while water moves slowly through clay soil because the particles are small. Clay soils therefore require tile lines placed closer together than do sandy soils if we are to have rapid drainage. Soils also vary a great deal in texture, even soils of the same type, and possess such different water holding capacities that it is almost impossible to indicate the proper depth and placing of the lines for all soils.

A certain amount of experimenting might be necessary to determine the drainage needs of the soil or soils on any particular course. However, certain generalities applicable to most all drainage conditions on greens were worked out. In putting greens, tiles should be placed at a depth of 1\frac{1}{2} to 2 feet in clay soil; and 2 to 2\frac{1}{2} feet in sandy soils. The laterals should be from 15 to 20 feet apart in clay soils and 30 to 40 feet in sandy soils. A fall of at least 1 inch in 20 feet should be provided for, remembering that the greater the fall the greater the capacity of the system. On a green which has very heavy soil, and in a very soggy condition, it would be well to place the tile lines no more than 15 feet apart at a depth of 1\frac{1}{2} feet with as much fall or slope to the tile as possible. The size of the tile used depends upon the length of the laterals. For laterals up to 1,000 feet in length, 4 inch tile should be used. If the green is exceptionally large a 6 inch tile should be used for the main and 4 inch for the laterals. The types of tile most often used are the common porous or agricultural, vitrified, and cement. Vitrified and cement are stronger and less likely to break under pressure from heaving, so it is safer to use these types.

The concluding installment of Mr. Ream's article on drainage, in which practical suggestions from his observation of successful green-keepers work are given, will appear in October GOLFDOM.

**Tillinghast Joins PGA Staff**

**As Architect Consultant**

**A. W. TILLINGHAST,** veteran architect of many noted courses, has been engaged by the PGA to act in an advisory capacity with pros, officials and architects for clubs whose pros are PGA members. “Tilly” already has gone over plans for course remodeling with a number of clubs. He will be assigned to different sections as fast as time permits. There is no charge for the Tillinghast service to PGA members. He will not supervise any construction work. PGA officials state the Tillinghast appointment has encouraged club employment of architects to supervise work agreed on after initial conferences with Tilly.