



Clubhouse at Scioto where the Stars and Stripes and the Union Jack will flap during the Ryder Cup matches. The U. S. G. A. emblem flew here during the National Open of 1926.

Expert Advice, Modern Machinery, Save Fortunes for Clubs

By DR. A. MAC KENZIE

EXCEPT WHERE the course has been designed and the construction work supervised by the modern golf architect, there is hardly a golf club of any size which has not frittered away hundreds of dollars in doing bad work, all for the want of the best advice in the first instance. There can be little doubt that the poorer the club the more important it is for it not to waste its small funds in doing the wrong kind of work, but to get the best possible advice from its inception.

A well-known club, in forming a golf course, stated that the committee have decided to lay it out themselves, as they were afraid of a golf architect making it too difficult for the average player. Now this is precisely what the modern golf architect does not do; he, in particular, adopts a most sympathetic attitude to the beginner and long handicap player, but at the same time attempts to make the course interesting to all sorts and conditions of players. It is characteristic of the modern architect that he always leaves a broad and pleasurable road that leads to destruction—that is, sixes and sevens on

the card of the long handicap player—but a straight and narrow path which leads to salvation—that is, threes and fours for the plus man.

The writer once stayed at a golf club situated in most delightful sand-dune country which he chose for his holiday in great part owing to the fact that he had seen the land before and had also seen Mr. Colt's plan for the constructing of what should have been the finest eighteen-hole course in England.

On arrival he found the green-committee had, through motives of false economy, refrained from getting Mr. Colt to supervise the work and had done it themselves. The outcome was: An expenditure of three or four times as much money as Mr. Colt would have needed; the destruction of many of the beautiful natural undulations and features which were the making of Mr. Colt's scheme; the conversion of magnificent visible greens into semi-blind ones, banked up like croquet lawns; a complete absence of turf owing to wrong treatment; alterations in the placing of the tees, bunkers, and greens; and a total disregard

of the beginner and the long handicap player. On a British seaside course in particular, little construction work is necessary; the important thing is to make the fullest possible use of existing features. Five thousand dollars in labor expended under expert supervision is better than \$100,000 injudiciously expended.

Surely in the case of a golf club it is equally, if not more important to have an architect for the course, and any new work on the course, than for the clubhouse. Greater mistakes are made in constructing the former than in building the latter.

No Hazards for Themselves.

One can readily imagine what would be the ultimate result of a course laid out by an average committee composed of scratch, three, four, and eight handicap men. They are most of them (probably subconsciously) prejudiced against any hazard being constructed which they are likely to get into themselves, but they are all unanimous in thinking that the poor devil with 24 handicap should be left out of consideration altogether. The final result is neither fish, flesh, fowl, nor even good red herring.

The expert in golf architecture has to be intimately conversant with the theory of playing the game, but this has no connection with the physical skill in playing it. An ideal golf expert should not only have a knowledge of botany, geology, and particularly agricultural chemistry, but should also have what might be termed an artistic temperament and vivid imagination. We all know that there is nothing so fatal in playing golf as to have a vivid imagination, but this, and a sufficient knowledge of psychology to enable one to determine what is likely to give the greatest pleasure to the greatest number are eminently desirable in a golf architect. The training of the expert should be mental, not physical.

Natural Sites Abound.

Even in America there are many sites for a golf course which, if a course is properly designed, require no manual labor with the exception of that necessary for fertilizing, seeding and irrigation. On links land of this description our greatest difficulty is the prevention of manual labor, and in this connection a skilled superintendent is of almost as great importance as the architect. Unless he knows his job and is wide awake, one of his workmen with a scraper may destroy in a few

minutes a small hummock, which would be the making of a hole.

Fortunately today there are many skilled superintendents available who have had ten or more years experience of working under the best architects. But even these skilled men require continually reminding that they must leave natural features alone unless their destruction has been ordered by the architect.

Robert Hunter in his book, "*The Links*," points out that some new holes were constructed at Deal after the war. He says "there was such a marked contrast between the old holes where nature had been left undisturbed that he resented playing them." These new holes were constructed at considerable cost and would have been vastly better if not a cent had been spent on them except for topsoiling, fertilizing and seeding.

In the same excellent book, Hunter, to emphasize the economy of getting the best advice in construction, states: "My most earnest advice to the members of any club undertaking to construct a course is this: If you seek something permanent, something that will give you real satisfaction and not be a heavy drag on your purse for many years, employ your architect only after the most careful inquiry, and get the best man obtainable regardless of his fee. There is a finality—the important thing about the work of the best men—which is worth tens of thousands to any club."

The primary essential therefore, in designing and constructing a course so as to obtain the best value at a low cost, is to substitute the excessive cost of uncontrolled labor by machines controlled by experts.

Every precaution must be taken to route the course so as to make the best use of the natural features.

In the second place a skilled superintendent is required who is able to interpret the architect's plans and who has sufficient experience to conserve all the best natural golfing features and make any artificial ones indistinguishable from natural ones.

Machine Cost Saving.

One of the most important considerations is to instil into the mind of the manager of the construction company, the superintendent, and all the men employed, the absolute necessity of never doing any manual labor if it can be done more cheaply by machinery.

As an example of getting work done by machinery at low cost, I may cite the Val-

ley club at Santa Barbara. When the course was completed (apart from the irrigation system) for \$44,800, a large portion of the ground was rocky and had to be covered with soil.

The managing director of the golf course construction company introduced a new machine, a Caterpillar tractor with bulldozer attachment, to remove the large rocks and boulders. He thus saved thousands of dollars in explosives and manual labor. He also erected a loading device by hand and by various other means saved large sums of money. I have known golf courses where similar difficulties were encountered, costing four or five times as much as the Valley club.

When we first designed golf courses there were no golf course construction companies available, so we had to undertake all the work in conjunction with some local greenkeeper or landscape gardener. We had also, to rely on our own puerile efforts in soil technology, drainage, irrigation, and other engineering problems. We depended on the good faith of seeds merchants in regard to seed, fertilizers, etc. We had to use our own ingenuity in devising or advising upon labor saving devices to decrease the cost.

For example, 25 years ago there was not a single scraper or scoop available in Britain. We resented the price of manual labor and made enquiries in regard to less costly methods of doing the construction work. We then discovered the existence of scoops in Canada and we arranged to have some sent to Britain. We have used them ever since. At Moortown we were faced with the problem of turfing 30 acres of fairways. We devised a turf cutting machine which would cut an acre of sods in four hours. We also devised a mole drainage machine which enabled us to do the draining at less than a tenth of the cost of ordinary manual methods.

When we first constructed golf courses in America, we worked out our own irrigation system, but since then we have discovered that far better and cheaper results are obtained by employing specialists in irrigation problems.

The greenkeeper at one eastern club recently told me that at times they required as many as 18 men to water the course. This obviously is exceptional. The average course would require 6 men.

At Pasatiempo where an uptodate completely hoseless system was adopted, all

the fairways are watered by one man. He, on occasions, waters as much as half the fairways in one night and the next night waters the other half.

It is true that the initial capital expenditure of a hoseless system is greater but the saving in cost of upkeep would probably pay this extra expenditure off in a few years. If well designed, far less water is required by a hoseless system as it can be arranged so as to give most water to the plateaus that require it and less to the hollows. As the cost of water sometimes is enormous this is a great advantage.

At one time I thought I knew a great deal about drainage of golf courses, and perhaps 20 years ago I knew more than most people. Nevertheless I have got more black eyes over drainage going wrong than anything else. Today I realize that drainage is a specializing engineer's job and that a club gets far better and less costly work in employing a man who has devoted his career to it.

Tip us off to the story of your success in pro selling, course maintenance or house operation. These close-up stories advance you and your club.

I F YOU WANT your grounds crew to work with efficiency, make sure their hand tools are kept in as good condition as the mowers and other course machinery. Spades, forks, rakes, hoes, scythes and sickles should be examined each morning when brought out for use and if the working edges of these implements are dulled or turned, take a minute to sharpen them up. The difference in volume of work possible with sharp tools as against dull ones is amazing.

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TONCAN ADDS TO LIST OF DRAIN TILE PLANTS

Massillon, O.—Toncan Culvert Mfrs. Assn., a group of manufacturers of Toncan perforated metal drainage tile for golf courses and Toncan iron culverts, now have plants at Boston, Groton, N. Y., Sandusky, Mich., Marshfield, Wis., Dallas, Los Angeles, Oakland, Calif., Portland, Ore., Denver, Roanoke, Va., Memphis, Atlanta, Newport, Ky., Philadelphia, Canton, O., and Oshawa, Ont., Can.

The association's engineering department is available for free service to greenkeepers and golf architects who have drainage problems.