Discussion

Before machine sewing any part, pin pieces together so they will not move during sewing. Use only nylon thread and nylon zippers; cotton will degrade and metal will corrode. Handsew by using 15-25 lb. monofilament fishing line. Always tack material at 0°, 180°, 90°, and 270° in that order, before sewing material onto rings. Use flexible fiberglass screen designed and manufactured to resist UV degradation (made for outdoor use). The one area on a bait trap subject to stress and abuse is the area of and near the zipper.

Instructions

Begin by machine sewing a 20" nylon zipper onto a 5" X 24" piece of sailcloth, canvass, or fiberglass screen, following manufacturer's instructions. Fold over edges ½" and pin and sew to form 4" X 23" piece. Place over flat unsewn cylinder screen as shown on drawing. Center within 5" X 24" area. Pin in place every 2" around. Then machine sew in place making several passes all around and along zipper edges.

To form screen cylinder, cut rectangular piece 66" X 27". Mark sewing line 1½" along top and bottom edges. Mark sewing line on one end, 5" from one end. (5" of the 66" will overlap so that the circumference of the completed cylinder is 61") Overlap the 5" piece on the inside of the zipper. Install zipper piece onto rectangular cylinder piece before sewing ends together to form cylinder. After forming cylinder, sew it by hand along sewing line to top ring only after the top screen has been attached to the ring. Likewise attach the cylinder to the bottom ring after the screen funnel has been attached. Remember to tack first.

To form top screen, cut circle 22 5/8" dia. (not shown), mark sewing line 1½" around edge. Attach to top ring by hand sewing along line after tacking.

To form screen funnel, cut semicircle from rectangular piece 42" X 21½" (see drawing). Mark 1½" sewing line around all edges. Before attaching rings to screen funnel, machine sew straight edges together to form a cone. Overlap only 1½". (Not sewing line...
to sewing line, this would make 3" of overlap) Attach to bottom ring by hand sewing along line. With cone erect, place ±6" dia. upper funnel ring over cone. Mark sewing line 1½" above (towards cone apex) the upper funnel ring. Cut off excess material at this sewing line. Make 1½" cuts perpendicular to the sewing line every 2" along ring circumference. Fold over each 2" section, tack and sew onto upper funnel ring.

Top and bottom wire rings - 2 pieces galvanized wire 19 5/8" OD, wire dia. 0.15" - 0.25".

Funnel ring - ¼" dia. copper tubing, ±6" dia. circle. Keep in mind, in order to collect a moth with a 6" wingspan, an equivalent size funnel opening is needed.

Chain links - 4 pieces, each piece consisting of 2 links, one link is cut open to attach to top ring, other link attaches to trap hanger. Attach to top ring after all sewing is completed at 0°, 90°, 180°, 270°. (see drawing)

Platform hangers - 0.10" dia., 8½" long steel wire, bend and install as shown at 0°, 120°, and 240° intervals onto bottom cylinder ring. 3 pieces required, refer to drawing.

Trap hangers - 0.10" - 0.15" dia., 27" long steel wire. 2 pieces, bend as shown on drawing.

Platform hooks - 3 pieces, 0.15" dia galvanized wire, 8" long, bend and install as shown at 0°, 120°, and 240° intervals 1" from outer edge of the plywood bottom.

Platform bottom - 3/4" pressure treated exterior plywood cut into 20½" dia. circle. Paint all surfaces, especially edges with 2 coats of exterior house paint.

Funnel ring support lines - (see dotted lines on drawing) Install 2 heavy monofilament lines between funnel ring and top wire ring. Install 90° and 180° from zipper entrance while filled bait containers or equivalent weight is placed on bottom platform. Only install these lines under actual working weight conditions.

Bait containers - use bottom ½ of used discarded plastic gallon milk or water jugs.

Rain protection - Install by placing 26 or 28 gauge, 20" dia. galvanized sheetmetal on top of trap. Notch 1" X 1" areas along circumference for chain link hanger attachments at 0°, 90°, 180°, and 270°.
EXTENDED DUTY BAIT TRAP

by Vernon A. Brou