

March 2, 1926.

1,575,496

R. H. MANSON

RADIOPLUG

Filed March 20, 1922

FIG. 1

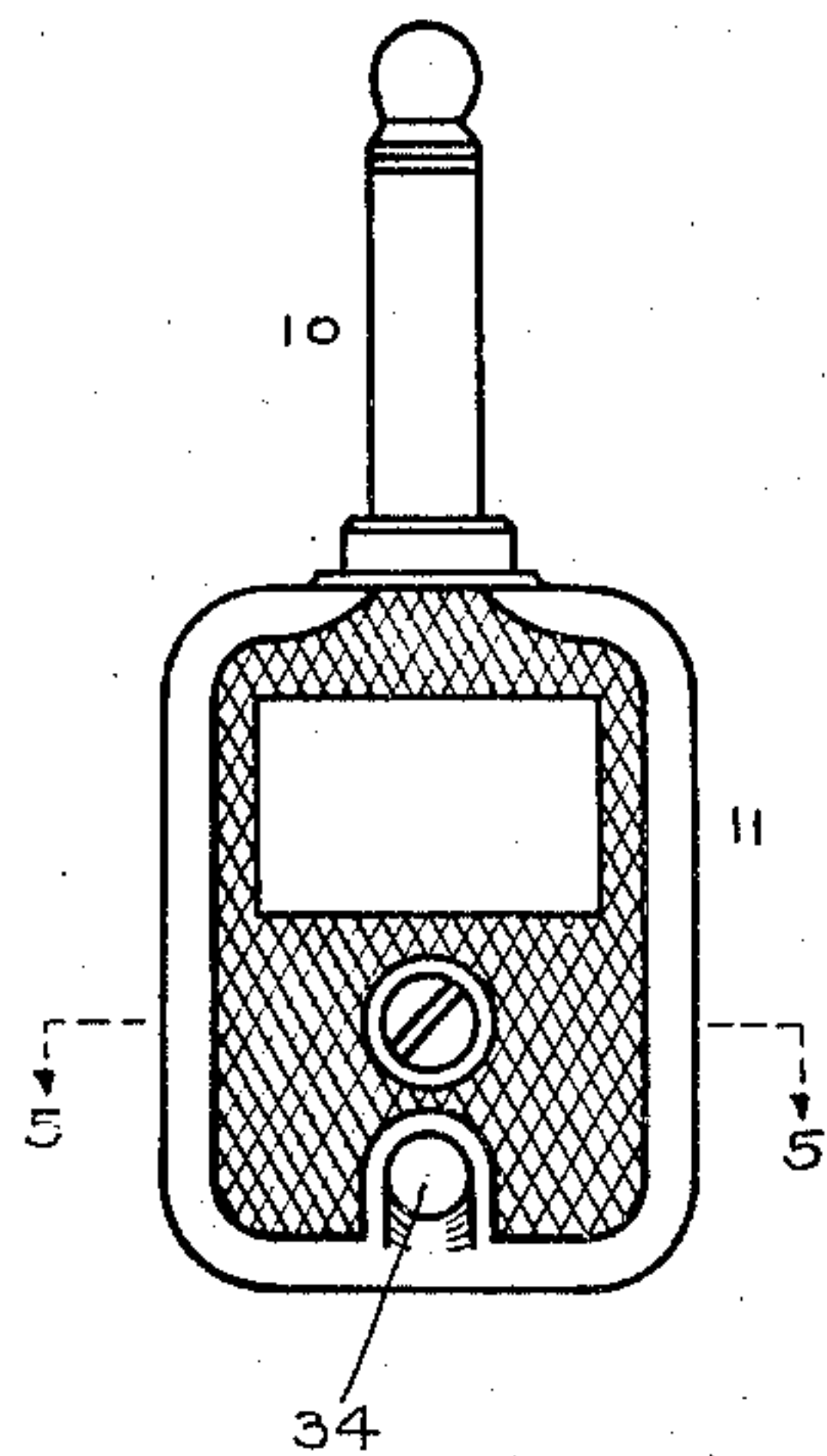


FIG. 2

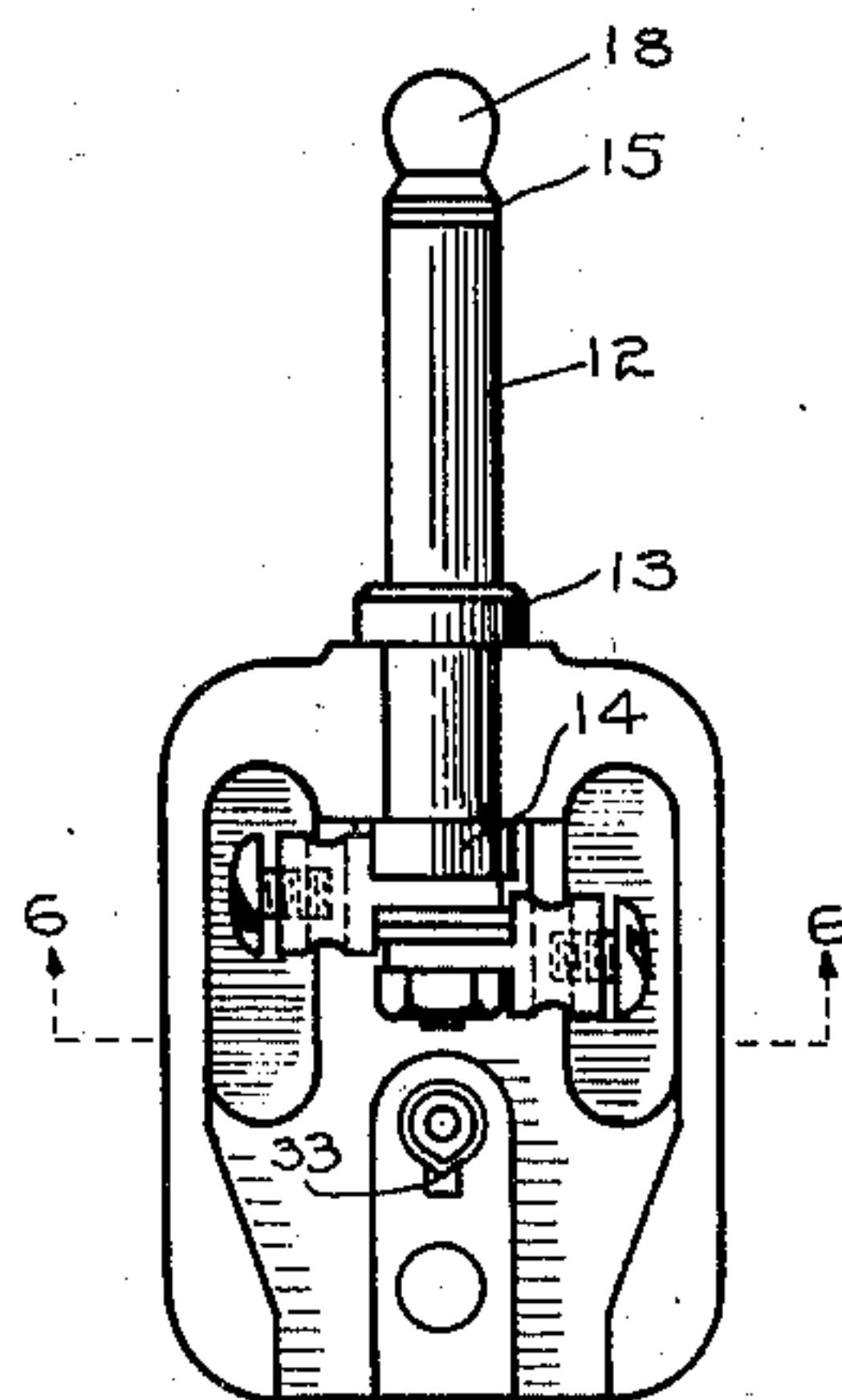


FIG. 3

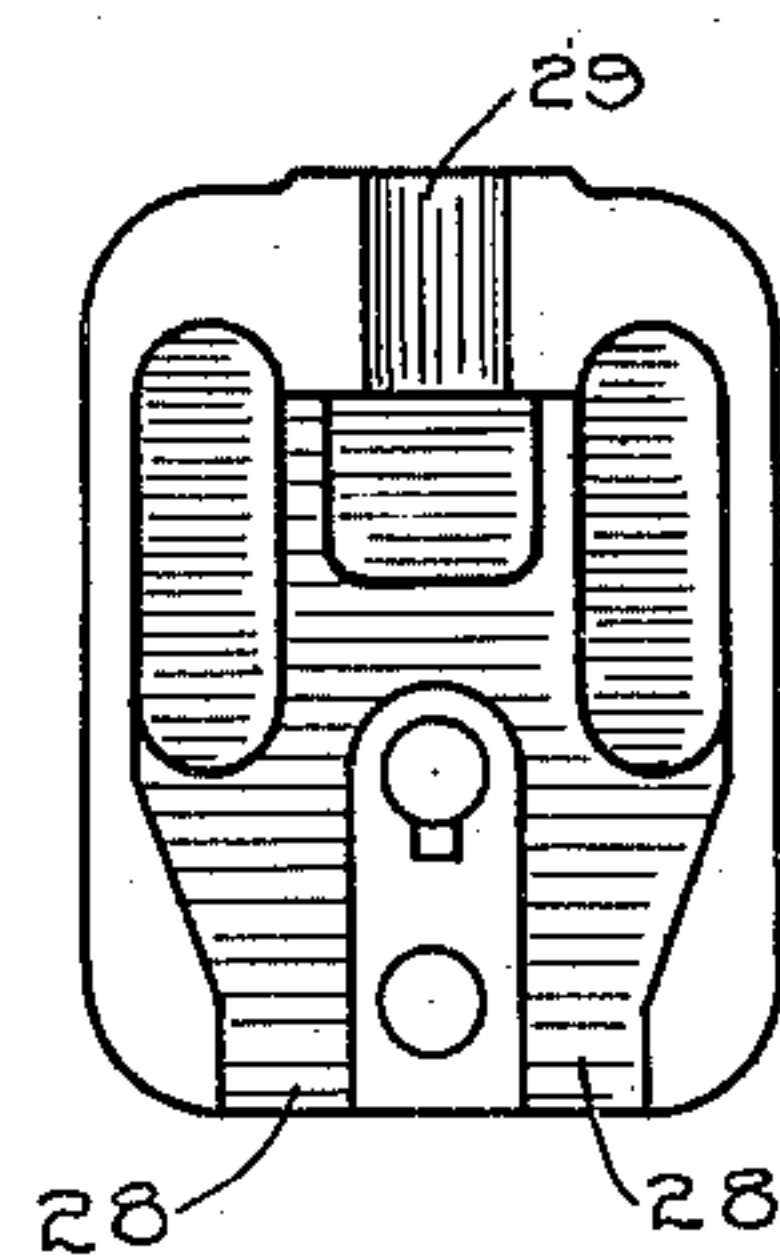


FIG. 4

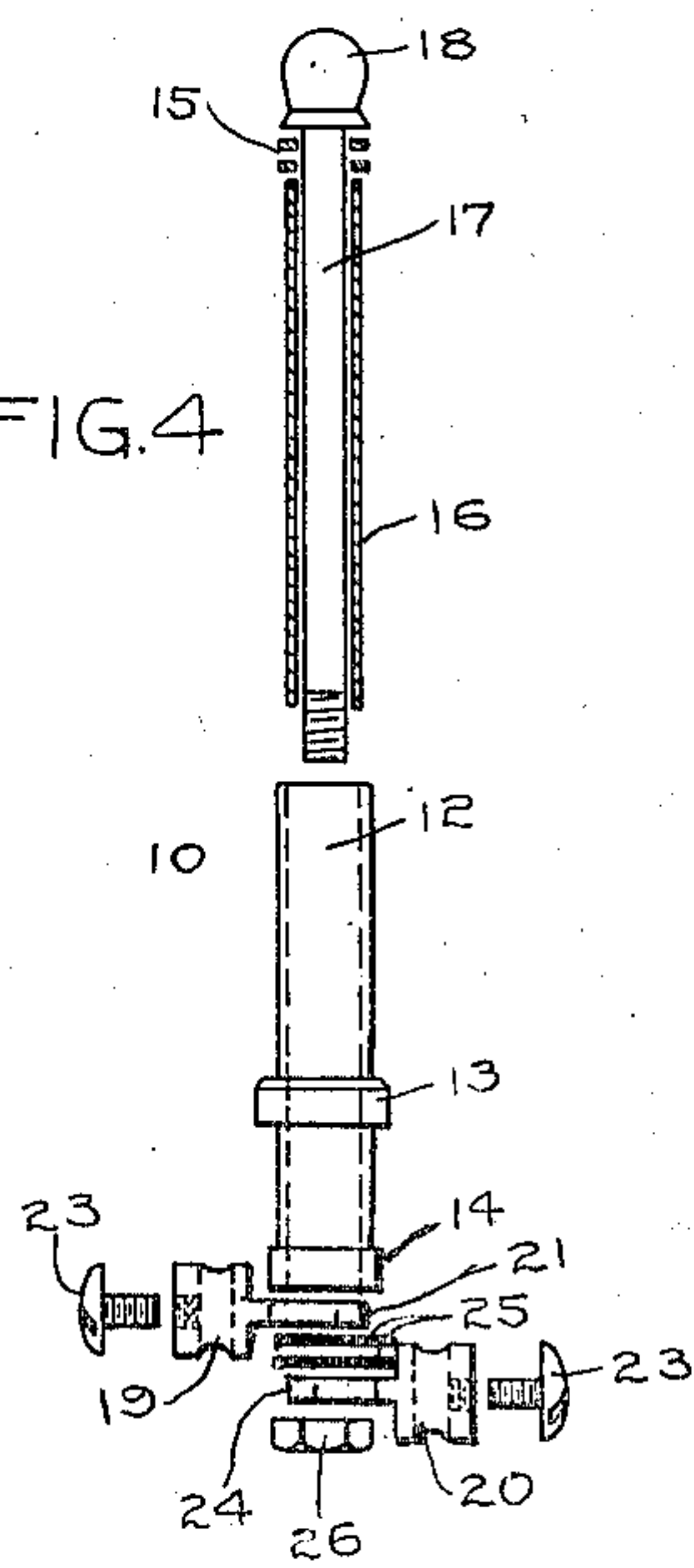


FIG. 5

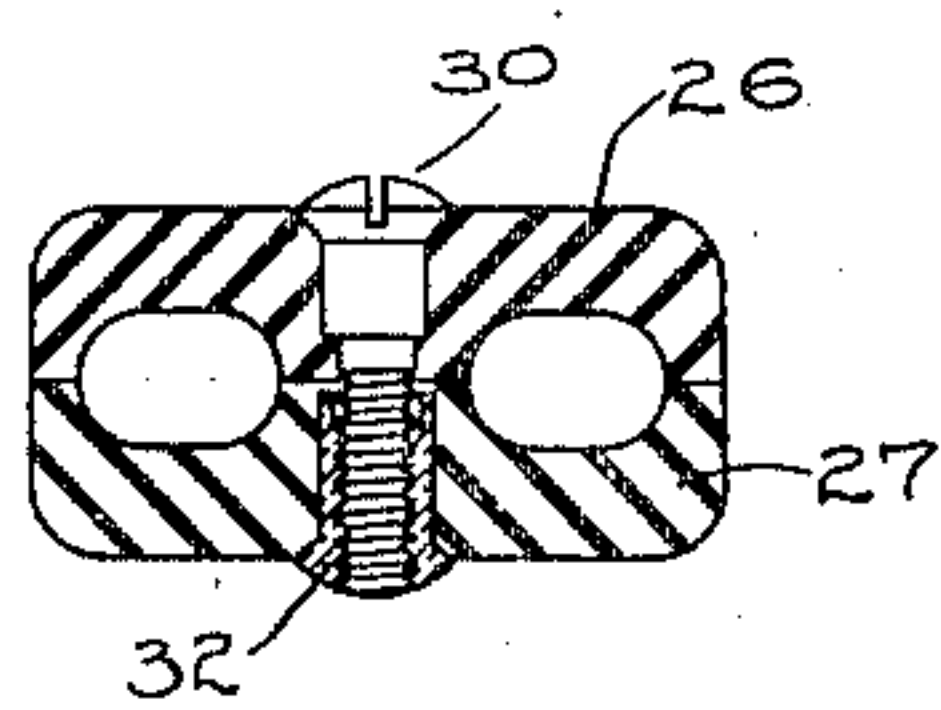


FIG. 6

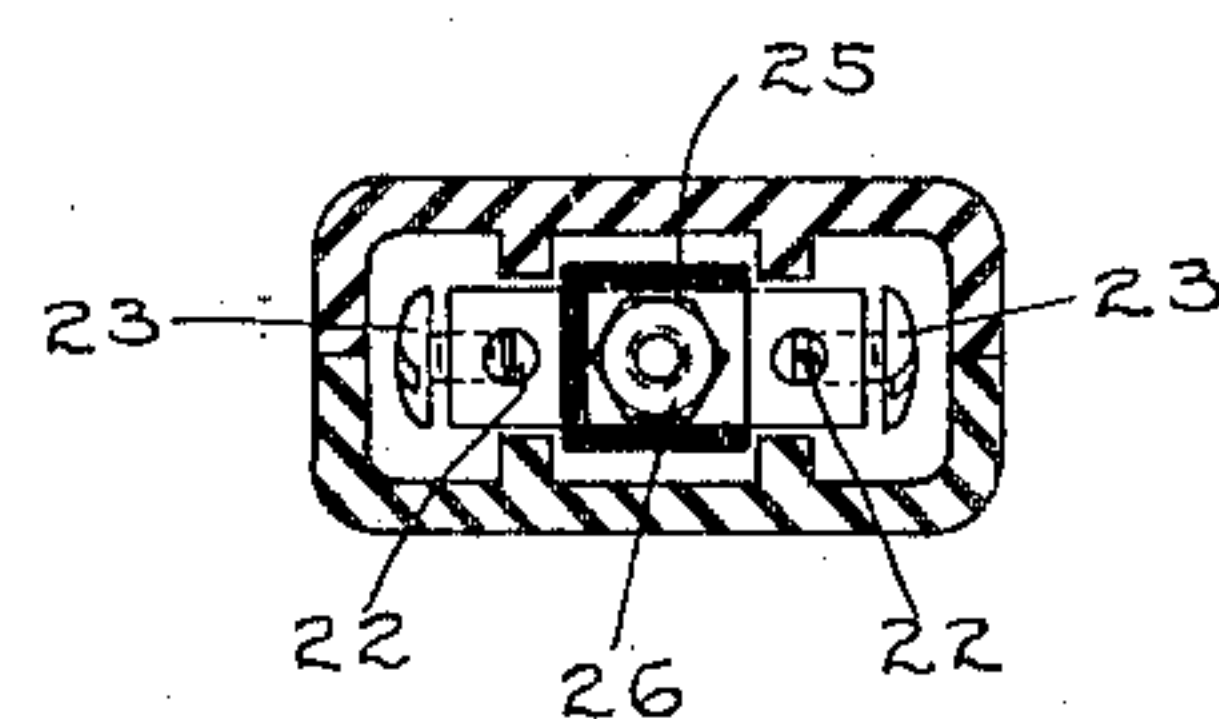


FIG. 7

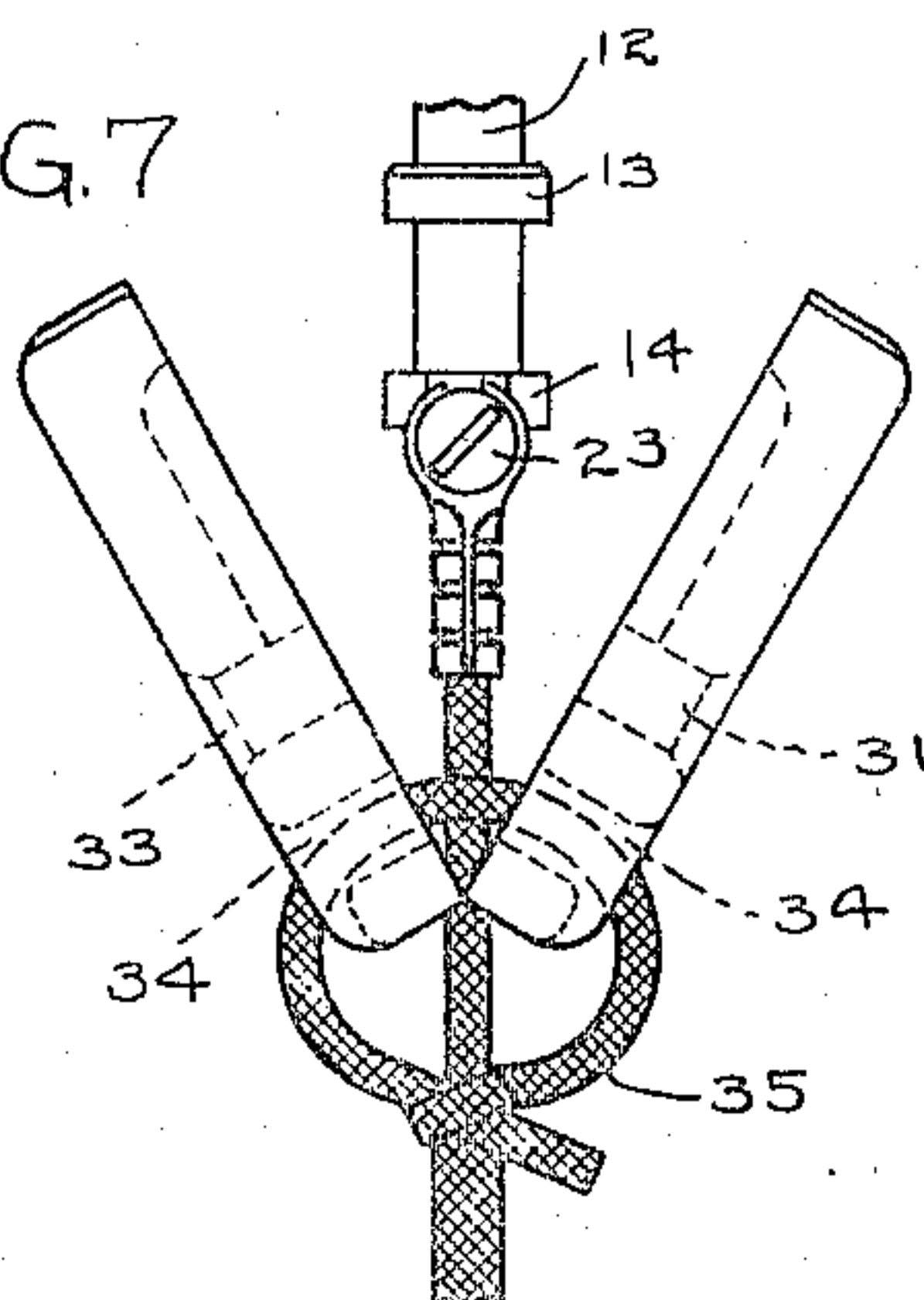


FIG. 8



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RAY H. MANSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

RADIOPLUG.

Application filed March 20, 1922. Serial No. 544,998.

To all whom it may concern:

Be it known that I, RAY H. MANSON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Radioplugs, of which the following is a full, clear, concise, and exact description.

The purpose of this invention is to provide an electrical connection plug in which the parts are easily accessible and to which various types of terminals of electrical conductors may be easily connected.

The main feature of this invention resides in the manner of mounting the binding posts as well as in structure of the body portion of the plug whereby all strains are removed from the binding posts and the electrical conductors whenever the plug is inserted into, or removed from, the jack with which it is adapted to co-operate.

An additional feature of the invention is the method of attaching the stay cord to the handle of the plug, whereby the two portions of the handle may be opened on the stay-cord as a hinge to permit easy removal of the plug assembly.

In the drawings Fig. 1 represents a side view of the plug. Fig. 2 represents a side view of the plug with one portion of the handle removed to expose the arrangement of the plug assembly within the handle. Fig. 3 shows a view of one half of the handle of the plug. Fig. 4 shows a view of the plug assembly with the piece parts thereof separated in order to more clearly show the relation of the parts. Fig. 5 is a sectional view taken on the line 5—5 of Fig. 1. Fig. 6 is a sectional view taken on line 6—6 of Fig. 2 looking in the direction of the arrows. Fig. 7 shows the method of mounting the stay cord in the two portions of the handle of the plug. Fig. 8 shows an end view of a part of the body portion of the plug.

Referring to the drawings, the plug consists of a plug assembly designated 10 shown in Fig. 4 with its parts in spaced relation, and the handle generally designated 11. By reference to Fig. 4 it will be seen that the plug assembly consists of a hollow body portion 12 with spaced shoulders 13 and 14, the shoulder 14 having portions slabbed off as shown in Fig. 8. A tube of insulating ma-

terial 16 lies within the body portion 12 to electrically separate the tip rod 17 from the body portion of the plug. It should be noted at this time that the tip 18 and the tip rod 17 are integral thus insuring that these parts will not become separated in use, as is the case when the tip is screwed to the tip rod. Insulating washers 15 separate the tip 18 from the body portion 12.

Binding posts 19 and 20 are located at the lower end of the plug assembly. The binding post 19 has an apertured extension 21 which engages the lower end of the body portion 12, and it also has shoulders one of which engages the slabbed portion of the shoulder 14. The opening in extension 21 is of such dimension as to receive the lower end of the tube 16, so that binding post 19 is well insulated from the tip rod 17. It should here be noted that each of the binding posts 19 and 20 are provided with a second opening 22 to receive a pin terminal or even a large sized wire or electrical conductor while a screw such as 23 threaded into the end of the binding post has its end extending into the opening 22 to hold such pin terminal wire in electrical engagement with the binding post. In the event that it is desired to use spade terminals or wires of smaller size for the conductors, they may be secured to the binding post by placing them between the head of screw 23 and the end of the binding post. It will thus be seen that plain conductors of several different sizes as well as pin or spade terminals of such conductors are adapted to be engaged by the binding posts. The structure of binding post 20 is substantially similar to that of binding post 19 except that the opening in its extension 24 is smaller than that in extension 21, since this opening is only large enough to receive the threaded end of the tip rod 17. Square washers 25 separate binding post 20 from binding post 19 and their square sides engage a shoulder on each of the binding posts 19 and 20 so that when the parts are assembled in the manner indicated in Fig. 2 with the nut 26 tightened on the threaded portion of the tip rod 17, the binding posts 19 and 20 will be securely keyed together. Thus there is no possibility of getting the parts out of adjustment by rough usage.

The handle of the plug consists of two parts 26 and 27 of molded composition with the interior thereof formed in the manner indicated in Fig. 3 to receive the binding posts and to provide channels 28 by which electrical conductors are extended to the binding posts. The two portions of the handle are provided with semi-circular openings 29 which register to engage the portion of the body member 12 between the shoulders 13 and 14. These shoulders thus engage the two halves of the handle so as to take the thrust in both directions without putting any strain on the conductors or the binding posts. The two halves 26 and 27 of the handle as well as the plug assembly are held in fixed relation by the screw 30, passing through opening 31 in one portion of the handle to engage a round nut which is placed in an opening in the other half of the handle. This round nut may be staked as shown at 33 of Fig. 2. The handles are also provided with additional aligning openings 34 to receive the stay cord such as 35. By reference to Fig. 7 it will be noted that when the screw 30 is removed, the two portions 26 and 27 of the handle may be opened to expose the plug assembly and the terminals of the conductors, using the stay conductor 35 as a hinge.

It will be understood that there may be many variations in the details of construction of this plug which are within the scope of the appended claims, without departing from the spirit of the present invention.

What is claimed is:—

1. In an electrical connection plug, a rod terminating at one end in an enlarged tip and at its other end in a threaded portion, a hollow body portion about said rod, said body portion being provided with shoulders, one of said shoulders being flattened, a binding post with a shoulder for engaging said flattened shoulder, a second binding post having a shoulder, said second binding post being connected to said rod, a washer engaging a shoulder on each of said binding posts, means for insulating said rod from said body portion, a nut engaging the threaded portion of said rod for clamping the binding posts, rod and body portion in fixed relation, and a hollow handle of insulating material for inclosing said binding posts.

2. In an electrical connection plug, a hollow handle divided longitudinally, at least one of the divisions of said handle having a hole extending therethrough to receive a stay-cord, said handle having an opening extending from the inside thereof to the outside at the point of division, a hollow body portion with integral shoulders, one shoulder engaging the inside of said handle and the other engaging the outside of said handle, a rod extending through said hollow body portion, and means for insulating said

rod from said body portion, a binding post engaging a shoulder of said body portion, a second binding post connected to said rod, each binding post having an opening parallel to said rod, a screw adjustable to partially close each opening.

3. In an electrical connection plug, an insulating handle formed of two parts of molded material, both parts of said handle having holes extending therethrough in registry to receive a stay-cord, conducting members secured together in insulated relation extending from said handle, and means for connecting a conductor to each of said members.

4. In an electrical connection plug, a hollow handle composed of parts of insulating material, a hollow metallic body portion having shoulders to engage said handle, a rod extending through said body portion, a connection terminal engaging one of said shoulders to prevent rotation of said connection terminal with respect to said body portion, a second connection terminal in electrical engagement with said rod, and means for insulating said rod from said body portion.

5. In an electrical connection plug, a hollow handle divided longitudinally having an opening extending from the inside of the handle to the outside at a point of division, a hollow body portion with integral shoulders, one shoulder engaging the inside of said handle and the other engaging the outside of said handle, a binding post in engagement with one of said shoulders and extending at right angles to said body portion, a rod extending through said body portion, a binding post in electrical engagement with said rod and extending in substantially the opposite direction from said first binding post, and means for insulating said rod from said body portion.

6. In an electrical connection plug, a hollow handle divided longitudinally, having an opening extending from the inside of the handle to the outside at a point of division, a hollow body portion with integral shoulders so spaced that one shoulder engages the inside of said handle and the other engages the outside of said handle, a sleeve of insulated material within said body portion, said sleeve being slightly greater in length than said body portion, a rod having an enlarged head, said rod being inserted through said insulating sleeve, a washer to insulate said head from said body portion, a binding post having an opening of sufficient size to receive the end of said insulating sleeve, a second binding post having an opening smaller than the opening in said first binding post, the opening in said second binding post being of such size as to receive said rod, an insulating washer to separate said binding posts, and means at

the smaller end of said rod for holding said body portion and binding posts in fixed relation.

7. In an electrical connection plug, a flat
 5 hollow handle divided longitudinally having an opening extending from the inside of the handle to the outside at a point of division, a hollow body portion with integral
 10 shoulders so spaced that one shoulder engages the inside of said handle and the other engages the outside of said handle, a sleeve of insulating material within said body portion, said sleeve being of slightly greater
 15 length than said body portion, a rod having an enlarged head at one end and a threaded portion at its other end, said rod being inserted through said insulating sleeve, a washer to insulate said head from said
 20 body portion, a binding post having an opening of sufficient size to receive the end of said insulating sleeve, a second binding post having an opening smaller than the opening in said first binding post, the opening in said second binding post being of such
 25 size as to receive said rod, an insulating

washer to separate said binding posts, and a nut engaging the threaded end of said rod for holding said body portion at right angles to said binding posts.

8. In an electrical connection plug, a rod 30 terminating at one end in an enlarged tip and at its other end in a threaded portion, a hollow body portion about said rod, said body portion being provided with a shoulder, an enlarged binding post for engaging 35 said shoulder, a second binding post connected to said rod, means for holding said binding posts at right angles to said body portion, each binding post having an opening extending parallel to said rod, each binding post also having a screw threaded opening extended at right angles to said first opening and connecting with said first opening, a screw adjustably mounted in said second opening for partially closing said first 45 opening, and a hollow handle of insulated material for enclosing said binding posts.

In witness whereof, I hereunto subscribe my name this 17th day of March A. D. 1922.

RAY H. MANSON.