considered for quite a number of years past; the producing of vertical bands filled with permeable materials which will then link with the drainage system below.

Early attempts to achieve this used either mole ploughs of some modification, or the smallest dimension of trencher, but there are difficulties with these methods. The mole plough is apt to cause considerable ridging and disturbance of the surface and is therefore mainly suitable when you can tolerate a a wholesale cultivation and reseeding of the ground, and is only suitable in those circumstances. With the trenching machine, the difficulty lies in the quantities of materials which have to be handled, a question of having to move several hundred tons of soil per acre out of the trench and moving several hundred tons of sand back into the trench to make a sand slit. This becomes a very time absorbing and messy operation, very damaging to your turf over which you have to handle and cart these vast quantities of material, and you are often left with a considerable width of slit far in excess of what is needed to carry water away. The size is largely determined by the machine that has made the slit but with a wide slit, you have to cover the scar and reseed it.

The approach which we had in the Cambridge Soil Services to this problem, was to assess certain requirements to make this into as simple a job as possible. First of all, surface water must have easy access into and down through the slit. Secondly, established turf must have as little disturbance as possible which means the cleanest possible cut through the turf with an absolute minimum of ridging due to passage of the implement. Thirdly, we look to economy in the handling of materials which go into that slit, because of the large tonnages which may be necessary per acre and because of the general susceptibility of golf turf to carting materials across them. Fourthly, we look for a ready flow of those bulky materials into the ground and when you consider that the most easily available material is sand which is naturally rather damp, this is not an easy material to flow down through hoppers and through slots, so we are anxious to get the best possible flow with these fairly crude materials.

We arrived at the principle of creating a narrow slit with a vibrating blade. A narrow slit because this is adequate for the passage of water, and is a passage which can be achieved without removing existing soil, often rather a messy operation. A vibrating blade because this makes a very clean cut through turf and secondly, gives a very easy flow of these unfavourable materials like damp sand through the hopper and down into the ground. In our development of this we did look at some of the vibrating blade equipment which is already on the market for creating deep aeration. We modified some of this equipment so that we could put sand down into the ground using this similar vibrating technique.

From there we moved on to a much more comprehensive system. We designed a machine solely for this injection of sand in fairly narrow slits of about 3" - 1" wide and 7" - 9" deep. Since we wanted equipment which would do the whole job fairly quickly, we put three blades on to the machine which we called a Triple Sand Injector. This is capable of considerable outputs of between 1 and 2 acres per day. Making the machinery produce even narrower slits had practical problems such as stones blocking the passage of material into the slit, and this could cause a ripping action of the trench when stones were present in the soil.

Other types of machinery are available. Modification of a hollow tine machine can introduce sand into the holes created in the soil. The cores

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are about ½" wide and 7" deep and 3 ft. apart. Recovery after this operation is quite rapid. We also looked into larger equipment, tractor hauled and powered by the tractor with a special low ratio gearbox, able to put in 3 slits at a time, and fed by hopper at the rear, slits being 4' apart, although by coming back over the same area, the distance between slits can be decreased to the required distance apart.

To give an example of sand slitting technique I may mention one football pitch which was in very bad order. After ensuring the sub-soil drains were in good order, sand slitting was carried out with a simple modified agricultural mole plough. The slits were 2" wide, 12" deep and 4 ft. apart and filled with an artificial aggregate. It was carried out at the period of spring renovation to allow ridges to be eliminated and re-seeding to be carried out. A great difference was then seen in a 12 months period. The operation was successful despite a ½" layer of soil having to be put over the slit, in order to re-seed the area. However, this was sandy soil, and even an 1/8" of wrong soil might seal off the slit. Also, although the soil at the side of the slit is thought of as impermeable, it is in fact not so, and water does enter the slit down its entire length.

To illustrate how quickly an area can be treated, a professional football pitch was treated starting on the Monday, finishing on the Friday and the pitch was played on on the Saturday, illustrating how work can be carried out effectively on an emergency basis and still produce a successful effect.

The process can also be carried out on more favourable soils, where a thin blanket of sand is also spread over the surface of the soil creating continuity between the slits and also to protect the soil from the adverse effects of compaction.

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SISIS Trio-Rotorake (above left) 18" wide. power from 4-stroke 3 bhp engine to reel only.

SISIS Auto-Rotorake (above right) 18" wide, power to the reel and forward traverse

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1974 ANNUAL TOURNAMENT

ISLE OF PURBECK GOLF CLUB, STUDLAND, SWANAGE, DORSET

30th Sept., 1st and 2nd October '74

Mr. E. R. James has kindly furnished the following information for the benefit of members who will be attending the above Tournament. He suggests writing to Swanage Tourist Information Centre, Shore Road, Swanage, Dorset, Tel: Swanage 2885, who will be pleased to offer any assistance for accommodation or supply a copy of the Swanage Guide.

He suggests that the best places, for accommodation with access to the Club would be Swanage, Studland, Corfe Castle or Langton Matravers. The map shown below will assist in locating these places. Train services to Swanage end at Wareham where buses and taxis are available to complete the journey.

Recommended Hotels are:— Knoll House, Studland Bay Tel: (092) 944251.

The Manor House, Studland Bay Tel: (092) 944288.

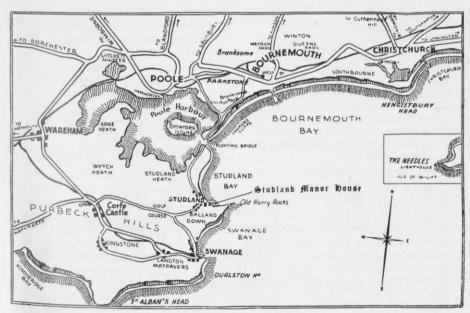
Fairfield Private Hotel, Studland Bay Tel: (092) 944224.

Kings Arms, Langton Matravers Tel: Swanage 2673.

Bankes Arms Hotel, Corfe Castle Tel: Corfe Castle 206.

Greyhound Hotel, Corfe Castle Tel: Corfe Castle 205.

Glebe Farm, Corfe Castle Tel: Corfe Castle 280.



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For full details of Gold-N, contact: England & Wales – Chipman Chemical Co., Horsham, Sussex EH6 7EN. Tel: Horsham 60341

Scotland – SAI Horticulture Ltd., Hortus House, 3 John's Place, Edinburgh. Tel: 031 554 5451/6

N. Ireland – Richardsons (Ulster) Ltd., 1 Short Strand, Belfast BT5 4BS. Tel: Belfast 57424/5/6

Eire – ICI (Ireland) Ltd., 5/9 South Frederick Street, Dublin 2. Tel: Dublin 771831



Deckson Range for Parkers

John Deck & Sons of Smithfield, Australia, announce the appointment of Messrs. T. Parker & Sons (Turf Management) Ltd., as the United Kingdom Concessionaire for the Deckson Range of Mowing Machinery.

Parkers advise that initially they will confine imports to three machines but in due course other models will be added to the range being offered.

The Deckson Heavy Duty 22" Rotary Mower is fitted with a 5 h.p. 4-stroke engine offering ample power for any grass cutting operation. The engine is fitted with an easy spin recoil starter. To aid manoeuvrability and ease of operation the machine is mounted on 8" dia, wheels fitted with double ball races. The mower has a reinforced chassis on to which are fitted 1" dia. 16 gauge chromium adjustable handles. The machine has a single point height adjuster giving positive adjustment between zero and 2½". Cutting width is 22"; the Deckson Mustang Self Propelled Mower, 26" Cut, employs the patent Deckson Drive, forward and reverse. The drive is obtained by the simple movement of a special cone against the machined surfaces of discs. When the cone makes contact with one disc forward drive is obtained, when the other cone is moved to the other disc reverse drive is obtained. The material used for the cone has been developed to withstand a tremendous amount of abuse without appreciable wear and tear. The pressure applied to the cone may be varied by the operating lever as fitted so as to give full or partial engagement (thus permitting slipping). The degree of slip will depend on the pressure applied to the operating lever. Therefore, the ground speed of the mower can easily be regulated

from zero to full speed without altering the speed of the cutting disc. This permits the mower to cope with varying conditions of grass growth.

The Mustang 26" Rotary is fitted with an 8 h.p. 4-stroke engine with easy spin recoil start and will tackle the longest and toughest growth. The machine is extremely robust in construction and is mounted on puncture-proof types, all wheels having double ball races. Saving in time to the operator using this machine is helped by virtue of the fact that the design disposes of the need for a conventional gear box and has instant for-

ward and reverse traverse.

The Deckson Professional Standard Mini Tractor, powered by 7 h.p. or 8 h.p. 4-stroke engines, is available with easy spin recoil starting or electric starting (optional extra) and is supplied fitted with a 28" Rotary cutter. The tractor has complete manoeuvrability with hand lever selection for instant forward and reverse without any grating of gears. The Deckson patent drive referred to previously is employed on this unit. The tractor offers a clear view of mowing with the engine rear-mounted. The tractor is extremely stable on slopes, having a low centre of gravity with the operator's seat being only 19½" above ground level. The tractor fits large 71" wide rear tyres which give positive traction. Safety is an inbuilt factor of the Deckson and the tractor has a parking brake. The 28" Rotary cutter offers a fully floating action thereby reducing scalping absolute minimum. machine has instant height of cut adjustment zero to 3½" by lever control. The same lever in safety overlock disengages the belt drive and applies to the cutter head which is always in correct tension and never requires adjustment.

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FRIGHT

Patrick Smartt

All of us have suffered fright on a golf course. Fear of winning, fear of a good score when facing the last few holes, fear of missing a putt. Even driving off the first teeing ground in front of even a meagre group of spectators can intimidate some.

Others are encouraged by onlookers. That is often a matter of pride. A desire to show them you can play the shot. It is nowadays put down to the adrenalin flowing—the meaning of which is not within the knowledge of

this ancient one.

Inquisitive as ever where the mind controls the player, why is it that a certain hole, no matter the course, defeats the player? There will always be some hole that one would rather not tackle. J. H. Taylor has a strong dislike, forcibly expressed, of the Road Hole at St. Andrews in the days when it was more fearsome than now. Why should it be that a hole we have played countless times suddenly strikes terror into the soul?

Perhaps one or two disastrous errors lodge in mind, and confidence evaporates. It becomes a spectre, approached with a sinking heart.

There is little purpose in trying to get the player to relax, to concentrate on a smooth swing. He has conditioned himself to expect doom. The shaft feels as if it were made of concrete; the head feels like one of: "The

Old Oaks of England."

It can be any hole, but the last, if the score is useful, causes the most casualties. The player gets an attack of the 'must' fever. Must have a five here. Must have a good drive. Must have a good second. Must lay the approach dead. The root cause is the sequence of the hole. The player is 'riding a finish'. Onsets of fright seldom concern an entire hole. They nearly always involve the drive. The mind centres on a particular bunker, beckoning emphatically, or a carry. The cause is close to the chicken and the egg, which starts what?

As a very junior official in a small colony, whenever H.E. the Governor happened to be playing immediately ahead, it did not matter which side of the fairway he was, I either hooked or sliced in his direction. Eventually I took care, under no pressure from him, either to start before or two matches behind him. Had he been straight, I might have learned accurate driving earlier.

Living on a course at which several holes call for a carry over deep ravines, used by smugglers from the coast in days gone by, it has become obvious that these disturb the handicap player more than anything else. As he stands on the teeing ground, that gorge expands in the mind's eye

far beyond its actual width.

The player's antennae, or if you like, his radar has ranged on a spot which should not come into reckoning. These holes do not pose the question of playing short, or going for the carry. It is questionable if they are more than 100 paces from the man standing at address, and perhaps 30 yards from bank to bank. If the ground were level there would be few mishaps. In some respects that fright is understandable, but not the sudden mental block after playing confidently for years.

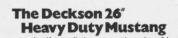
A player may be a reasonable judge of distance when it comes to estimating his second stroke or an approach, but present him with a carry of the kind described, and his morale descends to the depths—like his ball.

No doubt a 'trick cyclist' would provide an answer. Personally, I found there was only one cure. Take a dozen balls, metaphorically roll up one's sleeves, and like a boxer enter-

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Cutter speed stays constant, even at slow ground speed under heavy conditions.

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