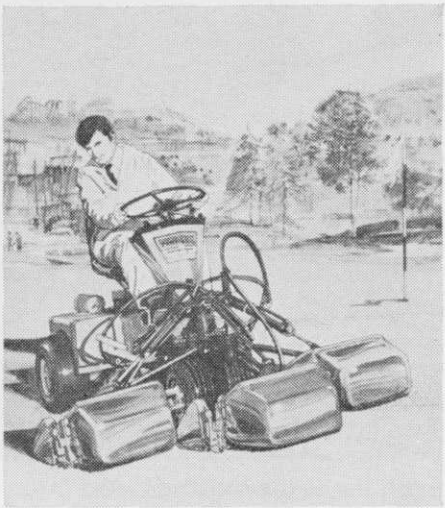
Cut grass and capital outlay with Ransomes new Leasing Plan

How often have **you** encountered the age-old problem ? Not enough of the 'ready' when it's most needed. You see grass machinery which you **know** will cut your costs and labour times . . . yet absence of available capital prevents you investing in it.

Ransomes Leasing Plan solves your problem. Obviously you still have to pay . . . but you **pay** as you **save** . . . and this easily operated system enables you to get to grips with annual cost-effectiveness and work study analysis. In short . . . it is the **simple** method for you to get what you want **earlier**; to make sensible savings sooner!



RANSOMES LEASING

Please send full details of Ransomes Leasing Plan.

Name.....

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Ransomes Leasing Co. Ltd.,
Nacton Road, Ipswich, IP3 9QG

It has a large wheel which revolves at high speed and has a large number of small percussion hammers, which are similar to those used on the rock chain. The only disadvantage of using any of these machines is the relatively high maintenance costs. In addition, after cutting the trenches the bottom must be levelled and any sharp objects removed. If the pipes are to be laid in very rocky ground it is essential to ensure that at least 2″ of sand or graded soil is laid under and over the pipes. To safeguard the pipe and control cable it is advisable to allow the back fill to settle over a period of several weeks. Whilst it is appreciated that the ground staff will want to effect reinstatement and re-seeding as quickly as possible, the tendency to roll and ram down trenches should be avoided as any uneveness in the trench bottom will result in fractured pipes.

Moling in

Understandably the cleanest and quickest method of laying pipes is by mole plough. There are a number of sophisticated machines on the market which employ a four wheeled drive vehicle with a vibrating plough mounted on the rear. The only disadvantage with this method is that on wet or soft ground the vehicles may develop wheel spin and tend to slough about. This is particularly noticeable when this machine is called upon to lay pipes of 2″ or larger diameter at depths in excess of 2 feet. The alternative, particularly on hard or heavy ground, is the mole ploughing technique of using a heavy tractor fitted with a winch and a separate mole plough which is simply pulled through the ground. Mole draining has been practiced for a number of years and the mole plough used is a straight adaption. To pull in the pipe an expander, of larger diameter that the pipe, is attached behind the mole with the pipe clamped behind the expander and then pulled in behind the plough. The control cable should always be fed in from the top, down a cable shoot so that it is laid. If pulled in behind the pipe the resulting tension in the cable can cause breakages as the cable expands and contracts with variations in temperature. This will particularly apply if cable is laid when the ambient temperature is extemely high, for once winter sets in and the ground freezes the cable will start to shrink. If the cable is laid taut in the ground there is a likelihood of fractures resulting.

Materials and Joining Methods

Water pipes can be categorised into three main groups, namely metal, cement and plastic.

In the metal group are:

galvanised steel
cast iron
stainless steel
copper

Of these 4 galvanised steel is the most commonly used today. Its great disadvantage is its almost unpredictable life expectancy which varies according to soil conditions and water hardness. The latter being the predominate hazard due to the build up of deposits which restrict the flow and after a number of years can result in the system pressure being insufficient to operate the sprinkler system. An acid soil will attack the outside of the pipe and the corrosive effect can cause failure after only two years in service. Generally, however, a life of up to 25 years can be anticipated. The handling of this type of material is very often difficult because of its weight, particularly in the larger sizes. Jointing is achieved by threading and it is of course where the pipe is threaded that the protective galvanised coat is destroyed and corrosive attack occurs.

Cast iron pipes are now very much out of fashion because of their weight and difficulty to joint, as well as of

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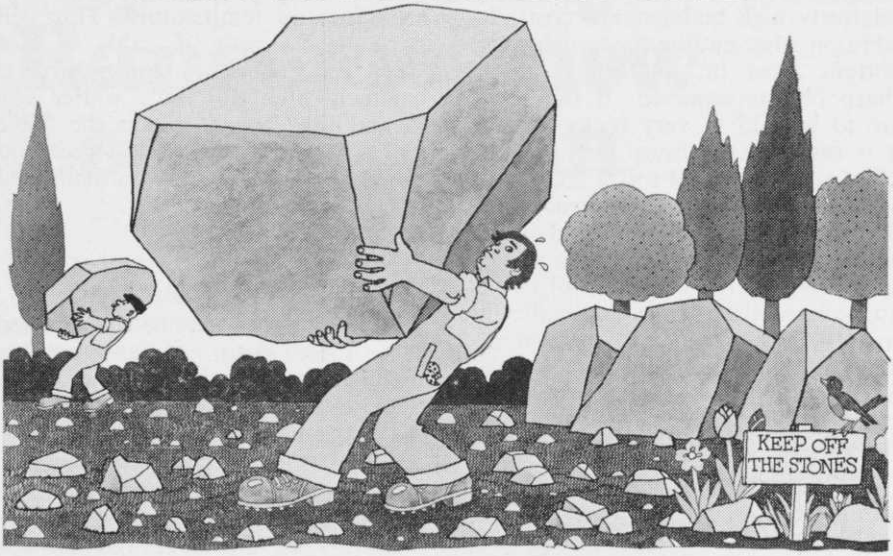
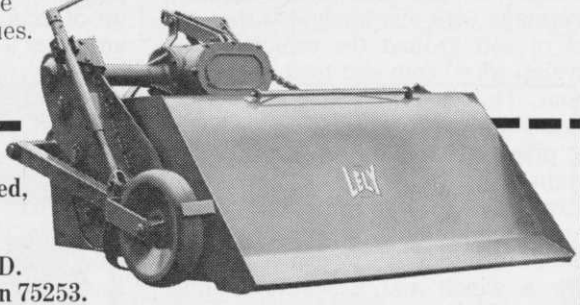


Buryvators' extra-fine screen means it can bury stones, from the size of golf-balls to house bricks, well underground. Coarse soil and vegetation covers them, and crumbled filtered soil tops it off leaving the ideal seedbed. Buryvator Cultiseeder adds a fertiliser-spreader and a seed-drill to do the whole operation. And all in one run by one man.

Lely gives you the greens without the blues.



To: Lely Import Limited,
River Lane Works,
Great Paxton,
Huntingdon PE19 4RD.
Telephone Huntingdon 75253.
Please send the Buryvator facts.

name _____

position _____

address _____

_____

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YEAR AFTER YEAR

course the expense of casting. Jointing is achieved by either flanges or collars which are leaded on site. The latter being a technique which requires a great deal of skill only practiced today by a limited number of plumbers.

Stainless steel and copper, whilst having extremely good corrosion resisting properties can be virtually discounted due to their extremely high cost.

The second group is cement, which is a pipe manufactured from cement, asbestos and silica. The smallest diameter available being 4″ and thus it is not frequently used. It is joined by using compression couplings with rubber 'O' rings, alternatively it is supplied with spigots and sockets which are cemented together. The latter material necessitates the pipe being held rigidly in the trench and thus on sizes below 6″ it is not recommended. The compression fitting will allow a deflection of 3 to 5 degrees which will provide ample flexibility for soil movement, also contraction and expansion. Of course with the cement joints expansion and contraction has to be allowed for.

The final group is the plastics, which comprise the most common in use today. There are three types in this group, namely polythene, Acrylonitrile-Butadiene-Styrene (ABS) and Polyvinyl Chloride (P.V.C.).

Polythene was until recently commonly used as it is extremely flexible, being supplied in coils of varying lengths, thus requiring a minimum of jointing and being easy to mole plough. Its other great advantage is excellent impact strength and a great immunity to rupture from freezing. The disadvantage is however the difficulty to obtain sound jointing as a compression fitting is required with insert. The problems arise when the pipe is put under pressure because any deflection in the pipe will tend to pull the joint apart. A further disadvantage when used on turf watering systems is that its flexibility makes it difficult if not impossible to do a workmanlike job when fitting sprinklers, as its tendency to move results in the sprinkler leaning or rising in the ground so that it fouls the mower.

ABS is finding popularity in the plumbing and ventilating industries as being manufactured from materials used in the production of synthetic rubber it has excellent chemical and physical properties. Namely it is heat resistant to a low extent and has a fairly high resistance to chemical attack. Jointing is by solvent weld, or in the case of thick walled pipe, threading.

The final and most commonly used type is P.V.C. This is derived from coke, lime and salt. It is undoubtedly one of the toughest and most durable thermoplastic pipe made, primarily because of its higher strength and resistance to a greater variety of chemicals. It has been in use since 1940 in various forms, particularly when a plasticizer is used, which results in a flexible end product such as hose. When manufactured as pipe an unplasticized compound is added resulting in a semi-rigid end product. Jointing is achieved by solvent weld or in the case of thick walled pipe, threading.

The solvent weld should always be done when the pipe is both dry and clean. If necessary, the pipe and fitting should be cleaned with a thinner, or rubbed thoroughly with an abrasive cloth. The solvent should then be applied to the pipe spigot, then the fitting and finally to the spigot for a second time. The two should then be pushed together firmly and held for at least ½ minute. The solvent should be applied evenly and with a thin coat. Too thick a coat will weaken the pipe. Any surplus solvent should be wiped from the pipe. The pipe should then be left to lie undisturbed for at least 30 minutes and in the case of 2″ and above, pressure should not be placed on it for at least 24

Continued on page 19

NEWS

Significant savings in labour and water consumption have resulted from the installation of a fully automatic irrigation system at Aspley Guise and Woburn Sands Golf Club. The installation was designed and installed by Robert Sandow (Calf Glade Ltd), using Rainbird equipment supplied by Plastic Tube & Conduit Company Limited.

The course at Aspley Guise has considerable variety in height and soil types ranging from sand to clay. These differences have meant that in the past staff have had to work virtually during the night during the summer to ensure that the correct amount of water has been applied to each green, without disturbing play.

Now the system can be set to operate daily or as infrequently as once a fortnight and left to carry out irrigation completely automatically. This is achieved by the use of a Rain-Clox 8 controller, which can handle eight stations, switching on when required, for a pre-set period, on the days which have been chosen over a 14-day cycle.

Each station is completely independent so that the requirements of each area can be catered for separately. The automatic control can be overridden if necessary, should there be a significant change in the weather.

The water is distributed through a uPVC pipe system from a reservoir at the highest point on the course by a 25 h.p. motor which ensures delivery of the correct amount of water at the required pressure to each green. Each green has four RainBird pop-up impulse sprinklers pre-set to oper-

ate only over the sector of the circle which covers the green. Each sprinkler can apply up to 5 gal/min, with a throw of 50 ft. . . .

Cooper, Pegler & Co. Ltd., announce that because of increased demand for the "C.P.3" 4-gallon Knapsack Sprayer it has become necessary to expand their production facilities, and offices, warehouse and works are now being extended to enlarge the premises by about 80%. It is hoped that this extension can be brought into use early in April 1974.

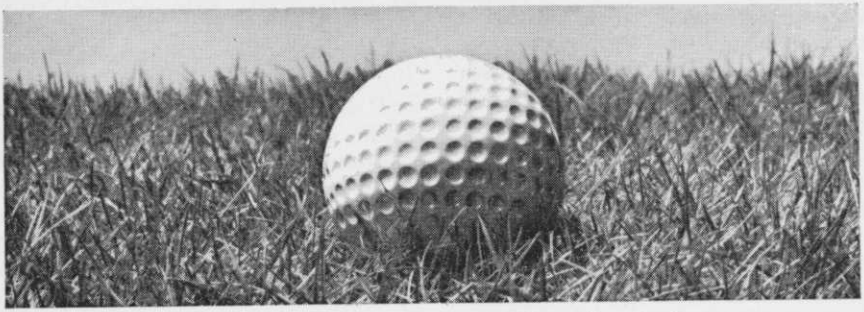
Chelwood Tool Company design and manufacture Rakes for specific purposes. A Greenkeeper's Bunker Rake, for Golf Courses is designed to give the correct depth of loose sand in the Bunker. It is 28" wide, has eighteen teeth and it catalogued as No. 18S.

The Rake listed as 27L is suitable for cleaning the Bunkers and drawing the loose sand up the sides of the Bunkers.

The No. 6M. Rakee is a one handed free standing Member's Rake which received an award for the Best Introduction at Metspur Park 1973. . . .

Richmond Gibson Ltd., of Grantham, Lincs. have added two towed Driftmaster units to the original three hand models they manufacture. The smaller TD 36 is based on the M 36, and has a three foot roller and a tank capacity of 5 gallons. The TD 100 has a 22 gallon tank and the rollers are adjustable between 81" and 105". The TD 100 can be towed by both mini tractors and agricultural type units. As an optional extra a set of road wheels is offered for ease of transportation between locations. . . .

Keep turf at its best -all season



with a single feed from new Gold-N

Gold-N is completely different from conventional turf fertilizers. Following an initial boost of nitrogen, it supplies this vital nutrient slowly and continuously over a period of 3 to 6 months. All from a single application!

Constant Quality

This steady supply maintains turf at its best. Keeps it thick and green. There isn't the intermittent "too lush, too little" effect of more soluble fertilizers. And because Gold-N resists leaching in wet weather, grass vigour is maintained even on free-draining soils, golf courses, public open spaces and reclaimed derelict sites.

It's Consistent

Gold-N minimises scorching, tolerates variations in temperature and moisture. And because it's made to rigid specifications, every bag is as good as the next. It's easy to handle and spread – by hand or machine. And it's hygienic so there's no danger of the diseases associated with organics like hoof and horn. What's more the nitrogen content is virtually all usable.

Superior Performance

Gold-N saves money by eliminating leaching and other wastage. It works economically in situations where perhaps five or six dressings of the usual fertilizer would be required – keeping time and spreading costs to a minimum and increasing playing time. It will help to transform sparse growth areas to lush swards in one or two seasons and after only one application per season.

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

NEW **Gold-N** keeps grass lush and green ICI

hours. After joining it is advisable to leave the pipe in the air to dry for at least 4 hours, as burying too soon has on occasions resulted in the pipe failing after a year or two in service.

The solvent when applied correctly attacks the pipe and causes it to melt. When two 'melted' areas come into contact and are allowed to set, the resulting weld should be the strongest section in the pipe as it has double wall thickness.

Control Cable Installation

The control cable is normally installed with the pipe, either by mole ploughing or by trenching. Due to the high coefficient of expansion of copper it is essential that the cable is not pulled tight, but is left with expansion and contraction coils. When jointing the cables, care must be exercised to ensure that the joints are watertight and that there are no leakages to earth.

Although solenoids used on irrigation systems are rated at 24 volts and require a current varying between $\frac{1}{4}$ and $\frac{1}{2}$ amp, it is advisable to check and recheck the joints to ensure the resistance is minimal.

Control Installation

Following on from the cable installation comes the installation of the control equipment.

In addition to the irrigation programmer the installation also requires a pump starter, which is controlled from a signal put out by the irrigation programmer. It is also essential that a mains fused switch is incorporated in the circuit so that all the control equipment can be isolated for maintenance.

Finally it is essential to bear in thermoplastic pipe made primarily be-mind that in any pump house, there is an abundance of water and that this coupled with electricity can be lethal; thus always ensure that each component is properly earthed.

COMMISSIONING

After the system has been installed and before the sprinklers are set in operation it is essential that all the pipelines are thoroughly flushed of all stones and other matter. The more thorough the flushing the less trouble with blocked sprinklers will result during the commissioning period.

In general the commissioning should be carried out in close collaboration with the Green Keeper who will be responsible for running the system as it is during this period that invaluable experience can be obtained. Commissioning should not just mean running the system to ensure that it works, but also checking the coverage and precipitation on each irrigated area because although nozzle settings to meet the original survey notes may have been installed, a final adjustment is often called for. Commissioning may therefore need to extend over a period of one or two weeks, so that an accurate assessment of precipitation patterns can be made prior to the system being handed over.

SERVICING

In general the system should require a minimum of service.

The Green Keeper should ensure that the grass around each head is kept well trimmed to avoid interference with the jets.

On a new installation the turf may settle after the installation has been completed and if necessary the level should be made up to ensure that the sprinkler head will not foul the mowing machine.

With sprinklers of the impact type a regular check should be made to ensure that there is not a build up of sand, etc., in the casing which can damage the bearings.