

they are able to fly well, have a habit of returning to the shelter of cover in the vicinity of their nests. This they continue to do even after most of the hatch has been killed by rodents. For the same reason that some individuals, for several consecutive seasons, nest on land so low that their clutches are washed away by the following high course tide, most terns will return to the identical nesting sites where they had been defeated the preceding years. So doing is the disadvantageous result of a major behaviour trait termed site-tenacity (Austin, 1945; 27). Therefore, every year all occupied breeding sites where rats have ever been found should be searched for signs of predation thoroughly, frequently and until the colony has migrated.

It is of much value to reduce the vegetation of a rookery to an extent which will leave only enough to provide the shelter chicks require. Flotsam deposited by high tides and litter of any sort should be eliminated. This not only reduces to a minimum the shelter rats require, but also facilitates prompt discovery of new burrows. Rodents rarely invade sparsely grassed nesting sites and their residence, under such conditions, is seldom more than temporary. Since the 1932 disaster, Tern Island has been burned over yearly, cleaned thoroughly and enough of it ploughed to eliminate excessive patches of heavy beach grass. As a result there has been no repetition of that mishap.

If, for no reason other than the conservation of wildlife, the welfare of terns should be promoted, it is necessary to safeguard their nesting sites. To this end, the prevention of predation by rates is of primary importance.

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COMBINATION WINDOW TRAP AND FEEDING TRAY

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During part of the past winter the writer "converted" a window feeding tray into a trap and feeding tray by enclosing the tray and providing a drop door. The combination trap and feeding tray has

been so successful that presumably other cooperators would be interested in building a similar device for their use.

Several of the advantages of this device are: (1) It can function indefinitely as a feeding tray. (2) When it is desired to take birds for banding one can trap them by pulling a string when they are well within the trap. This can be controlled by keeping the feed about nine inches from the opening. (3) The birds can be taken directly from the trap without the use of a gathering cage. (4) The birds do not remain in the trap longer than the time required to band and release the individuals. (5) The work is done from within the house through the window and the rear openings in the trap, hence there is not much commotion to alarm the birds in the vicinity. (6) It will capture any bird which will visit a window feeding tray. (7) The middle partition separates the birds and permits larger catches when the birds are inclined to be pugnacious and drive others from the trap. It also divides the birds and reduces the likelihood of damage inflicted by excited individuals, especially strong, "bitey" ones like the Evening Grosbeaks.

The essential features of the combination are shown in fig. 1. The principal parts and features are numbered, the numbers being enclosed within circles.

The base, part 10, of the trap consists of an area $19'' \times 31\frac{3}{4}''$, and like the other parts is $\frac{3}{4}''$ thick except as noted. The width should be suitable for the window where it is to be used. If there is a likelihood of ice dropping from the roof, the depth may have to be less than $19''$. It should be made sufficiently deep, however, to permit the birds to enter far enough to avoid being caught by the neck under the door.

The middle and end pieces, parts 5, 1 and 21, are identical in outside dimensions, figs. 1 and 2. The center section has the central part removed and covered with wire which permits the birds to see from one division to the other. The rear board, part 7, contains two openings for placing the feed in the trap and removing the birds. These openings may be closed with a wooden door, part 2, supported on brass hinges or leather straps, part 12. The doors, should have ample clearance, otherwise the effects of rain or snow will cause them to bind and be rendered useless. A stop and catch are also useful to control the movement of the door and hold it closed. Instead of doors as shown, one may find it easier to construct and operate horizontal slides to close the openings. Each opening can easily be closed with a galvanized iron slide an inch wider and longer than the opening. The slide is probably more likely to catch water and freeze shut on cold days. Two longitudinal pieces, parts 4 and 16, which are $\frac{3}{4}'' \times 1\frac{1}{2}'' \times 31\frac{3}{4}''$, are used to tie the ends and center section in place. These pieces together with the center section

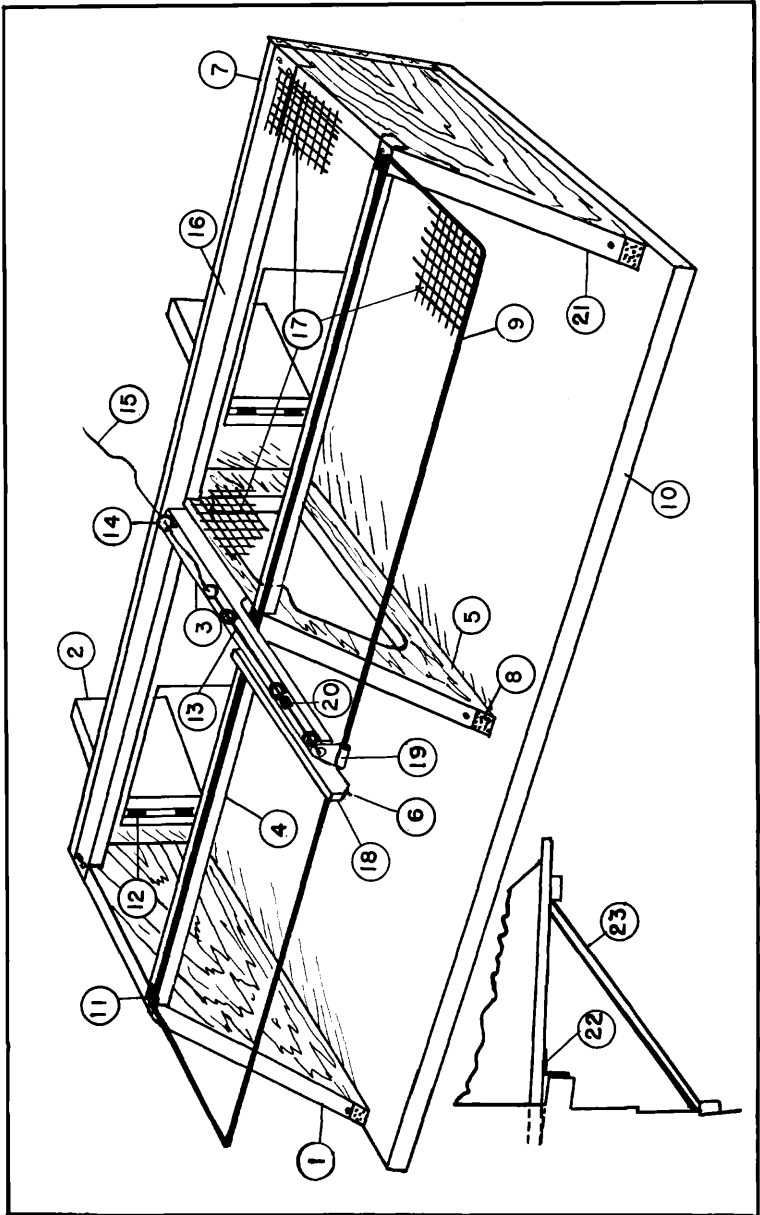


Fig. 1. Perspective view of combination trap and feeding tray.

support the top wire cover, part 17, the drop door, part 9, and the tripping and locking mechanism. The wire covering should be 4 to 6 meshes per inch. The drop door is made to fit the opening, it should be approximately as long as the trap and have a width equal to the slant of the end pieces. A piece of cold drawn wire .144" in diameter or No. 17 B. & S. gauge bent to shape and the ends brazed together makes an ideal support for the wire screen covering which can be attached by using the ends of the wires or by soldering it to the frame. The drop door hinges, part 11, can be made from a small piece of soft sheet copper .045" thick or No. 17 B. & S. gauge and the free end, L, fig. 2, rolled into a cylinder to engage the wire frame. No. 7 round headed brass screws $\frac{3}{4}$ " long can be used to attach the hinges to the door support, part 4.

The drop door is held open by the tripping mechanism. The tripping rod, part 13, is held in position by small brass eye screws, part 14. These parts are attached to an arm, part 3, supported by the central section and attached to it by 1" wood screws in counter-sunk holes. The tripping rod is of $\frac{1}{8}$ " brass rod and is approximately 9" long. (There is a ten cent plumbing fixture available which makes an ideal rod. It is 9" long including the eye when straightened. The right-angled bend should be heated to a red heat in the gas stove flame before straightening.) The door catch, part 19, can be made from the hinge material and soldered to the door in the proper position when opened to engage the tripping rod. The tripping rod is held between the eye screws by a brass stop, part 20, a short section cut from $\frac{3}{8}$ " brass rod, drilled and soldered to the tripping rod after it is assembled and adjusted to the proper position with respect to part 19 and the eye screw designated to act as the fixed stopping part.

The support for the tripping mechanism should be a piece of hardwood, birch or maple, $\frac{3}{4}$ " x $\frac{7}{8}$ " x 16" long. The overhanging part should be undercut $\frac{1}{4}$ " to $\frac{3}{8}$ " to clear the door when open. The door lock, part 18, a very important part, consists of a piece of maple or birch $\frac{3}{8}$ " x $\frac{3}{4}$ " x 9" long attached to part 3, in the proper position with a loose-fitting round-headed screw so as to drop readily with the door and engage a mesh of the wire cover. This will prevent the birds from opening the door when trapped. The end of the door lock should be slightly beveled and a small nail, part 6, driven into a snugly-fitting drill hole in the beveled end. The head of the nail should be then cut off to allow the body of the nail to project about $3/32$ ". All screw holes in the hardwood must be drilled for the brass screws, otherwise the screws will be broken in attempting to turn them into the wood. Small soft rubber pads, part 8, should be provided on the end pieces and central section to eliminate most of the shock of the door when dropped and to provide

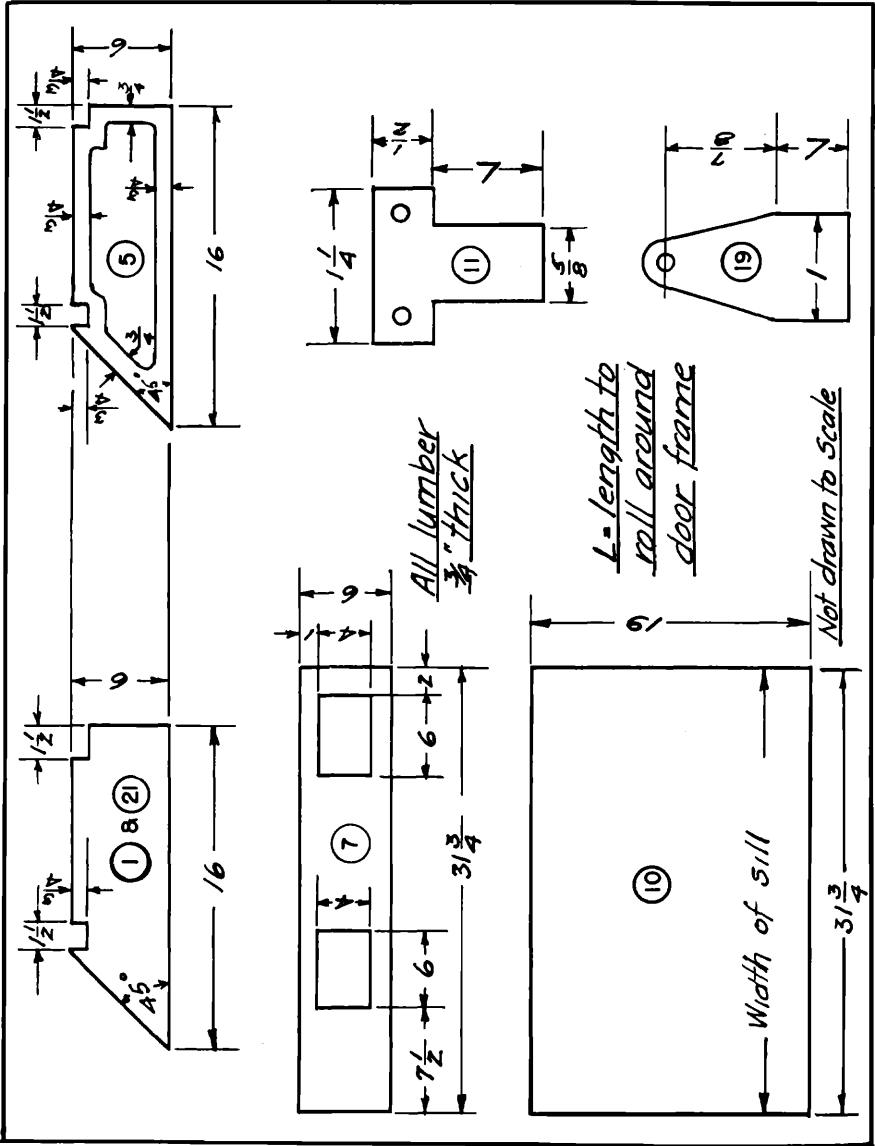


Fig. 2. Details of important parts used in assembling trap.

“neck space” in the event a bird is able partly to “beat” the door.

The wooden parts should be glued with plastic glue and nailed with suitable coated box nails. The trap can be attached to a window-sill by the use of two 2" iron brackets, part 22, and a brace, part 23, to support the outer, over-hanging part of the trap. The brace can be held against the clapboard and the bottom of the trap by cleats and nailed in position.

When it is desired to drop the door, the tripping mechanism is actuated by pulling string 15, which has been passed inside the room under the window. One can observe the actions of the birds by lowering the window shade to about the level of the trap in order to cut off the birds' view to the inside of the room. Many species are not alarmed unless one moves rapidly, hence unusual precaution is not always necessary.

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GENERAL NOTES

Temporary Loss of Flight.—Not long ago Parks (1947:75) referred to a couple of cases of flightless Evening Grosbeaks that showed spontaneous recovery. Having handled three such cases on a different basis it seems worthwhile to put them on record even though the causes are unknown. I hope diagnosis of causes may eventually be obtained and we may be able to say something of their frequency. My histories follow.

I. Slate-colored Junco 46-73017. 14 Nov. 1946: banded. 19 Nov. 1946: repeated and noted as flightless. 2 Jan. 1947: repeated and able to fly. 27 Dec. 1947: returned and able to fly.

II. Slate-colored Junco 47-2607. 11 Nov. 1947: banded. 15 Nov. 1947: repeated and noted as flightless. 18 Nov. 1947: the fourth repeat since previous date and still flightless. 24 Nov. 1947: repeated and able to fly. 25 Jan. 1948: the 20th repeat since previous date, flying well on each occasion.

III. Eastern Robin, immature, 47-309853. 12 Oct. 1947: banded. 15 Oct. 1947: taken by hand in early morning and found to be flightless. 15 Oct. 1947: trapped in evening and able to fly.

The most important point is that these three birds, the only ones noted as unable to fly out of about 660 birds handled, all recovered their flight in the wild. The junco 47-2607 was actually seen to approach the traps afoot. When handled it would sometimes move the left wing but not the right one. In each of these cases I feel sure that inability to fly was centered in the flight apparatus and was not due to general disease or debility.