an incubator in which the air circulation is constant, by establishing the difference between the wet bulb reading at the regular incubator air velocity and the maximum wet bulb depression. This difference applied as a correction to the observed stationary wet bulb reading should give an approximate humidity determination. Frequent checking would be advisable to correct for any changes in air velocity or reduced evaporation from the wet bulb wick. If the incubator temperature and humidity vary only in narrow limits, a few readings at various points should form the basis of a simple chart for approximate corrections. If the air movement is not subject to variation by reason of material introduced into the incubator, the stationary psychrometer may be placed at any convenient point. Otherwise it should be located close enough to a fan to insure a constant current over the bulbs, regardless of changes of air circulation in the main body of the incubator. With low air velocities, it is particularly important that the thermometer bulbs be protected against any varying source of heat, as from the fan motor or the incubator heating elements. A stationary psychrometer has been in use in this way in an incubator for a short period with apparent success. The humidity determinations with this instrument may be more accurate, and certainly less erratic, than those obtained with our hair hygrometers, particularly in an incubator in which the frequent opening of the door tends to keep the hair instrument continually out of adjustment during the day.

For general use about the laboratory or insectary the electric instrument has advantages over the sling psychrometer in reducing the danger of breakage, and in ease of reading, as the thermometers may be read while the motor is running and the wet bulb held constant by the air current. Its special adaptability for use inside small enclosures makes it seem an instrument that is worth perfecting for entomological work.

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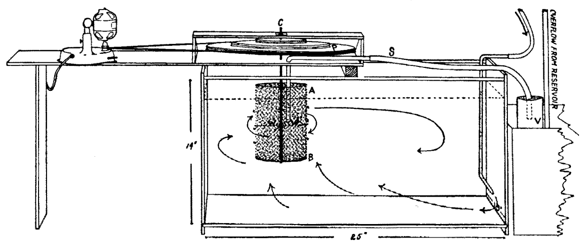
THE CURRENT ROTOR

Last summer, while engaged in a study of post-embryonic development of mackerel and other marine fishes at Woods Hole, Massachusetts, the authors used a simple device which enables one to change water without losing small organisms that live in the aquarium. The essential feature of the apparatus is a cylinder, A, of 60 mesh or finer monel metal screen suspended in a tank and rotated by means of an electric motor. Rotation of the cylinder when placed at one end of an oblong aquarium sets up a complex system of currents the direction of which is indicated



in the accompanying illustration. Strong circular currents are formed in the immediate vicinity of the cylinder, while at the far end the water moves very gently. There is also a noticeable upward motion from the bottom of the tank.

The speed of rotation and the corresponding strength of currents may be regulated by the speed of the motor controlled through a rheostat and by means of a set of pulleys of different diameters. The dimensions of the cylinder also affect the strength of the current produced and therefore should vary according to the size of the aquarium used. The cylinder shown here is 4 inches in diameter and 6 inches long. About one inch is left above water. The tank is $25 \times 15 \times 14$ inches. The bottom of the cylinder, B, is a celluloid or monel metal disk. Noncorrosive material should also be used for the suspension rod, C, and brace wires, W. The diameter of the pulley, P, is 12 inches.

The water can be withdrawn from the tank through a siphon, S, the upper end of which is placed inside the revolving cylinder. When the cylinder is in rotation small organisms never are actually drawn against its wall, because the centrifugal force throws them away from it. They are then caught up in the circular currents and soon find themselves in quieter waters at the far end of the aquarium. In this manner the water in the tank can be changed without losing its inhabitants.

When it is desirable to supply a constant flow of water this can be accomplished by placing the lower end of the overflow siphon, S, in a vessel, V, adjusted so that the top of it is level with the water in the aquarium. The water is introduced from a reservoir, in which it is kept at constant level. If necessary the water from a laboratory faucet can be filtered through glass wool to remove sediment and other foreign matter.

The revolving cylinder not only provides for changing water without losing small organisms that are kept in the aquarium, but also by setting the water in motion it prevents the accumulation of the organisms and their sticking to the bottom. In this respect it can be used instead of a plunger jar.

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