# New Courses from Old Pastures

By JAMES A. SMITH, London, Ohio

Editor's Note: Mr. Smith was for a number of years prior to the World War devoted to research work on American tobaccos and tobacco soils of the United States and Cuba, also on the cotton soils of Texas and other Southern states, including fundamental feedings affecting Horticulture in this latitude. After the United States entered war, he was drafted and appointed by Governor Cox of the State of Ohio as Chief of the Bureau of Fertilizers, to supervise the fertilization to be used in intensive development of food stuffs during this period. Since leaving this department, his entire time has been devoted to the study of soils to be used for golf purposes.

To the man concerned in golf course construction and maintenance, it would be interesting to know how many of our golf organizations have had an uphill fight in acquiring first class turf. This is because of the fact that topography and the price at which land might be acquired have had more to do with the purchase of golf land than its natural ability to economically produce even fair, golfing turf.

It is doubtful if there is a golf club in the United States which does not know of at least one other club which is, at present, suffering from such near-sighted selection. If we were to select our professional golfer from the rural ranks because of his natural physical beauty and ruggedness and attempt, within a few years, to make him a fine example of a golfing mechanism, the cases would be almost parallel.

A farm which is physically fit is but rarely found on the market at an interesting price. If the property has been an intensive producer of any of the farm crops it has been because of scientific handling for many years and with heavy expenditure for drainage and close attention to crop rotation. Each acre, because of the manure applied and the dead and decaying vegetation turned under, has become as "mellow" and friable as grandfather's garden.

For golf purposes we select rather, the more rolling lands from the slopes of which for ages past, any organic matter which might have been produced through the decay of vegetation, has been washed into the valleys below leaving behind a soil but little different in physical condition from its original form of finely powdered rock. We hardly realize we are trying to grow on such land, probably the most intensive of crops, that of splendid fairways and putting greens. Every grain of this soil must be highly operative. We are satisfied only with a mat of turf so thick that it is next to impossible to separate the growing shoots and find the earth below.

#### Golf Turf Gets Hard Wear

The turf is, in itself, a tremendous feeder and user of moisture; each green of ordinary size consuming daily an amount of feeding many times more than that on the same area devoted to the average farm crop, evaporating as high as a ton of water a day, and, because of its congested growth, liable to every affliction that turf is heir to. Every square inch is in high speed at all

times. There is no sign "Keep off the grass" as would be given its weaker sister, the park or lawn.

The most cursory examination of a known fertile soil shows that it is at all times "mellow." Its soil particles have been separated by minute particles of organic matter which permanently keeps them apart. If worked by a plow or shovel, on the application of this pressure it immediately fractures into many very small units because of these separating particles. On the contrary, in a soil deficient in organic matter, the soil particles cling together and we have upon turning, clods, which are broken up with great difficulty. Should a soil, carrying a requisite amount of organic matter contract on drying, it will fracture evenly and at once become porous, due to the shrinkage in the organic matter. These fractures are fine enough to create a dust mulch giving protection against too rapid evaporation of soil moisture at the surface.

#### Organic Matter Holds Moisture

Rain or sprinkling to replace lost moisture, will at once penetrate this soil, and, because of the ability of organic matter to retain moisture, it is held against the day when surface evaporation shall call for it through capillarity to replace the moisture lost either through direct evaporation from the soil or from plant life upon The soil deficient in organic matter and subject to such drying conditions has, because of its tenacious character, probably fractured into several large cracks which remain open and permit a rapid loss of moisture. This loss is, unfortunately, largely from the soil lying below the rootage of the plant life. Such a soil has not been productive as farm land and frequently becomes the property on which we lavishly spend our time and money in an effort to produce that most wonderful crop, good golfing turf.

#### Bacteria Creates Soluble Turf Food

Organic matter then, must provide a friable, porous soil easily admitting large quantities of moisture and considerable air which naturally follows the former below the surface. This, however, is but a part of its value. All feedings, before they can be taken up by the rootage must be so prepared by the digestive soil bacteria that they become soluble in the soil moisture and pass into the plant as the rootage takes moisture. These soil bacteria can best live, multiply and operate as they

should, in a medium such as well decayed vegetable matter provides. It matters but little how much food we have made available for the human body if we have not the power of digestion and the assimilation of this food. So with our soils. It is very infrequent for a soil to be found which is actually deficient in any of the three primary feedings known to be necessary for plant life, unless such a soil is deficient in organic matter; rather, the most common finding is a lack of ability on the part of the soil to use the abundant feedings which are at hand, because of failure of digestive power through a proper soil bacteria. Due to want of organic matter, an increase in the number of digestive organisms is not encouraged, insufficient feedings are provided and a partial starvation of plant life results. Very frequently, rather than additional plant food, cathartics are indicated were it possible to administer such to the soil.

#### Compost Valuable Only When Broken Down

Organic matter suitable for the golf course may mean any decayed vegetable matter, provided the decay is well advanced. Leaves, wood, manure and even weeds are satisfactory for construction and maintenance, if so handled as to allow them to break down after several years of exposure to moisture and plenty of air, so that their eventual fineness will not exceed one-tenth of an inch in diameter. Unless they are in an advanced stage of decay they will not have the power of increasing or decreasing their volume, as moisture is added or removed, nor will they have the fineness to create the proper mechanical separation of soil particles. Any decayed vegetation, if allowed to gain this fineness would have approximately the amount of feeding elements of a well rotted horse manure. In the compost pile we merely create well decomposed organic matter charged with the nitrifying organisms of the manure; the greater value lying in the amount of and ultimate fineness of the organic matter which it may contain.

A fertile, porous bit of land must of necessity have approximately 40,000 pounds of organic matter in its top twelve inches of soil per acre; this amount may be doubled to advantage in our fairways. In greens construction, because of the character of vegetation to be produced, the amount of organic matter used must be materially increased. This amount would necessarily vary because of a natural organic content in the soil used; but whatever organic additions are made it should be, if possible, at the time of original construction by complete incorporation with the top twelve inches of the soil. The quantity must vary from ten to twenty-five tons per green. Well decomposed organic matter has the power of absorbing 85 per cent of its weight in water and of increasing its volume more than 100 per cent when wet. When added to the green, at the time of construction, it creates a reservoir of water in the green which only protracted drouth can exhaust. Compost containing manure and sod in varying quantities, if well worked in, should contain organic matter in sufficient quantity to make a splendid top dressing. It would, however, hardly contain sufficient organic matter for greens construction unless used as taken from the compost pile and without further admixture of earth. A commercial humus is the common source of organic matter; its value depends upon its fineness, due to advanced decay, and to its organic purity. A commercial humus taken from a wet, undrained, uncultivated land would be but partly decayed, possibly throwing off toxic conditions and never of the fineness to provide proper porosity and friability, i.e., "mellowness," of the soil.

#### Too Much Value Placed Upon Sand

Sand is frequently used to create porous conditions in golf soils if proper organic matter is not available. Aside from its use as a late fall dressing it is questionable as to whether or not it takes the place of organic matter in the preparation of beds either for seeding or for planting by the vegetative method. If an equal mixture of sand and very fine organic matter be placed upon a hard clay soil as a top dressing, it will be found within a year that the organic matter has penetrated the soil to a greater depth than the sand, due to its partial suspension in the water applied to the green, and the downward pull which gravity exerts upon this fine, thoroughly wet, cellular matter. Sand cannot have the power of absorbing and retaining moisture nor of contracting as moisture is removed. Porosity, from its use is limited, irregular and uncertain; and is due only to the contraction of particles of inorganic earth which the grains of sand may separate. It does not make a desirable home or feeding for our very necessary soil bacteria.

#### Dark Color Soil Not Always Fertile

Too frequently improper selection of easily available soils for top dressings is made. As a rule a dark, rich looking earth, taken from a low lying part of the golf property, is considered good enough for this purpose. Before such a selection is made assure yourself of the organic content of this soil. A fair test may be made by thoroughly drying a sample and noting carefully its "mellowness," or the ease with which it may crumble by pressure in the hand. It must be observed that if there exists "mellowness" due to an excess of sand, there still may be a deficiency in organic matter.

In our virgin soils, Nature, aside from latent, fixed inorganic feedings, insisted that plant life should be self-sustaining through the life cycle, death and decay of animal and vegetable matter. The tropics, where rapid decay, due to climatic conditions, offer the greatest possible amounts of organic matter for future fertility, give us a subsequent development of vegetation. In our latitude, the higher lying slopes, hills and clay lands, before

(Continued on page 42)

# Around the Office Desk

NE newspaper writer refers to the greenkeepers as "the boys in rubber boots and slickers," but we saw several of them at the annual greenkeepers' convention in Chicago in hand-stitched gloves and \$15 hats. It is refreshingly satisfying to know that they can take the gloves off and do whatever is necessary to do on a golf course, and by reason of what they have under the aforesaid hats, golf courses throughout America are reaching a degree of perfection never before known.

SPEAKING of newspapers, one writer replied when asked if he had written anything up about the annual convention of the Association, "Why, we haven't any place to put it. It isn't a sport, and it isn't general news!" Well, we are forced to agree greenkeeping is not a sport. But the question remains, why isn't it general news, considering the fact that the game of golf is played by bankers and grocers, doctors and bakers, lawyers and street car conductors,—in fact the entire general public?

THROUGH the good offices of John MacGregor, president of the Mid-West Greenkeepers, Association, and the members of the Entertainment committee he appointed from among local greenkeepers, visitors from thirty-five states, Canada, Alaska and South America, were made to feel at home in Chicago during Golf Show week. Mr. MacGregor, with David Kay of Minneapolis, Wilhelm Peter of St. Joseph, Missouri, Chester Mendenhall of Wichita, and several other Charter members kept the ball rolling every day at the Association headquarters.

Mrs. Sara M. Allen, of Cleveland, was a most efficient assistant in charge of registering new members during the week. Everybody helped to create a real holiday atmosphere, and when Saturday evening came there were many suggestions to the effect that our annual conventions should last considerably longer than one week. By proxy they will last from one meeting to another through the pages of The National Green-keeper.

"HAVE heard already of the wonderful showing we had at the first annual," writes W. D. Chinery, greenkeeper at York Downs Golf Club, Englinton, Canada, "and if anyone doubts the benefits to be derived from our association they are not human."

FROM J. Louis Gregory greenkeeper at Saratoga Springs, New York, we have a sketched suggestion for a N. A. G. A. emblem, to be worn by all members. This is a good drawing, and we would like to receive suggestions from other members who have some artistic talent.

WE DISCOVERED some interesting facts about many of the hundreds of greenkeepers who visited at the booth. Greenkeeping has for so long been considered menial labor, not calling for so very much in the way of mental capacity or effort, that it was an eye-opener to many of us to find among the greenkeepers of the United States and Canada a large proportion of very well informed and educated men. More than that, we found many greenkeepers who speak from five to seven languages.



A. E. LUNDSTROM St. Charles Country Club. Chicago district, poet laureate of the N. A. G. A.

PERHAPS one of the most unusual greenkeepers we met is A. E. Lundstrom, of the Chicago district, who writes and publishes Swedish lyric verse, and his pen has wings strong enough to lift us out of the humdrum while we read.

THERE are greenkeepers who held high commissions in the army during the World War, some who have drifted the world over, come back to America and now find the profession of keeping greens engrossing enough to restrain their wandering feet. Still others who have

kept greens in Southern Europe, in South America, and even in Alaska. One, John Anderson, planted eighteen greens in Valparaiso, Chili, from an original shipment of two square feet of creeping bent turf sent him from Washington a little more than two years ago. Mr. Anderson will tell this whole story in a later issue of the Greenkeeper.

I AM sorry I cannot be with you at the annual meeting, but whatever you agree upon will be all right with me," is the message received from Gus Stahl,

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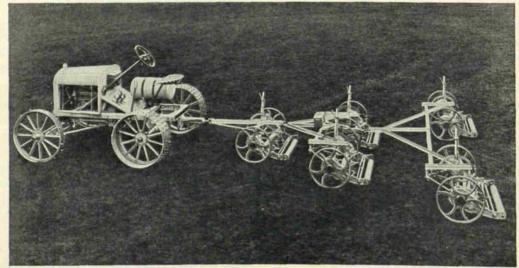
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greenkeeper at the Tulsa Country Club, Tulsa, Oklahoma. Read over the account of proceedings, and the By-Laws, printed in this issue, Mr. Stahl, and write us what you think of them.

TWELVE new members for the National Association were received from H. Hawkins, our vicepresident at Port Credit, Ontario, just too late to report them at the annual meeting. The value of support like that from a local representative cannot be over-estimated. Mr. Hawkins is to be highly commended in doing this good work all by himself, as never yet has it been possible for him to meet with the other officers of our or-

PERHAPS one of the most encouraging reports made from the floor at the annual meeting was that of George Wellin, greenkeeper at Tumblebrook Country Club, New Britain, Connecticut. Fourteen out of the fifteen greenkeepers on courses nearby Tumblebrook joined as Charter members in the early days of the organization. In talking with Mr. Wellin, he also reported that his expenses to the meeting had been paid by his club. As a matter of fact, several greenkeepers visited the Golf show and convention at the expense of their clubs. This is a clear indication of the fine spirit that exists between many greenkeepers and their club officials.

OUR correspondence is very large, and filled with hundreds of expressions of good-will. Just now our eye falls upon a letter from William C. Seball, greenkeeper at Northfield, Minnesota, who says, "I cannot see why every greenkeeper in the United States should not subscribe for the magazine. It is a very small amount to pay for so much valuable information."

SUBSCRIPTIONS are received in every mail from golf club presidents, chairmen of the Green, secretaries, and greenkeepers. One writes:-"You can count upon us for two subscriptions every year." Others say:-"We should have had something like this magazine ten years ago," "I am getting pictures of my course taken, and will send you an article in a few days," etc.

YOU can tell a man something and he will likely forget it the next day, but the printed word is registered on his mind. A greenkeeper may get some good verbal advice, and a few days afterward he may say, "Now what was it so-and-so told me I ought to do?" Whereas if the same greenkeeper reads something of value in the GREENKEEPER, for the most part he will remember it, and can refresh his memory by referring to the number in which the article appeared. A great deal of the advice so freely given by experienced greenkeepers will bear more than one reading.

THE annual convention of 1927 is over, but the friendships made there will never be forgotten. In Lundstrom's Saga of Einar Eskilson, we see the future of the National Association as

A fresh adventure on a wider stream: A new awareness and a deeper dream; From view to view the eager gazer flying, And on his flight new suns forever beam!

# Where The Big Tournaments Will Be Held

May 16-British Women's Championship at Newcastle, County Down, Ireland.

May 23-28-British amateur championship at Hoylake,

May 26-28-Metropolitan Golf Association Open championship at the Wykagyl Country Club, New Rochelle, New

June 2-French open Amateur Championship at Wimereux. June 9-11-Long Island Golf Association Amateur Championship at the Engineers Country Club, Roslyn, Long Island June 9-11-New Jersey State Golf Association Amateur Championship at the Trenton Country Club, Trenton, New

June 14-16-United States Golf Association Open Championship at the Oakmont Country Club, Oakmont, Pennsyl-

June 14-18-Missouri Golf Association

Meadow Lake Country Club, Kansas City, Mo.

June 17-18—Pacific-Northwest Golf Association Open Championship at Colwood Country Club, Victoria, British

June 20-25-Pacific-Northwest Golf Association Amateur Championship at the Colwood Country Club,

June 20-25-Trans-Mississippi Golf Association Amateur Championship at the Broadmoor Golf Club, Colorado Springs, Colorado.

June 22-25-Metropolitan Golf Association Amateur Cham-

pionship at the Nassau Country Club, Glen Cove, Long

June 27-30-Twenty-eighth Annual championship Connecti-

cut State Golf Association at Hartford Golf Club.
June 28-29—Massachusetts State Golf Association Open
Championship at Sandy Barr Country Club, Wayland, Massachusetts.

July 11-British Open Championship at St. Andrews. Scotland.

July 18-23-Western Golf Association Amateur Championship at Seattle Country Club, Seattle, Washington.
July 27-29—Buffalo District Golf Association Championship

at Wanakah Country Club, Buffalo, New York.

August 2-6—United States Golf Association Public Links

Championship at Ridgewood Golf Club, Cleveland, Ohio. August 17-18-Irish Open Championship at Portmarnock,

August 22-27-United States Golf Association Amateur Championship at Minikahda Golf Club, Minneapolis, Minne-

September 1-3-New York State Golf Association Amateur Championship at the Oak Hill Golf Club, Rochester, New

September 19-24-United States Golf Association Women's Championship at the Cherry Valley Club, Garden City, Long

September 28-French Open Championship at St. Germain. November 21-28-Professional Golfers' Association Championship at Cedar Crest Country Club, Dallas, Texas.

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green or fairway at dusk and turn on the water. It requires no further attention until you turn the water off in the morning. All night long it keeps on moving, and every square foot of the green is thoroughly soaked every two hours. No waste of water—no flooding—no night shift necessary—IT MOVES ITSELF. Designed especially for golf course sprinkling and constructed to stand hard,

It Moves Itself!

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Water All Night With



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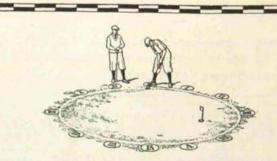
#### President Morley's Address

(Continued on page 12)

flowers of forgetfulness over the past, over the places where you have spent many happy hours, often memory's fingers coming unbidden will lift the tender blades from their sweetly scented roots and show you through their dewy rifts many happy scenes. And often when the twilight casts its shadowy curtain around the dying day hiding from our view the last warm flushes of the sunset, there will come to you borne on the evening breezes of the past, strains of music soft and sweet, the melody of which will make glad harmony in your ears.

May your efforts today be such that the results will meet with the approval of the greenkeepers of America and the golfing fraternity in general.





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For practice in putting, nothing excels this game. The figures are arranged in a circle from 20 to 24 feet in diameter, or any size that the lawn will permit. Drop-forged plates with double prongs.

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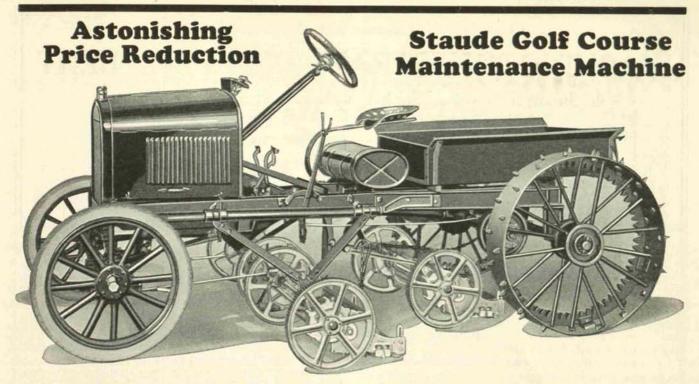


Useful on much-frequented courses. Each player or one player in a party drops his ball in the rack when he arrives, his relative position being determined by the position of the

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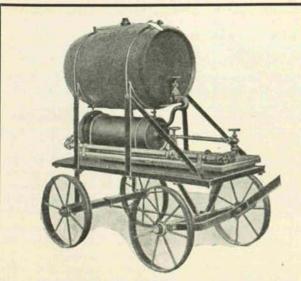
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When there is a better strain of Bent, we will grow it

#### Minutes of Annual Meeting

(Continued from page 10)

ticles on the shoulders of the president, Mr. John Morley, all complaints and suggestions to be mailed by association members to Mr. Morley for his personal attention. It was duly moved and seconded that this report be adopted as read, and so carried.

Upon motion duly moved and seconded the committee on Appeals and Grievances of which James Muirden of Cincinnati is chairman, was retained as a standing com-

mittee for the ensuing year.

Upon a motion made by John Morley, president, and seconded by Wilhelm Peter, of St. Joseph, Missouri, a rising vote of thanks was given the Mid-West Greenkeepers Association for their whole-hearted support from the time the National Association was organized, and for the great courtesies accorded the members of the National Association during the week of the golf show and annual meeting.

Mr. MacGregor then introduced Mrs. G. A. Farley,

assistant secretary and treasurer of the National Association and editor of the NATIONAL GREENKEEPER, official organ of the Association, to give an informal talk on the work conducted in the headquarters office of the Association. Mrs. Farley's remarks were received with offers of unlimited support from members from all parts of the country. During the course of her talk, Mrs. Farley asked for editorial contributions to the magazine, and practically every hand was raised in response to the call for articles written by practical greenkeepers to be published for the benefit of all members of the Association.

Unusual enthusiasm was shown by all present during the meeting, and many rose and expressed their pleasure in belonging to an organization which has been long needed. In turn the newly elected officers came to their feet and promised the assembly that all efforts possible would be made in their respective districts to interest other greenkeepers in becoming members and receiving the NATIONAL GREENKEEPER regularly every month.

Mr. Morley suggested that minutes of the meetings of all local associations be mailed to him, so that items of interest may be published in the official magazine each month. One member, Mr. John Fife of Duluth, Minnesota, immediately rose and expressed the wish that the magazine grow to the size of the Chicago telephone directory.

It was then moved by Anthony G. Wagner that a recommendaton be made to greenkeepers urging them to work in co-operation with the parent body, and establish a policy of including with local membership dues, the regular yearly dues in the National Association, namely \$10, thus making every local association member automatically a member of the National. The president of the local association to mail such memberships together with check to the National Association office at 407 Caxton Building, Cleveland. This motion was seconded by A. E. Lundstrom and so carried.

Mr. Morley then addressed the meeting, and asked for the confidence and support of all members. Mr.

Morley said in part:

"I pledge my word never to betray your trust. I fully realize the very great amount of work entailed by my position, and I shall endeavor to so discharge my duties as president that when we hold our next annual meeting all of the United States and Canada will be fully represented. I wish to thank all of the members present for the wonderful understanding and appreciation you have expressed here at this meeting, and with your continued support, I know we will accomplish the objects of this association in a way which will command the respect of the entire golf world."

There being no further business in order, the meeting was adjourned.



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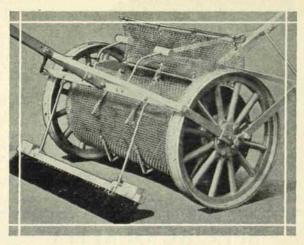
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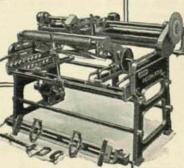
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Special Grinding Wheel Attachment for sharpening grass shears, sickles, seythes, axes, etc. Skate Sharpener attachment sharpens all makes of skates—including hockey. Earns money all the year 'round. Hundreds of Clubs—both\_large and small, use the Peerless Sharpener. Will save its\_cost\_the\_first\_season. Write for Catalog and list of users.

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Would you care to go back to the days when the news was broadcast by the town crier, and when traveling was done by means of the stagecoach, and when messages had to be delivered cross country on horseback?

If not, why not modernize your golf equipment. The old method of screening top dressing and compost is just as obsolete and out-of-date as the town crier or the stage coach. Investigate the Royer compost machine, and cut costs to one-half or one-sixth of your present expense. Send for latest bulletins.

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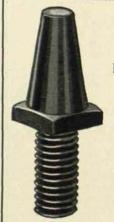
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