FIG 2.—Boxes assembled and collapsed, showing economy of space when collapsed.

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A Collapsible Model of the "Red Box" for Measuring Mosquito Population Density [1]

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Epidemiologic appraisals of malarious areas and evaluations of antimosquito aspects of malaria eradication and control programs benefit greatly from qualitative and quantitative measurement of anophelism. Smith (1939, 1942), working in the Tennessee Valley, found that nail kegs could be effectively used as artificial resting places in measuring adult *Anopheles quadrimaculatus* populations. Goodwin (1942) described a box-type artificial resting place which, as tested in Georgia, proved more attractive to *A. quadrimaculatus* adults than did the other types tested. The device consisted of a 12" wooden, cubical box, open on one side, with all interior surfaces painted red or black. Boxes of this type, constructed of ¼" plywood, show promise for anopheline population measurement in entomologic work carried out in El Salvador by personnel of the Central America Malaria Research Station. However, the space required to transport numbers of these boxes in a truck or station wagon, or by hand, represented a serious disadvantage.

Simple modifications in construction, using essentially the same amount of plywood, have resulted in collapsible boxes which are easily transported and easily assembled for field use. Sixteen or more of the collapsed boxes can be transported or stored in the space required for two conventional boxes (Figs. 1 and 2).

Four sides of the box are ¼" plywood panels, each 12" square. These four panels are joined together by strips of canvas, leather, or plastic-fabric (4" x 12"), stapled or nailed to cover junctions A-A, B-B, C-C, and D-D. The back of the box is a ¼" plywood, 12½" x 13½", joined to the side panels by a canvas "hinge" along the junction C-D. A strip of wood 12" x 1½" x ¾" is fastened transversely to the

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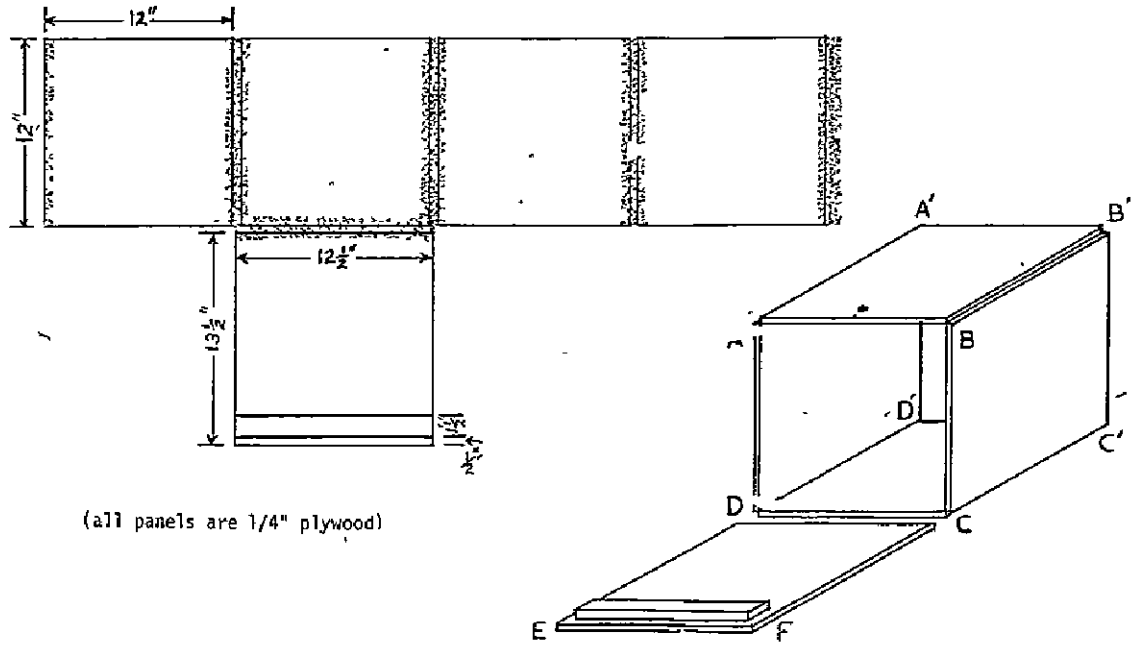

Fig. 1.—Construction details of collapsible "Red Box" for measuring adult mosquito population density.

inside face of the back panel, at a distance of ½" from the distal border of the panel. This wooden strip (¾" thick) and the ½" lip at the outer end of the back panel offer support and rigidity to the box when the back panel is folded into position for use. The back panel is then held in place with a piece of light cord fastened through a hole in one side panel near margin A-B and wound around a light nail driven into the outer face of the back panel near the margin E-F. Both the inside and the outside surfaces of the assembled box are painted with a dark red, non-glossy paint.

Experience has shown that heavy canvas is the most readily available and economical of the "hinge" materials. It can be stapled to the corresponding panel surfaces for short periods of use, but strips of box-banding metal and light nails provide a more durable assembly.

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