

Calls for Tree Surgeons' and Carefulness

L. DAVEY*

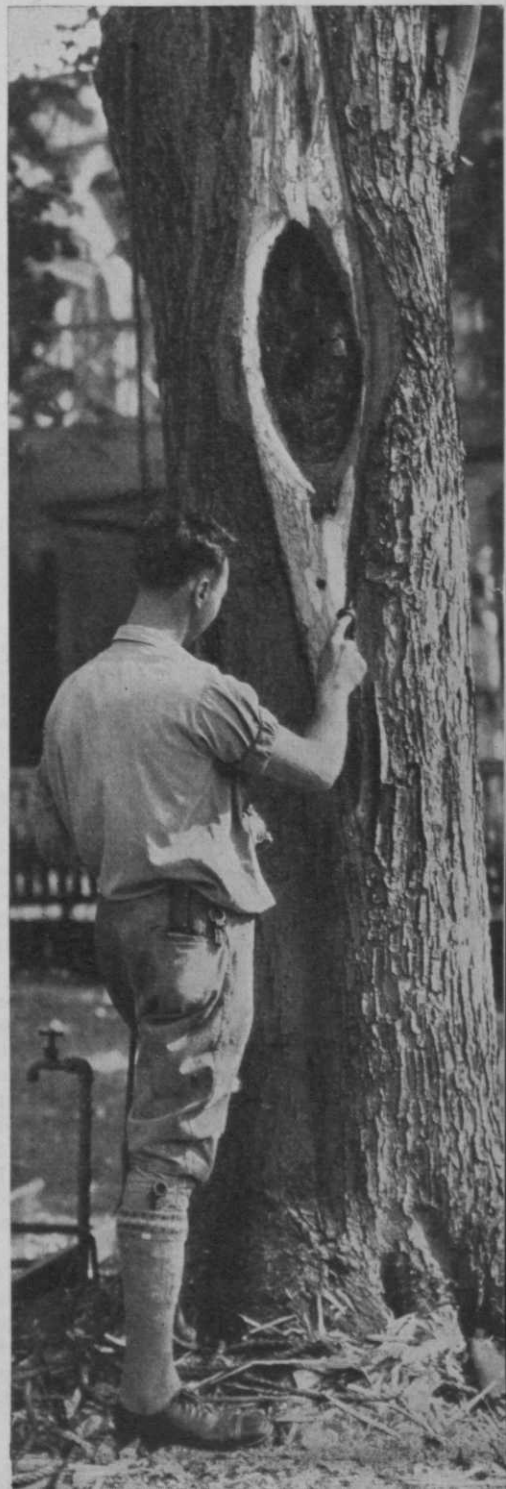
The tree surgeon has outlined the cavity. Holes bored deep into the trunk determine the extent of the cavity. Notice shape of cavity—sides cut to parallel sap flow and ends pointed to make possible rapid healing after cavity is filled.

out little thread-like tentacles which spread in all directions and penetrate from one cell to another, consuming the cell structure because that is their food. They continue their greedy destruction of one cell after another until the entire interior is a mass of decay and the tree has become so weak that it crashes to the ground, an easy victim to a wind storm.

The tree surgeon, in fighting the fungi, has certain definite things to accomplish. He must remove every bit of the decay and every trace of infection. He must replace, as far as possible, the mechanical support lost because of the decay. He must provide a surface over which healing can occur. He must protect the tree from reinfection. To do all this correctly requires as much skill and scientific training as a dentist needs to fill a tooth.

Before treating a decay cavity, the tree surgeon makes a complete diagnosis of the tree to determine the tree's general condition. Sometimes its vitality is so low that money would be wasted if cavity fillings were made. In such cases, the tree is given plenty of food and water, and if it responds satisfactorily, the decay is attacked. If necessary, the tree also is sprayed to kill insects and diseases which are sapping its strength and occasionally it is braced and cabled to prevent injury in storms.

If the tree surgeon finds the vitality of the tree is good, he proceeds to determine the extent of the cavity. This is a painstaking operation. Holes are bored deep into the wood above and below the points of infection. The cavity opening must be large enough to remove all decay and in-





Cavity opened, exposing mass of rotten wood. The tree surgeon has to remove every bit which shows the slightest trace of infection—if any rot fungi remain they will start to work again.

ected wood and its size can be determined only by the boring tests.

No Halfway Measures.

The layman often is surprised at the size of the opening. All he sees, perhaps, is a small hole in the trunk in which he can put his hand and pull out a few pieces of decayed wood. Almost invariably he begins conjecturing about the size of the opening the surgeon will make, and almost invariably he watches the surgeon proceed to make an opening twice as large. This is because the surgeon knows he must remove every bit of the infected wood because otherwise the remaining fungi will keep on working and another cavity will be formed.

After the tree surgeon determines the extent of the decay, he proceeds to outline the cavity opening which he intends to make. This looks like a simple operation but it requires unusual skill. The wood is removed with sharp chisels and the surgeon must make sure that at the edges of the cavity, the bark is left undisturbed. If it is sprung loose from the tree, it invariably dies back, prevents healing, and exposes the tree to reinfection.

The shape of the cavity opening is determined by the course of the sap flow, the sides of the cavity being as nearly parallel to the sap flow as possible. This permits a rapid, uniform growth of new bark, or *callus*, over the filling. Usually the sap

flows in straight lines up and down the trunk and along the limbs. Occasionally, however, its course twists and curves, and in such cases, the edges of the cavity must be twisted and curved accordingly.

Promote Even Healing.

In outlining the cavity, the tree surgeon also makes sure to shape it so that the top and bottom will terminate in sharp points. These points so divert the sap flow that there will be even healing along the sides.

After the cavity is outlined and the edges of the bark traced, the tree surgeon begins to remove the decayed and infected wood. This is the laborious phase of the operation, particularly if the wood is tough and hard. Sometimes the wood is removed with a mallet and chisel; sometimes air driven tools are used. The same results are obtained by either means.

When the cavity is opened, the true extent of the decay is revealed. The mass of rotten wood can be seen and also the infected wood, still solid, through which the fungi have permeated in much the same way as mold works its way through a Roquefort cheese.

After the cavity is thoroughly cleaned out, there are still a few more things for the tree surgeon to do before he can start filling it. He must retrace the bark along the edges, making sure that it has been cut in straight, clean lines, as any jagged cuts



Concrete filling being installed. Steel reinforcing rods restore the tree's structural strength. Cavity filling is being installed in sections, separated by layers of joint material.



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and
LENGTHS

in WOOD CLUBS





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different weights and lengths for women golfers. The lengths range in the drivers and brassies from 40½ inches to 42 inches and the weights vary likewise from 11½ ounces to 22½ ounces. Similarly we have built all Hagen matched irons in a variety of three weights and lengths. This refers to the Hagen INTERNATIONAL, CROWN, DE LUXE and GRADUATED "Compact Blade" irons. The three weights are known as women's medium light, medium and medium

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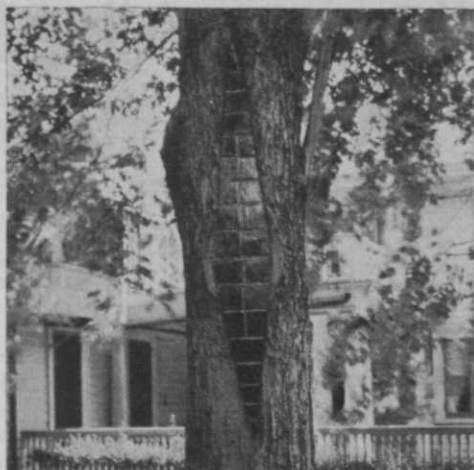
are sure to retard healing. He also must make sure that the bark has not been injured. If it has been bruised or loosened, the sun and air will dry up the cells of the cambium and sapwood which lie below it and they will die. Consequently, if the bark is not just right, the surgeon must go back and reshape the cavity, enlarging it so that the edges can be cut properly.

Reinforcing a Science.

If the cavity opening is comparatively small, a concrete filling alone is sufficient to restore the tree's structural strength. In many cases, however, it is necessary to supplement the filling with reinforcing rods. Sometimes a few horizontal rods are enough; again, both horizontal and vertical rods are essential, depending upon the size and shape of the opening. These rods serve the same purpose as the beams in the framework of a house, uniting the walls and distributing the stresses and strains caused by the wind.

After the reinforcing rods are installed, the tree surgeon carefully paints the walls of the cavity with a strong disinfectant to kill any fungi spores which may have lodged there during the progress of the operation. He next applies a waterproofing solution and when that is on, he is ready to put in the concrete filling.

To be satisfactory, the substance used for filling the cavity must have great mechanical strength to resist the tremendous strains which result when the tree sways back and forth; it must be durable; it must provide a proper surface for callus growth to creep over it; and it must be comparatively inexpensive and easy to install. Concrete, installed in sections separated by a special joint material, has been found to be ideal for the purpose. The sections function in much the same way as the vertebrae of a person's



Another valuable tree saved. Eventually, the filling will be entirely concealed by bark which will grow over it from either side.

backbone, providing strength and yet yielding to twisting and bending.

When the filling is completed, the surface is carefully smoothed off and finished in such a way that the concrete is just level with the wood but not as high as the bark and the original contour of the tree is restored. A preparation is then put on to seal the cavity on the edges.

Within a few months, the bark begins to grow over the filling from the edges and eventually the bark from the sides meet. All traces of the filling are then concealed but it is still there, providing the mechanical strength which will enable the tree to stand for generations to come.

(Editor's Note: This is the fifth of the series of articles on tree care written for GOLFDOM by Martin L. Davey, President of the Davey Tree Expert Company.)

Cite Harlow's Pro Management as Example for Britons

TROUBLES of the P. G. A. of Great Britain in controlling its personnel come out in the open with the case of Henry Cotton. Young Cotton did not want to abide by the British P. G. A. ruling on keeping its Ryder Cup team together in the U. S. instead of permitting the team's members to pick up exhibition money individually. Consequently, his P. G. A. promptly denied him a place on the team.

In commenting on the case, *Golfing Monthly* paid a tribute to Bob Harlow's management of the American tournament players. The British journal said:

" . . . in the management of a team the rules must be definite, and we know that in handling the American team which came to this country Mr. Robert Harlow, one of the sanest and soundest of men, was often confronted with problems which required delicate handling. Therefore, going out as a team and coming back as a team was the British order.

"One for All; All for One," Theme As Department Heads Meet

By HERB GRAFFIS

FOR the first time since golf began to exhibit symptoms of business growing pains, national representatives of the three departments in golf club operation assembled to bury their hatchets with snappy ceremonial.

The historic occasion was staged at the Long Vue C. C. (Pittsburgh district) on Monday prior to the opening of the Fifth annual convention of the Club Managers' association of America. Manager Ralph Sykora of Long Vue saw to it that the innards of the potential combatants were packed with peaceful viands, thus preventing what some keen observers of the golf business scene had forecast would be the battle of the century.

It had taken a year to bring the managers, pros and greenkeepers together in official session. All camps seemed to have a fear the other fellows were going to drag in a Trojan horse as a dastardly and mysterious stunt. Four elements figured in getting the groups represented under one roof. First, there was the recent indication that the U. S. G. A. is taking an intimate and promising interest in the functioning of the golf club department heads for whose work and ambitions the Club Managers' Association of America, the National Greenkeepers' association and the Professional Golfers' association are directly responsible. Then there was the triumph of the idea the association sages had been broadcasting—that the man had to work for the club first, and get his own financial reward in direction proportion to his first principle. Third was the conviction of many of the department heads that there was no real reason for lack of complete unity between pros, greenkeepers and managers. Fourth, and possibly not the least, was all this recent talk about general management of golf clubs. Just who's going to be who under that plan, and why and where, undoubtedly was a spur to the meeting.

The invitations were extended by Henry Dutton, secretary of the Club Managers' association, acting on instructions from

that organization's officials. In attendance were the executive board of the Club Managers' association, Alex Pirie, honorary president of the P. G. A. and spokesman for that group, and John Morley, president, Fred Burkhardt, sec., and John Quail, treas. of the National Association of Greenkeepers. The boy reporters, Leigh Metcalfe of Club Management and Herb Graffis of GOLFDOM, were permitted to throw a few shovelsful during the ceremonial of burying the hatchets.

Why the Squabbles?

A few lively rounds featured the general management part of the show. The greenkeepers and pros registered a protest against the prospect of having some bossy guy who didn't know what it was all about come out and tell them about dotting the i's and crossing the t's of their jobs. The dope at that stage indicated that the house managers were aiming for all the general management jobs so they could add to their own pay by subordinating other department heads. Very promptly the leaders in house management romped all over this idea. They maintained that the lack of men properly qualified for general management of golf clubs today was fully appreciated by the managers and that any fellow worth promotion to such a position was going to have to have tact and teamwork as major qualifications for holding the position.

The managers there further declared that unless general management were predicated on highest type, harmonious operation of each department by a well-paid man, the scheme of centralization would be a sorry flop. When the last thud along that line echoed away the boys got down to some constructive themes.

It was freely expressed in the privacy of this family circle that golf club business operation is in the remote distance as long as club officials, who are unacquainted with the complex details of operations, bluntly dictate policies and methods without the department head affected be-



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ing able to make expert and adverse comment. Unless the greenkeeper, pro and manager are recognized as a unit operating competently for the good of the entire club, things don't fare so well for any of the three individuals concerned under today's general executive policy at golf clubs, the assembly decided. For that reason, unless the three department heads can get along together as able and broad-minded men should do, they should be replaced by competent men who will cooperate. That was the conclusion in which all of the three factions concurred.

Criticize in Private

It was agreed that tolerance, helpfulness and understanding between department heads were essential to the correct operation of golf clubs on a service and finance basis and also essential to the department heads on the grounds of advance in their salaries and general status. Without a dissenting voice the triumvirate condemned any department head who would publicly express criticism of the head of any other department. If complaints are heard, in all helpfulness and diplomacy, take them privately to the man concerned, and then if good intentions are repeatedly scorned there is license for an expression to the directorate that will correct the situation, if it happens to impede the efforts the complainant is making for the club. That's the sort of direct dope the fellows got together on after the preliminary misunderstandings were removed.

To Connect Directorates

Definite action was initiated in assembling machinery for a close and understanding contact between department heads through their respective organizations, when Alex Pirie, speaking for the Professional Golfers' association, said that the pro organization would provide places in their executive council for two representatives each from the Club Managers' association and the National Association of Greenkeepers. Officials of the greenkeepers' and managers' organization hailed this pro move as the first step in getting golf club operation on a foundation that would be infinitely better for clubs and department heads than the basis now too frequently obvious. The representatives of the other two organizations committed themselves to a similar extension of group contact as soon as proper executive committee action could be taken.

Are You Helping Yourself by Taking Part in the Maintenance Cost Research?

MORE reports are desired for examination in connection with the course upkeep percentage research being made at Massachusetts Agricultural college by Jay M. Heald.

Full details of this important work are given on pages 66, 67 and 70 of February GOLFDOM.

Course superintendents and green-chairmen of many of the best run 18-hole and nine-hole clubs of the country have supplied this information and made it possible to approximate a basis for course maintenance expenses that will be helpful and fair to both the club and the man responsible for the work.

This study, being financed by GOLFDOM, is pronounced by leading practical greenkeeping authorities one of especially timely significance and an impressive item in showing how greenkeepers are taking command of the financial details of their operations.

Additional returns are especially requested from clubs in Arizona, Arkansas, Delaware, Florida, Idaho, Montana, Nevada, Oklahoma, South Carolina, Utah, Wyoming and Rhode Island.

Prompt attention of other greenkeepers and chairmen who know their costs in supplying this data will be greatly appreciated by all concerned.

Please address the data to

JAY M. HEALD

Care of Prof. L. S. Dickinson

Massachusetts Agricultural College
Amherst, Mass.

INTERNATIONAL interest attaches to the P. G. A. instruction pictures. *Golf in Australia*, commenting on the P. G. A. pictures and the appointment of George Sargent as American head of the international committee on relations between the pro associations of the United States and Great Britain, says:

"Why could not this committee be extended to include Australia? True, the P. G. A. of Australia is in its infancy compared with those other two bodies, but each has identical problems and needs. How our professionals' work could be simplified and the results be made manifold if these valuable films could be secured at anything like a reasonable cost! At any rate, it would be worthwhile finding out if they are procurable, and we feel sure that Walter Hagen and Joe Kirkwood would lend their aid. Professionals, how about it?"