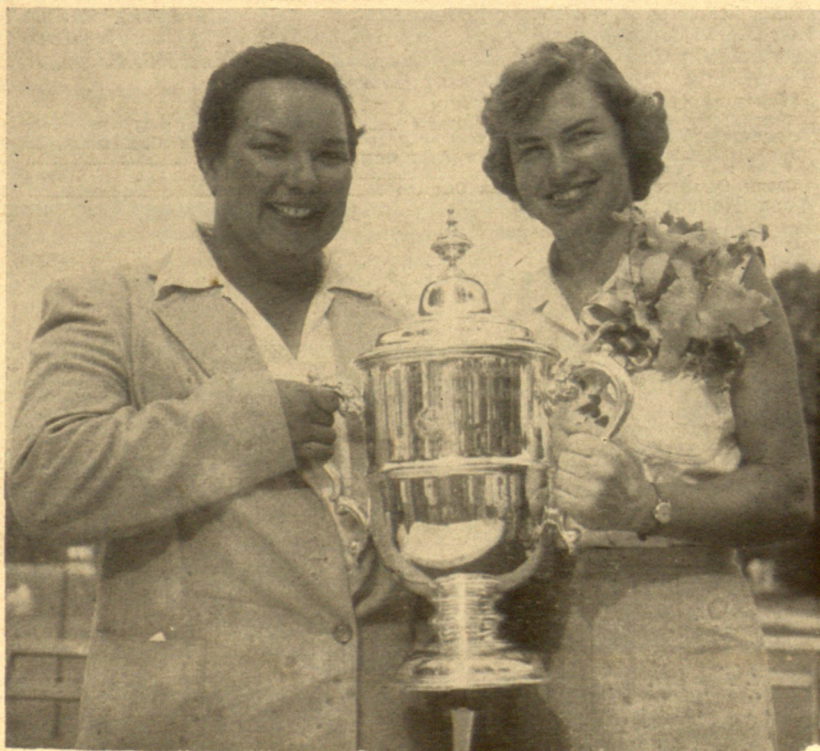




# USGA JOURNAL

AND  
TURF MANAGEMENT

## A TIE IN THE FIRST WOMEN'S OPEN



*Wide World Photo*

The first USGA Women's Open Championship set a high standard at the Country Club of Rochester, N. Y. Mrs. Jacqueline Pung (left) and Miss Betsy Rawls were tied at 302 after 72 holes, and Miss Rawls won the play-off, 71 to 77.

AUGUST 1953



# USGA JOURNAL

AND  
TURF MANAGEMENT

**PUBLISHED BY THE UNITED STATES GOLF ASSOCIATION**  
PERMISSION TO REPRINT ARTICLES HEREIN IS FREELY GRANTED (UNLESS  
SPECIFICALLY NOTED OTHERWISE) PROVIDED CREDIT IS GIVEN  
TO THE USGA JOURNAL

**VOL. VI, No. 4**

**August, 1953**

THROUGH THE GREEN .....	1
SPORTSMAN'S CORNER .....	3
HOGAN'S CROWNING GLORY .....	Sam McKinlay 5
THE BRITISH WALKER CUP SIDE .....	John P. English 7
"READING" GREENS .....	Ben Hogan 11
THE WORLD'S LARGEST SAND BUNKER .....	C. C. McMullen 12
MISS RAWLS NEW OPEN CHAMPION .....	Joseph C. Dey, Jr. 14
TUXEDO GIVES WAY TO "PROGRESS" .....	16
A SENIOR MEMBER—GUEST EVENT .....	17
CALIFORNIA TAKES OVER THE PUBLIC LINKS .....	Frederick L. Dold 18
THE LAST DAY AT CARNOUSTIE .....	John Derr 20
VARIETY IN USGA GOLF MUSEUM .....	Edward S. Knapp, Jr. 21
THE REFEREE: DECISIONS BY THE RULES OF GOLF COMMITTEES .....	22
TURF MANAGEMENT: USGA GREEN SECTION	
THE GREEN SECTION RESEARCH PROGRAM .....	MARVIN H. FERGUSON 25
IRRIGATION, COMPACTION AND AERATION OF FAIRWAY TURF .....	JOHN C. HARPER, II 27
USGA REGIONAL TURF SERVICE NOW AVAILABLE IN 15 STATES .....	31
FROM THE BELTSVILLE OFFICE .....	A. M. RADKO 32
GREEN COMMITTEE EXPENSES NEAR CHICAGO .....	32
IT'S YOUR HONOR: LETTERS .....	33

Published seven times a year in February, April, June, July, August, September and November by the  
**UNITED STATES GOLF ASSOCIATION**  
40 East 38th St., New York 16, N. Y.

Subscriptions: \$2 a year. Single copies: 30c. Subscriptions, articles, photographs, and correspondence, except pertaining to Green Section matters, should be sent to the above address. Correspondence pertaining to Green Section matters should be addressed to USGA Green Section, Room 206, South Building, Plant Industry Station, Beltsville, Md.; to USGA Green Section Western Office, Box 241, Davis, Cal.; or to USGA Green Section, Southwestern Office, Texas A. and M. College, College Station, Texas. Entered as second-class matter March 3, 1950, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Edited by Joseph C. Dey, Jr., and John P. English. Advisory Committee: John D. Ames, Chairman; Isaac B. Grainger, Curtis W. McGraw and Bernard H. Ridder, Jr. All articles voluntarily contributed.

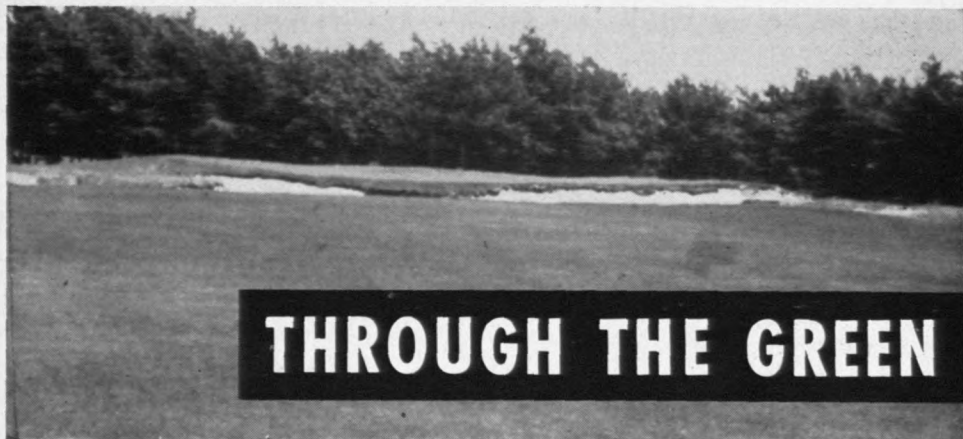
## USGA COMPETITIONS FOR 1953

**Walker Cup Match**—September 4 and 5 at the Kittansett Club, Marion, Mass. Men's amateur teams, Great Britain vs. United States.

(Dates entries close mean last dates for applications to reach USGA office. For possible exceptions in dates of Sectional Qualifying Rounds, see entry forms.)

<u>Championship</u>	<u>Entries Close</u>	<u>Sectional Qualifying Rounds</u>	<u>Championship Dates</u>	<u>Venue</u>
<b>Girls' Junior</b>	August 7	none	August 17-21	The Country Club, Brookline, Mass.
<b>Women's Amateur</b>	August 10	none	August 24-29	Rhode Island C. C., W. Barrington, R. I.
<b>Amateur</b>	August 17	Sept. 1	Sept. 14-19	Oklahoma City G.&C.C. Oklahoma City, Okla.





## THROUGH THE GREEN

### Ben Hogan Philosophizes

Ben Hogan, who represents the triumph of mind over matter, revealed just an inkling of his approach to golf when he visited "Golf House" in the course of his welcome to New York to present the ball he used on the last hole at Carnoustie to the USGA Museum.

"Golf is a game of mistakes," he said. "You don't hit more than one or two shots perfectly in a whole round, and there are many other factors you cannot control. The ball may come out of its lie differently than you expect. The wind conditions may deceive you or change while the ball is in flight. The ball may take a weird bounce when it lands.

"For any one of these reasons, a ball can wind up in a bunker or off the fairway. You have to expect that will happen a certain number of times.

"A 'mistake' in the real sense of the word is a shot that wouldn't have been any good if you had hit it perfectly and if you had correctly anticipated all those other factors you cannot always control.

"You can eliminate stupidity out there on the course."

This provides one clue, and certainly an important one, to his formula for making a Champion. He did not set down the formula in detail, but at another point he said:

"Ten years ago, I was hitting shots well enough to be leading money winner three

years in a row. But making a Champion is like making a Mulligan stew. You have to have all the ingredients to make it right. At that time, I was still lacking three or four of the most important ingredients."

### The Girls Visit New England

Two of New England's finest old Clubs will open their gates hospitably to the women golfers of America this month. The Country Club, in Brookline, Mass., will entertain the Girls' Junior Championship, and a week later the Rhode Island Country Club, in West Barrington, R. I., will be host to the Women's Amateur Championship.

The girls will find The Country Club much the same as it was when Miss Genevieve Hecker won the Women's Amateur Championship there in 1902, and this will be its eighth USGA Championship or International Match. The competition bids fair to sparkle, for Miss Berridge Long, of Huntington, W. Va., and Miss Ann Quast, of Everett, Wash., already are entrants. Entries close August 7.

The women, however, will find the Rhode Island Country Club considerably changed since Mrs. Dorothy Campbell Hurd won her third and last Women's Amateur Championship there in 1924, defeating Miss Mary K. Browne, the tennis player, in the final. The hurricanes of 1938 and 1944 levelled many trees and exposed the Donald Ross course more to

the winds off Narragansett Bay, and the handsome old clubhouse burned in September, 1950, to be replaced a year later by an equally handsome and more modern version. Mrs. Jacqueline Pung, now a professional, cannot enter a defense of the title she now holds, but the field is certain to be loaded with talent, and will include Mrs. Edwin H. Vare, Jr., the six-time champion, who is a member of the Club. Entries close August 10.

### A Canadian Breaks Through

Our congratulations to our young neighbor, Miss Marlene Stewart, of Font-hill, Ontario, on her stunning victory in the British Women's Championship. Although she is only 19, she can no longer be considered a "comer." She has arrived.

Miss Stewart, a sophomore at Rollins College, in Florida, is the first Canadian to win a British Championship, and she made her victory the more convincing by beating two members of the 1952 British Curtis Cup Team in the semi-finals and final. She defeated Miss Jean Donald, 1 up, and then Miss Philomena Garvey, 7 and 6.



Acme Photo

Miss Marlene Stewart

Miss Mary Lena Faulk, of Thomasville, Ga., the only United States entrant, lost to Miss Garvey, 2 and 1, in the other semi-final.

### Successive Birdies Again

Our item in the September, 1952 issue regarding the eight successive birdies made by Jack Hesler, of Crawfordsville, Ind., in 1949, drew a worth-while response. Hesler's achievement, although one we would like to duplicate someday, is no record.

Claude Harmon, professional at the Winged Foot Golf Club, Mamaroneck, N. Y., ran off a string of eight birdies and an eagle in succession last May 19 on the East Course at his home club. The run of eight birdies started at the fourth hole and was climaxed at the 540-yard twelfth when he put his ball a foot from the hole with two driver shots and made an eagle 3. His score of 61, eleven under par, equalled his own record. The card:

	Out									
Par	4	5	3	5	4	3	4	5	4	—37
Harmon	4	4	3	4	3	2	3	4	3	—30

	In									
Par	4	4	5	3	4	4	4	3	4	—35—72
Harmon	3	3	3	4	4	4	4	2	4	—31—61

George Rowbotham, of the Llanerch Country Club, Manoa, Pa., made nine successive birdies and scored a 62 in the semi-final round of his club championship in July, 1948. The unfortunate victim of eleven birdies, all told, was Lester Rollins. Rowbotham's card read:

	Out									
Par	4	4	4	3	5	4	4	3	5	—36
Rowbotham	5	4	4	3	4	3	3	2	4	—32

	In									
Par	4	4	3	4	5	4	5	3	4	—36—72
Rowbotham	3	3	2	3	5	4	5	2	3	—30—62

Has anyone ever made ten birdies in a row?

### Two Champions

It is pretty hard for a champion to gain much recognition in this, a Hogan year, but the feats of Walter Burkemo, of Detroit, and Frank D. Ross, of Hartford, Conn., by no means passed unnoticed.

Burkemo, an amazingly straight shot-maker, finally won the PGA Championship at the Birmingham Country Club, in his home town, by defeating Felice Torza, 2 and 1, in a surprise final.

Ross, who is 59, won his first United States Seniors' Golf Association Championship, with a score 73-69—142 at the Apawamis Club, Rye, N. Y. A former New England Amateur Champion, Ross started his final round with four birdies and had used only eleven strokes when he reached the fifth tee.

### **Jerry Schramm**

The Association has no more devoted friends than those who work in behalf of the Amateur Public Links Championship, and the sudden passing of Gerald J. Schramm, of Milwaukee, Wis., is therefore a source of deepest regret. Jerry was a loyal and active supporter of public links golf and one of the most popular members of the Public Links Committee. His loss leaves a conspicuous void in the public links of Milwaukee and in the Public Links Committee.

### **A New Half-Century**

The Middle Atlantic Golf Association is away a-winging on its second half-century of service to the game. Its 51st Women's Amateur Championship and its 51st Amateur Championship were held in June at the Ingleside Country Club, Staunton, Va., and the Farmington Country Club, Charlottesville, Va., respectively.

### **WGA Sponsors Four-Ball**

The Western Golf Association will step forth with a new major competition next year with the presentation of an Amateur Four-Ball Championship at the Highland Golf and Country Club, Indianapolis, Ind., pitting two-man teams in 36-hole qualifying and a 64-team bracket of match play from June 25 through July 1, 1954.

The Championship will feature Highland's semi-centennial, and will be restricted to low-handicap teams. According to present plans, players must have handicaps of five or less.

## **SPORTSMAN'S CORNER**



**Joseph B. Breckel**

Bill Parker, of Tulsa, Okla., was playing Joseph B. Breckel, of Louisville, Ky., in the fourth round of the 1951 Junior Amateur Championship at the University of Illinois Golf Course.

The match was all even after 17 holes, and Bill had the honor on the 18th tee. This tee is unusually long, and the tee markers were at least 20 yards farther back than they had been on the previous day.

In youthful excitement, Bill walked rapidly to the tee, teed his ball where the markers had been the day before and hit a low, smothered hook into deep rough. He probably would not have been able to make better than a 5 on the par-4 hole from that position.

This had taken place too quickly for intervention, but Joe knew a Rule had been violated. He turned to the referee and asked: "What do I do now?"

The referee explained that Joe had the option, under Rule 13-1, of recalling Bill's drive or letting it stand as played. Since Bill's ball lay in an unfavorable position, Joe would benefit most by requiring his opponent to leave the ball where it was.

Without hesitation, however, Joe said, "Let's give him another crack at it."

The hole was halved and Bill eventually won on the 22nd hole.

### Helms Hall Golf Hall of Fame

The Helms Hall Board, in Los Angeles, has added Robert A. Gardner, Miss Beatrix Hoyt and the late Willie Anderson to its Golf Hall of Fame, and it would take a good deal of imagination to fault these selections. Gardner won the Amateur Championship twice and captained the Walker Cup Team three times. Incidentally, he also set the world pole-vaulting record at 13 feet 1 inch while at Yale and later shared a national doubles championship in racquets. Miss Hoyt won the Women's Amateur Championship three years in succession, and Anderson won the Open Championship four times, three in succession.

Already named to this Golf Hall of Fame in previous years have been H. Chandler Egan, Charles Evans, Jr., Robert T. Jones, Jr., Lawson Little, Francis Ouimet, Jerome D. Travers, Walter J. Travis, Tommy Armour, Walter Hagen, Ben Hogan, Byron Nelson, Gene Sarazen, Alex Smith, Jim Barnes, Mrs. Edwin H. Vare, Jr., Mrs. Dorothy Campbell Hurd Howe, Mrs. William G. Fraser, Mrs. George Zaharias and Miss Virginia Van Wie.

It takes one minute to replace sod but four years to grow it.

### A Junior Publication

The Junior Golf Association of Southern California, one of the exemplary organizations of golf, has strengthened its good influence over junior boys and girls in its area by instituting a periodical, the first we have seen devoted to the interests of junior golf.

It contains news of particular interest to the juniors and also to their parents, and most of the material is provided by junior correspondents at the various clubs. PGA professionals of the area offer hints on playing the game, and Brig. Gen. Stanley Ridderhof conducts contests on the Rules and Etiquette of the game.

An item from the first issue:

"Courtesy is always noticed. So is discourtesy."

### The Gentle Prod

Miss Margaret Curtis gave each player in last summer's Ladies' Invitation Four-Ball at the Essex County Club, in Manchester, Mass., a small card on which was printed:

"Please tee off promptly at every hole. As there is no penalty for playing out of turn in a four-ball, let whoever gets to her ball first play at once, without the usually unimportant decision as to who is away.

"When you can no longer be of help to your partner, pick up, saving the delay of everyone holing out at every hole.

"Tend to hole out rather than to mark your ball on the green.

"Write your scores en route to the tee, not on the green.

"If you are sharing a caddie and are not certain what club you may need, take two to choose from.

"When possible, decide on your club as you approach your ball.

"Walk as briskly as you do in a singles match.

"Please don't take more than five minutes between your two nines.

"We plan to have a traffic man on the course. If there is a free hole ahead of you, you will be asked to speed up or allow the next set to go through.

"It would be pleasant if no one were asked to give away!

"Are you making it in four hours flat?

"IT CAN BE DONE."

In reporting on the success of the innovation, Miss Curtis says:

"By heaven, it worked.

"The sets got around in three hours and forty minutes and were delighted to feel decidedly fresher than usual.

"The draws were all made and posted by the time we finished lunch.

"The rejoicers included the chef."

# Hogan's Crowning Glory

By SAM McKINLAY

SPORTS WRITER, GLASGOW HERALD, GLASGOW, SCOTLAND

It was appropriate that Ben Hogan should win the British Open Championship at Carnoustie in Coronation year for he is to all golfers, in the words of the crowning service, "your undoubted King".

We in Britain had been prepared to do him honor and give him allegiance, for his record in the United States was known and admired, but we insisted that he must prove himself under our conditions before he could properly be regarded as King of the Links.

Well, he submitted his great reputation to the test and all the world of golf knows how signally he triumphed. Not only did he win, and at the first time of asking, but he won handsomely on what is the most severe golfing test in our islands in weather which was exacting though it lacked what Carnoustie folk prayed for—the ultimate hazard of a strong East wind.

In truth, the course was at its easiest on the final day, but no one having seen Hogan in action was prepared to argue that he would not have won just as convincingly in any weather. He might not have finished with a record 68, but equally, if his putts had dropped, he might have done almost anything. In short, he gave one of the most impressive displays of golf ever seen in Britain and, what was equally pleasing to a critical Scottish crowd of many thousands, he comported himself from first to last with dignity and modesty.

He was respected before he came, he won admiration during his visit, and he took back with him to his own country as much of our affection as ever we gave to Bob Jones and Charlie Yates. If ever he should return he will have the freedom of our hearts as well as of our courses.

From the beginning it was Hogan's championship. His first hole in the qualifying round was a portent. He hit a long, straight drive, a firm approach to within a few feet of the flag, and holed the putt without fuss or fear. His 70 on the Burn-

side course was followed by a 75 on the championship circuit, a rather spotty 75, too, in that he took 41 to go out for no real reason except that he found the greens too slow for his liking and could not get the ball up to the hole.

In the championship proper he played beautifully, making fewer errors than any other competitor except on the greens, where he was safe rather than brilliant. For the record, he did 73, 71, 70 and 68 on a course 7,200 yards long with a strict par of 70, and he gave at least one observer the feeling that if the tournament had lasted a day longer he would have scored in the middle or even low 60's. As the old caddie said, "it's no' possible, but it's a fact"—and the fact was that he hit the ball straighter from tee to green than anyone else.

His driving in particular was glorious—always straight and, when the hole demanded it, very long indeed. He made an occasional error, usually of judgment of distance, through the green, and once, at the seventeenth hole in the third round, he cut a spoon shot into a bunker and then took three putts for his only 6 of the championship; but these were minor lapses compared with his major virtues of keeping the ball in play and avoiding destructive shots.

He will, I am sure, despite his many experiences of marching to triumph, not easily forget the final scene of all. The last fairway was lined along its 450 yards with spectators seven to ten deep. The championship was in Hogan's pocket, for he needed a 4 for his 68 and an aggregate of 232 and the best that had been done, or was likely to be done, was 236 by Dai Rees, Peter Thomson, Frank Stranahan, and (later) Antonio Cerdá.

Hogan's drive was perfect, his iron was true to the heart of the green, some 20 feet from the flag. Everyone was praying that he would finish with a grand flourish, but then he wobbled slightly and his



## Broadway Becomes "Hogan's Alley"



*Wide World Photo*

The City of New York pulled all the stops in welcoming Ben Hogan after he had completed his "slam" by adding the British Open to the USGA Open which he won in June. He was driven up Broadway in showers of ticker tape, received the greetings of the Mayor, was honored at a luncheon, presented the ball he used on the last hole at Carnoustie to "Golf House" and later was honored again at a dinner by the USGA.

putt was the kind of nervous poke that any golfer may hit under stress. The ball finished at least 30 inches short and for a moment there was the horrid fear of anti-climax. But the great man took a grip of himself and holed the short one crisply, and there burst upon his now bared head such a roar of warm congratulation as was at once a tribute to him and a proof of British generosity of spirit.

I make no apology for dealing with the championship as though it had been a one-man affair. In the end it was, but for a time it was not. Stranahan led after one round with a 70, with Eric Brown at his heels and then an international

cluster at 72—Rees, Thomson, Locke and de Vincenzo, with Hogan and former champion Fred Daly at 73. After two rounds Brown and Rees were leading at 142, with de Vincenzo a stroke behind and Hogan, Stranahan and Thomson at 144. After three rounds Hogan had moved up to equal first with de Vincenzo, with Rees, Thomson and Cerda a stroke behind at 215, but although all the leaders played very well in the fourth round and no one cracked, only Hogan was able to increase the pressure and he finished in splendid isolation four strokes ahead to take his place in golfing history alongside Vardon, Hagen, Sarazen and R. T. Jones.



## The British Walker Cup Side

By JOHN P. ENGLISH

USGA ASSISTANT EXECUTIVE DIRECTOR

Four Englishmen, two Scots, two Irishmen and two Welshmen will play under the standard of Great Britain in the fourteenth Match for the Walker Cup at the Kittansett Club, Marion, Mass., over Labor Day week-end. The Team will consist of:

Joseph B. Carr, Ireland  
Norman V. Drew, Ireland  
John D. A. Langley, England  
Roy C. MacGregor, Scotland  
Gerald H. Micklem, England  
John L. Morgan, Wales  
Arthur H. Perowne, England  
Ronald J. White, England  
James C. Wilson, Scotland

Lt. Col. A. A. (Tony) Duncan, a Welshman who now lives in England, will be the Captain.



Lt. Col. A. A. Duncan  
*The Captain*

This selection represents a weighting on the side of experience in Walker Cup play, for seven of the ten players have participated in previous Matches. These are Carr, Langley, Micklem, Morgan, Perowne, White and Wilson. Only Duncan, MacGregor and the youthful Drew are untried in this international competition.

Carr and White, mainstays of the last three Teams, will represent Great Britain for the fourth time, the second time in this country. Three others also have played here—Langley, a veteran of two Matches, in 1936; Micklem, also a veteran of two Matches, in 1949; and Perowne, too, in 1949. Wilson was a member of the 1947 Team; and Morgan, a professional for four years, played only in 1951.

Veteran teams are, of course, not young teams; and most of the British players are in their thirties. There are, however, two notable exceptions. Drew is only 21, and Perowne is 23.

The British side is therefore, on the average, slightly older and more experienced than the United States side.

Five of the players were selected by the Royal and Ancient Golf Club of St. Andrews, last winter — Duncan, Carr, Langley, Morgan and White. Carr supported the validity of the choices by winning the British Amateur Championship last May. The remainder were selected after that Championship, in which Perowne reached the semi-finals and MacGregor gained the round of sixteen.

The British Team will fly to this continent and land at Montreal, Canada, on Friday morning, August 21. The players will go immediately to the Kanawaki Golf Club, where the Canadian Amateur Championship will start on Monday, August 24, and they will participate in that event. As they are eliminated, they will be driven to the Kittansett Club in private cars, so that they will have about a week to get acquainted with that course on the shore of Buzzards Bay.

Members of the British team have been invited to compete also in the USGA Amateur Championship, which will be played at the Oklahoma City Golf and Country Club, Oklahoma City, Okla., from September 14 through 19, and arrangements have been made to fly them there and return them.

**Joseph B. Carr****Norman V. Drew***Sporting Chronicle*  
**John D. A. Langley**

The Captain of the British Team, Duncan, has not previously participated in Walker Cup Matches, but he was runner-up to Alex T. Kyle in the 1939 British Amateur Championship and has won the Army Championship four times and the Welsh Amateur three times. His father, his mother and his aunt all won Welsh Championships, too.

Col. Duncan is a graduate of Balliol College, Oxford, was commissioned into the Welsh Guard and is now an instructor in the Army Staff College at Camberley. He is 38, married and has a 3-year-old son.

Sketches of the others follow:

#### **Joseph B. Carr**

Mr. Carr, the British Amateur Champion, is a veteran of the last three British Teams and played in the 1949 Match at the Winged Foot Golf Club, Mamaroneck, N. Y., and in the subsequent Amateur Championship at the Oak Hill Country Club, Rochester, N. Y. He is a clothing manufacturer, aged 31 and lives in Dublin, Ireland.

In the recent British Amateur, he defeated Harvie Ward, 2 up, in the final and beat William C. Campbell in an earlier round. He was a semi-finalist in each of the two previous Championships, losing to Richard D. Chapman in 1951 and to Ward in 1952. In our 1949 Amateur Champion-

ship, he lost to James B. McHale, Jr., in the third round.

Mr. Carr has won twice and lost once in Walker Cup singles play. He defeated Ted Bishop, 5 and 4, in 1947; lost to John W. Dawson, 5 and 3, in 1949; and defeated Frank R. Stranahan, 2 and 1, in 1951. His record in foursomes shows one victory, one tie and one defeat. He and Ronald J. White played in the No. 1 match in each of the last two series, defeating Raymond E. Bilbrows and William P. Turnesa, 3 and 2, in 1949 and halving Messrs. Campbell and Stranahan in 1951.

He is married.

#### **Norman V. Drew**

Mr. Drew is the youngest member of the British Team and is appearing for the first time in Walker Cup play. He has just turned 21 and lives in Belfast, County Down, Northern Ireland.

In 1949 he won the Ulster Boys' Championship and was runner-up in the British Boys' Championship, and the following year he took the North of Ireland Amateur.

#### **John D. A. Langley**

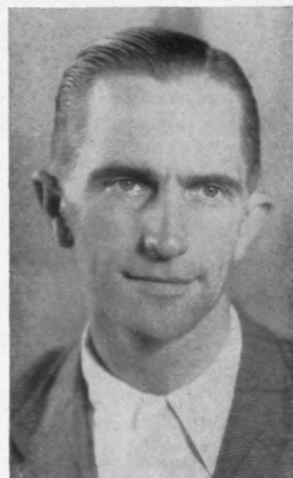
Mr. Langley took his first golf lesson from his father at the age of 3, won the British Boys' Championship in 1935 and was a member of the Walker Cup Team which played at the Pine Valley Golf Club, Clementon, N. J., in 1936. He was again selected for the Team in 1951; and so, although he is only 35, he will be playing



Roy C. MacGregor



Gerald H. Micklem



John L. Morgan



Arthur H. Perowne



Ronald J. White



James C. Wilson

in his third Match over a span of seventeen years. He attended Trinity College, Cambridge; lives in London, and is a director of a building trades firm.

He lost in the second round of this year's British Amateur.

In the 1936 Match, Mr. Langley lost to Ed White in singles, 6 and 5, and he and Jack McLean lost to Mr. White and Reynolds Smith in foursomes, 8 and 7. During the subsequent Amateur Championship, he

won four matches and then lost to John Goodman. After service as a pilot in the Royal Australian Air Force in the Pacific area during the war, he resumed golf and won the English Amateur in 1950. In the 1951 Walker Cup Match, he dropped his singles match to Mr. McHale, 2 down; but he and R. Cecil Ewing halved with Mr. McHale and Charles R. Coe in foursomes.

He is active in cricket and squash racquets and is married.

**Roy C. MacGregor**

Mr. MacGregor is the third newcomer to the Team, but he has become one of Scotland's foremost players in recent years. He is 39, an iron and steel merchant and lives in Glasgow, Scotland.

In the British Amateur last spring, he reached the round of sixteen for the second time, but he lost there to Mr. Perowne. He was a semi-finalist in the Scottish Amateur two years ago.

He is married and has two children. Mrs. MacGregor also is a golfer of some renown.

**Gerald H. Micklem**

Mr. Micklem won the English Amateur Championship for the second time this year, defeating Mr. White in the final, 5 and 3, and he played with the 1947 and 1949 Teams. A member of the London Stock Exchange, he attended Oxford, lives in Sunningdale, Berkshire, England, and will turn 43 this month.

Following war service as a major with the Grenadier Guards in North Africa and Italy, he went to the semi-final of the British Amateur in 1946 and won the English Amateur in 1947. He lost in the second round of the recent British Amateur.

In previous Walker Cup appearances, Mr. Micklem has lost singles matches successively to Robert H. (Skee) Riegel and to Mr. McHale, and he and Mr. Ewing dropped their foursome to Messrs. Bishop and Riegel in 1949. While here with the 1949 Team, he was beaten by MacGregor Hunter in the first round of our Amateur Championship.

**John L. Morgan**

This will be Mr. Morgan's second appearance with a Walker Cup Team, and his first in this country. He is 35 and a sales engineer in Walsall, Staffordshire, although he was born in Wales.

Mr. Morgan's golf career was interrupted by five years of Army service but he has won the Midlands Amateur in three of the last four years and the Welsh Amateur in two of the last three years. In the 1951 Walker Cup Match, he lost to Mr. Chapman in singles, 7 and 6; and he and James Bruen bowed to Mr. Turnesa and Sam Urzetta in foursomes, 5 and 4.

He is married.

**Arthur H. Perowne**

Mr. Perowne was the youthful sensation of the British Team which played here in 1949. He went to the fourth round of our Amateur Championship at the Oak Hill Country Club, outlasting all his teammates, before bowing to Mr. Campbell. Now 23, he is a farmer and lives in Norwich, Norfolk, England.

In the British Amateur last spring, he lost to Harvie Ward in the semi-finals. He won the Swedish Amateur in 1947 and the Norfolk Amateur in 1948, 1951 and 1952.

Mr. Perowne lost his singles match to Charles R. Kocsis and he and Kenneth G. Thom dropped their foursome to John W. Dawson and Bruce McCormick here in the 1949 Match.

**Ronald J. White**

Mr. White has never been defeated in three Walker Cup Matches, and in spite of his rare appearances in competition he is often rated Great Britain's best amateur. He is a 32-year-old solicitor and lives in Birkdale, England.

Legal responsibilities prevented him from competing in the 1951 and 1952 British Amateur Championships, and he neglected to file his entry in time for the 1953 Championship. He lost to Mr. Micklem in the final of the recent English Amateur, an event which he won in 1949. He was defeated by P. J. Boatwright in the second round of the USGA Amateur in 1949.

The list of Mr. White's victims in Walker Cup singles play is impressive. He beat A. Frederick Kammer, Jr., 4 and 3, in 1947; Mr. Turnesa, 4 and 3, in 1949; and Mr. Coe, 2 and 1, in 1951. He also won his foursomes in 1947 and 1949, but he and Mr. Carr had to settle for a half with Mr. Campbell and Mr. Stranahan in the No. 1 foursome in 1951.

He is married and was an RAF pilot during the war, retiring with the rank of flight lieutenant.

**James C. Wilson**

Mr. Wilson is a veteran of the 1947 Team and has represented Scotland four times in the home internationals. He lives in Westerton, Dumbarton, Scotland.

In the match six years ago at St. Andrews, Scotland, he lost his singles match to Smiley L. Quick and he and Alexander T. Kyle bowed to Messrs. Kammer and Turnesa in foursomes. Two years ago he was runner-up in the Scottish Amateur.



# "Reading" Greens

By BEN HOGAN

USGA OPEN CHAMPION 1948, 1950, 1951, 1953; BRITISH OPEN CHAMPION 1953

Much to my surprise recently I discovered that most duffers are amazed by the ability of the tournament professionals to "read the greens" on strange courses so quickly. By "reading the greens," of course, I mean the ability of looking over the undulations, slopes and the grass on the putting greens and then deciding how the ball is going to travel after you stroke it.

Naturally, this ability is developed only by experience, but there are certain little hints which I will give you which will help you to become proficient at it. If the tournament-playing professionals are more proficient at reading the greens than the ordinary player, it is only because they have to play on so many different types of greens in the course of a year.

On almost all oceanside-course greens everything breaks toward the ocean.

When playing mountain courses, putts will always break away from the mountain. This is true even if, in "reading the greens," it doesn't look that way to you. Putting greens always slope away from the mountains because of the weather and erosion. What you will have to guard against in reading greens on mountain courses, however, is little things which your knowledge of golf will tell you can't be true, although they appear to be so to the naked eye.

If you can locate the direction the grain of the green runs, you have won half the battle in your effort to get your putt down. One way of doing it is to look for the shine on the greens as you read them.

If you can see a shine on the green when you are lining up your putt, it means that you are putting down the grain of the green. The ball is going to travel very fast. You will have to make allowances for the speed of the ball down

the grain. Otherwise, you will be sure to run by the hole several feet and will have another and even more difficult putt coming back against the grain.

When I see a shine on the grass on the right side in lining up a putt, I play to the right even if I don't see a break in the green in that direction because I know the grain is running from right to left. The reverse is true if you see the shine on the left, and you must then make your allowance accordingly.

If you are on the other side of the hole looking back toward your ball while trying to line up and see the shine, you will have to putt against the grain. When you putt against the grain, it stands to reason you have to hit the ball a little harder to reach the hole.

Sometimes on a green you will find that the grain of the green breaks to the right while the roll and undulation of the green break to the left. When that happens, you will have to decide whether you are going to play the grain or the roll. Occasionally in this situation it is a good idea to play the ball straight in the hope that one will offset the other. That is something you must learn for yourself via the trial-and-error method.

You should also develop your ability to tell the kinds of grasses on the greens and their consistency through the feel of your feet on them as you walk around. Get so you know the feel of the various grasses used on the greens and their relation to the speed of the ball. That knowledge will be very helpful to you in learning how to putt.

Remember in putting that the stroke can't do it all. You have to know how hard to hit the ball and where to aim it.

*From POWER GOLF by Ben Hogan, copyright 1948. A. S. Barnes & Company, Inc., New York.*

# The World's Largest Sand Bunker

By C. C. McMULLEN

CHAIRMAN OF THE BOARD, DHAHNAN GOLF ASSOCIATION, SAUDI ARABIA

With a lusty swing and a conventional divot, the newcomer to golf at the Rolling Hills Country Club in Dhahran, Saudi Arabia, may gain ten yards per stroke.

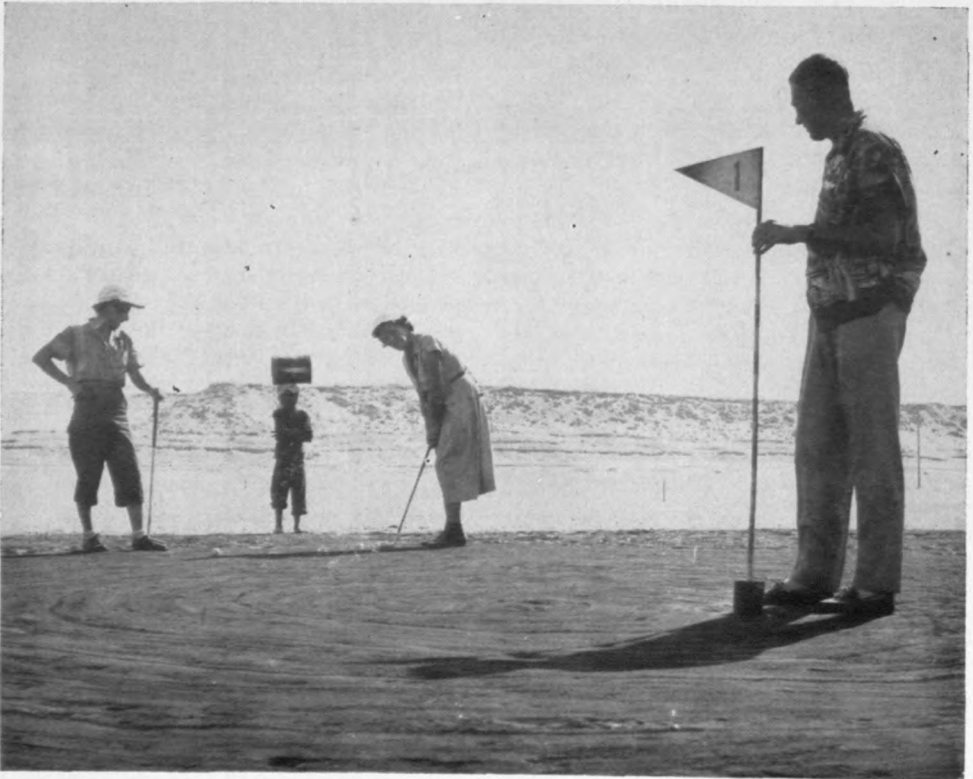
Picture, if you will, a sand bunker roughly 100 yards wide and 5,310 yards long, with occasional breaks where the hands of time dumped a few acres of boulders and hillocks.

Greens? Well, maybe not. They are black oiled sand, swept smooth after play by our green-sweepers. Grass is only a memory, and there isn't a tree in the area.

What looks like an easy course from the clubhouse is a nightmare, made no less harrowing by the 120-degree heat and the strong dry winds.

Drives are exactly the length of the carry, and any "fairway" stroke not picked clean is probably a hole in your opponent's favor. A sand-bunker wizard might dote on our approaches, but we have no sand-bunker wizards. The yellow-and-black out-of-bounds stakes aren't helpful either.

Why try to play? That's a question best answered by saying, "Once a golfer, always a golfer, regardless of circumstances".



U. V. Stewart, a past president of the Dhahran Golf Association, holds the flagstick while Mrs. Mary Scholl and Mrs. Peggy Owen putt on the black, oiled-sand "greens" at the Rolling Hills Country Club.

Photo by T. F. Walters



C. C. McMullen, Chairman of the Board of the Dhahran Golf Association, in Saudi Arabia, stands ankle deep in sand to play a "routine" stroke from a sloping lie at the Rolling Hills Country Club.

Golf has been played in Saudi Arabia for approximately fifteen years, but it wasn't until November, 1948, that a half dozen enterprisers organized what is now the Dhahran Golf Association. This group has grown from the original six to nearly three hundred, and membership is restricted to those who own clubs and use them.

The purpose of organizing was to construct and maintain an eighteen-hole course, to establish USGA Rules of Golf and to build a clubhouse. The course has been constructed. We subscribe to the foreign services of the USGA and USGA Rules apply.

Now that the first objectives have been or soon will be attained, the Board of Directors is looking to the furtherance of golf. With the blessing of the Arabian-American Oil Company, the main em-

ployer in this area, a Middle East Golf Association has been formed. Associations in Lebanon, Iraq, Kuwait, Qatar and Saudi Arabia have been accepted for membership, and the first competition was held on the Ras Tanura course, in Saudi Arabia.

An interesting development is the Saudi Arab caddies' penchant for swinging golf clubs. At first, they obviously thought we weren't quite bright. There was much laughing and posturing at our antics. Now it is considered a caddie's right to swing a club. We are furthering this interest and intend to hold caddie tournaments. They are a naturally graceful people, and we anticipate that some will become quite good. In any event, when they say, "Wajid zane", we feel assured we have completed a really good golf shot.

# Miss Rawls New Open Champion

By JOSEPH C. DEY, JR.  
USGA EXECUTIVE DIRECTOR

Seven annual tournaments are now conducted by the United States Golf Association, and it is questionable whether any had as fine an inauguration as did the Women's Open Championship in late June.

Actually it was the eighth time a Women's Open was held on a national scale, but it was the first under USGA auspices. The USGA assumed sponsorship at the request of the Ladies' Professional Golfers' Association.

The Country Club of Rochester, N. Y., was the host, and a more favorable home for the tournament would be difficult to imagine. This is an old-line club, founded in 1895. Its members took the 38 entrants to their hearts, and it worked the other way, too. The course, playing 6,417 yards in length, was in fine condition and afforded an excellent test for the ladies. The Club provided outstanding committees under the direction of Otto A. Shults, General Chairman, and Dr. George M. Trainor, Co-Chairman, both of whom had previous experience in planning the 1949 Amateur at nearby Oak Hill.

The galleries were large and enthusiastic, the play of the game first class, and it was an altogether splendid first Women's Open under the USGA banner.

Miss Betsy Rawls emerged as Champion after a playoff. For a young lady of 25, Miss Rawls has a number of real accomplishments to her credit. While a student at the University of Texas, she was elected to Phi Beta Kappa, national honorary scholastic society. In the last four Women's Open Championships, she has twice won and once been runner-up. In 1950 as an amateur she was runner-up, and she won in 1951 as a professional.

This event was conducted on exactly the same lines as the men's Open—one round Thursday, one round Friday, two rounds Saturday. After 36 holes Miss Patty Berg held an eight-stroke lead with 144. Her closest rivals were Mrs. Jacqueline Pung and Miss Marilyn Smith, each

## CLIVE HELFERICH

Here are his prizes and here his rewards.  
Just look them over. The best life affords.  
Gathered to honor him—friends of the years.  
Nothing to equal them ever appears.  
Friends who have worked with him, friends who  
have paid.

Add them up—the best score ever made.

Proof of man's triumph which better imparts,  
Name stamped on silver or name stamped on  
hearts?

Here in our district forever his name  
Is linked with what's known as "the good of the  
game."

Playing to win, but perhaps at the end  
Losing a golf match, but never a friend.

Time was I shared with him many a game.  
Grateful and glad when those afternoons came.  
Now only backward I'm able to look  
But scanning the pages of memory's book  
Nothing but friendship comes into my mind,  
Nothing of Clive but is gracious I find.

Ours is a debt we can never repay  
Save by a dinner and words that we say.  
Still better by far than the fortunes men get  
Are friends who acknowledge this kind of a debt.  
So we're gathered tonight in his honor to show  
How much to Clive Helferich for service we owe.

Edgar A. Guest

*Delivered at the Detroit Golf Club, May 15,  
1953 during a testimonial for Mr. Helferich,  
prominent Detroit golf official.*

with 152. Next at 153 came Miss Rawls and Miss Peggy Kirk.

But the strokes began to slip away from Miss Berg in the 36-hole closing day, which she played in 80-79 for a 72-hole total of 303. She came to the final hole needing a birdie 3 to win, but her approach was a bit strong and she took 5.

Mrs. Pung meanwhile had posted 302, with a closing round of par 74. Miss Rawls, who had 74 in her third round, produced a 75 next and so tied Mrs. Pung.

The 18-hole playoff the next day found Miss Rawls building an early lead, with some brilliant birdies. She played well every stroke the course demanded, went out in 34, and surpassed par by three strokes with 71. Mrs. Pung strove to the



end, even holing a chip shot on the final hole, but needed 77.

And so the new USGA trophy went to Spartanburg, S. C., where Miss Rawls was born and where she recently returned after having lived most of her life in Austin, Texas.

For Mrs. Pung, it was a remarkably fine performance in her first year as a professional. The jolly Hawaiian matron, mother of two children, won the USGA Women's Amateur Championship in 1952 and turned professional during the winter.

The victory was worth \$2,000 to Miss Rawls. Mrs. Pung's cash prize was \$1,250. A total of \$7,500 in money was divided among the 12 leading professionals. Six of them are former USGA Women's Amateur Champions, and it was rather like old times to receive them again in a USGA competition.

Miss Patricia Ann Lesser, of Seattle, indicated once more that she is a most promising young amateur with her score of 315, which won a gold pin symbolic of first amateur prize. She was low amateur also in 1951.

There is obviously a somewhat restricted field for women professional golfers. Their opportunities apparently lie mainly with educational institutions, as representatives of golf equipment manufacturers, and as competitors in a growing number of open tournaments. They certainly honored the game in their first USGA Women's Open.

In an early round Miss Berg's approach shot to the home green stopped some five feet from the hole. Her fellow competitor, Miss Patricia Devany, an amateur, played a stroke from perhaps 50 yards off the green which struck Miss Berg's ball and moved it an appreciable distance.

Under the Rules of Golf, Miss Berg was obliged to replace her ball as near as possible to the spot from which the ball was moved. Miss Berg was not certain of the precise place where her ball had lain. She first placed the ball several feet farther away than its original lie. When told that was not the proper spot, she did inch it up a bit, but an official had a difficult time trying to persuade her that the ball had been much nearer the hole than she wanted to place it. She did

everything possible to avoid taking unfair advantage.

It is pleasant to record that she holed the putt for a birdie 3.

#### USGA PUBLICATIONS OF GENERAL INTEREST

**THE RULES OF GOLF**, as approved by the United States Golf Association and the Royal and Ancient Golf Club of St. Andrews, Scotland, effective January 1, 1952 (1953 edition). Booklet, 25 cents (special rates for quantity orders).

**ARE YOUR LOCAL RULES NECESSARY?**, a reprint of a USGA Journal article containing recommendations regarding local rules. No charge.

**THE RULE ABOUT OBSTRUCTIONS**, a reprint of a USGA Journal article. No charge.

**USGA GOLF HANDICAP SYSTEM FOR MEN**, containing recommendations for computing Basic and Current Handicaps and for rating courses. Booklet, 25 cents. Poster, 10 cents.

**HANDICAPPING THE UNHANDICAPPED**, a reprint of a USGA Journal article explaining the Callaway system of automatic handicapping for occasional players in a single tournament. No charge.

**TOURNAMENTS FOR YOUR CLUB**, a reprint of a USGA Journal article detailing various types of competitions. No charge.

**PROTECTION OF PERSONS AGAINST LIGHTNING ON GOLF COURSES**, a poster. No charge.

**MOTION PICTURES ON GOLF** (list). No charge.

**HOLE-IN-ONE AWARDS**. No charge.

**GLOSSARY OF GOLF TERMS**. No charge.

**AMATEURISM IS IN THE HEART**, a reprint of a USGA Journal article by E. G. Grace. No charge.

**THE UNITED STATES GOLF ASSOCIATION**, a pamphlet describing its origin and activities. No charge.

**BETTER LAWNS TO COME**, a reprint of a USGA Journal article. No charge.

**TURF MANAGEMENT**, by H. B. Musser (McGraw-Hill Book Co., Inc.), the authoritative book on greenkeeping. \$7.

**USGA JOURNAL AND TURF MANAGEMENT**, a 33-page magazine published seven times a year and containing authoritative information on the Rules of Golf, USGA championships, handicapping, amateur status, greenkeeping methods, clubs and ball, new trends and the play of the game. \$2 a year.

These publications are available on request to the United States Golf Association, 40 East 38th Street, New York 16, N. Y.

# Tuxedo Gives Way to "Progress"

The Tuxedo Club, in Tuxedo Park, N. Y., ancient as golfing life goes in this country, seems about to have its golf course overrun by highspeed automobiles and trucks, and another landmark of golf history will thereby disappear.

Tuxedo is, of course, not the first to lose its golf course to a super-highway and it will not be the last. Yet Tuxedo occupies a unique position in golf history.

The Club was founded in the Ramapo hills of Orange County in the early Eighties as a hunting and fishing lodge and community convenient to New York City. One of the early residents there, Dr. E. C. Rushmore, added golf to the facilities by laying out a six-hole course in 1889, on what is now the property of J. Insley Blair. Tuxedo thus had, to the best of our present knowledge, the second course in the New York area, the original St. Andrew's course having been laid out in Yonkers a year earlier. Philip Allen, Gould Hoyt, Richard Hunt, Jr., William and Edward Kent, Alfred Seton, Norman Simpkins and Walker B. Smith were among those who helped Dr. Rushmore organize the game at Tuxedo.

Clubs and balls were provided from Montreal, and the game caught on quickly. Within three years there was a nine hole course at the north gate of the Park, on the land which, as of this writing, is still in use as the Tuxedo golf course. Only the first hole, however, remains as it was in 1892. The present 18 holes did not come into existence until 1934.

The nine-hole course of the early days lay entirely west of the Ramapo River. The Erie Rail Road tracks and the old Orange turnpike divided the course as they do today. The second hole once crossed the turnpike and the tracks, something which has been rendered impossible by the modern volume of vehicular traffic on Route 17, the Orange turnpike's present counterpart. In recent years, players have used a tunnel under the highway

## TURF MANAGEMENT

The book "Turf Management," sponsored by the United States Golf Association and edited by Prof. H. B. Musser, is a complete and authoritative guide in the practical development of golf-course turfs.

This 354-page volume is available through USGA, 40 East 38th Street, New York 16, N. Y., the USGA Green Section, Plant Industry Station, Beltsville, Md.; the USGA Green Section Western Office, Box 241, Davis, Cal., or the McGraw-Hill Book Co., 330 West 42nd Street, New York 36, N. Y. The cost is \$7.

and tracks to reach the eastern part of the course.

In 1894, Tuxedo invited St. Andrew's Golf Club, the Shinnecock Hills Golf Club and The Country Club, Brookline, Mass., to send four-man teams to compete in a match on October 9. Thus Tuxedo became the first club to entertain teams from other clubs. Conflicting reports state that the match was won by St. Andrew's and that it was won by The Country Club after a controversial tie which the St. Andrew's team was unable to play off.

In view of these notable beginnings, it was unfortunate that, through inadvertence, the Tuxedo Club was not among those invited to become founders of the USGA in December, 1894. However, Tuxedo was one of the first Clubs to join the original five founders in the USGA.

In September, 1953, the New York State Highway Commission plans to start building a section of the new Thru-way from New York to Buffalo and the West through the middle of the course. It will not be feasible to continue play on the two separate segments which will remain, and the Club already is studying new sites.

## A Senior Member-Guest Event

One of the problems of club tournament committees is to find competitive events which will attract the senior golfer as more and more members reach the senior class.

Most member-guest four-ball tournaments are played over one week-end. This usually necessitates thirty-six holes on at least one day, which discourages many seniors.

To provide competitions for seniors, the Seawane Harbor Club, on Long Island, inaugurated a few years ago a Senior Member-Guest Four-Ball Invitation to be played on a nine-hole basis. Mr. C. E. Murray has been kind enough to describe this tournament for us. All regular rules of play obtain with the following exceptions:

Players must be 53 years or more.

On the first day the first and second rounds and first round of the beaten eights are played, all on a nine-hole basis. On the second day, semi-final and final rounds, again on a nine-hole basis, are held. No qualifying round is held, but entries announcing each guest's name and handicap must be in by the Wednesday preceding the event. Entries are taken in order of their receipt.

At the tenth tee, the first winning team awaits the second winning team. Teams change accordingly and start the second round. Similarly at the tenth tee, the first losers meet the second losers, thus starting the first round of the beaten eights.

In case of a halved match at the ninth, the match continues as started but changes at the first winning hole of the second nine. The other winning team of the first nine continues play with its opponents, keeps its score and matches cards from the tenth tee on with the new opponents when change is made in teams.

The semi-final and final rounds on the second day follow the same procedure.

Teams are drawn by the committee to establish order of play. Owing to the nature of the tournament, it is absolutely

necessary that all players be ready at the designated starting time.

The score cards for the first nine are prepared and show where the strokes fall for each player. Similarly, the cards are marked by somebody stationed at the tenth for the second round.

This tournament has proved extremely popular, more so each year as members move into older age brackets and discover they should not play thirty-six holes in one day.

### NEW MEMBERS OF THE USGA

#### REGULAR

Apple Valley Country Club, Cal.  
Beatrice Country Club, Neb.  
Boulder Country Club, Colo.  
Byrnes Park Golf Club, Iowa  
Carlisle Country Club, Pa.  
Clifton Park Golf Association, Md.  
Cold Spring Golf Club, N. Y.  
Columbus Golf Club, Ind.  
Cresco Country Club, Iowa  
Elks Country Club, Ohio  
Elmwood Country Club, Iowa  
Fitzsimons Army Hospital Golf Association, Colo.  
Four Lakes Country Club, Mich.  
Geneseo Outing Club, Ill.  
Greenville Country Club, Ohio  
Greenville Country Club, Pa.  
Greenville Country Club, Texas  
La Crosse Country Club, Wisc.  
LeSueur Golf Association, Minn.  
Meadow Brook Golf Club, Neb.  
Mercer Country Club, West Va.  
Mohawk Golf Club, Okla.  
Paschal Golf Course of Wake Forest College, N. C.  
Pittsburg Golf and Country Club, Cal.  
Puget Sound Golf Association, Wash.  
Ryewood Country Club, N. Y.  
Shackamaxon Golf Club, N. J.  
Shelby Country Club, Mont.  
Sidney Golf and Country Club, Mont.  
Stevens Park Golf Association, Texas.  
Tumble Brook Country Club, Conn.  
Wing Point Golf Club, Wash.  
Women's Sixth City Golf Association, Ohio

#### ASSOCIATE

Alderbrook Golf Course, Ore.  
Alondra Park Country Club, Cal.  
Brown's Lake Golf Club, Wisc.  
Circle R Ranch Golf Course, Cal.  
Ferncliffe Golf and Country Club, N. J.  
Green Valley Golf Course, Pa.  
Mason Golf Course, Mich.  
Quit-Quit-Oc Golf Course, Wisc.  
Tuscumbia Country Club, Wisc.  
Vermilion Country Club, Ohio

# California Takes Over the Public Links

By FREDERICK L. DOLD

CHAIRMAN, USGA PUBLIC LINKS COMMITTEE

It is getting to be an old story, and yet it seems to improve with each retelling.

In the eight Amateur Public Links Championships which have been held since World War II, Californians have triumphed six times and five of these six Champions have come from the Los Angeles area, a fact in which Harry Packham, the USGA Public Links Committee-man in Los Angeles, takes considerable pride.

The most recent is Ted Richards, Jr., who lives in Santa Monica and plays at the Rancho Golf Course in Los Angeles. Richards was graduated from the University of California at Los Angeles in 1949 and is now 30 and a stock broker. Although he was a semi-finalist in the 1948 intercollegiate championship, he played little golf while he was getting established in business and really only returned to the game last year.

How superbly he can play when he sets his easy-going mind to it was demonstrated in the 28th Amateur Public Links Championship of the USGA in Seattle, Washington, at the handsome West Seattle Municipal Golf Course last month. He scored 134 in the sectional qualifying and, on a course which quickly separated the men from the boys, walked all the way through the final with scarcely a discernible ruffle.

Richards was an extremely impressive player in a field that was impressive not only for its ability but for its camaraderie and good sportsmanship. In the final against a fellow Southern Californian, Irving A. Cooper, 22, of Long Beach, Richards had ample opportunity to be ruffled. The finalists were even after nine holes and, each having scored a 69, were even again after eighteen. They were still even, and still two under par, after twenty-seven holes. And it just happened that Richards was 1 up and one under par when the holes ran out.

The semi-finals were more conclusive than exciting. Cooper defeated Ed-

ward J. Hart, a 40-year-old truck operator from Denver, 12 and 11, and was four under par for the twenty-five holes. Richards turned back Doug Sanders, of Cedartown, Ga., a 19-year-old sophomore at the University of Florida and the 1951 Junior Chamber of Commerce Junior Champion, 5 and 4, with approximately par golf.

It was a tournament of contrasts at the beginning.

The young Jacksonville, Fla., team, which travelled the greatest distance, won the Hon. Warren G. Harding Trophy by equalling the record of 221 established by San Francisco in the 1949 Championship at Los Angeles. Tommy Jenkins, 18 and just out of high school, made a 71, the low score of the day. Daniel D. Sikes, Jr., 22-year-old captain of the University of Florida golf team, holed an eight-footer on the last green for the 74 that clinched matters. And Robert Goetz, 20-year-old Texan now stationed at the Jacksonville Naval Air Station, had a 76.

The Montebello, Cal., team was one stroke back, at 222. Honolulu would have registered the same score had it not been for an inadvertent error on the scorecard of one of the Hawaiian players which necessitated his automatic disqualification. The Hawaiians, incidentally, accepted the penalty with a knowledgeable sportsmanship which set a high tone for the entire Championship. Colorado Springs, Dallas and Seattle tied for third at 223.

In the individual play for the James D. Standish, Jr., Cup, Harvey Woodard, of East Detroit, Mich., who had set a new record in sectional qualifying with his 64-69-133 at Morey's Golf Club, a par-65 layout, was beaten in the first round by Harold Gjølme, of Seattle. George Earnest, of Seattle, played out the bye holes for an unofficial West Seattle record of 34-32-66 in the first round, and then was defeated in the second round by Richards.





*Seattle Post-Intelligencer*

Harry Packham (center), USGA Public Links Committeeman in Los Angeles, fondles the James D. Standish, Jr., Cup with obvious pride after two of his Southern Californians had competed for it in the final of the Amateur Public Links Championship at Seattle. On the left is Ted Richards, Jr., of Santa Monica, the winner. On the right is Irving A. Cooper, of Long Beach, the runner-up.

Pete Bogan, of Montebello, Cal., the 1952 Champion who is reputed to make up in headlines what he lacks in power, incurred two unusual penalties in the very first round; he played a wrong ball out of the rough on the second hole and walked so far ahead on the fourteenth hole that he got himself hit in the leg by his opponent's long iron shot to the green. Bogan got out of that with one hole to spare, won his second match by holing a 25-footer for a birdie on the second extra green but finally bowed by 3 and 2 to Hal McCommas, a shy 18-year-old from Dallas and Southern Methodist University, in the fourth round.

It will be difficult for any course to match the facilities provided for the Championship by the King County Public Links Association and the City of Seattle. Every conceivable need had been anticipated for the players, and the tight little course had a luxurious growth of grass which private clubs would envy.

The dozen loyal members of the USGA Public Links Committee who attended conducted the play with efficiency and dispatch, and it seemed that everyone went home happy.

But then, there isn't much temperament in the Public Links.

### **A Women's Record?**

A woman has come along to challenge the record established by Messrs. W. Hamilton Gardner, Paul Hyde and Findlay S. Douglas. You may recall that each of these gentlemen won championships over thirty-five-year spans, as we pointed out in the September, 1952, and April 1953, issues.

Mrs. Sydney Grossman, of the Hillcrest Country Club, Los Angeles, Cal., has not yet matched the thirty-five-year span, but last June she won the championship of her club for the sixteenth time over twenty-six years. She may have set, thereby, a comparable record for women.

# That Last Day at Carnoustie

By JOHN DERR

DIRECTOR OF SPORTS, COLUMBIA BROADCASTING SYSTEM

Friday, July 10 seemed a week long. But what took place at Carnoustie, Scotland, on that cloudy, showery day will be remembered throughout the world as long as golfers play.

Ben Hogan teed off at 10:27 A.M. under threatening skies. His 70 moved him into a tie for first after 54 holes of the 1953 British Open. Five hours later, he started the final round, the weather in a state that seemed always about to rain only to have the sun break through and give signs of clearing off, then to burst loose in a downpour that sent thousands huddling under umbrellas.

Finally, 18 holes and 3 hours, 37 minutes later, Hogan tapped in the final putt, one of less than three feet, and the crowd went screaming wild. Hogan, the miracle man, had convinced all who cared to question his brilliance and had convinced the 400-year-old Carnoustie links.

His final round of 68 set a competitive record on the course that had been stretched out to its fullest, stretched to 7,200 yards. On the final day, the wind was not much of a factor, compared to other days. But there was always the rain, coming and going.

It was characteristic that while Hogan sat on the presentation stand and listened to the plaudits while awaiting the Championship Cup, the rains came down and forced all who watched that thrilling moment to seek once more protection under umbrellas.

Hogan did not play as well as Hogan has played in some other tournaments. He often was short on approaches, often short on putts. He must have used up 30 to 35 strokes on putts that were no more than four or five inches.

Yet in the final round, making his move toward his most dramatic victory, Hogan putted with assurance. He was seldom short, several times rimming the

cup and sliding just by. It was as though he had decided, at last, to play Hogan-like.

It was interesting to watch the local attitude about Hogan change from one of almost caustic skepticism to one of warm admiration and friendliness. Hogan had arrived in Carnoustie as a walking legend. When he played shots badly, as he did several times, one could hear comments about him being only human after all. When he practiced alone, newspapers printed headlines saying: "Lone Bird Hogan Stalks Carnoustie in Silence." All of this Hogan met without any change in his predesignated plans for this tournament.

The combination of changing diet, changing weather and the challenge of a big tournament caused him to lose 14 pounds the week of the tournament. His temperature, caused by a cold he'd picked up in the early rounds, was over 100 when the final day of 36 holes faced him. He was more than normally exhausted when he finished. But with all of these pressures, Hogan stuck to his battle plans and persevered to his victory.

## An 'Umbler Champion

When it was all over, when the doubting skeptics joined loudest in the cheers for the man from Texas, one could not help but feel that Hogan at Carnoustie had been a tremendously successful ambassador for America and American sports.

Had he lost the Open, as it looked for a while he might, we would have been proud to stand alongside him in his courageous battle at Carnoustie. In victory he made us even more proud for the humble way he accepted the great ovations.

Yes, golf is an 'umbling game, as some sage once said, and for all his greatness, Hogan is an 'umblar Champion.

# Variety in USGA Golf Museum

By EDWARD S. KNAPP, JR.  
USGA EXECUTIVE ASSISTANT

Any museum is quite naturally the repository of a vast variety of articles.

The Golf Museum of the USGA is no exception. We have recently been the recipients of many gifts of diverse character and all of them valuable in one way or another. The following are examples and for which we are very grateful.

J. C. Earle of Los Angeles, Cal., has presented to the Library several rare books, including "Acts of Scottish Parliament to 1597," printed in that year and containing the first known reference to golf, dated 1457. Another is the volume "Golf" from the large paper edition of the Badminton Library. Only 250 copies of this edition were printed.

## Mrs. Jackson's Medals

Mrs. H. Arnold Jackson, of Pinehurst, N. C., has presented a collection of medals which she won over a period of eighteen years, some as Katherine Harley and others after she was married. They include two USGA Women's Amateur Championship gold medals, gold medals of the Women's Eastern and the Women's Metropolitan Golf Associations and three USGA semi-finalist's medals.

Miss Louise Suggs has presented the qualifying medal which she won in the USGA Women's Amateur Championship of 1947 at Franklin Hills Country Club, Franklin, Mich.

Sherrill Sherman, of Utica, N. Y., has made a contribution to the history of senior golf by donating the medals and club badges presented to him during the trip to Sweden made by the United States Seniors' Team in 1949. He has also given two early badges of the "USGA Green Section Executive Committee," several other medals and many interesting photographs.

The Country Club of Brookline, Mass., has enriched the Museum's list of clubs of famous players. Their gift includes a jigger belonging to Harry Vardon, a niblick and mashie-iron once owned by J. H. Taylor and a brassie of James Braid, to mention only a few.

The roster of Clubs of Champions continues to grow with the acquisition of Charley Yates' driver used in the British Amateur Championship of 1938, Lew Worsham's No. 4 iron which helped him in winning the USGA Open in 1947, and Miss Pat Lesser's putter used in winning the 1950 Girls' Junior.

## Contributions to "Golf House" Fund

Contributions to the "Golf House" Fund are, unfortunately, coming in less rapidly. Since the last issue, only fourteen individuals and organizations have contributed \$359, raising the totals to 5,487 contributors and \$100,484. The goal is \$110,000. The fourteen newly enrolled as Founders are:

### INDIVIDUALS

James S. Bayless  
In Memory of Peggy Chandler  
by E. L. Smith, Jr.  
Louie E. Douglass

J. Ripley Greer  
Edna and Robert Millar  
Ken Reames  
Lt. (jg) Berry C. Smith

Harold E. Williams  
John W. Wood  
William J. Yates

### CLUB

The Spoon Club, Mass.

### ASSOCIATIONS

Chicago District Golf Association  
Oklahoma State Golf Association

Middle Atlantic Golf Association



# THE REFEREE

Decisions by the  
Rules of Golf Committees

Example of symbols: "USGA" indicates decision by the United States Golf Association. "R & A" indicates decision by the Royal and Ancient Golf Club of St. Andrews, Scotland. "53-1" means the first decision issued in 1953. "R. 37-7" refers to Section 7 of Rule 37 in the 1953 Rules of Golf.

## Ball Moved to Unplayable Lie

USGA 53-8

D. 1; R. 27-1, 29-2, 30-2

**Q:** A drives his ball into bushes, then plays a provisional ball from the tee. The original ball rests in a narrow path in the bushes, and A informs B he must make a closer inspection before he deems it playable. When A takes a trial stance and uses a club to test the feasibility of a backswing from a point twelve inches behind the ball, the ball moves to a position which is positively unplayable.

What is the status of the original ball in regard to a penalty? Must the penalty be transferred to the provisional ball?

Question by: GARLAND R. JAMES  
PORTSMOUTH, VA.

**A:** It is assumed that the player either caused the original ball to move (see Rule 27-1c) or that it moved after he addressed it (see Definition 1 and Rule 27-1d). If that is so, in either case he incurred a penalty of one stroke.

Since the provisional ball was provisional only against his first stroke, it automatically was retired from play under Rule 30-2 when the original ball moved.

As the player then deemed the original ball to be unplayable, he could only proceed in accordance with Rule 29-2. Option (a) of that Rule would require him to drop and play a ball as nearly as possible at the spot where the original ball lay be-

fore it was moved into an unplayable position, adding a penalty stroke to his score for the hole.

On the other hand, if the ball was moved to its unplayable lie by an outside agency, except wind, Rule 27-1a governs, there is no penalty due to movement of the ball and the player may drop the ball as near as possible to the spot from which it was moved, without penalty, or he may proceed with the provisional ball under Rule 30-2b.

## Caddie Puts Own Club In Player's Bag

USGA 53-10  
R. 3

**Q:** In our last club championship, A and B were playing in the semi-finals, one caddie carrying for both players. On the first tee, clubs were checked and found O. K., but on the tenth hole A found that she had an additional (strange) club in her bag. Upon investigation, it was ascertained that the caddie had put one he was carrying (his own) into the bag.

B demanded penalty under Rule 3. Was she correct? The committee decided otherwise.

Question by: MRS. JOHN S. PHILLIPS  
ARLINGTON, VA.

**A:** Assuming that the additional club clearly had been placed in the player's bag only temporarily by her caddie in the course of the round and that the player did not know of it or use it, the committee was correct in not invoking Rule 3.



The player had selected her clubs, not exceeding fourteen in number, before starting her round and presumably had limited herself to the clubs so selected during that round, in compliance with Rule 3.

The practice of a caddie carrying one of his own clubs during a round is not recommended.

It is not the intent of Rule 3, however, to penalize a player for a caddie's action in circumstances such as described. This applies whether or not the caddie is carrying double.

#### **Striking Twig in Hazard On Backswing**

USGA 53-11  
D. 17; R. 33-1

**Q:** Ball is lying in a bunker. Approximately three inches behind the ball but not touching the ball is a twig approximately eight inches long and projecting in part at least one inch above the surface of the sand. Player strikes the twig in the course of his backstroke but completes the swing and the shot. Is this situation not clearly covered by Rule 33, and, therefore, does not the player incur a penalty?

Question by: JOHN J. SPEESE  
PHILADELPHIA, PA.

**A:** Yes. A twig is a loose impediment (Definition 17). Rule 33-1 provides in part: "When a ball lies in or touches a hazard . . . nothing shall be done which may in any way improve its lie. Before making a stroke, the player shall not touch the ground . . . with a club or otherwise, nor touch or move a loose impediment lying in or touching the hazard . . ." The penalty for breach of this Rule is loss of hole in match play or two strokes in stroke play.

#### **Waiving Turn to Putt Constitutes Abandonment of Hole**

USGA 53-12  
R. 20-1, 35-2b

**Q:** Play is four-ball match play. All four are on the green in three strokes. (A and B are partners; C and D are partners.)

A and C are about 10 feet from the cup. B is 1½ feet from cup and D is about 2 feet from the cup. C picks up her ball, but A leaves her ball as is, approaches the pin

to attend it and says to B and D, "You two battle it out." D putts first and drops it for a 4. B putts second and misses for a 5.

A, who is attending the pin and who is B's partner, still lies 3. 10 feet from cup. She replaces pin and asks that pin be attended as she is going to putt, hoping to halve hole with a 4.

C and D protest, saying that A could not putt because she had given up hole even though A had not picked up her ball and had not definitely stated that she was taking her ball out of play.

Question by: MRS. AL. K. HALL  
LOS ANGELES, CAL.

**A:** A abandoned her right to complete the hole when she clearly waived her turn to putt by her statement to D.

Rule 20-1 requires that the ball farther from the hole shall be played first, except as modified by Rule 40-3a for best-ball and four-ball match play. A's ball was away at the time D putted; the actions of A and B in allowing D to putt first clearly indicates A's intention to withdraw from the hole.

#### **Stroked Ball Comes to Rest Against Player's Foot**

USGA 53-13  
R. 26-2a, 3a

**Q:** A's ball landed under a ledge of a bunker. She swung mightily and didn't see what happened to the ball, but it dropped back in the bunker, rolling against her left shoe. When she moved her foot, the ball rolled into her footprint in the sand.

Does Rule 26-2a cover this for match play and 26-3a for stroke play? Is there any further penalty for the ball moving when the player moved her foot in order to make the next stroke?

Question by: MISS VEDA B. YOUNGER, JR.  
PORTLAND, ORE.

**A:** Rule 26-2a governs in match play, and Rule 26-3a governs in stroke play.

On the assumption that the player's movement of her foot was in effect a part of the action in which she stopped her own ball, there is no additional penalty. The movement of the ball after the player moved her foot in such circumstance is not a movement of the sort contemplated by Rule 27-1c.

**Both Players Unaware Match Had Ended**

USGA 53-15  
R. 11-1

**Q:** Please rule on following situation: A is 1 up on last hole of match. Hole is halved. A remarked that if hole was halved, they would have to play extra hole. They played two extra holes, B winning 20th. Who won the match?

Question by: YUMA COUNTRY CLUB  
YUMA, ARIZ.

**A:** Assume both players were under impression match was all even after 18 holes. In absence of claim by A before players played from 19th tee as provided in Rule 11-1, match must be considered even at that point and B was winner.

**Position of Player Immaterial**

R & A 53-10  
R. 18-2; 27-1d,e; 29-2b

**Q1:** May a golfer sit on a boundary fence to play a ball in bounds, or does this come under the "stance-building rule"? May a player sit in a tree or lean against a tree or other obstruction to play a shot?

**A1:** While a player is entitled to place his feet firmly on the ground, there is nothing in the Rules which compels him to do so. Sitting on a boundary fence or leaning against an obstruction do not infringe any Rule of Golf.

**Q2:** May a golfer lie on the ground and play a shot? Must the ball be hit with the face of the clubhead? I can visualize a ball under a bush or leafy tree. There is a foot or two of space above the ball and then branches. Conceivably, the player could lie prone and hit the ball—not scraping or pushing—with the face, or the toe of the clubhead, and getting the ball out perhaps thirty or forty yards back on to the fairway and nearer the green.

**A2:** So long as the ball is fairly struck at, the attitude assumed by the player is immaterial. It has long been recognized that a player may play a left-handed shot with the back of his club, and there is no reason why the toe of the club should not equally be used under the circumstances visualized by you.

**Dropping Ball from Unplayable Lie**

**Q3:** How far back may a player drop a ball under the provisions of the first sentence of Rule 29-2b? For instance, after de-

claring the ball unplayable, he accepts the two-stroke penalty and walks back perhaps thirty yards or more out of the rough, perchance, but still keeping the point from which the ball was lifted between himself and the hole.

**A3:** Under Rule 29-2b, so long as the player keeps the point from which the ball was lifted between himself and the hole, he may go back as far as he likes. If this (i.e., keeping the point from which the ball was lifted between himself and the hole) is impossible and he moves to one side, then he must drop the ball as near as possible to where the ball originally lay, but not nearer the hole.

**Ball Moving**

**Q4a:** I notice what appears to be a conflicting idea between Rules 27-1e and 18-2. The first says that if your ball moves after you have removed a loose impediment but before you address it (take your stance), there is no penalty. Yet Rule 18-2 says if the ball moves after removal of a loose impediment, there is a penalty. This second Rule says nothing about before or after address. What I wonder about is this: A player approaches his ball on the fairway. It is balanced precariously on some long grass. As he nears it and before he takes his stance to address the ball, it moves several inches. **4b:** Would this call for a penalty? No loose impediments have been touched; the ball has not been touched, nor is there any wind. What is the ruling?

**A4a:** Rules 18-2 and 27-1d are qualified by Rule 27-1e so that if both rules are broken as part of a single incident, the player suffers only one penalty stroke.

**4b:** No penalty has been incurred and the ball is played as it lies.

Question by: WOJG FREDERICK A. GASS  
WARRINGTON, LANCASHIRE

**Striking Ball with Back of Club**

R & A 53-15

**Q:** Does a competitor in match play or stroke play incur any penalty if he should strike the ball with the back of his club through the green or on the green?

**A:** There is no Rule of Golf which prohibits a player striking the ball with the back of his club, either through the green or on the green.

Question by: MACCLESFIELD GOLF CLUB  
MACCLESFIELD, CHESHIRE



Correspondence pertaining to turf management matters should be addressed to:

USGA Green Section, Room 206, South Building, Plant Industry Station, Beltsville, Md.

Western Office: Box 241, Davis, Cal.; Southwestern Office: Texas A. and M. College, College Station, Texas

## THE GREEN SECTION RESEARCH PROGRAM

By MARVIN H. FERGUSON

NATIONAL RESEARCH COORDINATOR AND SOUTHWESTERN DIRECTOR OF USGA GREEN SECTION

Now that the USGA Green Section is embarked upon a new program of direct turf service to member clubs through regional offices, what is the place of research in the plan of things? How much interest, and what kind of interest, will the Green Section take in scientific investigations?

One answer is that the Green Section's participation in research is being expanded. Secondly, the main research emphasis will be on stimulating and financing turf studies in various parts of the country by colleges and state agricultural experiment stations. Cooperative work with the United States Department of Agriculture at Beltsville, Md., will be continued. In this way, a broad range of problems can be studied immediately within the regions where the problems exist.

More funds are becoming available for support of scientific investigations than has been the case for many years. This is due in part to a strong response by USGA member clubs to the new Regional Turf Service.

Under this regionalized plan, 20 per cent of the subscription fees paid by the subscribing member clubs will be devoted

exclusively to research dealing directly with turf maintenance problems.

Further, the Green Section staff will keep abreast of developments in other fields where research findings might have application to turf. For example, early tests of 2, 4-D had to do with its growth effects on fruit trees; however, Mrs. Fanny-Fern Davis, who was then Director of the Green Section, realized the possibilities for application of this growth regulator to turf, and it has been invaluable as an herbicide to golf courses ever since.

Thus, the Green Section will interpret the results of many forms of research, will correlate those results, and then take them directly to the golf courses of the USGA clubs which subscribe for the Regional Turf Service.

### Research Fellowships and Grants

An agreement has just been made with the New Jersey Agricultural Experiment Station at Rutgers University, New Brunswick, N. J., for a research fellowship in the control of thatch or mat in putting greens. This will be a joint National Golf

Fund—USGA Green Section fellowship, at \$2,000 per year for three years. Money for the first half has been provided by the National Golf Fund, whose resources come from National Golf Day—a day in the spring when golfers over the country pay entry fees for tournaments at their home courses and try to better the score of the current Open Champion. Last year the test was provided by Ben Hogan; this year, by Julius Boros.

The work at Rutgers on control of thatch or mat in putting greens should benefit courses all over the country.

A new \$2,000-per-year research assistantship has been arranged with Texas A. and M. College at College Station. Consideration is being given to the possibility of studies in the physical properties of putting green soils—another matter of broad national concern.

Since the inception of the Green Section in the fall of 1920, it has had a cooperative agreement with the United States Department of Agriculture. From this partnership have come many of the superior grasses which are now standard for golf, many of the best methods now used in golf course maintenance, many excellent controls for weeds, insects and diseases. The Green Section not only has agronomists who work with USDA scientists at Beltsville, Md., but this year the Green Section will support Federal turf investigation there by a \$2,000 allotment (this is in addition to the Green Section's share of costs for maintaining an office at Beltsville).

Pennsylvania State College has long cooperated with the Green Section, and an \$1,800-per-year research fellowship is currently in effect there. The fellow is engaged in a study concerning the effectiveness of cultivation machinery and soil conditioners.

This year \$1,450 has been transmitted by the USGA to the Georgia Coastal Plain Experiment Station at Tifton, Ga., for Bermudagrass breeding and improvement. Of this, \$1,000 was presented to the USGA by the Augusta, Ga., National Golf Club for any golf purpose selected by the USGA. The Georgia State Golf Association and the Southern Seedsmen's Asso-

## COMING EVENTS

**August 3: Field Day, Purdue University, West Lafayette, Ind. W. H. Daniel.**

**August 10: Field Day, Texas Turf Association, City Auditorium, Wichita Falls, Texas. A. B. La Gasse, Director of Parks and Recreation, Wichita Falls, Texas, in charge.**

**August 11: Field Day, Rutgers University, New Brunswick, N. J. Ralph E. Engel.**

**August 19-20: 22nd Annual Greenkeepers Turf Field Days, University of Rhode Island, Kingston, R. I. J. A. DeFrance.**

**September 9-10: Turf Field Day, Pennsylvania State College, State College, Pa. H. B. Musser. (Field day starts at noon September 9 and ends at noon September 10.)**

**October 21-23: 4th Annual Central Plains Turf Foundation Turf Conference, Manhattan, Kans. William F. Pickett.**

**November 16-20: American Society of Agronomy Meetings, Dallas, Texas. L. G. Monthey.**

---

ciation made other contributions through the USGA.

Irrigation studies by the University of California at Davis are supported in part by a Green Section grant. Proper water management is a subject of prime importance all over the country.

Other grants still in effect, some of which are subject to renewal this year, have been made to University of California at Los Angeles, Kansas State College at Manhattan, Michigan State College at East Lansing, Rhode Island Agricultural Experiment Station at Kingston, and Cornell University at Ithaca, N. Y.

The Green Section's funds for research come not only from a percentage of Regional Turf Service fees but also from contributions and from Green Section Service subscribers, who are commercial firms or other organizations not eligible for USGA membership and who wish to participate in the Green Section's educational and research activities.

## IRRIGATION, COMPACTION AND AERATION OF FAIRWAY TURF

By JOHN C. HARPER II

RESEARCH AGRONOMIST, DIVISION OF FORAGE CROPS AND DISEASES  
UNITED STATES DEPARTMENT OF AGRICULTURE

This investigation was a continuation of the work conducted by J. R. Watson, Jr., from 1947 to 1949 (USGA JOURNAL, August, 1950). The purpose of the investigation was to continue the study of the effects of moisture and compaction on established fairway turf and to initiate studies of the effect of spring aeration on established fairway turf. The effect of phosphorus penetration was of primary interest. These phases of the investigation were carried out on the campus of the Pennsylvania State College from 1949 to 1952.

The tests were conducted on turf originally consisting of mixed bentgrass, red fescue and Kentucky bluegrass. By 1949 bentgrass had become the dominant grass. As far as possible the general maintenance practices of the experimental area were similar to those in common use on almost all of our golf courses. Throughout the experiment the area was clipped at a height of  $\frac{1}{2}$  inch, the frequency of the clipping having been determined by the rate of growth of the grass.

The treatments employed in the investigation involved five levels of compaction, four levels of moisture and two levels of aeration.

The compaction treatments employed were:

1. None—received no compaction other than normal maintenance.
2. Lt. IX—a pressure of approximately 15 P.S.I. was applied once each week.
3. Lt. 2X—a pressure of approximately 15 P.S.I. was applied twice each week.
4. H. IX—a pressure of approximately 62 P.S.I. was applied once each week.
5. H. 2X—a pressure of approximately 62 P.S.I. was applied twice each week.

The moisture levels employed were:

1. Dry—no supplemental irrigation was applied. The growth of the turf was de-

pendent on the natural rainfall in so far as moisture was concerned.

2. As Needed—supplemental irrigation was applied only in sufficient amounts to maintain a healthy green color and to promote normal growth. The average soil-moisture content was maintained at approximately 15 per cent to 18 per cent during the growing season.

3. Field Capacity—supplemental irrigation was applied in sufficient amounts to maintain a soil-moisture content of approximately 24 per cent, which is the field capacity of that soil. (Field capacity is defined as the amount of water which was held in the soil from 24 hours to 48 hours after the soil had been saturated.)

4. Saturation—supplemental irrigation was applied in sufficient amounts to maintain a soil-moisture content approaching saturation. The total water-holding capacity of this soil is 49 per cent, but due to excellent drainage it was impossible to keep the soil-moisture content above 38 per cent (78 per cent saturation).

The aeration treatments employed were:

1. No aeration.
2. Aeration—aerated once in the spring of 1951 by going over the area three times.

Compaction treatments were applied with two hollow-steel rollers. Sufficient weight in the form of concrete blocks was added to the weight tray of one of these rollers in order to meet the requirements of the Lt. IX and Lt. 2X treatments. The second roller was filled with concrete, and sufficient concrete blocks were added to meet the requirements of the H. IX and H. 2X treatments.

The relative degree of soil compaction developed by the compaction treatments was determined by use of the Rototiller soil penetrometer. The effectiveness of the penetrometer and the justification for its use were established by correlating the penetrometer readings with volume weights.



Moisture applications were made by use of 100-foot pipes, drilled and tapped every 3 feet, and equipped with short-throw nozzles. The short-throw nozzles gave a uniform 9-foot throw, allowing a total area of 9 feet by 100 feet to be irrigated at any given time.

In order to maintain as closely as possible the given moisture levels, several methods of determining when to irrigate were used. Periodic soil samples were taken from all of the plots and were analyzed in the laboratory for moisture content. The addition of water to the "As Needed" plots was determined by observing the condition of the turf and mentally correlating those observations with the prevailing weather conditions. On the "Field Capacity" and "Saturation" plots, Lark soil moisture tensionometers were used to indicate the need for irrigation.

Aeration was done with an aerating device equipped with  $\frac{3}{4}$  inch spoons and flexipress. Additional weight was added to the aerating device in order to obtain a maximum penetration of five inches.

The effects of compaction, moisture and aeration were evaluated by five major criteria. They were:

1. Invasion of crabgrass, clover and other weeds. This was determined by the point quadrat count method, the double X line quadrat method and visual observation.

2. Ecological changes in the population of the permanent grass species. Changes in the population of Kentucky bluegrass, red fescue and bentgrass were determined by use of the inclined point quadrat method. Population counts on these plots were taken in the fall of each year in a manner similar to those which were taken by Watson in previous years. This was done in order to permit a comparison of results over the entire period of the two experiments.

3. Root quantities and distribution. Root samples were taken at intervals of one inch to a total depth of six inches, washed free of soil, oven-dried and weighed, and the percentage distribution calculated.

4. Phosphorus penetration. Soil samples of phosphorus determination were

taken six weeks after aeration and fertilizer application. Samples were taken with a soil-sampling tube at intervals of one inch to a total depth of six inches. The soil samples were taken to the laboratory and extracted by the Truog method, and the extracted phosphorus was analyzed by the Demge's Stannous-Reduced Phosphomolybdic blue color method as adapted to photo-electric measurement.

5. The severity of natural disease infection. Estimates of the amount of turf damaged by brownpatch, dollarspot and snow mold were made at the time of occurrence.

### Ecological Changes

The percentage of permanent species present in the turf was not influenced greatly by the compaction, moisture or aeration treatments. The original population, as shown by Watson, consisted of 95 per cent permanent species. In the fall of 1951 results showed 95 per cent permanent species.

The percentage of permanent species present in the original turf was not influenced by the "Dry" and "As Needed" moisture treatments. The "Field Capacity" and "Saturation" moisture treatments decreased slightly the percentage of permanent species present. That was undoubtedly due to an increase in weed population, especially crabgrass, under the higher-moisture levels. The greatest reduction in the percentage of permanent species present under the various compaction levels occurred on the H. IX and H. 2X plots. This was due to the reduced vigor in the permanent species and a large increase in weeds, especially clover, on those plots.

Aeration showed no effect on the percentage of permanent species present.

The relatively small changes which occurred in the percentage of permanent species present does not indicate the actual changes in the turf population. The individual species were influenced greatly by the various treatments.

The unbalanced condition that existed among the permanent species in 1949 was changed little during the summers

of 1950 and 1951. Bentgrass continued its complete dominance. Under the high levels of irrigation, bentgrass continued to increase at the expense of the Kentucky bluegrass and the red fescue. By 1952 the percentage of bentgrass present on the "As Needed," "Field Capacity" and "Saturation" plots approached 100 per cent. The rapid-growth rate, coupled with its ability to withstand high temperatures when given sufficient moisture, allowed the bentgrass to continue growth during the hot summer months while the Kentucky bluegrass and red fescue remained semi-dormant. This characteristic of bentgrass makes it quite desirable in many regions for use on the irrigated fairways of our modern golf courses.

The results of this investigation show clearly that, under summer irrigation rates high enough to maintain desirable playing conditions, bentgrass will naturally become the dominant species present in the turf population.

Compaction had no effect on the percentage of bentgrass and red fescue present, although heavy compaction did tend to reduce the general vigor of the bentgrass. Kentucky bluegrass persisted much better on the heaviest compacted plots than it did on the no-compacted and light-compacted plots. A possible explanation lies in the fact that the bentgrass was not so vigorous on the heavy-compacted plots and therefore did not offer so much competition to the bluegrass under compacted conditions. Conversely, Kentucky bluegrass decreased on the aerated plots because aeration increased greatly the vigor of the bentgrasses and offered severe competition to the Kentucky bluegrass.

#### Weed Invasion

Clover infestation of the experimental area during that investigation was quite low. The low clover population undoubtedly can be attributed to the high fertility level maintained throughout the investigation and the vigorous growth of the bentgrass, especially on the irrigated plots. The greatest clover population was found on the heavy-compacted, high-moisture plots. Plantain, knotweed and

chickweed populations were higher on the heavy-compacted plots than they were on the light-compacted plots.

Crabgrass populations appeared to be higher on the no-compacted plots than on the compacted plots. It is believed, however, that the reduction in crabgrass on the compacted plots can be attributed to the injurious effects of the rollers used in making the compaction treatments rather than to the compaction itself. Watson has reported that the use of a heavy roller crushed or severely injured the young crabgrass seedlings so that they did not develop. The "Field Capacity" and "Saturation" plots had an extremely high crabgrass population as compared to the "Dry" and "As Needed" plots.

The high moisture levels apparently were ideal for crabgrass germination.

Weeds of all types were increased by spring aeration. The plugs pulled by the aerating device undoubtedly contained weed seed that had been buried too deeply to germinate. The matting operation broke up those plugs and distributed the weed-infested soil over the area, providing ideal germination conditions. It is pointed out here that aeration was done May 1 when weed-seed germination conditions were ideal and that if aeration is done early in the spring, when conditions are not ideal for weed germination but are favorable for grass growth, there should be less weed infestation from aeration.

#### Root Quantities and Distribution

Under the higher-moisture levels the root systems developed were very shallow. On those plots over 80 per cent of the total roots found in a six-inch layer were in the upper two inches of that layer. Under low moisture conditions, roots tend to elongate in their search for moisture, whereas there is no need for elongation when abundant moisture is available at the surface. In addition to the increased percentage of total roots found below the two-inch layer on the "Dry" plots, it also was shown that there was a greater total quantity of roots under those plots. Without question the amount, and particularly the distribution,

of irrigation water is one of the prime essentials in any program of fine turf management where high-quality turf is desired.

The total quantity of roots found under the aerated plots was not increased greatly over the amounts of roots under the non-aerated plots. Under 5,000 square feet of turf there was an increase of 2.25 pounds of roots (dry matter) under the aerated, as compared to the non-aerated plots. This may appear as a rather insignificant amount of roots, but when it is converted into the number of lineal feet or miles of roots available for plant feeding, it presents a different picture. It was found by actual measurement that one pound of bentgrass roots contains approximately 540,476 lineal feet, or 102 miles, exclusive of root hairs. The inclusion of root hairs would increase this figure greatly. By applying those measurements to the data from the aerated and non-aerated plots, it was found that there were approximately 230 more miles of roots under 5,000 square feet of aerated turf as compared to 5,000 square feet of non-aerated turf. On an acre basis, there would be approximately 2,040 more miles of roots due to aeration. These figures were calculated on the basis of total quantity of roots to a given area under all levels of moisture and compaction. These differences are even greater under extreme conditions.

#### Phosphorus Penetration

Water was found to have a significant effect on phosphorus penetration under conditions of high-phosphorus application and excessive irrigation. The results indicated that there was considerable movement of phosphorus downward when high amounts of water were applied. Excessive watering will move some phosphorus downward to the root feeding zone, but the deteriorating effects of excessive moisture on turf quality and soil structure preclude using it as a method of moving phosphorus. From a financial standpoint, it would not be an economical use of water. It is necessary, therefore, to resort to some mechanical means of moving phosphorus into the root-feeding zone.

Aeration had a very significant effect on phosphorus penetration in this investigation. The exact means by which the phosphorus moved mechanically down the holes is not known, but it may be assumed that it occurred in three ways: (1) the fertilizer may have fallen directly into the aerator holes from the spreader, (2) it may have been dragged into the holes during the matting operation and (3) it may have been washed into the holes by rain or irrigation water. In every instance it was found that there was more phosphorus present in the 3-6 inch zone of the aerated plots than there was in the same zone of the non-aerated plots. Under all compaction levels there was an average increase of 27.4 per cent more phosphorus in the 3-6 inch soil zone where aeration had been used. Under all moisture levels there was an average increase of 23.6 per cent more phosphorus in the 3-6 inch soil zone where aeration had been used. Under all moisture and compaction treatments combined there was an average increase of 25.5 per cent more phosphorus in the 3-6 inch soil zone of the aerated plots. It has been shown that aeration plays a very important part in the movement of phosphorus into the root-feeding zone. On that basis alone, the use of an aeration device in any program of good turf management is justifiable.

#### Disease

Very little disease was observed on any of the plots during the summers of 1950 and 1951. There were no serious infestations of large brownpatch or dollar-spot on the plots at any time. During the winter of 1950 some snow mold was observed on localized spots where the plots had been trampled on while frozen, or where the snow had drifted and persisted for a considerable length of time.

#### CONCLUSIONS

The following conclusions may be drawn from the results obtained in that investigation:

1. Moisture and aeration treatments exerted greater influence on turf quality during that investigation than did compaction treatments.

2. The use of supplemental irrigation in a turf containing bentgrass will favor the development of the bentgrass at the expense of red fescue and Kentucky bluegrass.

3. Aeration significantly will aid in the downward movement of superphosphate applications applied on the surface at the time of aeration.

4. Excessive use of supplemental irrigation will result in shallow-rooted turf.

5. Turf containing a high percentage of bentgrass requires some supplemental irrigation over the growing season in order

to maintain desirable playing conditions.

6. Spring aeration, if done at a time when conditions are ideal for weed seed germination, may increase the weed population in an established turf.

7. Excessive use of supplemental irrigation will increase the crabgrass population in an established turf.

8. Surface applications of superphosphate may move downward under excessive watering.

9. Compaction tends to increase the weed population, especially clover, in an established turf.

### USGA REGIONAL TURF SERVICE NOW AVAILABLE IN 15 STATES

The new Regional Turf Service of the USGA Green Section is now available to USGA member clubs and courses in the following states:

Arizona	Kansas	Oklahoma
Arkansas	Louisiana	Oregon
California	Missouri	Texas
Colorado	Nevada	Utah
Idaho	New Mexico	Washington

The Service will be offered to Clubs in other States as soon as additional regional offices of the Green Section can be established.

Each subscribing club receives the following benefits:

1. At least three direct conferences with the Regional Director each year, on the following schedule:

(a) One half-day visit to the course by the Regional Director, followed by a written report from him. The annual fee covers both the service and travel expenses.

(b) Two group conferences in which the Regional Director will meet with the golf course superintendents and green committee chairmen of the clubs in each group (usually not more than 25 clubs represented in a group). The annual fee covers both the service and travel expenses.

2. Assistance by correspondence and telephone.

3. Two subscriptions to a periodic Turf-letter from the Regional Director to

the subscribing clubs, approximately six times a year.

4. One additional subscription to the USGA JOURNAL AND TURF MANAGEMENT, published seven times a year.

5. A voice in the direction of broad-gauge turf research whose results would benefit golf courses.

The annual subscription fees cover not only services and expenses but 20 per cent of the fees will be devoted exclusively to research. The fees are as follows:

Club with less than 18 holes ..... \$75.  
Club with 18 to 27 holes .....100.  
Club with more than 27 holes .....125.

Public authority maintaining more than two courses:

\$125 for two courses and \$25 for each additional course

### No Trick At All

While a good number of hopeful golfers are still waiting for their first hole-in-one, Larry Dempsey, of Greensboro, N. C., made two and almost a third on the same hole in the same day last spring.

Playing at the Green Valley Golf Course, Dempsey holed a No. 7 iron shot for a one at the fifth hole. The next time around, he did the same thing again. The third time around his luck ran out and he had to be content with a 2.

For the record, this is a rarity of rarities, but similar things have been done before, and at least two golfers, Bob Halverty, in Long Beach, Cal., and Alex Duthrie, in Vancouver, B. C., are said to have made ones on consecutive holes.

## FROM THE BELTSVILLE OFFICE

By A. M. RADKO

ACTING EASTERN DIRECTOR, USGA GREEN SECTION

The weather has been the big topic of conversation among Eastern golf course superintendents for the past month. On the whole, the East Coast experienced little rain during the month of June. This extended period of drought, which followed on the heels of an exceptionally wet spring, is taking its toll of turf grasses at this time. The exceptionally wet spring has limited grass root development and as a result during this drought the permanent cool-season grasses are suffering more so than normally expected. The *Poa annua* population, which was very heavy in the spring of this year, virtually had left fairway sites by the first week of July in the Mid-Atlantic area.

At Pine Valley, Eb Steiniger has just completed a part of his fairway improvement program. Eb is plugging the U-3 strain of bermudagrass into some of his fairways. U-3 bermudagrass is performing very well on the sandy Pine Valley soils. The value of a good turf nursery is brought to the foreground once again. Eb has quite an extensive nursery of many improved grasses from which he

can sod, plug, or stolonize, as time and labor allow. A good nursery is a good money-saver, to say nothing of the factor of timeliness—it is there to use as needed.

At the Fairfax Country Club, Fairfax, Virginia, the April 1953 zoysia planting project sponsored jointly by the Mid-Atlantic Association of Golf Course Superintendents and the USGA Green Section is progressing most satisfactorily. Superintendent Bill Glover reports that many of the zoysia seedling plants have spread a distance of 12 to 18 inches through the existing turf. Other seedling plants have not spread so well. However, they are plainly visible and it is expected that this summer's growth will result in a marked increase in zoysia coverage on this fairway. It appears that next year Fairfax golfers will have the opportunity to voice an opinion with regard to the playing quality of zoysia turf. This project is a prime example of the value of cooperation between the research and the practical phases of turf in the search for answers to the better turf question for better golf.

## GREEN COMMITTEE EXPENSES NEAR CHICAGO

Chicago District Golf Association, in its 1953 Directory of Information, sets forth a summary tabulation of the expenses incurred in 1952 by grounds and green

committees of groups of its member clubs.

The group of clubs represented in the following example would seem to represent neither the high nor the low extreme in this type of expenditure:

	No. of Clubs	High	Low	Average
Salary (superintendent)	9	\$ 7,200.00	\$4,500.00	\$ 5,510.32
Salary (labor)	9	26,839.39	7,800.00	17,123.60
Sprinkling	4	2,400.00	1,220.00	1,707.35
Chemicals and Fertilizer	9	6,506.22	1,725.93	3,760.01
Seed	8	1,950.91	145.00	775.88
Gasoline and Oil	12	1,575.00	400.00	1,105.22
Machinery and Equipment (new)	11	4,174.00	0	1,278.47
Machinery and Equipment (repairs)	12	5,699.86	632.00	2,217.89
New Greens and Rebuilding Projects	12	5,829.00	0	944.54
All Other	11	10,320.00	512.56	2,887.17
<b>Total</b>	<b>13</b>	<b>51,909.19</b>	<b>15,912.31</b>	<b>37,613.38</b>



# IT'S YOUR HONOR

## Calcuttas

TO THE USGA:

It was interesting to read the reports about the \$140,000 Calcutta pool in connection with the spring golf tournament at the Greenbrier. I understand the winning team paid off at \$40,000, and that is a lot of money for the owners of the winning team, especially when amateurs are a part of the team.

I was a little surprised that Robert Young would let the Chesapeake and Ohio Railroad and the Greenbrier get mixed up in a gambling event of this magnitude. Mr. Young is an active golfer and has great interest in the game. I wonder if he realizes how definitely he is going against the wishes of the USGA with regard to organized gambling in connection with golf tournaments.

I am sure that almost everyone connected with organized golf feels that, along with being against the law in most states, these Calcuttas are not good for the game. The show "Guys and Dolls" is built around a floating crap game, and last winter's and spring's series of Calcutta pools reminded me of that floating crap game.

Most sports have had trouble with gambling, and it usually took a scandal to clean it up. If the people who love golf and play it for health, recreation and good fellowship do not do something about it, it will burst wide open. I, for one, would hate to see our clubs or the game get a black eye.

EARL A. ROSS  
NORTH SALEM, N. Y.

## For Wisconsin Juniors

TO THE USGA:

You may be interested in knowing that we have raised \$660 to assure again an all expense trip for Wisconsin qualifiers in the Junior Amateur Championship.

WALTER MOYNIHAN  
MILWAUKEE, WIS.

## NCAA Scholarship Rule

TO THE USGA:

"As you may know, the NCAA Constitution contains the following section:

"PRINCIPLE GOVERNING FINANCIAL AID"  
"Any college athlete who receives financial assistance other than that administered by his institution shall not be eligible for inter-collegiate competition; provided, however, that this principle shall have no application to assistance received from anyone upon whom the athlete is naturally or legally dependent, nor shall it have application to any financial assistance awarded on bases having no relationship whatsoever to athletic ability."

Am I correct in my interpretation that this provision is consistent with your Rule 2-10 of your Rules of Amateur status?

WALTER BYERS  
EXECUTIVE DIRECTOR  
NATIONAL COLLEGIATE ATHLETIC  
ASSOCIATION  
KANSAS CITY, MO.

*Yes, subject to the exception that our Rule 1-2b permits an individual to accept a scholarship won as a prize in a recognized golf competition before the eighteenth birthday even though the period of such scholarship may extend beyond the eighteenth birthday.*

**Editor's Note:** The USGA Journal invites comments on matters relating to the welfare of the game and will publish them as space permits.

# USGA OFFICERS, EXECUTIVE COMMITTEE AND COMMITTEE CHAIRMEN

## PRESIDENT

Totton P. Heffelfinger, Minneapolis, Minn.

## VICE-PRESIDENTS

Isaac B. Grainger, New York, N. Y.

Richard S. Tufts, Pinehurst, N. C.

## SECRETARY

John D. Ames, Chicago, Ill.

## TREASURER

Charles L. Peirson, Boston, Mass.

## EXECUTIVE COMMITTEE

The above officers and:

J. Frederic Byers, Jr., Pittsburgh, Pa.

William P. Castleman, Jr., Dallas, Texas

John G. Clock, Long Beach, Cal.

Frederick L. Dold, Wichita, Kansas

John W. Fischer, Cincinnati, Ohio

T. R. Garlington, Atlanta, Ga.

Charles B. Grace, Philadelphia, Pa.

Lewis A. Lapham, New York, N. Y.

Edward E. Lowery, San Francisco, Cal.

Corydon Wagner, Tacoma, Wash.

## GENERAL COUNSEL

Fraser M. Horn, New York, N. Y.

## COMMITTEE CHAIRMEN

RULES OF GOLF: Isaac B. Grainger, New York, N. Y.

CHAMPIONSHIP: John D. Ames, Chicago, Ill.

AMATEUR STATUS AND CONDUCT: Charles B. Grace, Philadelphia, Pa.

IMPLEMENTS AND BALL: Charles B. Grace, Philadelphia, Pa.

MEMBERSHIP: Lewis A. Lapham, New York, N. Y.

GREEN SECTION: Richard S. Tufts, Pinehurst, N. C.

WOMEN'S: Mrs. Harrison F. Flippin, Ardmore, Pa.

SECTIONAL AFFAIRS: Charles L. Peirson, Boston, Mass.

PUBLIC LINKS: Frederick L. Dold, Wichita, Kansas

HANDICAP: William O. Blaney, Boston, Mass.

JUNIOR CHAMPIONSHIP: J. Frederic Byers, Jr., Pittsburgh, Pa.

GIRLS' JUNIOR: Mrs. William R. Millar, Los Angeles, Cal.

MUSEUM: J. Frederic Byers, Jr., Pittsburgh, Pa.

PUBLIC RELATIONS: John D. Ames, Chicago, Ill.

"GOLF HOUSE" FUND: Daniel A. Freeman, Jr., New York, N. Y.

## USGA HEADQUARTERS

"Golf House"

40 East 38th Street

New York 16, N. Y.

Joseph C. Dey, Jr., Executive Director

John P. English, Assistant Executive Director

## USGA GREEN SECTION

South Building, Plant Industry Station, Beltsville, Md.

Alexander M. Radko, Acting Eastern Director

## USGA GREEN SECTION WESTERN OFFICE

Box 241, Davis, Cal.

Charles G. Wilson, Western Director

## USGA GREEN SECTION SOUTHWESTERN OFFICE

Texas A. and M. College, College Station, Texas

Dr. Marvin H. Ferguson, Southwestern Director and National Research Coordinator