The amazing FONKEN "PICKER-UPPER" affords the fastest, most economical method of retrieving golf balls ever devised. The machine operates with the effortless efficiency of a vacuum cleaner, covering a swath nine feet wide over every sort of terrain. Each golf ball in its path is harmlessly picked up and deposited in the hopper ready for speedy replacement at the tees. Here is quick relief for high labor cost... worries of back fence theft and needlessly high golf ball investment... and a way to substantially increase operating profits.

The original automatic golf ball retriever, FONKEN'S "PICKER-UPPER" undergoes constant improvement through research and testing. Today over 500 owners testify to the machine's value on their driving ranges. A "PICKER-UPPER" can increase profits on your range too. Every aggressive range owner interested in making more profits will want a FONKEN "PICKER-UPPER" now. Order today direct from FONKEN MANUFACTURING COMPANY.

FONKEN MANUFACTURING COMPANY
433 WEST MAGNOLIA • GLENDALE, CALIFORNIA
Clubhouse floors are ruined by spikes! To save your expensive floors, install PNEU-MAT RUNNERS in your locker rooms, corridors, pro-shop or over any flooring that is being "chewed up" by spikes.

PNEU-MAT RUNNERS, the choice of America's leading golf clubs, are spike-resistant, tough and yet provide a soft cushion under foot. Don't wait for your valuable floors to be destroyed ... write us today for complete details and name of nearest distributor.

Superior Rubber Mfg. Co., Inc.
122 East 25th St. New York, N.Y.

BE ON THE SAFE SIDE ... SPECIFY
REALOCK FENCE
Put your property on the safe side of a tamper-proof Realock® Fence. You'll get permanent protection against trespassing, vandalism and other hazards.
Made of steel wire, heavily galvanized, Realock Fence is nationally known for its rugged good looks, indestructibility, and long-lived economy.

Write now for free estimate

Wickwire Spencer Steel Division
The Colorado Fuel and Iron Corp.
Continental Oil Building - Denver 1, Colorado
The California Wire Cloth Corp.
1815-1831 Atlantic Avenue - Oakland 6, California

Branches & Distributors in Key Cities Everywhere

Golfdom
tion resolution to restrict sale of PGA member star players' clubs to pro shops. Lawyers have told some querying members "no can do." Junior Chamber of Commerce, Ames, Ia., financing reception of annual Jaycees' National Junior, Aug. 13-19 at Iowa State College course, by sale of $25 "hospitality bonds." Each buyer becomes Honorary Dad of a contestant. Tourney will cost $3500.

Scottsbluff (Neb.) CC completes $140,000 clubhouse and is converting to bent greens. Francis J. Lynch returns as pro. Lynch also operates a driving range in Scottsbluff. New 18-hole course in St. Louis dist., tentatively named Overland CC, to open this summer. Owners are headed by Tony Peluso, Fox Theater mgr., widely known among pros. Tom McNamara goes to Dutchess County CC, Poughkeepsie, N.Y.

Bob Jones' as Golfer of the First Half-Century in the Associated Press poll surprised nobody. After 293 votes for Bob there were no arguments. Hogan came second with 40, then Hagen, 29; Nelson, 17; Snead, 6; Sarazen, 4; Joyce Wethered, 2 and Harry Vardon, 1. Jones' win of all four major championships in 1930, his 13 U.S. and British National titles and finishing first or second in 11 of the 9 U.S. Opens and 3 British Opens, makes a record that'll

---

10% TAT C-Lect controls crabgrass and fungus in putting greens.

13% TAT C-Lect Fortified simultaneously controls crabgrass and weeds on fairways, aprons, tees.

These outstanding concentrates meet all your requirements, spell real economy. With 10% TAT C-Lect you keep a 5,000 sq. ft. green crabgrass-free at only 57c per treatment!

With 13% TAT C-Lect Fortified you kill crabgrass and weeds simultaneously on fairways, aprons, tees, for only 25c per thousand square feet per treatment — less than $1.00 per acre!

10% TAT C-Lect is a new high concentration of solubilized phenyl mercuric acetate — at new low cost. 13% TAT C-Lect Fortified is the only product containing phenyl mercuric acetate and a specially coupled 2,4-D weed killer in the same solution. Check these prices — see how they fit into YOUR course maintenance budget!

<table>
<thead>
<tr>
<th>Product</th>
<th>Single gallon</th>
<th>4-gal. case</th>
<th>5-gal. drum</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% TAT C-Lect</td>
<td>$13.90</td>
<td>11.12 per gal.</td>
<td>9.45 per gal.</td>
</tr>
<tr>
<td>13% TAT C-Lect Fortified</td>
<td>$16.00</td>
<td>12.80 per gal.</td>
<td>10.80 per gal.</td>
</tr>
</tbody>
</table>

Write for new comprehensive circular.

---

Men Who KNOW
Specify MILORGANITE
for Better Turf!

Greenkeeping Superintendents, who know the score when it comes to the successful development and maintenance of exceptional greens and good fairway turf, specify and use more MILORGANITE than any other fertilizer. A carload a year usually takes care of the requirements for a well-kept 18-hole course.

MILORGANITE produces vigorous, healthy, weed- and drought-resistant turf that keeps your Club membership and guests both happy and enthusiastic.

The services of our Agronomists and Soil Testing Laboratory are available for the asking.

THE SEWERAGE COMMISSION
MILWAUKEE • WISCONSIN

---

TWO NEW CONCENTRATES
to slash your costs on crabgrass and weed control!

10% TAT C-Lect controls crabgrass and fungus in putting greens.

13% TAT C-Lect Fortified simultaneously controls crabgrass and weeds on fairways, aprons, tees.

These outstanding concentrates meet all your requirements, spell real economy. With 10% TAT C-Lect you keep a 5,000 sq. ft. green crabgrass-free at only 57c per treatment!

With 13% TAT C-Lect Fortified you kill crabgrass and weeds simultaneously on fairways, aprons, tees, for only 25c per thousand square feet per treatment — less than $1.00 per acre!

10% TAT C-Lect is a new high concentration of solubilized phenyl mercuric acetate — at new low cost. 13% TAT C-Lect Fortified is the only product containing phenyl mercuric acetate and a specially coupled 2,4-D weed killer in the same solution. Check these prices — see how they fit into YOUR course maintenance budget!

<table>
<thead>
<tr>
<th>Product</th>
<th>Single gallon</th>
<th>4-gal. case</th>
<th>5-gal. drum</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% TAT C-Lect</td>
<td>$13.90</td>
<td>11.12 per gal.</td>
<td>9.45 per gal.</td>
</tr>
<tr>
<td>13% TAT C-Lect Fortified</td>
<td>$16.00</td>
<td>12.80 per gal.</td>
<td>10.80 per gal.</td>
</tr>
</tbody>
</table>

Write for new comprehensive circular.

---

TAT MO-GO
kills moles and gophers; never fails; 1 lb. can $11.00, 5 lb. can $11.80.

TAT CHLORO #8
(contains 8 lbs. technical chloride per gallon) kills chinch bugs, mole crickets, Jap beetle grubs, sod webworms.

O. E. LINCK CO. Inc. Clifton, N. J.
last longer than any of us do... And, talking about junior golf being in the spotlight today: Jones won East Lake junior championship when he was 8, the Southern Amateur when he was 15, won in singles and doubles at Hoylake in international matches that started Walker Cup competition, when he was 19, and his first U.S. Open at Inwood in a play-off against Bobby Cruickshank, when Jones was 21.

April Esquire will carry an article by Harp Graffitis on "Headaches for Fun...". It tells of the onerous jobs of golf club presidents, green-chairmen and house chairman. . . Rising taxes and failure to get metropolitan district club costs within reach of desirable young men are mentioned as two problems getting serious for club officials.

Rowland B. Armacost, pro-gkpr., Wahconah CC, Dalton, Mass., has resigned to open his own business, Berkshire Lawn and Landscape Co., in Dalton. . . New Jersey Chapter, Club Managers Assn. of America, will hold annual spring meeting at Ridgebrook (N.J.) CC, May 9... Calistoga (Calif.) planning construction of course... British seniors will send ten-man team to play triangular match with U.S. and Canadian seniors this summer.

Fred Dugan, asst. to the late Gil Nicolos, named to succeed Nicolos as pro at Deep-
dall GC, Great Neck, L.I., N.Y. . . . Dr. J. A. Mease, writing for City of Dunedin, Fla., tells PGA the City is satisfied with PGA maintenance and operation of the PGA course at Dunedin and that Dunedin has no intention of terminating its 99-year lease of course to PGA. . . Most of the 250 lots bordering the course have been sold to pros . . . The Mease letter explodes rumor PGA lease on course was precarious.

Ralph K. Ebling, one-armed golfer, leaves Bethlehem (N.H.) G & Tennis Club after 14 years as pro-gkpr. for pro job at Haverhill (Mass.) CC. . . Among pupils Ebling developed is Joe Kirkwood, Jr. . . Ebling, Kirkwood, Jr., and another partner bought a range near Monterey, Calif., last winter. . . Jimmy Crossan, who's taught a lot of the good ones, says watch Dave Mose, George Keyes and Charley Brady as assistants who show promise of becoming great golfers . . . Mose and Brady have been signed as assistants by Guy Paulsen, pro at Medinah CC (Chicago dist.) . . . Bill Hook, Kenwood CC (Cincinnati dist.) takes Lee Armstrong as asst. . . . Lee is from Odessa, Tex., a protege of the ol' Lone Ranger, Shorty Hornbuckle.

Ft. Wayne, Ind. Junior Chamber of Commerce launches strenuous campaign to sell tickets for its $15,000 Open June 1, 2, 3, 4.
(Continued on page 122)

Better Clubs Make a Better Golfer

Seventy per cent of men playing Kenneth Smith clubs shoot in the 70s. The national average — all makes of clubs — is only 2 1/2% (according to an impartial, national survey). The reason is easy to discover — Kenneth Smith clubs are handmade to fit your customer's measurements, scientifically matched and all clubs in a set identically swing-balanced. No other clubs are so matched and so balanced.

Pros: Write for new booklet that helps you sell Kenneth Smith clubs

Give Your Members Better Service with

PHILLIPS
CAM LOCK

GOLF SPIKES

The Answer to Lost Spikes

CAM LOCKS have been added to the regular LARGE BASE spike. The CAMS hold spike fast in position. Will not rough sole.

F. C. PHILLIPS, INC.
STOUGHTON, MASS.

Better Clubs Make a Better Golfer

Seventy per cent of men playing Kenneth Smith clubs shoot in the 70s. The national average — all makes of clubs — is only 2 1/2% (according to an impartial, national survey). The reason is easy to discover — Kenneth Smith clubs are handmade to fit your customer's measurements, scientifically matched and all clubs in a set identically swing-balanced. No other clubs are so matched and so balanced.

Pros: Write for new booklet that helps you sell Kenneth Smith clubs

Give Your Members Better Service with

KEN SHOP
SUPPLIES

Golf Club Lacquer
Form-a-Coat
Grip Conditioner
Adhesive
Buffing Supplies

Write for handy Supply Order Form

Kenneth Smith
GOLF CLUBS
Hand made to fit You
BOX 41, KANSAS CITY 10, MO.
These Magazines will carry POWER-BILT advertising to more than 14 MILLION READERS in 1950

with a plug for you Mr. Pro.

The new Power-Bilt Golf Club catalogs for 1950, lithographed in full color, are ready now ... please order yours at once. Our spring advertising to consumers will invite readers to see your catalog or to write for their own copy. (Simply state how many copies you need for your customers.) Address Dept. GM.

HILLERICH & BRADSBY CO., LOUISVILLE, KY.
Superintendents Hold Largest Annual Meet at Boston

By HERB GRAFFIS

The National Turf Conference and Show had its twenty-first birthday at Hotel Statler, Boston, Mass., Feb. 6 to 10. The greenkeeping superintendents whose association fathers the event proudly saw the convention come of age with the biggest attendance and largest number of exhibitors in the history of the National Greenkeeping Superintendents' Assn. Attendance of superintendents, club officials, equipment and supply men and pros from the U. S., Canada and Hawaii during the five days neared 1000.

Raymond Gerber, Glen Oak CC, Glen Ellyn, Ill., was elected pres. of the NGSA; Wm. Johnson, Griffith Park, Los Angeles was elected vp, and Agar Brown was re-elected sec.-treas., at the concluding session of the convention. Wm. Glover, Leonard Strong and Phillip Cassidy were elected as directors to a board which includes Malcolm McLaren, Leonard Blomquist and Ward Cornwall.

The association set its next annual convention for Hotel Sherman, Chicago, Jan. 29-Feb. 2, 1951.

Greenkeepers' Club of New England was host to the convention, provided a complete program of education and entertainment. The entertainment, except for a "reunion" session and a dinner at a night club, was arranged to give wives of the conventioners tours of the Boston area. Crowded business programs didn't allow time for the greenkeepers to see the sights. Pres. Phillip I. Cassidy, Sec. N. J. Sperandio, and Wm. F. Mitchell, Homer C. Darling, Frank H. Wilson, Jr., Theodore Swanson, Howard D. Farrant and Harold Mosher of the New England organization, aided by their teammates, set a tough par for others who will be hosts to the NGSA affair.

The educational conference program planned by Ray Gerber and Homer Darling was a comprehensive and practical treatment of major problems of golf course maintenance. Attendance at the fast-moving sessions seldom was fewer than 330. Layout of the equipment and supply exhibits was excellent and constituted a highly successful debut of Agar Brown, NGSA sec., as manager of the show. Along with course maintenance items, many of which were exhibited for the first time, the NGSA had as guest exhibits the educational showings of the Greenkeepers' Club of New England, the Mass. Golf Assn., the Mass. section of the New England Turf Assn., and the New England PGA.

In Management Era

Homer C. Darling presided over the first educational session which was opened by welcoming remarks of two distinguished golfers; Boston's Mayor John B. Hynes and E. C. Johnson, pres., Boston Chamber of Commerce. Both men paid tribute to greenkeepers Arthur Cody and Arthur Anderson of their respective home clubs.

Herb Graffis, GOLFDOM's editor, speaking on The Superintendents' Management Attitude, said that course maintenance had developed from farming, through greenkeeping, into science and business and now is an operation in which an over-all management attitude is essential. He said that "management" is the explanation for much of the difference between course operation results. He remarked that the technicalities of course maintenance today were too many and too specialized to be understood by most chairmen, but that chairmen understood results, money and management, therefore the supt.-chmn. relations had to be on those terms. He advocated more extensive use of progress reports on work, such as executives get in their factories.

Graffis told of trying to determine what a competent superintendent is worth to a
club when he'd been asked by chairmen or other club officials about superintendents' salaries. He said he'd been unable to find any fairly common basis of payment although he'd worked on the bases of investment in plant, course income, entire club income, per rounds played, per active members, total annual course budget, course annual labor budget, character of club and course.

GOLFDOM's editor also commented that higher demands for course condition and the training now required of a competent superintendent were reflected in the difficulty of getting qualified candidates for greenkeeping jobs. He said that for every pro job that is open there are scores of applicants but that for a good job as superintendent there seldom would be more than a half dozen candidates. Good clubs are keeping their superintendents by making the job pay enough to meet inflation costs of living. He noted that unionized dishwashers at some clubs are being paid more than men who have to do exacting work on golf courses and said that unless club officials get together with superintendents in adjusting this situation troublesome developments may be expected.

"The Outstanding Course"

Robert Bruce Harris, Chicago, golf course architect, opened a series of talks on What Makes the Golf Course Outstanding by citing elements of ground selection and design for excellent maintenance. His address is printed in this issue of GOLFDOM. Malcolm McLaren, Oakwood Club, Cleveland, followed with remarks on details of maintenance that give a course a distinguished look. His address also appears in this issue.

Samuel S. Mitchell, Pongapoag GC, Canton, Mass., spoke on making a public course outstanding. Sam's father and three brothers are noted greenkeepers. He said that the most important feature of the public course is the greens and that the architect and builder determine to a large extent what the superintendent would be able to do with this area. Large greens to permit frequent moving of cups and spread traffic Mitchell said were essential on the public course. Also necessary is good drainage and good topsoil to allow a conservative program of fertilizing and watering.

Choice of the variety of grass on the greens usually is made before the greenkeeper gets on the job so he must do his best to see what maintenance keeps the greens in best condition for the traffic of the "thundering herd" which at state-owned Pongapoag gets heavier than 700 a day. Mitchell declared that more greens are lost by drying out than by any overwatering that an experienced greenkeeper might risk. He prefers greens a bit on the
hard side with good turf and added that heavy traffic on a popular public course compacts greens so much an aerification program becomes a "must."

As demand is for an "outstanding" public course to be up to the private club standard Sam said that a vigilant program of fertilization is required and that in his part of the country fairway watering is needed. Weed control now must be standard practice on a first class public course, he added. Rough is virtually eliminated to keep play moving fast on the public course and leaves, clippings, branches and debris must be removed constantly to show good housekeeping. A long range landscaping program must be followed on most public courses and attention should be given to parking places and clubhouse areas to keep them attractive.

Mitchell reminded "no outstanding course is cheaply maintained," and that goes for public as well as private courses.

W. O. Blaney of the Massachusetts Golf Assn. and chmn., Handicap committee, USGA, spoke on the players' view of the "outstanding" course. Blaney pioneered in developing the course rating plan started in Massachusetts, adopted by the USGA and now in extensive use in the U. S.

He said topography, architecture and the general condition of the course are the three factors on which a player rates a course. Condition of the greens, fairways and tees is that order, determines the player's judgment of course condition. Rough and trap condition should not be so highly considered because players are not supposed to be in these places, Blaney remarked, but conceded that the majorities wants the rough and hazards manicured to the extent the element of penalty almost disappeared, and had given greenkeepers more and more expense.

Blaney said good players prefer fast greens and so would hackers if they became accustomed to them and learned the touch which is a vital element of putting. Fairways should have the ball sitting up firmly so the player can "get hold of it." The ordinary golfer probably prefers the fairways too long, too soft and too green, Blaney noted, but as long as the grass must be conditioned for the player rather than the player running second to the grass, the greenkeepers' genius will have to balance player and grass demands.

Tees should be cut short and be level, Blaney reminded. He mentioned that traffic on some tees had worn tracks that had been toppedress to the extent the tees were humpbacked. He also said that greenkeepers in placing tee markers and cups, mindful of turf and wind conditions, could preserve fairly uniform playing conditions and make course rating system stand up.

Ralph Engel of the Rutgers university staff told of New Jersey's program of turf maintenance schooling and research. This paper was accompanied by slides showing New Jersey turf experiment plot and Engel's comments on the work. The paper appears in this issue of GOLFDOM.

Water Supply Factors

C. E. (Scotty) Stewart, Chicago, consulting irrigation engineer, in telling of a modern course irrigation system, stressed making sure of an adequate supply of water. He advised consulting local authorities about regulations governing stream water use and dam construction. He counseled against making a reservoir too deep. A pond of large area in which water wouldn't be lowered much during pumping and banks wouldn't slip in, is better. Stewart said evaporation and seepage losses would be offset by rains and drainage. He advised consulting with well driller and getting a test hole as initial work in planning irrigation systems dependent on well supply. He also discussed pump types.

Stewart said agronomists and irrigation engineers would have to get together on water requirements as dictated by local conditions. He said the safe way to design irrigation systems was with the idea of not getting any rain. Common sense rather than a watering "program" should direct use of any system. The system should care for watering about a third of the course per night.

He cited the increase of friction according to increased velocity of flow as a very important factor in designing the course watering system and detailed merits of pipes of various materials and different types of joints. Stewart also outlined trenching methods. He said in the northern part of the U.S. with 100-125 days of course irrigation use per year there was no need to put pipes under the frost line but to make sure they drained by gravity. He also gave figures on expansion and contraction of pipe lengths according to temperatures. He gave details of pipe testing procedure. He recommended water as preferable to air for testing but said that if air was used to put in a pint of lanana oil so leaks would be noticed readily.

What Goes On in Turf

Geoffrey Cornish, Univ. of Massachusetts, presided over the first afternoon session. First speaker was Dr. Dale Stieling, Univ. of Mass., on The Role of Phosphorus in Turf Production. His paper, which was accompanied by charts, appears in this issue. Also in this issue is the talk by S. D. Gray, American Potash Institute, on The Use of Potash in Turf Development. Gray mentioned several papers on plant tissue

(Continued on page 90)
It's the grip of a Top-Flite Club that tells the golfer—"This is it! Here's the feel of control in fingers, hands and wrists. Here's where swing power starts—the directed power that pays off in yardage and true flight!" Actually, there is a choice of two standard grips in the 1950 Top-Flite Registered Clubs...the exclusive Spalding Cushion-Form and the exclusive All-Service grip...at no extra cost.

Spalding
sets the pace in sports