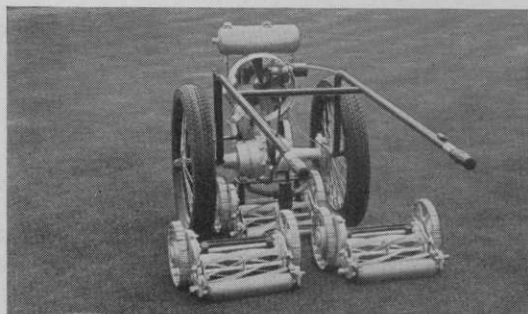


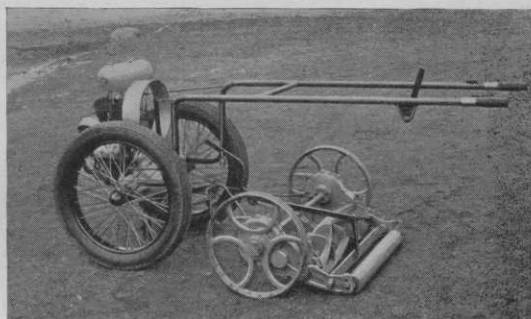
# WORTHINGTON



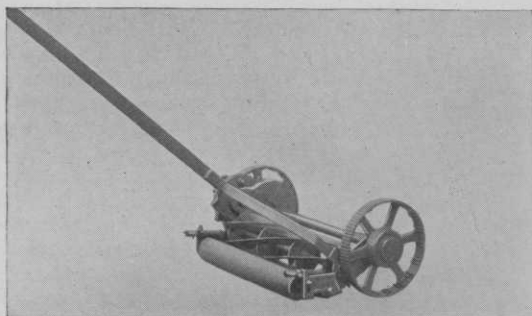
**The Worthington "Overgreen"**

The "Overgreen" is a power putting green mower offered as a perfected achievement after the most exhaustive tests possible. It is a complete tractor drawing a complete gang mower composed of three 13-inch cutting units. It will cut a green in one-third the time required by a hand machine.

The "Overlawn" is a power mower composed of a complete tractor drawing a Standard Worthington 30" fairway cutting unit. In this comparatively easy service it will last indefinitely.



**The Worthington "Overlawn"**



**The "Shawnee" Putting Green Mower**

The Shawnee 18-inch hand green mower with a seven blade alloy steel fly knife reel. The patented finger adjustment of the bed knife insures an even cut at all times.

## WORTHINGTON MOWER CO.

*Stroudsburg, Pennsylvania*

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132 St. Peter Street

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*Agencies in all principal cities.*

Mr. Norman Mattice, knows just about how much area the half-yard of topdressing will cover, depending on the season of the year, etc., and the quantity of arsenate of lead added to each one-half cubic yard of topdressing is accordingly altered at will.

I personally prefer this method of centralized mixing where the entire operation can be supervised by the greenkeeper or a responsible assistant. It may sound like a lot of extra work, but unless I am badly mistaken you will find in the end that it pays. Greenkeepers are naturally always looking for a short cut in doing big jobs such as topdressing. There can be no objection to short cuts providing they are not too short.

Do not try to mix a few pounds of arsenate of lead with a large bulk of soil by throwing the two together at one operation. It invariably results in an uneven mixture with the bulk of the soil containing no arsenate. It is much better to mix the arsenate with a small bulk of soil, add some more soil and mix again, and continue thus until the entire bulk of soil is incorporated. In any event the system to follow will depend entirely upon the individual greenkeeper, and a little experience will soon indicate the best method for his particular conditions.

When beginning the operation of grubproofing turf the amount of arsenate of lead to apply at one time per 1,000 square feet of turf will depend on the conditions confronting the greenkeeper. Whether to apply the 5 pounds all at once or in monthly installments of one pound each, depends entirely upon what the greenkeeper is up against as far as grubs, worms or weeds are concerned. If grubs are working in the turf, if earthworms are annoying, or chickweed or crab-grass plentiful, then it will be advisable to apply the entire 5 pounds at one time. This amount will give any of the above pests a good stiff jolt.

If the greens are well under control and the pests are causing no undue annoyance, but the club has decided to inaugurate a grubproofing campaign, the arsenate of lead can be applied at the rate of one pound per 1,000 square feet of turf for 5 successive topdressings. In other words, under conditions where the greens or tees are not threatened with disaster there is no object in putting on 5 pounds all at once, because even after the 5 pounds have been applied, either all at once or in installments, it is necessary to apply one-half pound of arsenate per 1,000 square feet of

turf with each subsequent topdressing in order to maintain the surface soil layer in a grub-proof condition. This half-pound dosage is based on a topdressing of one cubic yard to 5,000 square feet of turf, or theoretically a layer of soil one-sixteenth inch thick.

### Top Dressing Must Contain Compound

Under the present topdressing system of maintaining greens, the surface of the green is constantly being raised by the thin layer of soil deposited as a result of each individual topdressing. If these layers were not poisoned, the original 5 pounds of arsenate would be gradually buried by a composite layer of non-arsenated soil, and grub worm and weed control would no longer be secured.

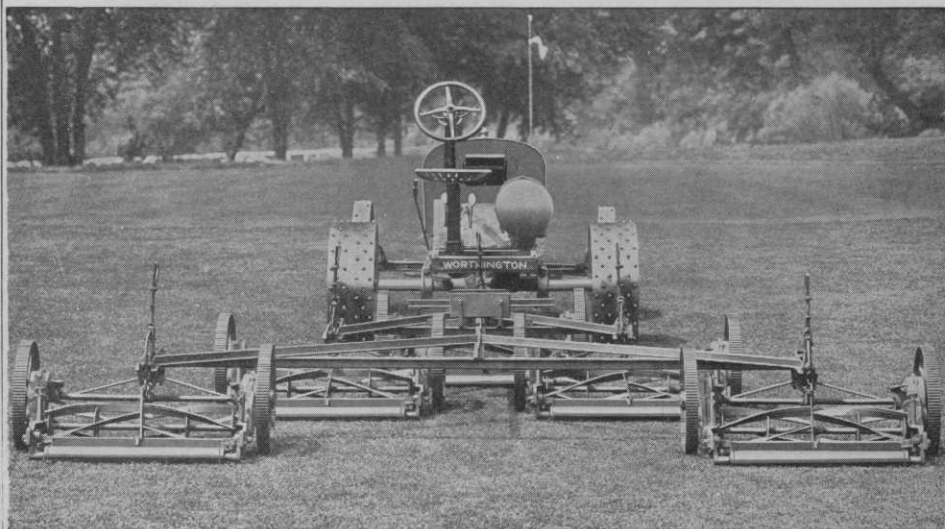
This half-pound of arsenate can be mixed with the topdressing or mixed with a small quantity of soil or sand and applied after or immediately before each topdressing as described above. Some greenkeepers use arsenate in every other or every third topdressing, increasing the amount to one pound or one and one-half pounds as the case may be. Whether this short-cut system results in the greatest degree of weed control is open to question, but, of course, from their angle and from the immediate point of view, it reduces the amount of labor involved.

### Treat Approaches Also

There is a pronounced tendency on the part of most greenkeepers to stop short with all treatments of a chemical nature at the edge of the green. While entirely human, it is nevertheless a highly inadvisable system because there are plenty of worms, grubs and weeds in the grass just outside the area of the green proper and they are constantly working their way into the green, with the result that even where a green is arsenated, the outer portions will never be in first-class shape because of the occasional worm or grub which works its way into the green and does some damage before succumbing to the poison.

It is advisable, therefore, to arsenate the approach to the green and a strip at least 10 feet wide immediately around the green so that any grubs or worms outside this "barrier" area get a dose of the poison and are killed before they ever succeed in getting into the green. Arsenate more frequently steep banks around greens and tees due to tendency to wash off.

“Eight of the last ten National Amateur and seven of the last ten National Open American Championships have been played on golf courses using Worthington fairway mowing equipment.”



## WORTHINGTON LAWN TRACTOR and CONVERTIBLE QUINTUPLEX MOWER

*Cuts a swath nearly 12 feet wide*

Whenever a smaller swath is desired the two rear units may be disconnected by means of a single bolt and the cutting operation continued with the triple machine.

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# He Paid His Club by Being Press Agent and Pro, Too

By HERB GRAFFIS

ONE of the ablest pros I know is a contradictory sort of a fellow. For his club he is a marvel as a publicity getter but to get him to tell how he does it so his own name can be mentioned is out of the question.

Every club this man has been connected with has been a successful club. Although their number is not many—he's no gypsy—they have arisen to high standing in their respective districts during his tenure of office. With golf getting more and more space in the sport section each year it's up to the pro to know something about getting publicity for his club. Forget about personal publicity. The pro who is trying to "crash the gate" with some newspaper copy about himself is a joke to the sports writers. He rules himself out by his eagerness. But the fellow with some interesting news of general interest gets himself flocks and flocks of welcome publicity through the family entrance, so to speak, when he boosts his club first, last and all the time.

This particular fellow I'm talking about was hired by a new club in a mid-west metropolis as its pro. The organizers had started full of pep and high-purposes, per the usual. Then came the inevitable point when the rate of increase of memberships lagged. The chairman of the membership committee was telling this pro about the situation. This pro was a business man and a student of the trick ways in which human nature works. The club had been long enough at a standstill to begin to threaten running down at the heel. This pro counseled, "Send the word out that the membership is filled. Don't let the boys try to high-pressure any membership prospects. There's no more place for high-pressure selling in the membership campaign than there is in the pro shop. Give me a few weeks and we'll see if we can't get them eager to join. Make your salutation now, 'it's too bad you didn't get in.'"

This happened about eight years ago. Adjoining the club was a narrow strip of land that was available at a bargain. The club picked it up. The pro immediately

called up the sports editors in his city and told them that the club had picked up a piece of ground as an airplane landing field. Remember, this was novelty copy then. The papers picked up the yarn and gave it plenty of prominent space.

Just to show you how heaven watches over the gent who takes a chance, the next day after the story broke in the papers, an aviator did land on the newly acquired ground. That was good for another story. The flier happened to be one of those who would take up passengers for a short flight. He did a land office business for some time, but the club finally had to get him off the lot. His plane made too much noise.

## Picks the Celebrities

Another favorite publicity stunt was inviting famous visitors to the city to play at the course. Actors proved particularly happy to get these invitations and they, of course, always get newspaper space. That's what their shows have good press-agents for. The presence of these prominent people at the club began to give the club a more than local prestige as the favorite golfing spot for the interesting people. Memberships began to come in voluntarily at a lively pace. The plan was working.

This smart pro was especially careful not to loud-pedal his personal connection with the activities that made news. He mentioned that merely as a matter of course, but he didn't fail to put his deft foot well forward. His association with newspaper men, in a really helpful fashion to them, got them anxious to do him a good turn. He got columns of publicity that mystified other pros in the district. "This guy has to break his neck to shoot par once a year, still he gets all the publicity," they commented. They hadn't awakened to the fact that scoring alone wasn't the sign of a pro who was doing his club and himself the most good. And it isn't, as you will realize when you consider the cases of many of the pros you know who are recognized as successful business men.



# Reduction in Price—NU-GREEN

*Effective February 15, 1928*

We announce with pleasure a price reduction of 50 cents per pound in the 25-pound and larger sizes of NU-GREEN, effective February 15, 1928.

Through greatly increased production and installation of special machinery, manufacturing economies have been effected that were not possible during small scale production of NU-GREEN when first placed on the market last season. These substantial savings are passed on to you in the new prices of NU-GREEN.

## **Nu-Green vs. USPulun**

Four seasons ago, we introduced USPULUN, the original organic mercury seed and soil disinfectant, to golf clubs as an aid in controlling the destructive Brown-Patch disease. The consistent success with which USPULUN checked and prevented both large and small Brown-Patch resulted in its enthusiastic adoption by golf clubs all over the country.

But in spite of its superior effectiveness and advantages over older treatments, our scientific staff was not quite satisfied. It realized the eyesore to greens committees and the handicap to golfers that the disease-ravaged areas presented during the days when new growth was replacing the unsightly brown patches.

With that problem before them, they set to work to perfect a treatment which, in addition to controlling the dreaded Brown-Patch, would also quickly restore the disease-weakened grasses to normal strength and healthy, dark green color, without the added cost and labor of supplementary applications of fertilizers.

For two years, formulae of every description were tested in an effort to find the

most effective ingredients, and the proper balance for best results and least danger of injury. Ease in mixing, simplicity of application, and cost of using were all points, too, that received careful consideration.

In the early spring of 1927, we placed on the market a Brown-Patch remedy that was, in the opinion of our scientific staff and the many greenskeepers who co-operated in our field tests, the most practical treatment yet devised. This new compound carried the trade name, "NU-GREEN."

NU-GREEN was successful from the start. Greenskeepers were amazed at its control of the disease and the rapidity with which it brought back their greens to normal health and color. Those who used it as a preventive, saw the humid days and nights pass leaving their greens unspotted and free from the pale yellowish cast of unhealthy or diseased turf.

Now through economy in manufacturing, you can purchase NU-GREEN at a price little greater than the cost of mixing up many home-made compounds. NU-GREEN comes ready for use. No need of the bother and inconvenience of mixing up ingredients yourself. No fear of unbalanced quantities of disinfectant and plant food. No danger to grasses from imperfect mixture. With

NU-GREEN, you are assured of the best possible results. It is easily and quickly applied.

## **Use NU-GREEN this Season**

If you have not already used NU-GREEN, at least try it out on several greens this spring. Test it against any treatment you have been using, and learn for yourself why it replaced the older treatments at so many clubs last season.

**In the December, 1927, issue of the Bulletin of the U. S. Golf Assn. Green Section, Dr. Monteith, Jr., says of NU-GREEN.**

"On greens somewhat deficient in nitrogen, NU-GREEN gave results which were to the uninitiated extremely striking. \* \* \* The areas treated with NU-GREEN soon developed a luxuriant, dark, healthy green color, which stood out in sharp contrast to the untreated portion, where the turf retained its pale yellowish cast so common on many greens. In cases, these plots were so striking that they became a source of wonder and amazement to greenskeepers, professionals, club officials, and players." \* \* \*

"There is no question but that NU-GREEN will control Brown-Patch just as an equivalent amount of USPULUN or other mercury compounds will do, \* \* "

## **NOTE—NEW PRICES**

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# Probing the Diseases of Turf Grasses

By DR. JOHN MONTIETH, JR.\*

THE numerous pests of golf turf may for convenience be placed in two classes: animals and plants. Among the animal pests are earthworms, grubs, insects and various rodents, including, if you choose, the violent-tempered player. Among the plant pests are the weeds and the lower forms of plant life, fungi and algae. It is this latter group which will be considered in this discussion, for the big majority of plant diseases are caused by fungi.

## Rusts and Smuts

The most destructive diseases of cereal crops are the rusts and smuts. Corn, wheat, oats and the like are closely related to turf grasses and it is therefore not strange that we find some of the diseases of these crops on turf. One frequently hears of heavy infestation of rust throughout our grain belt which may seriously affect the crop and thereby the grain market. Rust appears as circular or elongated spots on the stems and leaves of grain or grasses. In certain stages these spots have a reddish color, resembling rust on iron, but at other times the spots are dark brown or black.

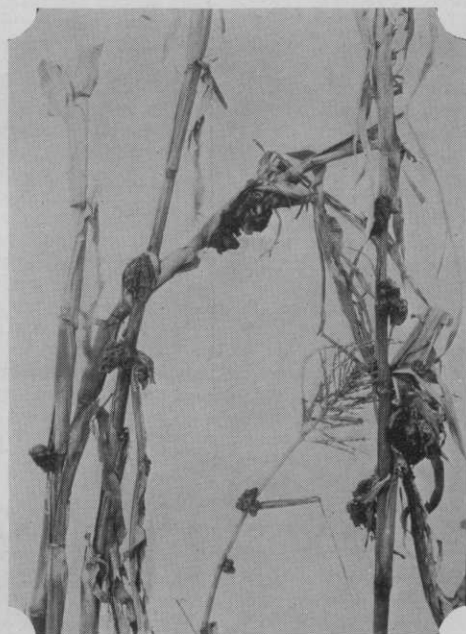
Smuts cause a swelling or distortion of the affected parts of the plant and when fully developed these enlargements break open and expose the mass of black, soot-like spores of the fungus. Probably every greenkeeper is familiar with the large swellings so commonly produced by the smut fungus on corn plants. On the turf grasses smut usually occurs as black, elongated, streak-like injuries on leaves and stems.

Both the rusts and smuts cause some dwarfing of plants but are of greatest importance in the effect they exert in reducing yields of seed. Therefore, although these diseases are frequently common on fairways and the rough, they usually are of little importance on golf courses.

## Blue Grass Leaf Spot

Another disease common to cereals and turf grasses is that caused by a fungus called *Helminthosporium*. This disease

occurs as irregular spots on the grass blade. It is found on many grasses, but is particularly noticeable on Kentucky bluegrass. At times bluegrass fairways turn brown and appear dried out, even when there is adequate moisture in the soil. An examination of the plants in such cases frequently reveals the cause of this brown appearance to be due to the abundance of these dead spots on practically every leaf of grass. When one of these spots occurs across its base the entire upper part of the



Corn smut; a similar fungus sometimes attacks turf

leaf is killed. When such spots are sufficiently numerous the turf loses its healthy green color and growth of the plants is checked.

## Powdery Mildew

Mildew is a fungous disease found on a great variety of plants. It appears as a white powdery growth on the surface of the leaf, particularly the under side. In severe cases the leaf looks as though it had

\*Address at National Greenkeepers' Association convention.

# TORO EQUIPMENT

## America's Finest Greensmower

**F**OUR years ago, when creeping bent was starting to come into use as the premier grass for putting greens, there was not a greensmower on the market that would cut this difficult strain. Old style high wheel mowers that left a corduroy ridge in the grass were carried from green to green on a wheelbarrow.

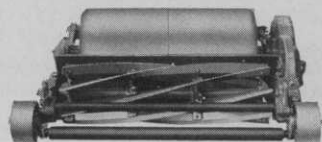
Realizing the immediate need, we went ahead and built a greensmower that was revolutionary in design and would cut a creeping bent green or any grass green absolutely true and do it with one-half the pushing power required by old type mowers.

To transport it from green to green, we designed a sensible light weight carrier, which saves time and labor and handles the work in a business-like way.

Today the Toro greensmower is accepted as standard on 80% of the best known clubs in this country. There are over 400 of them giving daily service among Chicago clubs alone. Throughout the east, from Boston to Key West, there are over 2500 of these mowers and regardless of what section of the country you go into, you will find Toro greensmowers doing the work on the better operated clubs.

Write today for our new 1928 Catalog showing latest **TORO** items — including tractors, fairway mowers, dump wagons, top dressers, etc.

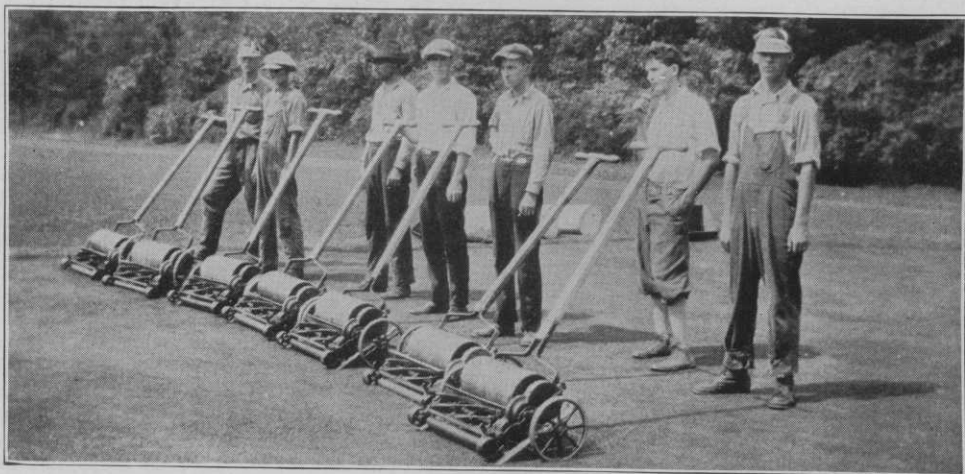
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**E**VERY Toro putting green mower is priced complete—no extras to buy—one price—one quality. Rubber tired transport truck, galvanized grass catcher, Alemite grease gun, adjusting wrenches, combination removable roller and front wheels, and a regrinding crank.

### Thank You, Mr. Neuman!

*"I thought that I would send this to let you know that we are glad to have Toro goods on our grounds, for they are good and they do the work perfectly."*  
Charles Neuman, Vincennes Country Club, Vincennes, Indiana.



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been dusted with flour. It is perhaps best known on roses, lilacs and other ornamental plants, occurring especially in the fall when the leaves are all matured. This disease is frequently found on grass, more frequently in shaded places, but except under unusual conditions it causes little serious injury to turf.

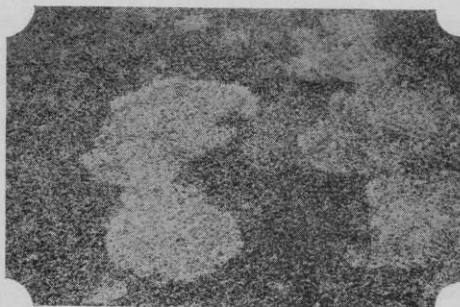
### Slime Mold

There is a fungus growth widespread on turf grasses which is worth mentioning, but which should perhaps not be regarded as a disease since it apparently causes little damage to the grass it grows on except under unusual conditions. It is one of the so-called "slime mold" fungi which grows up suddenly and covers patches of



Small brown-patch can ruin a green overnight

grass with a steel grey covering. After a day or two this fungus breaks up and liberates multitudes of black powdery spores. If the hand is rubbed across one of these patches the tiny spores will adhere to the skin like so much lampblack. This fungus is common on courses throughout the country and is especially noticeable on approaches or bunkers in the vicinity of



Large brown-patch is equally destructive greens. It is usually merely a superficial growth which, although undoubtedly objectionable from the standpoint of appearance, it ordinarily causes no actual damage to the green and as soon as matured can

be readily removed by using a little extra force in watering these patches.

### Brown-Patch

Since the two common types of brown-patch have been recently described in GOLFDOM, it is unnecessary at this time to give any detailed description. Small brown-patch is known practically everywhere in this country and may occur at almost any time during the growing season. It is recognized as more or less definite spots of different sizes, seldom exceeding the area covered by a silver dollar. The grass is killed in these spots and as it withers it turns the characteristic bleached, brown color. These spots may be so numerous that they join and thus destroy a large area of turf.

Large brown-patch, as the name implies, affects a much larger area than does the small brown-patch fungus. Frequently a single patch may be two feet or more in diameter. The affected grass blades are killed and as they wither and turn brown they give to the affected area the brown color so well known to most greenkeepers. Around the border of these patches one frequently finds a darker ring where the fungus is still active and spreading out into the heretofore healthy grass. This dark border is usually referred to by greenkeepers as the "smoke screen," and whenever it is apparent it indicates that the fungus is still active and spreading.

### Pythium Is Probed

A type of brown-patch which has received little attention so far is that produced by a fungus called *Pythium*. This fungus requires a high temperature and plenty of moisture for its development. It is not likely to be a common pest on our northern courses, but it occurs frequently on the Arlington turf garden and will probably be found widely distributed on courses in that latitude or southward. It has probably been generally overlooked, due to confusion with large brown-patch, the symptoms of which are somewhat similar. Grass affected with *Pythium* turns a slightly different shade of brown than when affected with large brown-patch. This fungus usually kills every blade of grass within the affected area, whereas in large brown-patch there is usually a fairly large proportion of blades that escape uninjured. It is probable that much of the severe damage reported in the more southern regions as due to large brown-patch are in reality due to this more destructive fungus, *Pythium*. It is also probable that some of





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The hinged frame provides extreme flexibility for rolling and undulating grounds. The close coupled units ride over narrow ridges and sharp contours, doing clean, smooth work.

The entire outfit is easily handled. It can be backed up—turned in a short radius—manipulated in close quarters—and the cutting units can be lifted completely off the ground.

All these factors mean better fairways—greater speed and lower upkeep cost. If your club is in need of new mowing equipment make some comparisons—investigate the advantages of these "Bulldog" gangs.

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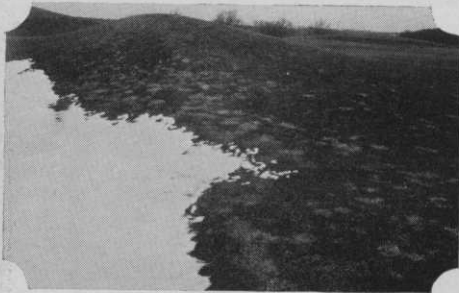
# IDEAL GOLF COURSE EQUIPMENT

the failures to control large brown-patch by the ordinary means may be attributed to some confusion with this other disease. However, it will be necessary to study the subject more thoroughly before we can draw any general conclusions.

There is another type of disease which is usually referred to as large brown-patch but which apparently is due to some other fungus. It occurs on greens as rings which in some aspects resemble small fairy rings. They behave like large brown-patch in many respects but the grass in the center is not affected. This injury is reported as common in New England, several mid-western sections and in California. No one has studied this type of brown-patch carefully and until it has received more critical attention we are unable to furnish much information concerning it. All indications lead one to believe it is caused by a different fungus than that producing either large or small brown-patch.

### Snow-Mold

Snow-mold is another fungus of the brown-patch type which has recently been



Poor drainage during a thaw may result in a severe attack of snow-mold

recognized as a serious disease of golf turf. Much of the so-called winter injury reported on northern golf courses can undoubtedly be attributed to attacks by snow-mold. This fungus thrives at a much lower temperature than is favorable for growth of most plants. A covering of melting snow provides the conditions of low temperature and excessive moisture suitable for development of this fungus and, therefore, it has been usually associated with snow and has for that reason been called "snow-mold." Many have been confused by this common name. It should be remembered that this fungus is not dependent upon snow except in the indirect way of providing proper temperature and moisture. This diseases has been observed

repeatedly on turf which had not been covered with snow. In such cases, however, it developed during periods of thaws when light showers, heavy fog and cloudy weather maintained sufficient moisture on the turf for growth of the fungus for days at a time.

### Fairy Rings

Fairy rings are frequently found on golf courses, especially on old fairways. These rings are produced by several different fungi which have grown from a center and spread out into new soil each year until



Mushrooms growing in a fairy-ring 17 feet across

the circle is perhaps 20 or 30 feet in diameter. Frequently these rings start from an old decaying stump or pile of manure in which the fungi make their initial growth. At times this fungus growth may be killed in a portion of the circle and the rest may continue to develop. In such cases instead of a complete ring one finds a crescent-shaped outline on the turf. The grass is often killed where the fungus is growing but just at the border of the dead ring the grass is usually a darker green and more vigorous.

### Algae

On greens which are low and poorly drained, or even on well drained soil during wet weather, one frequently finds a green scum over the turf. It is especially noticeable where turf is thin or where it has been injured by diseases or chemicals. After a short dry period this scum turns dark and dries out to form a tough, paper-like sheet. In severe cases the grass beneath this covering is smothered and the putting surface is ruined. This green scum is made up of a heavy growth of fine microscopic plants known as algae. These plants are found in practically every stagnant pool and at times are a serious nuisance on larger bodies of water. They thrive only in the presence of abundant moisture and, therefore, excessive watering, rains, cloudy weather and poor drainage all contribute to encourage them.