



FIG. 1752. ROUND-HEADED APPLE TREE BORER--a, larva or grub; b, pupa; c, adult beetle; d, puncture in which egg is laid; e, same in section; f and g, eggs; h, hole from which beetle has emerged; i, tunnel in wood; j, pupa in its cell in tunnel prior to emerging.

## THE CARE OF SHADE TREES—II.

**I**N a previous article I dealt briefly with the physiological conditions which affect the healthy, vigorous growth of shade trees. In this present article I shall deal with the insects which work injury to these trees.

The insects which attack trees may be divided into three groups, viz., *Borers*, *Leaf-eaters*, and *Sap-suckers*. The Borers are chiefly the grubs of beetles; the Leaf-eaters are chiefly lamellicorn beetles, and the caterpillars of certain moths, and the Sap-suckers are hemipterous, or half-winged insects. A knowledge of the life-history of these injurious forms is of great service in the fight against them, and can readily be obtained by a reading of the standard works on Insects.

1. The chief Borers are the *Round-Headed* and the *Flat-Headed* Borers. The *Round-Headed Borer* (*Saperda candida*) is perhaps well known to many of the readers of this magazine, but for the benefit of those who are not yet acquainted with the pest, I shall give a few facts about its life-history and general appearance.

The beetle is about an inch in length, and has a broad, white stripe running lengthwise along each wing-cover. The general color of its upper surface is light brown. Its feelers are quite long and jointed. The grub is over an inch in length when full-grown, and has a peculiar shaped head, which is quite characteristic, rounded, and much greater in diameter than the body. The