

Aqua-Gro

OLD TIMERS

**Superintendent
Big Springs C.C.
Louisville, Kentucky**

"Several of the greens have a $\frac{1}{4}$ " sand layer at a depth of 2". After irrigating the water would just sit over that sand layer, keeping the soil very moist. Aqua-GRO moved the water out. The greens were previously hand-watered on this course. I haven't done any hand watering at all. Several greens used to ball mark real bad. Now they stay firm. All my greens, tees, collars, approaches, and walk off areas are treated. Very seldom do I ever do any syringing. The greens maintain very good color and I spend about half the time watering they previously used."

ERNIE SCHNEIDER



Aquatrols Corporation of America • 217 Atlantic Ave. • Camden, N. J.

It's surprising the number of press releases that this publication receives in which the name of a club is mentioned but not the city in which it is located . . . Maybe the publicitors feel that their club is the only one of its kind in the country . . . Construction of \$1.5 million Simi Hills CC course in Santa Susana, Calif. to start this year . . . A semi-private 18, it was designed by Bill Bell . . . Village of Edina, Minn. has started to build standard 18, range and 9-hole Par 3 at cost of \$575,000 . . . Appropriation for clubhouse, maintenance building and other facilities will run to an additional \$250,000, according to estimates . . . Revenue bonds will pay for the development which is to be ready in July of 1964.

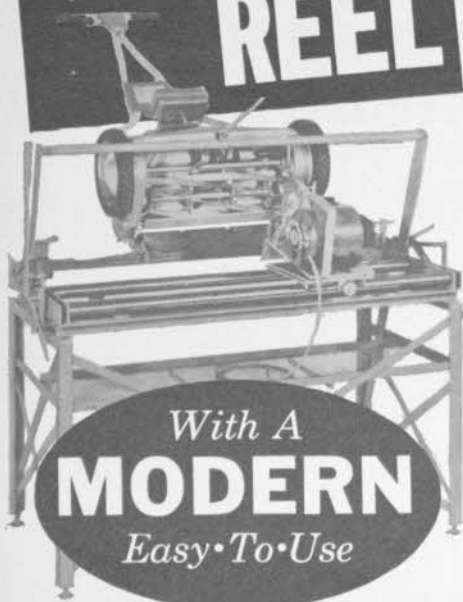
Sponsors of the Florida turf show, to be held May 2-4 at Plantation Lab in Ft. Lauderdale and Hotel Seville, Miami Beach, are offering a free trip to Nassau for two as part of the prizes . . . Complete information about this conference can be obtained from Walter D. Anderson, executive sec. of the FTGA, PO Box 5284, Jacksonville 7 . . . Something's wrong at Willowick in Santa Ana, Calif. . . . Through February only two aces had been

scored . . . That's at least two under par . . . First 12 holes of Hillendale CC in Trumbull, Conn., have been completed with work to be completed on remaining six by July . . . Albert Zikorus designed and is building the layout.

Pros who compete in any sectional events of the Metropolitan PGA have to have golfers' liability coverage . . . The Met pros are going to stage their first spring educational forum on Apr. 22 at Westchester CC in Rye, N. Y. . . . Sonny Rhodes now head pro at Huntington CC in Long Island . . . Mike Krak has been named pro at Century CC in White Plains, N. Y., succeeding Dick Metz . . . Course being built in conjunction with the new Lucayan Beach Hotel on Grand Bahama will be completed in December . . . It was designed by Dick Wilson . . . Craig Wood will be the Lucayan Beach head professional.

Fred Lindstrum and his wife, Murle MacKenzie Lindstrum, 1962 USGA Women's Open champion, now are a teaching team at Pleasant Valley CC, Sutton, Mass. . . . Last year they were at Fred's club at Cape Girardeau, Mo. . . . Phoenix's munny Papago Park course to be opened

No Need to Remove
REEL



Lawn Mower Sharpener

You can sharpen the bedknife and the reel in the mower with a MODERN lawn mower sharpener or you can remove from the mower for separate sharpenings.

NO COMPLEX ADJUSTMENTS

Just raise the entire mower to the proper height. Bring the reel and bedknife into grinding position with a single hand lever . . . and sharpen.

PRECISION RESULTS

The MODERN lawn mower sharpener precision grinds to tolerances of .001 or better, so there's no need for "finish filing".

A MODEL FOR ANY MOWER

MODERN lawn mower sharpeners are available in two sizes. One handles mowers up to 36 inches; the other is capable of sharpening blades up to 53 inches wide. With the optional Rotary Blade Holder, either model will sharpen and balance rotary blades, too.

SEND FOR FREE LITERATURE AND PRICES

FOLEY Manufacturing Company

3451-2 N.E. 5th St., Minneapolis 18, Minn.

Please send folder and information on Modern Lawn Mower Sharpener.

NAME _____

ADDRESS _____

CITY _____

STATE _____

this fall . . . Lyston Selby is construction supt. and will stay on as greenmaster . . . Arch Watkins, now assistant to Bill Johnston at Arizona CC, will be Papago's pro.

Don and Jill Garden to build second nine at their Golf Ranch resort near Branson, Mo. . . . Boyd Cruise is supt. who will do the job . . . Stu Sirbaugh now pro at River Bend CC (Washington D.C. dist.) . . . Fred Swaney and Henry Rodgers buy Lake Harrison resort at Crossville, Tenn. . . . Will increase nine to 18 and change name to Tansi Resort . . . Expect to have first nine of Oak Hill GC, in Newark, N.J. area, in play Memorial Day, 1964 . . . H. O. Davis now gen. mgr. Airco Flight 18 GC near St. Petersburg, Fla. . . . Bob Peters, clubhouse manager at Port St. Lucie (Fla.) CC and prior to that at Meadowbrook CC (Detroit dist.), resigns at Port St. Lucie.

Julius Erdelyi and Joseph Marko planning to build Par 3 nine, 40 bowling lanes, dining room, pro shop and nursery as Bowlers' CC in South Bend, Ind. . . . Troy's lighted Par 3 in suburban Detroit to add second nine . . . Par 3 nine to be part of Sunnycrest Park sports facilities adjoining Henninger Senior high school in Syracuse, N. Y. . . . The course, football and baseball fields, running track, picnic area, etc., are to be built for \$334,485 . . . Brookhaven, Long Island, N. Y., considering building a municipal Par 3.

Some supts. who have been casually consulted by individuals and city officials who plan to build golf layouts with loans from government agencies say the prospective borrowers and course operators have dangerously dim notions of costs of maintaining courses . . . PGA members still unable to get (in print) construction and operation budgets on the organization's two courses, clubhouse and office building at Palm Beach Garden, Fla. . . . All any pro has been able to get on this deal is fuzzy talk and promises that the facts eventually will be disclosed.

Brigham City (Utah) G&CC, playing on city-owned course, is considering building second nine . . . Harlingen, Tex., figuring on adding nine to present municipal 18 and irrigating the entire 27 . . . Sammamish G&CC to build nine near Redmond, Wash. . . . Citizens' Committee pushing for building 18 to plans of Edward L. Packard at Winnebago County Park near Oshkosh, Wis. . . . New York City park department believes its 18-hole Marine Park course and adja-

cent park area may establish a new procedure in land reclamation for coastal cities . . . Garbage and other waste, previously dumped at sea in thousands of bargeloads, are converted into synthetic soil at Marine Park.

Walter Cowan planning to build 18 at Orange, Calif. . . . Valley View GC hopes to have its nine in play this summer . . . Whitesbridge GC, Kerman, Calif., begins building 18 . . . San Leandro, Calif., to open its munny nine in May . . . An 18-hole course to come later . . . Leisure Hills CC plans to build nine in Earling, Ia.

Lochland CC, Hastings, Neb. to build second nine to plans of David Gill . . . L'Anse (Mich.) GC building course . . . Evansville, Wis., building nine . . . Monmouth, Ill., considering building a municipal course . . . Monmouth park board discusses possibility of federal funds for course as Monmouth is in "distress area" with high unemployment.

First nine of River Island GC, near Strathmore, Calif., to be opened in May . . . Bob Baldock is architect . . . Columbus, O., plans to build a second municipal course next year . . . Sunningdale CC, Somersworth, N.H. to open its first nine in May . . . Geoffrey Cornish designed the course, Manuel Francis was construction consultant . . . Jim O'Leary is pro . . . Pushing construction of 18 for Pro Tanto, Inc., at Onset, Mass.

Start building Golf Enterprises, Inc., 18 near York, Pa. . . . Donald R. Nettlow, mayor of River Rouge, Mich., and others to build 18 near Chester, Pa. . . . Jimmy Demaret and Jackie Burke start building second 18 at their Champions' CC at Houston, Tex. . . . George Fazio is the architect . . . Open "Celebrity Colony" real estate development adjacent to the Champions courses . . . Burke and Demaret are interested in the resort community.

Spencer Murphy, veteran professional at Glen Oaks (N.Y.) CC, thoroughly enjoyed the Doral tournament . . . Alfred Kaskel and his son, Howard, who built the magnificent Doral establishment are members of Glen Oaks . . . In the field Murphy had five of his assistants, present and past, playing: Jay Hebert, Bill Collins, Tom Nieporte, Ray Hayden and Gordon Jones.

Brother Joe and I thank fellow members of the Golf Writers Assn. of America for voting us the Bill Richardson me-



STANDARD'S NEW LOW COST TEE MARKERS

JUST **\$1²⁵**

**Virtually Unbreakable
Bright Lustrous Finish
Tremendous Resistance
To Scratching, Marring**

The finest low-cost tee markers available! Solid plastic - almost steel hard - won't split or crack. Super-tough 3 layer finish of special resin resists scratches, bruises . . . stays bright, new looking. Sparkling colors highly visible. 3½" diameter, 4 inch spike. Your choice of red, yellow, blue white.



STANDARD MFG. CO.
CEDAR FALLS, IOWA

WHERE THE FINEST TURF

IS GROWN

GOLF TURF EXPERTS

USE

MILORGANITE

— ALL SEASON LONG

They agree that regular, systematic feeding, Spring, Summer and Fall, with this Natural Organic Fertilizer builds durable, healthy turf, curbs weeds, fights disease. Follow their lead and you, too, will find that your fairways stay green, new roots and shoots develop, turf becomes tougher and thicker!



EASIER HANDLING!

MILORGANITE in the new 50 lb. bags is easier to handle, lends itself to one man application, results in less bag breakage, requires less storage space.

IF YOU HAVE A TURF PROBLEM,
WRITE TURF SERVICE BUREAU

THE SEWERAGE COMMISSION

Milwaukee 1, Wis.

MILORGANITE

The NATURAL ORGANIC FERTILIZER

morial award for "outstanding contribution" to golf . . . Confidentially, we've got to tell you we've never seen anybody who has done anyway near as much for golf as golf has done for him . . . That certainly means us, too . . . In working for the interests of professionals, superintendents and club managers, and for golf as a good business as well as a great game, we have been happy and have made some money . . . Hard to beat that combination . . . Except, maybe by watching and worrying to protect a record of helping and not throwing curves . . . But that's what everybody is expected to do so we can't brag about that any more than Caesar's wife did about her kind of a record.

At the Doral tournament Sam Snead finished in the money for his 52d consecutive tournament . . . It was Sikes' first win as a pro . . . Watch this Arkansas lad . . . Veteran pros say that in less than two years he may be the top man on the circuit . . . He knows a lot of shots and reads courses smartly . . . He is getting his short game polished and, thank goodness, he plays fast.

Dave Ragan and Mike Souchak are shooting for prize money with new fellows cheering for them . . . Dave and Mike recently became fathers of fine sons . . . The boys made the count four youngsters in both the Souchak and Ragan families . . . Jim Ferrier, for a fellow who started playing pro tournaments in 1939, continues to play masterful rounds . . . But gets that one murderous 18 . . . He says tour expenses haven't actually gone up in proportion to prize money . . . In 1950, when he was second in the Masters, he got \$1500 . . . Last year Gary Player, for finishing second in the Masters play-off, received \$12,000.

Mark McLain goes from Silver Lake CC in the Tampa area to pro job at Sun City CC, real estate development course near Ruskin, Fla. . . . Alex Ohlson and Tom Niblet, former Marines, own the Norton (Mass.) GC . . . Ohlson is Norton's pro . . . Jack Devine, formerly with Gardner Dickinson, is his assistant . . . Niblet is pro at Hyannisport Club, Hyannis Port, Mass. . . . Doral's \$50,000 tournament didn't take the fiscal beating it did last year . . . But it still was far in the red . . . Frank Strafaci did a competent job as tournament director and the Kaskels, father and son, don't show symptoms of bleeding internally at what

You Select it...

NELSON—RAIN BIRD

has the system to fit
your Sprinkling Budget!

Nelson-Rain Bird makes available the world's most complete line of golf course irrigation equipment. With this to work from, there is no problem in custom-designing a sprinkling system that fits well within your budget. It also offers you the assurance of getting the finest quality equipment available to do the job you need done! This assurance is yours, even if you must work within a minimum budget!

NELSON — RAIN BIRD

*The world's
most complete line of
sprinkling equipment.*



- GREENS ONLY
- GREENS AND TEES
- GREENS, TEES AND FAIRWAYS
- AUTOMATIC SYSTEMS

For complete engineering and design information, contact your local Rain Bird Dealer or write direct to:

IN WEST: NATIONAL RAIN BIRD SALES & ENGINEERING CORPORATION
P.O. Box 547 ● Azusa, California
IN EAST & MIDWEST: L. R. NELSON MFG. CO., INC.
RAINY SPRINKLER SALES DIVISION
609 West Lake Street ● Peoria, Illinois

the event costs them.

Doral is going to add a third full size 18 . . . It also has an 18-hole Par 3 . . . Some time when golf cars for galleries get as much use as they do in the Palm Springs district, and the users show good sense, there'll be a bale of money added to tournament revenue . . . Doral keeps 118 cars busy carrying its daily play.

To build new 9-hole course at Siloam Springs, Ark . . . Open Needles (Calif.) municipal course . . . Jack Mann is pro . . . Farmington, Utah expects to have its nine at Davis County park in play in August . . . Start building 18 at Sunset Hills, Sunset International Petroleum Corp. development in Hacienda Heights of Los Angeles dist . . . Bill Bell is architect . . . Fremont County (Ia.) to open its nine south of Sidney in spring of 1964 . . . It is first county-owned course in Iowa.

Open first nine of Apache Wells Mobile Home Park six miles northeast of Mesa, Ariz. . . Jack Snyder is architect of the 18 . . . Cincinnati to start building its Neumann Memorial 18 this summer . . . Payette, Ida., opens municipal nine . . . Plan to start building Whitehaven CC in suburban Memphis this summer . . .

Irvin Kahn to build 18 in San Diego area on Highway 395.

John and Fred Wozniczka and Alvin Bieling to build 18 in town of Cicero, N. Y. . . Mesquite, in suburban Dallas, Tex., debating where to put municipal course . . . Old Oak GC, Baton Rouge, La., building second nine . . . Bobby Hill expects to open Sunny Crest CC, Brockport, N. Y., in July . . . It will have 27 holes . . . Membership fee for first year will be \$100 . . . Hill says TV will bring out new golfers who will need considerable education in rules and etiquette . . . He says: "If we don't stress care of the course and golf manners, television may breed for golf a Frankenstein. We will see beer cans and soft drink bottles on our fairways and greens and it'll be worth your life to stroll the course without a helmet."

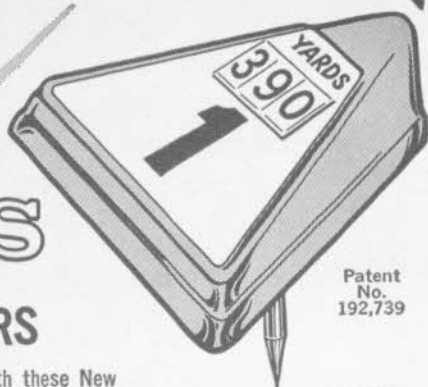
H. Francis Shuster and Mrs. (Marjorie) Shuster are pro-manager and social director of E. J. Bowe's Harbor City CC, Eau Gallie, Fla. . . For previous two years Shuster was pro-manager Pine Crest CC, Largo, Fla. . . While supt. of recreation of Springfield, Ill., in 1956 Shuster organized Lincoln Greens GC . . .

WHAT HOLE? WHAT DISTANCE?

NEW CHECK -yards

CERAMIC TEE MARKERS

Clubs all over the country are marking courses with these New Ceramic Tee Markers. Good reasons — they never need painting, never rust, never need maintenance, never discolor. Made of enduring high-fire, high impact ceramic. Sold in complete sets for 18 holes with your distances permanently fired-in. Available in championship blue, men's white or women's red. White face, color lettering. Only \$90. per set net. Order direct on club stationery or from local distributor. Write for details. NOW . . . also available . . . PAR markers in colors to match.



Patent
No.
192,739

plus

one
NO
CARTS
marker
FREE



with each set for
limited time only.

NEW JERSEY PORCELAIN CO., Box 5103, Trenton 8 N. J. **Yellow body, maroon letters**

Robert Bruce Harris designed the course and Chuck Maddox built it . . . Harbor City CC will open in Oct. as golf and "health" club.

Thomson Club, North Reading, Mass., opens first nine of its 18, and clubhouse . . . Coca, Fla., to build munny 18 as part of \$1 million recreation development, financed by federal loans . . . K. W. Van Landingham opens his Oak Ridge CC 18 and clubhouse . . . Hans Schmeisser built the course and stays on as supt. . . John Handweg, Riverdale, N. J., expects to have his 18 on Knob Hill farm near Hightstown, N. J., this summer.

Planning to build nine at De Soto, Mo. . . . Open Chemung GC near Waverly, Pa. . . . Lou Tomasso, Sayre, Pa., is operator of Chemung . . . Contest brought "The Pines" as name for course to be built at Woodruff, S. C. . . . Los Angeles County officially opens La Mirada 18 and clubhouse in southeastern part of county . . . Bill Bell is architect . . . National Exhibit Co., parent company of San Francisco Giants, to build 18 at its Francisco Grande resort at Casa Grande, Ariz.

Expect to have Black Canyon CC nine at Boulder City, Nev., built this year as

result of deal with Thomas Companies . . . Cortez, Colo., expects to have munny nine to plans of J. Press Maxwell in play in spring, 1964 . . . Castle View CC nine-hole fee course at Atwater, Calif., to open soon . . . Jim Vinum is pro.

Grundy Center, Ia., considering building course with Farmers Home Administration financing . . . Construction begun on Shepherd Hills CC course as part of community development at Allentown, Pa. . . . Metropolitan District Commission considering building course on Boston's suburban North Shore . . . Construction of E. J. Burke, jr. Pecan Valley CC 18 at San Antonio, Tex. being pushed . . . Brooks, Harvey & Co., New York City mortgage investment firm, planning 2,000 acre Florida industrial park with 18 hole conventional course and a Par 3 among recreational facilities.

Nishna Hills GC, Atlantic, Ia., to open its 18 Memorial Day . . . Clarendon County CC, Manning, S. C., expects to open its 18 in July . . . Construction started on 18 hole short course at \$5 million Treasure Island development at Lubbock, Tex. . . . Warren Cantrell is golf architect . . . Carbondale (Ill.) park district in-

Las Vegas Amateur Cup



This Gold Cup, 20 inches tall and weighing 230 pounds, including its 140-pound gold and black marble base, is to be awarded to the winner of an amateur team tournament now being played at Desert Inn CC, Las Vegas. Valued at \$15,000, the cup has enough gold in it to produce more than 1,000 wedding rings. Its crown contains a 14-karat gold Joshua tree and Sun, the Desert Inn's symbol. The tournament runs until June.

investigating financing of proposed 9-hole course . . . Proposed course was part of improvements bond issue defeated Nov. 17.

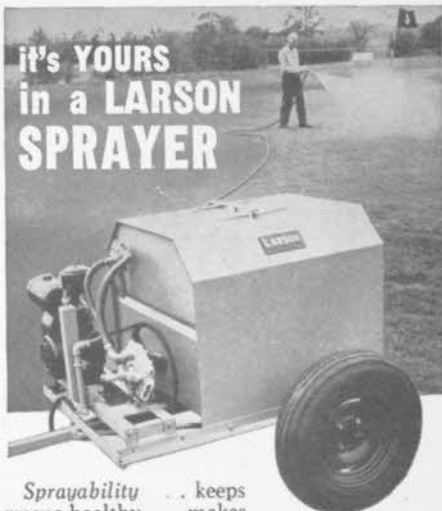
Edwin Gage, Royal Oak, Mich., is pres. Four Seasons Lodge Corp. which plans to build two 18s at \$4.2 million resort near Pontiac, Mich. . . . Planning nine at Beemer, Neb. . . . Expect to have first nine of Port Royal GC on Hilton Head Island, S. C., completed this fall . . . George Cobb is architect.

Start building second nine of Del Webb's Sun City south of Riverside, Calif. . . . Hardie Scott, Philadelphia, to build nine at development in suburban Philadelphia Tredyffrin township . . . Discussing construction of 18 at Noyac to serve Southampton, Sag Harbor, Riverhead, N. Y. and adjacent Long Island communities . . . Open Royal Lahaina GC and Beach Hotel at Maui, Hawaii.

West Haven, N. Y. plans to build 18 and other recreation facilities with Community Facilities Administration help . . . Oak Hill GC to build nine near Frenchtown, N. J. . . . Bert Penrose plans to build nine at Yerington, Nev. . . . Cobb County, Ga., residents in drive to get public course near Marietta . . . Cobb County's O. B. Keeler course, the county's only public course, was sold to private Pinetree CC . . . Miami (O.) university announces recreation facilities plan including 9-hole course . . . Cracker Village Par 3 nine at Augusta, Ga., to open May 30 . . . Stanley Drabik to open his Cedar Ridge GC Par 3 at East Lyme, Conn., Labor Day.

(Continued on page 178)

SPRAY ABILITY



it's YOURS
in a LARSON
SPRAYER

Sprayability . . . keeps greens healthy . . . makes putting sheer pleasure . . . beautifies fairways, shrubbery and trees . . . keeps them clean and healthy. *Sprayability* is EXTRA engineering excellence, featuring: broad pressure range to meet all spraying requirements; longer pump and motor life through special Larson unloading valve; coated corrosion-resistant tank with large opening; adjustable solution agitation; and, of course, Larson-engineered ruggedness of construction. All of this is *Sprayability*. This is the Larson High Pressure Sprayer.

12 models. HP300 and HP150 Series. 300 and 150 gal. tanks. 22 and 11 GPM pumps. Engine, PTO drives. Trailer, skid mounted.



ACCESSORIES: Spray Boom, Hand Guns, Hose Reel, Wheel Jack, etc.

The LINK LINE by LARSON

L. L. LARSON MACHINE, INC.
228 WALNUT ST. PRINCEVILLE, ILL.

Please send literature on the SPRAYER.
Also Larson BROAD-CASTERS

NAME

ADDRESS

CITY STATE

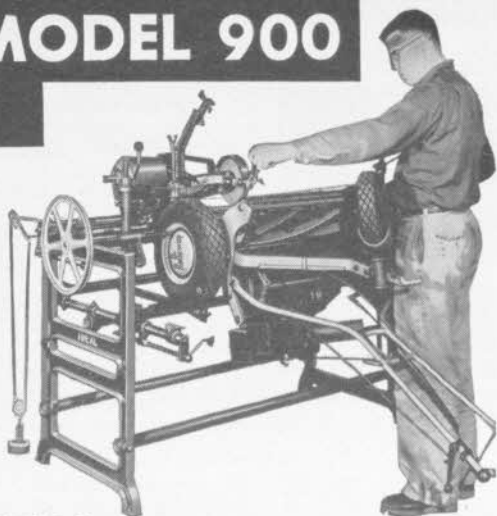
GREATER VERSATILITY — THAT MEANS BIGGER PROFIT FOR YOU!

NEW IDEAL MODEL 900 SHARPENER

Grinds Largest To Smallest Reel-Type Lawnmowers

NEW IDEAL MODEL 900 sharpens everything from the smallest edger to the largest fairway or power unit. Heavy-duty machine precision grinds either by "straight-line" or "hook" methods to give you extra versatility, bigger volume.

OUTSTANDING FEATURES INCLUDE: ½ h.p. motor, gravity-type feed, 6-inch grinding wheel, simple screw-type adjustments. With reconditioner, tool tray and bed-knife grinding bar.



TWO-WAY GRINDING OPTION

Get Full Details Today On New Model 900 Sharpener

THE FATE-ROOT-HEATH COMPANY

Dept. G-4

PLYMOUTH, OHIO

Maintenance of the Engine-Driven Car

(Continued from page 38)

by tapping, replace with a new element. Also replace the element if it is crushed or bent or, if the faces which must form a tight seal against the back plate and cover, are cracked or deformed.

In reassembling the air cleaner, make sure the element is seated properly against both back plate and cover and tighten the cover securely. Be sure there are no air leaks at the gasket joints between air cleaner, carburetor, and cylinder block. If the air cleaner is mounted somewhere else than on the engine, check hoses and all connecting points to make sure they are air tight. Replace any faulty part.

b. Oil bath air cleaners: Remove the cleaner cover, check oil level, and add oil as needed to maintain the indicated level. If the course is very dusty, clean the air cleaner and replace the oil every 25 hours or less.

3. Readjust starter-generator belt if necessary. When thumb pressure on the belt at the midway point between pulleys deflects the belt ¼-inch, the belt is at

proper tension.

4. Wipe oil and dirt from fins, shroud and baffles.

Every 100 Operating Hours

1. Perform regular 25-hour service.
2. Replace spark plug or recondition by filing electrodes and resetting gap to .025. Use Champion J8 plug or equivalent. Sand blasting of plugs is not recommended.
3. Check ignition timing. Reset if necessary by adjusting breaker points.
4. Remove, clean, and replace sediment bowl.
5. Check carburetor mixture and speed settings. Idle speed range is 1000 to 1300 RPM on older models. Newer ones idle down to 800 RPM. Top operating speed is 3600 RPM.
6. Lubricate starter-generator through hinge caps at both ends, applying 8 to 10 drops of light engine oil.
7. Inspect the voltage regulator mountings. Tighten mounting bolts and wiring connections.
8. Check the throttle shaft on the carburetor. If it becomes worn, dust can enter the engine. New engines now have Teflon-coated throttle shafts with three times the life of uncoated shafts.

Keep These Precautions in Mind

If the responsibility for cars falls to someone who has no experience with engines or engine-driven equipment, the following precautions should always be followed and are especially important:

1. Stop engine before filling fuel tank. Avoid spilling gasoline on a hot engine. Use fresh, clean gasoline or regular grade. Do not mix oil with gasoline. Be sure the vent hole in the fuel tank cap is open.
2. Disconnect spark plug cable before making any adjustment on engine, transmission, or associated parts.
3. Allow engine to warm up before applying load.
4. Do not operate at speeds greater than governor setting or run continuously at wide open throttle.
5. Whenever possible, remove load and let engine idle briefly before stopping.

Keep It Clean

While we're talking dollars and profits, any golfer is more apt to rent a car — and treat it with respect — if it is clean. Whoever services the cars can make them more popular simply by using sponge, water, and elbow grease on his fleet of golf cars once a day. The job takes only a few minutes.

Cars in Storage

If an engine is to be out of service for some time:

1. Drain carburetor by loosening the nut on bottom of carburetor bowl; then retighten it.
2. Drain fuel tank.
3. Drain sediment bowl.
4. Remove spark plug and pour a tablespoon of oil into the engine cylinder. Replace spark plug and crank engine by hand, stopping on the compression stroke.
5. Clean exterior of engine and spread a film of oil over exposed surfaces which are subject to corrosion.
6. Store the engine in a dry place.

Mechanical Planting

(Continued from page 70)

soon as the grass is planted.

Light Watering Best

Three light waterings per day is best. If this is impossible, do not fail to get it watered at least once per day. Temperatures, soil, and wind will determine the daily water requirements. One-eighth of an inch is generally the minimum, one-quarter inch average. If soil is dry

AT LONG LAST THE combination TOP DRESSER - SPIKER PLANTER

Will spike and topdress in one operation. Also an ideal stolon planter.

Dressing Capacity 4 cu. ft.
3 Foot Spread

POWER DRIVEN

3 Horse,

4 Cycle Motor



This machine will topdress 150,000 sq. ft. of putting surface in one 10 hr. day. All metal-electric welded. Four rubber tires and two split rear rollers. Sold through dealers only. See your local dealer or write:

(Patent applied for)

Fraser Top Dresser-Spiker

12 Center Street
Travelers Rest, S. C.



SOLVE all your TURF PROBLEMS!

— with products of proven effectiveness
in modern turf management.

WE SHIP DIRECT

a specialized line of

- LIQUID FERTILIZERS
- FUNGICIDES
- HERBICIDES
- INSECTICIDES
- WETTING AGENTS

PROVEN SATISFACTION since 1939

write for FREE 1963 catalogue!

American Liquid Fertilizer Co., Inc., and Rokeby Chemical Co.
Marietta, Ohio • P. O. Box 267 • Phone: FR 3-1394

at planting time, one-half inch or more ought to be applied the first day. The upper three inches of soil should be kept moist. As the grass begins to take root frequency of the watering can be reduced and the amount of water per application increased.

Grass planted with a straight disc type planter needs fertilizer in the upper two inches of the soil. You should mix the fertilizer materials with the soil, but a light drag is best in order to avoid getting the mixture too deep. Frequent light applications of nitrogen fertilizers beginning one week to ten days after planting will hasten development. Quick acting fertilizers will give better results on newly planted grass.

How Plants Respond

(Continued from page 66)

tures well within the favorable range for growth throughout most of the year. In contrast, in the Mojave Desert, where summer day temperatures may be very high, these grasses are much more dependable and satisfactory. Two climatic features of these areas may account for this rather surprising observation. First, diurnal temperature fluctuations are great

in the desert, but of only a few degrees along the coast. The cool nights on the desert perhaps affect the growth responses of bluegrass much more than do the high day temperatures. Second, desert winter temperatures are low. Our studies and those of others indicate that cold temperatures stimulate the subsequent development of new bluegrass shoots, resulting in a denser sod. Thus we may have the maintenance of dense turf year after year on the desert but a gradual thinning of the turf in coastal areas.

Low Disease Potential

The third factor, not directly related to our subject, should be mentioned. Cold winter temperatures keep the disease inoculum potential at a lower level in the desert regions. Hence turf grown on the desert may not be ravaged by disease as quickly as in areas of milder climate. The low humidity of the desert is also, of course, a factor in keeping down disease incidence.

One other effect of cold winter temperatures is of considerable biological importance. This is a reaction called vernalization. Many of the cool season grasses, such as bluegrasses, fescues, bentgrasses and others will not flower and produce seed unless first given sufficient