

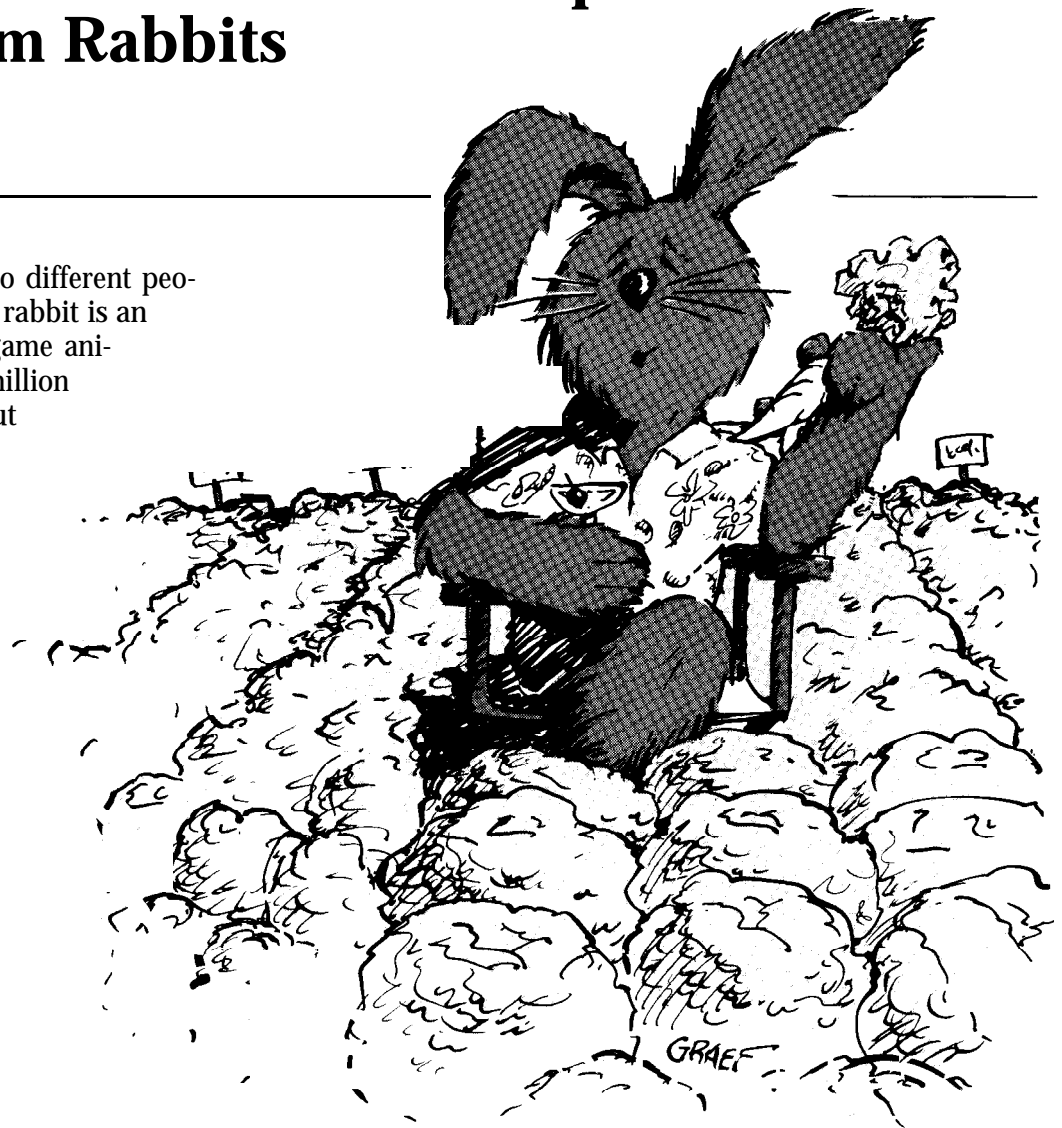
# Protecting Gardens and Landscape Plantings from Rabbits

Scott R. Craven

Rabbits mean different things to different people. For hunters, the cottontail rabbit is an abundant, sporting and tasty game animal; hunters harvest about 1 million rabbits a year in Wisconsin. But vegetable and flower gardeners, farmers and homeowners have very little to say in favor of the creatures. Some people's viewpoint depends on whether it is hunting season or gardening season.

Cottontails can do a lot of damage to flowers, vegetables, trees and shrubs. They may do it at any time of year and in places ranging from suburban yards to rural fields and tree plantations. Control is often necessary to reduce damage, but complete extermination is not necessary, desirable or even possible. If control techniques are applied correctly, rabbits can be accepted as interesting additions to the backyard or rural landscape.

My aim with this bulletin is to promote better understanding of rabbit biology and habits so that control efforts will succeed. After presenting some general information about rabbits, I'll describe recommended control practices for various types of damage.



## Rabbits of Wisconsin

There are three kinds of wild "rabbits" in Wisconsin. The **cottontail**, a small rabbit weighing about 2½ pounds, is the true "bunny rabbit" of Wisconsin. Its name comes from its white "cotton" tail. Although it is most abundant in southern Wisconsin, it is found in every county of the state. The Wisconsin Department of Natural Resources estimates that there are about 5 million cottontail rabbits in Wisconsin.



Wisconsin Dept. of Natural Resources photo.

The other two “rabbits” are really hares—with long ears and long hind feet. The hares are generally larger overall than the cottontail. Also, baby hares are born with fur and with eyes open. Cottontails are born naked with their eyes closed.

**The snowshoe hare** has large furred feet and is most common in northern forests. The snowshoe changes its coat from brown in summer to white in winter, while the cottontail remains grayish brown all year. The snowshoe can be destructive in forest areas in the same way as a cottontail in agricultural areas. It may seriously damage evergreen plantations, particularly Christmas trees.

The **jackrabbit** is a hare that came to Wisconsin from the west and south. Jackrabbits were released in Clark County by the Department of Natural Resources in 1974 and 1975 in an effort to bolster wild populations. They live in open fields and are easily identified by their long bounding gait and long, black-tipped ears. They are quite rare compared to the other two species and do not come into serious conflict with man’s interests in Wisconsin.

This bulletin will focus on the cottontail rabbit, although some of the techniques described are also effective with snowshoe hares.

## The Life of the Cottontail

Rabbits do not live long, but they make the most of the time available to them. Studies at the University of Wisconsin reveal that the average cottontail lives less than a year, and hardly any live longer than three years. Probably fewer than 5 out of 100 cottontails survive the fall following a second breeding season. Probably only 1 rabbit in 100 survives to see its third fall.

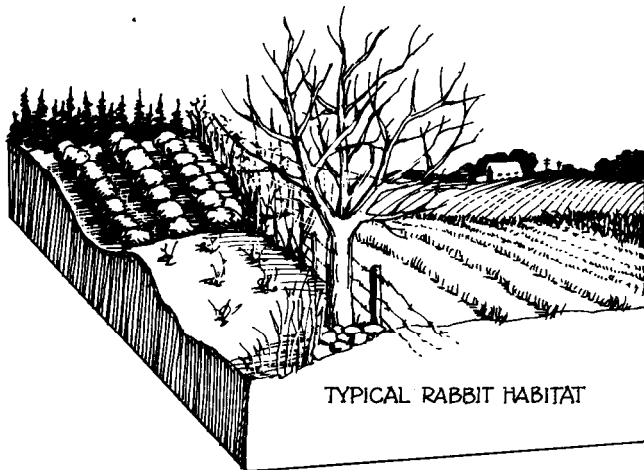
How can an animal be so abundant when its life span is so short? The answer lies in its tremendous reproductive potential. The phrase “breed like rabbits” did not originate without just cause.

Cottontails can raise as many as six litters in a year, with the first litters being born as early as late March or early April. The average litter size is 6. The rabbit’s gestation period is only 28 days, and a female is usually bred again within a few hours of giving birth. Rabbits give birth in a shallow nest dug into the ground.

Under ideal conditions each pair of rabbits could produce 36 young from spring to fall. Fortunately, this potential is never reached. Weather, disease, predators, encounters with cars and hunters, and other mortality factors combine to keep a lid on the rabbit population.

Because of the cottontail’s reproductive potential, no control is effective for more than a limited period. Control measures are most effective when used against the breeding population during the winter.

Rabbits do not distribute themselves evenly across the landscape. They tend to concentrate in favorable habitat, such as a brushy fencerow or field edge, a gully filled with junk or brush piles, or a landscaped backyard where food and cover are suitable. Cottontails generally spend their entire lives in an area of 20 acres or less. Occasionally they may move a mile or so from summer range to winter cover or to a new food supply. Lack of food is usually the motivation for a rabbit to relocate. In suburban areas, rabbits are numerous and mobile enough to fill any “empty” habitat created when other rabbits are “removed.”



Contrary to a popular misconception, cottontails do not dig their own burrows, as the European hare does. Cottontails use natural cavities in stone, earth or wood, or burrows excavated by woodchucks or other animals. Cottontails use underground dens primarily in extremely cold or wet weather and to escape pursuit.

In spring and fall, rabbits use a grass or weed shelter called a “form.” The form is a nest-like cavity on the surface of the ground and made in vegetation, usually in dense cover. It gives the rabbit some protection from weather, but is largely used for concealment. In summer, lush green growth provides food and shelter, so there is little need for a form.

## Rabbit Damage

There is no season of the year when rabbits’ appetites do not cause some problems. They eat green plants of vegetable and flower gardens in spring and summer. In fall and winter, they damage and kill valuable woody plants.

Rabbits will devour a wide variety of flowers. The one most commonly damaged is the tulip; rabbits especially like the first shoots that appear in early spring.

The proverbial carrot certainly is not the only vegetable that cottontails eat. Anyone who has had a row of peas, beans or beets pruned to ground level knows how rabbits feel about these plants. Only a few crops—corn, squash, cucum-

bers, tomatoes, peppers and potatoes—seem to be immune from rabbit problems.

Equally annoying, and much more serious, is the damage rabbits do to woody plants by gnawing bark or clipping off branches, stems and buds. In winter, when the ground is covered with snow for long periods, rabbits often severely damage expensive home landscaping plants, orchards, forest plantations and park trees and shrubs. Some young plants are clipped off at snow height, and large trees and shrubs may be completely girdled. When the latter happens, only sprouting from beneath the damage or a delicate bridge graft around the damage will save the plant.



**Rabbit damage to a dwarf apple tree.**

Rabbits' tastes in food can vary considerably by region and season. In general, they seem to prefer plants of the rose family. Apple trees, black and red raspberries and blackberries are the most frequently damaged food-producing woody plants, although cherry, plum and nut trees are also often damaged.

Among shade and ornamental trees, the hardest-hit are mountain ash, basswood, red maple, sugar maple, honey locust, ironwood, red and white oak and willow. Sumac, rose, Japanese barberry, dogwoods, and some woody members of the pea family are among the shrubs damaged.

Cottontails usually do not bother evergreens much, although an occasional area may have some damage or an unprotected nursery may have its young trees clipped. Sun scald, excessive drying in winter and dogs are more of a threat to evergreen ornamental than rabbits are.

The character of the bark on woody plants also influences rabbit browsing. Most young trees have smooth, thin bark with green food material just beneath it. Such bark provides an easy-to-get food source for rabbits. The thick, rough bark of older trees often discourages gnawing. Even on the same plant, rabbits avoid the rough bark, but girdle the young sprouts with smooth bark.

## Controlling Rabbit Damage

### Natural Control

There are two natural, or indirect, ways to reduce a local rabbit population. The first is to encourage, or at least avoid interfering with, the rabbits' natural enemies. Hawks, owls, foxes, mink, weasels and snakes all help the farmer, gardener, homeowner and forester control rabbits. These animals should never be needlessly destroyed. In fact, it is against the law to kill hawks and owls, and fox and mink are protected during certain seasons as valuable furbearers. Even the family cat can be an effective predator on young nestling rabbits.

The second form of natural control is manipulation of the rabbits' habitat. Although frequently overlooked, removing brush piles, weed

patches, junk dumps, stone piles and other debris where rabbits live and hide can be an excellent way to manage rabbits. It's especially effective in suburban areas where less suitable habitat is likely to be available.

Floods, ice, and subzero temperatures sometimes work against the rabbit. Disease and such parasites as ticks, fleas and bot flies weaken or kill rabbits. However, in spite of all this and the many rabbits killed by hunters each fall, additional steps are necessary to protect valued plants.

On the subject of disease, rabbits do carry a disease called tularemia that can be passed onto people. People can get the disease simply by handling an infected rabbit. The rabbit may show no ill effects of the disease. Use care in handling rabbits during the spring and summer (until about mid-September). Tularemia is usually not a problem after a hard freeze and during the winter. If fever, chills, aches and pains, or other symptoms develop within one to two weeks after handling rabbits, consult your physician.

### Active Control

There are several active, or direct, ways to control rabbits:

- Remove them by trapping or shooting.
- Protect plants mechanically.
- Use chemical repellents.
- Exclude rabbits with a fence.

Note that I haven't listed poisoning. There are NO poisons registered for use against rabbits in Wisconsin. Poisoning rabbits is **not** recommended. It is dangerous to other animals and humans. It is also illegal.

**Shooting** is obviously effective. It is a quick and easy solution, but make sure that local firearms laws allow it and that it is safe. In Wisconsin, the owner or occupant of a parcel of land may hunt rabbits all year on that land, except for a short time near the gun deer season. Consult Wisconsin Department of Natural Resources regulations. You have to keep at it if shooting is the only technique you rely on. Removing rabbits in one year never guarantees that the rabbit population will be low the next year. (This is also true for trapping.)

**Trapping** is the best way to remove rabbits in cities, parks and suburban areas. The first step is to get a well-built and well-designed **livetraps**. Several excellent styles of commercial livetraps are available from garden centers, hardware stores and seed catalogs. Most commercial traps are wire and last indefinitely with proper care. Average cost is about \$20.

If you are so inclined, you can make the effective wooden box trap that is illustrated on the last page of this bulletin. This trap has proven itself in the field and has been used in rabbit research by wildlife management workers for many years. For best results, follow the plan to the letter because each detail has been carefully worked out. Paint the trap to make it last longer. Green is a good color. If you paint a large white dot or cross on the door, you will be able to see whether the door has been tripped from a long distance or in poor light.

Place traps where you know rabbits feed or rest. Keep traps close to cover, so rabbits won't have to cross large open areas to get to them. In winter, face traps away from prevailing winds to keep snow and dry leaves from plugging the entrance or interfering with the door. Check traps daily to replenish bait or remove the catches—this is essential for effective control and to treat the animals humanely. Move traps if they fail to make a catch within a week.

Finding bait is not a problem, even in winter, because cob corn is very good. Impale a cob broken in half on the nail at the rear of the trap (commercial traps may not have a nail). Push the nail into the pith of the cob; this keeps the cob off the floor and visible from the open door. Dried, leafy alfalfa or clover and dried apple are also good cold-weather baits.

Apple, carrot and cabbage are good baits in warmer weather. These soft baits become mushy and ineffective once frozen. A good summer bait for garden traps is a cabbage leaf rolled tightly and held together by a toothpick.

If you use a commercial wire trap, you can make it more effective by covering it with canvas or some other dark material. Be sure the cover does not interfere with the trap's mechanism.

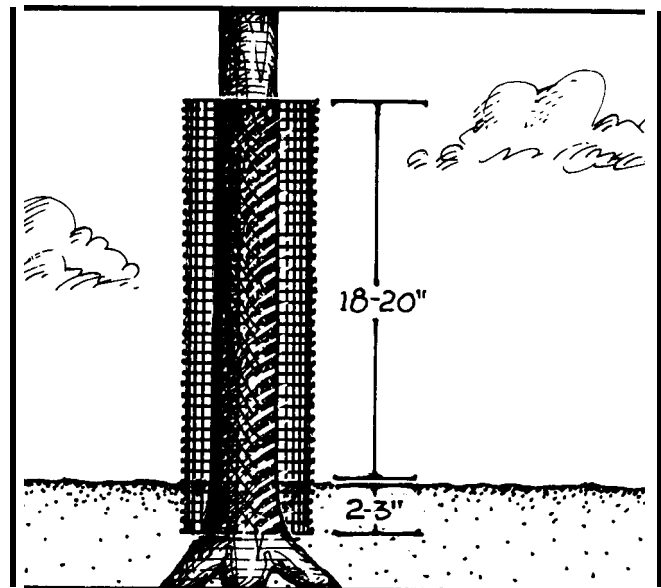
You can release rabbits in a rural area several

miles from where you trap them. But don't release them where they may create a problem for someone else. Another alternative is to eat them. They make excellent meals.

### **Mechanical Protection and Fencing**

One of the best ways to protect a backyard garden or berry patch is to put up a fence. It doesn't have to be tall or especially sturdy. A fence of two-foot chicken wire with the bottom tight to the ground or buried a few inches is sufficient. Be sure the mesh is 1 inch or less so that young rabbits will not be able to go through it. Or, you can build a more substantial fence of welded wire, chain link or hog wire. Such a fence will also keep pets and children out of the garden and can be used to trellis vine crops. The lower 1 ½ feet should be covered with small mesh wire. A fence may seem costly, but with proper care it will last many years and provide some relief from the constant aggravation of rabbit damage. Inexpensive chicken wire can be replaced every few years.

Cylinders of ¼-inch wire hardware cloth will protect valuable young orchard trees or landscape plants (see illustration). The cylinders should extend above expected snow depth and stand an inch or two out from the tree trunk. Commercial tree wrap is another alternative. Some foil types may no longer be available or may be replaced by new ones. Several types of



paper wrap are available, but they are designed for protection from sun or other damage. Check with your local garden center for advice. When rabbits are abundant and food is in short supply, only hardware cloth will guarantee protection. One-quarter-inch mesh hardware cloth also protects against mouse damage.

### **Chemical Repellents**

Several chemical repellents discourage rabbit browsing. Always follow **exactly** the directions for application on the container. Remember that most repellents are poisonous and require safe storage and use.

You can apply repellents like paint, with a brush or as a spray. Commercially available repellents often contain the fungicide thiram and can be purchased in a ready-to-use form. Some formerly recommended repellents are no longer available. Remember that repellents are not designed to be used on plants or plant parts destined for human consumption. Repellents protect only the parts of the plant they contact; new growth that emerges after application is not protected. Heavy rains may necessitate reapplication of some repellents.

Sometimes, naphthalene mothballs or dried blood meal keep rabbits from damaging small flower beds or garden plots. Place these substances among the plants. Blood meal does not weather well. When rabbits are abundant and hungry, use other control techniques along with chemical repellents.

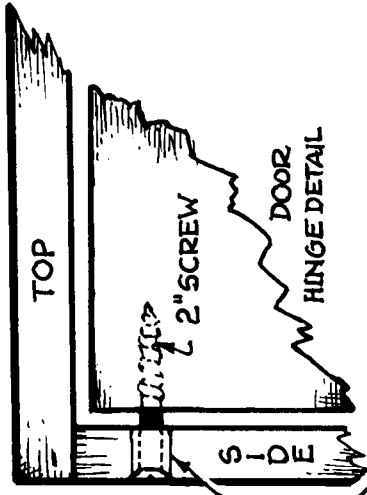
### **Gimmicks**

Many people have a favorite rabbit remedy. I have heard of placing a piece of rubber hose on the ground to simulate a snake and scare rabbits away. Another “remedy” calls for placing large, clear glass jars of water in a garden. Supposedly, rabbits are terrified of their distorted reflections. There are many other such remedies. Feel free to try them out, but do not bet your annual fruit or vegetable production on their working.

Rather than gimmicks, I recommend an appropriate program of removal, mechanical protection and habitat cleanup. A rabbit or two may get around your defenses, but the problem will certainly be reduced.

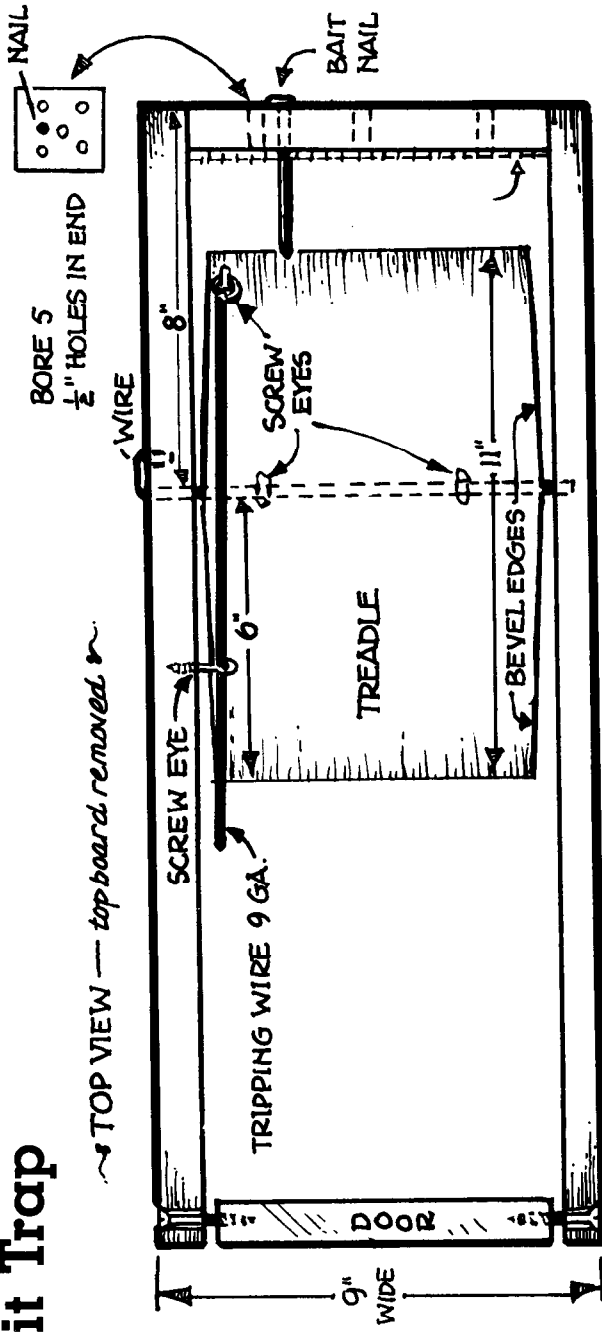
There is no question that rabbit populations often need to be controlled. But keep in mind that rabbit problems are local problems. Mass extermination is neither feasible nor desirable, “Live and let live” whenever possible. Your “pests” may be someone else’s pleasure—to observe and hunt.

# Tom Butzen Rabbit Trap

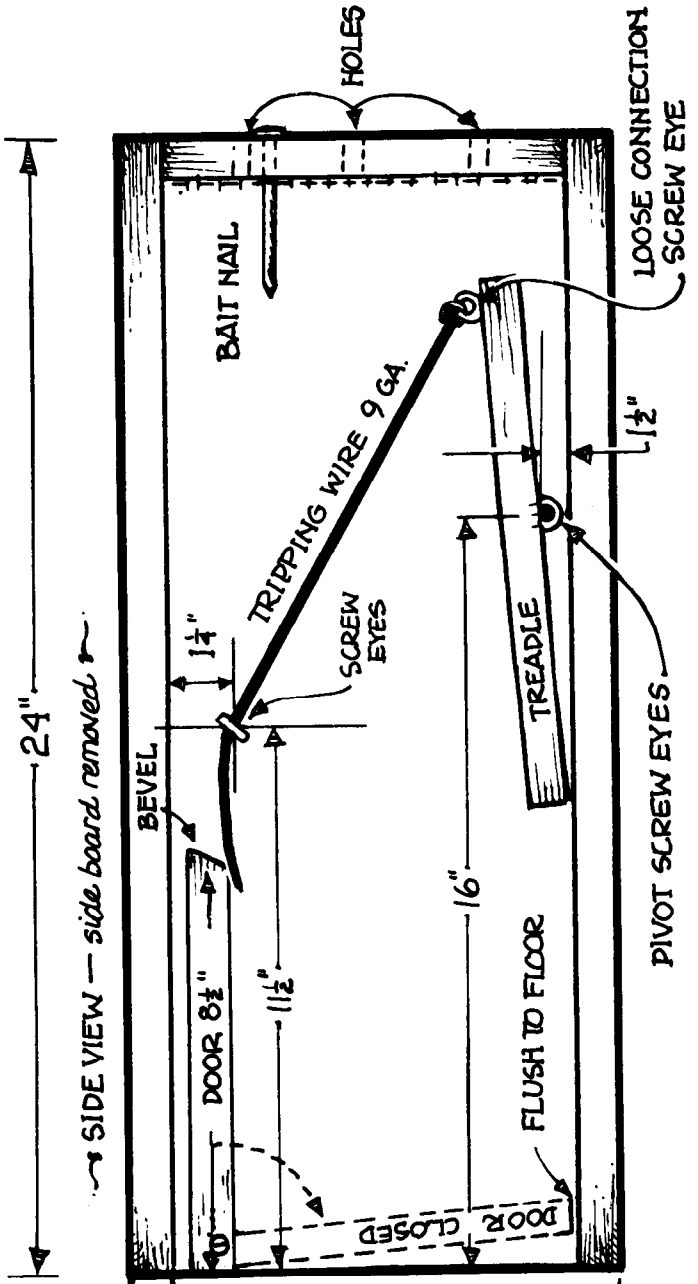
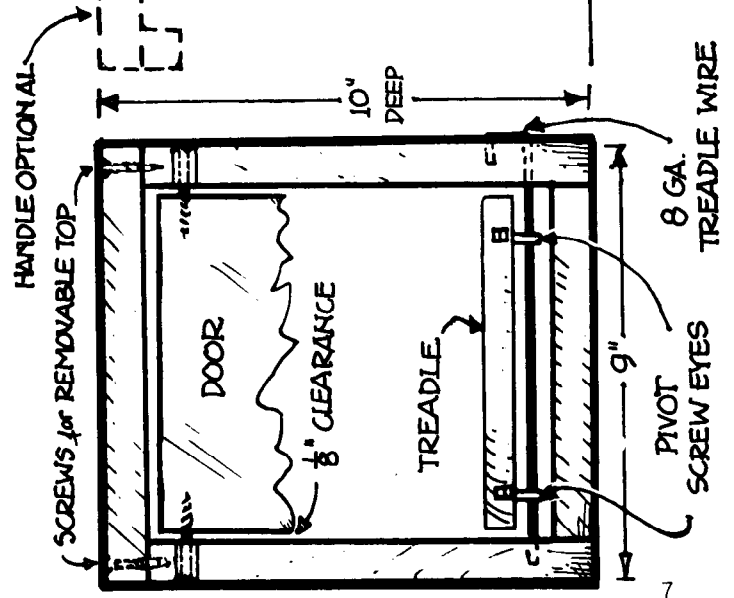


DRILL HOLE SO SCREW TURNS and COUNTERSINK HEADS.

TOP VIEW — top board removed



FRONT VIEW



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