CHAPTER IX

BOWLING GREENS

Measurements and Specifications—Constructing a Green without a Foundation—Working up a New Green—Weeds—Feeding a Young Green—Worms—Watering—Fertilising—Moss—Sea Sand—Mowing —Renovation—Rolling—Conclusion.

Measurements and Specifications

The making of a Bowling Green calls for expert work, knowledge and supervision, for such costs anything up to £1,200, according to the specification. The green itself measures 126 feet square, it is surrounded by a ditch 12 in. wide and a turf bank rising from the outside edge of the ditch 12 in. above the surface of the green and falling back 5 in., and surmounted by a 12 in. level turf verge. Then comes a 6 ft. path with a 3 in. camber, another 12 in. turf verge, a 6 ft. flower border, and finally a hedge or boundary fence. See section, page 80.

The Bowling Green itself should be made as follows :— Excavate the site to a depth of 12 in., getting the bottom out to a rough level, then lay 13 parallel lines of 2½ in. drain pipes 9 ft. apart, and a 4 in. drain around the green and in the centre of the ditch, taking care that the 2½ in. drains fall to the 4 in. drain, and the latter is given a clear outfall.

The ditch boards, 6ft. by 1¼ in. should now be fixed to a series of pegs 18 by 3 by 1½ inches, driven in at 5 ft. centres and kept in position by dwangs or spreaders 12 by 3 by 1¼ inches, fixed between each pair of pegs.

Put in a 4 in. bottom of broken stone or brick rubble and ram hard, and at the same time an equivalent quantity of rough ash in the ditch in order to prevent the ditch boards being forced out of alignment ; follow on with 3 inches of rough ash, 3 inches of fine ash, ram and true level.

The green is now ready for turfing or seeding as the case may be—see Chapter XIII or XIV. If turf is used all visible weeds should be removed before it is laid. Some constructors float it on an inch of sea sand, but others lay

it direct on the final layer of fine ash. It is obvious that, after going to such heavy expense in the making of the green, only the finest Cumberland Marsh turf should be used, cut in squares of 12 by 12 by 1½ inches.

If the green is to be sown with seed, it should be completed with a 3-inch layer of specially prepared soil made up of the best loam obtainable, adding two tons of pulverised chalk, and as much sand as may be necessary to keep it free and open, and twenty loads of well-rotted dung. The whole to be thoroughly mixed and screened in order to exclude all stones and rubbish. Spread the soil over the surface and tread, roll and rake the same until the surface becomes quite firm, fine and absolutely true.

Sow the seed on the raked surface at the rate of two ounces per square yard, rake in two directions in order to cover the seed, and finish off with a light roller.

In order to get the best results from a sown green it should be completed and sown, if the weather is favourable, some time between the middle of August and the middle of September, with a view of playing on it the following season.

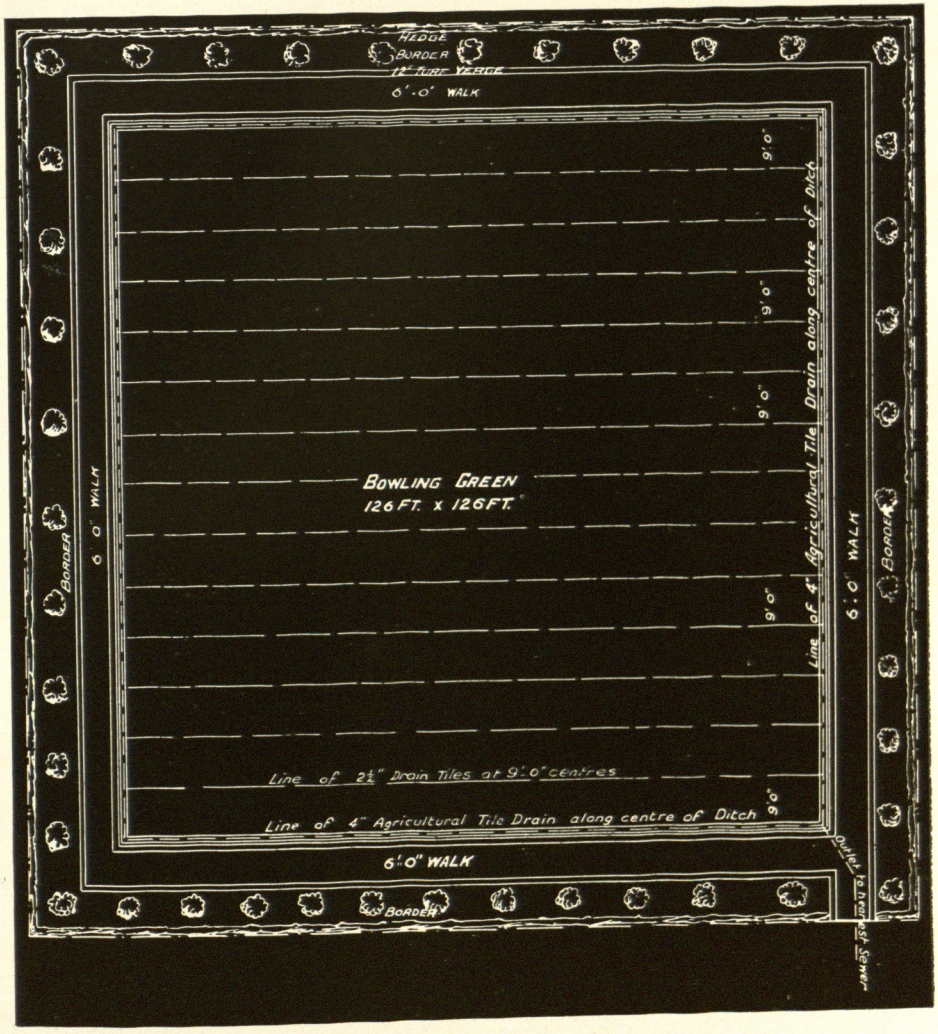
In the case of turf, it should be laid in September or October, or possibly in the Spring, but this or Spring sowing is not recommended, as we so frequently experience such long spells of cold, dry winds, which stop the turf from rooting and knitting, and the seed from germinating.

Construction of a Bowling Green without a Foundation

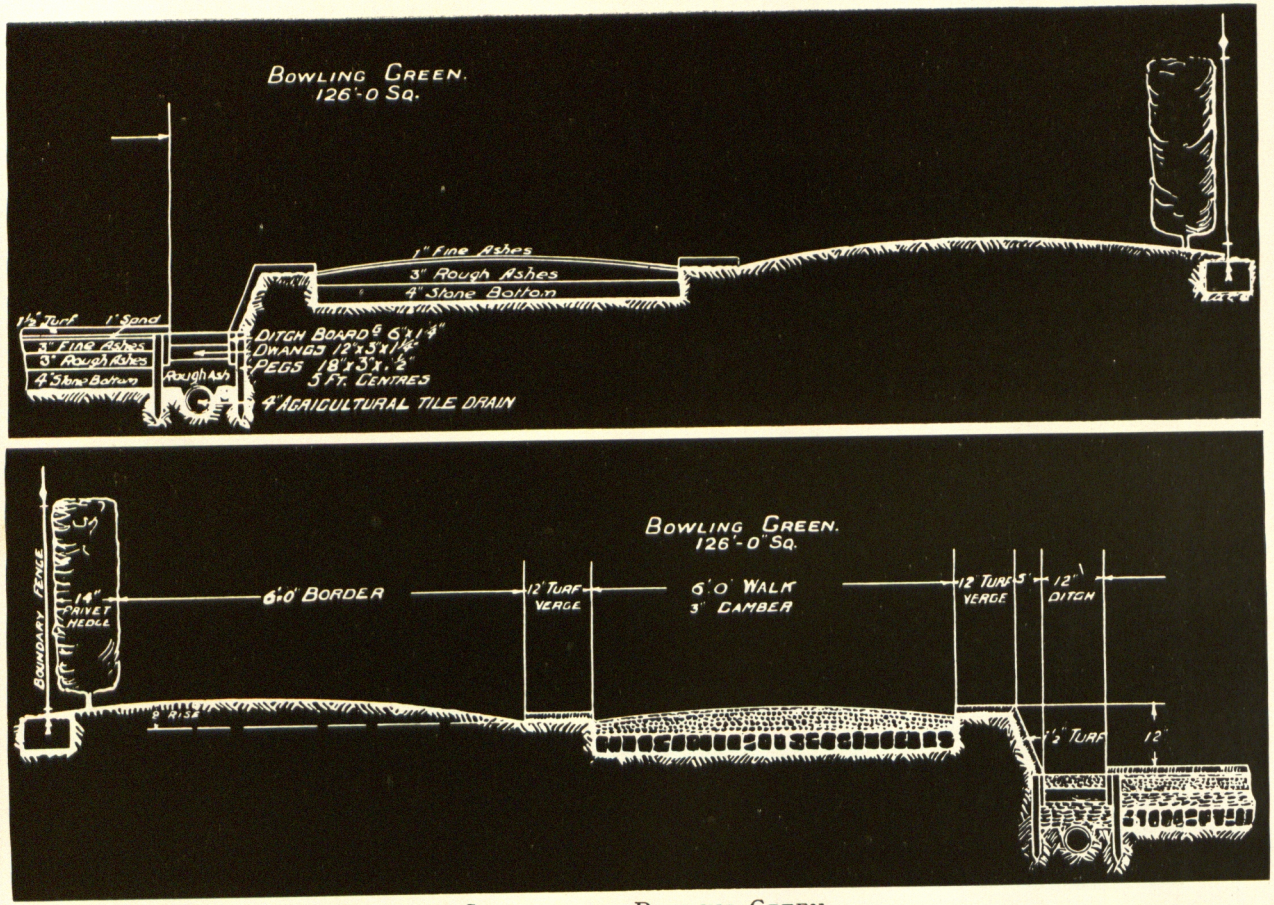
I do not know who originated the very elaborate and costly standard specification, but unquestionably it has become accepted, and most Clubs feel that if they cannot have a Cumberland turf green with a proper foundation, they had better not have one at all. There must be, however, a great many who have the desire to play the historic game, but cannot finance such a grandiose undertaking, and it is for their benefit that these few lines are written.

The game itself does not demand a foundation of such prodigious strength, and as it is only played in the summer, the elaborate system of drainage is wholly unnecessary if the natural drainage is good.

The composition of Cumberland turf is well known, it can be produced from seed quite easily, and be ready for play, provided that it is sown at the right time, given normal seasons, in about nine months.



PLAN OF A BOWLING GREEN



Section of a Bowling Green

When making a green without a foundation, assuming that the natural drainage is good, all that need be done is to level the site with the subsoil, and then cover it with a layer at least 3 inches thick of specially prepared soil, and sow in the way explained above.

A ditch fitted with ditch boards can be put in if required, and the surrounding ground laid out to suit individual taste. The cost of the seed works out at about 10 per cent. of that of the best turf, and the whole green at a third or less of one laid on a foundation and finished off with Cumberland turf.

Working up a New Green

When the green is made so far as the construction is concerned, it is by no means finished. It is a living thing, and as the turf is expected to live and thrive under the most trying and artificial conditions, it is very obvious that its condition from season to season will depend on the weather and the treatment it is given.

It is almost impossible to foresee and legislate for every contingency that may arise in regard to the upkeep of Bowling Greens as they are made to various specifications, and there is a tremendous variation in their age, locality, local weather conditions, soil, etc., etc., but the following notes contain sufficient information for an intelligent greenkeeper to solve any problem that may present itself in regard to the green under his management.

Weeds

No matter whether the green has been laid with the very best Cumberland turf or sown with the highest quality grass seeds, a crop of weeds must be expected, and they must be carefully removed as soon as they show themselves, and the turf or the young grass carefully worked up until it is sufficiently strong for play.

The common weeds found in Cumberland turf are Plantago coronopus, star or buckshorn plantain, a tap-rooted weed growing in the form of a rosette with foliage resembling the antler of a deer ; Plantago maritima, easily recognised by its thin strap-like foliage of a deep olive green, which glistens in the sun ; Armeria maritima, sea thrift or sea pink, a tap-rooted plant which grows in the form of a rosette with narrow pointed foliage.

These weeds should all be removed by hand by means of

a three-pronged grubber, and the holes carefully filled up with sand or sifted soil mixed with a little of Carters Silloth turf mixture of grass seeds, see Supplement. Trifolium repens or wild white clover is also present, and if the turf is dressed regularly with phosphatic fertilisers such as Bone Meal, it quickly spreads and forms dense patches, which spoil both the look and the play of the green. The clover can be eliminated easily if it is frequently cut close with a scythe when the sun is hot.

Poa annua is undoubtedly the most destructive and pernicious weed that attacks Cumberland turf, and, unless it is eliminated, before it gets a good hold, it will quickly take possession of the green, and spoil the quality of the turf.

Other weeds foreign to the turf, but natural to the neighbourhood, will surely gain an entrance from time to time, and as the subject is so important, I make no excuse for devoting the whole of Chapter XV to it.

Feeding a Young Green

It is plain that a young green should be treated very gently, particularly if produced from seed, and nothing liable to burn or force should be used.

The best material to use is Carters Compound Mulch, Malt Culms or Kiln Dust, or several light dressings of Carters Complete Grass Fertiliser No. 2, mixed with sifted soil, compost or sand.

Worms

When Carters Wormkiller was invented, and I first advocated the destruction of worms as far back as 1902, it was regarded as an act of lunacy. It was argued that worms were natural to the soil and turf, improved the surface drainage, and did nothing but good, and that if they were destroyed the turf would surely die.

I argued that they were just as much a pest to the groundsman as wire worms or green fly are to the gardener ; that they did not assist in the surface drainage ; on the contrary, by their constant movement they puddled the soil and made it soft and wet ; their slimy casts smothered the fine grasses and formed a veritable hot-bed for weed seeds ; that their removal was imperative in turf used for games of skill ; and last, but not least, they made the turf so tender and rotten that it wore out very rapidly.

BOWLS—FIRST TEST MATCH, ENGLAND *v.* AUSTRALIA, AT FOREST HILL.

SUNNINGDALE BOWLING GREEN.
PRODUCED FROM CARTERS TESTED GRASS SEEDS IN EIGHT MONTHS.

I not only argued these points, but proved them, and can point out hundreds of greens that have not had a worm in them for the last twenty years.

It is pretty obvious, and now generally accepted, that the worms must be destroyed, and the only efficient way to do it is to dress the green with Carters Wormkiller at the rate of ½ lb. per square yard, or 8 cwt. for a full-sized green 42 yards square, during a settled spell of warm, wet, dull, misty, muggy weather with the wind in the south or south-west, and water it in, using as much water as possible. See Chapter XX.

Watering

Owing to the fact that the turf is laid directly on sand or cinders, it is obvious that it will rapidly dry out under the influence of dry north or east winds or hot sun, and if the roots of the turf are allowed to dry the turf suffers, although it may not show immediate signs of it.

Apart from this, if the turf once gets thoroughly dry it is difficult to saturate it completely or evenly. The water penetrates in places and not in others, with the result that the grass becomes weak and dies out in patches. The weather should be carefully watched, particularly in the Spring; and should it turn dry, water should be applied in sufficient quantity to keep the soil moist. If by chance the soil dries out and water will not penetrate, open up the surface with Sarel's Patent Spiked Roller, and so allow the water to enter.

The best means of applying water is by the use of the Carter Sprinkler, which has no moving parts, and can be pulled about the green by a cord without damage to the surface and without turning off the water. The Sprinkler throws up an immense quantity of water in a mist-like spray, and thoroughly drenches an area up to 30 feet diameter in a few minutes.

The rose piece is made with four spray adapters which are interchangeable, and can be regulated according to the pressure of water. See Supplement.

Fertilising

The usual method is to give a green a good feed in the Spring and possibly another in the Autumn, but it is left to do the best it can for itself during the playing season. This is obviously wrong, the turf wants the most

help when it is making the greatest effort, and that is when it is in growth and play. In my opinion the turf should be fed on the principle of a "little and often," with light quarter-rate dressings given every two or three weeks. If this system is adopted the quantity of fertiliser used will be so small that it will be necessary to mix it with four to eight barrow-loads of finely screened compost or sea sand in order to increase its bulk and facilitate its even distribution, passing the bulk before use through a fine screen with the double object of completing the mixing and excluding any small stones, etc., that it may contain, and of course it should be broadcasted by using a Graduator Distributor and watered in unless the weather happens to be showery.

As most greenkeepers have their own views on the fertilisers to use, a classified list will be found in Chapter XIX, the quarter-rate quantity given against each being the maximum amount that should be used at a time on the "little and often" principle. It should be remembered, however, that fine turf cannot stand being dressed frequently or heavily with highly nitrogenous fertilisers such as Sulphate of Ammonia, and if this is used, particularly on Cumberland turf, Poa annua, the little weed grass of the hedgerows, will certainly make its appearance in the green, and eventually smother out the finer grasses.

Moss

This is usually caused by poverty, lack of lime in the soil, or acidity brought about by the excessive use of raw fertilisers containing acids or salts; or soil stagnation. The presence or absence of lime in the soil can easily be ascertained quickly and without any trouble or knowledge by the use of Carters Lime Testing Outfit, see Supplement. If poverty is the cause, feed up the turf, but be gentle with it until it begins to gather strength.

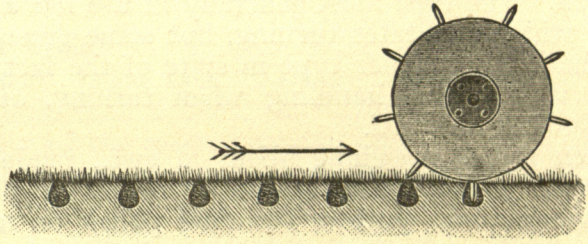
The soil may be deficient in lime, if so a Winter dressing of shell compost or Pulverised Chalk should be applied at the rate of 1 lb. per square yard, or 15 cwt. for the green.

Should acidity be to blame, change the system of fertilisation and dress with Shell Compost or lime, whilst soil stagnation can be corrected by the use of a Spiked Roller.

A Winter dressing of Ground Wood Charcoal is also to be recommended for mossy greens at the rate of 1 lb. per square yard, or 15 cwt. to the green.

Sea Sand

Should the surface of the green show any sign of becoming bound or capped, open it up with a Spiked Roller and then apply sea sand passed through a fine screen in order to exclude any small stones likely to damage the woods, at the rate of one cube yard per 200 super yards or say 8 to 10 yards to a green, applied if necessary in two dressings.



SECTION SHOWING SHAPE OF INCISION MADE BY SPIKES.

Mowing

Use a sharp, easy-running machine with a thin sole plate, vary the direction of the cut in order to prevent the grass from lying down and forming a nap, and above all keep it short all the year round, and under no circumstances allow it to get long or rough.

Grass can, and should, be cut at all times of the year, provided only that it wants cutting and there is no frost about. See Chapter XXIV.

Renovation

At the end of the season any dead or weak places must be repaired either by cutting them out and relaying with turf, or else by sowing seed.

If the latter method is adopted, give the green a full dressing of No. 2 Fertiliser, see Supplement, using 1 cwt. mixed with four barrow-loads of sifted soil, then rake the thin or dead areas with a sharp, close-tined, iron rake with care and judgment so as to open up the surface soil without doing more damage than is necessary to the existing turf. Sow the raked areas with Carters Silloth

turf mixture of grass seeds, see Supplement, at the average rate of from a half to one ounce per square yard, according to the state of the green, sowing the seed thickly where the turf is dead or thin, and thinly where it is fair to good. Cover the seed with a sprinkling of finely sifted soil or compost mixed with sea sand. Rake again so as to work in the seed and spread the covering soil evenly, and finish off with a light roller.

Rolling

The best implement to use is a water-ballast roller, so that the weight can be varied according to the condition of the soil. The type most generally in use has a double cylinder which facilitates turning, but some greenkeepers prefer the single-cylinder type in spite of the fact that it requires very careful handling when turning, otherwise it will damage the turf.

Wooden rollers, weighing about 2 cwt., made up in one section, 3 or 4 feet long and 12 inches in diameter, are very useful for putting the final polish on a green, particularly if used after a double-cylinder iron roller, as this type is reputed to leave minute ridges if the cylinders gape apart, see Chapter XXVI.

Conclusion

It is relatively easy to keep a Bowling Green in first-class condition provided that it is given appropriate and adequate treatment, but it is more or less a difficult job to work up an exhausted one, consequently I cannot too strongly recommend my readers to watch their greens carefully, keep them free from weeds and worms, and use Fertiliser, Pulverised Chalk, Shell Compost, Sand, Charcoal, etc., as is necessary to keep the turf in good health, and not wait until it shows unmistakable signs of going back, because then it will be too late if trouble and expense are to be avoided.