May 11, 1954 L. D. JONES ET AL 2,678,374

TELEVISION ANTENNA DEFROSTER

Filed Feb. 13, 1953

Fig. 1

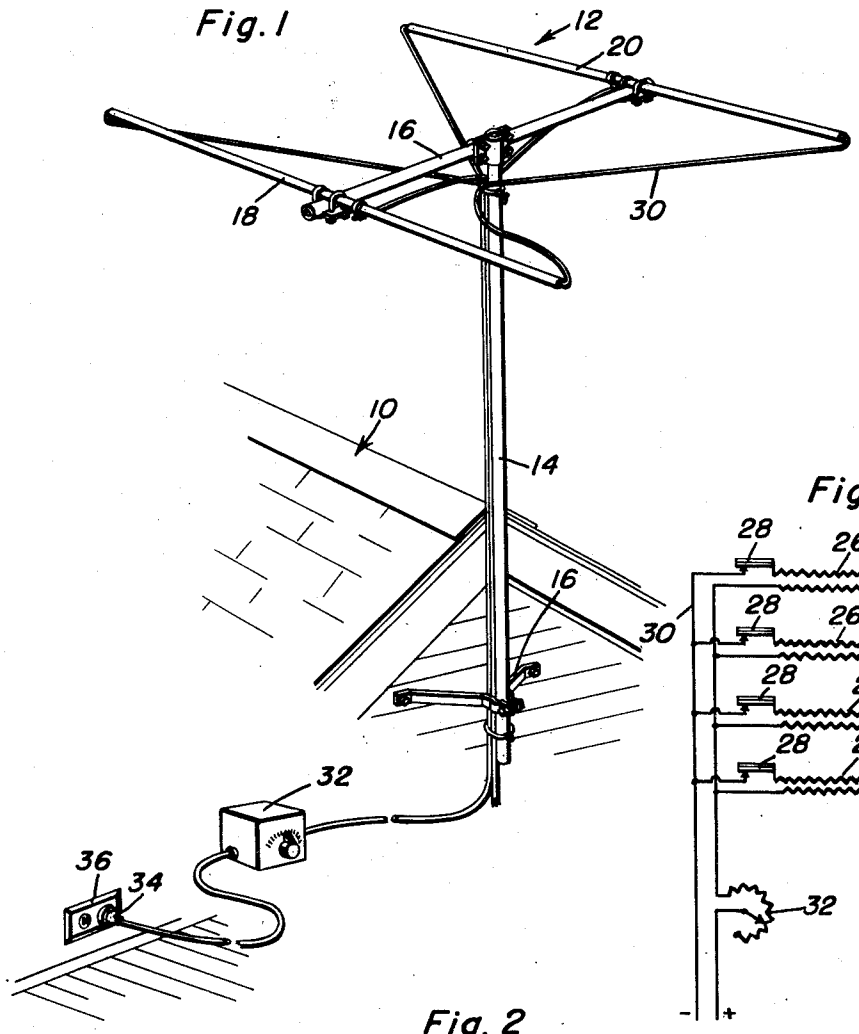
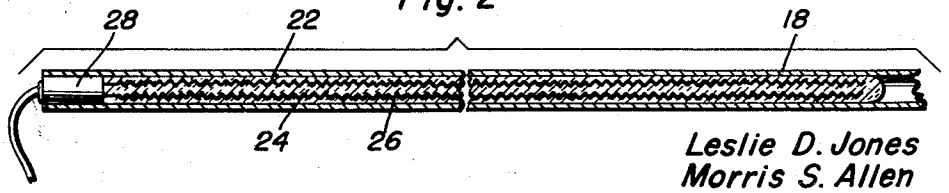


Fig. 3

Fig. 2



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Patented May 11, 1954 2,678,374

UNITED STATES PATENT OFFICE

2,678,374

TELEVISION ANTENNA DEFROSTER

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Application February 13, 1953, Serial No. 336,782

3 Claims. (Cl. 219—19)

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This invention relates to antennae such as are commonly used for reception of television signals and more particularly to means for keeping the antenna free from frost and ice which subjects the antenna to severe stresses resulting in damage to the antenna and distortion or destruction of the signal received.

The primary object of this invention resides in the provision for means of heating individually each of the tubular rods forming the antenna, which means may be easily installed in the varying types of conventional television antennae and which may be easily controlled from the interior of the building on which the antenna is installed.

The construction of this invention features the use of heating capsules which are adapted to be inserted in the tubular rods forming the antenna. Each of these capsules includes thermostatic elements for making and breaking an electrically operative circuit to the capsules.

Still further objects of the invention reside in the provision of an antenna defroster that is strong and durable, simple in construction and manufacture, capable of being installed on various existing types and models of television antennae, and which is relatively inexpensive to produce.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this antenna defroster, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a perspective view of the antenna defroster comprising the present invention;

Figure 2 is an enlarged sectional detail view illustrating one of the heating capsules used in this antenna defroster; and

Figure 3 is a wiring diagram of the circuits required to operatively connect this device to a source of power.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 generally designates a house or building on which the television antenna generally designated by reference numeral 12 is adapted to be installed. The television antenna is mounted on a suitable pole or support 14 secured by brackets 16 to the house 10. The antenna includes varying numbers of tubular support rods 16 and other tubular rods as at 18 and 20 adapted to act as dipoles. In conventional television arrays the number of support rods 16 or dipoles 18 and 20 that can be used vary greatly and accordingly any number of the heating capsules to be henceforth described may be required. The provision of these varying numbers of heating capsules is within the spirit and concept of this invention.

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Each of the heating capsules as is generally indicated at 22 comprises a cylinder 24 of asbestos which has embedded therein a heating coil 26. Each of the heating coils 26 is controlled by a thermostatic switch 28 immediately adjacent the heating element 26 forming part of the capsule 22. The asbestos cylinder 24 may be further insulated by a suitable electrically insulative binder. By means of suitable conductors 30 each of the heating coils 26 are connected through the thermally responsive switches 28 in parallel connection with each other and in series connection with a rheostat 32 or variable resistance switch. The variable resistance switch 32 provides means for turning the device on so as to pass current through the heating coils 26. However, since varying amounts of power will be required to be consumed by the heating coils 26 when the television antenna 12 is subjected to varying temperatures, the rheostat provides means for varying the amount of power that can be delivered to the heating coils 26. It is to be noted that the rheostat 32 can be calibrated and have indicia thereon indicating the setting for the rheostat at the varying outside temperatures. This rheostat 32 is connected to a plug 34 for connecting the device to a conventional outlet box 36 or other suitable source of electrical power.

Since the television antenna employs "skin effect" to obtain television broadcast frequencies, it has been found that the insertion of the capsules 22 within the tubular elements of the antenna does not have any deleterious effect whatsoever upon the signal received.

Since from the foregoing, the construction and advantages of this television antenna are readily apparent, further description is believed to be unnecessary.

However, since numerous modifications will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not intended to limit the invention to the precise embodiment shown and described, but all suitable modifications and equivalents may be readily resorted to.

What is claimed as new is as follows:

1. An antenna defroster comprising means for

connecting said defroster to an electrical power source, a variable resistance switch connected in series connection with said means, and means for heating the tubular rods forming the dipoles of an antenna electrically connected to said switch, said last recited means including a plurality of heating capsules connected in series connection with said switch and connected in parallel connection with each other, each of said capsules comprising a cylinder of insulative material having a heating coil embedded therein, said capsules being adapted to be inserted in said tubular rods of said antenna.

2. An antenna defroster comprising means for connecting said defroster to an electrical power source, a variable resistance switch connected in series connection with said means, and means for heating the tubular rods forming the dipoles of an antenna electrically connected to said switch, said last recited means including a plurality of heating capsules connected in series connection with said switch and connected in parallel connection with each other, each of said capsules comprising a cylinder of insulative material having a heating coil embedded therein, said capsules being adapted to be inserted in said tubular rods of said antenna, each of said capsules including a thermally responsive element for separately making and breaking the electrical circuit to each of said capsules.

3. An antenna defroster comprising means for connecting said defroster to an electrical power source, a variable resistance switch connected in series connection with said means, and means for heating the tubular rods forming the dipoles of an antenna electrically connected to said switch, said last recited means including a plurality of heating capsules connected in series connection with said switch and connected in parallel connection with each other, each of said capsules comprising a cylinder of insulative material having a heating coil embedded therein, said capsules being adapted to be inserted in said tubular rods of said antenna, said insulative material including asbestos, each of said capsules including a thermally responsive element for separately making and breaking the electrical circuit to each of said capsules.

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