easy par 5, but should be truly judged a very uncertain 4. The variation of score, not the average score, is the real measure of a hole's difficulty and interest.

Courses which have concentrated their hole lengths in an attempt to jockey par often not only eliminate fine natural holes, but by creating a round on which some one hole length predominates, offer its players a layout best suited to the abilities of one particular class; for instance, a course which hitters will eat up, and shorter and possibly more accurate golfers will play at a disadvantage. Such a course is a poor test of all-around golfing ability, tiring and monotonous.

Length is the principal factor which determines the average number of strokes taken on a hole. Terrain and hazards cause most of the variations in score, thus make a hole of any length hard or easy; but, since well hit shots surmount most obstacles, length plays the principal role in fixing score.

The total length of a course does not alone measure the probable score, the distribution of length is the final determinant. It is obvious that a course consisting of 18, 360 yard holes, measuring 6480 yards, is easier than one having 9, 460 yard holes and 9, 260 yard holes with the same total yardage, but a 9 stroke higher par.

Hence, it is important from both interest and difficulty standpoints that a golf course should contain examples of all practical length holes, that there should be no duplication of length in any instances—unless terrain or hazards make similar length holes definitely dissimilar in play. If an opportunity comes along to create an interesting hole, grab it, and forget the par schedule. Remember the scorer's pencil records the number of strokes taken, but says nothing about the way they were played, or of the fun he had.

The length distribution on any layout can be best studied by listing the holes in order of yardage. This table will bring out duplications which should be adjusted. In preparing the table, actual length of holes should be corrected where slope or ground speed materially affects obtainable distance.

OREGON CHAMPS DRAW 1500—Oregon's "champion of champions" tournament bringing together private, public and fee course champions of the state for 18 hole play at Lloyd's course, Portland, drew a gallery of 1500. Seven golf associations cooperated in staging the event. A shot-making demonstration by pros was put on for the gallery. Joe Mozel, operator of Lloyd's course, had colored film made of the tournament which with sound will be available for instruction and entertainment.
mind comes up with the idea of reconstructing a hole along the lines it occupied decades before. A few photographs in the archives would be worth their weight in uranium in helping to restore the status quo.

Pictures Supplement Blueprints

Then, too, a more everyday reason exists for picturing conditions prior to major face liftings. Subterranean items such as water mains, valves, drainage lines, and other utilities have a habit of getting buried and forgotten during the creative excitement of Big Changes. These utilities outlined on the face of a suitable photograph (a job much simpler than preparing a mess of blueprints) would eliminate a lot of future random excavating.

The third photographic consideration, that of forecasting the appearance of planned changes, involves a little more than straight photography, or picture snapping. Suppose the powers-that-be demand trees along a given fairway. Okay, give 'em trees ahead of time by snapping pictures of trees approximately the size of the planned ones 5 or 10 years hence. Cut these pictures out and paste them in place on a photograph of the fairway involved. A reasonable amount of regard for proportion and perspective will heighten the illusion of a peep into the future. This pastel-up may serve to support or condemn the proposed change. In the latter case, shifting or eliminating a paper tree has it all over doing the same thing to a real one which has had a chance to get a firm grip in the terrain. Sketching the proposed trees in by hand on the fairway photograph will give less realistic, but none the less effective portrayal. The same methods will picture the placement of traps, grassy lowns, and all the other more-or-less transient geographical features which greenkeepers have to add to and subtract from golf courses. Thus pictured, some of the more awful of proposed changes may reveal themselves in their true light before the final damage occurs, thus leading to modification or elimination of the original plan.

The greenkeeper can lay out a system of hole changes on a photograph as shown here. The system can apply to all greens on the course, or can be modified to suit individual greens.
Buyers' Page

Check off your Supply & Equipment Needs. Tear out and mail this sheet to Golfdom, 407 S. Dearborn St., Chicago 5, Ill. You’ll get prices, literature and delivery information direct from the sources of supply.

**Golf Course**
- Aerifier (for fairways)
- Architects
- Arsenate of lead
- Ball washers
- Bent grass stolons
- Brown-patch preventives
- Compost mixers
- Compost spreaders
- Cultivators: f’way □ green □ drinking fountains
- Fencing
- Fertilizers
- Flags (greens) □ Flag poles □ flood lights
- Fungicides
- Golf Course Const’n Engineers

**Pro Shop**
- Bags: canvas □ leather □ bag carts, for players
- Balls □ Driving range □
- Ball markers □ Painting kit □ Ball Shag
- Bandages, adhesive
- Braces for canvas bags
- Buffing motors
- Caddy badges □ uniforms □

**Club House**
- Adding machines
- Air conditioning equip.
- Athletes foot preventives
- Ath. foot prophylactic bath
- Bath mats
- Bath slippers
- Cash registers
- China
- Disinfectants
- Fire protection equipment
- Floor coverings

**Harrows**—(spring tooth)
- Hole cutters
- Hose, 3/4” □ 1” □
- Hose menders
- Humus
- Insecticides
- Landscape materials
- Leaf rake (power vacuum)
- Mole Traps
- Mowers: putting green □ whirlwind □ tee □
  - fairway □ rough □ hand □
- Mower grinders
- Peat Moss
- Pipe, water
- Playground equipment
- Pumps (gals. per minute? …………)
- Putting cups
- Scythes (motor driven)
- Seed: fairway □ green □
- Seeders
- Sod cutter
- Soil screeners □ Soil shredders □
- Sprayers: power □ hand □
- Sprinklers: green □ fairway □
- Swimming pool architects □ equipment □ filtration □
  - purify, chemicals □ paint □
- Tennis court surface material
- Tractors
- Tractor tires
- Tractor wheel spuds
- Turf Plugger
- Water systems, fairway
- Weed burners
- Weed chemicals

**Calks, for shoes**
- Caps and hats
- Clubs: Woods □ Irons □
- Club head covers
- Club repair supplies
- Dressing for grips □ bags □
- Golf gloves
- Golf Grips (all weather)
- Golf shoes
- Golf Practice Device
- Grip Renovating Tool
- Handicap racks □ cards □

**Furniture**
- Bakers
- Coffee makers
- Dish washers
- Dishwashing compounds
- Frozen food storage
- Ice cube machines
- Ovens □ Food warmers □
- Ranges
- Refrigerators
- Slicing machines
- Toasters
- Vegetable peelers
- Glassware

**Send information**
- to: Name ________________________________
- Club ________________________________
- Address ________________________________
- Town ________________________________
- Zone (……….) State ________________________________

April, 1947
IMPORTANT NOTICE!

Due to tremendously increased production costs GOLFDOM is forced to increase its annual subscription price to $2. Well over a year ago, in most cases, the nation's largest magazines and newspapers found it necessary to increase their subscription rates. Now, GOLFDOM is forced to follow suit, effective with this issue.

However, GOLFDOM'S Special Golf Club Subscription Plan makes it possible for every golf club to effect a saving . . . on subscriptions for their officials and key staff members — with an offer of five subscriptions for only $6. For smaller clubs, three subscriptions are available for $4.

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ENTER SUBSCRIPTIONS FOR OUR CLUB AS SHOWN BELOW.

Remittance enclosed for $6 □ - $4 □
If club is to be billed check here □

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Date 47

Mail To: GOLFDOM, 407 S. Dearborn St., Chicago 5, Ill.

Golfdom
Continued from page 102

The fourth method employs photography to present an understandable layout of certain routine work. For instance, if the greenkeeper decides to have cup changes made systematically rather than leaving them to the haphazard choice of an indifferent greensman, photographs can help. A picture of a typical green with the routine of cup changes marked thereon and the whole posted where the grounds crew can refer to it readily will put the whole matter upon a documentary basis (see page 102). If photographs can be taken from a suitable elevation so as to allow proposed boundary markers, sprinkler systems, fairway limits, and gallery ropes to be marked thereon, the need for constant on-the-spot supervision by the superintendent will diminish.

Fifthly and finally, photographs offer the greenkeeper a tangible means towards an intangible end; that of elevating himself in the esteem of his employers. Photographs which show progress of work, the need for attention to a specific task, the feasibility of a change in procedure, or evidence of time and labor saved cannot help but prove to the governing body that in the greenkeeper who can present such clearcut evidence they have a very thorough fellow indeed.

Now as to equipment. Scorn not the humble box camera, a device capable of taking a much better picture in the hands of a beginner than much more elaborate equipment. At least one famous photographer delights in taking prize-winning photographs with a box camera. The family Brownie will serve to take acceptably well all of the types of photographs discussed in this paper. Of course, if the greenkeeper can master a more complicated camera, superior results may justify its purpose. Generally speaking, beware of the miniature, which provides negatives too small for retouching and their prints must all be enlarged.

A 4 x 5 view camera on a sturdy tripod probably represents the ideal in golf course equipment. Simple to operate, it will take a relatively large amount of abuse. Equipped with a lens of good definition and adequate focal length (not less than 6 inches), it will take beautifully clear pictures with a minimum of gadgets.

Retouching negatives, mentioned above, has definite possibilities from the greenkeeper’s standpoint. By means of opaque fluid, obtainable at any photo supply store, the operator can brush, pen, or rule in water mains, boundary lines, trees, traps, greens, and other items directly on the negative. The prints from this negative will show the sketched lines or areas as dead white. This is a fine way to make quantity lots of a photograph with a drawing on its face without going to the trouble of sketching on each print. The opaque lines on the negative will wash off under running water.
A darkroom, while a handy addition to the photographic tool, is not essential to the successful employment of photography, provided that a local establishment will provide good and prompt developing and printing service. Indeed, in the complete absence of any photographic equipment, the need for photographs for any of the purposes outlined above can be great enough to justify employing a commercial photographer for the occasion. However, the greenkeeper should have clearly in mind just what pictures he wants, and how he wants them taken. He will find it advisable to discuss the whole project with the photographer before the latter gets to the course. Otherwise the photographer may go haywire on the pictorial possibilities of the layout and shoot off his weight in expensive 8 x 10’s. Once properly briefed, he will produce valuable suggestions on angles and coverage.

One warning. Photography, a useful servant, has the insidious capacity to become a time- and money-wasting master. When the greenkeeper begins to spend more time on focuses than on fairways, more time on gadgets than on greens, then’s the moment to drop the whole business. Don’t give the bosses a chance to say, “Okay, Snaphappy, go peddle your pictures elsewhere!”

NEW IRON AGE SPRAYERS—New Iron Age engine-driven golf course sprayers, with 4-gallon, 2-cylinder vertical pumps, are now being produced by the A. B. Farquhar Co., York, Pa. Pressure for thorough penetration of spray material is provided by the 2-cylinder vertical pump, a new addition to the Iron Age line. Semi-closed with a 1 3/4 in. bore and a 1 1/2 in. stroke, the pump delivers 4 gallons per minute at pressures up to 350 lbs. The pump is fitted with hardened non-magnetic displacement tubes for longer cup life. Special stainless steel, combined with an exclusive finishing process, makes the plunger tube finest obtainable. The pump’s specially designed drive gear and pinion, completely enclosed and dust-tight, are cut on a precision gear generator to assure perfect meshing of teeth for exceptionally long life. An air-cooled 1 3/4 h.p. engine is used to drive the pump. Four models of the Golf Course utility Sprayers are now in production at Farquhar. Model 71A, push cart type, and Model 71B, with automobile or tractor hitch, have heavy duty steel tanks, in 50 to 125 gallon sizes, with intake strainer and propeller type agitator as standard equipment.

**BENT GRASS**
Stolons and Sod. Washington — Cl — and other recommended strains.

HIRAM F. GODWIN
22366 Grand River Ave., Detroit 19, Mich.
Spalding's 1947 pro display card in as many cases as possible, when names are available, is personalized with pro names filled in at bottom. If you have not received your card, please notify Adv. Dept., A. G. Spalding & Bros., 19 Beekman St., New York, N.Y.

JACKMAN SPORTSWEAR, formerly in the Lytton Bldg., 14 E. Jackson Blvd., Chicago, now are in full swing operation at their new home, 6332-34 Roosevelt Rd., Oak Park, Ill. As Ren Smith, Jackman pres., points out, the larger quarters not only facilitate handling of their greatly increased pro business but the new headquarters, away from the traffic and parking problems of Chicago's loop, make it quicker and more pleasant for the pros to visit. "Best of all," reports Smith, "our 1947 line is the finest in both variety and quality that we have ever assembled."

USED GOLF BALLS WANTED

Highest prices paid
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Introducing the new
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"What Is This Thing Called Swing" by Bea Gottlieb
A practice device to develop a conscious swing sensitivity, coordination and relaxation. The booklet, simplified and condensed, will enlighten your understanding of a golf swing. Complete set $2.50. Box 6234 W. Palm Beach, Florida.

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REMARKABLE NEW CLEANSER FOR GOLF BALLS

Newest chemical for removing dirt, grime and stains. Colorless, odorless. Does not get rancid, foul or slimy. No injury to hands or clothing. No soap, alkali or acid. Write for literature and free testing sample.

McCLAIN BROTHERS COMPANY, Canton, Ohio

April, 1947
WINNERS OF THE 5,000 SQ. FT. OF OLD ORCHARD BENT STOLONS, DONATED BY RALPH BOND AS DOOR PRIZES AT RECENT TURF CONFERENCES WERE: L. E. LAMBERT, OAKWOOD G & CC, KANSAS CITY—AT THE IOWA MEETING; H. J. BOHLES, MINNEAPOLIS GC, MANKATO, MINN.—AT THE MINN. CONFERENCE AND ORVILLE BROWN, MERIDIAN HILLS CC, INDIANAPOLIS, AT THE PURDUE SHORT COURSE.

HELEN MAC DONALD, WELL KNOWN CHICAGO WOMAN GOLF INSTRUCTOR, FORMERLY LOCATED AT 406 S. STATE ST., HAS OPENED HER NEW GOLF SCHOOL AT 716 N. WABASH AVE., CHICAGO. THE NEW LOCATION IS IN THE CENTER OF THE CITY'S NEAR NORTH SIDE GOLFING COLONY . . . WHICH ADDS UP TO A RUSHING BUSINESS IN LESSONS AND GOLF EQUIPMENT.

NEW SPORTSWEAR CATALOG — MAYFLOWER-MEDALIST, LTD., 307 5TH AVE., NEW YORK 16, N.Y., HAS ISSUED ITS NEW CATALOG OF SPORTSWEAR FOR PRO SHOP SALE. IN ADDITION TO ACUSHNET SALESMEN THE LINE IS HANDLED IN NEW ENGLAND BY JOS. W. McQUADE, 60 SOUTH ST., BOSTON AND IN KANSAS AND PART OF MISSOURI BY ROBINSON'S EQUIPMENT & SUPPLIES, 3959 BROADWAY, KANSAS CITY 2, MO.

PATTY BERG BOOKLET — BOOK OF PRESS AND RADIO INFORMATION ON PATTY BERG HAS BEEN COMPILED BY WILSON SPTG. GOODS CO., 2037 N. CAMPBELL AVE., CHICAGO. IT'S A SWELL JOB OF PROVIDING FACTS ON PATTY FOR USE IN PUBLICITY WORK AT TOURNAMENTS AND CLINICS SHE ATTENDS. IT SHOWS PATTY WON 40 OF THE 73 TOURNAMENTS IN WHICH SHE'S COMPETED, WAS RUNNER-UP IN 16 AND MEDALIST IN 42. THE BOOKLET ALSO CONTAINS RECORDS OF WOMEN'S NATIONAL AND WOMEN'S WESTERN CHAMPIONSHIPS.

DECKER WITH HENDERSON — FRED DECKER, FOR MANY YEARS PRO AND GKPR. AT KNOLLWOOD CC, WHITE PLAINS, N.Y., HAS JOINED PETER HENDERSON AND CO., 35 CORTLANDT ST., NEW YORK CITY. DECKER WILL REPRESENT THE FIRM FOR ALL GOLF COURSE EQUIPMENT, SEEDS AND FERTILIZERS FOR GOLF COURSE NEEDS IN WESTCHESTER COUNTY AND LONG ISLAND, N.Y., AND THE STATE OF CONNECTICUT. HIS HOME IS IN SCARSDALE, N.Y.

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Golf Course Designing, Construction
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- Hazards, Roughs
- Driveways
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It mows clean and fast in tight corners; 3-foot cut; variable speed. Young folks can run it. Rugged design, detachable engine. See your dealer or write Dept. 12.

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quickest to put on or take off. Increase tractor efficiency and cultivate turf, that’s why more than half the U.S. and Canadian clubs use them. Durable and low priced.

Sample spud and circular on request; advise make of tractor and purpose for which intended.

Immediate shipment.

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GOLF COURSE ARCHITECT
Balanced Topographical Design
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April, 1947
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We have for sale
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Write for details
EASTERN GOLF CO.
244 West 42nd St., New York, 18, N. Y.

year. Another conference of the MacGregor Pro Technical Advisory staff is scheduled for Cincinnati on April 9.

Cowan returned to Cincinnati on March 10 but Goldsmith remained in Miami Beach to round out his vacation at his winter home.

MacGregor Golf is a subsidiary of Sport Products, Inc.

GOLDFELT NOVELTY—Smoking stands, whose tray supports are in the form of mid-irons, are innovations offered by the Funderburk Engineering Co., 29 Moody Street, Waltham, Mass. The firm promises immediate delivery. Prices and additional information may be obtained by writing the company.

FIRE-FIGHTING PUMP—Low cost fire protection in the form of a trailer-mounted high pressure portable pump and fire-fighting unit is now available to clubhouses in the Porto-Pumper, mfg. by Porto-Pump, Inc., 227 Iron Street, Detroit 7, Mich. With a cost about one-sixth that of most minimum priced fire-fighting units, Porto-Pumper consists of a gasoline-driven high pressure utility pump; 75 feet of supply hose, and 250 feet of fire hose; an 18 foot 3-section extension ladder; fire axe and hand type extinguisher. The trailer-mounted unit is easily attached to car, jeep, or truck and comes equipped with heavy duty tires of standard automobile center-to-center track.

DAVIS HAS WEEDESTROY—Weedestroy, made by Riverdale Chemical Co., Harvey, Ill., is now being distributed in the Chicago area by the George A. Davis Co., Riverdale has announced. Weedestroy, which last year received wide course acceptance, is based on the butyl ester of 2,4-D.

Selective Weed Killers
Dow 2,4-D Powder, 70%, 50# drums $1.65 per lb., 10# drums $1.80 per lb., freight allowed on orders of 100# or more.
Weedone, 5 gallon drums, per gal. $6.00.
Freight allowed on 100# or more.

Rainbird Sprinklers
Heads only, No. 20 covers to 84 ft. $2.75; No. 40 covers to 102 ft. $5.50; No. 70 covers to 147 ft. $7.90; No. 80 covers to 215 ft. $15.70; 18" roller bases $6.00 each.
Prices Subject to Change Without Notice.

PAUL E. BURDETT
SEEDS—FERTILIZERS—GOLF COURSE SUPPLIES
P. O. BOX 241, LOMBARD, ILLINOIS

Swinging Around Golf
Continued from page 31
now makes news like Demaret, Hogan, Nelson, et al? make for the Grayson typewriter... And what pro is going to stay away from tournaments where he may make big money and "a name"?

Joe Miskovic goes to Hillsdale GC (Chicago dist.) as pro... Miskovic also teaches summer classes at a Chicago YMCA... Tracy Parks, Houston, claims his Blue Goose handmade putters, ordinarily retailing for $15, have sold for as high as $25 out of the bags of tournament pros... British are a hardy race as is proved by golf played on snow-covered courses during worst winter old inhabitants can recall.

Interesting event at Hillcrest CC (KC dist.) is scheduled Sept. 6-7 when members will play at their handicaps against their pro Wolf Rimann... Member who beats Wolf by longest margin gets a prize... Vinne Richards, head of Dunlop Rubber Co. sports dept., is made commissioner of pro tennis... The noted Vinnie also is a pretty good amateur golfer... Dai Rees, on his return to London, said there's no reason why the British Ryder Cup team shouldn't beat the Yanks this fall.

Chicago Dist. annual junior tournament to be played at Glen Oak CC, July 21-24... Fred Gleim, before the war pro at Shore acres club, signed as pro by Green Acres CC (Chicago dist.)... Jerry Cooke is pro at Cleveland Heights CC, Lakeland, Fla... Wm. F. Riley, 72, veteran New Jersey gkpr., who retired from Crestmont GC, before the war and was succeeded by his son, Wm. R., died recently at his home of a heart ailment... He was a grand old gentleman and up to a few years ago was an ice skating instructor as an avocation... Youngsters in his neighborhood, including his 2 grandchildren, considered him one of the world's premier toy-makers.