

## RADIO CONTROLLED HAWK TRAP

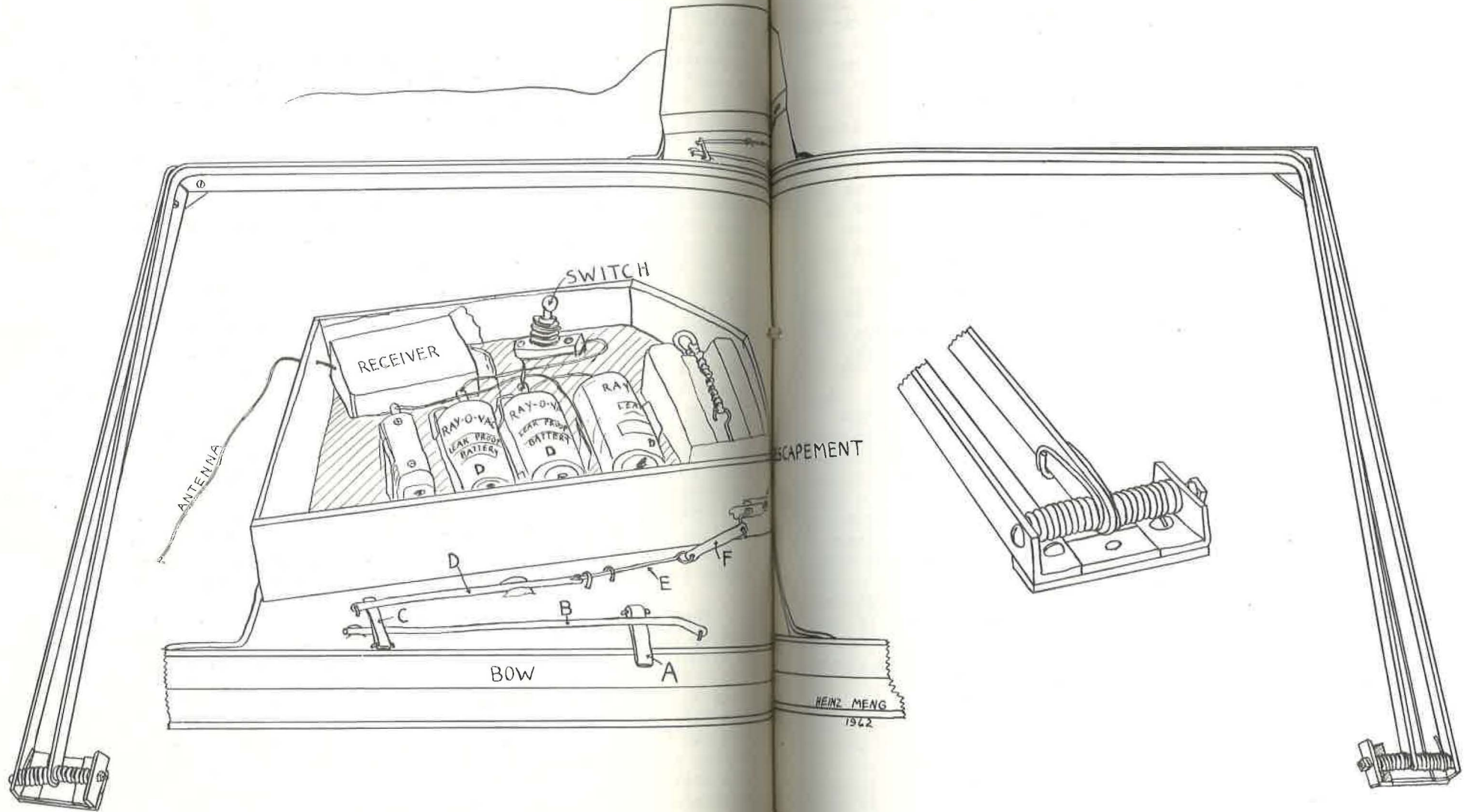
By Dr. Heinz Meng

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During the thousands of years that hawks have been trained for falconry man has devised a great variety of traps for capturing birds of prey. Among the best are the dho-gaza, the bal-chatri, the bow-net, and the "noosed pigeon." Modern falconers have redesigned many of these ancient traps and have used new techniques and superior materials. Probably the most widely used and most reliable trap is the bow-net trap. It basically consists of a bow with a net attached. In order to operate a bow-net trap one must be in a blind fairly close to the trap. When hawk lands on bait in the center of the trap the trigger line is pulled and springs snap the bow and net over the hawk.

If trigger is released by radio a blind is unnecessary and one can sit comfortably in a car and watch the trap with binoculars. Model plane enthusiasts have developed a radio system whereby a plane can be controlled from the ground by transmitter. A receiver and escapement are built into the plane and the pressing of a button on the transmitter causes a lever on the escapement to move. The movement of this lever regulates the rudders on the model plane. By modifying this system it is possible to release the trigger of a bow-net by radio. The amount of pull produced by the lever on the escapement, however, is very slight and it is therefore necessary to develop a hair trigger. Since the bow-net springs must be fairly strong so that the bow is fast enough one must use a series of levers to get sufficient mechanical advantage so that only a weak pull will be necessary to release the trigger. This has been accomplished by using four levers and a pin. The main bow is held by lever A which is held down by lever B which is held by lever C which is held by lever D which is held by pin E. The end of the pin is hooked onto the escapement lever with part F. When button on transmitter is pushed escapement lever pulls part F and pin out causing all levers to be released in rapid succession, and springs flip bow and net over hawk. The important advantage a radio controlled bow-net has over the automatic bow-net is that the bander or falconer can spring the trap at the most opportune moment.

Many types of automatic bow-nets have been developed by myself and others, but all of these involve the hawk itself setting off the trigger by either pulling on bait or tripping a string or lever when coming into trap. If the tension is not set just right or the trigger string is too close the bait bird often springs the trap with its violent flutterings just before the hawk comes in. Also, a falcon rarely binds to a ground tethered bird on the first stoop and is very likely to spring trap by hitting trigger string or lever. These complications have been eliminated with this new trap. It might be said that the automatic bow-net has the advantage of not having to be watched all the time. This is true, but a hawk struggling for an extended period under a net is likely to do itself irreparable damage. How much better to be able to spring trap "when you get back" even though the hawk has eaten most of the bait.



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The following is a list of the materials used to construct radio-controlled bow-net.

1. Reynolds Do-it-yourself Aluminum  
6 ft. 1/8"x3/4" bar  
8 ft. " " "  
6 ft. angle bar - 1"x1"x1/16"  
6 ft. " " - 3/4"x3/4"x1/8"  
8 ft. " " " "
2. Aluminum screws, bolts and nuts and rivets.
3. Springs--4 rat trap springs or 4 custom made springs.
4. Stiff aluminum or other wire (approx. 1/8" in diameter) for levers.
5. Piano wire--for pin and securing levers.
6. Metal stakes for anchoring trap and bait pigeon.
7. Paint (sand color or olive green) depending on where trap is to be used. A coat of zinc chromate applied to aluminum surface before painting will prevent peeling.
8. Wood (redwood) for mounting levers and plywood (1/4") and white pine for enclosing receiver, batteries, escapement, and toggle switch.
9. Nylon netting. Two inch or four inch stretch mesh can be used depending on whether or not sparrow hawks are to be caught. They can get through the four inch mesh. Netting is available from Howard K. Balch Co., 1653 N. Farwell Ave, Milwaukee 2, Wis.
10. Kraft single channel Tone Transmitter. Kraft single channel Tone Receiver. Both available from Ecktronics, 2107 S. Wright St., Santa Anna, Calif.
11. Babcock Motor-minder (Escapement). Babcock Models, Newport Beach, Calif.

When trap is set it is in the shape of a shallow u with 2 ft. sides and a four foot base. There are two reasons for this shape. First, a u-shaped bow covers much more head-room area when trap is being sprung. This greatly reduces the chances of the hawk being accidentally hit by the bow. Secondly, the bait bird can be tethered in center of trap area without being in contact with any part of the trap. This prevents the possibility of trap being set off by vibrations caused by the fluttering of the bait bird. When trap is sprung it covers 16 square feet of area. The net should have a bag in it so that there is enough give to enable one to tuck net under bow when setting trap. Entire trap is then covered with a fine layer of sand, leaves or grass. All that should be visible to the hawk is the bait bird or birds (2 starlings or sparrows can also be used.)

If desired it is possible to get multitone receivers and multitone transmitter. This would enable one to spring any one of several traps. This, however, would get needlessly complicated and expensive. Two bow-nets with identical single channel tone receivers may be used. These are set about 30 ft. apart and when a hawk lands in one trap transmitter button is pushed and both traps are sprung simultaneously. It only takes a few minutes to reset traps and by having two traps one's chances are greatly improved.

The transmitter easily trips the receiver at a distance of one mile. Maximum range was not tested since it is desirable to be fairly close to the trap so that hawk can be removed immediately after capture.