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NEW DESIGN FOR A LARGE PORTABLE MAMMAL TRAP[1]

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ABSTRACT

Inaccessibility of efficient trapping sites for the European wild hog *(Sus scrofa)* stimulated the design and use of a portable live trap. Materials for several traps can be transported at one time in a pickup truck and the trap can be assembled by one person in less than 15 minutes. Relatively low cost and convertibility into a larger multi-capture trap are other attributes.

A research project involving the live capture of European wild hogs *(Sus scrofa)* prompted the design and construction of a more portable live trap for this species. Prior to development of this trap, rigid and more stationary traps of the same general appearance were used (Matschke, 1962).

Due to the seasonal and altitudinal movements of wild hogs the frequent relocation of traps to new trap sites is necessary for maintenance of trapping success. However, movement and proper placement of large rigid traps were limited to areas readily accessible by means of a pickup truck. Only one trap could be transported at a time. Movement of traps from the vehicle to good trap sites was limited by the size, weight, and general bulk of the trap as well as the rugged terrain of the East Tennessee mountains. The ability to place live traps in good trap sites and away from potential human interference is an important aspect of the success of any project requiring the live-trapping of mammals.

Appreciation is expressed to personnel of the Great Smoky Mountains National Park for encouragement and suggestions regarding the design and construction of this trap.

METHODS

Figure 1 illustrates the trap being assembled. Heavy duty (80X) black iron pipe (O.D. = 0.812 in.; I.D. = 0.546 in.) was used to construct the framework of the individual panels. Long panels were fitted with a centered vertical brace and the end panel with a centered horizontal brace (Figs. 2 and 3). Joints in the frame were all fillet and electric arc-welded. Ten-gauge chain link fencing was laced to inner supports of long panels with 12-gauge soft wire. The chair link was tack-welded on ends of long panels (Fig. 4, Detail A).

All panels and the door frame are fastened together with 0.5 inch steel rods (pin) through connecting links on each panel (Fig. 4, Detail B). Connecting links are 3.5 inch sections of pipe and welded to the

1 Supported by funds from The Great Smoky Mountains Natural History Association and in part from McIntire-Stennis Project No. 11 of the Agricultural Experiment Station, Knoxville, Tennessee.

FIGURE 1. Portable live trap — assembly

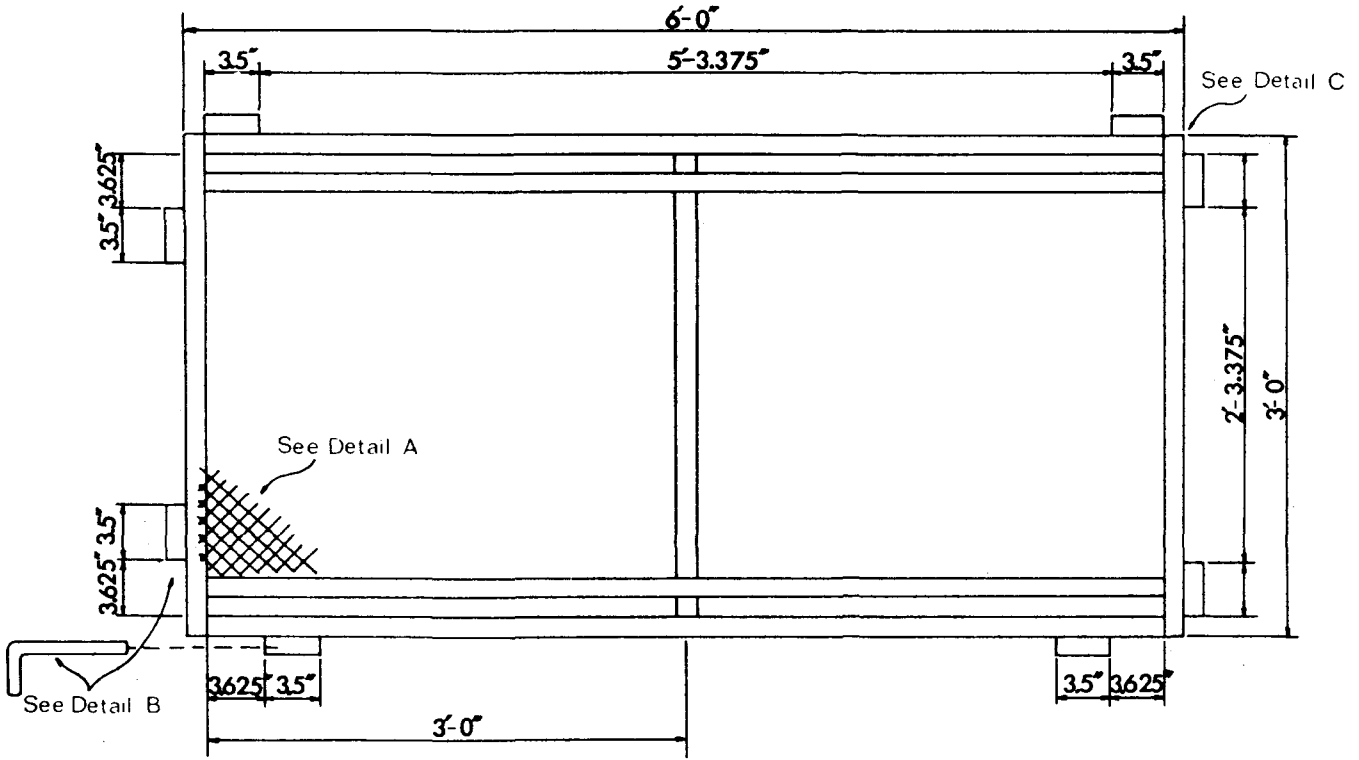

FIGURE 2. Schematic diagram of top, bottom, or side panel for portable live trap

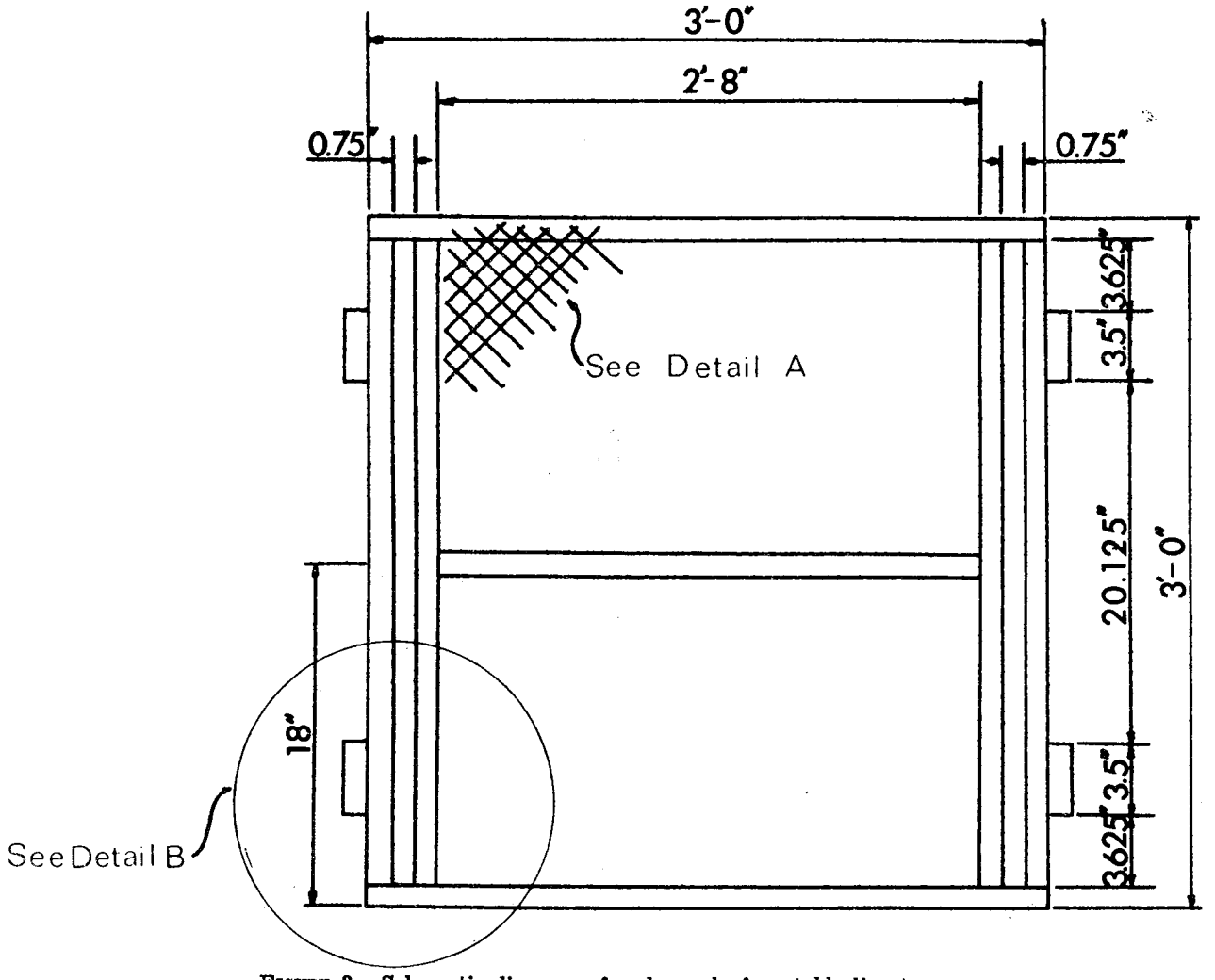

FIGURE 3. Schematic diagram of end panel of portable live trap

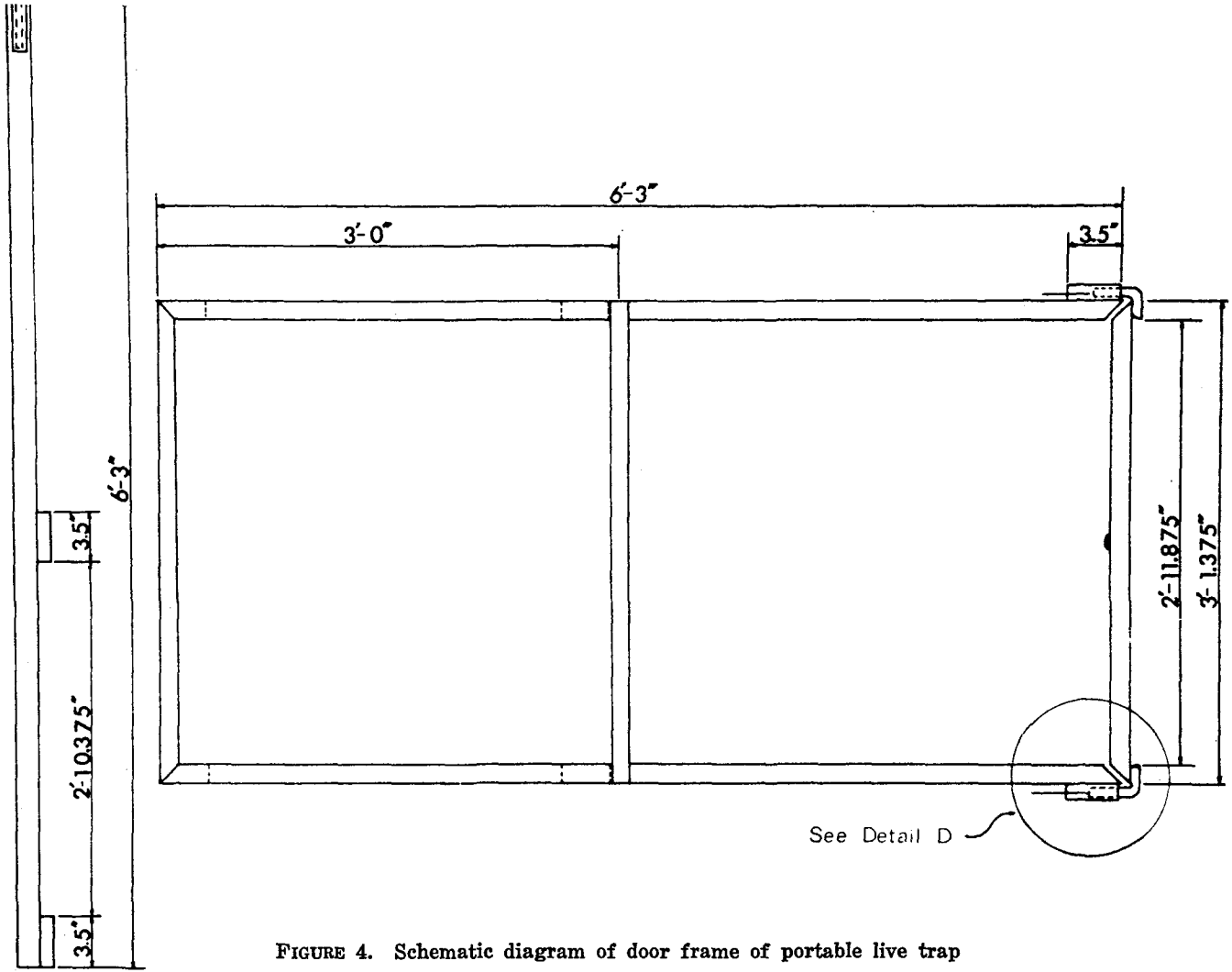

FIGURE 4. Schematic diagram of door frame of portable live trap

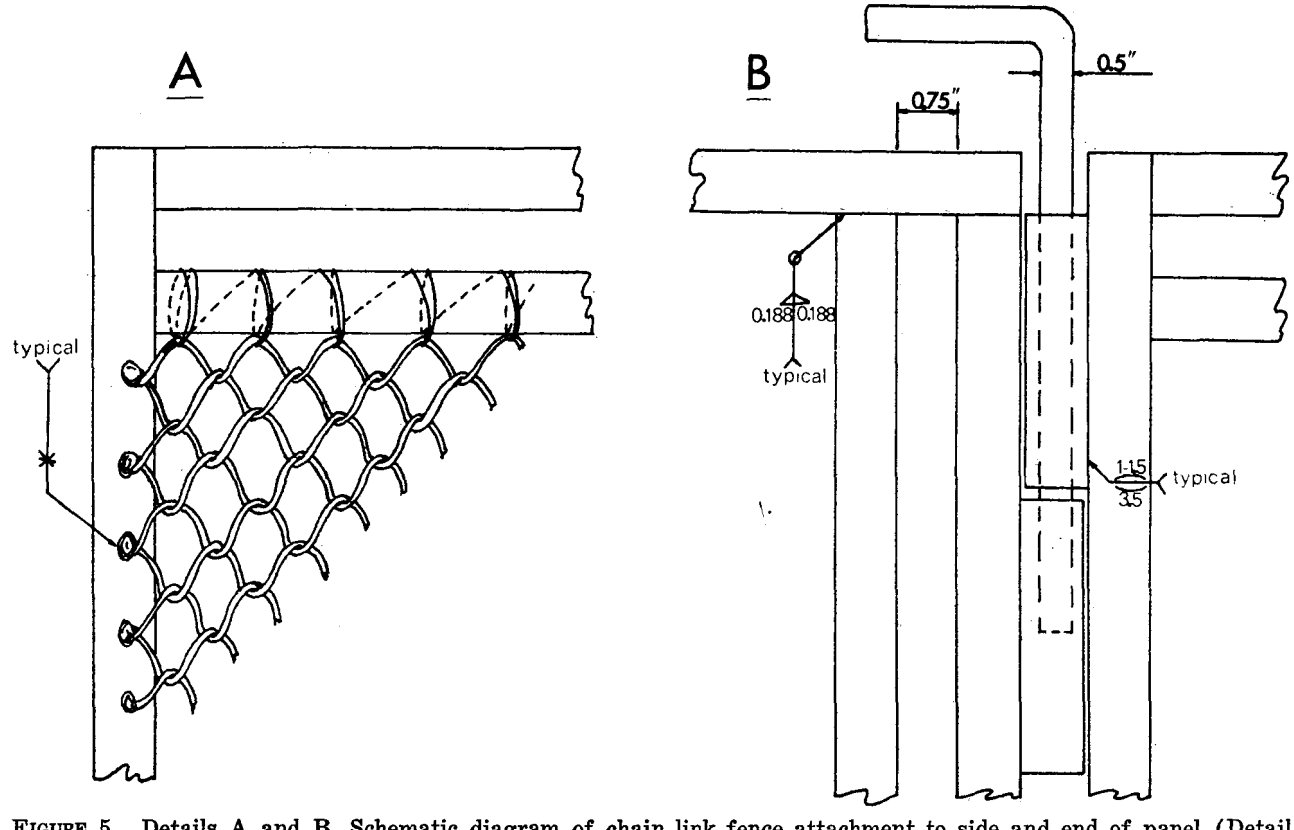

FIGURE 5. Details A and B. Schematic diagram of chain link fence attachment to side and end of panel (Detail A) and rod and link attachment (Detail B).

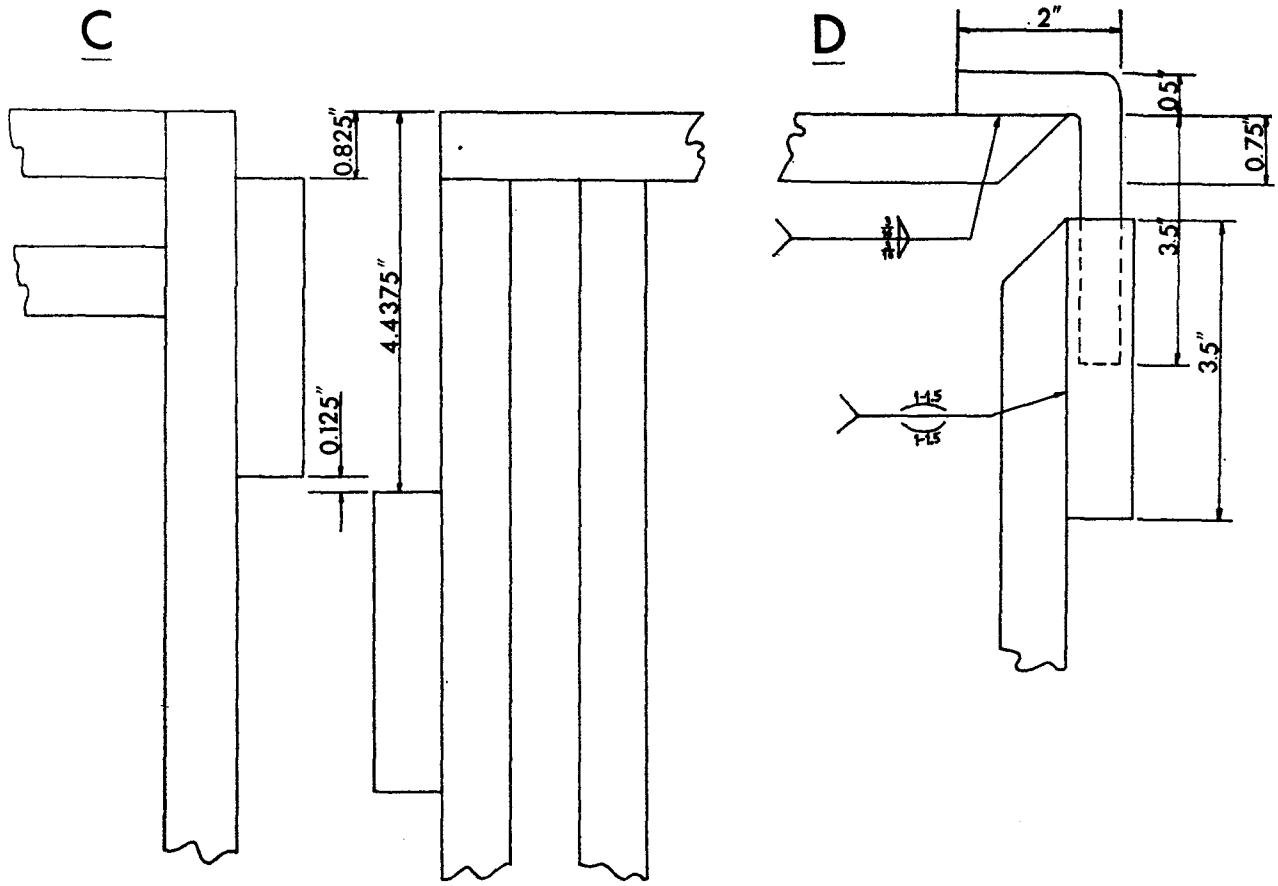

FIGURE 6. Details C and D. Schematic diagram of rod and link attachment showing black pipe spacing and link tolerance (Detail C) and rod and link attachment for top of door frame (Detail D).

framework. All long panels are interchangeable, i.e., a given panel may be used for top, bottom, or either side. Also, the same pattern was used to construct each long panel, end, and door frame. Thus, each of these three major components is interchangeable from one trap to any other. A connecting link on one compartment is designed to closely align with the corresponding link on the appropriate adjacent panel. However, an 0.125 inch gap was allowed to compensate for any stresses that might warp the panels slightly (Fig. 6, Detail C).

The door frame was constructed of channel iron (1.5 x 0.75 x 0.125 in.) with a horizontal brace of 0.5 inch pipe located slightly below the center of the frame (Fig. 5). The top of the frame may be lifted off to facilitate removal of the 0.75 inch plywood door (Fig. 6, Detail D). This door-frame top is fastened in a manner similar to that used to connect the panels except that the rod (pin) is welded to the top brace.

Materials necessary for one trap include:

14 ft. chain link (10 gauge, 6 ft.)
165 ft. black pipe (80X)
20 ft. channel iron (1.5 x 0.75 x 0.125 in.)
1 piece plywood (0.75 in.)
115 ft. soft iron wire (12 gauge)
18 ft. smooth rod (0.5 in.)

RESULTS AND DISCUSSION

The assembled trap weighs in excess of 200 pounds (dimensions 6 x 3 x 3 ft.). However, the heaviest individual panel weighs less than 50 pounds. The entire trap can be assembled by one person in less than 15 minutes. Use of pins and links instead of standard nuts, bolts, screws or other fasteners is much faster and eliminates working with the more complicated fasteners (especially after weathering). One half-ton pickup truck can carry necessary panels for six traps. Matschke (1962) indicated high cost as a major limiting factor for rigid traps of similar design. However, the above author did not indicate actual cost of such a trap. Approximate cost of materials for one portable trap is $40.

The above trap was specifically designed for capture of European wild hogs. However, the size and durability is such that it could catch and retain black bear and whitetail deer. Trap size can be modified to fit the needs of any particular research project or species. If smaller or less aggressive animals are to be trapped, lighter and thus more portable traps are possible by using lighter wire and framing materials.

The trap can be permanently opened simply by removing one panel. Also, two or more traps may be placed end to end and attached. Thus a larger trap is created and is capable of capturing more than one individual. Multi-capture is especially possible with females and their young (e.g., female wild boar and piglets, female black bear and cubs or whitetail doe and fawns).

Successful trapping is presently being carried out in areas that were previously inaccessible for such purposes.

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