A NEW STYLE LIVE-TRAP FOR SMALL MAMMALS

In the course of studying populations of mammals at the University of Kansas Natural History Reservation, the writer and his associates at the Natural History Museum have compared the effectiveness of several types of live-traps, and have experimented to improve upon those available. A new model, tried in different sites, has proven effective, at least for white-footed mice, harvest mice, house mice, meadow voles, cottonrats, woodrats, and opossums, which are caught regularly with it. Various other types of live-traps currently used by mammalogists are efficient mechanically, and the present model is not claimed to be superior in this regard. Its main virtue lies in its simplicity. This renders its construction easy, rapid, and inexpensive. The inside mechanism is not liable to be tripped from the outside by an animal attempting to dig underneath or climb over the top, as occasionally happens with some other models.

![Diagram of trap](image)

Fig. 1.—Diagrammatic view, inside of trap with left side removed, showing the trigger mechanism, A, suspended from cross-wire of top by its looped ends; piece B pivoting on A, supported anteriorly by wire loop C, and with its anterior tip holding up the door.

The body of the trap is constructed of hardware cloth, or other heavy wire mesh, and is square in cross-section, about 3\(\frac{1}{2}\) times as long as wide. The door is of heavy sheet metal, and pivots on its upper edge, opening inward, so that when raised it lies along the top of the trap on the inside. The mechanism consists of two pieces of wire. One of these, the trigger (A, see Fig. 1), hangs vertically by the looped ends of its two arms, enclosing on the right and left sides a transverse wire of the top of the trap, on which the trigger pivots, its lower end swinging freely anteriorly or posteriorly in response to any pressure. The lower end of the trigger piece is flanged transversely at an appropriate height above the floor of the trap, so that an animal coming through to reach the bait near the rear end can scarcely avoid touching the trigger and pushing it back. The second wire, B, which holds the door open when the trap is set, lies in a horizontal position a short distance below the roof of the trap, and at the posterior end of this wire two arms diverge laterally, each arm ending in a loop which encloses the horizontal portion of one arm of the trigger, on which this wire (B) pivots. Anteriorly this piece (B) is supported by passing through a loop of light wire (C) attached to the top of the trap. It slides backward and forward through this loop with a piston-like movement, following the pendulum-like swinging of the trigger. To set the trap, it is tilted with the rear end slightly lower, causing the mechanism to swing posteriorly. The door is then raised, and the trap is returned to the horizontal position in which the tip of B slides forward beneath the posterior edge of the door, supporting it. A slight pressure on the trigger from the front side causes it to swing back, carrying B with it, and freeing the door, which drops to the closed position.
The requisite sensitivity is lost if the enclosing loops, on which the parts pivot, are too large, so that there is slack space to be taken up before movement is transmitted from one part to another. The larger animals that are caught frequently escape by raising the door unless a lock mechanism is added. A simple but effective lock is made by drilling a small hole through the upturned edge of the metal door near its bottom; a springy wire is then attached to the side of the trap with the tip bent at right angles, inward, its position adjusted to snap back into the hole in the door when the latter falls shut.

For trapping small rodents, shelters are attached to the ends of the traps; number 10 cans with removable bottoms afford protection from the rain. Heavy cardboard boxes, paraffined and filled with cotton, are placed in the cans for insulation, along with some food. With this protection, even in inclement weather, the trapped rodent usually remains warm, dry, and well fed.—HENRY S. FITCH, Department of Zoology, University of Kansas, Lawrence. Received December 31, 1949.