

have been prepared with an egg beater. For use as a spray, 1 part stock emulsion should be mixed with 50 parts water and this mixture applied to the infested turf at the rate of about 1 gal. to a square yard (555 gals. to 5,000 sq. ft.). In tests it was applied with a sprinkling can.

Other Methods Not So Good

Other control methods have been tried without much success. Some have reported good control with lead arsenate, but experiments carried on by the Bureau of Entomology failed to prove their effectiveness.

It has been proved, conclusively, that except under the most unusual conditions,

grass in a healthy condition will be better able to withstand without appreciable injury the attacks of insect pests. The fact that the summer generation of webworms is the most injurious is a case in point, for it is at this time that the natural spring growth has ceased and the harmful effects of attack can less be sustained than when new grass is constantly replacing that eaten. In conclusion, therefore, it may be said that webworms can be successfully fought by (1) developing strong, healthy grass through the proper care of turf (fertilizing, watering, drainage, soil mixture, etc.); (2) use of effective chemicals, such as pyrethrum extracts or kerosene emulsion.

Course Owner Builds Novel Leave Remover

OAKWAY Public Golf Course (Eugene, Ore.) is heavily wooded with huge maple trees. Each fall the leaves become quite a problem on this course—there are spots, it is said, where the leaves fall so thickly that not only a golf ball but an entire golf bag may very easily be lost. To combat these tons of leaves

Commenting on the machine, Babcock says: "The machine while only an experiment, was a real boom last fall. The machine works beautifully, leaving the fairways very neat with every blade of grass standing upright. It picks up any light object which is not too large to pass into the mouth of the intake.

"In 1930 my extra raking labor, not including that which was done by my regular staff, cost over \$300. After the ma-



which hurt business each fall, George L. Babcock, owner of the course, and his greenkeeper, W. L. Crisp, invented and constructed the unique vacuum sweeper pictured herewith.

The machine consists of a 30-in. planing-mill blower of 2500 r.p.m.'s powered with an old Buick six motor, all of which are mounted on a trailer which is hooked to a Ford truck. The leaves are picked up by the intake nozzle and are carried forward into a screened body on the truck. Leaves are handled only twice, once in the pick-up and once on the unload.

chine had been built in the fall of 1931, extra labor cost only \$30 and this was employed in raking leaves out of spots inaccessible to the machine.

"Being a first attempt my machine has many defects and is capable of many improvements. For example, it should be mounted on wide rimmed wheels to keep from cutting into soft fairways. Likewise the intake should be hinged in order to drag flexibly instead of being stiffly upright. However, in spite of the defects, the machine works and more than paid for itself last fall."