

Equipment for Eighteen Holes

Address of ELMER F. AFFELDT, Greenkeeper,
Glen Oaks Golf and Country Club, Great Neck, L. I.,
Before the Metropolitan Association of Greenkeepers,
New York, August 8, 1927



Elmer F. Affeldt

AS a member of your committee on the Care and Housing of Equipment I would like to have worked in co-operation with the other members of the committee, but the time for the preparation of this paper was very short, considering our trying duties at this time, and the distance between did not allow us to get together.

I have worked out a list of what I consider a minimum of equipment needed to operate an 18-hole course. This list is itemized on the following page.

When I made this list up I may have been somewhat conservative for I had in mind a new course just starting off on its journey, and should it live and grow it will acquire more of the items most needed as the needs manifest themselves. Even then I like to keep within limited bounds as most clubs just starting out are usually spent out after purchase of the ground and cost of construction. By this I do not mean skimping on any of the items but having enough equipment to do the work well and without delay, but carrying no surplus at least the first year. This will also prove wise because improvements in golf course equipment are quite rapid. Better things are coming out yearly.

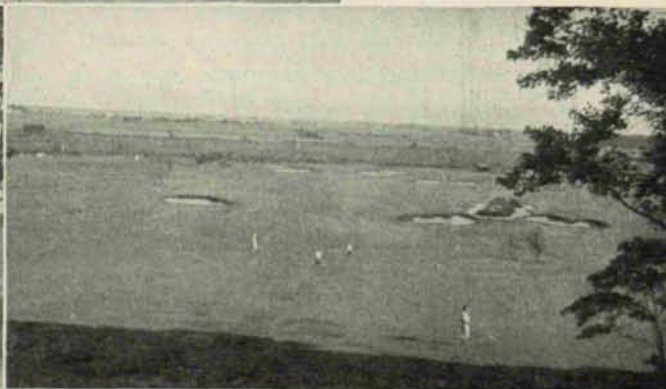
I have not attempted in this paper to name any specific make of machine as some of us have a preference for one manufacturer's product and some for another. Nearly all of the standard equip-

ment on the market today will do good work if properly operated and cared for. I purchase because of durability, simplicity of adjustment, ease of repair and ability to get repair parts quickly.

I also have made it a practice to make all repairs at home where possible and no special equipment or machinery is required. I find we can do much without an expert mechanic or an elaborately equipped shop.

In somewhat over twelve years of experience, it has not been my good fortune to have been connected with a club that has had buildings enough, or large enough to properly house its equipment. The larger items such as fairway and rough mowers, all rollers, soil screen, etc., usually must stand out in sunshine and in rain from sometime in April until October or even November, and it is really remarkable how well they do the work considering what little care they get.

In the fall we usually jam them in somehow and somewhere under a roof if nothing more, that we hope will protect them from the ravages of the winter with its snows and sleet. While the average greenkeeper may not be able to do any better, it is poor economy, as under these conditions equipment will deteriorate very quickly.



Upper, seventh green; lower left, thirteenth green, and lower right, eighth fairway at Glen Oaks Golf and Country Club, Great Neck, L. I.

Equipment Needed for 18-Hole Course

- | | |
|---|--|
| 1—heavy duty tractor, Fordson or Toro, equipped with smooth and rough wheels, also power pulley | 12—green sprinklers |
| 1—light tractor, Staude, Worthington or Roseman | 1200 Ft. ¾ in. hose |
| 2—dump carts, trailing type | 1—fairway sprinkler (3 units) |
| 2—Ford ton trucks, dump bodies | 500 Ft. 1 in. or 1¼ in. hose |
| 1—manure spreader | 18—tee stands |
| 1—fertilizer drill | 18—sets tee markers |
| 1—2000 lb. roller | 24—hole rims |
| 1—500 lb. hand roller | 24—flag poles, 18 flags |
| 3—light putting rollers | 3—ball washers |
| 1—soil screen, power type | 1—lawn cleaner rake |
| 1—2½ H. P. gas engine to operate screen | 1—lawn cleaner brush |
| 1—5-unit fairway mower complete with frame | 6—bamboo rakes |
| 2—extra 30 in. units for above | 1—water grindstone, 1 emery grindstone, 1 sickle grinder |
| 1—rough cutting mower, farm type, sickle bar | 2—chopping axes, 1 cross cut saw |
| 6—putting green mowers | 1—carpenters hand saw, Xcut |
| 6—lawn mowers | 1—carpenters hand saw, rip |
| 4—scythes, 6 hand-sickles, 12 scythe stones | 1—nail hammer |
| 2—flexible steel mats for rubbing in top dressing | 1—set pipe dies ¼ to 1 in., 1 set pipe dies 1 to 2 in., optional |
| 1—Champion sod cutter | 1—pipe cutter, optional |
| 2—sod lifting irons | 1—14 in. Stillson wrench, optional |
| 2—turf edging knives | 1—18 in. Stillson wrench, optional |
| 1—set turf repairing tools | 1—24 in. Stillson wrench, optional |
| 6—round point shovels | 1—36 in. Stillson wrench, optional |
| 12—square point shovels | |
| 6—spading forks | |
| 6—manure forks | |
| 6—spades | |
| 12—wood lawn rakes | |
| 12—iron rakes | |
| 3—trap rakes | |
| 3—R. R. picks | |
| 3—Mattocks | |
| 1—50 gal. barrel on wheels with sprinkler boom | |
| 1—5 gal knapsack sprayer | |
| 1—proportioner | |

Shop Equipment Also Optional

- 1—post drill and drills ⅛ to ½ in.
 - 1—iron bench vise
 - 1—blacksmith forge and anvil
 - 4—ball pein hammers assorted weights
 - 1—small hand drill and drills
 - 1—breast drill and drills
 - 1—hacksaw frame and blades
 - 6—screwdrivers assorted sizes
 - 12—flat wrenches assorted sizes
 - 1—socket wrench set
 - 12—small hand oilers
 - 4—small pressure oilers
- Stock of assorted bolts and nuts and lock washers.

I am firmly convinced that it would be real economy for any club to build what I would call a golf barn, a single unit or on the ell plan and two stories above ground. On the ground floor the motor equipment and other heavy implements with the shop in the center if possible. The upper floor would house seeds, fertilizers, and the smaller and lighter equipment. A home-made elevator could be installed to lift and lower supplies and equipment.

After outside operations on the course have come to a halt, all machinery and other equipment used during the summer should be carefully gone over, cleaned, worn parts replaced, and well painted with a good paint that will stand the weather. All mowers should be carefully

sharpened or sent away. I prefer to have them done at home.

Around the new year is also a good time to place orders for any new equipment needed for the following summer. This is especially true where it requires the red tape of passing through the various club committees for the necessary O. K. before final placing of the order with the dealer. We all know the importance of having supplies and equipment at hand when spring opens.

The spring rush (and often it does come with a rush), getting ready and set for the opening day means work and worry. Then is the time you will appreciate having your materials at hand and your equipment in A1 shape and I am sure you will be relieved of a lot of mental anguish.

Clubhouse Gardens

By W. D. CHINERY, Greenkeeper
York Downs Golf Club, Eglinton, Ontario, Canada

THERE are perhaps few golf clubs throughout the country where the club officials have not made some attempt to enhance the appearance of the grounds in the vicinity of the clubhouse by planting shade and ornamental trees, climbing plants, flowering shrubs and the laying out of flower beds and borders. Where their efforts have been attended by success then I think we should consider this as money well spent.

I have at various times heard much criticism passed on the policy of maintaining such grounds, some contending that the money spent might have been put to better use on the course, but we should bear in mind that through ages past both the poor and the rich have spent their little or much in planting and developing such gardens for the embellishment of their homes.

Love of Flowers is Universal

Most people admire flowers whether in a wild or cultivated state. Even the first few flowers of that, to some, obnoxious weed, the dandelion are welcome in early spring. For the happy bride, the sick at home or in hospital and the departed, flowers are one of the first things in demand, so much so that I am tempted to quote the following:

*"With the kiss of the sun for pardon,
With the song of the bird for mirth,
You are nearer God's heart in a garden
Than anywhere else on earth."*

At some golf clubs where the space allotted for such gardens is more or less extensive the rule is to engage a gardener to take charge who can devote his whole time to this work, thereby getting results and giving general satisfaction. At other clubs the greenkeeper has to supervise this work and one is often put to, to find a suitable man to place in charge. There is a general impression I believe that anyone can look after a few shrubs and flowers and up to a certain point this is correct. This would apply to the common shrubs and annuals, but where there is a collection of plants and a continual supply of bloom expected then it behooves one to have the wherewithal to produce results.

Inexpert Pruning Destroys Bloom

This was brought home to me very forcibly this season. To substantiate this statement will my readers excuse me if I appear to deviate somewhat from my subject. A lady golfer asked me this summer why her shrub—"Forsythia Elegance" did not bloom well explaining that though the plant made beautiful growth, and that the gardener had pruned it very carefully the shrub only bloomed on little twigs. Not knowing, the lady had answered her own question, i.e., had the

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W. D. Chinery



New Number 8 at York Downs, showing seventh in background.



Month by Month With the Trees

By C. M. SCHERER

Principal of The Davey Institute of Tree Surgery, Kent, Ohio



SOME years ago a story was written about a leaf. It seems from the story, that in the early autumn the leaf heard a rumor. The substance of the rumor was that a little later the wind, with the help of the frost, would tear the leaf from the tree and whirl it away to some unknown disaster. The leaf was greatly perturbed and told the story to the tree. The tree was worried not at all and assured the leaf that if it only would hold on tightly there could be no danger. With this assurance the leaf was satisfied and went happily about her work.

In a few weeks all the companions of the little leaf began putting on their brightly colored dresses. Immediately the leaf was interested and asked the tree why all the preparations were being made. In answer the tree said that the leaves were putting on their gala dresses in preparation for a long ride with the wind. The leaf was puzzled. What would she do? In another day or two first one and then another of her companions let go and went dancing and whirling away with the wind.

Soon only a few faint-hearted individuals clung tightly to the tree. The little leaf had finally reached a decision. She would not be the last to start. Feverishly she rushed her preparations and in a surprisingly short time breathlessly awaited the arrival of the wind. With a rush, a shout of joy and laughter, he came. She hesitated, murmured good bye, let go and danced away on her last long ride.

Each autumn this little drama is enacted many times. People are interested in it. They ask questions. They wonder about this phenomenon of Nature.

Leaf Coloring Elements

During the summer or working season the leaves are green. The green of the leaf is the color of an oily material which is known as chlorophyll. Of course, the chlorophyll is made up of several materials, two of which predominate with a third one fairly common especially in some leaves. The yellowish to orange part

has the name xanthophyll. The blue pigment is known as cyanophyll and the red one is carotin.

The oil permeates the whole living tissue of the leaf. So long as the tree remains actively engaged in manufacturing and storing food materials the leaves retain their verdant color. In the autumn, however, the work of the leaf is completed. The tree is ready to rest. During the rest period the leaves are of no use and since Mother Nature is quite thrifty the leaves must be discarded.

By throwing away the leaves completely, much useful material would be lost. Such waste is unpardonable. To prevent it the chlorophyll is broken up into its component parts, namely xanthophyll, cyanophyll, and carotin. Then the tree gradually takes the materials out of the leaf, back through the stem into the twigs and branches. There it is stored to be used again when the tree needs it.

What Determines Varied Fall Coloring

With these facts in mind it is evident that if the xanthophyll and cyanophyll are removed while the carotin is allowed to remain in the leaf the autumn colorings of that particular leaf will be red. If on the other hand the xanthophyll remains the leaf will be yellow or slightly orange in color. We never find blue leaves in the autumn but it is not at all uncommon to find leaves with bluish tints. When one imagines the various combinations possible with the three colors it is not at all surprising that our autumn woods take on such gorgeous colors.

Occasionally all the coloring materials are removed from the leaves. This is especially true in the case of many of the oaks. When the colors are all removed from the leaf nothing bright remains. It is then that the various shades of brown appear. Sometimes the frost comes suddenly. It is then that the leaves are frozen to death with no opportunity for saving the

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The Market Place

THERE'S an old saying about a mouse-trap. About a man who could build a better one than could anywhere else be found. And a beaten path to his door. You all know he didn't have to advertise.

Today there are so many good mouse-traps, that if you could not see them pictured, and couldn't read how they are built and how they operate, it would be somewhat difficult for you to select the one you wish to buy.

The NATIONAL GREENKEEPER has never conducted an advertising sales campaign. No advertising agency doors have been opened by any representative selling space in our magazine. No manufacturer or dealer in golf course equipment or supplies has been interrupted in the course of his daily business by enthusiastic accounts of what advertising in the NATIONAL GREENKEEPER will do for him.

There is such a thing as building a magazine so sound from an editorial standpoint, and so valuable to its readers, that any man who wishes to claim the attention of those readers will not overlook it.

The first man who built the best mouse-trap did not need to advertise. Likewise, the first magazine ever published in the direct interests of the greenkeepers of the United States and Canada does not need to exploit its excellence as an advertising medium to manufacturers of golf course equipment and supplies.

Contracts in hand and in prospect for 1928 prove the truth of our statements.

How Do You Space Wheel Spuds?

FROM R. S. Horner, Geneva, Ohio, Manufacturer of the R. H. Fairway Tractor and R. H. Wear-Well wheel spud, we have received the following message:

"In visiting golf courses in several states this season my attention has been called to the fact that many clubs are wasting time and money by having their heavy tractors using only three fairway units when they should be using five. When the drivers are asked why they are using only three units, their replies are invariably the same—'We do not have traction to get up the grades with five units, the wheels will slip and tear the turf.'

"Proper spacing and equipping of the wheels with the right size spuds will increase the traction of any tractor wheel by 50 per cent.

"Upon request I shall be pleased to mail sketch showing proper way to space spuds in the wheel and a sample spud for any make of tractor. Please state make of tractor used."

First in the Golf Field

The NATIONAL GREENKEEPER is the only trade paper on turf culture in America.

It is not only received promptly on the first of every month by greenkeepers green committee chairmen, professionals having charge of courses and golf officials in general, but is *closely read* by those who subscribe for it.

Edited by noted greenkeepers and turf experts it stands alone as the pioneer and authority in the golf maintenance field.

Its articles are widely quoted in other golf journals.

As the official organ of the National Association of Greenkeepers of America it reflects the activities of the national and sectional groups of greenkeepers throughout the country.

If you want the latest and most accurate information on golf course maintenance read the NATIONAL GREENKEEPER.

If you want to sell your product to all the golf clubs in America advertise in the NATIONAL GREENKEEPER.

It is the first choice in the golf field.

Popularity of Tee Boxes on Wane

J. OLIVER JOHNSON, Inc., are of the opinion that tee boxes are passing and that it is only a matter of a few years until they will be ancient history, one of the reasons being the remarkable sale of Lewis ball washers of which they are national distributors. Some 4000 have been sold this year, going to practically every state in the Union besides Canada and foreign countries.

This washer when mounted on a special stake enameled to match the washer, makes a neat and attractive installation. Many clubs are furnishing wooden tees in bulk gratis to the player and this combined with the Lewis Washer eliminates all need for sand boxes.

They are now contemplating furnishing the Lewis Washer with the number of the hole, yardage and par, printed on the face of the washer before lacquering and would like an expression from greenkeepers as to the advisability of carrying out this idea.

Improvements in MacGregor Line

THE MacGregor Compost Distributor has recently been improved, so that a putting green with severe undulations can be top dressed without the material running to one end of the machine.

The MacGregor compost brush is also out with a shorter and stiffer brush, which is even more effective in bringing up the runners on bent greens.

Testing Strength of Rubber Hose

THE first week in February was "Old Home Week" at the Republic Rubber Company's plant at Youngstown, Ohio. Their representatives from Birmingham, New Orleans, Kansas City, Toledo, and San Antonio convened with Mr. R. M. Gattshall at the home office, for the purpose of comparing notes on this season's business in golf course rubber hose.

John W. Lawrence, their Cleveland representative, who happened to be in the office, furnished the best report of a pressure test of Tonka brand hose. His report read, "I visited Madison Golf Lakelands to check up on the service they had got from Tonka, and the greenkeeper asked me what pressure the hose was built to stand. He said that he attached a length of Tonka from the outlet to a 400-lb water roller, turning on a slow stream. Leaving the connection to attend to some work on another green, he came back to shut the water off and found one end of the roller blown out and the hose intact."

Mention Our Magazine to Advertisers

SOME of our advertisers have written us during the past few weeks that a good many orders received from Association members fail to mention the NATIONAL GREENKEEPER. In many other cases the ads themselves were cut out of the magazine and attached to letters and orders. As we have very few back copies of the magazine on file, we would suggest keeping every issue received in perfect condition for binding at the end of the year. Rarely a day passes that we do not receive requests for back copies with this idea in view. Therefore, keep your magazines uncut, and mention the name of our magazine on your order form or in your letter to a manufacturer. Every advertiser is interested in knowing what prompted an inquiry, and in mentioning the NATIONAL GREENKEEPER you will identify yourself as a member of the association and a constant reader of our magazine.

A Three-Fold Cure

Arsenate of Lead as a Beetle, Worm and Weed Eradicator

By NORMAN L. MATTICE, Manager, Pine Valley Golf Club
(Reprinted from September, 1927 U. S. G. A. Green
Section Bulletin)

WHEN I entered the employ of the Pine Valley Golf Club last spring permission was obtained to secure the services of Mr. B. R. Leach, of Riverton, N. J., to act in an advisory capacity to supervise the use and application of arsenate of lead on the tees, fairways, approaches and greens. This chemical was used for the purpose of exterminating the grub of the Japanese beetle, which had done considerable damage to the turf in former years. As planned, the arsenate of lead was mixed in the topdressing at the rate of 5 pounds per cubic yard and spread on 1,000 square feet of area. To date the tees, approaches and greens have been topdressed five times and the fairways once. As a result of carrying out this program the main object of killing beetle grubs was accomplished before any appreciable damage to the turf occurred, and in addition three other beneficial but unlooked for results were obtained as follows:

Many of the greens contained chickweed in large quantities. In one instance, on the old 9th, an effort was made to remove some of the chickweed last year by cutting it out, leaving large patches with no turf, so that the green has not been in play all summer. After the first application of the prepared topdressing it was noticed that many of the patches of chickweed on all of the greens (including the old 9th) turned yellow and disappeared and the turf came back in its place. After each subsequent topdressing more chickweed disappeared until all of the greens are almost entirely free from it and strong and vigorous turf has taken its place.

During July the beetles began to fly over this part of the country and light on the greens. They immediately began to burrow down into the soil to deposit their eggs, and in doing so little plies resembling worm casts covered the surface of the greens. On closer observation, a full grown, dead beetle was found in each pile of earth. It seems that the soil had been sufficiently poisoned to kill the mature beetle as well as the grub.

After the second topdressing early in May, worm casts disappeared entirely from the topdressed area, which would indicate that worms do not take kindly to soil so poisoned.

Although some crab grass appeared in the surface of the tees, approaches and greens, it did not start to grow until the first of August, and then it did not grow vigorously as is its custom. Other unpoisoned areas developed strong, thrifty crab grass plants late in June, which have

already seeded at the time of this writing (September). Employees who have worked for many years on this course state that crab grass on the tees, approaches and greens is not one-tenth as bad as it has been in former years. However, the big decrease in the growth of crab grass can not be attributed wholly to the use of arsenate of lead, for sulfate of ammonia has also been used in every application of topdressing. If the marked effect from the use of arsenate of lead is as great next year as it has been so far this season it is reasonable to believe that weeds of all kinds will be eliminated from the poisoned area and a better and more thrifty turf will result.

I Do Not Condemn Poa Annua

By JOHN MacGREGOR, Second Vice-President
National Association of Greenkeepers of America
Chicago Golf Club, Chicago, Ill.

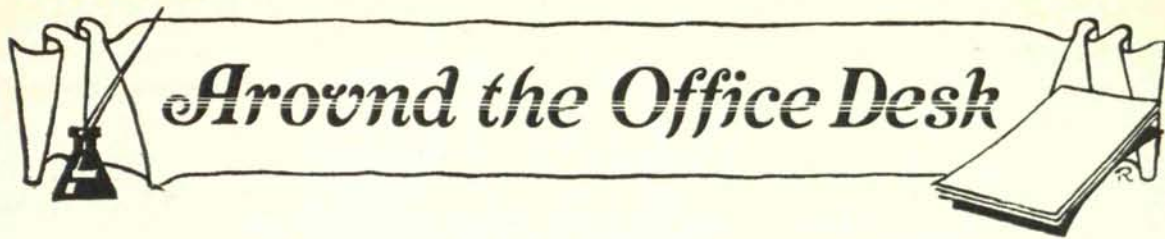
THERE are a great many differences of opinion on the subject of *Poa annua*. I read with interest Mr. McNamara's opinion on the subject. It may be that around Pittsburgh it does not acclimate itself so well as it does in the Chicago district, so I am going to differ with John in saying it makes a wonderful putting green.

It has to be well cared for, being a gross feeder and a lover of water. If it is allowed to suffer through lack of water, it takes on an unhealthy color, and is a discouraging sight. I believe the fact that it appears in a green is evidence of its adaptability to that particular soil, and if properly treated it will cover that green in about four years.

About four years ago it put in an appearance on a few of our greens. I tried to fight it by digging it out, but the next year I found the plants had become so numerous that I decided to give up the fight, and since then have encouraged it. I now have four greens which are practically solid *Poa annua*, and have a beautiful true putting surface.

I have never seen any of the large brown patch on these greens, but have had the small spot several times, and find *Poa annua* recovers very rapidly from it after treatment.

I have seen a great many *Poa annua* greens in the Chicago district of good quality, so will say again, if properly cared for, *Poa annua* makes a wonderful putting green.



Around the Office Desk

THE OFFICE DESK visited the Youngstown Country Club on Sunday, October 16, and noticed here and there piles of screened compost of quite ample proportions. Upon inquiry, Mr. Morley said, "I believe in letting the sun, rain, snow, and the freezing and thawing of winter and early spring work their will on compost I am going to spread the following year. I do not keep it under cover as is usually done after screening, for I find that the texture of the compost is much improved by piling it outside in the fall."

NUMBER 17 *Poa annua* green at Youngstown Country Club shows a putting surface at this time of the year that is absolutely devoid of weeds or the smallest bare spots. The frost has slightly browned some of the seeded bent on other greens, but the *Poa annua* is thick and a vigorous green, some of it blossoming to seed again.

"I HAVE known for some time that the Association is a real live wire," writes W. D. Chinery in a letter attached to his article in this number on Clubhouse Gardens, "and while I do not wish to monopolize the pages of the NATIONAL GREENKEEPER, if you would like to have them I will write a series of articles on shrubs, biennials, perennials, the naturalization of bulbs in turf, etc." That's what we call co-operation with a capital C. Especially so when the writer is thoroughly conversant with the art of gardening and plant propagation, as is our good friend and member, Mr. Chinery. A word of appreciation from those of our readers who have been hoping to read such articles should be sent direct to Mr. W. D. Chinery, York Downs Golf Club, Eglinton, Ontario.

FROM one of our Charter advertisers, the Toro Manufacturing Company of Minneapolis, we have received the good word, "Your magazine is getting better all the time, and in providing a medium of expression to greenkeepers far and wide, it has accomplished a great deal. The manufacture of golf course equipment is getting steadier than it was due to the educational work you and others are doing."

UP in Wayzata, Minnesota, L. J. Feser, greenkeeper at Woodhill Country Club, has been keeping track of the splendid work Charles Erickson of Minekahda Club, Minneapolis, has done this season. He writes, "Mr. Erickson deserves the credit given him in a front page article in the Minneapolis Morning Tribune, because of the unusually fine carpet of turf all over the Minekahda course. The boys up around here were invited to visit Minekahda on August 12, and were treated to a view of one of the most beautiful courses we have ever seen. You will agree, I am sure, that the veteran has earned his stripes."

REVERIE OF A BACHELOR

I'm fifty past and still unwed;
I'm master of myself;
Too well and strong and hearty
To be laid upon the shelf.

Today I paid my last respects
To my old schoolmate Jim;
A fuse so short there wasn't much
That they could find of him.

Now Bill, they found him in the woods
And laid him right away,
When his old shot-gun, tried and true,
Kicked up on him one day.

And Johnny Wise, they picked him off
A wire, someone said;
Three thousand volts was quite enough,
He was already dead.

Electric wires, guns and such,
And sticks of dynamite,
I've left alone, and maybe that's
Why I am here tonight.

And that is why I'm single, too,
Have kept my heart and hand,
Because I never tamper with
What I don't understand.

By Gertrude A. Farley

In the Tribune we read, "Its greens are snug, velvety and as soft to the touch as an Oriental rug; its fairways are beautiful sweeps of lush green; its roughs are just as they should be, and the bunkers are carefully sanded and furrowed."

With twenty-seven years of experience behind him, and his accomplishments in turf culture an established fact, Mr. Erickson is not among those greenkeepers who are regarded by the members as "just one of the men who take care of our greens." He is as well known a figure among the members of Minekahda as the president of the club. Besides being an expert keeper of

the green, Mr. Erickson is one of the most active and enthusiastic supporters of the National Association of Greenkeepers of America.

CANADIAN greenkeepers are fully awake to the advantages of belonging to our association, and during the past few weeks we have been receiving most cordial letters from many of them. Mr. H. J. Walker, of the Beach Grove Golf and Country Club, Tecumseh, Ontario, writes, "I think the association will lead to a better understanding between greenkeepers and their employers, as well as a means to broadcast help and friendship to greenkeepers, wherever they may be."

INTEREST in the coming annual convention in Detroit on February 23, 24 and 25, is already active, and letters from our members in California, Kansas, Iowa, Nebraska, Georgia, the Chicago district, Pittsburgh, Philadelphia, New York, Buffalo, Cleveland and Detroit, as well as from various sections of Canada, state that plans are being made to attend. While the attendance in Chicago last March was excellent, we believe that we can look forward to seeing several hundred at the second annual meeting.

"YOUR October number of the GREENKEEPER was splendid," comes from Mr. Fred W. Sherwood of the Northmoor Country Club, Ravinia, Ill. "I am looking forward to an increasing interest in our magazine."

IN answer to a letter of inquiry about the Death Benefit and Beneficiary funds, we are printing one paragraph from our reply, for the attention of any member or prospective member who does not understand perfectly just what these funds were established for, and how they are handled by the association:

The Death Benefit is for death only, and immediately payable to the beneficiary designated. In cases of sickness, accident, lack of employment, to which any member may be subjected, we have what we call a Beneficiary Fund. This is entirely separated from the Death Benefit, and represents \$2 taken out of each member's \$10 yearly dues each year and banked in the name of this special fund. Upon application for help made by a needy member, a committee of three greenkeepers is appointed from that man's own district, whose duty it is to investigate the case and recommend the amount to be paid monthly and for how long. So far we have had no calls upon this Beneficiary Fund, and we hope it will grow to such ample proportions that all of our members

will be well protected. This is dependent upon the number of members that increase our membership from year to year.

WILLIAM B. STEWART, greenkeeper at Hillcrest Country Club, Los Angeles, California, and one of the first contributors to our magazine, says, "I am heartily in favor and support of the National Association, and was one of the first to become a Charter member. The NATIONAL GREENKEEPER is an able magazine, and I wish to congratulate you. It is the only publication I know of that gives both golf courses and greenkeepers their just dues."

ONE of the greatest fields of endeavor that lies before our association is the distribution of good practical information to younger greenkeepers. At least twenty-five per cent of the letters received at association headquarters come from these young men, expressing their delight in having a magazine like the NATIONAL GREENKEEPER to read, and an association headed by experienced greenkeepers to help them out. The sermon of brotherly love has been preached in this magazine since last January, and it is getting to be a common occurrence to hear of one greenkeeper going out of his way to lend a helping hand to another. Mr. H. E. Erickson, keeping a nine-hole course south of Galion, Ohio, is one of the younger generation who has just applied for membership. He writes that G. J. Merritt, our member in charge of the course of the Highland Meadows Club in Toledo, has been loaning him copies of the NATIONAL GREENKEEPER and visiting him this season. "I have been getting some good stuff from the magazine, and as I am building a new course it has been a wonderful help. The whole town is now all golf, and our greens are coming along fine."

ALL local associations of greenkeepers are in league to broaden the education of each individual member, and the strides made this season by local groups from the Eastern coast to the Pacific have been something to arrest the attention of everybody concerned with golf.

Delegates from these local associations will find plenty to interest them in the program which is now being arranged for February 23 and 24 at Annual Convention Headquarters, Fort Shelby Hotel, Detroit. The Executive committee of the National Association is busy outlining an educational program for these two opening days, which will be reported in the December number of our magazine. Watch for it!

Chat With President

(Continued from page 14)

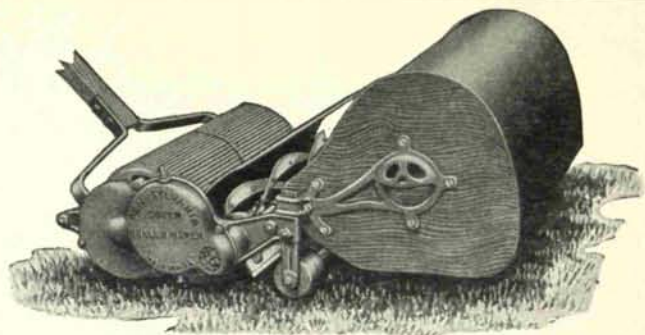
the National Open as he never uses seed or fertilizers on his course. He has only to study the ridges in the traps, whether they are right or wrong.

THE pervading spirit which emanates from our association should thrill us with impulses of kindness, brotherhood and a desire to secure for all our fellow members higher opportunities in life and equal and exact justice.

BILL KEYS of the Longue Vue Club, Verona, Pennsylvania, is still trying to decide since the meeting at the Youngstown Country Club, Youngstown, Ohio in 1926, which is the best lawn mower, but one thing Bill has decided is that he has to sweep that creeping grass to get good putting greens.

NOW is just the time to commence to lay aside sufficient funds to attend the second annual convention which will be held at Detroit, Michigan, during February.

FRED BURKHARDT of Westwood Country Club, Cleveland, Ohio has invented a new process to get his fertilizers upon the putting greens in record breaking time. He will soon write and give us the details of how it works.



6 QUALITY Points In The Super Roller Greens Mower


1. 18" Cut.
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4. Aluminum drum, 7" dia.
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Write for GOLF CATALOG describing fully this precision mower for putting greens and the other PENNSYLVANIA Golf Mowers.

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Mr. William Watson, nationally known architect, writes:—"YOU HAVE NOW GIVEN US THE ANSWER TO THE GREENKEEPER'S PRAYER."

Agent wanted in each golfing district.

BUCKNER MANUFACTURING CO.
FRESNO, CALIFORNIA

Month by Month

(Continued from page 24)

valuable coloring materials. This often happens, especially with Norway maples, and then the leaves remain green and fall without changing their color.

Causes of Falling of Green Leaves

It is not always necessary that it be autumn for the tree to discard at least some of its leaves. An example will well illustrate one of the causes. During the spring and early summer of 1927 there was a heavy rainfall in many sections of the country. The trees had great quantities of water to use. They were more or less wasteful. Later in the season the rains ceased. There was little water to be had. Then the tree, like an economical business man discharging men, dispensed with the services of the excess leaves. Usually such leaves turn yellow before falling.

Sometimes there is not enough food material to supply all the leaves that a tree has. In such cases it is a practical catastrophe for the tree. Considerable energy and materials have been used up in producing the leaves. When there is not enough food materials for the leaves to manufacture replacement materials for those used, the tree suffers a total loss. A few such losses prove fatal.

Still one other cause is responsible for the defoliation of a tree. Unfortunately many diseases successfully attack the leaves of trees. Sometimes only a part of the leaf is incapacitated. The remaining part continues to function just as actively and effectively as ever. But when the disease affects the whole leaf or a vital part of it so that the entire organ is seriously handicapped, it is discarded.

How Trees Store Material for Spring Leaf Crops

The methods used by most trees in discarding leaves is quite unique and interesting. The leaf is cut off and the little wound is healed at the same time. As the tree starts drawing the valuable materials out of the leaf it also starts forming a layer of cork between the leaf tissues and the twig tissues. When the usable substances have been removed from the leaf the corky layer is completed. The leaf is completely severed from the twig. Sometimes a breath of wind removes the leaf. Again it may fall from its own weight. When the weight of the water from rain or dew is added to that of the leaf the tree is soon bare of foliage.

A few trees, like some of the oaks and the beeches do not form a corky layer between the leaf and the twig. As a result many oak leaves and most beech leaves remain on the trees throughout the winter. Such leaves always are brown because all the color pigments have been removed.

The intensely interesting processes attending the autumn coloring of our trees and the shedding of leaves makes a ride through the country or a stroll about the golf course take on an added meaning. One more fully realizes the workings of a great universal plan conceived and executed by infinite universal power.

IT is sometimes easy enough to reach the top, but to stay there,—that's the real battle.

JOE VALENTINE of the Merion Cricket Club informs us that his entire district are members of our association. We trust that other districts will follow their example.

DON'T forget to boost the NATIONAL GREENKEEPER whenever you have an opportunity, for it is one of the biggest assets we have.

CHARLIE NUTTALL of the Fox Chapel Golf Club, Sharpsburgh, Penn., is trying hard to invent something that will keep airplanes from falling down and destroying his golf course.

WHATEVER we aim to do in the near future we may be sure of this,—we shall never be able to make any program without work.

JIM McELROY of the Country Club of Allegheny County, Pennsylvania, is the captain of the horse-shoe pitchers of the Greenkeepers' Club of Western Pennsylvania. Jim should have been at the meeting at Washington to take part in the discussion of his two favorite subjects, brown-patch and poa annua.

IF you are satisfied with the good work we are doing for the benefit of greenkeepers will you kindly help us to increase our membership.

EVERY time a man stops work he throws that much extra burden on others.

WHILE attending the Washington meeting I had the pleasure of meeting for the first time Captain David L. Rees of the Progress Country Club, Purchase, New York.

JOHN PRESSLER, Sewickley Country Club—President of the Greenkeepers Club of Western Pennsylvania has never missed a Monday meeting in nearly two

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