

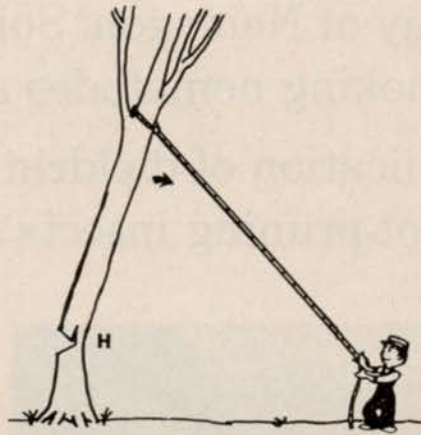
Tricks of the Tree Trade

THE TREE TRADE has more than its share of "tricks." By tricks we refer to things more of a physical nature than to the scientific knowledge which every man engaged in tree care should have.

Country Boys: Instinctive Climbers

We prefer country boys, though the breed has about run out. They climb as if it were instinct. It is said that a veteran woodsman is recognized by the way he uses his feet. He never puts a foot down without knowing where he is putting it. He is not conscious of watching his feet; it's instinctive. So these good climbers use both their hands and feet.

Secondly, country boys know how to use a saw and fell a tree. The same sure-footed principles are applied to removal of a limb or treetop. And, of greater importance, good country climbers know trees and the qualities of



Hinge cuts (H) allow workmen to guide a tree's fall by pulling the treetop with a rope. Cut is made opposite the fell side of the tree which stands upright until the surgeon gives it a jerk in the right direction.

their wood in all stages of growth from sapling to giant when they are green or dead.

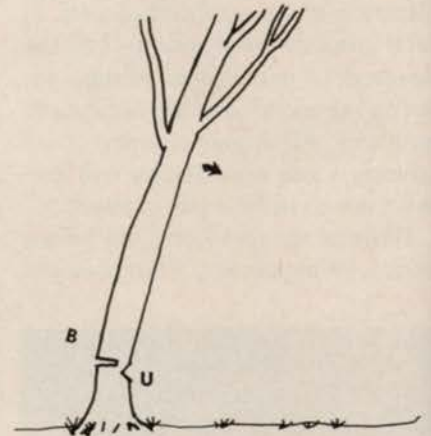
Use Tree Virtues

Quality of wood, as it relates to strength characteristics, is of prime importance in tree operations and safety maintenance.

For example, never trust a dead pecan limb as a foothold when climbing, regardless of its size. Even though pecan limbs are very strong when alive and green, dead pecan limbs snap and break easily and offer very little, if any, support. Galls and hollows, and other faults affect the strength of wood in many trees. The criterion then, is: know your tree before you climb it; use its virtues; avoid its hazards.

Tree Hinge Cushions Fall

The "hinge cut" is the most useful trick available to tree workers. Though widely used, there are still many good operators who do not understand and



Fall cuts are made where a swift and hard impact on the ground is allowed. A back cut (B) is made first nearly through the tree's trunk. Then a smaller undercut (U) is chopped just below the back cut on the fell side of the tree.

use it fully. A tree worker's "hinge" is the bark and sapwood of the tree, and its strength varies with every tree as well as with its size and age.

Use of the hinge begins with tree felling. A tree or limb will swing on a hinge just as a gate swings on a hinge, the only difference being that a gate swings horizontally and a tree swings vertically when cut. A hinge is

Trees hinge during a fall after cut is made partially through their trunks. A thick sapwood and bark strip left intact by the tree surgeon restrains tree's fall for an easy landing on lawns, driveways, or other protected areas. Cut is not made so deep that trees fall by themselves; the hinge is thick enough so worker must pull the tree over.



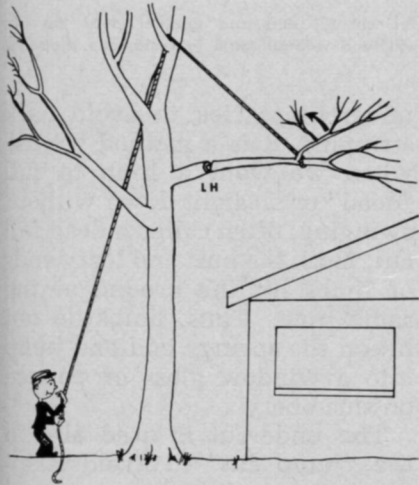
By
HORACE P. BRYAN
 Bryan Tree Service
 Dallas, Texas

formed when a single, incomplete cut is made in a tree or limb.

The traditional method of tree felling is a "fall cut"; a cut made on the "fell" side of the tree a little below a cut made on the opposite side. The fall cut helps to throw and direct the tree's fall. When the fall cut is used, a tree falls free with the impact of all its weight. This can be hard on



Tree surgeon, David Barnes, uses a guy rope to swing a limb sideways on its hinge at the cut.



Limbs are hinged (LH) horizontally if their direct downward fall might damage structures, flower beds, driveways, or shrubs. At the cut, a small portion of sapwood remains attached. The tree surgeon swings the branch on a rope either to the right or left until it can be cut free and fall without causing property damage.

the customer's lawn, walk, or driveway.

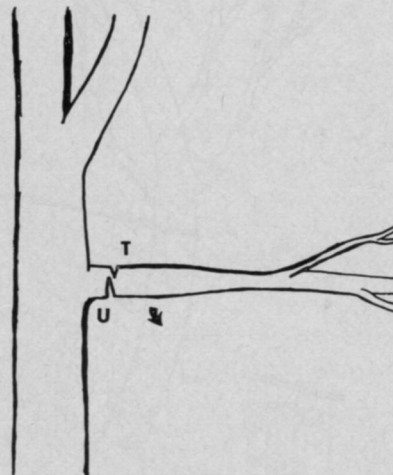
With the hinge, a fairly large tree can be laid down like a lamb. The ease with which a tree or limb may be leveled to the ground by a hinge, depends upon the tree and tensile strength of its wood. Hinge cuts should not be tried on trees which have been dead so long they are rotten or "bone brittle." Green hickory, pecan, American or Chinese elm, hackberry, maple, and oaks, one inch or more in diameter, can be pulled over on a hinge and laid down without damage even to shrubs or flowers. Any

tree, except a brittle dead tree, even a giant tree can be felled on a hinge with only a slight impact if a fall cut is used.

Limbs Hinged And Cut For Pinpoint Landing

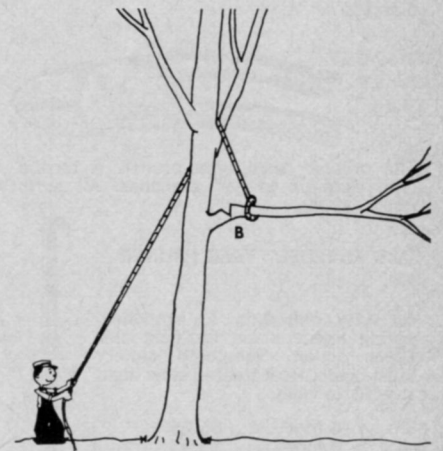
Perhaps the most useful phase of hinging is in the daily job of limb removal over buildings, power lines, and other obstacles. Frequently we have taken down huge limbs piece by piece, or have swung them 45 degrees to the side before they were lowered. We use the hinge if the tree is not too brittle and will hinge.

To rig a limb for hinge cutting, we put a guy rope through a



Undercuts (U) are made about one inch closer to the tree trunk than topcuts (T) to avoid stripping bark from beneath a limb. This method is used when a limb is to fall directly below, butt end first, without hinging.

high crotch in the treetop and tie one end of the rope as far out as possible on the limb to be cut. The other end is anchored to some solid object (stake, tree trunk, or another worker). The



Butt ropes (B) are tied near the hinge cut in a trunk or limb and threaded through a nearby crotch to support the trimmed section and prevent hinge breakage during the fall.

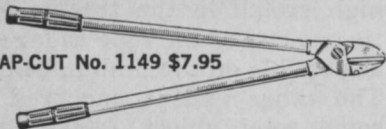
weight of the limb is kept on the rope until we are ready to lower it, and we prevent breaking the hinge until the limb is removed completely. After the "hinge cut" is made and while the limb, still attached by its bark hinge, hangs supported by the guy rope, a snatch rope is used to swing the limb to a position where it can be lowered. Then the limb is lowered with tender guidance and the hinge is finally cut. The whole side of a huge tree often can be cleared by one rigging. Climbers can maneuver limbs

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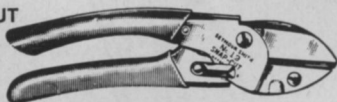
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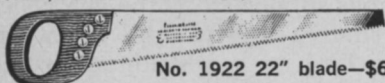


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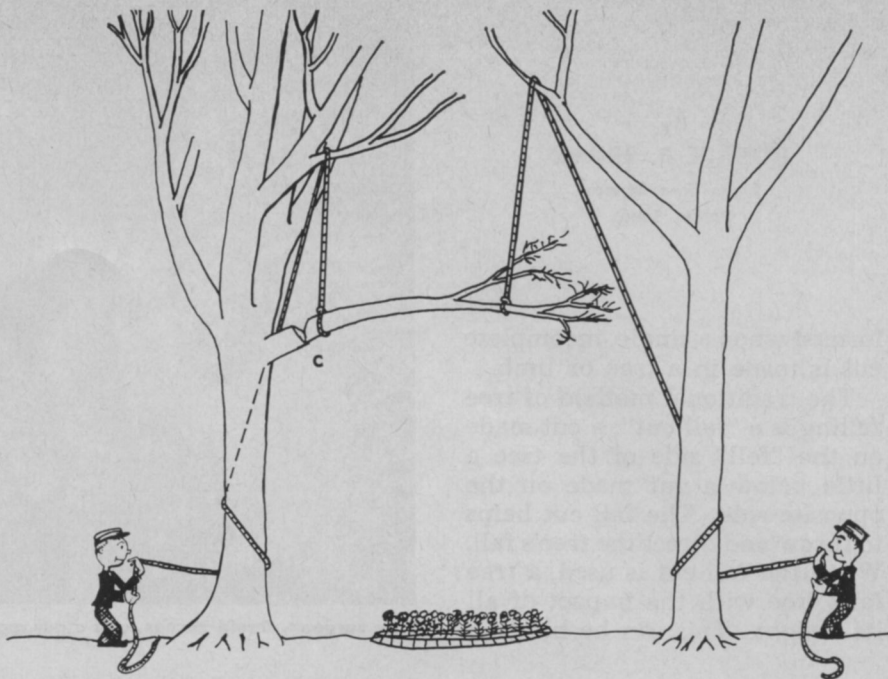
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Ropes tied to trimmed branches, one near the cut (C) end and another near the tip, allow tree surgeons to "cradle" a limb's fall so it will land without harm to customer's property, in this case a flower bed.

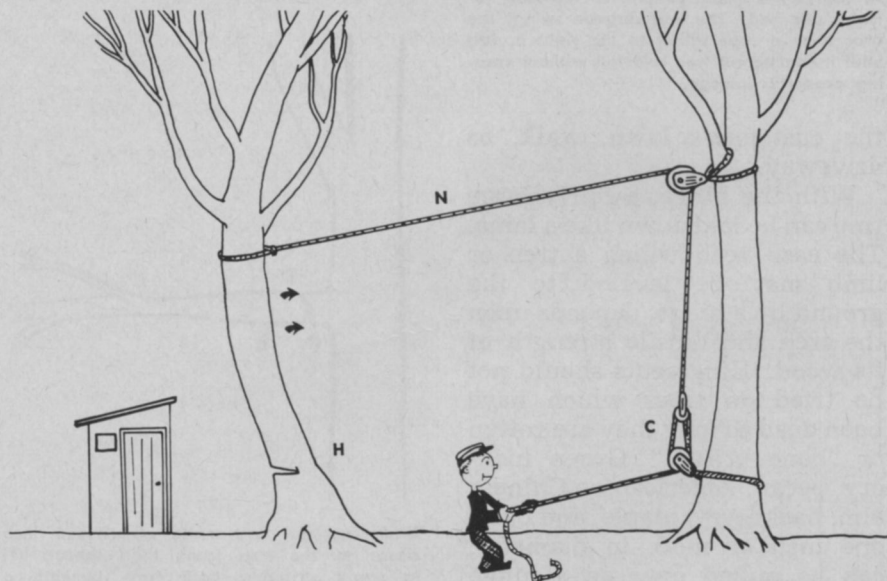
suspended by a rope, with a slight push or tilt, to the most exact landing position. Thus workers and such obstacles as buildings, lines, or flowers are protected.

Undercut To Avoid Bark Strips

Tree surgeons employ the "undercut" to avoid stripping bark from beneath a limb. Hinge cuts always strip and are used where a lower cut is to be made or where stripping does not matter such as when the entire tree is to be removed. Not only is the

undercut a trick to avoid bark stripping, it is a method we use when we want a limb to fall "dead" or straight down without swinging; often called a dead fall cut. Both the butt and leafy ends of limbs hit the ground at the same time. Thus, limbs do not hit on the springy end and jump into a window glass or pounce on shrubbery.

The undercut is used also in the "jump cut" to avoid stripping. An undercut is made as deeply as possible on the underside of a limb about one inch



Nylon rope (N) stretch qualities are used for those big bruisers that lean over structures, fences or lines. A portable pulley system hooked up to a winchlike "come-along" (C) is used by the surgeon to hoist lumbering trees on their hinge (H) in a safe direction away from buildings.

closer to the trunk than the top cut. When jump cuts are used, surgeons must be exact and alert, as always. Just as the limb comes off at the upper and lower cuts, give it an upward push, and the limb will snap free and clear lines and other obstacles on its way down, butt end first.

Butt Rope: Object For Hinge Safety

A "butt rope" is a rope tied to the butt of a limb or trunk near where it is to be sawed. To be effective, the rope is threaded through a nearby crotch and is used to control or guide the big end of a limb or trunk section. The butt rope may be used to support a hinge cut as a safety measure to prevent breaking the hinge. Sections of limbs or trunks guided by a butt rope are controlled so protected objects are not damaged.

Cradle Limbs In Space

Butt ropes are also used as one end of a "cradle." The cradle is formed where a limb, trunk section, or even a whole treetop is swung by two ropes, one fastened to each end of the tree part. When working the cradle, we often use the crotch of a nearby tree for rope support, then we swing a cut tree section into space and carefully lower to avoid damage.

Nylon Stretch: Trick For Big Bruisers

We have one trick which is our own discovery. It's based upon the stretching qualities of the nylon rope. It has served us long and well, and we could not have done many of our difficult removal jobs without it. We use the "nylon stretch" on those old, big trees which lean backwards over buildings, fences, lines, and other protected structures. Big bruiser trees must be lifted or tilted in the opposite direction from their incline before they are felled.

Most firms use a winch or crane for such jobs. Others employ modified- or developed-tricky techniques commonly used. We are a small outfit and our heaviest piece of equipment is a power saw, but we get more

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than our share of difficult removals.

We put a nylon rope in the treetop and lead the rope to another tree, or another anchor, using a "come-along" as our power. The "come-along" is a portable pulley system and is worked like a hand hoist. A 12-foot, steel cable with a hook on the end rolls up on a cylinder that is locked and kept from spinning by ratchets. We use it in treetops, mending split trees, and in cabling and bracing.

Come-alongs are made in one- and one-half-ton capacity sizes for lifting different weights.

With the come-along, we tilt the tree away from structures in danger of being crushed by the felled tree. On trees up to two feet in diameter, with an average sized top, one $\frac{3}{8}$ -inch nylon rope is sufficient. This size is adequate for nearly any tree if it has been topped. On extremely huge trees, however, we use two ropes and two come-alongs. Weight of the tree is not as important as the

fact that we tilt heavy trees against a hinge.

Before cutting, we rig our ropes and come-along. As we cut on the back side of the tree, we increase the pressure on the cable by tightening it. Pressure is kept on the treetop as the cut opens. This indicates that our tilt method is working. The tree must be inclined in the right direction, away from the protected structure, before the cut is completed.

Kickback Dangerous Near Building

One danger in the use of a heavy hinge and strong pull on a large tilted tree when its base is near a building is that the trunk may split at the hinge and kickback against the building. This is especially true of ash and red oak, and with other trees depending on how easily they split and how much tilt pressure is applied. To prevent kickback, we sometimes use a fall cut, but a tree cannot be tilted as far when a fall cut is used as it can be with a hinge. Trees that split easily cannot be tilted as far as one with greater internal cohesion and flexibility such as a gum. The kind of tree must always be considered.

Falling trees are often crowd-gathering events in a neighborhood. We have had audiences of 30 to 40 people on adjoining lots and across the street. It does not hurt customer relations one iota to do a job that spectators know only an expert could do!

Marlow Spray Film Available

A film entitled "A Fact of Life" has been produced by Marlow Division of International Telephone and Telegraph Corp. The sound and color movie, which runs 25 minutes, illustrates and demonstrates the advantages and disadvantages of both high concentrate and conventional type spraying.

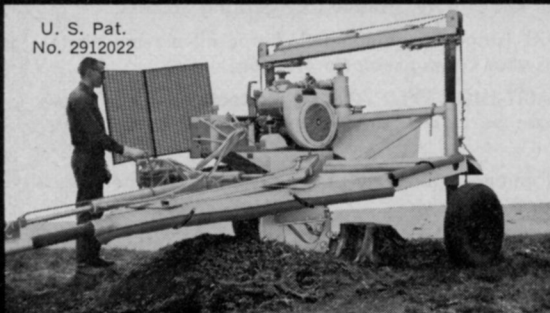
Marlow, manufacturer of Econ-O-Mist mist blower, offers the film free of charge, except for return postage, to all groups involved in agricultural enterprises. For information write: "Econ-O-Mist," ITT Marlow, P.O. Box 200, Midland Park, N.J.

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