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VARIABLE GRID LEAK

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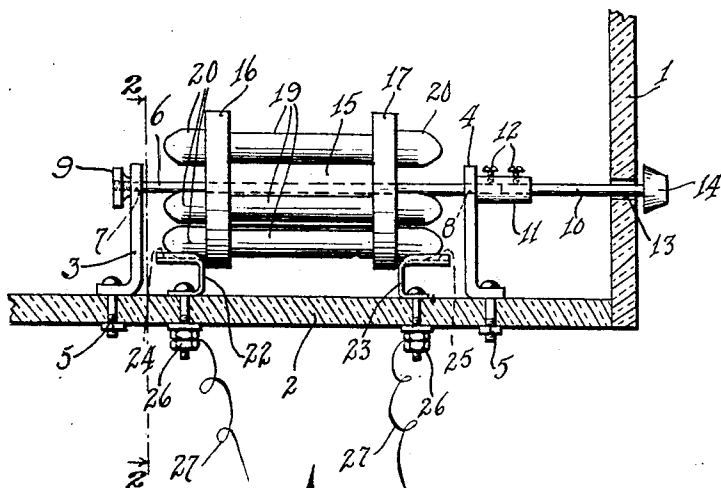


Fig. 1.

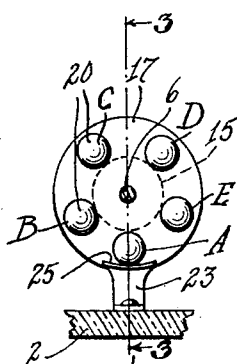


Fig. 2.

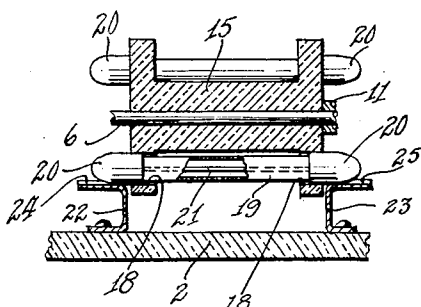


Fig. 3.

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VARIABLE GRID LEAK.

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My invention relates to improvements in grid leaks, and it consists in the combinations, constructions, and arrangements herein described and claimed.

5 An object of my invention is to provide a grid leak which has a novel means for holding a plurality of individual grid leaks of various resistance values.

10 A further object of my invention is to provide a device of the type described by means of which the various individual grid leaks may be moved into connection with the radio circuit.

15 A further object of my invention is to provide a device of the type described by means of which the reception of the radio waves may be improved by the changing of the resistance.

20 Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

25 My invention is illustrated in the accompanying drawings, forming part of this application, in which

Figure 1 is a side elevation of the device as applied to a radio,

Figure 2 is a section along the line 2—2 of Figure 1, and

30 Figure 3 is a section along the line 3—3 of Figure 2.

In carrying out my invention, I provide a panel 1 and a base or support 2 secured to the panel and extending at right angles therefrom. Brackets 3 and 4 are rigidly secured to the base 2 by any suitable means, such as bolts 5. A main shaft 6 extends through openings 7 and 8 in the brackets 3 and 4, respectively. The end of the shaft opposite the panel 1 is provided with a threaded portion upon which a nut 9 is disposed, thus preventing forward movement of the main shaft 6. A stub shaft 10 is disposed in alignment with the main shaft 6 and is removably secured thereto by a collar 11 having set screws 12 therein. The stub shaft 10 extends through an opening 13 in the panel 1 and is provided with a knob 14 which is rigidly secured to the outer end thereof.

50 A cylinder or spool 15 is provided with enlarged disc-shaped ends 16 and 17 and is rigidly mounted at its center upon the main shaft 6. The disc-shaped ends 16 and 17 are provided with a plurality of aligned openings 18 which are adapted to receive

individual grid leaks 19 having various resistance values, as for instance, from .5 to 5 megohms.

The individual grid leaks 19 are provided with metallic ends 20 which are connected by a metal conductor 21. Resilient contact points or members 22 and 23 having arcuate-shaped contact surfaces 24 and 25 respectively are secured to the base 2 by bolts 26. The bolts 26 are in direct connection with conductors 27 of the electric circuit.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Let us assume that the individual grid leaks 19 bearing the letters A, B, C, D and E have the following respective values, .5 megohms, 1 megohm, 1.75 megohms, 2.5 megohms and 5 megohms, see Figure 2. The individual grid leak A, as shown in Figure 2, is in connection with the arcuate-shaped contact surfaces 24 and 25 of the resilient contact points 22 and 23. Let us assume that the operator wishes a higher resistance. By rotating the knob 14 in a counter-clockwise direction, the spool 15 is also rotated, thus bringing the individual grid leak B in contact with the contacting surfaces 24 and 25. In this manner, the resistance is increased from .5 megohms to 1.75 megohms.

If the operator is still not satisfied with the resistance of the individual grid leak which is in connection with the contact points 22 and 23, by rotation further of the knob 14 and the spool 15, the individual grid leaks C, D or E may be brought into contact with the contact points 22 and 23. The nut 9, together with the collar 11, holds the spool 15 against longitudinal displacement whereby a perfect contact will be made between the metal ends of the individual grid leaks and the contacting surfaces 24 and 25 of the contact points 22 and 23, respectively. The resiliency of the contact points 22 and 23 aids in providing a good contact between the individual grid leaks and the contacting surfaces 24 and 25.

I claim:

1. A device of the type described comprising a panel, a base secured to said panel and extending at right angles therefrom, resilient contact points secured to said base and in electrical connection with a source of current, arcuate-shaped contact surfaces integral with said resilient contact points, a spool, a main shaft extending through the

center of said spool and rigidly secured in place, supporting brackets for said main shaft, a nut secured to one end of said main shaft adjacent one of said brackets, a stub shaft disposed in alignment with said main shaft, a collar for rigidly securing the free end of said main shaft to one end of said stub shaft, said stub shaft extending through an opening in said panel, a knob rigidly mounted upon the free end of said stub shaft, and disc-shaped ends integral with said spool and having a plurality of aligned openings therethrough for receiving individual grid leaks having metal ends and conductors of various resistance values connecting these ends, the metal ends of said individual grid leaks being adapted to contact with said contact surfaces, said spool and said disc-shaped ends being adapted to be rotated by the rotation of said knob and said shafts for moving one of said individual grid leaks out of engagement with said contact surfaces and for moving any of the other individual grid leaks into engagement with said contact surfaces, whereby the connection of the source of current between said contact points may be varied in its resistance.

2. A device of the type described comprising contact points in direct connection with a circuit for a source of current, and means for varying the resistance in the circuit be-

tween said contact points, said means comprising a shaft and means for holding a plurality of individual grid leaks having metal ends adapted to be moved into engagement with said contact points, the metal ends of each of said individual grid leaks being connected by conductors having various resistance values.

3. A device of the type described comprising a pair of contact points in direct connection with a circuit for a source of current, a spool positioned between said contact points and having annular flanges provided with a plurality of aligned openings for receiving a plurality of individual grid leaks having metal ends, the metal ends of said grid leaks extending through said flanges and arranged to contact with said contact points, the metal ends of each of said individual grid leaks being connected by conductors of various resistance values, and means for rotatably supporting said spool and for rotating said spool, whereby one of the individual grid leaks will be moved out of engagement with said contact points and any desired one of the other of said individual grid leaks moved into engagement with said contact points for varying the resistance in the connection between said contact points in the source of current.

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