IN 1900 I came to the Minekahda Club, and I’m still on the job. They say nothing is permanent except change, and we have all seen many changes during the past twenty-seven years.

First we used five Pennsylvania mowers, five horses and five men to cut the fairways, and we could scarcely keep the grass down within reason. Still we had another team for general work and mowing the rough with a hay mower. A clean golf course was never seen in those days.

The first change I made was connecting two heavy and substantial Pennsylvania mowers, and pulling them with two horses to save the labor of one man. Then as time went by Townsend came out with a triplex, the wonder of the age, and these mowers did good work. For two years I used two of these rigs, cutting out the labor of three men. But I was not satisfied, so began to study what I could do. I made one rig out of five mowers, hauled by two horses driven by one man. There I saved another man’s labor, and frankly speaking, hauling five mowers in mowing fairways was first done at Minekahda, so far as I know.

Still I was not satisfied. I said to my chairman, “I am getting tired of horses, and I want to get a tractor.” I explained how a tractor could be used, if I could find one suited to the work, and I went down to Chicago to see if anybody had one I could get a scheme from. I saw one rig but it didn’t suit me, and came back home. To my surprise I found the tractor I was looking for right in Minneapolis, built by the Toro Manufacturing Company.

The thing we had to study over was how to push instead of pull the mowers, and Mr. Brooks, my as-
assistant and I spent a good deal of time before we got the idea to work. The mowing outfit we have now holds a record for mowing the Minekahda course in twelve hours, and it is very hilly, as some of you readers know. I cut my course three times a week with one machine, and never cut on Saturday afternoons.

**Watering Fairways Great Advantage**

Mowing fairways is a most important part of the work on a golf course, but first you must get your grass. And then you must keep it. In times of drought that is not so easy. Years ago our fairways died out in the middle of summer, and were hard as a rock, but we've got on top of that difficulty now. The watering system shown in the picture is what we use, sometimes straight across the course, and sometimes in V shape. We move them from one part of the course to another with tractors. It takes the time of one man when we are operating these fairway sprinklers to attend to them. The grass on our fairways is thick as hair on a dog's back, and wherever you land you will get a good lie with your ball. I call them perfect, and so do others who play over them.

**Protecting Greens Through Winter**

Up here at the North Pole we sometimes have a little trouble with grass killer out in spots on our greens. Our springs are very cold, and when we find these bad spots, some people say, "You have winter killing." I do not call it that however. If someone had given it the name of "spring killing," it would be more to the point. I have covered the greens through the winter with straw, sometimes with brush, and some years dressed them with compost in which there was a large percentage of sand. I believe the latter method is the best so far tried out, but next year I shall try clear sand. I tried a few places after I came back from the Annual meeting in Chicago, and these places came out wonderfully well. The sand warmed up the old sores and healed them. Last winter I tried another scheme. I carried out quite a few pails of water, little by little, until I had ice on part of a green a foot thick. When it thawed this spring, the piece of grass under the ice was just as fine as you would want to see it. This is the reason I do not call this trouble "winter killing."

**Late Fall Watering of Greens**

It may be possible that my greens would stand up better during the winter if I did not water them so heavily in the fall. I have been soaking mine good, and also the bushes and trees. Have any of our members tried to have their greens good and dry when they go into the winter? I think this is a point that should be taken up by greenkeepers all through the northern states, how to bring greens through the winter in proper shape. Let's hear from some of you boys.

**Applying Chemicals in Liquid Form**

I have done lots of experimenting to reduce cost of upkeep. I remember years ago Donald Ross was up here and told me to use nitrate of soda in liquid form to bring the grass along. I mixed up a batch and started putting it on the greens with a sprinkling can, but we got tired of that system. I then went down and bought a force pump, which improved matters, but it was a labor killer. It took four men and a team of horses, and it was very hard forcing that solution through a small hose. I said to myself, "Can't I make something that will do this work easier?" I went to work in the machine shop and thought I had made something practical. I was very proud of it, but it proved to be worthless. However, I did not give up, and now we have something that we do not have to pump. We just turn on the water, hold the hose and the solution is evenly spread. A good many are using sulphate of ammonia mixed with compost. I always use it in liquid form, and I never top dress my greens more than three times in a season. Here at Minekahda the grass on the greens is so thick and heavy we have a hard time to rub it in.

**Association Serves Distant Members**

In closing this article I want to express my deep appreciation of what Mr. Morley and the other officers of the National Association of Greenkeepers of America are doing for greenkeepers everywhere. No matter how far off a man is, he has something to fall back upon when he sends his problems to the Association. For the older greenkeeper, it is certainly something to tie to, and for the young man who wants to get ahead, it serves as a rudder to steer his ship into the right port. All aboard!