July 26, 1966 J. K. KIHS 3,263,026

WIRE STAND-OFF

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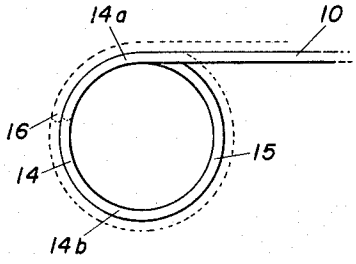


FIG. 4

FIG. 1

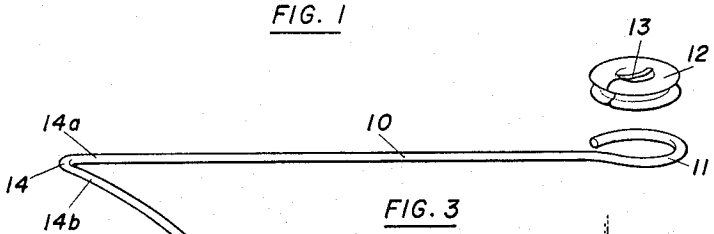
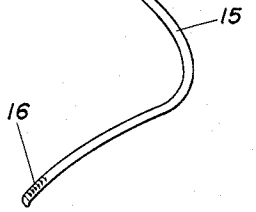
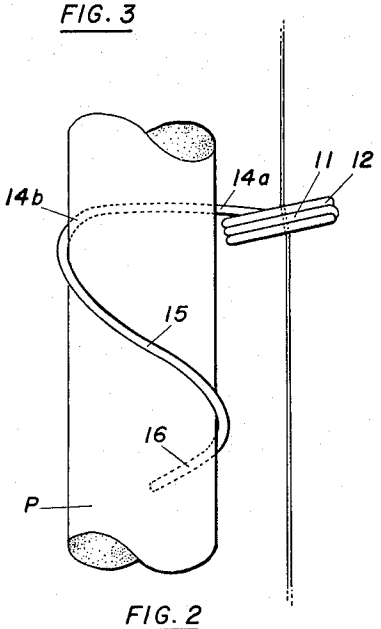


FIG. 3





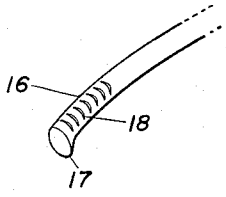


FIG. 5

FIG. 2

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WIRE STAND-OFF

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The invention relates to a guiding device for electrical wires of the type that is usually known as a "stand-off" and is commonly used in association with television antennas for guiding and locating the antenna cable, but is not confined thereto.

A common form of wire stand-off such as is in general use at the present time comprises a stem-like portion which usually has one threaded end and a ring or clasp portion for fastening around the antenna pole. The operation of fastening the clasp around the antenna pole is relatively time consuming, particularly bearing in mind that it is usually performed while standing upon a ladder at an elevation above a home and must be repeated many times to provide adequate control of the antenna wire. In addition, it is well known that the hardware attached to an antenna pole or in any other like exterior location is virtually used only once and therefore any unnecessary complications introduced into such mechanism rendering the same adjustable for example, or removable or replaceable is substantially entirely wasted. On the other hand, such wire stand-offs must be capable of lasting at least as long as the antenna wire itself and preferably many times such life so as to avoid damaging the antenna wire and causing more frequent replacement than would otherwise be necessary.

Accordingly, it is an objective of this invention to provide an antenna wire stand-off of simple rugged construction which is cheap and economical to manufacture, which is quick and easy to install without the use of tools, and which is both effective and reliable in use over extended periods of time.

More particularly, it is an objective of the present invention to provide an antenna wire stand-off for use in association with a television antenna pole which is made of a single length of wire.

More particularly, it is an objective of the present invention to provide a wire stand-off having the foregoing advantages incorporating spring attachment means for grasping the antenna pole without the use of mechanical or adjustable clasping or clamping devices.

More particularly, it is an objective of the present invention to provide an antenna wire stand-off having the foregoing advantages in which the tension on the antenna wire tends to maintain the stand-off device in clamping engagement with the antenna pole.

The foregoing and other advantages will become apparent from the following description of a preferred embodiment of the invention which is now given by way of example only and with reference to the following drawings in which like reference devices refer to like parts thereof throughout the various views and diagrams, and in which:

FIGURE 1 is an upper perspective illustration of an antenna wire stand-off shown in position on an antenna pole;

FIGURE 2 is an end elevation of the antenna wire stand-off and pole shown in FIGURE 1;

FIGURE 3 is a side elevational view of the antenna wire stand-off shown in FIGURES 1 and 2;

FIGURE 4 is a top plan view of the pole clasping portion only of the wire stand-off of FIGURE 1; and

FIGURE 5 is a greatly enlarged side elevational view of a detail of FIGURE 3.

Referring now to FIGURES 1 and 2 a portion of an antenna pole P is there shown for the sake of clarity, and

it will be appreciated that in practice, such pole P is continuous and will be fitted with many stand-offs, only one of which is here shown. The wire stand-off according to the invention comprises a stem portion **10** of straight wire, a wire attachment ring **11** of circular configuration containing within it a suitable plastic insulation block **12** slotted as at **13** to receive a flat TV antenna cable. The portion for clamping the pole P comprises a semi-circular ring portion **14** extending around the pole P for roughly one-half of its circumference at approximately the same plane, from about the point **14***a* to the point **14***b*. The lower portion of the clamping device comprises the spirally wound wire portion **15** which forms an extended spiral shape oriented downwardly below the semi-circumferential portion **14**, the spiral shape thereof being continuously extended down to the terminal point **16** which is located in alignment with about the mid-point of semi-circumferential portion **14**, or approximately one-quarter turn past the point **14***a*. It will be noted that the vertical spacing between terminal point **16** and semi-circumferential portion **14** is at least equal to the diameter of pole P so as to enable the same to be assembled on pole P without the use of tools.

End portion **16** is preferably provided with claw-like means comprising pointed or sharpened end **17** for engaging pole P and also with a series of teeth or serrations **18** for like purpose.

From FIGURES 2 and 3 it will be noted that stem portion **10** of this preferred embodiment of the invention is preferably slightly twisted so as to locate insulation block **12** at an angle to the horizontal during manufacture, and by means of which tension on the antenna cable W (shown in FIGURE 2) will tend to twist block **12** into a horizontal plane thereby applying torsion to stem **10** and causing spiral portion **15** and terminal portion **16** to bind around pole P and grip the same.

In operation, all that is required to attach the stand-off device according to the invention is to simply slip the end portion **16** around the pole P in a rotary twisting movement which immediately places it in clamping location around the pole P wherein it will securely grip the pole P against either movement up or down the pole P or twisting to one side or the other. In the event that some adjustment is required to align the device with other devices on the pole P, it may possibly be necessary to lift end **16** with a screwdriver, for example, to permit rotation of the device slightly, relative to pole P although, with a little practise this will become unnecessary.

Once in position, pole P is securely gripped by the spring clamping action of portions **14**, **15** and **16**, which, are preferably arranged about a circular diameter, as shown in FIGURE 4, which is somewhat less than the diameter of pole P, and which must be sprung slightly outwardly in order to fit around pole P. In addition, further resistance to rotational movement is provided by pointed end **17** and serrations **18**.

Either before or after this attachment step the cable may be introduced into insulation block **12** through the open side of slot **13** after which block **12** is rotated and ring **11** is pinched or clamped to grip block **12** firmly and close up slot **13**.

The foregoing is a description of a preferred embodiment of the invention which is here given by way of example only. It is not intended that the invention shall be limited to any of the specific features disclosed but comprehends all such variations thereof that come within the spirit and scope of the appended claims.

What I claim is:

1. A cable stand-off device for use in association with a cylindrical antenna pole or like support of predetermined diameter and comprising:

a wire stem portion;

a wire ring member at one end of said stem portion formed integrally therewith;

a slotted insulation block within said ring member;

spiral wire attachment means at the other end of said wire stem portion formed of wire integrally therewith wound to define a circle in plan of a diameter slightly less than the predetermined diameter of said pole;

and claw means on said attachment means for gripping said support.

2. A cable stand-off device for use in association with a cylindrical antenna pole or like support of predetermined diameter and comprising:

a wire stem portion, said stem portion being straight and incorporating a slight rotational twist along its length about its axis;

a wire ring member at one end of said stem portion formed integrally therewith;

cable insulation means within said wire ring member;

and spiral wire attachment means at the other end of said wire stem portion formed of wire integrally therewith wound to define a circle in plan of a diameter slightly less than the predetermined diameter of said pole.

3. A cable stand-off device for use in association with a cylindrical antenna pole or like support of predetermined diameter and comprising:

a wire stem portion, said stem portion being straight and incorporating a slight rotational twist along its length about its axis;

a wire ring member at one end of said stem portion formed integrally therewith;

a slotted insulation block within said ring member;

spiral wire attachment means at the other end of said wire stem portion formed of wire integrally therewith wound to define a circle in plan of a diameter slightly less than the predetermined diameter of said pole;

and claw means on said attachment means for gripping said support.

4. A cable stand-off device for use in association with a cylindrical antenna pole or like support of predetermined diameter for maintaining a cable parallel thereto and comprising:

a wire stem portion oriented to extend substantially in a horizontal plane normal to the axis of said pole;

a wire ring member at one end of said stem portion formed integrally therewith;

cable insulation means within said wire ring member;

spirally wound wire attachment means at the other end of said wire stem portion formed of wire integrally therewith and wound about an axis oriented to coincide with the axis of said pole, and a semi-rotational twist formed in said wire stem portion and locating said wire ring portion in a plane tilted from the horizontal prior to insertion of said cable, said stem portions being torsionally yieldable to tension in said cable parallel to said pole to permit said wire ring portions to adapt a horizontal position.

5. The device as claimed in claim 4, wherein said attachment means consists of a semi-annular wire portion constituted by an integral endwise extension of said stem portion; a spiral wire portion constituted by an integral endwise extension of said semi-annular portion, said spiral portion being springy having an internal diameter slightly less than the external diameter of said support; and claw means on said spiral wire portion for gripping said support.

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