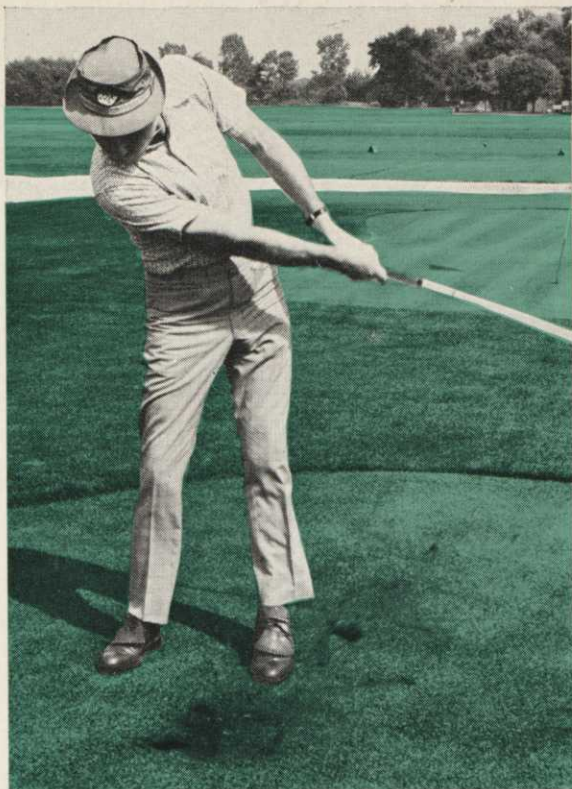


Warren's A-34 may be examined at the Harlow Car Botanical Gardens, Harrogate, Yorkshire. Planted May 1971.

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it up...



Warren's[®] A-34 Kentucky Bluegrass Comes Back Faster!

Warren's A-34 Kentucky Bluegrass (*Poa pratensis*), grows vigorously in shade and sun alike. It is proving to be the best all round grass for use on sports-grounds, parks and recreational areas. Its ability to recover quickly from injury makes it ideal for sowing down golf tees and all those areas receiving wear and tear.

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THE BRITISH GOLF

GREENKEEPER

HON. EDITOR: F. W. HAWTREE

FOUNDED 1912

PUBLISHED MONTHLY FOR THE
BENEFIT OF GREENKEEPERS,
GREENKEEPING AND THE GAME OF
GOLF BY MEDIA PROMOTION LTD
ON BEHALF OF THE BRITISH GOLF
GREENKEEPERS ASSOCIATION

No. 331 New Series

DECEMBER 1972

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Front Cover Picture:

Slovan Marianske, Lasne, Czechoslovakia

EDITORIAL AND SUBSCRIPTION OFFICES: Addington Court Golf Club, Featherbed Lane, Addington, Croydon, Surrey. Telephone: 01-657 0281. SUBSCRIPTION RATE: £1.25 for 12 issues post paid. Published during the first week of each month. All rights reserved. Reproduction of original articles and photographs in whole or in part is prohibited. This Magazine shall not, without the written consent of the publishers first given, be re-sold, lent, hired out, or otherwise disposed of.

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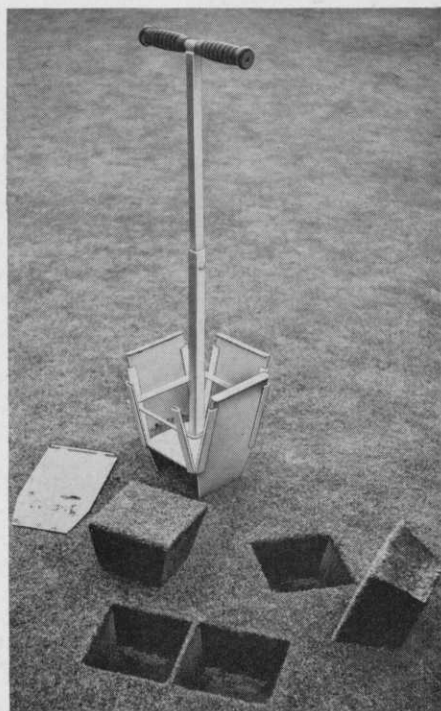
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Perfect holes, perfect plugs. This hole cutter of a completely new design cuts vertically, eliminates wobble, and makes a clean cut simply and quickly.

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Greens can be back in use immediately after renovation.



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Tee Shots

THOSE WHO HAVE booked on the Boston trip will have been notified that the dates are now 7th to 12th or even the 13th January, as the G.C.S.A.A. have very kindly invited us to their banquet on the 11th January. Also the main lecture sessions are held from Monday to Thursday and they wrote to warn us that the original dates would miss some of the best parts of the Conference. Don't forget to get your passports endorsed with a visitors visa.

* * *

This month we reproduce two advertisements from the first volume of the Journal. After sixty years, the papers printed then still make interesting reading, with a difference. The essay competition was judged by Henry Leach who suggested that entries should be limited to 5,000 words. The present generation seem to have less time for writing.

* * *

Golf courses in the Seventies will be designed for women, says C. E. Robinson, President, American Society Golf Course Architects. 'The new golf course of the '70s will ignore the desire of the "heroic" player and will emphasize accuracy and finesse in shot making. Brute strength will become less a factor in the game of golf, and the woman golfer will find herself playing on even terms with men.'

'From a recent poll of Society members, one can draw this general conclusion: "New courses will be shorter and tighter, characterized by narrower fairways and smaller greens".'

This trend in golf course architecture can be attributed to several factors, not the least of which is the tremendous influence of women on the game of golf. Courses are being built with women in mind, simply because they represent an ever growing part of the golfing population. Women golfers have increased in numbers 1,000% since World War II!'

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Designed to keep correct depth of sand in bunker, without pulling up stones and soil

Pushes and pulls easily through dry or wet sand

Described by local greenkeepers as the perfect bunker rake

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RANSOMES - HAHN tournament triplex

It takes less than a minute to convert the Tournament Triplex greensmower to a utility mower to a Verti-Cut to a spiker! The 12-hp Triplex vehicle powers all accessories . . . each of which disconnects by just pulling a pin and disconnecting a quick-couple cable. Literally in less than a minute!

And remember that, because all accessories operate off the standard Triplex vehicle, your total investment in the Tournament Triplex management system will very likely be less than your investment in the four conventional turf maintenance machines it replaces!

Features include: Cuts 18 greens in four hours. All reels up front gives full vision. Easy-to-read dials make variable speed mowing simple. Unique geometric steering of reels. Hydrostatic drive for smooth stops and starts. Individual lifts on each mower reel. Aircraft cable drives are strong, reliable, easily serviced. Excellent climbing power on slopes up to 1 in 3. Reels removed in seconds without spanners. Gravity dump trailer provides fast clean up from all operations.

For full details and a demonstration . . .

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Hon. Secretary's Notes

ANNUAL TOURNAMENT 1973

The Association Annual Tournament for 1973 will be held at the Clevedon Golf Club, Clevedon, Somerset, on the 13th, 14th and 15th August.

Sixty years on: two advertisements from Vol. 1 of this Journal referred to on page 3.

GOLF GREEN COMMITTEES

AND

GREENKEEPERS

who wish their Courses to rank among the finest in the Country

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AS USED AT

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FAIRWAY MIXTURE	30/- & 17/6
WORM DESTROYER	11/6 per cwt.
GRASS MANURE	28/6
LAWN SAND	30/-
MOSS DESTROYER	40/-

Reduced Prices for large quantities.

"THE BOOK OF THE LINKS."

A Symposium on Golf. By
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Face the Winter with Confidence.

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VERMOL Worm Killer

to keep your turf firm and dry under the wettest weather conditions. Have you to economise in upkeep owing to the WAR? Then use VERMOL the great labour saver. 50 saving in labour and dressings.

Very little rolling or sweeping required after using

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This cheap but effective worm killer, after extended trials, is now used by the leading Greenkeepers throughout the United Kingdom which speaks for itself. Are your Greens Weedy? then apply

VERMOL LAWN SAND

A carefully prepared dressing which destroys Daisies, Dandelions, Chickweed, and all surface rooting weeds Is your turf weak? then strengthen it by sowing

VERMOL GRASS SEEDS.

Various mixtures prepared to suit all kinds of soil.

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Practical Sand Slits or 'Sand Injection'

by

G. W. Davison, *Director, Cambridge Soil Services Ltd.*

DRAINS filled with permeable material have existed for many years. Much of the credit for applying this idea to sports turf in the form of sand slits, stems from operations carried out by Harold Clark at Twickenham.* His practical work was soon seen to be of great advantage. Others took up the cause. It became a fashionable theme for popular talks and the idea was swept along by a tide of enthusiasm. As a consequence, words said were not always based on practical experience, controlled experiment or economic sense. It is time for a re-assessment of this very valuable technique.

About a ton of water falls on every square yard of Britain every year. Unless natural permeability is extraordinarily good, every area of sports turf requires a drainage system if it is to remain in good playing condition. The most efficient and cheapest basic method of removing these thousands of tons of water is to have a properly designed underground pipe system. To suggest that a complicated system of sand or gravel slits is a feasible alternative to this principle is usually quite wrong, both from the point of view of cost and efficiency of operation. On the other hand, no pipe drainage system is of use if the water falling on the surface cannot run quickly through the soil to reach these pipes. Therefore, it is essential to have a gravel or similarly permeable backfill above every pipe to within a few inches of the surface.

Even then, unless the topsoil is unusually free-draining, a surface pan can soon form. Mud, and even pools, lie on the surface just because water cannot get down those vital first few inches. It is here that the sand slit is so valuable. However, the water must have a ready outlet from the bottom of each band of sand. Sand slits in any form which simply fill with water obviously do no good. It is surprising how often this point is not fully appreciated.

Having established that sand slitting would benefit an area, how wide and deep are the cuts to be? What distance should be allowed between centres? How are the slits to be cut? What sort of sand is to be used and how is it to be persuaded to go down? How much will it cost? It is in answering these points that pure theory is most vulnerable. Specifications have been made involving literally thousands of tons without sufficient regard for the cost either of the basic material or the labour of handling. Faced with the problem that sand is 'funny stuff' (it just will not flow), it has been suggested that dried sand should be used, again regardless of either the cost; or that dry sand very easily becomes wet sand if there is a lot to handle in bad weather.

Attempts to carry out the work were based on unsatisfactory adaptations of existing machines. The size of slit recommended was based on what these machines could do, rather than what was most desirable. It seems that our team at Cambridge is alone in having spent a good deal of time and (our own) money in systematic trials and machinery development to deal efficiently with these problems at a moderate cost. For example, a conventional blade, 2 inches wide, produces far too much surface 'heave'. Its use usually means that an area has to be re-levelled. A chain type trencher is too slow and handling the spoil increases the cost. We have produced a much swifter working method of installing and filling 2 inch or wider slits but, at the same time, our trials strongly suggest that narrower cuts carried out by a completely different method are, in some cases, producing better results at a lower cost.

Slits, even with spoil removal, as wide as 2 inches may cause 'corrugation' due to

*Under the auspices of the S.T.R.I., Bingley.

The new Atco Groundsman. A cut above other mowers.

Atco introduce two new models to their range of professional mowers. The 28" and 34" Groundsman.

Apart from the difference in their cutting widths, they share the same features.

To start with, they're both fitted with six heavy duty blades which give 81 cuts per yard—an unusually fine cut for their size.

Both have a 12 volt electric self-starter, battery and automatic charging system as a standard fitment. They can be power driven with the cutters stationary by operating a cutter release clutch.

What's more, either machine may be used with or without the optional standard Atco trailer seat.

Another feature is the continuous chrome tubular handle specially designed for added manoeuvrability when turning.

It can be adjusted quickly to suit individual operator heights by means of an instant clamping lever.

There's a new 'swing over' type glass fibre grass box. It is mounted on tubular steel support arms and its lower section is recessed so it can be used with swivel front rollers.

Then there's a large capacity fuel tank which holds one gallon of petrol.

It takes one professional to recognise another. Is it any wonder then that Atco mowers are used on some of the most famous stretches of turf in this country.

ATCO As famous as the lawns we cut.

For full details of Atco mowers write to Charles H. Pugh Ltd., P.O. Box 256, ATCO Works, Birmingham, B9 4PR.



By Appointment to
Her Majesty the Queen
Manufacturers of
Motor Mowers
Charles H. Pugh
Limited.

summer drying-out. For safe use their tops have to be buried and this means the risk of a pan forming above them. Narrower slits are 'bridged' by the grass roots and are held positively in place right to the surface. After all, each slit is only draining the surface area within a few inches. You do not need a 12 inch main to fill a tea-cup! It may be argued that a narrower slit will not last. Again, supported as it is by the grass root structure it holds up throughout the year. When the wider cuts dry out they become yet wider, the sand level falls, the top edges collapse, fill with soil, and their efficiency is seriously impaired.

Of course, none of this is necessary where a good pitch has been properly designed as, for example at Leeds United. The most modern design can give first class playing conditions in virtually any weather. Professional clubs really should aim to have pitches that do not need any type of sand slit. However, such pitches are expensive. Sand slits, or 'Sand Injection' as we chose to call our development, can be of very great benefit on many playing fields, golf courses, race courses and other recreational areas. This intriguing and important technique is worthy of a balanced and methodical approach. Practical contracts can now replace theoretical specifications.

Turning from the general use of this technique to its particular application on golf courses, there are two main types of requirement. A large, economical machine to treat fairways at a reasonable cost and also a small light machine capable of working on greens without damage. Both of these are now available. Many greens benefit enormously by having a localised pipe-drainage scheme installed and the surface sand-injected. The resultant permeability not also greatly improves drainage and playing conditions but also helps in thatch control. It is virtually giving permanent aeration.

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The Davis is a compact, manoeuvrable machine, either on 10 in. cleat tracks or high flotation tyres, ideal for work on golf courses where the treatment of grass surfaces is often critical. Its ability to work hard and fast, and yet not gouge or compact the playing surface, makes it popular for such work as direct burying a pop-up sprinkler system to the green.

Apart from digging clean trenches from 4 in. up, in 2 in. increments, to 12 in. or 18 in., depending on the model, for installing a conventional drainage system, an attachment is now available for the TF500 to dig a 2 in. slit for sand slitting. This was announced at this year's Motspur Park show where it won the bronze medal award.

Every machine in the Davis range of trenchers, whether tracked or wheeled, is equipped with an over centre slip clutch which prevents wear on the drive belt, or shock loads to the engine. A shock absorber is incorporated in the digging boom to prevent damage to the digging chain or teeth when underground obstacles are hit. The drive on all machines is hydrostatic which, by means of a by-pass valve, gives infinitely variable speed control



Davis Trencher supplied by L. D. Bourgein (Oxford) Ltd.

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The Bomford "Bandit" 2500. The widest flail mower in Europe for park, verge and sportsfield cutting.

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Adaptable to any tractor, the unique "chain-knife" flexible system makes maintenance rarely necessary: the cutters are reversible and can eventually be easily replaced.



- 8' 4" cutting width.
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- Working capacity 4 acres plus per hr.
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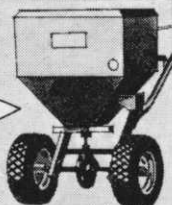
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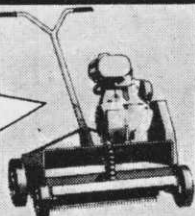
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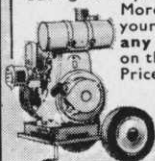
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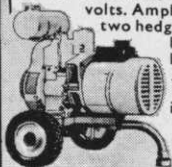
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