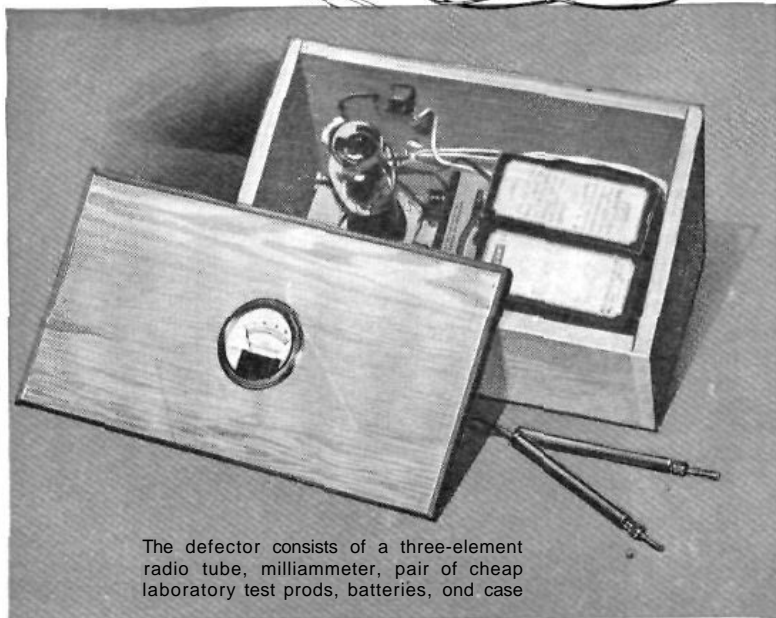


ELECTRIC LIE DETECTOR

... A NEW FUN-PROVOKING
STUNT FOR PARTIES



The defector consists of a three-element radio tube, milliammeter, pair of cheap laboratory test prods, batteries, and case

tap, two 1.5-volt dry cells (connected in series), two cheap laboratory test prods, and an inexpensive milliammeter. A 0-15 milliammeter was employed for the detector shown, but one with higher readings is preferable because the readings are often near the 15-milliamperere mark. A small rheostat can be placed in series with the milliammeter to reduce the readings, if preferred.

The parts may be mounted in any convenient way provided the connections are

made as shown. It pays, however, to design the box or cabinet so as to look as impressive as possible for its psychological effect

WITH this homemade electric lie detector, you can mystify and entertain your friends by exposing falsehoods. Hundreds of tests by the writer have proved its meter to indicate correctly about eighty percent of the time, and that is sufficient to get a lot of laughs at any party.

The cost need not exceed \$2.50. A three-element radio tube (No. 45) is used in the circuit. The other parts required are a socket, 45-volt "B" battery with a 22^{1/2} volt

The 45 volts applied to the plate of the tube through the milliammeter are enough to produce a current reading of about 10 milliamperes. By holding one of the test prods in each hand, the subject connects the 22^{1/2}-volt tap of the battery to the grid of the tube. As the pressure of the hands upon the test prods increases, the resistance at

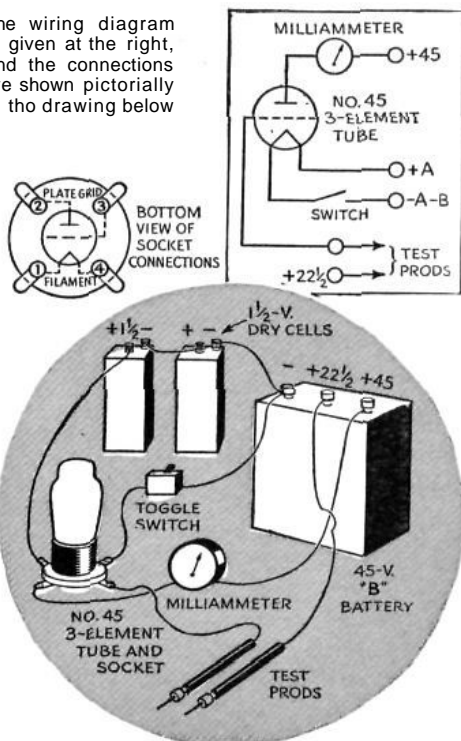
this point decreases, thus permitting a greater flow of grid voltage. This causes a higher milliamper reading, which indicates increased tension on the part of the subject.

Not the slightest hint as to how the detector works must be given to the person being tested. He or she should merely be instructed to hold the metal end of a test prod in each hand with a light, comfortable grip. The box should face the questioner so that the other person cannot see the reading of the milliammeter.

One way of using the device is to tell a man to write down the names of five girls, including that of his wife or sweetheart. He is then to answer "No" to each question, such as "Is it Ruth?", "Is it Grace?", and so on. Involuntarily he will grip the test prods tighter when he says "No" to the right name. Another idea is to have the subject hide an object somewhere in the house, unknown to you. Then name the different rooms to him and watch the dial as he says "No" to each question.

Other similar experiments can easily be devised. Bear in mind that the questions should be planned in advance and asked fairly rapidly so as to catch the subject un-awares and startle him sufficiently to make him grip the prods tighter in his effort to control himself and lie convincingly.

The wiring diagram is given at the right, and the connections are shown pictorially in the drawing below

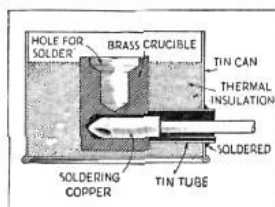
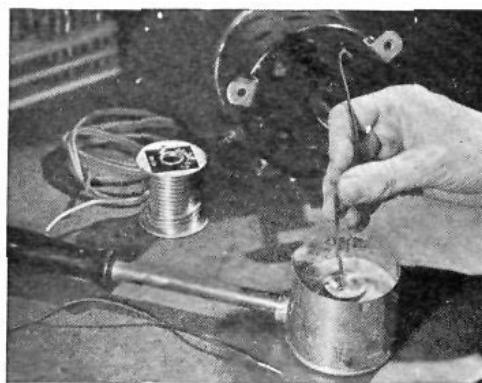


Soldering Copper Heats Miniature Furnace

RADIO repairmen, electricians, and others having occasion to tin wires or similar small parts will find the miniature electric furnace illustrated below a great convenience.

The brass crucible is a short piece of brass rod of a diameter slightly greater than the length of the small soldering-copper head. A hole is drilled to receive the copper, and another to form a cavity for the molten solder. The crucible is placed in a housing made by cutting down a tin can, and surrounded with thermal insulation such as glass wool, asbestos, or plaster. A tube, made from a piece of the tin can, connects the lateral hole in the crucible with the outside of the housing. If the insulating material does not hold the parts securely, fasten the crucible with a machine screw through the bottom of the housing.

The soldering copper may require ten or fifteen minutes to heat the crucible to the melting point of solder. The process can be hastened, if necessary, by directing a torch flame into the furnace from the top. A lid made of asbestos or other suitable material will reduce the escape of heat from the top. To tin wire ends, coat them with flux and dip them into the molten solder. The soldering copper can be removed for several minutes at a time without permitting the solder to solidify. It is best to place a thin layer of insulation under the furnace so the bench top will not be scorched if the metal becomes too hot.



In the furnace shown above, the thermal insulator was sand, which was covered with wood-fiber plaster after the device had been tested