A SIMPLE AND EFFICIENT 20° C. BACTERIOLOGICAL INCUBATOR.

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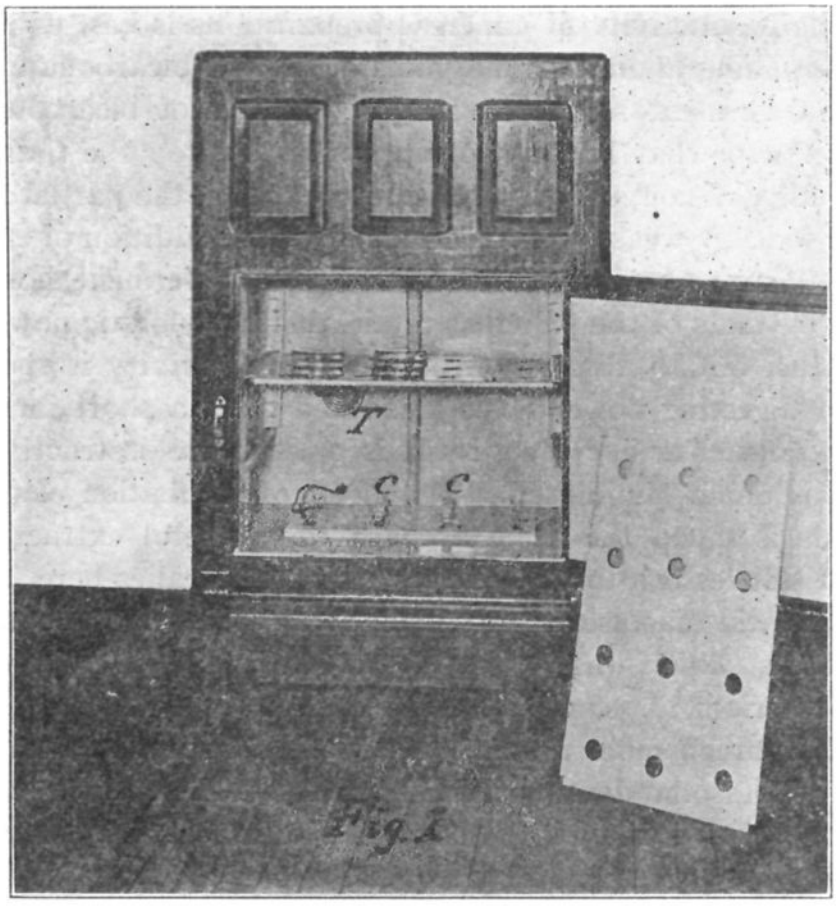
It may be of interest, especially to those who are doing quantitative bacteriological work, to learn of a very satisfactory 20° incubator which was improvised from an ordinary refrigerator.

The refrigerator used was 20″ × 29″ × 46″ over all, with the usual galvanized ice chamber above and an enameled refrigerating compartment, containing two shelves, below. The following electrical equipment was installed:

Two heating units (Fig. 1, C. C), consisting of 0.2 ampere coils, were placed on the bottom of the refrigerating compartment and connected



with a thermoregulator (Figs. 1 and 2, T) and circuit breaker (Fig. 2, B), from which plug connection was made to a lamp socket on a 110 a. c. circuit. A pilot light (Fig. 2, P) was also installed as indicated. The thermoregulator of the disc type was placed as shown in Fig. 1; this was selected as the best position to obtain and control the average temperature of the lower compartment. Two 1.2 cm. holes were bored

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through the back of the refrigerator, one to admit the stem of the thermoregulator and the other to admit wires to the heating coils. Both holes were fitted with porcelain insulators.

The thermoregulator proved very sensitive and, with a little care in regulating the amount of ice, the temperature of the lower compartment was easily maintained between 19.5° and 20.5° when the door was not

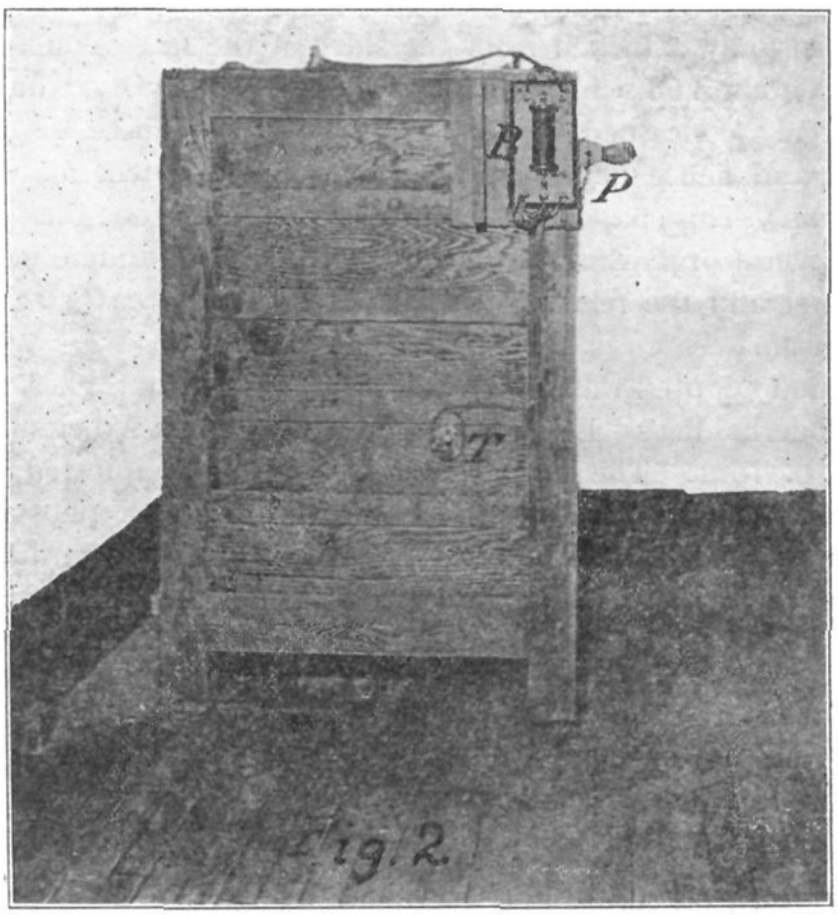

Fig. 2.

opened too frequently. Best results were obtained by keeping only one piece of ice in the ice chamber, in order to have a minimum cooling surface exposed. In ordinary weather a 15-pound piece was put in every morning, but during the hottest weather it was iced twice a day.

Besides being used for bacteriological purposes this incubator is very convenient for cooling solutions to the standard temperature of 20°. If it is desired to use the incubator as an ordinary refrigerator, it is only necessary to turn off the current. Satisfactory results might be obtained without the use of a circuit breaker, which would reduce the cost of installation.

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