

Fig. 42, represents the Fall Canker worm, as it is termed; *a* the male moth, *b* the female, natural size, *c* joints of female antenna, *d* one joint of female abdomen, magnified. The resemblance between the two species will be observed by comparing the above with



Fig. 42.

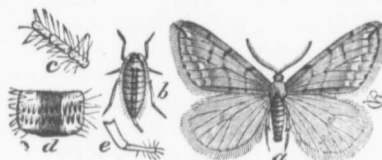


Fig. 43.

Fig. 43, which represents the Spring Canker worm; the letters have the same references, with the addition of *e*, the ovipositor of the female, magnified. The worms themselves are geometers, or loopers, that is, they alternately loop up and extend their bodies when walking. If disturbed, and also when fully grown, they let themselves down from the branches of the trees by silken threads. They especially infest the apple tree and elm, but are also known to attack the cherry, plum, linden and other trees. They are usually confined to small localities and do not spread with any rapidity, owing to the wingless female being incapable of flight, or travelling to any great distance. Remedies may, therefore, be successfully applied where they are found, as there is little danger of a fresh invasion when one colony is exterminated.

The most effective remedies against this insect are those based upon the habits of the moth. As the female has no wings, it is obliged, in order to lay its eggs, to climb up the tree from the ground where it passes its pupa state. It is evident, then, that if she can be prevented from doing so, there will be no new brood of worms. One of the simplest modes of accomplishing this, which has been successfully employed for many years, is to encircle the trunk of the tree a short distance above the ground with a band of cloth or of thick paper, folded to a width of four or five inches, and covered with tar or a mixture of tar and molasses. The bandage must be tightly tacked to the tree on the lower edge to prevent any of the insects from creeping under it, and the ring of tar must be renewed every few days to prevent its becoming too hard to stop the moths from crossing it. Care must also be taken to keep the tar sticky during cool evenings, for the moth is nocturnal in its habits; for this purpose it is well to mix with it some raw oil or molasses. The bandages must be applied in the latter part of October, and kept on till the leaves are expanded the following spring; it is also necessary to look to them during any mild weather in the winter. Tin, lead and wooden troughs, filled with oil, have also been used to encircle the trunks of the trees, with the same object in view, but the tar bandages are the simplest, cheapest, and most effective if attended to.

Another kind of remedy consists of collars of tin or other material, fastened round the tree and sloping downwards like an inverted funnel. These are employed to prevent the moths from ascending the tree, as the insect will climb up as far as it can, and then travel round and round beneath the protector till it becomes exhausted and falls to the ground. The eggs, however, will, in such cases, be deposited in large numbers beneath the obstruction, and unless they are brushed off and destroyed the tiny young worms will manage to crawl through any crevice and get to the foliage above.

Should the moths succeed, through oversight or neglect, in getting up the trees and depositing their eggs, and thus produce a swarm of the caterpillars upon the foliage, it will be necessary to resort to other measures for the destruction of the pest. The simplest and most effective is to spray the trees by means of a force-pump with a mixture of Paris green, or London purple, and water. This may be done with safety upon apple trees so early in the season as the time when the canker worm is prevalent.

THE CHINCH BUG.

This terribly destructive insect has happily given us no trouble in Canada as yet, though a few specimens have from time to time been found by Entomologists. But it has

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