

fection comes from the upper part of the tree. It sometimes commences its attack in the blossom, or in the tips of the shoots at the ends of the branches. In the spring it is said to be always first noticed on the blossoms, which turn black as if injured by frost. The microbes stand cold well, and it has been found that the bark of infected trees contains living colonies for a longer period in the winter than in the summer. In spring-time, when the trees are full of sap, the microbes invade new bark and spread rapidly. At this period of the year, too, a viscous, sweetish, brownish yellow substance exuded from parts of the stem and branches attracts bees and other insects, which convey the microbes to the blossoms, and thus disseminate the infection extensively.

In this country apple and pear trees are often seen with the blossoms blackened as if by frost, with the tips of their branches withered or dying, with deep wounds in the bark, and with their skin peeling and cracking in all directions. Frequently no trace of "*Nectria ditissima*" can be found in these cases, and the appearances correspond generally with those occasioned by the "*Bacillus amylovorus*." The treatment which has been found successful in arresting this disease may prove equally successful in this country. It is simple, consisting merely in cutting out and burning every particle of infected wood before the sap begins to rise. The infected centres may, however, be cut away at all times of the year. Experts advise that a careful inspection should be made of all apple and pear trees two or three times during the summer. It takes two or three years for the disease to become a serious epidemic; but the early removal of the first cases will prevent this development, and will, at the same time, save much labor later, as well as many valuable trees.

FUNGI INJURIOUS TO VEGETATION.

The term "*Perithrecium*" is derived from two Greek words, the one meaning around, and the other, a box or case, and is used to describe the box or case enveloping the fructifying parts or spores of certain fungi.

The gooseberry, and especially the large English varieties, is so liable to blight in this climate as to render its cultivation very risky, indeed almost impracticable.

The fungus causes many of the leaves of gooseberry bushes to shrivel and fall off, and having the appearance of being covered with a white powder. Under the microscope it is seen that there is a dense covering of slender whitish threads, but, unlike the potato fungus, these do not live within the tissues of the plant, but merely send down suckers into the cells of the leaves.

Upon these threads, or filaments, summer spores are first formed, which are borne by the wind, or some other means, from plant to plant, and the disorder is spread. Later on, the winter or resting spores are formed to carry the fungus through the winter. These are imperceptible to the naked eye, but they may be seen with a glass late in July and during the autumn, in the form of dark brown bodies upon the "felt-like coating." Upon examination of these bodies with the microscope they are seen to be nearly globular, with cross markings on their surface, and bearing from seven to eight slender, colourless filaments, with ends somewhat fantastically branched, as shown in the Figure. It is supposed that these branched filaments keep the "*perithecia*" in place upon the mycelium on the leaves. The "*perithecia*" contain from four to eight "*asci*," nearly oval cases, in each of which there are four or five spores.

When the leaves fall, the little cases fall with them, and remain upon the ground or upon decaying leaves until the spring, when the "*asci*" burst, and the spores being liberated speedily germinate in favourable conditions of the atmosphere.

The leaves from infected bushes should

