

## The "Technocracy" of Golf Maintenance

By W. C. JACKSON

**TECHNOCRACY** as defined by Mr. Scott, that eminent engineer at Columbia University, is the development of the machine to the point of production where the social or labor order can live on fewer working hours.

Looking back over the last fifteen years of golf course maintenance, we see three very definite periods, classified generally as follows:

1. The Awakening to a Higher Order of Maintenance.
2. Experimental Stage of Better Turf Production.
3. Development of Equipment to the Highest Point of Efficiency.

Lately we have been confronted with a fourth stage which we might call the Economical Stage Due to Depression.

Personally, I think this last condition, in the end, will do more good to bring the care of golf courses to an intelligent basis, and afford a combining of the three previous stages to put this maintenance on a practical plane, than anything that has happened in the history of golf.

To prove this point we must go back to a time in about 1918 and offer a resume of these stages. It was about this time that certain prominent seed houses and golf course supply companies realized the coming demand for better courses and applied all of their resources to the propaganda necessary to stimulate this demand. Famous golf architects were employed and so-called "turf experts" were sent abroad to advise clubs on their problems.

Unfortunately some of these experts in reality knew very little about turf production and their sole aim in life was to induce a club to purchase twice as much seed or fertilizer or material as was necessary for the matter in hand. But they did this much good, in that they awakened greenchairmen to the point of thinking and finally bringing the issue to a point of readjustment.

Some of the wiser heads got together and with the help of Drs. Piper and Oakley, agrostologists in the Department of Agriculture, the Green Section had its inception. The first years of its infancy were employed mostly in criticizing commercial experts and condemning nearly everything promulgated by them. In much of it they



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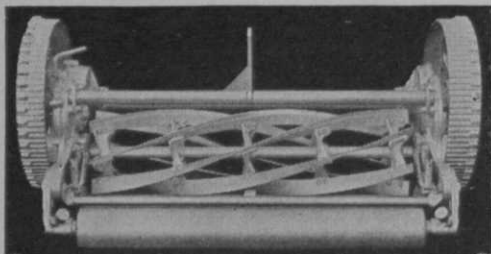
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were right and served as a check on over-commercialization.

Then entered a period of experimentation with putting green grasses and we saw the entrance of stolonized bent greens. Various strains were introduced, such as, Metropolitan, Washington, Virginia, Seaside, etc. and a craze for these greens swept the country.

Golf courses tore up their existing greens to reach this "Answer For It All." Too much reliance was put on anything that emanated from the Green Section and hundreds of courses went blindly through a period of inflation with enormous reconstruction and returning programs.

Frankly, looking back over a period of fourteen years there have been only two things instituted of real value as far as turf culture was concerned, and they were the use of mercuric and mercurous chlorides in the place of Bordeaux mixture for treatment of fungous diseases and the application of arsenate of lead, for the retardation of weed growth and the elimination of grub and earthworms.

Then what has been the one thing that has enabled golf courses to reach a higher standard, and expedite its grooming for immediate play? *Golf course equipment and machinery*, of course.

Personally, if I had to employ a green-keeper tomorrow I would far rather he would be a competent mechanic than a renowned turf expert. Manufacturers realized this a few years ago and to that end they really worked. So today we are able to mow 18 greens in from three to four hours, mow our fairways in from seven to eight hours, water 18 greens in from three to five hours, and water our fairways in from one to three days, mix our compost in one-fifth the time and keep our mowers sharpened and equipment in apple pie order.

The greatest expense in the maintenance of a golf course is the labor; material used

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Your Greens Way Down

**McCLAIN HYDRO-MIXER**

Treats a Green in 10 to 15 minutes by pumping only 25 gallons of water. Insures perfect application of soluble Fertilizers, Fungicides, Vermicides, etc. Reduces labor costs to bottom. Faster than power rig. Eliminates sprinkling carts and expensive sprayers. A real money saver. Write for details.

McCLAIN BROS. CO., 121 2nd St., CANTON, OHIO

and initial cost of equipment is small in comparison. If we had to maintain a modern golf course at its present standard with the equipment available fourteen years ago, the cost would be enormous or almost impracticable.

Today I am caring for an 18 hole course, one of the best in the Middle West, with perhaps the largest green area in the country, 1,000 acres of park area, 5½ miles of roadways, 3 polo fields, 2 tennis courts, stables with capacity for 100 horses, estates built on the club grounds, 3 trapshooting stands and one of the finest tree and shrub nurseries of any course in the United States for a total cost of \$25,000 annually and I only work my men 7½ hours per day!

The answer is purely and solely standardized, modern equipment, repaired and kept in shape all of the time.

### Club's Green Damaged by Small Boys

**T**HE UNICORN Country Club, Woburn, Mass., suffered malicious damage amounting to approximately \$1,000 to its 13th green recently. Indications point to the vandalism being the work of young boys who for some reason had a grudge against the club and raided the course during the night. In addition to digging up the green, the vandals stole flags and cups from several greens and smashed a water fountain.

**C**RAB GRASS is an annual, developing each spring from seed; where it has been allowed to flourish, the soil is sure to be full of its seed. In early summer pull out the young plants before they have had a chance to grow and save a lot of trouble later on in the season.

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AND HOW TO CONTROL THEM



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**Manufacturer of the ACME MOLE TRAP**  
 Most Efficient Mole Trap on the Market

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1933 dollars are hard to make and harder to hang on to. This year, we can't quarrel with the quarters and even nickels are nice—TO KEEP.

You can plug those clubhouse leaks with Bill Livie's new 3-in-1 system of bookkeeping. It's simple. It's complete. It's practical and foolproof. It's in use at many courses. It's endorsed by leading pros.

The Livie system keeps all records up-to-date, with a perpetual inventory of stock and profits, day by day. It saves plenty of money and plenty of headache. It pays for itself in a couple of days. Clip the coupon now. Special offer, one book (one month's operations) for only

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are proving this to hundreds of greenskeepers in these days of rigid and exacting maintenance, by *saving time, labor and material.*

Write for booklet  
describing four models

Royer Foundry & Machine Co.

Sold thru leading Golf  
Equipment dealers

158 Pring'e St. (Kingston Station) Wilkes-Barre, Pa.

## How Texas Club Builds Sand Greens That Satisfy

IN COMMON with golf courses in this section of the country, where rainfall is inadequate for the maintenance of grass putting greens, our club, being unable to install a sprinkler system, was confronted with the problem of the proper construction of sand greens. The sand greens as first built were very unsatisfactory, because the heavy rains churned up the sand, washed it off, and floated the lighter fuel oil out of the sand on to the fairways. This not only interrupted play, but necessitated a continuous outlay for labor and material in replacing sand and oil. In the winter of 1926 the sand greens were rebuilt, and we now have no trouble from the loss of sand and oil by wind and rain.

Our course is located on a high ridge or divide with headings of small draws or valleys leading out from the ridge. The soil on the ridge is rather poor, with layers of stone underneath, and the grass is poor.

Here is an article taken from Golf Monthly of Edinburgh, Scotland, telling how the Live Oak G. C., located at Weatherford (near Fort Worth), Texas, builds its sand greens. The author of the article is Wright D. Taylor, green-chairman of Live Oak.

Our sand greens are 42 ft. in diameter and are built on the native soil. In rebuilding them 3 barrels of rather heavy fuel oil were first put on the base and allowed to soak in for a few days in order to kill the vegetation and to help keep the base from absorbing the oil out of the sand on the green. The base is tamped smooth and almost level, leaving the top of the cup about  $\frac{3}{4}$  in. higher than the outer edge

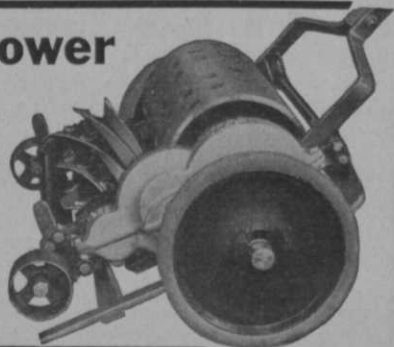
## The Toro Hand Greensmower

A precision machine, built to close measurements. Cuts creeping bent or any grass green without special effort by the operator and without leaving corrugations or ridges. For smooth, true greens . . . use a Toro. Write for details.

TORO MANUFACTURING CO.

3042-3168 Snelling Ave.

Minneapolis, Minn.



of the sand green 21 ft. distant. The purpose of this slight rise is to keep as much water as possible out of the cup. It really helps rather than retards good putting.

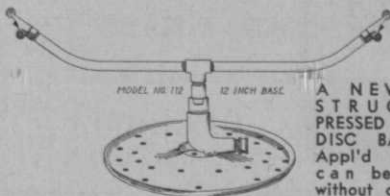
Cup holes, which are 3 ft. deep, are filled to the bottom of the cup with small stones so as to permit quick drainage of any water in the cup.

For about a foot around the cup the hard base is levelled with the top of the cup, so that in play the sand can be dragged on this to a depth of  $\frac{1}{8}$  to  $\frac{1}{4}$  in., sufficient to permit a ball to run true if struck true. This also prevents the players creating a saucer-like depression of several feet around the cup resulting from their dragging sand away from instead of toward the cup and dragging the sand too firmly. This hard ground around the cup also, to a large extent, prevents sloughing of the side walls of sand into the cup and creating a hole at the top that is much wider than the regulation  $4\frac{1}{4}$ -in. cup.

In our case we obtain a mixture of limestone gravel and sand washed into ravines. We first screen out the rough particles through a screen of eight meshes to the inch, and then screen out the dirt and very fine sand through a screen of 24 meshes to the inch. It is this dirt and very fine sand which, in our opinion, is the chief cause of sand greens becoming packed by rains and play. The portion of the material saved for use is about 20 per cent of the whole.

This is then thoroughly worked in a mortar box with heavy oil or residuum until the sand has absorbed all the oil it can. At first thought this amount of oil might seem to be too much; but after the sand is spread, much of the oil will pass down into the base, and that on the surface dries out to such an extent after a few days that it will not stick to the players shoes. The screening of and working oil into the sand should be done when the material is thoroughly dry, as it can be done much better when in that condition and at far less cost, the process being a tedious one at the best. As this residuum is a rather heavy oil, it can not well be worked into

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A NEW, INDESTRUCTIBLE, PRESSED STEEL, DISC BASE (Pat. Appl'd for) that can be dragged without causing slightest turf damage.

Perfect distribution at all pressures—never over 40 lbs. required. Constant slow motion under all conditions without adjustments. Not affected by side-hill settings or wind. Nothing to adjust—Self-starting—Fool-proof. Maximum coverage for any given pressure—75-ft. circle at only 10 lbs. No small holes to clog. Only  $\frac{3}{4}$ " hose required—Operates perfectly on low pressure. Entirely rust-proof.

There's a Perfection dealer near you—if he fails to show you Perfections, write us direct.

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## STOP BROWN PATCH —DESTROY CLOVER WITH TONAGREN

This year economy is more important than ever before. That's why TONAGREN is being used from coast to coast by many of America's finest golf courses. This modern discovery stops brown patch and destroys clover. It is easy to use, has a double-acting effect and actually sells for less money than most preparations that can be used for one purpose alone.

Prices and full particulars will gladly be sent on request.

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Upstanding, Economical to Care For.

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Where rugged endurance, sturdiness, and quality come first, the latest 1933 Model National Heavy Duty Fairway mower will meet your severest problem.

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On direct sales, the National Mower Co. will give you the best **VALUE**, the finest mower for the least money.

Using the most powerful frame, double sets of tempered steel cut gears in oil tight cases, Timken Bearings—it lasts longer.

**GREATER VALUES PER DOLLAR**

Write for catalog and prices on Fairway mower equipment, gangs and tractors. Thousands of **NATIONAL** mowers have satisfied owners covering every state.

the sand in cool weather. In this case it should be well heated or thinned with a very small amount of light fuel oil.

The sand is spread only 1 inch deep on the green, because only a light smoothing of the surface is required to permit a ball to run true, and it is deep enough to cause a ball to stick to the sand green if it hits the near side from a good distance—up to about 50 yds. in case of a mashie shot of fair height. A few weeks later, after rains and play tend to pack the sand, the surface will need to be regularly roughed up to a depth of about  $\frac{3}{4}$  in. and dragged with a mat. We use light drags made of two pieces of half-round  $1\frac{1}{4}$ -in. moulding nailed together, with a flat handle of about  $\frac{1}{4}$  by  $1\frac{1}{4}$  ins.

Our sand greens have sodded dirt rims and are built sufficiently high to accomplish their purpose of keeping outside water off and washing rains from removing sand and needlessly floating the oil. To facilitate play the rims are tapered several feet outward to a feather edge, leaving the surface a rather gentle swell. Rain water on a sand green is drained off through one or two 2-in. gas pipes set into the rim of the green, which, after rain, quickly drain off the water, soon putting the sand green in a condition for play.

Prior to July 1930 we had not begun to remove the dirt and fine sand from the material used on the greens, which we consider to be the chief cause of packing. The old sand greens, prior to that time, had nevertheless gone a long time without requiring re-oiling and were splendid greens when properly roughed up and dragged with a mat. The sand greens we reconstructed in July 1930 by removing the dirt and fine sand, appear after two years as good as they were the day they were finished, which is certainly enough to satisfy anyone.

We attribute the satisfactory results we have had with our sand greens largely to the coarser sand which we use, but especially to the heavy residuum from oil refineries or cleanings from old fuel-oil supply tanks of steam users, which we use in place of the ordinary light fuel oils. There is a little oil in the residuum to dry out and float off, and it serves its purpose of holding the sand together. Our sand greens will not need to be re-oiled more often than once a year, and probably less often.



## The Toro Power Greensmower

Built in two sizes, 17½-inch and 19¼-inch, and with all the high-grade features of the Toro hand greensmower. Motor is 4-cycle, air-cooled, built up to the most modern standards. A thoroughly satisfactory single-unit power machine. Write for complete catalog.

### Toro Manufacturing Co.

3042-3168 Snelling Ave.

Minneapolis, Minn.

### Mixed German Bent Seed Is Often a Costly Gyp

**USE SEALED** bent (state or government sealed) or trade-marked bents whose guarantors are houses of unquestioned reputation, or you are liable to get gypped unmercifully on the German bent racket, warn some of the leading seed authorities.

German mixed bent, they advise, should be purchased only after an expert, microscopic examination has been made. The German mixed bents today sold in the United States frequently are German bent chaff with less than 5 per cent live seed because the bent seed carries an import duty of 40 cents a pound and there is no duty on the chaff.

Fred Radway, New York seed dealer, tips off the way the racket is victimizing golf course and other seed buyers, and warns against the purchase of unsealed bent, by showing GOLFDOM copies of several letters from Germany in which the gyp proposition is presented. Here is one of the enlightening communications re-

ceived from Germany, from which is quoted verbatim:

"We allow us to point to you that it would be extremely favourable for you to buy the south german creeping bent of highest purity (80-85%) with a duty of \$40,—per 100 lbs. and besides the chaff, for which you need not pay duty.

"By corresponding mixture you can reduce the merchandise to the practicable quality of 65-70% purity and by this increase the quantity by nearly 15% having the great advantage of not paying any duty for this 15%. The chaff cost only \$4.50 per 50 kg. cif., New York and as said no duty."

From another letter written by the same people, later, is a quotation on south German bent 82.5% purity and 80% germination, accompanied by a quotation on chaff, not more than 1% weeds and 2% bent grass corn.

This explains the large amount of chaff of suspicious origin found by investigators like the New York State Experiment station in some lots of lawn mixtures. The

## GREENKEEPERS EQUIPMENT

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SPIKED GREEN and FAIRWAY ROLLERS

Write for Booklet and Price List.

We also make other equipment in widespread use, such as Hydraulic Sprayer for ammonia sulphate, Sod Cutters, Sod Pluggers and Bunker Drags.

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### High-Grade Genuine Cocoos Creeping Bent Seed

Introducing Lyman Carrier's Seaside Creeping Bent Seed. Reasonably priced, a high-grade seed.

Lecco, the complete grass food, not a fertilizer, but a complete turf ration.

Stolons, Washington, Velvet and Virginia Strain, Cocoos Washington sod at low prices.

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GRANGER, INDIANA

# Grass Seed

## of Known Quality

TESTED for PURITY and GERMINATION

### Stump & Walter Co.

Specialists in Golf Grass Seeds, Fertilizers and Equipment  
132-138 Church St., New York

### Adjustable to Any Pressure



#### NEW GREENWAY ROTARY SPRINKLER

One of five new Dayton Sprinklers for Golf Courses. Slo-Motion head won't wash or puddle. Adjustable while in operation. Surprisingly low-priced. Catalog.

#### DAYTON IRRIGATION CO., Dayton, Ohio

Eastern Distrib.—Dayton Irrigation Systems, 151 E. Post Rd., White Plains, N. Y.



Cushions and aerates turf, retains moisture, checks harmful bacterial and fungus growths.

Easily applied. Cannot rot, dust or soil shoes and clothing.

AVAILABLE THROUGH GOLF SUPPLY  
HOUSES AND FEED STORES OR WRITE

WOOD CHARCOAL RESEARCH BUREAU

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## Worm Casts

on putting greens are an unnecessary nuisance. They can be quickly eliminated, and without any danger of injuring your greens, by using Reade's "ELECTRIC" Worm Eradicator (liquid). "ELECTRIC" is the original worm eradicator—on the market for over forty years—and is guaranteed to give satisfactory results. Full information on request.

Reade Mfg. Co. Inc., Jersey City, N. J.

only protection seems to be for the buyer to insist on the better quality and to have the vendor tell the truth on the bag labels in such a way that a check-up is easily and the vendor can be held strictly accountable.

**I**N AREAS where daylight saving is in effect, and it is daylight until almost nine o'clock, clubs have had considerable success with Saturday evening dinner dances by serving at tables set out on the clubhouse lawn. The novelty of eating outdoors appeals to members, especially during hot spells when every breeze is precious.

### PAR XL GOLF USES ALL CLUBS IN SMALL AREA

Evanston, Ill.—Par XL Playfields, 1715 Sherman ave., is offering a new golf practice field arrangement with many ingenious features. Chester Horton and Ben Gage, both well known to midwestern golf, are main factors in the company.

The Par XL layout will go in an area less than a city block and provide a demand for every club in the bag in playing 18 holes. Fairway, greens, rough and traps are provided on the layout.

A call boy located on an elevated stand 120 yards from the tee calls the distance and location of each shot, so the next shot may be played for the location indicated by the scorecard.

The tee is 50 yards long and is divided in the middle by a protective fence, thus giving the course plenty of playing capacity.

Diagrams and complete details of the Par XL arrangement will be gladly forwarded on request by Par XL Playfields.

### RECOMMEND "DECIMAL PAR" IN NEW SCORE CARD CATALOG

Park Ridge, Ill.—Graphic Score Book Co. is now mailing its 1933 catalog of score cards, tourney forms, handicap cards and record books to all clubs. Included in the catalog is an interesting article by W. W. Smythe, advocating the adoption of "decimal par" in fixing handicaps.

Mr. Smythe points out that any hole

**FREE:** A copy of "The Putting Green." Has 40 pages about construction and care of greens. Send today.





from 251 yds. to 445 yds. is a par-4 hole under present practice, yet obviously the longer hole is more difficult to play in perfect figures. By giving the shorter and hence easier hole a par of 3.5, the average length par-4 hole (348 yds.) a par of 4, and the longest par-4 hole a par of 4.5, Mr. Smythe believes a fairer basis for handicapping can be reached. The same system is recommended for par-3 and par-5 holes.

Club officials interested in reading the entire argument for adopting "decimal par" are requested to write the company for its 1933 catalog.

### GAIROARD ELECTED PRESIDENT OF KROYDON COMPANY

Maplewood, N. J.—On March 24th the board of directors of The Kroydon Co. elected as president Camille L. Gairoard who has been treasurer of the concern since its incorporation about 10 years ago. Mr. Gairoard was also elected president of



Camille L. Gairoard, Kroydon's new president

Krauter & Co., Newark, N. J., nationally known tool manufacturers, of which concern he has been treasurer since 1907.

Mr. Gairoard bears an enviable business reputation, being perhaps better known to

## PFIZER MIXTURE

2/3 Calomel—1/3 Corrosive Sublimate  
for

## BROWN PATCH

Corrosive Sublimate—Calomel

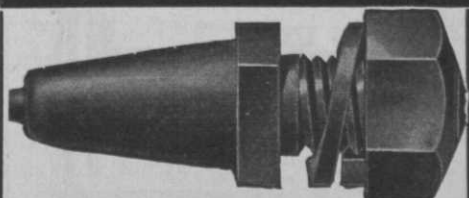
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## DIAMOND

Steel Center Tractor Spud is sharp until completely worn away. Will not harm turf. Write for details.  
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NEW YORK AND  
THE PICCADILLY



... best hotel I know!  
Near everything, just  
200 feet from Broad-  
way. Modern, hospita-  
ble, and comfortable.  
Like the Manager,  
like the rates—\$2.50  
single, \$3.50 double,  
for a room with bath!

It's the

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## TRACTOR and IMPLEMENT

An easy-back cushion spring seat, a boon to all users of riding machinery. Fits all tractors and implements and changes instantly. Adopted by several tractor concerns as standard equipment. Guaranteed. Circular free.

Contentment  
Health and  
Comfort

**Dependable Mfg. Co.**  
STREATOR, ILL. U.S.A.



## CREEPING BENT TURF

Illinois Grass Co.'s True Washington Strain Creeping Bent is used by hundreds of greenkeepers, golf and country clubs, etc., in solid turf form. Furnished in rolls ready to lay down like a carpet. Withstands heat wave. Guaranteed quality. Available in stolons also. We grow Blue Grass sod, too.

Write today for prices and samples.

**ILLINOIS GRASS CO.,** Homewood, Illinois  
J. A. Carter Sls. Agt., 75 E. Wacker Dr., Chicago

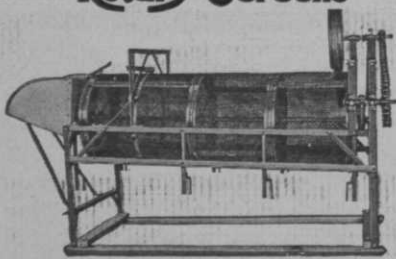
"Lock Your Hose Where it Belongs"

### McCLAIN UNDERGROUND HOSE LOCKER

Improve the appearance and safety of your course by keeping your Putting Green hose neatly rolled on a revolving metal reel in a durable steel locker below the ground at each Green, protected from theft, sun, weather and mowers. Big hose capacity. Easily installed. Pleases players. Many economy features. Write for literature.

McCLAIN BROS. CO., 119 2nd St., CANTON, OHIO

COMPOST-**Rotary Screens**-SOIL



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### WHEEL SPUDS

Quickest to put on and take off. Doubles traction. Durable and low priced.

All sizes for all purposes. Samples and circulars sent free on request. Advise make of tractor and purpose intended.

If your Ford or equipment dealer cannot supply, write direct.

Immediate shipment. Prices reduced.

Golf wheels and all Ford-son parts on hand.

R. S. Horner, Mfr.  
Geneva, Ohio

the business world due to his association with J. Wiss & Sons Co., of Newark, cutlery manufacturers, with whom he has been connected since 1898. Mr. Gairoard is general manager in charge of sales, and will continue in this capacity.

During the war he was chairman of a sub-committee of the Council of National Defense, having charge of the production of surgical scissors and shears for the U. S. Army and Navy. At present he is on the executive committee of the American Tariff league of New York. For some years he has been on the board of directors of the Newark Chamber of Commerce, and is now a member of the executive committee.

Mr. Gairoard makes his home in West Orange, N. J., and belongs to the Essex County C. C.

### LAWSON ROBERTSON HAS NEW ATHLETIC RUB

New York City.—A new product which used the athletic champions of the entire nation as the "test laboratory" is called Lawson Robertson's Athletic Rub. Lehn & Fink, the big drug house, has teamed with the celebrated coach of the Olympia Games to make it available.

Lawson Robertson, a record-holding sprinter in his day, claimed every other good lotion had some drawback,—an offensive odor, greasiness, stickiness, or irritating qualities. So he developed one that would do the job for tired, aching muscles, yet be stingless, non-irritable and pleasing in smell. It penetrates deeply into the skin layer.

### LYON, INC., ISSUES COMPLETE CATALOG ON LINE

Nashville, Tenn.—A new illustrated catalog describing the full line of woods and irons being offered by Lyon, Inc., is now being sent to pros throughout the country. These Macdonald Smith "Tailor-Made" clubs are built to order and use hickory shafts in all instances. Prices of the woods range from \$15.00 to \$20.00 each, depending on the model and the catalog specifically requests purchasers to place their orders through their home-club pro.

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