Thus by means of a magnet, the lower end of the funnel may be brought directly over a number of outlet tubes sealed into the apparatus. Five of these outlets (only three are shown in the figure) have been found to be a convenient number. The outlet tubes are, in turn, sealed to flasks whose sizes are determined by the amounts of the various fractions. In some cases it may be found preferable to connect the outlet tubes to the flasks by means of ground glass joints with mercury seal.

CONTRIBUTION FROM THE DEPARTMENT OF CHEMISTRY
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A Lecture Table Demonstration to Illustrate that the Conductivity of a Solution is Due to its Ions.—This demonstration visualizes the conductive property of the ions of an electrolyte and shows that as they form part of an undissociated compound or insoluble precipitate the concentration of the electrolyte is diminished with the consequent decrease in conductance.

The apparatus consists of a beaker containing platinum electrodes which are connected in series with an electric light bulb and an alternating current source. The electrolyte placed in the beaker is a 5% solution of barium hydroxide. As this is a moderately strong base, the light will burn brightly, showing the conductivity due to the barium and hydroxyl ions. While the solution is stirred, dil. sulfuric acid is added slowly from a buret. As the base becomes neutralized, the light gradually becomes dimmer. When just enough acid has been added to neutralize all of the base, the light goes out entirely indicating the absence of all ions. When, now, a slight excess of the acid is added, the current begins to pass again and the filament to glow due to the presence of hydrogen and sulfate ions. The neutralization is made more striking by the addition of phenolphthalein, which fades at the same time that the light goes out.

From a consideration of the equation, $Ba(OH)_2 + H_2SO_4 = 2H_2O + BaSO_4$, it is seen that this is a unique reaction in that both undissociated water and a very insoluble salt are formed, and at the neutral point the conductivity is at a minimum, as practically all ions are removed from the system. This also visualizes the principle upon which depends the determination of the concentration of an electrolyte by conductance measurements.

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The Action of Ammonium Hydroxide on Copper Ferrocyanide.—Treadwell and Hall[1] make the statement that copper ferrocyanide dis-

[1] Treadwell and Hall, "Treatise on Analytical Chemistry," John Wiley and Sons, New York, **1916**, 4th ed., vol. 1, p. 220.