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R. HAWKSLEY

2,033,633

METHOD OF ASSEMBLING ANTENNA MEMBERS

Filed July 21, 1934

Fig. 1.

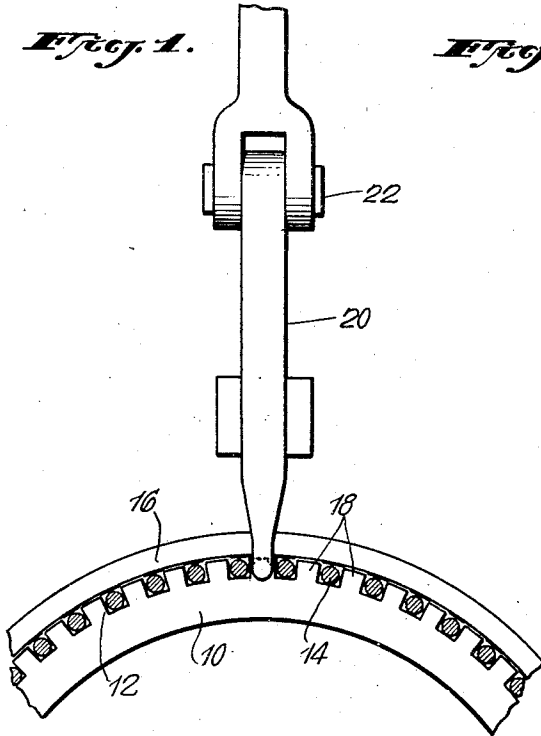


Fig. 2.

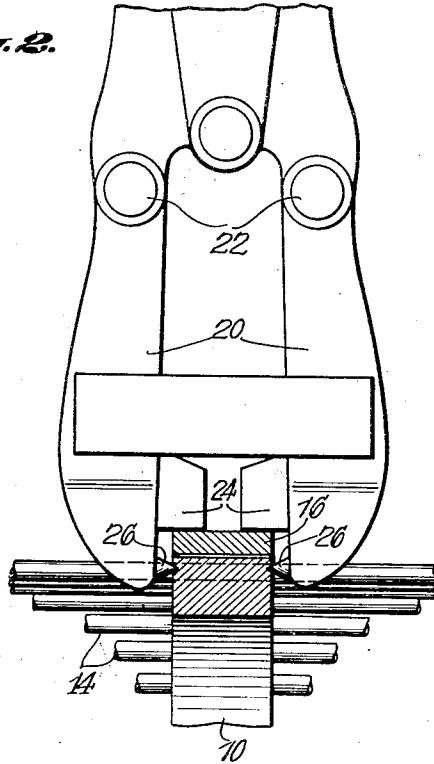


Fig. 3.

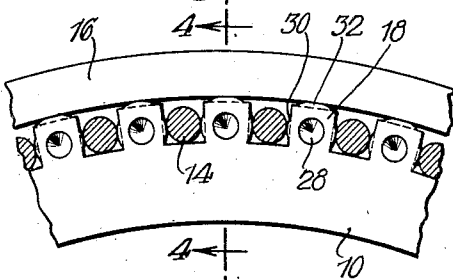


Fig. 4.

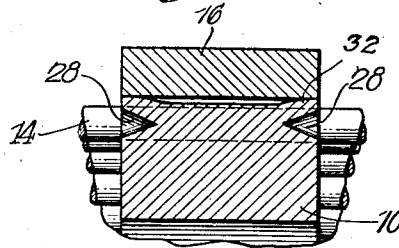
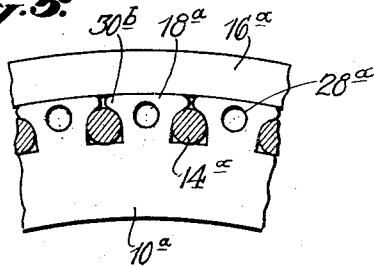


Fig. 5.



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METHOD OF ASSEMBLING ANTENNA MEMBERS

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3 Claims. (Cl. 29—155.5)

In a copending application Ser. No. 723,814, filed May 4, 1934, I have disclosed an improved type of antenna and a method and means of assembling the component parts thereof. The antenna in my previous application included a multiplicity of circularly spaced wires held in spaced relation by a pair of telescopically engaged rings, one of which had a plurality of notches for accommodating wires.

The present invention is a continuation in part of the former invention and relates particularly to improvements in a method for securing the telescopically engaged rings against relative movement and also means for securing the circularly arranged wires with respect to such rings. According to my improved method I utilize a pair of telescopically engaged or nested rings, one of which has a plurality of slots or notches therein for the accommodation of wires constituting the antenna cage, and to fixedly secure the parts against relative movement I distort the metal of one of the rings so as to jam or cause the members of the assemblage to tightly contact with one another. The invention will be fully apparent from the following detailed disclosure when read in connection with the accompanying drawing and will be defined with particularity in the appended claims.

In the drawing Fig. 1 is a fragmentary view showing the component parts of the cage-like antenna and the tool for distorting one of the parts; Fig. 2 is a sectional view at right angles to Fig. 1 before the parts are interlocked the telescopically engaging rings being shown in section; Fig. 3 is an enlarged view of a portion of an antenna after the metal of one of the ring members has been distorted; Fig. 4 is a transverse section on line 4—4 of Fig. 3; and Fig. 5 is a view similar to Fig. 3 but illustrating slight modification.

Referring in detail to the drawing, the antenna comprises an inner ring 10 formed with a multiplicity of substantially radial notches 12 of suitable size to suit the diameter of the multiplicity of wires 14 forming the conductors of the antenna cage. An outer keeper ring 16 telescopically engages the ring 10 and in accordance with the present invention the internal diameter of the ring 16 makes a relatively loose fit over the exterior of the notched ring 10 so as to facilitate ease of assembly.

In accordance with my improved method forming part of the present invention after the parts are assembled as shown in Figs. 1 and 2, I distort the lands of metal 18 lying between the

slots 12 preferably by the use of a tool such as shown in Figs. 1 and 2. This tool comprises a pair of jaws 20—20 pivotally mounted at 22—22 on any suitable frame member. Any suitable or well known force means may be utilized to cause the jaws to approach and recede from one another. No claim is made for the jaw actuating mechanism and therefore the same is not further illustrated. A known type of mechanism as used in bolt cutting tools may be employed.

However, one feature of the present invention resides in the provision of gauge or bottom members 24—24 which are adapted to be brought into contact with the outer periphery of the keeper ring 16 so as to properly position the deforming teeth 26—26 for coaction with the lands 18. The act of causing the jaws 20 to approach one another will deform the metal as shown, for example, in Figs. 3 and 4 by forming recesses 28—28 in the lands 18 and causing the bodies of metal 30—32 to be outwardly deformed, the bodies 30 jamming against the antenna wires 14 and the bodies 32 closing the space between the outer periphery of the ring 10 and the inner core of the keeper ring 16 thus jamming or interlocking the entire assemblage.

In the modification of Fig. 5 the metal of the lands 18a is distorted in a slightly different manner so as to form overhanging portions 30b which restrict the outer dimensions of the slots 12 and which also exercise the clamping action on the wires and a wedging action on the keeper ring 16a.

While I have described quite precisely certain specific steps in the method of securing the antenna parts and in the tool for distorting certain of the elements thereof, it is not to be construed that I am limited thereto since various modifications may be made by those skilled in the art without departure from the invention as defined in the appended claims.

What I claim is:

1. In the making of antenna cages the method which comprises assembling a multiplicity of wires in notches formed in a spacing member, telescopically engaging a keeper member with the latter and distorting the spacing member thus binding the wires in the notches and jamming the assemblage so that said members cannot move relatively to one another.

2. In the making of antenna cages the method which comprises assembling a multiplicity of wires in notches formed in the outer face of a circular metal spacing member, fitting a keeper ring over the latter and distorting the metal of

the spacing member thus binding the wires in the notches and jamming the assemblage so that said members cannot move relatively to one another.

- 5 3. In the making of antenna cages the method which comprises assembling a multiplicity of

wires in spaced relationship between the opposed annular faces of a pair of telescopically engaged rings and distorting one of said rings thus jamming the assemblage and securing the several parts against relative movement.

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