cannot ascend the trunk as they do not elimb trees, jarring the trees would prove a good remedy. This is not to be recommended, however, as the larvæ are able to ascend the trunks of trees on which account the following method of tarbanding the trees was tried in Cumberland on the Thirlmere estate of the Manchester Corporation.

Tar-banding.—Heavy rains and high winds cause large numbers of the almost fully grown larvæ to fall off the trees and after such storms, also after they have completely defoliated neighbouring trees, the larvæ may be found ascending the trunks of the trees in large numbers. To prevent this the trees were tarbanded in the following manner: A band of rough bark was removed from the trunk of the tree by means of a draw-knife and a layer of tar was painted round the trunk. The tar remained for about a fortnight sufficiently adhesive to eatch the larvæ and the cost of treating the trees was from \$1.00. to \$1.25 (four to five shillings) per aere. (Plate IV, Fig. 26.)

AIDING THE NATURAL MEANS OF CONTROL.

Where the sawfly is spread over a considerable area of mature timber it is not possible to adopt any of the above measures. If nothing is done, two things may happen: either the trees will be killed by repeated defoliation from year to year, or the natural enemies of the sawfly will obtain control before the trees have been killed. In eastern Canada the former happened owing to the natural enemies being too few and powerless, or absent. In view of such a result several English landowners cut down their larches after they had been defoliated by the sawfly fearing the trees would be eventually killed. As the trees had not reached maturity and their full value, the premature felling was a loss. In order to determine whether the parasites would gain control before the death of the trees had been caused by the sawfly, the statistical study of the parasites, already mentioned in the description of the parasitie means of control, was begun. Another purpose of this statistical study was to determine whether the natural rate of increase in the parasites and their abundance would render the transfer of the parasites from a severely infested locality to another locality into which the sawfly had recently spread valuable as a remedial measure. This idea was adopted in England by the Board of Agrieulture and steps were taken, I believe, to distribute in Wales parasites obtained from ecoecons collected in Cumberland, where our statistical investigations had shown that they were increasingly abundant, where a newly discovered outbreak was spreading. Before such transference of parasites from one region to another is made, however, a study should be made of the parasites in the new locality to see whether the transference will be advantageous, and subsequently to what extent the transference has been successful and has proved beneficial. This method of assisting nature in gaining control of an insect pest is not a new one, but appears to have been first suggested by Riley in 1871 in Missouri. U.S.A., and in the following year a French authority, F. Deeaux, made a similar suggestion with regard to the distribution of the parasites of an apple weevil (Anthonomus sp.) In the same year Le Baron, State Entomologist of Illinois, U.S.A., attempted the distribution of a small hymenopterous parasite (Aphelinus mali) of the oyster shell scale (Lepidosaphes ulmi) from one part of the State to another. Howard and Fiske¹ (1911) have given a very complete account of instances since that time of the transportation of parasites from one part of a certain country to another port. Although the instances in which these means of control have been attempted are not many, there is undoubtedly a very great field .ev its trial and investigation in the future, and when we have a more complete knowledge of the parasites of our native pests and the conditions

¹Howard, L. O. and Fiske, W. F. "The Importation into the United States of the Parasites of the Gipsy and Brown-tail M_c ths: A Report of Progress with some consideration of previous and concurrent efforts of this kind." L dl. 01, Bureau of Ent., U.S. Dept. Agric., 1911.