tanglefoot. A band of cotton batting, or a strip of sacking, eight inches wide, fastened about the trunk with a string at the middle of the band, with the upper part of the cotton turned down over the string, acts as a fairly effective obstacle to the passage of the caterpillars.

The most convenient band is made of some sticky substance such as "tree tanglefoot." Strips of thick wrapping paper, a foot in width, are tied about the trunk, five or six feet above the ground, with two strings, and well smeared with a four inch band of "tree tanglefoot"* or with a mixture made by boiling together equal parts of resin and castor oil. The sticky substance must be renewed or extended as it dries or becomes covered with the caterpillars.

Destroying Tents and Clusters of Caterpillars.—The nests of the American Tent Caterpillar may be removed while small, and the contained caterpillars destroyed. This may be done with the aid of long-handled tree-trimmers or with a brush, or the nests may be burned with a torch while the caterpillars are within them. The torch may be made of a mass of rags or cotton waste soaked in kerosene (coal oil) and tied on a long pole. Asbestos fibre soaked in kerosene and placed in a tin can nailed to the end of a pole makes an excellent torch. The flame should be passed below the nest so as to destroy it and the contained caterpillars, care being taken not to injure the bark of the branches, a rather difficult operation. The nests should, of course, be destroyed while the caterpillars are within them. The clusters of the Forest Tent Caterpillar may be removed when they are massed on the lower branches or trunks of the trees by means of a torch or by brushing them off with a stiff wire brush, or they may be killed by a strong spray of kerosene emulsion applied directly to the caterpillars.

Gathering Cocoons.—After the caterpillar stage is past and the cocoons are spun, the latter may be gathered, and thus the escape of the moths which emerge will be prevented. The collected cocoons should be placed in a box covered with a coarse wire netting, about three-sixteenths of an inch mesh. This will allow the useful parasites to escape but retain the moths, which may be destroyed later.

Spraying.—When spraying apparatus is available the simplest and most convenient method is the application of Paris green in the proportion of one pound to 160 gallons of water, or dry lead arsenate, at the rate of two pounds to 40 gallons of water, to the infested trees or parts of trees, just as the caterpillars are appearing from the eggs. Orchards which receive the regular poison sprays for the codling moth and the plum curculio rarely suffer from tent caterpillars. The young caterpillars are killed by the poison before they are able to do much damage. After they are more than half grown it is much more difficult to kill them by arsenical preparations, and they should, therefore, always be attended to early in the season. When it is necessary to spray specially for these pests, it is usually sufficient to apply the mixture to the foliage on the particular branches which are attacked. Lead arsenate is to be preferred on account of its adhering qualities.

FORMULÆ FOR SPRAY MIXTURES.

Paris Green.—Paris green, 1 lb.
Best grade quick-lime, 2 lbs. (Prevents burning.)
Water, 160 gallons.

Preparation.—The Paris green is made into a paste with a little water. The quick-lime is slaked with sufficient water and strained free from hard lumps. The Paris green paste and the slaked lime are then stirred into the required amount of water. The Paris green particles are heavier than water and the spray mixture must be constantly stirred while spraying is in process. When the caterpillars are over one-third grown 120 gallons of water should be used.

*A commercial preparation obtainable from dealers in insecticides.