

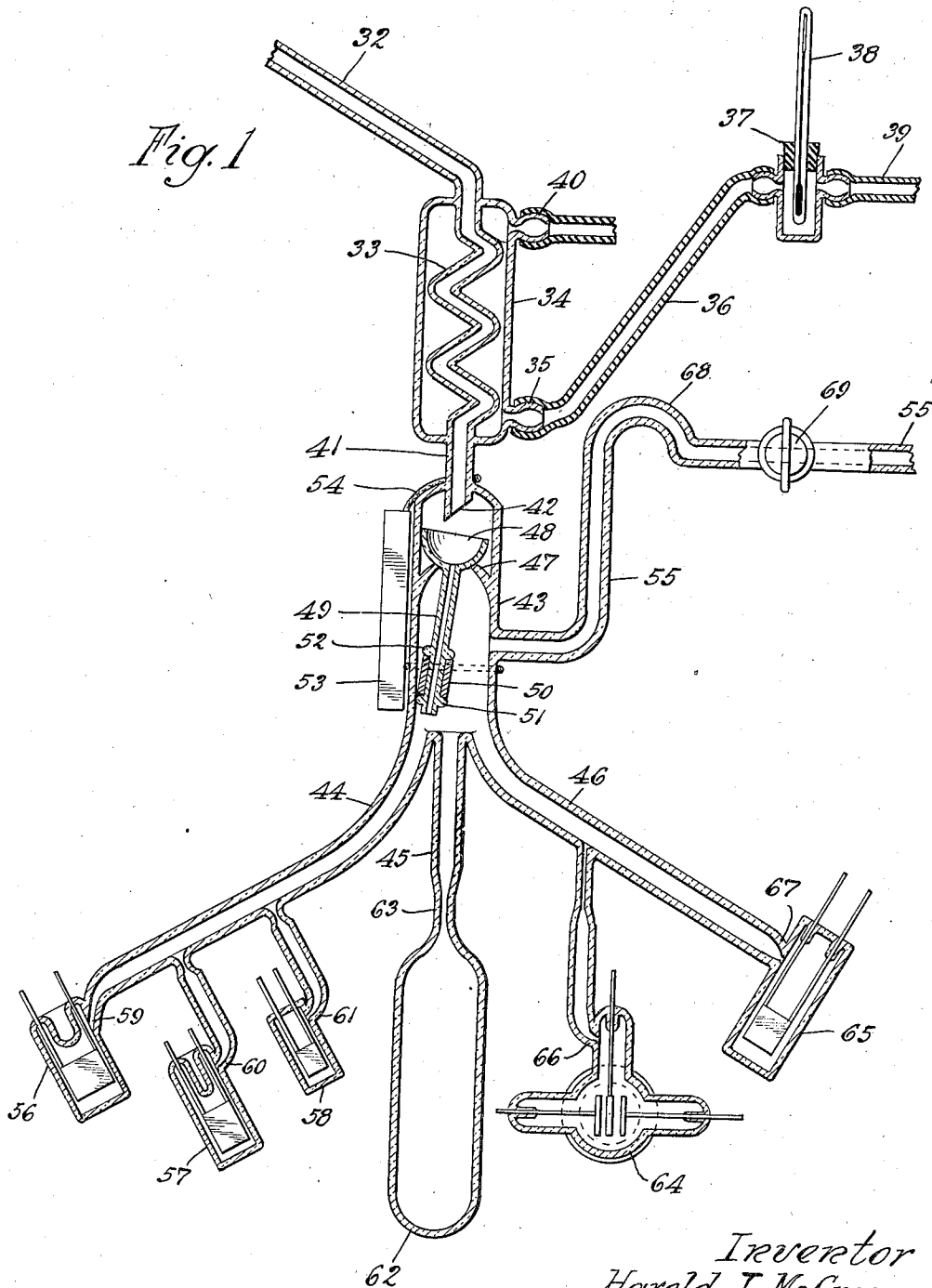
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LIQUID DISTRIBUTION APPARATUS

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LIQUID DISTRIBUTION APPARATUS

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2 Claims. (Cl. 23-259)

The invention relates to a process for purifying dielectrics and more particularly to a liquid distribution device forming a division of my application filed September 20, 1935, under Serial No.

41,366.

It is an object of the invention to provide in a device for drawing off a processed liquid from a valved tube into a plurality of vessels, novel means for establishing selective communication between the tube and said vessels.

A further object aims at providing magnetic means for the selective discharge of the liquid into a plurality of vessels.

With these and other equally important objects in view, which will become apparent from a perusal of the invention, the latter comprises the means described in the specification, particularly pointed out in the claims forming a part thereof and illustrated in the drawing, in which the figure is an elevational section through the device constructed in accordance with my invention.

Referring to the drawing, 32 designates a tube carrying vapors to the condensing coil 33. This condensing coil 33 is cooled by a water jacket 34. The cooling water for the condenser jacket 34 comes to the inlet tube 35 through a rubber hose 36 connected to a flask 37 in which is placed a thermometer 38 for indicating the condenser water temperature, the water coming into the flask 37 from rubber hose 39 and a water tap connection. 40 is a rubber hose carrying the condenser water to the drain.

The condenser coil 33 is connected by tube 41 to a distillation receiver 43 which is of novel design. The tip of tube 42 is shaped to form uniform sized drops of liquid and is so designed that the coil 33 does not become stopped with liquid when the drops are formed. The speed of the distillation is checked by counting the drops per minute at this point. The distillation receiver 43 provides a means for separating the various fractions as the liquid is distilled. It consists of a large glass tubular body 43 into the top of which is sealed the tube inlet 42. The bottom of the distillation receiver 43 is connected to several outlet tubes such as 44, 45 and 46. The funnel 48 is loosely hung upon the glass constriction 47. The funnel 48 has a bowl shaped like a hemisphere. The spout of the funnel 39 is somewhat elongated, and around it is placed an iron sleeve 50, retained in place by beads 51 and 52. A permanent magnet 53 is used to direct the funnel spout to the various outlet tubes. This permanent magnet 53 is held in place by a cord 54. In the side of the distillation receiver 43 is

sealed the evacuation tube 55 leading to the vacuum system.

The outlet tube 44 is connected to Kerr cells 56, 57, and 58, through seal-off constrictions 59, 60 and 61. The outlet tube 45 is connected to the first fraction receiver 62 through a seal-off constriction 63. The outlet tube 46 is connected to Kerr cells 64 and 65 through seal-off constrictions 66 and 67. The evacuation tube 55 forms a gooseneck 68 in the connection to the vacuum system so that there is no possible chance of the stop cock grease from stop cock 69 running back into the distillation system.

Nitrobenzene is caused to drip from the aperture 42. The rate of distillation may be checked at this point by the number of drops per minute. This rate will be constant if the temperature and pressure are maintained constant.

The nitrobenzene will run down the funnel 48 and drip from the aperture 51 into the outlet tube 45 and then into the first fraction receiver, the material in this receiver being of no value, as this is simply a waste receiver.

After 50 to 100 c. c. of nitrobenzene has distilled into the first fraction receiver and the distillation has reached a steady state, the magnet 53 is moved to attract the iron core 50 so that the aperture 51 is positioned directly over the outlet tube 44. This will cause the nitrobenzene to run into the Kerr cell 58. While this is going on, the restricted portion 63 of the glass tube 45 may be warmed until the inner surface is perfectly dry and then sealed off, thus preventing the vapors from this impure first fraction getting back into the system again.

As soon as the Kerr cell 58 is filled to the proper level, the magnet 53 is again adjusted so as to energize the iron core 50 and position the aperture 51 directly over outlet tube 46.

With the aperture 51 in this position, the nitrobenzene will run into cell 64. While this cell 64 is being filled, the constricted portion of the tube 61 is warmed and the Kerr cell 58 is sealed off.

By positioning the aperture 51 with reference to tubes 44 and 46 in the manner just described, the operation proceeds until all of the Kerr cells have been filled and sealed off.

My invention is not limited to the particular arrangement of apparatus as shown in the drawing in carrying out the process, but may be variously modified without departing from the spirit and scope of the invention set forth in the claims which follow, and I, therefore, claim my invention as broadly as the state of the art permits.

I claim:

1. A device for drawing off a processed liquid into a plurality of vessels under a vacuum, including a tube to which said vessels are connected, a tiltably mounted funnel in said tube, and means for tilting said funnel to permit liquid to flow from said funnel selectively into said vessels.
- 5 2. A device for drawing off a processed liquid into a plurality of vessels, including a tube to which said vessels are connected, a tiltably mounted funnel in said tube, and magnetic means for causing tilting of said funnel to selectively discharge into said vessels.

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