

fect circulation of air in the soil. The vital processes in the roots demand a supply of oxygen, and if this gas is excluded the roots die of asphyxia, or *root rot*. Oxygen is required, not only for growth, but also for the formation of reserve materials. A good florist knows how to provide for drainage in potted plants; he knows that a hard clay bottom is unsuitable. *Too much water* and *soil of too close a texture* will prevent the circulation among the roots and root-hairs, and a free interchange of the atmospheric and soil gases. The best foresters advocate drainage for every tree. Too often the water which is given the tree lodges in the hole made for the tree, so that the soil becomes saturated and aeration is prevented.

When trees are planted along the sides of cement pavements and paved streets as is the case in many of our towns and cities, they



FIG. 1740. MAPLE TREE SUFFERING FROM
STAG HEAD

(Suffering from Lack of Proper Nourishment.)

suffer from an imperfect supply of air among the roots. The hard impervious pavement prevents not only a proper supply of oxygen, but also proper evaporation from the soil beneath.

A common form of disease arising from a diminution of the supplies of food and water is *Stag Head*, "when the top branches become leafless, dry off and remain as dry sticks, like antlers projecting above the foliage." The lower branches remain green, but make but little growth.

In the treatment of *Stag Head* the soil should be removed from a space two or three feet in radius of about the tree. This circular area should be frequently stirred by the spade and kept raked, as this process will tend to promote aeration; but unless provision has been made for proper drainage

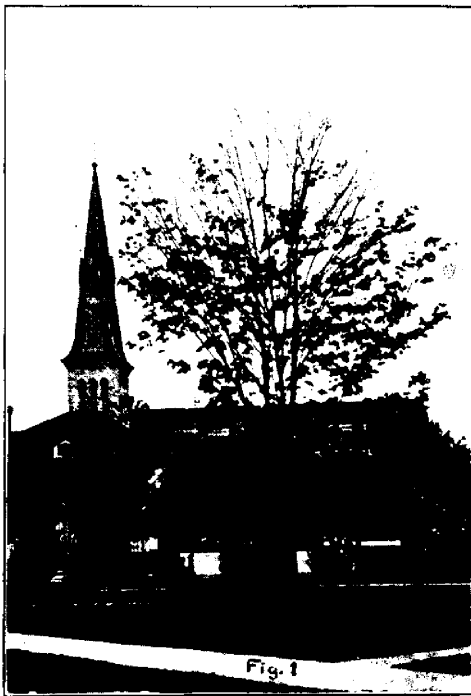


FIG. 1739. MAPLE TREE AFFECTED WITH
STAG HEAD.

(Suffering from Lack of Proper Drainage.)