

May 5, 1936.

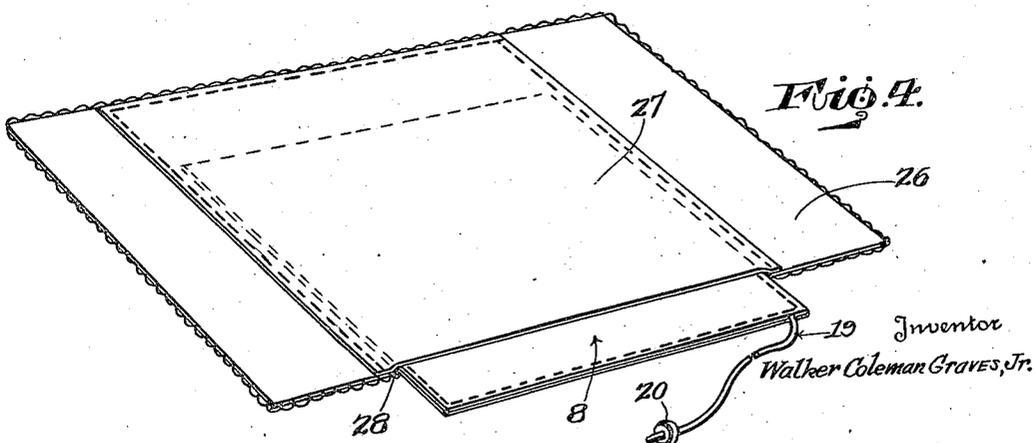
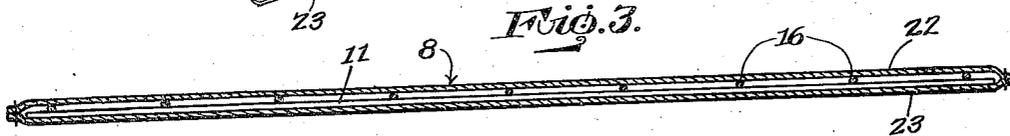
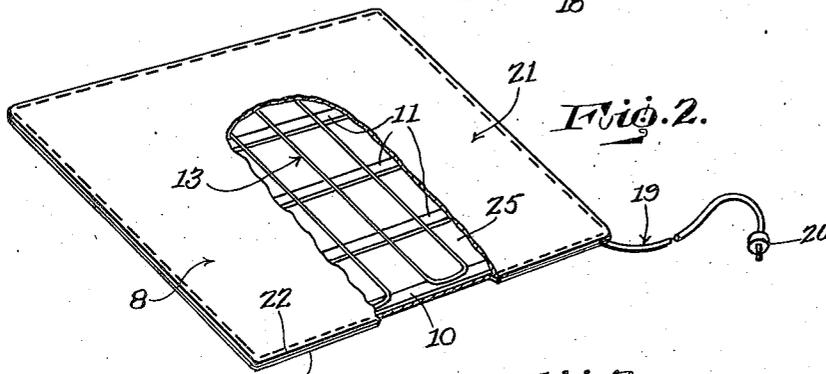
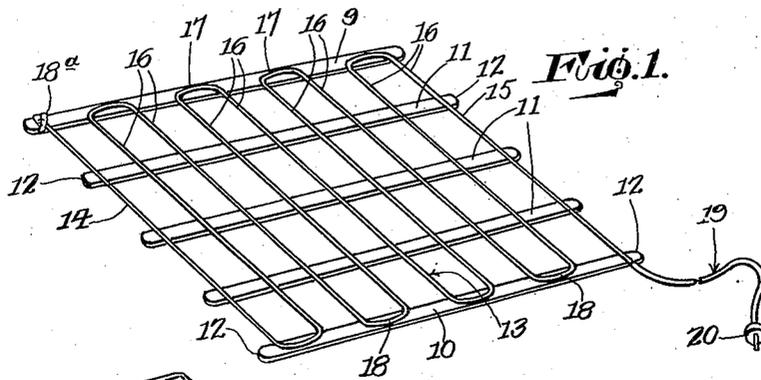
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2,039,988

RADIO ANTENNA UNIT

Filed Sept. 30, 1935

2 Sheets-Sheet 1



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Fig. 5.

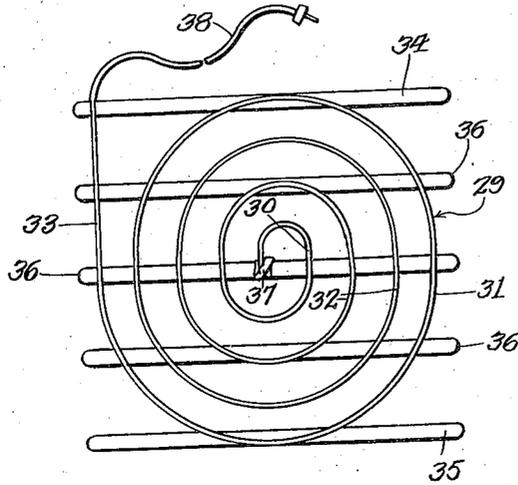


Fig. 6.

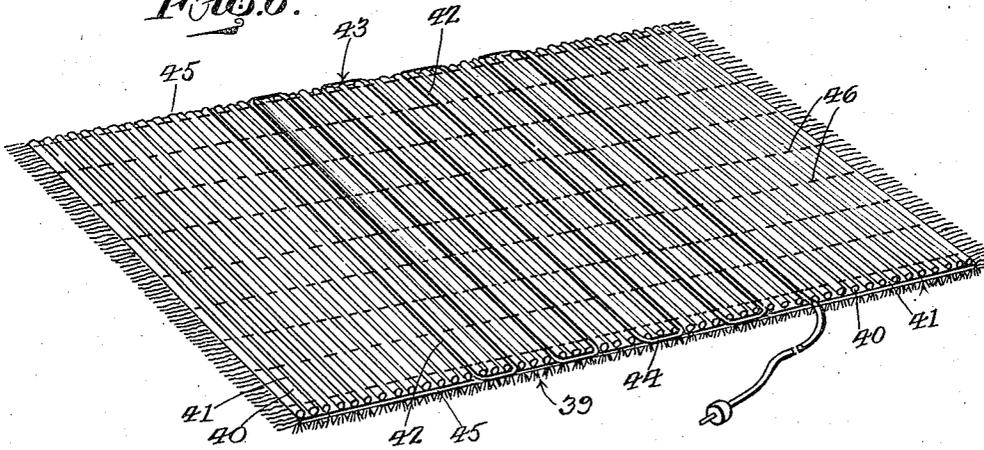
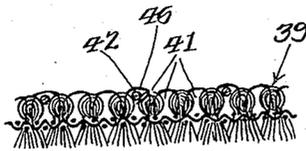


Fig. 7.



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# UNITED STATES PATENT OFFICE

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## RADIO ANTENNA UNIT

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Application September 30, 1935, Serial No. 42,912

3 Claims. (Cl. 250—33)

This invention relates to a radio antenna unit, and has for its object to provide, in a manner as hereinafter set forth, a portable unit of such class having its appearance appealing to the aesthetic sense and capable of being conveniently arranged at any desirable point within and for eliminating the use of unsightly wires strung around a room.

A further object of the invention is to provide, in a manner as hereinafter set forth, a portable radio antenna unit having its receiver element concealed and with the unit of a form capable of being disposed flatwise upon the floor of a room; supported upon an article of furniture and connected to a table covering.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a radio antenna unit which is simple in its construction and arrangement, strong, durable, compact, in the form of a drugget, conveniently transported to the position desired, attractive in appearance, readily installed with respect to the antenna post of a radio receiving set, thoroughly efficient in the use intended thereby and inexpensive to manufacture.

With the foregoing and other objects which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and as are illustrated in the accompanying drawings wherein are shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a fragmentary view in perspective of the unit,

Figure 2 is a perspective view of the unit broken away at its front face,

Figure 3 is a longitudinal view of the unit,

Figure 4 is a perspective view of the unit partly extended into a covering for an article of furniture,

Figure 5 is a fragmentary view in elevation of a modified form of receiver forming an element of the unit,

Figure 6 is a perspective view of a modified form of antenna unit inverted, and

Figure 7 is a sectional detail of the structure shown in Figure 6.

With reference to Figures 1, 2 and 3, the unit generally indicated at 8 includes a set of spaced parallel narrow, thin supports of like and the desired length. The outer end supports of said set are indicated at 9, 10 and the intermediate

supports at 11. Each support will have its ends 12 rounded. The supports are arranged in equidistant spaced relation and are formed of any suitable electrical non-conducting material. Arranged against corresponding faces of the supports is a receiver element generally indicated at 13 and which is formed from a length of any suitable wire. The latter may or may not be insulated and is shown as being non-insulated from end to end thereof. The element 13 consists of a series of equidistant spaced straight parallel stretches and two sets of spaced curved bends connecting the stretches together and disposed at right angles to the ends of the stretches. The outer stretches of the element 13 are indicated at 14, 15. The intermediate stretches of the element 13 are designated 16. The bends of one set and the bends of the other set of element 13 are designated 17, 18 respectively. The stretches 14, 15 and 16 extend from the support 9 to the support 10 and are disposed transversely of the supports 11. The bends 17 are arranged on support 9. The bends 18 are arranged on the support 10. The free end of stretch 14 is secured to an end of support 9 by an adhesive tape 18<sup>a</sup>. The stretches and bends of element 13 are secured by any suitable means to the supports and these latter, when secured to the stretches and bends, act as a bracing means for element 13, a means for maintaining the stretches in spaced relation and a means for retaining the bends of each set in spaced relation. The stretch 15 has that end thereof which is not connected to a bend disposed at the outer side edge of support 10.

The unit 8 includes a lead element 19 for connection to the antenna post, not shown, of a radio receiving set. The element 19 forms a continuation of the wire which provides the element 13. The element 19 extends from the stretch 15, is insulated throughout, carries a plug 20 and is of the length desired.

The unit 8 includes an enclosing cover element 21 for concealing the supports and element 13. The element 21 is formed of two sections 22, 23, preferably of electrical non-conducting material. The sections 22, 23 are secured together in superimposed relation, at the marginal portions thereof, by rows of stitching 24 and which provides a closed pocket 25 in which are arranged the supports and element 13. The element 19 extends from element 21 between the sections of the latter. The bodies of the sections 22, 23 may be of any suitable design for the purpose of making the unit 8 attractive in appearance.

With reference to Figure 4 there is shown a

cover 26 for an article of furniture. The cover 26 has secured to one face thereof a web of fabric 27 to provide, in connection with the body of the cover 26, a pocket 28 for receiving the unit 8 whereby the latter may be disposed upon an article of furniture.

With reference to Figure 5, there is illustrated a modified form of receiver element 29 for the antenna unit. The element 29 is formed from a length of any suitable wire. The latter may or may not be insulated and is shown as being non-insulated throughout. The element 29 is formed of a series of coils and with the coils progressively increasing in length from the inner to the outer coil. The inner and outer end coils of element 29 are indicated at 30, 31 respectively and the intermediate coils at 32. The coils are arranged in equidistant spaced relation. The element 29 also includes a straight stretch 33 which merges at its inner end into the outer end of the outer coil 31. There is associated with the element 29 a set of spaced parallel narrow thin supports of like and the desired length. The outer end supports of said set are indicated at 34, 35 and the intermediate supports at 36. Each support will have its ends rounded. The supports are arranged in equidistant spaced relation and formed of any suitable electrical non-conducting material. The coils 30, 31, 32 and stretch 33 of the element 29 extend across corresponding faces of the supports 34, 35 and 36. The coils 30, 31, 32 and stretch 33 are secured by any suitable means against the said corresponding faces of the supports. The inner end of the inner coil 30 of the body part of element 29 is anchored to the central support of the intermediate supports 36 by an adhesive tape 37. The outer end of the stretch 33 of the element 29 is flush with the outer side edge of the support 34. The outer coil 31 of element 29 extends upon the outer end supports 34, 35 and the intermediate supports 36. Extending from the outer end of the stretch 33 is a lead element 38 constructed in the same manner and for a like purpose as the element 19. The element 29 and supports 34, 35 and 36 are adapted to be housed and secured in the cover element 26.

With reference to Figures 6 and 7, a modified construction of antenna unit is illustrated and which consists of a rug 39 of the form which has its bottom face provided transversely thereof with spaced parallel ribs 40 forming spaced parallel channels 41. Seated in certain of the channels 41 which are spaced from each other by a plurality of the other of said channels are the stretches 42 of a receiver element 43 of the form shown in Figure 1. The stretches 42 correspond in length to that of channels 41. The bends 44 of the elements 43 are arranged at the side edges 45 of the body of the rug 39. The stretches 42 are secured in the channels 41 by the stitchings 46 which form parts of the body of the rug. Extended from elements 43 is a lead element 47 of a construction similar to and for the same purpose as the element 19.

What I claim is:

1. In a portable antenna unit a series of spaced parallel, thin, narrow, flat supports disposed in lengthwise edge relation, a receiver element formed of a series of spaced pairs of parallel stretches and curved bends arranged in staggered relation and alternately disposed with respect to the said pairs of stretches, each bend coupling a pair of stretches together, said bends and the ends of said stretches being positioned upon one face of and secured to the outer supports of said series, said stretches being disposed transversely upon the inner supports of said series, a lead element for an antenna post forming a continuation of one of said stretches, a close cover element of non-conducting material completely concealing said receiver element and said supports and having said lead element extended therefrom, means for anchoring one of the ends of said receiver element to one end of an outer support of said series of supports, and said lead element forming a continuation of said receiver element at the other end of the latter.

2. In a portable antenna unit a series of spaced, parallel, thin, narrow, flat supports substantially of oblong contour in plan and arranged in lengthwise edge relation, a non-insulated receiver element formed of a series of parallel spaced pairs of parallel stretches and curved bends arranged in staggered relation and alternately disposed with respect to said pairs of stretches, said bends and the ends of said stretches being mounted on and secured to one face of the outer supports of said series, said stretches being disposed transversely of and secured to that face of the intermediate supports which corresponds to the faces of the said outer supports, an insulated lead element for an antenna extending from one end of said receiver element, means for anchoring the other end of said receiver element to one end of one of said outer supports, and a cover element of non-conducting material completely concealing said receiver element and having said lead element extended outwardly therefrom.

3. In a portable antenna unit a series of spaced parallel flat supporting members disposed in lengthwise edge relation, a conductor element formed of a single length of material bent upon itself to form folds and parallel stretches, and means for securing said element upon said supporting members, said parallel stretches arranged transversely of said supporting members and acting to maintain the supporting members in spaced relation, said parallel stretches acting also to brace the supporting elements, a flexible casing for said conductor element and supporting members for enclosing and concealing them, a lead end of said conductor projecting from said casing and said whole structure providing a flexible and readily adjustable concealed antenna unit.

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