the previous fires, destroyed the town of Haileybury and other centres and caused 40 deaths. In 1908, a fire originating in the forest around Fernie, British Columbia, destroyed that city, caused 25 deaths, rendered 6,000 people homeless and damaged property to the estimated extent of $5,000,000. These are a few of the outstanding historical disasters. Every year thousands of acres are covered by fires of less individual importance, but which in the aggregate are rapidly depleting our forest resources. During the last five years 723,250 acres of merchantable timber have been burned over annually. At the low estimate of 5,000 feet board measure per acre, the amount of timber destroyed annually would be 3,616,250,000 feet board measure. In addition there were over 800,000 acres of young growth and 500,000 acres of cut-over land burned over, on which the increment of perhaps 30 years, on the average, was destroyed.

Speaking generally, there are two annual periods in Canada when the forest fire hazard is highest; in the spring, after the disappearance of the snow, when the forest floor is dry and the green underbrush has not yet developed, and again in the fall when the green growth is dead and the ground is covered with dry leaves. Statistics collected by the different government administrations and the Quebec protective associations show that over 95 p.c. of the fires of known origin are due to human carelessness and therefore preventable. Campers, settlers and railways are responsible for most of the fires whose origin is determined. Other causes, including lumbering operations and incendiarism, account for small proportions, and only a few are attributed to lightning.

Losses through Insects and Fungi.—During the last ten years the spruce bud-worm has caused tremendous damage to the spruce and balsam fir forests in eastern Canada. In Quebec, it is estimated that 100 million cords of pulpwood have been destroyed by this insect, and in New Brunswick the loss is placed at 15 million cords. Even though the active stage of the infestation is practically over, large amounts of timber continue to die every year as a result of previous defoliation. Other insects, though not as destructive as this one, entail a heavy drain on the forest. Though the attacks of fungi are more insidious, the loss caused by the various forms of rot and other fungous diseases is probably not less than that caused by insects under normal conditions. The butt rot in balsam fir is especially prevalent, and the value of the hardwoods also is greatly decreased on account of rot. Poplar and white birch seldom reach over 10 inches in diameter without considerable decay, and, since these species form such a large proportion of the young growth, the loss, though it has never been computed, must be very great.

Summary of Losses and Increment.—The annual consumption of standing timber for use amounts to about 2,400,000,000 cubic feet. At a very low estimate, fires destroy annually about 800,000,000 cubic feet of merchantable timber and the young growth on 1,300,000 acres. During the last ten years, the destruction occasioned by the spruce bud-worm has averaged 1,345,000,000 cubic feet per annum, besides the injury from bark-beetles and other insects. The loss due to fungi and windfall is not known, but is undoubtedly large. It may be safely estimated that the forests of Canada are being depleted at the rate of upwards of 5,000,000,000 cubic feet per annum. With about 534,000,000 acres of young, growing forest, an average annual increment of 10 cubic feet per acre would cover this depletion, but in view of the destruction of young growth which occurs and the deterioration of the forests and of the soil, caused by repeated fires, there is little hope that this increment is being produced at the present time throughout Canada, although particular areas are producing greatly in excess of this quantity.