This transmission is equipped with a power take-off. The installation of this assembly extends the frame and wheel base 16 inches. The extension of the frame carries the tank with very little overhang. From the power take-off a countershaft is mounted by companion flanges and supported at the end by a self-aligning ball-bearing. This shaft carries the drive sprocket of 15 teeth of three-fourths pitch, which transmits the power to the sprocket of 40 teeth of three-fourths pitch on the spray pump. Roller chains connect both sprockets, driving the pump at 70 revolutions per minute.

The pump, having a capacity of 15 gallons a minute, and the pressure regulator are mounted on a sub-frame just back of the gas tank. The spray tank is mounted on 3 by 8 wooden sills cut on the radius of the tank. The sills are supported by a channel-iron sub-frame bolted to the chassis. The pump and tank are connected by flexible couplers so as to permit the raising and lowering of the pump for chain adjustments. Chemicals in the tank are kept in perfect agitation by a rotary agitator driven direct from the pump by chain and sprockets. A lever on the power take-off applies power to the pump with the truck either at rest or in motion. This feature allows the pump to be used for spraying fairways while the truck is in motion.

The pressure is controlled by a regulator which permits the operator to close the spray gun without causing strain or wear on the pump. The operator may close the gun without shutting off the pump if play should interfere with spraying operations. One man operates the outfit, driving to the green, filling the tank, and spraying the green. A green of average size is sprayed in 17 minutes.

This method of spraying is a great labor saver as compared with the old method, and the equipment will pay for itself in a very short time.

Creeping Bent Greens at the Country Club of La Fayette

By Victor George

At La Fayette, Ind., seven of our putting greens are on light clay soil and two are on sand and gravel. The greens were planted from one to three years ago, with creeping bent stolons, six of the greens having been planted with the Washington strain of bent and three with other commercial strains. We intend to rebuild one or two of the greens in the early spring next year, using turf from our ample-sized nursery of 13,000 square feet, from which we can obtain a supply of both bent stolons and bent turf. So far we have not found it necessary to reseed any of our greens nor to give the turf any special treatment to thicken it. We have improvised a means of applying chemicals to the turf very quickly and evenly, for fertilizing and combatting brown-patch and earthworms, with the result that the greens are never out of play and temporary greens are not needed. The chemicals are applied dry by means of a hand-operated grass seeder, which we have reconstructed somewhat for the purpose. The seeder is carried by the workman as he covers the green on foot, and it is hardly necessary to add that it is well to have the man equipped with a pair of ordinary goggles to protect his eyes from some of the chemical which is bound to reach his face. To secure an even distribution it is, of course, necessary that the man keep moving so as to avoid the accumulation of material on any spot of the green. We have also found it well to start the machine in operation over a wheelbarrow,

as the discharge at that time is necessarily a little heavier than when the machine is in operation and the operator is moving.

Our greens are regularly fertilized twice a month in April, May, June, September, and October, and if injured by brown-patch at any time an application is given to hasten recovery of the turf. We use ammonium phosphate, applied at the rate of 2½ pounds to 1,000 square feet. The greens average 6,000 square feet in size. The greens are also given five top-dressings of compost during the season, the applications being made with a top-dressing machine, in April, May, June, September, and October. Our compost is not used until it has aged two years.

The greens are mowed daily with hand-mowers and the clippings are removed. They are watered every other day from 5 to 7 o'clock in the morning, or daily from 6 to 7 in the morning, as conditions require. During periods when brown-patch occurs they are brushed each day. We also brush the greens to keep the turf from becoming grainy, and also to remove worm-casts. After brushing for the removal of worm-casts we immediately water the greens so as to prevent the formation of patches of mud. Three women take care of practically all the weeding in the playing season, although occasionally we may have as many as 20 boys to help. In the early spring and late fall we use a weeder. For brown-patch treatment we use calomel, and for earthworms arsenate of lead and mowrah meal. The cups are changed three times a week, and more often when play is heavy.

For the fall top-dressing we are commencing to use more sand than we have done heretofore, the October dressing being the last of the season. We do not cover the greens in winter. If any ice forms in low places, we break it up. Spring rolling is done as soon as it is possible to roll without packing the soil too much. Before rolling we rake the greens to rid the turf of dead grass and the trash which accumulates over winter. Often this trash can not be seen, and if the greens are not well raked it will occasion unexpected trouble when they are mowed later on.

We have never attempted to maintain temporary greens. If we take the cup off the green, we put it in the fairway. This fall we expect to seed a temporary green next to a green we intend to rebuild, which we shall maintain constantly in condition for play. When greens are thawing out and therefore readily injured, we place a flag in the fairway; but at such times play is very light. Our chemical treatments are given so quickly that they seldom make it necessary to use a temporary green.

A bunker should be comparatively difficult to play from, while at the same time it should not be too severe for the average good player. The chief interest in a bunker is perhaps the mental hazard it creates, rather than the physical difficulties of its play. This mental hazard may be created by anything that makes the bunker appear to be larger than it really is. Boldness in outline is one of these features, also contrast in color of ground, whether achieved by turf of different kinds or alternation of turf and bare patches. Clumps of coarse, tall grass—whiskers, as they are called—also lend to this mental hazard, or clumps of turf overhanging miniature bare cliffs.

AS WE FIND THEM

Looked over a set of greens of "by and for the people." When any member had a hunch on how to "improve our greens" he simply had to air his views and, presto, all his wild ideas were turned loose on those greens. Soon another reformer would release some words of wisdom and new tricks would be tried.

It reminded us of many football games where we have had to listen to the "bleacher coaches." All the men who could "really run that team" seem to be up in the bleachers. Some of those top-row critics who probably never handled a football speak with the greatest of authority.

The next greens were handled exactly as they were 15 or 20 years ago. "No newfangled notions on this course, no sir."

Then we had to go hunting for a course where there was some happy medium where good greens might be expected.

Found one course where top-dressing had been discontinued because some one observed an attack of brown-patch soon after top-dressing had been applied.

If the man who made that decision happens to catch cold some day after playing golf, he probably will pursuade all the club members to give up golf in order to avoid colds.

Sprinklers were running full force on greens of one course soon after a heavy rain which had left them thoroughly saturated. "Well, we make it a rule to water regularly."

That man also probably makes it a rule to stoke his furnace regularly. Yet it is to be hoped he uses enough judgment to let his furnace fire go out during the periods when nature puts full draft on her own big furnace.