

## KING'S FLOATS ASBESTOS DUST

The first inhalation experiment conducted at the Saranac Laboratory with asbestos dust was begun in 1928. Animals inhaled the dust for periods up to 33 months. Some guinea pigs with 6 and 9 months' exposure lived for an additional three years after cessation of their exposure. A preliminary report<sup>(1)</sup> presented observations after 29 months of exposure. At that time observations covered a period of only 2-1/4 years and the conclusions as to the ultimate effects of inhaled asbestos dust were provisional. Those conclusions are substantiated by results of the completed study, which is reported as follows.

Composition and Atmospheric Concentration of the Dust. The dusting material, a commercial variety of asbestos known as King's floats, was composed of short fibers, ranging in length from 1 millimeter to 1 micron or less, and of particles which also varied in size. It was obtained from the Thetford, Quebec plant of the Asbestos Corporation of America and analyses (tables 2 and 3) reveal that the amount of fibrous chrysotile was only 14 per cent, a rather low value. Impinger samples taken soon after the experiment was started indicated that the dust concentration was at first quite low, the average dust count being only 6.0 million particles per cubic foot of air by the standard light-field technique and 0.8 million/particles and fibers greater than 10 microns. After the inhalation experiment had been under way for about two years, the speed of the rotating paddle in the dusting machine was increased and for the remaining 10 months of the experiment considerably more dust was dispersed into the atmosphere. The average dust count of impinger samples collected after this change was 53.7 million by the usual light-field method and 1.6 million for particles and fibers larger than 10 microns. It is probably, however, that the true values of the dust concentration were higher than the counts given in this paragraph. The impinger samples for the King's floats experiment were