advances users—will cause a heavy turn-over.

To be able to meet the more immediate and near future increase in business volume, the golf professionals of course require merchandise, and on this very important phase of the complete picture I would point to the gradual improvement in raw material supplies, which together with the new manufacturing techniques will progressively yield an increasing quantity of quality production.

There are great opportunities ahead for further advancement of the golf professional business.

H & B ADJUSTS TO MEET 1947's HUGE DEMAND

By BILL KAISER
Hillierich & Bradby Co.

Interest in golf is definitely on the increase, as is evidenced by the great number of persons who have started playing the game since the war. During the war the Government advocated a broad physical fitness program, which included the promotion of all sports; golf has played an important part in this. Many organizations, such as the Athletic Institute and the PGA have followed up this physical fitness program. The interest created by the various golf tournaments promoted by the PGA should attract many new golfers, which of course will mean more lessons for the professionals during 1947.

The demand for merchandise has been tremendous. When the manufacturers started back into production at the beginning of 1946 after years of war work, materials were scarce and many other problems confronted them, so it is easy to understand why they could not produce enough clubs to meet the demand. This condition still exists.

In view of this situation, we are concentrating on an abbreviated line, using patterns and models that have been proved and accepted, in order to get the most production. We feel confident that this policy will meet with the approval of the golf professionals.

The moment we are able to obtain new materials, we can add the new ideas on which we have been working and broaden our line.

The picture for the professional in 1947 should be bright even though we cannot tell at the present time what the material situation will be by the time the 1947 golf season rolls around.

GOLF SOLVES PROBLEMS OF WAR'S AFTERMATH

By H. C. LAGERBLADE

The year 1947 promises to be a year of change for the golf professional. These changes may have far-reaching effects. The game of golf has proven a great rehabilitator for the boys of our armed services, and all of those who took up golf at any of our hospitals are walking advocates of the health-giving properties of golf. Hence, for many years, the pro can look forward to good business at his chosen profession of teaching, and supplying of golf equipment.

The equipment that will be available will show some change, for the materials that were formerly considered indispensable for the manufacture of golf clubs are now not available in sufficient quantities to take care of the demand. Because of this unusual situation, suitable substitutes must be found; as is often the case, a substitute may be found that will eventually replace the original.

The keenest shortage at this time, of course, is persimmon wood for golf club heads. There is no doubt that this wood is by all odds the very best obtainable for the purpose. Unfortunately, however, the persimmon trees from which the wood is cut have been under water for many months and the problem of logging is very difficult, and the prospects do not look too good for the year 1947.

In addition to the shortage of this wood, the cost of producing the heads has also gone up, so that the cost of the completed clubs must of necessity be increased.

There are at least two substitutes for this persimmon. One is plastic; the other is of laminated construction. The plastic head has been experimented with for some time by various golf club manufacturers, and there is not much doubt but what some time during 1947, a head made of plastic will be on the market. The cost of tooling for plastic heads is terrific but the cost of the finished molded head is not too much out of line.

The laminated substitute for the persimmon head is produced by cementing a plurality of several hardwood thin sheets together, then turning this laminated construction down to the shape of a golf head.

The tool cost for the producing of the latter type of head is not very great, but the cost of the finished head is high because of the extra labor involved.

Another serious shortage in the golf business is leather for grips. The cost of this item is very high and in addition, high quality calf skins for golf grips are practically off the market, at least temporarily.

All kinds of leather is being used, but none as yet has been developed that takes the place of genuine calf skin. Here, also, plastics are being tried out and it is safe to assume that something will be produced of some other material that will take the place of leather, to a certain extent.

The only certain thing about golf clubs for the early part of 1947 is the price, and that is bound to be up, because of the fact that everything going into a golf club has gone up in cost.

The golf ball situation is more encouraging, however, for the crude rubber supply is getting better all the time, so the scarcity of balls should be, to a large extent, eliminated.

The golf bag situation, also, is some better, although substitutes will be used more and more where formerly leather was considered the only material.

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While the foregoing conditions make the manufacture of golf equipment rather difficult at this time, the fact still remains that more and more golf will be played than ever before, and the difficulties that are now being encountered will gradually disappear, so that by the end of 1947, golf should be in a more normal state, as far as equipment is concerned.

PROS PROGRESS AS MERCHANT ASSURES 'HAPPY NEW YEAR'

By F. W. BOMMER
Pres., Acushnet Process Sales Co.

This season we made only our 3 types of first grade balls. The Titleist, for professional use, being the high compression number; the Titleist, for experts only, a somewhat lower compression ball for the golfer whose drives are not so long; and the Bedford, the tough cover ball for the higher handicap players. Whether or not there will be other grade balls in the Acushnet 1947 line depends on whether or not we have the materials available and additional labor to produce.

Of course, in merchandising Acushnet balls, we will continue our "24 carat policy" of selling every golf ball we make through the pro shop.

I am one of the people who naturally believes that the place to sell golf merchandise is in the pro shop, and all our consumer advertising is pointed with that idea in view. Many pros, because they have been unable to get all the clubs and golf balls they needed, have introduced other golf items and our reports show that they have been highly successful in selling them.

I believe the pro is becoming a better merchant and in many cases has developed such a fine friendly relation with the players that they are patronizing him now more than before.

The golf professional in the United States, it seems to me, is becoming more and more an institution unique in itself. He is getting farther away from the menial status that used to prevail and still does, in some of the foreign countries. I see a very fine future for the man who adopts the golf profession as his life's work.

Barring a major business depression I cannot help but feel that golf play will increase continuously during the next 5 years.

PROFIT PICTURE FOR PROS BETTER IN 1947

By G. T. McCARTHY
Mgr., Golf Ball Sales, United States Rubber Co.

The picture is a much brighter one than confronted everyone at the opening of the 1946 golf season, and because it was impossible to ship more than a fraction of the U. S. Royals required by the golf professionals during the past year, it is with a sigh of relief that we approach the end of the present major golfing season.

It is doubtful that with the tremendous increase in golf everyone will be able to obtain all of the golf balls they will want but it is assured that the supply will be more plentiful than during the past season.

In 1947 the United States Rubber Co. will offer golfers, through golf professionals, two exceptionally fine golf balls, the U. S. Royal (Blue) golf ball for the professional and low-scoring amateur and the U. S. Royal (Red) golf ball for the golfer who likes a ball with extra durability plus plenty of distance.

Every effort will be made by us to produce golf balls in sufficient quantities to enable all professionals to take care of their requirements.

We also have plans which indicate that during 1947 we shall be able to offer professionals greater quantities and styles of U. S. Royal golf gloves.

Therefore, as we look ahead at the 1947 golf season the future seems much brighter than ever before for the golf professional and the game.

PRO PROSPECTS BRIGHT DESPITE SHORTAGES IN 1947

By GRAHAM JOHNSTON
V. P. North British Rubber Import Co. of America, Inc.

It is our intention to have North British golf balls on the market again this coming Spring, if not sooner, and the price will be $1.25 retail. This will be the same ball as was selling for $1.10 retail prior to the war. We are not going to go into any cheaper grades at this time for we only have limited raw materials and the labor situation is to say the least, not good. The chief difficulty as far as labor is concerned is that of getting back female help which, except for some of the heavier work, we rely upon for the manufacture of golf balls.

The position in Britain is about the same as it is in the U. S. as far as women help is concerned. They made a great deal of money during the war, manufacturing war goods of one sort or another and were able as a result to save fairly substantial sums. When their husbands or boy friends came home, they took time off to be with the men. In many cases they have no intention of returning to work until their savings are spent.

I think that as far as the golf professional's future is concerned that they will still have to regard next year as one where there will be shortages of the things that are really needed, such as golf balls, golf clubs, golf bags (particularly in leather) and likewise golf shoes. These unfortunately happen to be items where the pro does a substantial volume of business in dollars and cents and of course, if there is a scarcity of these items, naturally earnings will be affected.

During the war golf professionals had to feature new merchandise and have learned that many items that they did not carry in the pro shop before were very saleable and that their pro shop was a "natural" as an outlet for many items never seen before at golf and country clubs. They have
developed their sports apparel and enlarged the line so that they have made their shops look more like a small attractive resort store, which is after all what a pro shop should look like. Merchandise that is a little different and that is of the highest class should be sold readily through pro outlets.

I feel quite certain that all the pros that survived the war famine of golf merchandise will certainly get by next year and do a lot better, for all the items that were scarce before will gradually come back and eventually production will catch up with the demand.

It looks as though we are over the worst and that 1947 should be the definite turning point for things getting back to normal.

STAINLESS STEEL WITH "SWEET FEEL"

Spalding is using in its 1947 irons a special stainless steel head that has the same "feel" as the mild English steel formerly used. In testing materials to make sure that the chosen stainless steel was of performance quality equal to that of previously used material, tests were made in a highly sensitive machine which recorded vibrations resulting from simulated blow of an iron head against a golf ball. The upper curve is that of the vibrations of the mild English steel and the lower graph the vibration curve of the new stainless steel.

PRO GOODS ARE 1947 SPALDING FEATURES

Harry Amtmann, A. G. Spalding & Bros., Inc., advertising mgr. says:

"For 1947 Spalding has designed an entirely new line of woods and irons exclusively for pro distribution. There are various models that enable him to outfit all types of men and women golfers from the low handicap player to those who score an average game. Highlights of the golf line Spalding presents for 1947:

"The 1947 golf clubs (sold exclusively through pros) will be known as the Spalding Tournament and will bear no famous player's name.

"The set of 4 registered wood clubs are designed with the driver having ample depth in the face, so desired by top players. The brassie, spoon and short spoon have been designed for maximum distance on fairway shots, even from a poor lie.

"The registered irons will have the new Spalding design 'Off-Set' blade, nearest possible thing to a perfect hitting line, and will continue to have the famous short hosel which permits the placing of added weight behind the ball. They'll be available in stainless steel that has all of the 'feel' formerly found in mild English steel. Or if preferred the mild English steel heads can also be had.

"Of course the pro can secure the entire Spalding golf line including Bobby Jones woods and cushion-neck irons, as well as Jimmy Thomson woods.

"The famous Spalding 'Dot', the ball played by more golfers than any other in America, will be available in ever increasing quantities for exclusive pro distribution as before, and in addition he will also have exclusively the Spalding 'Top-Flite' tough cover ball. The Spalding 'Air-Flite' and 'Kro-Flite' golf balls are also available to him.

"We have also designed a line of Betty Jameson woods and irons that are made exclusively for women golfers. The Jones woods and irons can also be had in suitable models for women.

"The famous 'Cash-In' putter played by more golfers than any other in America will also be back in ever-increasing quantities in the 1947 line."

CLUB CRAFTSMAN

Ernest Ary, who's been making MacGregor clubs for 30 years, shows Jim Demaret a fine point of the art. Ernie originally was a wood head maker but now is in charge of the custom dept. for MacGregor. He also works with the company's pro staff in designing the new iron models, and has schooled the GIs who have increased MacGregor's factory personnel. With these duties his output of custom clubs is about 6 sets a week. Frank McAdams, another of the company's veteran experts, supervises the wood head custom production and design of new wood models.
WORTHINGTON MOWER PLANS
LARGE PRODUCTION IN 1947

During 1946 the Worthington Mower Co., Stroudsburg, Pa., in spite of the many complications and handicaps that faced all manufacturers in attaining a steady flow of materials, operated continuously on a basis of 2 shifts per day and was successful in turning out hundreds of Worthington Golf "Chief" tractors and many thousands of fairway cutting units and golf "Rough-Grass Blitzer" mowers that were so desperately needed by golf clubs. Since V-J Day the Worthington company has acquired many fine new production tools of the latest types that have enabled it to increase its production and to provide the finest quality mowers it has ever produced, says E. Ross Sawtelle, Worthington VP.

For 1947 the company plans to produce in large volume:

1. The Worthington "Chief" Tractor equipped with a remarkably efficient Chrysler 6-cylinder engine, and to be available with either single or dual pneumatic wheel equipment, and with sickle bar attachment, if desired.

2. The Worthington Fairway Gang Mowers in 3, 5, and 7 unit combinations. Pneumatic wheel equipment for the cutting units will be available at a slight extra cost, and clubs can have a choice of a 5 or 6 blade fly knife reel at no extra charge.

3. The Worthington Golf "Rough-Grass Blitzer" in 3, 5, and 7 unit combinations. This new type gang mower is a modification of the Worthington Airfield "Grass Blitzer" which was produced during the war period for the military requirements of the government and lend-lease. Since V-J Day, when the Golf "Rough-Grass Blitzer" was first introduced, hundreds of machines have been delivered to golf courses. "The reports we have received," says Sawtelle, "clearly indicate that at last the most satisfactory answer to the rough mowing problem has been found in this new type of gang mower. The number of labor hours required for rough mowing is now, on a per acre basis, reduced to a par with fairway mowing. With this new, efficient, and economical method it is now possible to maintain the rough properly and to cut as frequently as desired to maintain the highest standard of playing conditions. Reports indicate that this frequent mowing has greatly improved the turf in the rough area. Thicker turf of better grasses has developed, resulting in the crowding out of weeds and rank growth and the less desirable types of grasses.

"We feel that in 1947 many clubs who have already solved their most immediate and pressing fairway mowing problems will want to make a careful study of rough mowing costs and methods, and investigate the Rough-Grass Blitzer."

Sawtelle adds: "At present it is a little too early for our company to make a definite commitment in regard to resuming production of the Worthington Overgreen. The many clubs throughout the country who are anxiously awaiting this machine can be assured that every consideration is being given to their requirements, not only for the greens but for the extra tee mower attachments."

L. B. BEAMS WITH HIS BUSY BEES

L. B. Icely, Wilson Sporting Goods Co. pres., shares with Sam Snead and Lloyd Mangrum of his staff, the joy of winning three of golf's top tournament trophies. Sam Snead (left) holds his British open trophy, to which prize he'd just added as this picture was taken, the May $10,000 All-Star bowl. Lloyd (right), first of the war's combat veterans to win a major sports championship, holds the U.S. open trophy he won last June.

Renovating Fairways
(Continued from page 24)

The program of weed eradication and turf improvement can start in the spring, provided there is no danger of increasing the crabgrass population. The best plan is to fertilize first, and use lime, if needed, applying them about the time turf growth starts. Then use 2, 4-D after the weather becomes warm; when weeds have good sized leaves and are growing rapidly. This is usually from mid-May until late June, depending upon latitude.

Late summer and early fall are the logical times to start turf improvement where crabgrass is apt to be bad. The 2, 4-D can be used in August, and the fertilizer applied afterwards, or the order can be reversed. The herbicide should not be used unless the soil has enough moisture to support growth of weeds and grass.

Enough nitrogen should be used to insure good growth. Then the grass will spread and make a dense turf which will cover the voids left by the weeds. A hundred pounds, or more, of actual nitrogen per acre is not too much to use on depleted soils of light
ACTUALLY AUTOMATIC AND COLLAPSIBLE

It has all these features:
1. DROP THE HANDLE—it closes in one second.
2. LIFT THE HANDLE—it opens in one second.
3. LARGE 14-INCH BALL BEARING WHEELS—the proven ideal size.
4. WIDE WHEEL BASE—no tipping.
5. APPROVED GOLF COURSE TIRES—no damage.
6. LIGHT ALUMINUM ALLOYS.
7. PERFECT BALANCE—no bag adjustment necessary.

and FLEXIBLE BODY TORSION performs like a spring with controlled action. It absorbs bumps and jolts and assures smooth rolling over the roughest fairways with finger tip balance. The most outstanding development in golf cart history.

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Send $39.00 for 2 KO-LAP-SI KARTS to be sent express prepaid as a trial order. See how these new Karts sell on sight. Special added discounts for quantity orders.

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This procedure may not be effective on watered courses. The difference is not in fertilization. It lies in the necessity for re-seeding, and in the method of weed control.

Watered Fairway Program

Many clubs plan to install a fairway water system and use water for the first time. The fairways may have plenty of broadleaved weeds and a fair stand of bluegrass, or fescue, with little clover or poa annua. Re-seeding with some Colonial bent grass seed may be the only variation from the program outlined above for unwatered fairways. Re-seeding is imperative if there is a high proportion of fescue in the present turf. It does not withstand constant watering, and will gradually disappear. Clover, poa annua, and knotweed will replace the fescue unless bent grass is introduced by seeding.

The plant population on most watered courses has changed. Bent grasses have taken possession on some of them, but clover, knotweed and poa annua predominate on many others. This occurs where there was not enough bent to take possession after bluegrass and fescue were eliminated by overwatering and close cutting.

Water affects the type of weed growth, as well as the kind of grass. Creeping weeds, such as chickweed, are encouraged, and once they become established on watered fairways, no amount of fertilizer will eradicate them. Watering aggravates crabgrass and knotweed.

Fairways which are mostly poa annua, clover, chickweed, and knotweed, and have little permanent grass in them, should be re-seeded. The weeds, clover, and poa annua need to be killed by treatment with chemical before seeding; otherwise the poa annua and chickweed will retard or prevent the young grass from becoming established. This is true even when most of the poa annua disappears during midsummer. It will come back with a rush in late summer and affect the growth of the new seeding. Sodium arsenite or arsenic acid are the best herbicides to use on such fairways. Either one will kill the major portion of the poa annua and do a better job on chickweed and clover than 2, 4-D. Furthermore, 2, 4-D cannot be used immediately before or right after seeding. The use within three

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weeks of seeding is not safe for the new grass. The applications of sodium arsenite or arsenic acid should start in July, because 3 or 4 treatments are needed. An interval of 2 to 3 weeks should elapse between each one. Arsenic acid is a liquid, so it must be used as a spray, but sodium arsenite can be used either way; as a spray or dry. Customary rates of application are 5 to 12 pounds per acre, or 2 to 5 ounces per 1,000 square feet, depending upon the type of weeds and method of application. The arsenicals help control grubs and suppress worm casts. Seeding can be done immediately before the last application of arsenical and 2 weeks of growing weather gained in that way. The seed can be drilled with an alfalfa and grass disc seeder, but when there is little or no good grass, broadcast seeding is best. A seed bed must be prepared first with a fairway spiker. Thorough spiking several times is required to produce a suitable seed bed, otherwise a good stand of grass will not be secured.

Treatment with 2, 4-D in addition to the arsenical is advisable when broadleaved weeds are bad, besides those mentioned previously. The 2, 4-D can be used before the arsenicals, that is, during early summer, or in June. Otherwise the use of 2, 4-D should be delayed until the following year, after the new grass becomes well established.

The Famous
ROOT
All-Purpose
SPREADER
will be available soon!

First choice among the nation's leading turf specialists for precision fertilizing, seeding and top-dressing, the efficient ROOT All-Purpose SPREADER is now back in production for early spring delivery. Place your order now.

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GRAYBAR BUILDING
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Plant: WOOD RIDGE, N. J.

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(Formally Root Manufacturing Co.)
7631 Roseberry Ave., Huntington Park, Cal.
Branch: 285 W. Trigg Ave., Memphis 2, Tenn.
Most of the seed mixtures used in the past on watered fairways consisted of about 70 percent Kentucky bluegrass, 5 to 10 percent Colonial bent, usually the Astoria strain. The balance was fancy Red Top. Seeding was at 75 to 125 pounds per acre. A few used Colonial bent seed only, and seeded at about 25 pounds per acre. Some mixed fancy red top with the bent for bulk and increased the seeding rate accordingly.

The Kentucky bluegrass seed crop is exceedingly short this year because it was impossible to recruit enough labor to harvest the crop. The price is $1 or more per pound. The wisdom of using Kentucky bluegrass at this price for re-seeding watered fairways is questionable. Seeding with Colonial bent seed only, or a mixture with fancy Red Top to provide bulk, would seem wiser. There are 6,000,000 or more seeds in a pound of bent grass seed, and about 2,500,000 in a pound of bluegrass seed. Volunteer bluegrass will appear and take possession of spots adapted to it, even though seed is not used.

Southern Treatment

Crabgrass is the major weed on many of the Bermuda fairways in the South, and its eradication is a major problem. Sodium arsenite or arsenic acid is the best herbicide to use because crabgrass is not affected by 2, 4-D. Fortunately, Bermuda grass is quite tolerant of arsenicals and withstands heavy doses of it. The Bermuda is discolored by it, but recovers.

The arsenicals chosen should be used when the seed heads begin to emerge from the crabgrass, because that is when this plant is most easily killed. Two and possibly 3 treatments with the arsenical may be necessary to kill all the crabgrass. The fairways should be fertilized liberally so the Bermuda grass will spread and produce a dense turf. The necessity for fertilizing Bermuda generously is not always recognized in the South. Bermuda grass is said to grow anywhere. That is partly true, but no grass responds better to generous fertilization and good treatment than Bermuda grass.

The use of 100 to 150 pounds per acre of actual nitrogen during a single growing season is not excessive. Late summer or early fall is the best time to make the first heavy application of fertilizer on crabgrass infested fairways. It can be done earlier on watered fairways. The fertilizer should be applied right after the crabgrass has been killed and then the fairways should be watered generously. By fertilizing then, or in early fall, the Bermuda will be encouraged to spread and produce a dense turf which will resist crabgrass invasion the following year.
PLAN NOW!... for the big year coming up.
See page 83 for buying needs

SPEEDY MFG. CO., 710 S. 5th Ave., Sioux Falls, S. Dak., has had an enthusiastic reception for its Speedy Power-Vac Rakeland, a vacuum leaf and twig rake that operates, tractor-hauled and -powered, up to 3 miles an hour. The device has a rotating rake which loosens the leaves and small twigs gently from the ground, then a powerful vacuum sucks the leaves and twigs into a hammer-mill which pulverizes them into a powder. The fan now blows the powdered material onto the ground where it makes splendid humus and does not interfere with play. The Rakeland is made to fit all tractors.

FRANK JOHNSTON GOLF CLUB CO., 5310 N.E. Sandy Blvd., Portland 13, Ore., has a new aluminum putter that is getting a lot of play and shop business from pros. During the PGA at Portland pros ordered hundreds of the putters and reorders from these sales already are being received by Frank and his associates, Ted Longworth, Waverly pro, and Eddie Hogan, Riverside pro. Frank, Ted and Eddie expect to add more clubs to their line soon.

HAYES WITH H&B
—Bob Hayes has joined Hillerich & Bradsby Co. to handle the Louisville Power-Bilt clubs in New York state, Pennsylvania, Virginia and W. Va. Bob returned from the Navy after 3 years service as a warrant officer. Before he went into the Navy he was a pro at Mayfield (Ky.) G&CC. He also has been pro-mgr., South Shore CC, Lake Wawasee, Ind. Prior to getting into pro golf he was with the Evansville (Ind.) Courier Press for 3 years. He is a graduate of Male high school, Louisville, Ky., and attended the Naval Academy preparatory school, Norfolk, Va. He is a PGA member.

HARDWOOD FLAG POLES
Made of the finest, seasoned, second growth, tough White Ash. Tapered from 1” at bottom to 3/4” at top, and fitted with brass flanged ferrules to fit standard 1 1/8” cup. Sanded finish with prime coat of lead and oil and finished coat of finest white enamel. Available in 2 or 3 color combination.

Your inquiries and orders will be referred to a nearby distributor.

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Urbana, Illinois
Builders of
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for sports events of all kinds.

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AMERICA'S NO. ONE GOLF-COURSE FERTILIZER
Order Agrico now—ask your regular source of supply, phone nearest A.A.C. Sales Office, or write to The American Agricultural Chemical Co., 50 Church Street, New York 7, N. Y.
FRIEND MFG. CO., GASPORT, N. Y., sales mgr. C. H. LaFever says the company doesn't expect to introduce any new type of sprayers for golf course work next year but does see some improvement in shipping situation on present models. Uncertain supply of raw materials and parts is giving Friend, as well as most other manufacturers, plenty of headaches.

WHIRLWIND LAWN MOWER CORP., 730 W. VIRGINIA ST., MILWAUKEE 4, WIS., now has a "junior" model that has been approved by greenkeepers as very satisfactory for mowing of clubhouse lawns, tees, etc. The scythe cutting action of the Whirlwind, plus the suction lift and grass, weed and twig mulching action has given the machine a big field in golf. The new Junior hand-propelled model has a lightweight 3 HP motor, has a 20 in. cut forward or backward, and 1 in. to 3½ in. height of cut.

JAMES CUNNINGHAM, SON & CO., ROCHESTER 8, N.Y., has a sturdy and compact knife-bar mower that is especially well balanced for easy and exact operation under shrubs, fences and around trees and in other close quarters. It has 2 heights of cut and a 36 in. cut. Motor is 1 1/2 HP, 4 cycle. The Cunningham mower weighs 174 lbs.

NEW LIGHT ENGINE—A new light-weight compact gasoline engine has been developed by Power Products Corp., Grafton, Wis. The one HP engine, 8½" x 11" x 14½" in size, weighing only 16 lbs. was designed for manufacturers who have been seeking light-weight for portable and self-propelled equipment, such as mowers. The result is a machine having the maneuverability of a hand mower. Emphasis has been placed on compactness, so that the engine will take up a minimum of space. Other features include smoothness at all speeds, easy starting, (at all temperatures), minimum noise and vibration and good operation at any tilt up to 45 degrees. The engine is of a 2 cycle air cooled design. Aluminum castings and stampings are used throughout, except for piston rings, cylinder sleeve, crankshaft, bearings etc.
Principals of the new company are R. T. Lueloff, Pres., and Robert G. Krueger, VP, both of whom have had extensive experience in the gasoline engine field.

F. G. TURF AERIFIER — West Point Lawn Products, West Point, Pa., is making a new type turf aerifier called the F.G. It has hollow steel spoons bent at 30 degree angle and mounted on discs. The spoons enter the ground without tearing up sod and remove plugs of soil which are tossed on the surface. Depth of cultivation is easily regulated. Maximum depth is

5 in. The reel is 3 ft. wide and covers 6 ft. in each forward revolution; thus in an area of 18 sq. ft. 108 plugs of soil are removed. The device also is adjustable for scarifying soil for seeding. The F.G. Aerifier has been highly endorsed by greenkeepers for its performance in lime, organic matter and fertilizer application.

MULTIKLUBS AUXILIARY SET — Two new adjustable golf clubs, an iron and a wood Multiklub, are now being manufactured by the Knight Co., Detroit, Mich. These two clubs provide the equivalent of a complete set of irons and woods. The iron club can be adjusted for 8 different lies from 1 through 8, and when the stain-