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THE BROADENING HORIZONS OF MEDICINE¹

By Dr. WINFRED OVERHOLSER

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WE meet this morning in the midst of a troubled world, a world troubled perhaps more than it has ever been in the history of mankind. For ten years this country, along with the rest of the world, has been going through the throes of an economic depression of greater intensity and greater duration than any previously recorded, a depression which has disorganized commerce among nations and which has affected profoundly the lives of almost every one. During this same period of time we have seen many of the fruits of man's struggle for liberty sacrificed in the rise of political authoritarianism. The freedom of speech, the freedom of thought, the freedom even of physical movement, have been completely abolished in several

portions of the globe. Fortunately this tide of authoritarianism has not yet engulfed this country; although it behooves every one to be on the alert, we need not fear that the ideals for which so many of our forefathers struggled will be easily given up. And now added to the depression and the rise of authoritarianism, we have before us the spectacle of war, a war which threatens the very foundations of civilization, and which is unleashing truly awful forces of aggression and hatred throughout the world. The troubled state of mankind and the inexpressible folly of war have seldom been summed up more pungently than in the words of Professor Albert Einstein in a letter addressed to posterity which was deposited a year ago in the five thousand year capsule at the New York World's Fair. The letter reads:

¹ Address presented at the opening session of George Washington University School of Medicine, September 25, 1939.

taminating spores; the production of harmful gases and the fire hazards are all eliminated by substituting a low rectangular frame of transite containing a number of turns of nicrome wire connected to the lighting circuit.

The details of the sterilizer are given in the accompanying sketch (Fig. 1). When using the sterilizer a pedal switch operates to turn the electric current on

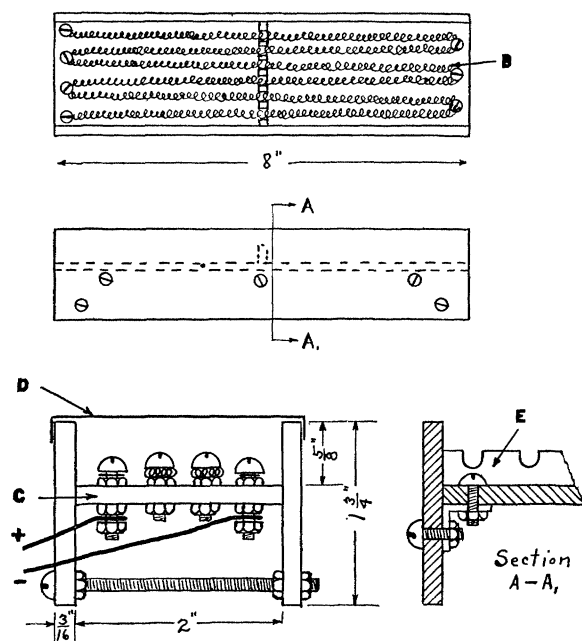


FIG. 1. Electric sterilizer, showing frame of 3/16" transite which bears the coils of resistance wire B on a shelf C. The "12 to the inch" mesh galvanized wire screen D, covers the frame, prevents direct contact with the heating coil B and is used to hold various cultural instruments such as wire needles, special knives, scalpels, chisel forceps, long museum forceps and other instruments and materials during sterilization. In B the length of resistance wire from a cone-heating unit is looped around binding bolts at both ends and supported in the center by a slotted strip of transite E to prevent lateral contact between segments of the coil.

and off, keeping the heating coil hot only during the period when the culture instrument is being held over the mesh screen. The instrument is first dipped in alcohol and either held momentarily over the screen or laid upon it until the alcohol ignites and burns off. Glass rods used in special cultural technique for testing toxicity of preservatives in wood can be dipped in alcohol and a number of them placed over the screen for sterilization before placing them on the test fungus mat. The sterilizer is placed on a sheet of asbestos paper laid on the culture room table or the floor of

the culture case in a position most handy for the worker.

The electric sterilizer is submitted for trial to those workers who desire, for one reason or another, to eliminate the open flame in the culture chamber.

ERNEST E. HUBERT

WESTERN PINE ASSOCIATION,
PORTLAND, OREGON

THE INFLUENCE OF CENTRIFUGATION ON THE AGGLUTINATION OF PNEUMOCOCCI¹

THE usual methods for detecting agglutinins (excepting the relatively crude slide agglutination), require 18-24 hours. Fleming,² stimulated by earlier observations of Gaeltgens³ and of Gates,⁴ employed centri-

fugation. It was observed during observations on antigen-antibody balance in treated cases of pneumococcal pneumonias that centrifugation increases the rapidity and accuracy of agglutinin detection.

One half cc portions of the different antibody dilutions were mixed with 0.5 cc portions of bacterial suspensions. Readings were made after ½, 1 and 2 hours' incubation at the following temperatures: 4° C., 20° C., 37° C. and 55° C. and again after refrigeration at 4° C. overnight. The results obtained by this method were compared with those observed after immediate centrifugation of the antigen-antibody mixture for 5 minutes at 2,000 r.p.m. Immediate development of strongly positive reactions were observed in all tubes after centrifuging for 5 minutes. Reactions were always more definite than those obtained with water bath incubation for two hours and overnight refrigeration. The "inhibition-zone," observed after incubation in the water bath in tubes containing an excess of antibody, was eliminated.

PAUL F. DE GARA

¹ From the Medical Service of Harlem Hospital, Department of Hospitals, New York City, N. Y., and from the Littauer Pneumonia Research Fund, New York University College of Medicine. These studies received financial support from the Littauer Pneumonia Research Fund, of New York University College of Medicine, from the Metropolitan Life Insurance Company and from Mr. Bernard M. Baruch, Jr., Miss Belle N. Baruch and Mrs. H. Robert Samstag.

² A. Fleming, *British Jour. Exp. Path.*, 8: 231, 1928.

³ W. Gaeltgens, *Munch. med. Woch.*, 53: 1351, 1906, and *Arch. Hyg.*, 56: 377, 1908.

⁴ F. K. Gates, *Jour. Exp. Med.*, 35: 63, 1922.

BOOKS RECEIVED

- BALL, ALICE M. *Compounding in the English Language*. Pp. 226. Wilson.
Science Reports of the Tôhoku Imperial University. Fourth Series. (Biology.) Vol. XIV, Nos. 2 and 3. Pp. 121-326. Illustrated. Maruzen, Tokyo.
 TAYLOR, JAMES H. *Vector Analysis*. Pp. ix + 180. Prentice-Hall. \$2.85.

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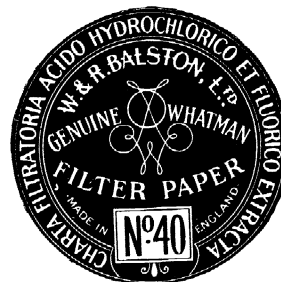
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