

equipped with valves. Those on the drinking fountain lines are simply pipe plugs screwed into the end of the pipe or a tee whichever it may be.

A 15-inch tile 36 inches long is placed vertically over the end of each of the underground drains, the bell end coming flush with the top of the ground and a plank cover filled into the bell. The holes for these tiles are dug approximately 18 inches deeper than the tile and then backfilled with coarse rock to the bottom of the tile. A hole large enough to admit the drain pipe was chipped through the side of the tile and the valve placed on the end of the pipe inside the tile. This arrangement makes a seepage basin deep enough to be below frost so that any water collecting in the winter time will seep away. It also gives ready accessibility to the drains in case of any debris collecting in the pipe lines.

Kyte creek is muddy and a certain amount of sediment is bound to collect in the pipes even though the water passes through a screen before entering the system. By opening a drain when the system is in operation the line can be "blown out" getting rid of the accumulation.

The tiles I used were the best grade of V. S. P., but were slightly checked and had been condemned as unfit for sewer work. They cost me \$1.00 apiece. Placing them in the ground cost about \$3.00 each, making the covers, lumber, paint, etc., \$1.00, total cost per drain \$5.00, and I would say the cost figure was liberal rather than conservative.

These tile boxes around the drains were all placed so that unless the ground is flooded, surface water will not run into them from the top.

Gate Valve on Each Line

There is a gate valve on each line so that if any one part of the line goes bad the entire system is not crippled. These are boxed in with concrete with plank covers similar to the drains. The cost was approximately \$5.00 per box including making the forms, etc.

On four different occasions this summer we had hose stolen. The nocturnal visitor wanted only a short piece and wasn't particular where or how he got it. He would slice here and there taking out a piece wherever fancy suited, usually 10 or 20 feet and never stopped to say thank you.

We were at a loss to know what the object was for sometime. The Midwest

Canning Co. is located in our town and they employ a large number of men in the summertime,—a floating class of labor. Some of these had automobiles and no money to buy gas. However, with a piece of golf course hose and a canning company tractor standing out in the field with a tank full of gas—nuff said. But the canning company started to watch the tractors at night, and when they caught the thieves, they also found the hose.

To stop this thieving we built hose boxes at each green. These boxes are 30 inches square and 30 inches deep in the ground, and with four inch concrete walls. We dug the hole about 36 inches deep and back-filled with gravel and coarse stones to a depth of one foot leaving us a box for hose and sprinkler, 30"x30"x24". This box is deep and large enough to hold 100 feet of inch hose and a sprinkler without crowding or without going to a lot of trouble in rolling up the hose.

It can be folded into the hole and taken out without any kinks and very quickly. We used a plank cover secured by a padlock for the top. These boxes are set flush with the ground. Mowers and tractor pass over them without any trouble or even the exercise of caution on the part of the operator.

Our course is new, hardly five months old the first of November, but we started playing the first of August and until the weatherman put the golf bags and clubs away we had from 20 to 100 players per day, and our water system gave us plenty of water.

RECONDITIONER NOW PART OF PEERLESS SHARPENER

Plymouth, O.—Fate-Root-Heath Co. presents a new reconditioner attachment as the outstanding feature of the 1931 model of the Peerless Mower Sharpener. This attachment revolves the reel knives backward for lapping in with grinding compound or emery paste. The reconditioner is quickly attached with one cap screw. A guard covers all gears. The device may be attached to any Peerless sharpener with serial number 500 and upward.

Sheep's fescue and Canada bluegrass have generally been found to be ideal grasses for the rough. They do well enough on poor, dry soil and are suited to almost all parts of the United States, especially the North.

Greenkeeper, "Golf's Key Man," Hears from General Manager

By R. A. JONES

Gen'l Mgr., Baltusrol G. C., Short Hills, N. J.

A LOT of the greenkeepers at Columbus commented on the February GOLFDOM references to the performance of the general management plan at Baltusrol G. C. The revelation that a successful general management plan works out for the advancement of the greenkeeper came as a distinct and welcome surprise to many.

There's a lot of wild hooie in circulation on this business of general management of golf clubs. The men whose work is showing most interesting results with this policy are cautious about publicity that overplays the idea as the panacea for all ills in golf club operation. Consequently, to get the man with the real close-up on the scene to detail his opinions and findings is not easy.

In getting Major Jones to give his slant on how resultful general management affects the future of the greenkeeper, GOLFDOM is certain that it has provided some significant material for study by greenkeepers as well as other department heads and officials of golf clubs.

THERE is a perfectly natural objection and resistance encountered whenever there is change in a system or organization of long standing, and there are many who are perfectly horrified at the thought of a golf club being operated on accepted business principles.

After all is said and done, the operation of a large golf club is a business. It is nothing more nor less than a cooperative society for the merchandising of golf. Of course there is a social side to golf clubs but that is something which is relatively intangible.

In a well operated golf club where there is a contented membership and club spirit prevailing, we whose job it is to provide for pleasure and recreation need not worry about social atmosphere, nor need we worry what others think or say regarding our endeavors. Stick to your knitting and read Kipling's "If" once in a while if you desire comforting.

No Threat to Greenkeepers

Greenkeepers in my judgment have nothing to lose and everything to gain when the day arrives when real business management is applied generally to golf clubs throughout the country, for the greenkeepers will be appreciated far more than they are now.

If greenkeepers can serve, as hun-

dreds do, under golf professionals and thousands more under chairmen of committees whose knowledge of greenkeeping is practically nil, it would seem that they should have no qualms about their chief being a man who does know and therefore can appreciate both their work and their difficulties.

The greenkeeper is the key man in the golf club's organization, although rarely recognized to be such, and the fact that he is often fourth or fifth, sometimes much lower, on the payroll list and not so well known to the membership as the man who plays the saxophone in the dance orchestra only six times a year, is something for the greenkeepers' organization to ponder over.

Within the last few years the greenkeeper is being accorded more and more recognition and it would seem that at last it will be recognized that it requires more skill and infinitely more labor to produce and maintain fine turf than it does to score birdies—or prepare lunch or mix cocktails.

One certain way to retard and delay this recognition of the greenkeepers' real contribution to the game is to obstruct such measures as are adopted by the clubs and by golf organizations with the object of reducing cost and improving playing conditions.

Before the seed, *the* fertilizer

One step should not be overlooked in preparing fairways and greens for seeding . . . that is fertilizer! And the kind of fertilizer is important, too.

Armour's Special Turf Fertilizer is made especially for golf courses. It contains just the plant food elements grass needs to give it a good start. Armour's Special Turf Fertilizer will help to develop a stronger, deeper root structure and vigorous, healthy growth—which can better withstand the droughts and hot sun of summer. Armour's Special Turf Fertilizer will discourage the growth of weeds and give young grass *more* than a fighting chance. *Let Armour's Special Turf Fertilizer help you get a stand of grass this spring.*

Well developed turf on fairways and greens means satisfied golfers—more play—greater revenue.

Write for the booklet, "Solving the Turf Problem." It will tell you how to apply Armour's Special Turf Fertilizer to your course. Twenty-one conveniently located plants insure prompt delivery.

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Chicago, U. S. A.

In the last analysis the success of a golf club depends upon the price and the quality of its product. Automobiles will carry golfers to the clubs offering the best golf at the most reasonable cost, for in this day memberships are no longer drawn from the immediate neighborhood.

Organizations established for the purpose of scientific research in turf culture and allied subjects should have the cooperation of greenkeepers. They should not be treated as meddling agencies. At times they irritate by telling how rough should be cut or how holes should be changed, but the capable men in the profession can ignore that.

The purchasing departments of Service Bureaus have been in existence long enough to prove themselves superfluous, for if there still are greenkeepers incapable of intelligent buying, an organization staffed without any practical experience is not the solution of that problem and this surely has been clearly demonstrated by now.

This is a management problem for the clubs.

SET PROS-PLAYERS-PROFITS ITINERARY DATES

Providence, R. I.—United States Rubber Co. announces itinerary for the completion of their pro merchandising and educational talking film showings during March and April. Appearing before these meetings are E. C. Conlin, golf ball sales manager for U. S., and his assistant, John Sproul.

Conlin's evangelistic appearances in the promotion of more profitable pro shop merchandising:

Richmond, Va., March 2, Jefferson Hotel; Washington, D. C., March 3, Burlington Hotel; Baltimore, March 5, Lord Baltimore Hotel; Columbus, March 16, Deshler; Indianapolis, March 17, Claypool; Des Moines, March 18, Fort Des Moines; Omaha, March 20, Fontenelle; Minneapolis, March 23, Nicollet; Milwaukee, March 25, Schroder;

Chicago, March 30, Great Northern; Detroit, April 2, Statler; Cleveland, April 6, Cleveland; Pittsburgh, (to be announced later), William Penn; Harrisburg, April 13, New Harrisburger; New York, (to be announced later); Philadelphia, April 10, Benjamin Franklin; Boston, (to be announced later); Providence, (to be announced later).

Jack Sproul is to stage sessions according to the following schedule:

Kansas City, March 2, Muehlbach Hotel; St. Louis, March 5, Statler Hotel; Memphis, March 9, Peabody; Little Rock, March 10, Albert Pike; Louisville, March 12.

Cincinnati March 13, Gibson Hotel;

Pinehurst, March 26, Carolina; Toledo, April 13, Commodore Perry; Buffalo, April 15, Statler; Rochester, April 16, Seneca; Syracuse, April 17, Syracuse; Schenectady, April 20; Hartford, (to be announced later).

BOOK REVIEWS

GOLF COURSE COMMONSENSE. By G. A. Farley. 256 pages. \$4.

AFTER a long wait the golf field is supplied with a comprehensive and practical volume on course maintenance. The Farley book is certain to have a warm welcome and big sale in supplying the recognized need of a working guide on good greenkeeping methods. It is an excellent job of presenting the sound advice of experienced greenkeepers and the guidance of the dependable turf scientists who are not working greenkeepers.

In her experience with the Cleveland District Golf Association and the National Association of Greenkeepers, Mrs. Farley got the hunch that eventually resulted in this valuable compendium. She consulted all available literature on golf course maintenance, interviewed in person and by letter, scores of practical and scientific experts, and boiled down her dope to a volume that will be read with deep interest and appreciation by the old masters in greenkeeping as well as by those who are comparative newcomers in the business.

The book will not only ease the greenkeeper's path by making available to him a reference volume containing information on the successful work of others in his profession, but it will smooth things out for him tremendously when it gets into the hands of green-chairmen and other officials.

Golf Course Commonsense has chapters on Soils, Fertilization and Growth; Drainage and Water Systems; Grasses; Teeing Grounds; Fairways; Putting Greens; Hazards; Topdressings and Turf Repair; Weeds and Diseases; Equipment and Supplies; Birds, Animals and Insects; Keeping Course Records; Greenkeeping in the South; Concrete Construction; Golf Course Trees; Growing Choice Flowers; and Golf in Community Welfare.

The author is to be congratulated on a first-class piece of work answering the call for a simple and helpful handbook of greenkeeping.



Solving Club Problems with DUBOIS

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Caddies are no longer a "problem" when DUBOIS keeps them in hand!

No one wants a pack of boys running all over the clubhouse grounds, waiting to be assigned as caddies.

Run a few sections of Dubois around the caddy master's house. This keeps the boys within bounds, and at the same time increases the charm and picturesqueness of your clubhouse grounds. Dubois lends itself

to a multitude of other uses, being made in heights from 18 inches to 10 feet.

It may be used to protect the players where tees are in close proximity and to separate the more dangerous portions of adjoining fairways. Our 10 foot height is ideal for preventing the increasingly numerous accidents which occur from sliced and hooked balls on holes bordering on public highways.

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Young Pro Shows Sales Value of Personally Fitted Clubs

By HERB GRAFFIS

YOU can talk all you want to about the advantages the pro should capitalize in his effort to extend his domination of golf club

retailing but you can't beat that prime factor of the pro being qualified to fit the right club to the individual player's game. That makes the pro a ranking consultant in golf club design, and a factor that the leading manufacturers have not neglected using. Golf club manufacturing has undergone two distinct changes since the game began to get going in the United States; first, the bench-made club, which now constitutes only about one in 20 of the better grade of clubs sold in this country, and, second, the production of carefully studied designs on a precision manufacturing basis by expertly manned and fully equipped plants. This second stage has played a leading part in the progress golf has made in this country.

Now there are plenty of indications that we are seeing a third phase of change in the business of club manufacturer. The 1931 lines of the leading manufacturers all show an influence of pro design that is not based so much on exactly what the leading players use themselves but on what the leading players and instructors recommend for the average golfer. For several years past this influence has been apparent in the lines most closely allied with the pro field. The manufacturers have been awake to the fact that the usual metropolitan district handicap records show only about 10% of the players shooting 90 or less and their designing and manufacturing forces and pro advisors have taken cognizance of this governing factor in the lines.

This club manufacturing business is no downy bed and to keep the design and quality up and the price down is something

Ken Smith, of Kansas City, has found his allotted niche in golf's scheme of things supplying specially fitted sets of clubs to particular golfers who don't mind paying the price. Here's the story of how he got into the business and how he operates. . . .

that is wrinkling the brows of many a keen intellect these days. However, all of its vicissitudes were not sufficient to discourage a

young pro shop graduate named Kenneth Smith launching himself into it three years ago. Smith confesses that he doesn't think his business will ever get big enough to worry any of the big boys for it's a family affair of bench production. He is content to handle his minor fraction of the business so the pros, the leading manufacturers and the players will say "Ken Smith makes fine clubs" and the Smith family will demonstrate to the world that a pro-run business is a prospering enterprise.

Starting as a caddie at Mission Hills in Kansas City, Mo., in 1916, young Smith made his debut as a club-maker repairing clubs for other caddies. A year later he was given a job as an apprentice club-maker by the late J. W. Watson and began then to study and absorb the American and Scotch contributions to the club-making art. Then Watson retired and placed the kid with Ernie Ford at Meadow Lake. When Ernie moved to Detroit, Smith went with him and divided his time between Ford's shop and the University of Michigan where he specialized in business administration. He already had the bug for making clubs and saw that he needed business education. During his time at Kansas City he was working 48 hours a week at the club and still managed to graduate from high-school. After finishing Michigan in 1924 he went as assistant to Dick Clarkson at Northland C. C., Duluth.

A Family Matter

In his visits home from Duluth he was laying the foundation for his present en-



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Make a test of Barbak 211 and you will find that Brown Patch will travel over plots of untreated turf and stop precisely on the line of the area treated with Barbak 211. This is the experience of Robert Duguid, superintendent of Evanston Golf Club of Illinois.

As a preventative, Barbak 211 protects against Brown Patch for a longer period than ordinary disinfectants. One well-known greens keeper places this at 42 days. As a cure, it checks the fungus immediately and quickly brings back a normal stand of turf.

Barbak 211 may be applied in solution or dry, mixed with a top dressing, sand or fertilizer and watered in. Write us for further facts.

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terprise. His father is a talented mechanic and has worked out the factory methods. Smith, Sr., also makes the wood heads to exclusive designs. There are only eight in the plant. Five men and the two Smiths in the shop and Mrs. Kenneth Smith handling the office end. Kenneth says he spends an hour of his own time on every set of wood clubs that are turned out, so the production necessarily is limited. Clubs are made to special specifications and registered.

Smith is doing a goodly percentage of women's club business and from his observation forecasts a tremendous field for distinctively and correctly designed clubs for the fair sex. In commenting on design for the players shooting in the 80s and 90s, Kenneth expresses the opinion that these players with weak wrists and slow swings are liable to find the wood clubs of the stars unwieldy. In making the woods lighter he mentions that the weight in his design is not taken out of the head, but comes out of the shafts. The purpose, of course, being to get adequate driving power by having a full weight head and a shaft as light and whippy as is conducive to proper control when the club is in the hands of the 90 shooter.

It is that sort of design factor that Smith emphasizes should be studied by each pro in his sale of clubs to members.

In making the statement Smith doesn't burst forth in any boastful statement that he is the only one in the world making clubs of adaptable design. On the contrary, he pays high tribute to the standard of design and construction of clubs made in the leading factories, as judged by keen bench-expert standards. What he does say, though, not to refrain from playing a few notes on his own bazaar, is that where he cuts in is to make sure that his clubs are suited for the player who uses them. So if the elect don't find what they want out of the vast array offered, and they will pay the price, the Smith outfit will apply itself personally to the production.

Smith is quite reconciled to having a good small business that keeps steady and which is built solely on a limited and special job platform. He defines his position in the field by stating that he rates as a locksmith, not a keymaker, to those hanging around the door to a good score.

WHEN a green is fairly flat and not too severely trapped, a diameter of 60 feet is sufficient. The present-day trend, however, is toward greens closer to 75.



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BECAUSE of several years of success the Lewis Golf Ball Washer is well known from coast to coast. It is practically the standard washer of the nation.

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G. B. LEWIS COMPANY
Dept. GD 331, Watertown, Wis.



LEWIS  **GOLF BALL WASHER**

Tree Injury from 1930 Drought Calls for Treatment Now

By MARTIN L. DAVEY

THIS spring help will be needed badly by innumerable trees which have been seriously weakened as a result of the unusual weather conditions during the past two years. Unless help is given, many of the trees undoubtedly will perish.

The spring of 1929 was cold and wet and the summer which followed was hot and dry. As a result, trees were able to store up only a fraction of the amount of food required and they entered the growing season of 1930 in a weakened condition. Then came the worst drought in the memory of any living man. Many sections had no rain whatever for several months. Countless thousands of trees were killed and thousands more are now in the process of dying. All the ill effects of the drought were not immediately apparent—some will not show up until this year.

Many of the trees which are now hovering on the border line between life and death can be saved if cared for properly. The main thing they will need when the growing season starts this spring will be an available supply of nourishing food. If they are properly fertilized, they will be able to build up their strength rapidly and overcome the handicaps they are now under. If their food supply is inadequate and they fail to get a good start, they may be defeated in their battle for life.

Special care should be given to spraying this year for the same reason that the trees should be fertilized. Should they be defoliated by disease or insects, the effects probably will be very serious. Consequently, it is obvious that more than ordinary attention should be paid to disease and insect prevention.

Advises Spraying

The many kinds of scale, which are particularly dangerous to trees in a weakened condition, should be attacked as soon as possible. The substances which must be used to kill them are injurious to leaves and consequently the spraying must be done while the trees are still dormant.

Many of the diseases which afflict trees and also many of the trees' insect enemies

can only be attacked or warded off after the leaves come out. It will be advisable, therefore, to have the trees inspected this year at regular intervals to determine whether spraying will be required. One or two sprayings may prove to be the deciding factor in the trees' struggle to overcome the effects of the drought.

Spraying, incidentally, is a phase of tree work which should be done by experts. It is easy enough to mix a couple pounds of chemicals with water and spray the mixture on the trees, but unless the spraying is done by someone who knows exactly what insects or diseases are harming the trees, he cannot know what chemicals to use, what quantities, how they should be applied, or at what season. Done improperly, spraying may injure the trees and perhaps kill them; done by experts, it is the most effective means known for combating pests.

Pruning Aids Trees

Removal of all dead branches and limbs also will help the trees greatly in their battle for life. The deadwood provides an ideal breeding place for insects, bacteria, and the spores of fungus growths. When it is cut away and burned, the trees have a much better chance to remain healthy. Pruning, moreover, greatly improves the appearance of the trees and eliminates a serious menace—dead branches often crash to the ground when least expected, destroying property and endangering human life.

Trees which have been weakened by the drought urgently need fertilizing, spraying and pruning. But they have countless brothers, unaffected by adverse weather conditions, which will be greatly benefited if given these fundamental forms of tree care. Times without number, priceless trees are neglected year after year, and almost invariably the price of this neglect is premature death.

Innumerable trees growing on golf courses throughout the country are injured every year by storms. Many of these trees could be saved if they were properly