



Fred Burkhardt has done a nifty job of landscaping in the rock garden he has installed at the Westwood Country club, Cleveland, where he is greenkeeper. The garden encloses a flagstone walk that winds its way from the locker-room entrance up a slope to the eighteenth green.

structed in such a way that the cost of drainage is reduced to a minimum.

Sand traps on the wettest clay soil, for example, can be constructed so that no drain pipes are required.

Watering is another important consideration in the cost of upkeep. In certain soils and under special climatic conditions it may be possible to do without water at all.

As an example, at Moortown, England, where the pros commended the course so highly, the greens were made with a water-retaining humus and sodded with grasses which require a minimum of moisture, so that in the last 20 years there has never been any occasion when it has been necessary to water them. In other climates it may be necessary to have a complete watering system for the greens and fairways.

This should always be designed by a skilled water engineer. There are not more than two or three in America who are capable of designing a first-class hoseless system, and even these are learning by experience daily. In lessened cost of upkeep a hoseless system not infrequently pays for itself in three or four years' time.

There are many other factors which increase the cost of maintenance. Take the question of bunkers for example: Most golf courses have far too many bunkers and this increases the cost of sand tremendously. Where sand is expensive bunkers can be made so as to require a very small amount and yet be equally effective. On inland courses coarse sand should be used so that it will not blow out of the bunkers.

Too Many Bunkers

Bunkers should rarely be made from a penal point of view. Strategic principles are the only considerations which should influence one in placing bunkers. On the Royal Sydney and Australian golf courses some years ago I advised them to convert more than 100 bunkers on each course into grassy hollows, constructed so the mowing machine could be put through them. Visitors from Australia are unanimous in telling me how much these courses have improved, not only in pleasure and interest, but as tests of golf. The cost of upkeep has also been lowered considerably.

Some greenkeepers make the mistake of spending too much money on golf courses. Faults of commission are more common