Toro Top Dresser

A great labor-saver . . . proved out on hundreds of golf courses. Revolving agitator, flexible brush, large hopper that can be tilted to any angle, insuring uniform flow. Write for full information.

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Minneapolis, Minn.

Very frequently it has been observed that many trees have a decidedly shallow or surface root system even where conditions are such that deeper rooting would seem likely to take place. Such trees as the Norway Spruce and American Beech, for example, are particularly sensitive to changes that in any way affect the surface soil. The truth of this is shown by the rapid decline of native beeches when their natural environment is changed by bringing them under lawn conditions. In cases of this type the lower branches of the tree or the protecting underbrush and the surface litter are usually removed. The result is, that the surface roots are exposed to the action of the hot and drying sun in the summer and to the extremes of temperature in winter.

For trees of this type in addition to the proper use of chemical fertilizers and water it may be well to consider the use of ground cover plantings. It frequently happens that many species of plants have the ability to endure dense shade. Some of these thrive both in shade and in partial sunshine and yet develop in such a manner that they form a dense shade of their own over the surface of the soil. When they combine this characteristic with an open type of growth which permits ready access of air and moisture to the roots, an ideal type of cover is formed for shallow-rooted trees. Plants such as Pachysandra terminalis or Vinca minor are especially good because they permit the addition from time to time of leaves, manure, peat moss or other humus forming materials into which these shallow roots can grow. And still the crowns of the plants form a permanent and protecting cover just a few inches above the shallowest tree roots. In connection with mulches the addition of nitrogen is especially needed because of the fact that bacteria which cause the decay of the mulch material make very heavy demands on the nitrogen supply. This may result in a scarcity of this material for the tree.

In feeding trees, proper chemical fertilizers can be applied with safety and

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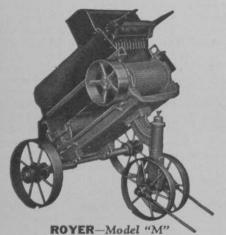
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benefit from early spring until late fall or even during the winter if the ground does not freeze. Even so, we still find among some horticulturists the remains of a fear that almost any cultural treatment applied in midsummer is likely to cause a forcing out of late growth which will be winter injured. This fear is probably due to experience with tender shrubs, perennials or possibly some fruit trees such as the peach. However, the evidence in the literature on fruit trees gives no definite facts on which to base a fear of using moderate amounts of chemical fertilizers in midsummer. With the majority of shade trees it is certain that no evidence exists to show that midsummer applications are anything but beneficial.

Another belief that has disappeared is with reference to the application of nitrogen fertilizers in the fall. Until recent vears horticulturists quite generally believed that such applications would not be taken up by the trees but instead would be leached out and lost during the winter months. Without discrediting the evidence that nitrogen does leach out readily, there is evidence to show that trees can take up the nutrients which they need even after their leaves fall. Now, as the result of numerous and exhaustive experiments, it has been well demonstrated that late fall applications of nitrogen are just as efficient and beneficial as when similar materials are applied in the spring.

Still another misconception, that is met with at times, concerns the fear of using chemical fertilizers on conifers or other evergreen species. With conifers, which are usually shallow rooted, the use of mulches and ground covers is particularly important. But, unfortunately, these types of treatment do not adequately supply the needed food elements if the soil is poor. Feeding is frequently quite essential and now both research and practical experience in most cases have shown that splendid results may be obtained from the proper use of fertilizers on conifers.

With important trees such as those that border the fairways or that shade the tees, it would in many cases be entirely feasible to guard against the unfavorable effects of dry weather by installing watering systems for trees. This would merely involve additional piping extended from the established watering system which provides water to the greens and in certain cases to the fairways.

Survey of 1931 Shows Golf Does Well in Bad Year

GOLFDOM's Survey of the 1931 golf season reveals that the game ventured into the rough for the first time since it became the most popular American sport. Play at the 4,448 private courses, the 700 daily fee courses and the 543 public courses of the country slumped 12½ per cent from the 1930 high, but in registering a total of 93,519,400 rounds played gave ample indication that it continues to enjoy a long lead as the favorite athletic pastime of the populace.

Figures in GOLFDOM's survey are determined by separate analyses of the 18and-more-hole clubs and of the 9-hole clubs. Further distinction was made between pri-

vate and pay-as-you-play courses.

Reports made it plain that weather conditions adversely affecting courses and players' comfort figured in cutting down play. The economic situation, of course, affected the private clubs but was balanced to a degree by the increased play at the municipal courses where those out of employment could enjoy themselves at a minimum of expense. Golf's loss of 121/2 per cent, compared with the reduction in baseball attendance of 25 per cent and collegiate football's drop of 20 per cent in the gates, gave additional evidence of general business conditions not being an especially heavy handicap to play. At many of the private clubs the play figures were about equal to those of 1929 when the business rush prevented many games.

It is interesting to note that about 27 per cent of the country's courses are on a pay-as-you-play basis. The greater part of the new course construction during the year was of municipal and fee courses. A number of the municipalities built new public courses or added to their present layouts during 1931 in relieving local unemployment.

As in all such surveys there is a danger in considering that the average figures are precisely representative of conditions at clubs that might be considered average. There are 115 clubs with more than 18-hole plants in the country and at a number of these the figures on investment and play are considerably out of line with the 18-hole average. However, numerous checks against the totals give evidence that these totals are substantially correct. GOLFDOM has been conducting this survey annually for four years and although it considers



Get This Free Booklet

Every greenkeeper, every pro, every club official interested in a better golf course should have a copy of "The Putting Green." It has 40 illustrated pages of unbiased information on grasses, construction, planting and care of greens. Ask for your copy.

Here are a few of many comments from those who already have it:

I thank you for this interesting and instructive booklet.

-John E. Moore, Continental Oil Co., Ponca City, Okla.

Thanks for my copy. I will re-read it again.
—E. H. Allen,
Cresco, Iowa.

This book covers the subject thoroughly and will help us keep our greens in good shape.

E. L. Schneider, Chairman, Greens' Committee, Dearborn Counry Club, Lawrenceburg, Penna.

"The Putting Green" is very clear and concise. Have read it with much interest.

-Geo. E. Cornwall, Wakefield, Mass.

See us at the convention, Booth 28. Your note pads will be

"The book is great."

—J. M. Charlote,
Greenville, S. C.

A splendid and most useful treatise.
—George Philler,

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And Now ..

a positive, wormgear adjustment controlling speed of rotation



positively controlling direction of nozzle.

Another advantage is added to the many superiorities of the LARK. A positive worm-gear adjusment controlling the speed of rotation of the sprinkler simplifies the "setting." Note the thumb-screw in the small illustration. By simply twisting this screw, the nozzle of the sprinkler is elevated, lowered, or turned as desired. Easy to operate. No tools needed.

Greenkeepers know and prefer the LARK sprinkler for its neverfailing performance; its EVEN distribution; its far-throw; and the other advantages that have made it the leading golf sprinkler.



the figures are the most exact and comprehensive that can be obtained, is perfectly willing to admit that the survey reveals the need of further research and co-operation. This year's survey was assisted materially by the U. S. G. A., the P. G. A. and sectional greenkeepers' organizations.

Two Million Active Golfers

Examining the membership and playing figures of private clubs and going over the pay-play course figures to determine how many players are represented in total rounds, it is revealed that in 1931 the country had 2,072,614 active golfers. The number of women included increased approximately 17½ per cent over the 1930 figure. Play at the larger clubs was off from the 1930 mark about 12 per cent on a national average but lagged only 4 per cent at the 9-hole clubs.

Other high spots in the 1931 season survey follow:

U. S. golf plant investment....\$830,041,298 1930 pro sales.................25,442,295

Pro sales were off from 1930 15 per cent at 18-or-more-hole clubs and 7.3 per cent at 9-hole clubs.

1931 maintenance cost (including course labor cost of \$33,-

 531,807)
 \$ 47,902,582

 1931 caddie fees
 35,000,000

 Cost of clubhouses
 161,411,130

 1931 club income total
 116,333,534

The complete survey is available from GOLFDOM at no cost. It presents figures of special interest and help for manufacturers and advertising agents,

Wisconsin U. Greens Course, Feb. 8-12, Announced

NNUAL SHORT course in greenkeeping at the University of Wisconsin is to be held February 8 to 12, inclusive, at Madison. In general outline the course will be similar to that of 1931 with stronger emphasis put on diagnosis of turf troubles and correction of conditions responsible for the injuries. This detail of the work will be based on many of the instances with which greenkeepers had to contend during the 1931 season.

Expense of registration is \$10, payable when application is made. There are no other charges. Enrollment of greenkeepers, pros and green-chairmen is limited so application should be filed promptly with James G. Moore, Horticultural Building, University of Wisconsin, Madison.

What's New With the Manufacturers?

Timely Trade Notes from Makers and Dealers

BURKE GOLF COMPANY ELECTS R. H. CRANDALL PRESIDENT

Newark, O.—R. H. Crandall, formerly vice-president of The Burke Golf Co., has been elected president of the organization



R. H. Crandall

succeeding his father, L. W. Crandall, deceased.

Bob Crandall is a veteran of 23 years in the golf manufacturing business, having made his debut at the age of 15 piling hickory dowels for the Mr. Burke who founded the company. He got some respite from this work during school sessions and in the army. Being trained from the ground up, he is considered one of the country's club manufacturing authorities. He worked up to the management of the organization's club production and design. In 1927 he was elected vice-president in charge of advertising and sales. To his credit during this period was the production of the Lady Burke line of clubs, the first line of clubs made especially for women.

Excellent training under an able father and a fine record of strictly his own making qualifies Burke's new president to handle competently and actively the responsibilities with which the Burke directorate

has entrusted him.

SPALDING OPENS PRO QUARTERS DE LUXE AT CHICAGO

Chicago, Ill.—Housewarming has been held in the handsome and large new pro headquarters the Spalding organization has established in its Chicago building at 211 South State street. This layout on the



Spalding's Chicago pro staff. L. to R.: Warren Dawson, George Hegeman, Johnny Miller, Walter Crowe, and Tom Frainey.



New pro golf headquarters at Spalding's Chicago store.

third floor is the biggest pro golf department in the country, according to the sayso of the veteran Johnnie Miller, head of Spalding's pro division at Chicago.

The pro headquarters extends across the State street front of the building and is carpeted and cushioned so the boys can indulge in gossip of the craft and give down some orders in ambassadorial atmosphere. Along two walls is a complete line of samples of the Spalding line. In showcases are arrays of golf shop sundries and the Spalding line of sports apparel. The sports clothing showing is a new idea in a pro department and has registered strongly with the multitude that has visited the new homestead.

Back of the showcases, in a separate room, big stocks of Spalding golf equipment are stored in steel compartments for immediate delivery. The arrangement makes it easy for the boys to order just what they want from the sample stocks in the front room, and get it quickly from the full supplies that are filed away back of the scenery.

Autographed pictures of some of the proluminaries adorn the walls and further beautification is supplied by the brilliant pans of Spalding's sprightly staff of young men in the pro department whom Mr. Miller has assembled for service to the cause. Tom Frainey, Warren Dawson, Walter Crowe and George Hageman occupy spots in the establishment and with John extend the glad hand of welcome to the provisitors who are bent on buying or just chatting about some of the close-ups of pro activities.

The Spalding folks have extended a cordial invitation for professionals who happen to be traveling through Chicago to make the new pro headquarters their operating base while in the city. The local district pros already have settled themselves comfortably in the grand parking place Spalding provided when it moved its pro headquarters to the Chicago building's gold coast.

McCULLOUGH RENEWS CONTRACT FOR P. E. I. BENT

Chas. R. Moore of the J. M. McCullough's Sons Co., Cincinnati, Ohio, met representatives of the Prince Edward Island and New Brunswick Grass Seed Growers' Associations at Sackville November 30 to discuss the market situation in regard to bent grass seed. This firm has been the sole distributor in the United States of Prince Edward Island bent, velvet bent, and Canadian seaside bent from New Brunswick, and Mr. Moore has renewed contracts covering another term of years.

Although the general depression has affected prices for bent seed, the growers have been well pleased with their business relations with the J. M. McCullough's Sons Co., and are hopeful for the future of the industry.—Charlottetown, Prince Edward Island, Patriot.

RITE-SPOT IS POSITION MARKER FOR GRIP

Detroit, Mich.—Argo Specialty Corp. is introducing the Rite-Spot, a little rubber device which slips over the end of the golf club. Its purpose is to mark the place for the golfer's left thumb so that when he grasps the club, he will automatically grip it in the right place every time—with the club head always at the right angle.

It is not to be confused with so-called "grips," being rather a "position marker" for holding the club correctly.



Use of a Rite-Spot, it is said, reduces mental hazard, helps to overcome hooking and slicing and is an aid in driving and putting. It is packaged in lots of six in an attractive orange and black carton

and is supplied to pros. in a handsome counter-display box holding six individual cartons.

LEWIS HAS NEW BAG RACK FOR INSTALLATION AT TEES

Watertown, Wis.—G. B. Lewis Co., specializing particularly on tee equipment of all kinds, has come out with a new bag rack.

This device consists of a 15% inch galvanized pipe 54 inches long, to which is bolted at the top a scalloped aluminum casting. It supports six bags and is not only durable but good looking. It prevents excessive depreciation on the players' bags. Due to the passing of the sand box, against which bags of sticks were formerly rested, this device is a necessity where care of bags and clubs is given proper consideration.

TORO 1932 CATALOG IS BUYERS' NEWS

Minneapolis, Minn.—Toro Mfg. Co. has issued its 1932 catalog which now is available from Toro headquarters here or from any Toro dealer. The book has much news in it for those interested in course, park and estate maintenance. New refinements are incorporated in the standard Toro mowers and tractors, and many items of equipment have been added to the line. Among the latter are a power green mower, sprinklers, power rollers and a "knockabout" rubber-tired quick transportation unit for taking the greenkeeper or members of the greens staff speedily to any part of the course without injury to the turf.

A copy of the new catalog will be sent free on request by Toro headquarters or any of the Toro dealers.

"CATERPILLAR" ANNOUNCES A ROUGH MOWER

Peoria, Ill.—A new "Caterpillar" rough mower for models 10 and 15 "Caterpillar" tractors is ready for delivery. Among features of the mower:

WHAT

going to
do about
your
FAIRWAYS
and
GREENS
this spring?

Your Club's patronage and income this year will depend largely on the condition of your course. You can't afford to have poor fairways and greens in 1932.

Proper fertilization is one of the most important items in your maintenance budget. Even the best seed cannot produce the kind of turf you need on poor, infertile soil.

Armour's Special Turf Fertilizer supplies the necessary plant foods to develop a stronger, healthier, deeper rooted turf—



a turf better able to withstand the hard use and abuse of a long playing season. It's economical, too.

Insist that your budget provide for proper fertilization this year.

Write for free booklet on fairway and green maintenance. No obligation.

ARMOUR FERTILIZER WORKS

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111 W. Jackson Blvd., Chicago, U. S. A.

HENDERSON'S Tested GrassSeeds

BOTH in new construction and in renovation, the quality of the seed you use is of greater importance than anything else. No matter how much attention and effort is given to the other detail, it is the seed that determines the results.

When you buy Henderson's Seeds, you get seed that has been grown by men who have specialized for years in growing certain varieties for us. This seed is cleaned and recleaned in our warehouses and then it is accurately tested and these tests are checked and rechecked to be sure that it is up to the Henderson standard. That Henderson's seeds are Tested is more than just an advertising phrase.

LET us quote you on your requirements for the coming year. We know that the quality of the seed cannot be better, and we believe our prices, quality for quality, will be convincing.

Peter — Co. Henderson & Co.

35 Cortlandt Street, NEW YORK CITY A double-acting automatic safety device is provided. If an obstruction gets between the sickle section and guard stopping movement of the cutter bar, power is immediately released by a snap clutch. Should the forward motion of the sickle bar be prevented by its striking an obstruction, the sickle bar pull rod automatically disengages, releasing the cutter bar which may then swing completely around to the rear of the tractor. The snap clutch is mechanically released by a cam and lever at the same time. The sickle bar is brought back into normal cutting position and the ball of the pull rod snaps into its socket.

Long life and easy running of the moving parts is assured by the pitman crank being placed in such position that the pit-



Caterpillar rough-cutter in action

man rod constantly runs in almost the same plane as the cutter bar.

The 7-ft. steel sickle bar is sufficiently strong to withstand the heaviest type of mowing service.

Heavy balance springs insure quick and easy lifting on turns.

The mower is flexible at the point of attachment to the tractor, and also at the heel of the sickle bar.

The mower drive may be disengaged by merely shifting the power take-off throw-out lever.

Removing four bolts and uncoupling the drive chain completely detaches the mower from the tractor, leaving the tractor free for other work.

DOLGE TO SHOW BIG LINE AT GOLF SHOW

Westport, Conn.—The C. B. Dolge Co. probably will have the most extensive line of golf club supplies of one manufacturer's production to be shown at the N. A. G. A. exhibition at New York for Dolge will present, in addition to its course maintenance supplies, its products for clubhouse use. For the courses Dolge will show its weed-

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Compost distributors Compost mixers Coolers, water Discing machines

Discing machines Dish washers Display cases

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Dryers
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Spiked

Score cards

Scythes, motor-driven Seed-Fairway, Green

Seeders

Shafts-Hickory, Steel

Shelters, Course

Shoes

Showers

Shrubs, Trees

Silverware

Sodeutters

Soda fountains

Soil screeners Soil testers

Sprayers Spreaders

(arsenate of lead)

Sprinklers

Sprinklers (automatic) green, fairway

Sprinkling carts Swimming pools Tags, Tickets

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Tees-Patented
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Tennis court equipment

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Weed killers Worm eradicators

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Ву	
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killer, Di-worma worm eradicator, Dolco ant-killer, Ban compound for golf ball washers, and Rat-Scat and Dolge mouse cereal for use around seed storage as well as around clubhouses.

For clubhouse use Dolge has Ban cleaning powder, Alta-Co deodorant and disinfectant, Dustlayer sweeping compound, Tink drain cleaner, Fli-D-Co insect exterminator, Betaform vermin exterminator, De-O-Do-Roma deodorant, Dolco Pine Cleaner for composition flooring, linoleum and varnished surfaces, Tilebrite tile cleaner, and

F & E disinfectant.

IDEAL PRESENTS NEW FAIRWAY MOWER AT GOLF SHOW

Lansing, Mich.—A feature of the Ideal Power Lawn Mower Co. exhibit at the Greenkeepers' Show will be its new type fairway mower, which can be converted by one man from a three gang to a five gang, to a seven gang, with ease and speed, due to the mower's entirely different type of frame construction. It is claimed by the manufacturer that these new type gangs are lighter in weight and require less draw bar pull for operation than other mowers of equal capacity and quality.

Emphasis is laid on the fact that a seven gang mower which cuts a swath of 16 ft. weighs only 1,063 lbs. complete with frame and units, and when cutting a heavy stand of grass on level ground shows draw bar pull of only 340 pounds. The cutting unit



Ideal greens mower, 1932 model.

used with the new frames is balanced for operation over either level or rather rough fairways. The frame itself braced to with-

REDUCED PRICES On The SIX BALL CLEANER



- · One to Six Balls at a Time.
- Ejects Balls When Cleaned.
- It Does Not Splash.
- · No Gears or Springs.
- · Avoids Delay on the Tee.
- Requires Very Little Care.

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The famous Hotel St. Charles a.s~
sures this season's visitors the same warm welcome that has attracted the country's notables for a century. Modernized to keep abreast of the times the beautiful St. Charles is better equipped than ever before to well serve its distinguished patronage

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