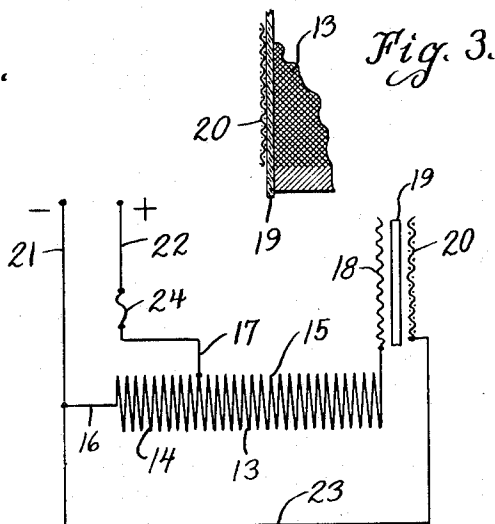
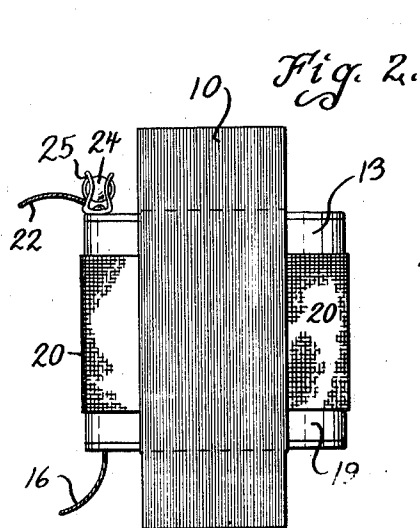
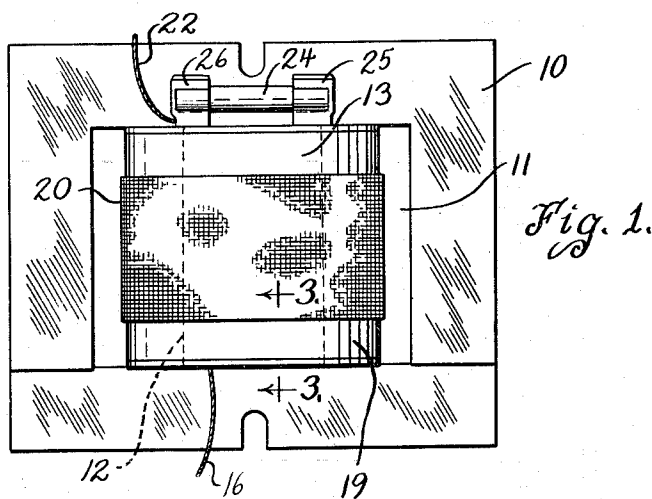


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AIR PURIFIER
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AIR PURIFIER

Application filed December 27, 1929. Serial No. 416,905.

My invention relates to air purifiers of the type by which ozone is generated by the passage of the secondary current from a step-up transformer through a condenser. It is the object of my invention to provide a new and improved form and arrangement of parts by which an efficiently operating device may be produced by the use of a minimum number of parts, certain of the parts being preferably utilized for a plurality of functions.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing showing the preferred form of construction and in which:

Fig. 1 is a front elevational view of the preferred form of construction for my invention;

Fig. 2 is a side elevational view of the device depicted in Fig. 1;

Fig. 3 is a fragmental view taken substantially on the line 3—3 of Fig. 1, and

Fig. 4 is a diagrammatic view depicting the electrical connections employed in the device.

In the accompanying drawing wherein I have illustrated the preferred form of construction for my invention, 10 indicates the core which provides the supporting frame for my improved device. This core 10 is preferably of a laminated construction, and has a central opening 11 in which a lug 12 is centrally disposed.

The winding of my improved device is in the form of an auto transformer, and is wound about this lug 12. This winding is generally indicated by 13, and a portion of this winding provides the primary winding 14, while the remaining portion provides the secondary winding 15. The tap 16 is connected to one end of the primary winding 14, and the tap 17 is connected to the juncture between the other end of the primary winding 14 and one end of the secondary winding 15. The last layer of the secondary winding 15 is illustrated diagrammatically in Fig. 4, indicated by 18.

A layer of mica or other insulating material 19 is disposed over this last layer 18. Disposed over the layer of mica 19 is a layer of conductive material in condenser relationship to said winding 18, being shown in the form of a wire mesh screen, and this wire mesh screen is indicated by 20 and is preferably made of copper.

The device is preferably operated from a suitable source of electric current which includes conductors 21 and 22. One of the conductors, in the present instance the conductor 21, is the negative or grounded potential.

The tap 16 is connected to this conductor 21, and a conductor 23 interconnects the conductor 21 and the screen 20. A fuse 24 is provided in the positive potential 22, and this positive potential 22 is connected to the tap 17.

In the construction of the device the fuse 24 is mounted in clips 25 and 26 that are mounted on the upper edge of the coil provided by the winding 13 in the position clearly illustrated in Figs. 1 and 2.

In use a potential is impressed on the primary winding 14 from the conductors 21 and 22. This potential is preferably of the alternating current type, and therefore a current will be induced in the secondary winding of the autoformer. In this arrangement, the condenser comprising the layer 18 at one end of the secondary winding as one electrode and the metal plate 20 in spaced relation thereto as the other electrode serves with the lead 23 as the electrical connection between opposite ends of the secondary winding, permitting a high potential undulatory current to pass through the condenser by the well-known capacitance effect without any arcing through the insulation 19. This results in an electrical stressing of the air between the electrodes of the condenser together with the production of a corona effect and the generation of ozone when the device is set in operation, and as is well understood in the art, the ozone will purify the air of the room with which the device is associated.

While I have illustrated and described the preferred form of construction for carrying

my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention what I claim as new and desire to protect by Letters Patent is:

1. In an air purifier, the combination of a transformer, the electrical connections between the ends of the secondary coil of said transformer comprising a metal plate in condenser relationship to a portion of said secondary coil arranged so that when an undulatory current is passed through the primary coil of the transformer a high potential undulatory current is caused to pass by a capacitance effect through the condenser and the secondary coil.

2. An air purifier comprising in combination a core, primary and secondary coils on said core in transformer relationship, a layer of insulating material about said secondary coil, a metal member about said layer of insulating material in condenser relationship to one end portion of the winding of the secondary coil, and an electrical connection between said metal member and the other end portion of the winding of said secondary coil.

3. In an air purifier, the combination of a core, a coil mounted on the said core comprising a primary coil portion at one end in autotransformer relationship to the coil as a whole, and a metal member connected electrically with said primary end portion of said coil and located in condenser relationship to the final turns of said coil at its opposite end portion.

In testimony whereof I affix my signature.
JOSEPH SOLA.

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