

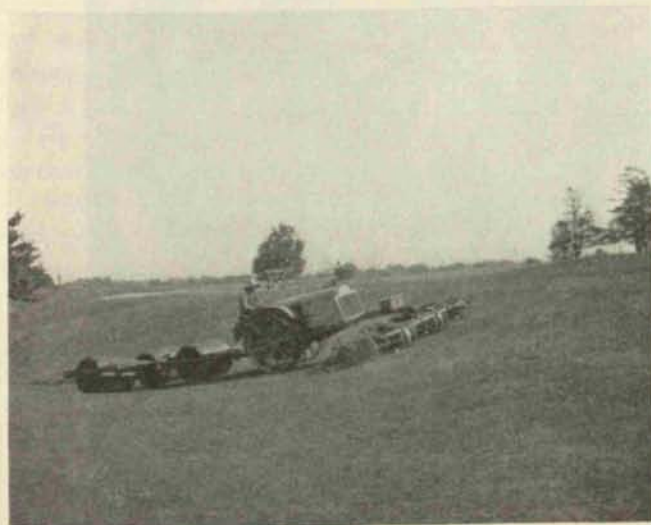
ture of the soil varies so much; generally speaking, a sandy soil will stand much heavier rolling than a clay soil. On a clay soil such as most of our golf courses are composed, a roller weighing from 1500 to 2000 lbs. and eight feet wide is ample weight for the job. I would not recommend anything heavier than those weights, it being much better to use too light a roller than one too heavy.

The number of times the fairways should be rolled can best be governed by conditions. If the greenkeeper feels that he has a satisfactory condition with one rolling, he will be well advised to let well enough alone; if he considers the grass is not sufficiently pressed into the soil, or that the surface of the fairway is still too uneven, he must watch for a second opportunity and perhaps a third; but by all means give them one thoroughly good rolling.

By W. J. SANSOM, Greenkeeper
Toronto Golf Club, Long Branch, Ontario

IN REGARD to rolling of fairways in the spring, I consider that judicious use of the roller is a matter that calls for the exercise of considered judgment. For whilst it is highly essential that fairways should be rolled as much as necessary to maintain a firm root run for the grass and a smooth even surface for play, it is a grave error to overdo it.

A great deal of harm may be done and often is done by using too heavy a roller, especially where the soil is of heavy clay. Rolling when the turf is saturated with moisture will do more harm than good. It is well to bear in mind that a healthy growth and



TORO TRACTOR ON TORONTO COURSE
The rollers were made by Bateman and Wilkenson
of Toronto



What Is a Green Worth?

SUPPOSE you do save a few dollars in treating the green for earthworms, but injure the turf. Have you saved money or wasted it?

More than 500 greenkeepers in all parts of the country have come to the conclusion that the best treatment is also the most economical in the long run. That is why they stick to good old "ELECTRIC." And their greens grow better and better with every passing year.

"ELECTRIC" brings up the worms, checks "brown patch" and fertilizes the turf. Write for free Folder and prices.

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ELECTRIC

WORM ERADICATOR

proper functioning of roots is impossible when air is excluded from the soil.

Sandy or stony soil may be rolled a great deal and still allow access of air simply because stones and gritty particles of sand cannot be bound tightly together, but will maintain a fair degree of openness or porosity in the soil. Where the soil is heavy and retentive of moisture, rolling should be done when the ground is dry and never immediately after heavy rains.

Spring rolling of fairways should be done as early as possible after the frost is out of the ground and the surface water has drained away. A strict watch must be kept upon the conditions of the soil and the advantage taken of every opportunity. The time to roll in the spring depends on the locality, texture of the soil and rainfall. Light sandy soil or loam can be rolled much earlier than a heavy loam or clay.

The rollers I use were made in Toronto and consist of three-sections, each section being four feet in width and weighing one thousand pounds—that is three thousand pounds spread over a width of twelve feet. I have been using these rollers for the past eight years with good results. In having a set for each of my Toro tractors I am able to get my rolling done just as soon as conditions are favorable in the spring.

The Amherst Exhibition

By LLEWELLYN L. DERBY

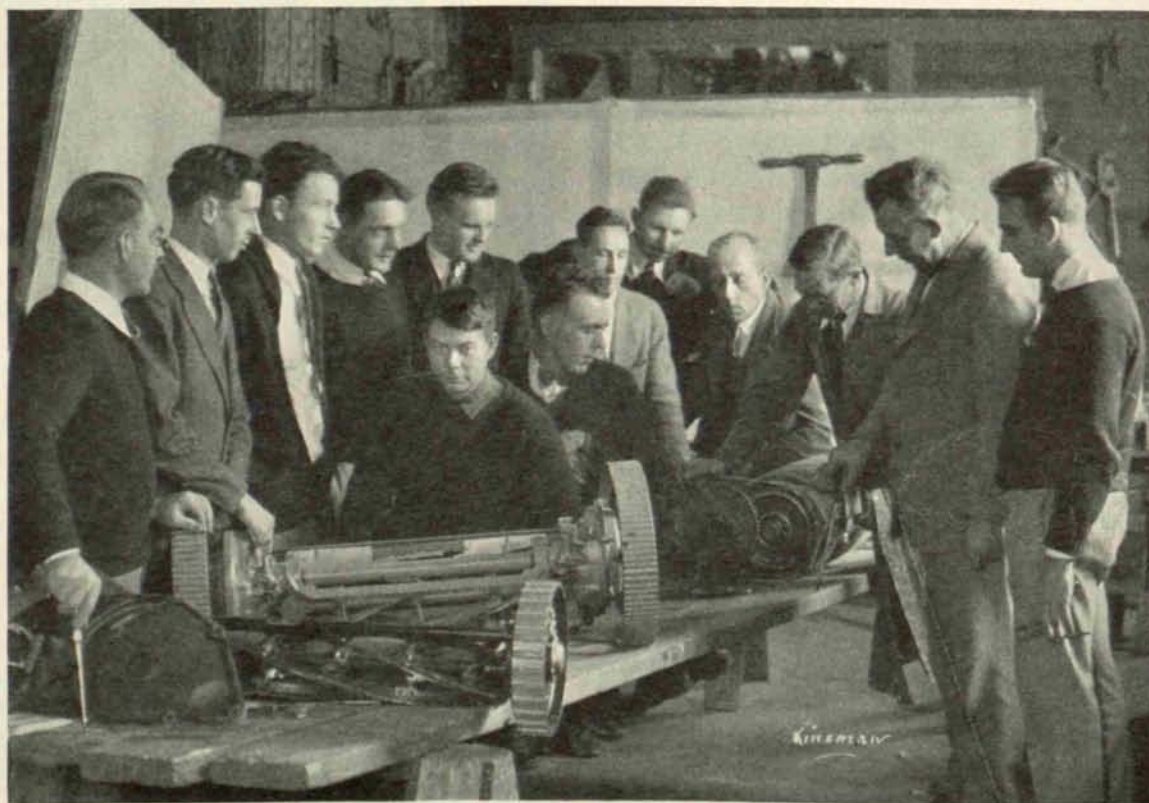
ANOTHER well-planned, complete exhibition and another profitable session for discussing green-keeping problems, was the verdict of visitors to the second annual golf course maintenance exhibition which was held at the Massachusetts Agricultural College at Amherst, March 8 and 9.

Members of Prof. L. S. Dickinson's class for greenkeepers planned and set up the exhibition and made the visitors intimately acquainted with the different phases in golf course maintenance illustrated. It is worthy of mention that the members of this year's class came from the six States of Connecticut, Ohio, Indiana, Illinois, Kentucky and Massachusetts. Their assignments at the exhibition were as follows: Motors—W. A. Mumford, Orchard Ridge Country Club, Fort Wayne, Indiana; Water Systems—Harry Burkhardt, assistant greenkeeper, Westwood Country Club, Rocky River, Ohio, and George Moquin, Bristol Country Club, Bristol, Conn.; Soils and Fertilizers—J. G. McGowan, assistant greenkeeper, Hoosic Woosic Country Club, Canton, Mass.; Managerial Problems and Costs—C. O. Bohne, greenkeeper, Audubon Country Club, Louisville, Kentucky; Grasses and Grass

Seeds—Alexander Lindsay, professional, Tatnuck Country Club, Worcester, Mass.; Drainage—J. A. Lowe, assistant greenkeeper, Ould Newbury Country Club, Byfield, Mass., and Herman Sauer, assistant greenkeeper, Fort Wayne Country Club, Fort Wayne, Indiana; Landscape Arrangement—W. A. Masciocchi and Dennis Crowley, Jr., Wollaston Country Club, Milton, Mass.; Publicity—Willie Ogg, professional, Worcester Country Club, Worcester, Mass.; Registration—Archie Gillis, Essex Country Club, Manchester, Mass.; Equipment—T. R. Stevens, assistant greenkeeper, Belmont Springs Country Club, Waverly, Mass., and R. A. Deckhert, greenkeeper, Southington Country Club, Southington, Conn.

One of the centers of interest was the 18-hole model course, measuring twelve by fourteen feet, designed architecturally by Walter B. Hatch, associate of Donald Ross. From time to time, the class during their ten-week's course built it up, bit by bit, attempting to solve the different greenkeeping problems as they arose.

Coincident with the exhibition, the New England Greenkeepers Association held its annual meeting.



THE 1929 CLASS IN GREENKEEPING AT MASSACHUSETTS AGRICULTURAL COLLEGE
Standing, left to right—Mullens, McGowan, Deckhert, Lowe, Bohne, Crowley, Burkhardt,
Lindsay, Prof. Dickinson, Ogg and Masciocchi. Seated, left to right—Herrick and Stevens



JOHN QUAIL SAYS:

NOW that the third annual convention is over and we have all settled down to get ready for our spring work, several thoughts come to us. Probably the first thought is, will our convention next year be as good as the one we have just passed. The answer is, yes, if we all help to make it a success and will give our time and influence toward boosting the association and its conventions. Tell that neighbor of yours who does not belong what he missed at the convention and what he is missing all the time by not being a member.

Another question that is asked a great many times is, what does the association do with all its money. Out of the ten dollars dues here is how it is spent. Two dollars to the Benevolence Fund, two dollars to the National Greenkeeper for your magazine subscription and the balance for postage and stationery, traveling expense for extension work, printing, payrolls and general office expense. This year we expect to spend considerable in getting new members and extending our association throughout the country.

If every member would get two members, we would have a membership of sixteen hundred. If you can't get two, get one.

The executive committee is working on the new insurance plan. We hope to be able to announce the change shortly. You will receive a letter very soon explaining this plan in detail and asking you to fill out a card. Filling out this card will in no way obligate you. We must have the ages of every greenkeeper to figure the rate. It is estimated that the cost will be ten to twelve dollars for one thousand dollars insurance. This is a very cheap rate and at this cost it would be foolish to pass it up. The committee is investigating the company thoroughly to see that it is reliable and safe.

1929 dues are due April 1, 1929. You will not receive your magazine until the 1929 dues are paid up. So pay up and receive your copies of the magazine for the full year. Statements will be mailed.

Before Seeding Enrich the Soil with HYPER-HUMUS

A soil needs more than fertilizers to prepare it for growing a thick, velvety turf. It especially needs a liberal supply of Hyper-Humus, "The Soil Essential." This natural soil builder increases the moisture-holding power and improves the texture of the soil. It forms a medium in which beneficial bacteria can multiply.

We are prepared to make quick shipments of Hyper-Humus. In bags or in bulk carloads.

Write for instructive literature.

Let us quote you quantity prices.

HYPER-HUMUS CO.

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TRADE MARK REG.
Hyper-Humus
Makes Greener Greens

Several made the remark that the magazine is too small. You can't print anything if you haven't got it to print. How about sending in a story or something to help swell it up a bit. Remember that it is YOUR magazine and we want to see YOU put something in it. Think this over and then make your criticisms. You will see it in a different light.

Send all dues and applications to the SECRETARY, at 426 Highland Ave., West View, Pittsburgh, Penna. NOTIFY CHANGE OF ADDRESS.

Death Benefit dues are payable only on assessment. Do not include them in your dues unless joining the Death Benefit fund or in the case of a new member. In the case of a new member, the initial assessment is two dollars and twenty cents and one dollar and ten cents assessment on the death of a member of this fund.

If you didn't pay 1928 dues, pay 1929 and come along with us this year.

*Address all communications relating to
Association membership, dues, etc., to--*

JOHN QUAIL, Secretary
426 Highland Avenue
West View, Pittsburgh, Penna.

*Address all communications relating to the
Golf Show at Louisville, February 5-8, 1930 to--*

FRED A. BURKHARDT
Chairman, Show Committee
405 Caxton Bldg., Cleveland, Ohio

BENT GRASS SEED

More and more of the golf clubs each year in the Northern and Eastern States are finding it greatly to their advantage to purchase native grown, winter hardy Bent seed DIRECT from the Bent Grass FARMS of

WRITE FOR PAMPHLET

A. N. PECKHAM
KINGSTON, RHODE ISLAND

1778 Miles a Year

"Scotty" McLaren in *Toro News* figures out how far a golf mower travels during the season.

THERE are no speedometers on tractors, so there is no way of telling just how many miles a tractor covers every year on a golf course. Many manufacturers of farm tractors estimate the average farm tractor has a normal working life of 600 days. It should be generally conceded that a golf course tractor does considerably more work than the average farm tractor, and although there are no definite ways of figuring the exact service from the point of mileage, it is comparatively easy to figure out how far a tractor mower travels.

So take out your pencils and see how accurate these figures are as compared to your own course.

FAIRWAY MOWERS

Average length 18-hole course 6500 yards.
Less 50 yards rough per hole 900 yards.
Total yardage cut 5600 yards.
Width of fairways, 50 yards.
Width of cut, 4 yards.
Number of rounds, 13.
Total mileage necessary to cut, 72,800 yards.
Cutting season, 21½ weeks.
2 cuts per week, 43 cuts—3,130,400 yards.
Cutting mileage per season—1778.7 miles.

It is conservative then, to estimate that for handling the mowing job, a tractor mowing outfit travels 1778 miles per year, or equivalent to the distance between New York City and Denver, Colorado.

This estimate does not take into consideration the extra work that a golf course tractor does when not used as a mowing outfit and it can be conservatively

stated that this would amount to at least five hundred miles more per year.

It is easy to ascertain how far a putting green mower travels, and if you are not all tired out with this high-powered arithmetic, take your pencil in hand again and see how close these figures come to your own course.

PUTTING GREEN MOWERS

1 travel foot, 17½ in. cut, 1½ in. overlap—1⅓ in. sq. cutting feet.
1 average green, 6000 sq. ft.—4500 travel feet.
18 greens—81,000 travel feet.
180 days—14,580,000 travel feet or 2761.4 mileage per season.
If 3 mowers are used—920.3 miles each.
If 4 mowers are used—690.2 miles each.

The Greenkeeper's Club of Western Pennsylvania

By JOHN QUAILL, Secy.

THE Greenkeeper's Club of Western Pennsylvania held their monthly meeting in the Fort Pitt Hotel on Monday, March 11, 1929.

President John Pressler missed his first meeting in two years owing to sickness. John has been a very faithful member and officer of the club and we all regret that he was unable to attend. Vice president John McNamara took charge of the meeting.

This was the anniversary meeting of the club. Three years ago on March 17, 1926 the Greenkeepers Club was founded. John Pressler has been President since its conception and John McNamara has been Vice president. The club has not missed a meeting since the organization.



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250 YDS
REPLACE TURF

One of many styles
Cast Aluminum
Signs



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The high quality of design and manufacture of "Standard" golf course equipment makes these accessories suitable for the finest of golf courses.

The use of "Standard" equipment eliminates complaint, saves trouble and expense, speeds up the play and adds much to the enjoyment of the game.

The substantial and permanent construction of "Standard" accessories make them economical on courses of even the smallest membership.

THE "STANDARD" LINE
Indestructible Steel Flag Poles, Cast One Piece Hole Rims, Handy Bag Racks, Everbright Tee Markers, Permanent Aluminum Signs for all purposes.
Write for Special Circular.

STANDARD MANUFACTURING CO.
P. O. Box 68 Cedar Falls, Ia.



Cast Aluminum
One Piece Hole
Rim



"FRIEND" GOLF COURSE SPRAYERS

Large - medium-small. Double compartment tanks. For fairways, putting greens, trees and shrubs. A fast, effective method of eradicating Golf Course pests, and for the application of liquid fertilizers.

One of the smaller sprayers at work, driving a fine spray into sod of putting green with special Golf Gun.

"FRIEND" MANUFACTURING CO. :: Gasport, N. Y.

The evening was spent in discussion of upkeep, seeding, fertilizing and equipment. The recent N. A. G. A. Convention was reviewed and the various papers read at the conferences were discussed at length. It was voted that this was one of the most instructive meetings yet held.

Mid-West Greenkeepers

By PETER STEWART, Secretary

The Mid-West Greenkeepers Association met March 6 at the Great Northern Hotel, Chicago, with the new president, Alex Binnie presiding.

The meeting was featured by papers read by Matt Bezek, first vice-president of the association and greenkeeper at the Beverly Country Club, Chicago. Matt gave a detailed statement of the cost of their sprinkler system as follows:

COST—LABOR AND MATERIAL—SPRINKLING SYSTEM

451 ft. 6 in.—1½ in. pipe.	
7023 ft. 2 in.—2 in. pipe.	
1618 ft. 10 in.—2½ in. pipe.	
1334 ft. 9 in.—3 in. pipe.	
10428 ft. 2 in. total pipe @ cost of	\$2,528
Fittings, Misc.	400.44
Labor & Material (Shutoff boxes)	160.85

May we quote you on your spring requirements

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CHEWINGS FESCUE N. Z.

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BLUE GRASS — RED TOP — WHITE CLOVER

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THOMAS PUMP COMPANY

LABOR, Digging, laying pipe and back-

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Total cost . . . \$4,395.15

HOSE & SPRINKLERS

20 Sprinklers . . . 591.10

3350 ft. 1 in. Hose—500 ft. ¾ in. hose . . . 641.61

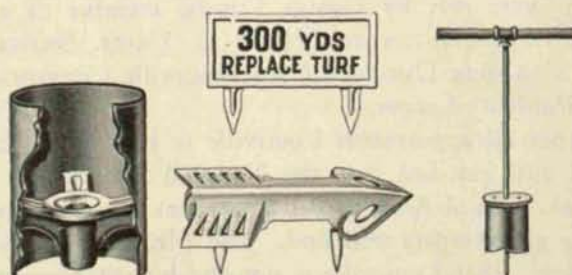
\$1,232.70

\$5,627.85

John MacGregor had a very interesting paper showing how determination will overcome difficulties and especially referred to his experiences at the Chicago Golf Club last year when he was hit by brown patch only a few days before the Walker Cup Matches. John had his troubles due to heavy rains and scalding sun, but those who saw his golf course at the time of the Walker Cup Matches will testify that as a greenkeeper he is second to none in the United States.

Concluding the meeting Arthur Reitsch, superintendent of the park district of Rockford gave an interesting talk which was greatly appreciated. Mr. Reitsch is also superintendent of the Rockford Park Country Club.

A full line of Course Equipment

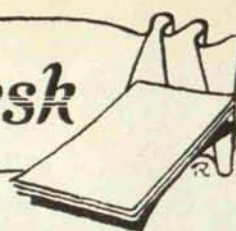


Write for Catalog and Prices

FREIDAG MFG. CO., Freeport, Ill.



Around the Office Desk



Tournament Schedule

April

- 1-5 Women's North and South Amateur, Pinehurst C. C.
- 8-13 North and South Amateur, Pinehurst C. C.
- 19-24 Mid-April Tournament, Pinehurst, C. C.
- 26-27 Ryder Cup Matches, Moortown Course, England.

May

- 6 British Open Muirfield.
- 9-10 Ladies' International Matches, St. Andrews.
- 10-12 Monterey Peninsula C. C. Invitation, Del Monte.
- 13 British Ladies' Championship, St. Andrews.
- 27 British Amateur, Royal St. George's, Sandwich.

June

- 5-8 Westchester Co. Amateur, Green Meadow C. C., Harrison.
- 10 Section Qualifying, National Open, St. Albans G. C., L. I.
- 17 Irish Amateur, Portmarnock.
- 27-29 National Open, Winged Foot Club, Mamaroneck, N. Y.

July

- 8-13 Western Amateur, Mission Hills C. C., Kansas City, Mo.
- 9-12 California Junior, Del Monte.
- 12-15 Metropolitan Amateur, Montclair G. C., N. Y.
- 18-20 Metropolitan Open, Lido C. C., Long Beach, L. I.
- 24-26 Metropolitan Junior, Morris Co. G. C., Convent Station, N. J.
- 26-28 Gold Mashie, Ocean Links, Newport, R. I.

August

- 1-4 N. Y. State Amateur, Mohawk G. C., Schenectady.
- 5-7 L. I. Open, Salisbury Links, Salisbury Plains.
- 8-10 N. J. Open, Elmwood G. C., Paterson, N. J.
- 26-31 Women's Western, Mayfield C. C., Cleveland, O.

September

- 2-7 National Amateur, Pebble Beach, Cal.
- 5-6 L. I. Senior, Wheatley Hills G. C., E. Williston.
- 9 Irish Open Amateur, Portrush.
- 10 Westchester Co. Senior, Scarsdale G. C., Hartsdale.
- 17-18 Metropolitan Seniors, Hudson River C. C., Yonkers.
- 23-25 Westchester Co. Open, Gedney Farm G. C.
- 24-25 French Open, Forqueux, France.
- 30 Women's National, Oakland Hills, Birmingham, Mich.

Louisville, February 4-8, 1930

President John Morley of the National Association and Fred A. Burkhardt, Chairman of the Show Committee, recently took a trip to Louisville in the interests of the 1930 National Convention and Golf Show which will be held there, February 4-8 next year. They were met by George Davies, member of the executive committee and Harry G. Evans, Secretary and Managing Director of the Louisville Convention and Publicity League.

From all appearances Louisville is very much flattered and gratified that the National Association of Greenkeepers of America will visit them next February. "The greenkeepers will find," said Mr. Evans to Mr. Morley, "that Louisville is not the biggest town yet it is large enough to afford metropolitan service and amusements while still within easy reach of the open country. It is not the 'richest' town, but there are

few of its inhabitants who know poverty. In one respect it really stands alone—it is the "friendliest" town, and it is the happy privilege of all its inhabitants to send visitors home knowing that "Kentucky hospitality" is not merely a phrase, but is an established fact.

"Louisville has much to offer any national organization as a convention city," Mr. Evans continued. "Being located within eighty-two miles of the nation's center of population it can easily make good the boast that it is 'twenty-four hours from anywhere.' The city is served by nine trunk-line railroads; it is in direct connection with the electric systems to the North; perfect highways run through its gate-ways from every point of the compass.

"Just a few blocks from any of the hotels is the Jefferson County Armory, which is used by conventions for exhibition purposes. This is one of the very best exhibition halls in the United States. The great building has a floor space of 196 by 270 feet, which gives a square foot measurement of 53,000, all without obstruction of any kind. There is an unobstructed balcony space of 18,000 additional square feet. Electric current, either type, is available in any quantity and at a low rate. Gas lines may be run to any part of the building. There is water supply and drainage at every twenty feet over the main floor. This building is complete for display purposes."

Treating My Greens

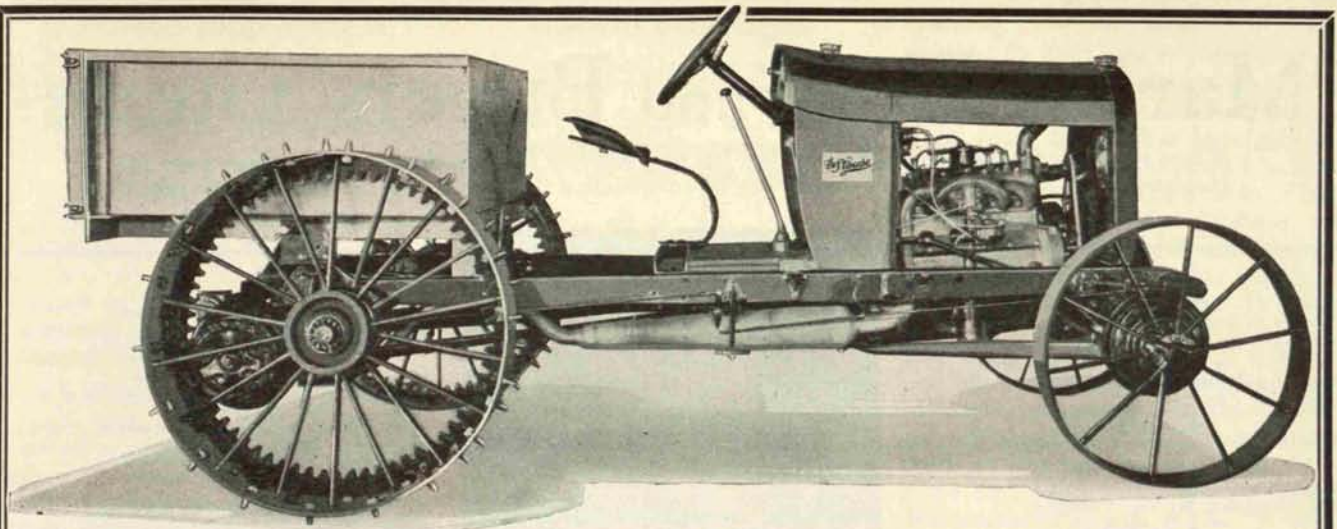
By JOHN MORLEY

"Last week I gave all our putting greens 50 pounds of hydrated lime, because this kind does not linger in the soil as long as agricultural lime. By the first of May when it is time to feed the soil nitrogen there will be very little of the hydrated lime left to disturb any fertilizer mostly composed of nitrogen.

"On two of my putting greens I have put on Gypsum—this is sulphate of lime, and it does not sweeten the soil like other lime, nor does it force clover, but does bring on a soil reaction.

"Last season I did not use any pulverized charcoal.

HUBBARD NURSERIES
CREeping BENT STOLONS
Washington and Metropolitan Strains
Pure, free of weeds, and of one season's growth
DR. AMOS F. HUBBARD, N. Kingsville, Ohio



MODEL A STAUDE GENERAL UTILITY GOLF COURSE TRACTOR

PRICE ONLY **\$695.00** F. O. B.
ST. PAUL

(Complete as shown in cut including New Model "A" Ford Chassis with cubic yard all-steel dump body)

Has No Equal in Speed, Power, Economy and Service. Anybody can operate it. Any Ford Dealer can Service it. Tractor sold under Money Back Guarantee. Write Today for full particulars.

E. G. STAUDE MAK-A-TRACTOR CO.

2630 University Ave.

St. Paul, Minn.

About the latter part of March I intend to give each putting green 200 pounds and to each green 50 pounds of steamed bone meal. Then when I topdress in May give each green 100 pounds of tobacco dust, eliminating all other fertilizers during the season, except sulphate of ammonia. If this with proper watering does not check disease then I must admit I don't know what will."

One Hundred Million A Year

(Continued from Page 9)

zation for their director of lectures to give. In choosing the director of lectures, local organizations should be careful to pick the very best man possible. It is not necessary that he be an inspirational speaker or a high-pressure salesman. It is essential that he be, in every sense of the word a real educator. The word education is derived from two words "duco," to draw, and "e," out, a process of drawing out of the individual what is in him—in other words, stimulate his thinking and reasoning powers.

The only way I can see for the greenkeeper to hold his own in the future, is by joining his local organization, and the National and carry out a program as has been sketched,

with the motto "Unity is strength" floating on our banner.

Bent Grasses in Canada

(Continued from Page 17)

the same height as Rhode Island bent which, to some extent, it also resembles habitually. It produces, however, a much smoother turf and is no doubt the finest of all the bent grasses for lawns and greens. "The Seeds Act, 1923," gives the name *A. canina*. It is not listed in "Standardized Plant Names."

Carpet bent is a bent grass occurring in so-called South German Mixed bent. It produces

"Creeping runners 3 or 5 feet long the first season, making circular mats 5 to 7 feet in diameter, and with relatively few flowering culms. It is by this stoloniferous character that carpet bent is most strikingly distinguished from Rhode Island bent, but the ligules are long and the flowering panicles rather dense." (Piper, 27, pp. 11-12).

FOR SALE—SECONDHAND MOWERS

The Shaker Heights C. C. offers for immediate sale the following secondhand mowers which we guarantee to be in good condition and ready for use.

2 Pennsylvania Golf Wonders—19-inch, @ \$20.00 each

4 Pennsylvania Juniors—21-inch, @ 15.00 each

Prices—F. O. B. Cleveland, O.

Write R. T. Zink, Greenkeeper, 3536 Tolland Rd., Shaker Heights Station, Cleveland, Ohio, or call at the club.

Market Place and Buyers' Guide

Where reputable manufacturers and dealers list and describe their products. Greenkeepers are requested to write the Market Place for any special information they desire about supplies or equipment

Airport Drainage
Armco Culvert Mfrs. Association.
Wendell P. Miller and Associates

Arsenate of Lead
Sherwin-Williams Company
Grasselli Chemical Co.

Ball Locators
Worthington Mower Company

Ball Washers
J. Oliver Johnson, Inc.
Worthington Mower Company

Bent Stolons
Hubbard Nurseries
O. M. Scott & Sons Co.
Stump & Walter Co.
Hiram F. Godwin

Bird Houses
Michigan Cedarcraft Co.

Bridge Floors
Armco Culvert Mfrs. Association

Brown Patch Control
Merck and Company
Mallinckrodt Chemical Works
Arthur Peterson, Inc.
Golf Course Supply Co.
Stump & Walter Co.
J. Oliver Johnson, Inc.
American Seed Co.
Reade Mfg. Co.

Catchbasins, Corrugated Iron
Armco Culvert Mfrs. Association

Cocoas Creeping Bent Seed
Lyman Carrier, Inc.
Stump & Walter Co.

Compost Distributors
Toro Mfg. Company

Compost Mixers
Toro Mfg. Company

Drainage Engineers
Wendell P. Miller and Associates

Drainage Gates
Armco Culvert Mfrs. Association

Dump Carts
Toro Mfg. Company
Worthington Mower Company
Ideal Power Lawn Mower

Fairway Rollers
Toro Mfg. Company

Fairway Mowers
Pennsylvania Lawn Mower Works
Toro Mfg. Company
E. G. Staude Mak-A-Tractor Co.
Worthington Mower Company
Ideal Power Lawn Mower
F. & N. Lawn Mower Co.

Fencing
Michigan Cedarcraft Co.

Fertilizers
Milwaukee Sewerage Commission
Golf Course Supply Company
J. Oliver Johnson, Inc.
Lyman Carrier, Inc.
Synthetic Nitrogen Products Corp.
Grasselli Chemical Co.
Arthur D. Peterson, Inc.

Fertilizer Spreaders
O. E. Thompson and Sons

Flexible Steel Mats
J. Oliver Johnson, Inc.
Golf Course Supply Co.

Fungicides
Sherwin-Williams Company
Grasselli Chemical Co.

Golf Equipment
Michigan Cedarcraft Co.
Freitag Mfg. Co.
Stump & Walter Company
Arthur D. Peterson, Inc.

Golf Flags
Stump & Walter Company
Standard Mfg. Co.
Arthur D. Peterson, Inc.

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Hole Cup
C. H. Michael

Horse Drawn Mowers
Pennsylvania Lawn Mower Works
Roseman Tractor Mower Co.
Worthington Mower Company

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Toro Manufacturing Company
Ideal Power Lawn Mower
F. & N. Lawn Mower Co.
Worthington Mower Company

Mowing Equipment
E. G. Staude Mak-A-Tractor Co.
Toro Mfg. Company
Pennsylvania Lawn Mower Works
Worthington Mower Company
Jacobsen Mfg. Co.
Roseman Tractor Mower Co.
American Seed Co.
Ideal Power Lawn Mower
F. & N. Lawn Mower Co.
Arthur D. Peterson, Inc.

Mower Sharpeners
Fate-Root-Heath Company
Toro Manufacturing Company

Power Mowers
Toro Mfg. Company
Golf Course Supply Co.
Worthington Mower Company
Jacobsen Mfg. Co.
Roseman Tractor Mower Co.
Ideal Power Lawn Mower

Putting Green Mowers
Toro Mfg. Company
Pennsylvania Lawn Mower Works
Worthington Mower Company
Jacobsen Mfg. Co.
Roseman Tractor Mower Co.
F. & N. Lawn Mower Co.

Rakes
Pennsylvania Lawn Mower Works

Rollers
Stump & Walter Company
Worthington Mower Company
Toro Mfg. Company

Rough Mowers
Toro Manufacturing Company
Jacobsen Mfg. Co.
Roseman Tractor Mower Co.
Worthington Mower Company

Seed
Lyman Carrier, Inc.
O. M. Scott & Sons
Golf Course Supply Company
J. Oliver Johnson, Inc.
American Seed Co.
J. M. McCullough's Sons Co.
Arthur D. Peterson, Inc.
A. N. Peckham
I. L. Radwaner Seed Co.
Stump & Walter Co.

Siphons, Corrugated Iron
Armco Culvert Mfrs. Association

Sod Cutters
J. Oliver Johnson, Inc.

Sprayers
Friend Mfg. Company

Sprinklers
L. R. Nelson Mfg. Co.
Buckner Mfg. Co.

Sprinkling Carts
Reade Mfg. Company

Stolons
O. M. Scott and Sons
Illinois Grass Co.
Hiram F. Godwin

Storm Sewers, Corrugated Iron
Armco Culvert Mfrs. Association

Street Culverts, Part Circle
Armco Culvert Mfrs. Association

Tee Markers
Worthington Mower Company
Standard Mfg. Co.

Tee Mowers
Toro Mfg. Company
Jacobsen Mfg. Co.

Tractors
E. G. Staude Mak-A-Tractor Co.
Toro Mfg. Company
Worthington Mower Company
Roseman Tractor Mower Co.
Ideal Power Lawn Mower

Water Systems
W. A. Buckner Mfg. Company

Well Casings, Corrugated Iron
Armco Culvert Mfrs. Association

Worm Eradicators
Reade Mfg. Company.

Classified Employment

WANTED—Position as greenkeeper. Have had exceptional experience in maintenance and construction. All references, Box 175, this magazine.

A New Hole Cup

Charles H. Michael, greenkeeper of the Park Club of Buffalo and member of the N. A. G. A. announces in this issue a new solid aluminum hole cup with unusual patented features.

It is called the "Klean-Ball Cup" because the center support for the flagstaff is raised above the cup bottom and carries a flange which prevents the ball from lodging anywhere near the bottom of the cup. This means that the ball cannot come in contact with any form of dirt.

The upper inside edge is beveled towards the center which prevents the ball from being deflected when it hits the back of the cup. In other words this beveled edge throws the ball downward into the cup instead of upward onto the green. Four holes are drilled in the bottom of the cup for drainage, and the bottom of the flagstaff socket is closed at the bottom so that the staff will always stand upright on a secure foundation.

The construction of the cup is very high-grade and the price extremely reasonable. Mr. Michael will be glad to send complete information upon request.

Charles M. Ingersoll Co., Opens Office

Charles M. Ingersoll Co., 1310 Linda St., Rocky River, O., dealers in golf course supplies and equipment have opened a branch office at 245 Main St., Painesville, O., and the 'phone number is Painesville 329.

Godwin Bent Grass

A newcomer in the advertising pages of our magazine this month is Hiram F. Godwin an experienced greenkeeper and member of the N. A. G. A. He has entered the



HIRAM F. GODWIN

national field in the distribution of bent stolons for golf courses, lawns, athletic fields, etc.

Mr. Godwin began growing stolons eight years ago and planting a few greens of several courses. One particular strain which he was informed by those at Washington at the time was "Washington," made a particularly fine turf without nap and was very resistant to fungus

diseases. He has used every precaution to keep this strain pure.

Every year there has been an increasing demand for this particular grass from those who have played over turf where it was established. It has naturally been the source of no little pleasure to Mr. Godwin to have been able to grow and supply a product which invariably has produced a pleased customer. It takes about three years to prove out in turf what a particular strain will do and he is constantly experimenting, in hopes of finding something better; although to date, out of hundreds of strains tried and discarded, none combined all of the desirable characteristics as well as the "Washington."

Mr. Godwin's address is 18261 Beaverland Drive, Detroit, Mich., and he will be glad to hear from his brother-greenkeepers and Green committee chairmen who are interested in bent grass for either new greens or to establish nurseries.

Ideal Power Mowers

Power mowers for lawns and golf courses are featured in a new catalog of the Ideal Power Lawn Mower, 444 Kalamazoo Street, Lansing, Mich. This company has a tremendous trade in parks, cemeteries and college grounds because it has a line of several sizes and prices to suit any purse, also its mowers are sturdy and stand up under hard service.

In addition the catalog features the well known Bulldog Cutting Units, hand lawn mowers and dump carts and contains some very handsome illustrations of private estates, golf courses and athletic fields where the Ideal equipment is in operation.

A copy will be sent free of charge to our readers who write for it.

Know Before You Sow

Seed Selection We will select your Seed.

Certification We will certify the Purity and Germination.

Checking We will check your actual deliveries before you sow.

Write for particulars

**International
Seed Testing Laboratories, Inc.**

E. E. Pattison, Director J. M. Stanton, Asst. Director

11 Park Place

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Member
Association of Commercial Seed Analysts of North America

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**BENT
GRASS
SEED**

For information write

**THE
J. M. McCULLOUGH'S SONS Co.**

Dept. G.

316 Walnut Street, Cincinnati, Ohio

*Recleaners and Specialists in Grass Seeds for 91 years.
Wholesale Distributors of Prince Edward Island Bent in the U. S.*

NEW CATALOGS

Golf Course Supply Co.



THE personal-ized prompt service that has played so important a part in the growth of the Golf Course Supply Co., 3049-3051 Carnegie Avenue, Cleveland, shows a widening

scope in the new items listed in this Company's fine 1929 catalog. This new book presents a complete array of golf course supplies and equipment, headed by the famous Toro line, and offers the convenient opportunity not alone of broad selection but of quick delivery service.

A feature of this new catalog is the fact that prices are given and there is no guessing of what things cost. One very interesting and novel item is the Dunham Turf-Air-Ator. This is a triplex set of spike rollers designed for aerating turf on fairways, polo and athletic fields, in fact anywhere good turf is desired. It relieves the baked, hide-bound condition so frequently found during the summer months and also prepares the turf for fertilizing or re-seeding.

Numerous requests for this new book will undoubtedly be made, as a copy of it may be had without cost, and so to insure your request receiving proper attention, the company suggests that all requests be made to Dept. B at the above address.

Peerless Mower Sharpener

A handsome two-color catalog has just been issued by the Fate-Root-Heath Co., 925 Bell St., Plymouth, O., describing their well-known Peerless Lawn Mower Sharpeners which are designed to meet the demands for a machine to grind horse and power mowers as well as hand mowers.

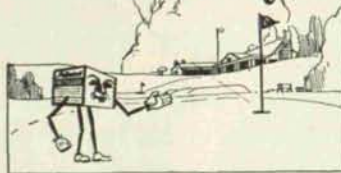
This outfit is practically indispensable on golf courses where heavy mowing has to be done. It is four feet wide between the frames, and will grind spiral reel knives of 40-inch horse or power mowers, by removing them from the mower, and will also grind 30-inch pony mowers without taking them apart. The power is furnished by a $\frac{1}{3}$ H. P. General Electric Mower,

110-220 Volts A. C. turning at 1725 R. P. M.

The increasing use of the Peerless Mower Sharpener testifies to its popularity and the growing need for it. If fine, healthy turf is to be produced the mowing unit must be sharp and make a clean cut. Students of turf culture agree that this is a necessity.

Greenkeepers and ground superintendents are invited to write for this catalog which will be sent free upon request.

Cheapest Remedy for Brown Patch



Save 80% of Your Costs

Calo-Clor or Calogreen

Only 3 oz. per 1000 sq. feet of turf are required as compared to 1 pound for other remedies selling at about the same price per pound.

Other Advantages

1. More prolonged protection against renewed attacks.
2. Fewer applications are required.
3. Easier and quicker to apply.
4. Do not burn.

Write for Booklet

describing U. S. Dept. of Agriculture's tests. Also gives full directions for using.

Mallinckrodt Chemical Works

St. Louis, Montreal, Philadelphia, New York

Milorganite

"Better turf for golf courses" is the slogan of the Sewerage Commission, 508 Market St., Milwaukee, Wis., in its new catalog describing its product, Milorganite.

The company claims that Milorganite induces vigorous growth of established turf, produces a dark green foliage and aids in quickly establishing new turf seedings. It provides plant food over a long period.

Milorganite is a manufactured product, produced by the new Activated Sludge method of sewage treatment. This is the only process capable of converting the plant food materials contained in sewage into a valuable fertilizer. Milorganite is a dark brown material of uniform composition. The main fertilizer constituent is nitrogen, and it also contains some available phosphoric acid. It has the following average composition:

Nitrogen (equivalent to ammonia) $6\frac{1}{2}$ per cent.

Phosphoric Acid $2\frac{1}{2}$ per cent.

This interesting catalog contains illustrations printed in two colors showing the action of this fertilizer on various golf courses, athletic fields, lawns, etc. in all parts of the country. It will be sent free upon request.

Toro Equipment

There is probably no better known name in golf course maintenance work than Toro. In the new catalog just issued by the Toro Mfg. Co., 3042-3160 Snelling Ave. Minneapolis, Minn., it is stated that 2600 golf clubs are using Toro machines.

This large business has grown through painstaking care in manufacture, improvement in design, and well distributed service. In addition to golf courses the Toro products are equally popular with owners of private estates, and superintendents of grounds of schools and colleges, parks and cemeteries.

Besides tractors, gang mowers, power and hand mowers the Toro line includes rollers, dump wagons, discs, compost machines, mower sharpeners, fairway sprinklers and a miscellaneous line of equipment in general use. These are all handsomely illustrated and described in the Toro catalog which will be gladly sent to readers of the NATIONAL GREENKEEPER who write for it.