just 5 feet above it, if the tile are to be placed 18 inches below the surface. If they are to be deeper, the depth should be subtracted from 5 feet and the stakes carrying the line driven in so that they are that distance above the grade stake. The edge of the ditch should be about 6 inches away from the grade stakes, so that the line will not be in the way while working. A gauge is made in the form of a capital L upside down. One arm is 2 feet long and the other 5 feet from the end to the lower part of the horizontal arm. The grade of the bottom of the ditch is obtained by placing the end of the upright part of the gauge on the ditch bottom and noting whether the horizontal arm touches the line. When the underside of the arm just touches the string, the ditch is on grade. Care should be taken to see that the gauge is held vertical or some error will result.

For Ditching
Hand Labor Is Best

The ditches should be dug by hand and a good tiling spade provided. The last part of the ditch should be taken out with a ditch cleaner, which shapes the bottom of the ditch to fit the tile. The tile should be laid with a tile hook, or by lying down and placing them in the ditch by hand. Walking in the ditch spoils the shape of the bottom and walking on the tile moves them out of position. The tile should be placed close together as possible, and any wide joints should be covered with broken pieces of tile.

The ends of the laterals at the edge of the green and at the starting point of the main line should also be covered with pieces of broken tile to keep the soil from entering them. It is also a safeguard in sandy soils to place an inverted tough sod or piece of tar paper over the joints. In order to prevent crumbling in of ditches or sinking of fill, the tile should be packed with cinders to within 8 inches of the top in clay soils, and 1 foot in sandy soils. If the green is to be sodded or planted, a few inches of soil should be placed on top of the cinders and watered down thoroughly, adding a little more soil and watering it down. This procedure should be repeated until no more settling is noticeable. It is important that this method or some similar one be used to settle the soil before planting, otherwise depressions will be found where the tile lines are laid.

UNITED STATES RUBBER CO. comes up with a golf ball Christmas deal that will do business for pros this year. There are three sizes of boxes; for 12, 6 and 4 balls. The boxes are striking, beautifully designed jobs, made of gum wood, cedar-lined and finished with a brilliant Christmas red lacquer that stands out and adapts itself to any color scheme.

For cigar and cigarette humidors for men and as trinket boxes for women the boxes have a strong appeal and utility. A wide range of U.S. balls is offered. In the 75c balls there are US Royal-Spun Latex, US 444, Royal P.G.A. Championship, Royal P.G.A. Tough Cover; and the US Fairways in the 50c class.

Suggested retail price for the 75 cent balls packed in the dozen size gift boxes is $9.75; in the six ball size, $5.00 and in the four ball box $3.50. On the 50 cent US Fairway the retail prices suggested are $6.75 for the dozen ball box; $3.65 for the six ball box and $2.50 for the four ball box.

Pro margins on the Christmas packages are good, with the pros getting the packages for less than they cost US.

"An important thing about this Christmas ball selling," says E. C. Conlin, US Rubber golf ball sales manager, "is for pros to get started early and to put special attention on sales to their members who are corporation officials. These men do much gift buying for their employees and business friends. Shopping is a problem to them and their pro can get into their offices when other salesmen would find entry almost impossible.

"The pro profit from effort and brains on the Christmas boxes comes in at a time when most pros can use money. It’s a field wherein the pro shouldn’t put off his work but ought to start strong early in November."

WILSON SPORTING GOODS CO. again sets before the pros a combination of Christmas selling packages for golf balls that ought to score even stronger than the Wilson gift line-up last year and that went to town for the live boys. There were pros who sold Wilson balls up to the 100 doz. mark with the 1934 Wilson ball Christmas package proposition.

One Wilson Hol-Hi twelve ball gift package is a handsome box for men in which cigars, cigarettes, handkerchiefs, dress jewelry or other knick-knacks may be stowed. This box has, in addition to the balls, three sports handkerchiefs. Another Hol-Hi dozen ball deal has six handblown...
glasses, each containing two balls and the lot of them packed together. There is a third Hol-Hi deal with a dozen balls packed in a chuck-a-luck cage, including dice and playing cloth, and a fourth offer of roulette wheel and cloth.

For the women there are twelve Helen Hicks balls packed in a beautiful makeup box. This is something the gals and their boy friends will go for. The choice of containers for the gift propositions on the Wilson balls this holiday season open up a market that hustling pros will get to work on energetically.

A. G. SPALDING & BROS. helps pros put in a strong bid for gift business by a couple of Christmas cards that have a great record of producing business last year. Spalding supplies each pro with as many as he wants of each card. One card carries a message to members' wives. It's headed “Let us tell you about your husband.” The other card is headed “Got a golfer on your gift list?” Both cards are printed attractively in Christmas style. Neither card mentions Spalding, but are to go out over the pro's signature.

Pros are urged to order these cards from their nearest Spalding branch quickly. The Spalding organization advises pros to do up all gifts from the shop in special Christmas wrappings and to arrange to make deliveries from the pro shop Christmas morning.

Naturally Spalding clubs and balls fit right into the Christmas card solicitation so the outfit cashes in nicely along with the pros who mail these cards early to their members and their wives.

ACUSHNET this year will have as a Christmas wrapping dozen and half-dozen boxes for their balls. Attractively made and finished cedar boxes will be the Acushnet gift containers.

THE PENFOLD ORGANIZATION, 67 W. 44th St., New York City, has been appointed American agents and distributors for the new Jack White woods and irons, now being made under White's personal supervision at Gullen, Scotland, Milt Heyman announces. New designs are used for all wood heads and the irons will introduce two new styles—one known as the “Sit rite” and the other with a corrugated back, all hand forged, of course, and rustless. The Jack White line will be sold only through pros.

RUSS SODA FOUNTAIN CO. succeeded in working out a self-contained draught and bottled beer service unit for small space, in which the Russ rapid-cooling method is employed. The method is said to eliminate practically all beer waste and produce an extra clear profit of from $1.25 to $2.00 on every half barrel. Ice is used in the refrigerating compartments.

FATE - ROOT - HEATH CO., PLYMOUTH, OHIO, reports an excellent sales volume this season on its Silver King tractor. "The Silver King is our conception of a universal tractor for golf course work," says John A. Root, president. "The tractor has light weight, flexibility, adequate power, remarkable economy of operation and minimum repair needs. Greensmen who operate the Silver King will back up every one of these claims."

The Company has an interesting descriptive folder, which will be sent on request.

SPALDING PGA balls, intended for the Christmas trade, will be coming through in special Christmas box wrappings. The wrapping has plenty of eye appeal and admirably conveys the holiday spirit.

JOHN BEAN MFG. CO.'s new line of Armored Royal all-steel sprayers with many new construction features, met with such unusual favor that this line is being extended for 1936 into the medium capacity field. These medium capacity sprayers will be of particular interest to golf trade because of their compact construction, easy hauling, and pump and engine capacity in the range regularly used for golf course work.

These outfits are all suited to continuous operation for pressures of from 400 to 600 pounds and with proper type nozzles this higher pressure forces the chemicals for treatment of greens and fairways, through the turf and to the roots without opportunity for wastage of materials.

New catalogs describing this complete line of equipment will be ready for mailing November 1st and a card to GOLFDOM
At Sulphur Springs, Fla., these three McCormick-Deering diesels operate generators to supply power for lighting and operation of motors in a 100-room hotel, 15 apartments, 8 stores, 2 restaurants, 6 residences, 16 other electric refrigerators, a gasoline filling station, a 25-hp motor which fills the town water tank, and illumination for a swimming pool and 250 bath houses. Maximum load is 80 kilowatts. This set-up indicates the efficiency and economy of diesel power for club purposes, for which a much smaller unit than the above would meet all club demands.

or direct to the John Bean Mfg. Co., at Lansing, Mich., will bring this descriptive circular and prices.

THE MONROE COMPANY, COLFAX, IOWA specializes in equipment for golf courses having sand greens. One of its most interesting and practical items is the Permanent Putting Path, a fast accurate putting surface 2 feet wide which is installed from cup to back edge of sand greens. Installed in this location it permits heavy sand to be used on the rest of the green so that pitches will stick. On the path, the sand is regulated to give putting resistance equal to the finest bent greens.

The company issues a complete catalog of sand green equipment and supplies, which will be sent on request.

BERNARD GLOEKLER CO., 1627 PENN AVE., PITTSBURGH, kitchen equipment manufacturers, is pushing two new items in its line these days—a new 5 by 3 foot range, and the "Millrace" dishwashing machine.

The range—model 536B—has a wrought iron top with nine burners on the cooking surface, or five burners if a griddle and broiler are desired. The two ovens are of different sizes—one 22x22x14 1/2 inches, the other 26x22x14 1/2 inches. Oven bottoms are cast iron and have roast-pan rests to keep pans from direct contact with oven bottom. Economy of operation and full use of every burner of the cooking surface are the outstanding features of this range.

The dishwasher recommends itself to country clubs because of its economical water requirements. Where many vertical type dishwashers of 4,000 piece-per-hour capacity use 8 to 12 gals. of water per minute, the Millrace will handle the same number of pieces while consuming only 1/2 gal. of water per minute. This water economy means soap powder economy too; the makers state only 1 1/2 cups of powder are needed for 1 1/2 hours of washing. The machine can be heated either by gas or steam, and the motor consumes power equal to one 40-watt lamp.

THE HOWELL CO., ST. CHARLES, ILL., designers and makers of metal furniture, will shortly have ready for distribution to interested club officials a new 36-page catalog of new items developed for the Howell 1936 line of modern chromesteel furniture. The new items include upholstered suites, occasional chairs, cocktail tables and small occasional tables. All were designed by Wolfgang Hoffman, noted furniture stylist.

Golf and country clubs planning to re-furnish and modernize clubhouses will be sent a copy of the new catalog on request.

WORTHINGTON MOWER CO., STROUDSBURGH, PA., has taken over operation of the famous Shawnee CC at Shawnee-on-Delaware, as a field testing and experimental course laboratory.

PORTABLE ELEVATOR MFG. CO., BLOOMINGTON, ILL., makers of Little Giant Spreader, advise that no major changes will be made in this popular greenkeeping machine for next year. There will be a few refinements, but in
L. A. Young Golf Co., Detroit, Mich., held its 1935 sales convention August 22-24, at the Wing Lake estate of Pres. L. A. Young. Here in a spacious pavilion fronting on the lake, the 1936 Hagen line was presented to the sales representatives of the company by Vice-Pres. E. E. Chapman. The meeting wound up with a golf tournament at the Red Run GC, followed by a banquet at which Walter Hagen officiated as toastmaster.

UNITED STATES RUBBER CO. has applied the lessons of cord tire construction to golf course hose in a successful effort to offset harsh treatment hose gets in course maintenance. Results of this work feature the golf course hose US presents for 1936 budgets.

J. A. Muller, of the company’s hose division, names as leading features of this manufacturing development: a substantial increase in burst resistance, increased resistance to external abuse, increased flexibility, and greater strength and durability at couplings.

Spiral cord sheathings, running in opposite directions to balance strain, are enveloped in rubber sheathings in a manner that produces a close and enduring bond between the component parts, says Muller. Obviously this construction calls for multiples of two plies. Over all a sturdy covering of rubber is applied.

Especially proud of the US golf hose performance this year is the San Francisco branch of the company which sold the hose into the service of leading clubs in that section. In the San Joaquin and Sacramento valleys where summer temperatures are extremely high, the hose has stood up splendidly despite the injury that hot water usually does to golf hose.

Four prominent Cleveland clubs, Canterbury, Acacia, Oakwood and Shaker Heights, report that with automatic coal stokers, not only are fuel costs lowered, but also heat is more uniform. Members find their clubhouses comfortable during the cold months. The smoke nuisance is eliminated.

Elmer E. Heasley, Jr., pres., Acacia, reports "a 51 per cent reduction in fuel costs without any temperature corrections. The installation has given us extreme satisfaction; we have plenty of hot water and even temperatures at all times.”

E. B. Roberts, pres., Canterbury, states his club’s stoker has reduced fuel costs about 25 per cent. One advantage noted is that it has enabled the firemen to devote more time to other work in the clubhouse.

R. D. Clark, pres., Shaker Heights, reports: “From February 1, 1932, to February 1, 1933, we used hand-fired coal at a cost of $984.64 and gas for hot water for kitchen, laundry, etc., at $1,516.40; total $2,501.04.

"After the installation of an Iron Fireman stoker on February 1, 1933, we used from that date to February 1, 1934, coal at cost of $663.20 and gas at $707.97; total $1,370.99, or a net saving of $1,130.05 for the year. This was accomplished by the installation of an indirect hot water heater and the remaining gas is now used for steam tables in the kitchen. The above figures represent a 45 per cent cut in our fuel cost, and it is needless to say that we are very well pleased with our installation.”

THE KALO CO., QUINCY, ILL., has a development in insecticides which should be of interest to greenkeepers. J. W. Lusk, president, advises:

"We have found a way of greatly increasing the insect toxicity of Kaloil, our concentrated pyrethrum insecticide, and tests made during this past season on golf greens for sod webworm showed that, as far as we could tell, Kaloil was superior to other pyrethrum sprays for this purpose, and was somewhat more economical to use.

"Our best results came with Kaloil at a dilution of 1 to 600, using 100 gals. to each 1,000 sq. ft. of green. Very effective and satisfactory results were secured when a smaller amount was used, in fact much
FOR FINE TURF

Use Hyper-Humus to enrich your soil and grow fine, green, long-lasting and uniformly sturdy turf. Famous greens give credit to this rich, black, cultivated peat humus. Government and soil experts approve it. Ask your local dealer for it and start this Fall to build your soil Nature's way.

HYPER-HUMUS COMPANY
Plant: Newton, N. J.

FINE SAND GREENS
vs. POOR GRASS GREENS

Monroe Permanent Putting Path can be installed in any sand or grass green at little cost. Fast as bent, accurate as a billiard table. Takes the Prayer out of Putting. Permits all normal golf shots. Cuts green upkeep to minimum. Write for details MONROE CO., COLFAX, IOWA.

NEW LIFE FOR GREENS & FAIRWAYS

"Lime Crest" CALCITE (Pulverized) does wonders in sweetening soil, making grass on greens and fairways grow lush and green. Finely pulverized high-calcium limestone—quick acting, long lasting. Write for full information. Limestone Products Corp. of America, Dept. 159, Newton, N. J.

MARTIN DENNIS CO., 859 SUMMER AVE., NEWARK, N. J., makes Lexol leather conditioner which has been getting a good play at eastern golf clubs this summer. The preparation preserves and restores leather. Golf shoes treated with Lexol after being worn through the wet don't dry stiff. Grips, golf bags and gloves treated with the material retain softness and resist the tendency to glaze or to scuff or scale on the surface. Cost is low so the Lexol proposition has gone over well as a new service at pro shops and in locker-rooms.

Greenkeepers have been watching with more than ordinary interest startling experiments with the so-called "rare elements" in fertilizer being made by soil technologists of the Department of Agriculture. As a result of this work rare elements that were formerly ignored have begun to assume vast importance and many fertilizer users and manufacturers are finding it necessary to recast their entire concept of fertilizer values.

The chemical analysis of Milorganite made for the MILWAUKEE SEWERAGE COMMISSION by the University of Wisconsin is probably the most detailed and thorough analysis of fertilizer ever made. This complete analysis was made from a better than would normally be expected, but this would be our recommendation.

"Kaloil is a special type of pyrethrum insecticide in which is incorporated a patented oxidized sulfonated oil spreader which energizes the pyrethrum, is active in itself, and give much better coverage and penetration than when pyrethrum is used with soap or with saponified oils. For general purposes with plants, Kaloil can be relied upon to kill any insect on contact at the proper dilution, and is non-poisonous."

A feature of many club buffet luncheons that will grow in use next season is the WILSON & CO. new line of vacuum-cooked luncheon meats, known as Wilson's "Lasting Flavour products". They are packed mostly in 6-lb. net oblong tins, which makes sandwich-size slices.

The line consists of 30 items such as brisket beef, hams, fancy suize, pork and ox tongue, boneless pork hocks, chi-pork tidbits, spiced beef and canned chicken. These delectable prepared meats are highly economical because there is absolutely no waste and no additional cooking is required, and they are a "friend in need" to managers when an unexpected rush of hungry golfers occurs. Because there's no advance preparation necessary, there's no loss if the weather turns bad and the crowd doesn't show.

DIAMOND STEEL CENTER TRACTOR SPUD

 Always Sharp
 Extra hard steel core keeps spud sharp until completely worn away. Softer outside steel wears first, leaving harder center. Will not harm turf. DIAMOND CALK HORSESHOE CO. 4702 Grand Ave., Duluth, Minn.

BENT GRASS

Vigorous, healthy stock that develops fine, true putting surfaces. Write for full information.

HIRAM F. GODWIN
composite of hundreds of samples taken from 27,000 tons of Milorganite and showed that, in addition to organic nitrogen, phosphoric acid, and potash, Milorganite is abundantly supplied with other common elements used by plants such as calcium, magnesium, sulphur and iron, as well as copper, manganese, lead, chromium, titanium and other rare elements.

Soil analysis indicates that many so-called “poor” soils are deficient in one or more of the rare elements. Thus the use of Milorganite not only provides the commonly accepted fertilizer elements, but also supplies the other less common and rare elements now recognized as being vital to healthy plant growth. This is one reason why Milorganite has been such a successful fertilizer.

The Sewerage Commission will gladly furnish a complete analysis of Milorganite to any interested Club or Greenkeeper.

LYON METAL PRODUCTS, INC., AURORA, ILL., is introducing to clubs its new Steelart Style “D” Bridge Set, consisting of table and four chairs.

The double, tubular-designed rail and tapered legs of the table are of steel, welded throughout. Top is a rigid, beverage-proof upholstery. There are no unslightly struts, braces, sharp edges, or corners, the makers point out.

This new Steelart Set, with wide and comfortable, curved seat chairs, is available in several shades of enamel and in several full-chrome or chrome-enamel combinations.

IDEAL POWER LAWN MOWER CO., LANSING, MICH., following a full season’s development work, announces a new fairway mower that will be ready for the market several months prior to the 1936 season. The new mower will be available in three, five, seven and nine gang sizes.

This new Ideal “Bulldog” mower design includes many important features and improvements, the makers announce. Cutting units, which are sturdy and very compact, use the simple, fool-proof pinion drive with gears of cut steel, carefully
Weeds in rough, traps, pathways are quickly destroyed once and for all with the new AEROIL No. 99 BURNER. Ideal to use in Fall for burning dune patches of clover or other weeds in greens before reseeding. Effective also for sterilizing compost to kill weed seeds; destroying insect pests; and 101 other uses. Burns kerosene, gasoline, stove oil, etc. Simple, economical. ABSOLUTELY SAFE! Endorsed by practical greenkeepers. Illustrated Folder, 183 G Free. AEROIL BURNER CO., West New York, N. J., or Chicago, Ill., or San Francisco, Calif.

SAVE YOUR GREENS FROM DESTRUCTION BY WORMS, BEETLES and GRUBS WITH DOW LEAD ARSENATE THE DOW CHEMICAL COMPANY MIDLAND, MICHIGAN

PHOENIX RED TIP TRACTOR SPUDS Extra Long Service Made of a special analysis steel, hardened by the latest scientific heat treating methods. Sizes from 1/2 in. to 3/4 in. Also Mower Spuds. Inquiries invited.

PHOENIX MANUFACTURING COMPANY Joliet, Ill. Catasauqua, Pa

- Pros
- Managers
- Greensmen

Be sure to fill out and return Postage Free your GOLFDOM questionnaire which was recently mailed.

Our entire business is devoted to growing fine bents both creeping and velvets. Our only income is derived from selling these bents. We are fine turf specialists.

CREEPING BENTS
OLD ORCHARD
WASHINGTON
METROPOLITAN

VELVETS
B. P. I. 14276
MOUNTAIN RIDGE
KERNWOOD

OLD ORCHARD TURF NURSERIES
Madison, Wis. R. R. Bond Box 350
ST. MUNGO MFG. CO., has been dissolved and after 35 years with the St. Mungo business Jack Jolly and his son Bob have started in on their own to build up another Colonel ball business.

The new line of Colonel balls and private brand balls that Jack and his boy will handle will be made by Spalding. Jack started on the Colonel come-back October first and already has had solid results in getting some pro business. Jack's new address is 872 Broadway at Verona ave., Newark.

WANT ADS

Well known greenkeeper, possessing highest recommendations throughout mid-west, desires change. Expert in all details of course maintenance and construction work on depression budget. Address: Ad 1009. % Golfdom, Chicago.

For Sale—One Indoor Golf Net 12 x 12 x 25 ft. $125 value, like new—for $85. Address: Ad 1050, % Golfdom, Chicago.


Professional desires position with a Metropolitan district club. 14 years' experience with six clubs. Excellent clubmaker, good player and noted for teaching ability. Address: Ad 1063, % Golfdom, Chicago.

For Sale—Nine hole golf course overlooking ocean on Oregon Coast Highway with half mile beach frontage. Will sell to reliable party on terms. Address inquiries: Box 646, Brandon, Oregon.

Pro-Greenkeeper desires change. Seven years at present club. Dependable character, excellent references in regard to course upkeep, teaching and shop activities. High credit rating. Class A member P. G. A. Club finances make change desirable. Address: Ad 1005, % Golfdom, Chicago.

Wanted: Experienced power mower salesman by established dealer in New York state. Man must be competent to gradually assume charge of course maintenance department of the business. Must have excellent record as producer and supervisor of service. Address: Ad 1007, % Golfdom, Chicago.

WANT ADS

Competent Golf Professional, married, age 28, desires professional or managerial position in south or southwest. Has winter following. At present located at one of finest clubs in New England. Address: Ad 1001, % Golfdom, Chicago.

Greenkeeper now having completed construction and maintenance job is open for new position. Eighteen years experience, construction, maintenance, water systems, mechanics, fertilization, etc. Excellent references. Go anywhere. Address: Ad 1008, % Golfdom, Chicago.

Experienced, well-known professional wants winter connection from November 1st to April 15th. Is fine instructor and a real business man. Has extensive list of acquaintances in New England that can be developed as patrons for winter resort. Highest rating by manufacturers as a business man. For complete details write: Ad 1010, % Golfdom, Chicago.

Pro-Greenkeeper—22 years' experience, desires position. High class teacher. Thorough knowledge of golf course maintenance or construction. Expert on tournament conducting and grass fungi. All references. Address: Ad 1048, % Golfdom, Chicago.

Professional with high rating in teaching, playing and diplomacy club service is open for winter engagement. Good business man with excellent references. Go anywhere. Address: Ad 1059, % Golfdom, Chicago.

For Sale or Lease: One of the best and most beautiful golf courses in the state. Nine sand greens, two grass greens, house and clubhouse. Has city gas, electricity, water and sewer. Address: Ad 1043. % Golfdom, Chicago.

Experienced successful pro-greenkeeper now employed at a municipal course desires new location due to political aspects of present job. Highly recommended by performance and previous employers as instructor, practical course maintenance man, and thoroughly competent in pro-greenkeeping. For full particulars address: Ad 1013, % Golfdom, Chicago.

College graduate desires position as assistant to prominent professional. Has deep interest in golf instruction and merchandising. Was leader at school. Captain of college golf team and in upper ten per cent scholastically. Has had experience of one summer as assistant at small club. Since graduation has had two years' business experience. At present employed. Age 23. For complete details and reference write: Ad 1011, % Golfdom, Chicago.

UNITED STATES PATENT OFFICE

EARLE M. BARROWS OF MINNEAPOLIS, MINNESOTA

AGROSTIS STOLONIFERA

Application filed August 20th, 1934. Serial No. 740647

"A distinct and new variety of AGROSTIS STOLONIFERA as herein shown and described, characterized by its ability to produce a very large number of plants per given area, forming a tough and resilient turf of great density; its slender leaves involute to conduplicate in form; its slender culms; its upright habit of growth in turf form; its freedom from tendency to become grainy or fluffy in turf form; its ability to withstand close mowing without injury; its high resistance to disease; its hardiness; and its ease of vegetative reproduction."

Quoted from final allowance by the United States Patent office of claim on

NORTH WOODS BENT

Grown by EARLE M. BARROWS

Minnesota Valley Farms

Route No. 4, Minneapolis, Minn.

(Known prior to plant patent issue as Northland Bent.)