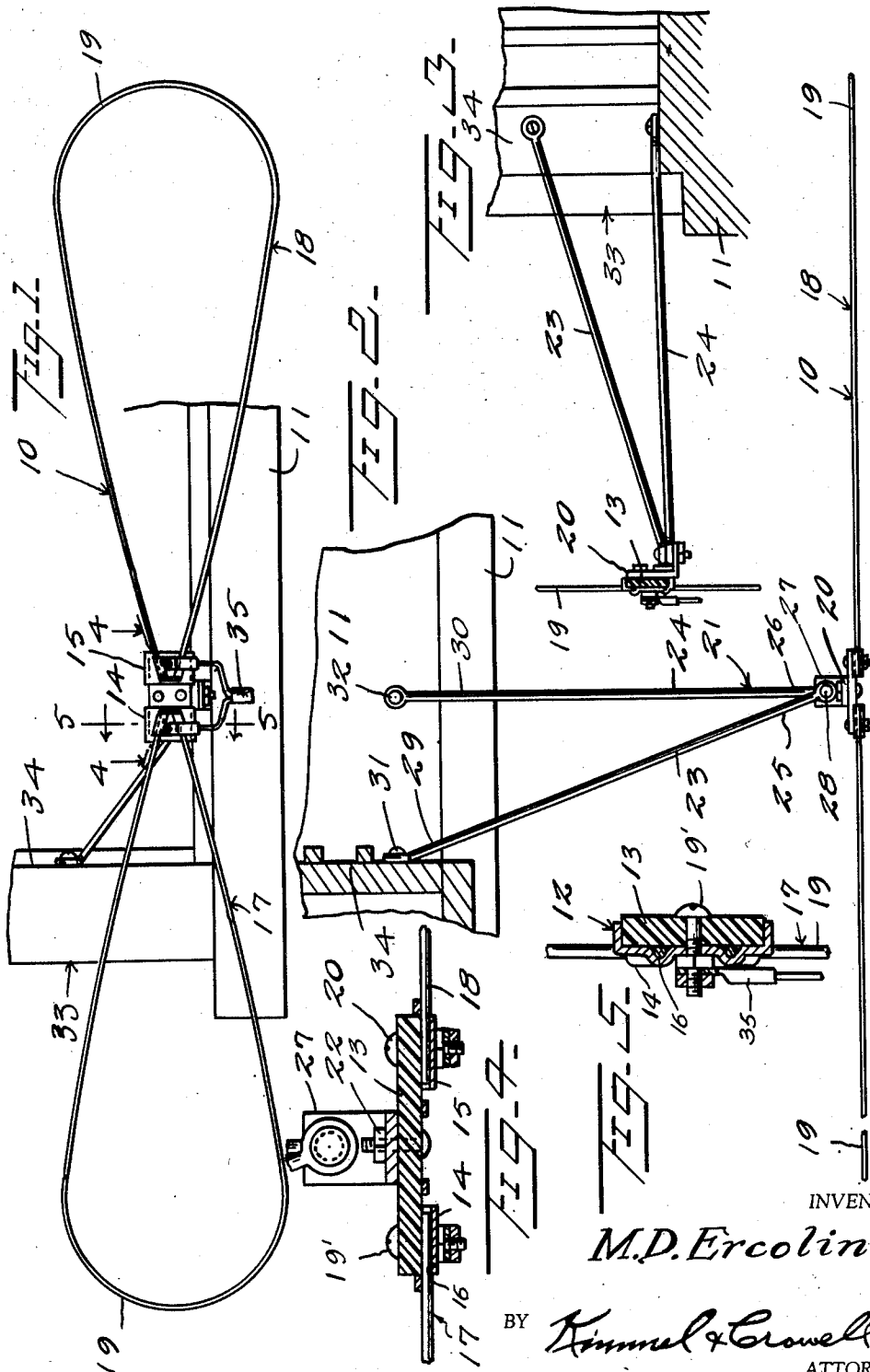
June 2, 1953

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2,640,929

TELEVISION ANTENNA

Filed May 23, 1950



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2,640,929

TELEVISION ANTENNA

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Application May 23, 1950, Serial No. 163,720

1 Claim. (Cl. 250—33)

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This invention relates to television antennas and more particularly a closed conical dipole antenna having a horizontal mount arm for mounting on a window sill.

In congested area and especially with apartment house dwellers in large cities the mounting of an outdoor television antenna has become a serious problem. Most of these areas are so closely situated relative to the sending stations that reasonable gain characteristics attainable with a dipole antenna will usually be found sufficient. However, even with a dipole system of simple construction it is often found impossible to secure sufficient space to erect a conventional type of antenna. It is therefore among the objects of this invention to provide a small antenna for home use that is efficiently responsive over the designated television and FM frequency band from 54 to 216 megacycles that does not need to be permanently affixed to a supporting structure.

Another object is to provide an antenna suitable for mounting on a window sill or similar support.

Another object is to provide an antenna for home installation that is inconspicuous and pleasing in appearance.

A still further object is to provide a directive antenna that is inexpensive of manufacture and installation and that can be readily oriented as to a sending station.

Other objects and advantages of the present invention which consists in the novel arrangement of cooperating parts, the combination and details of construction which will be disclosed as the description proceeds in conjunction with the drawing in which like numbers refer to like parts in the different views.

In the drawing:

Figure 1 is a front elevation of the antenna of this invention.

Figure 2 is a top plan view with the present device shown installed on a window sill.

Figure 3 is a side view in partial section with the dipoles fragmentated.

Figure 4 is a section taken on line 4—4 of Figure 1.

Figure 5 is a section taken on line 5—5 of Figure 1.

Referring now in detail to the drawing Figure 1 is a front view of the looped dipole antenna 10 of this invention erected in a horizontal position and extending forwardly of a window sill 11. The antenna 10 is provided with a clamp 12 formed with a center insulating block 13 of sufficient length to mount two spaced metal

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plates 14 and 15 formed with V-shaped wire receiving slots 16 in which are inserted the ends of wire loops 17 and 18 extending outwardly from the clamp 12 with bowed portions thereof formed to a uniform arc as at 19. The looped wires or dipoles 17 and 18 are preferably formed from a non-corrosive metal, such as stainless steel, or the like and formed looped dipoles dimensioned to resonate at the lowest frequency desired which in the case of television receiving is 54 megacycles. The total length of the wires in the present embodiment is substantially 48 inches to provide an effective length of approximately one-half of the 48 inches which I have found to resonate with high efficiency at substantially 108 megacycles representative of the mean frequency of the television range, namely, 54 to 216 megacycles, providing adequate reception in the "primary" areas.

The ends of the looped wire dipoles 17 and 18 are clamped in place by suitable screw means 19' and 20 securing the clamps 14 and 15 respectively to an insulating block 13. The clamp 12 is in turn bolted to the vertical portion of a horizontal arm or mast 21 by a pair of suitable bolt means 22. The horizontal mast 21 is formed of two wires 23 and 24 having their opposite ends turned back against themselves to provide suitable securing eyes with the outer ends 25 and 26 joined together and to an angled plate or bracket 27 by a suitable bolt as at 28. The opposite or inner ends 29 and 30 of the mast 21 are spaced apart and secured to a window frame 33 by suitable screw means as at 31 and 32. End 29 is preferably attached to one side 34 of the frame 33 with end 30 disposed downwardly and horizontally therefrom to be supported by the sill 11. By spacing the end 29 above the sill and to one side effects a suspension-like type of support for the dipoles 17 and 18. The length of the wires 23 and 24 is such as to provide proper spacing of the dipoles 17 and 18 outwardly of the window frame 33 for rotation of the dipoles in an arc of about 150 degrees which has been found suitable in the orienting of the antenna for certain stations. The wires 23 and 24 are preferably of non-corrosive material suitable for outdoor use.

A twin lead 300 ohm transmission line 35 or any suitable radio frequency transmission line is joined to the ends of the dipoles 17 and 18 by being bolted to the clamps 14 and 15 as best illustrated in Figure 1.

In most installations it will be found that very little adjustment of the dipoles is necessary in order to attain orientation of the receiver relative

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to the sending stations desired. However, in those cases where a stronger signal is desired or the elimination of an undesired signal is found necessary the dipoles 17 and 18 can be readily adjusted by angular adjustment of the arm sections 23 and 24 relative to each other.

While the preferred embodiment of the present invention has been disclosed it is understood that minor changes in the construction and arrangement of the cooperating elements may be resorted to within the scope of the appended claims without departing from the spirit of the invention.

I claim:

A television antenna comprising a mast formed of a pair of outwardly convergent supporting members, one of said members being substantially horizontal and the other of said members being inclined upwardly and inwardly, a right angular fitting having a horizontal side secured to the convergent ends of said members, an insulating plate fixed to the vertical side of said fitting, a pair of oppositely disposed looped di-

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poles, a pair of clamping plates formed with inwardly opening channels in which the inner ends of said dipoles engage, upper and lower flanges carried by said latter plates engaging over the upper and lower edges of said insulating plate, and means securing said pair of plates to said insulating plate.

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