2. Secondly -- since the limit of resolution of the microscope lenses used in dust counting does not permit seeing particles very much smaller than one micron, one may ask if there are many fibers of great length, but of such small width that they are invisible?

Samples of atmospheric dust were obtained for examination by the electron microscope, by mounting the small specimen slide used with this instrument, in the dust collecting zone of the electric precipitator. In order to eliminate very large fibers, the air being sampled was caused to pass first through a glass spiral coated with adhesive on its interior. This subjected the dust particles to centrifugal force and the largest ones would be precipitated out, much as they might be in the nasal passages of man.

Studies with other industrial dusts employing this spiral indicate that very rarely do cubical particles larger than three to five microns succeed in passing through the several turns of the spiral.

In samples obtainedwith this apparatus in a card room having a good dust control, we obtained pictures, some of which are reproduced in the attached Figure. They demonstrate first, that the cubical particles seen by a low power light-microscope are in fact bundles of fiber resembling a life-size handful of partially opened fibers.

The picture further demonstrated that there are many fibers of considerable length, some fully 50 microns, whose other dimension is only a fraction of a micron; the fiber is therefore invisible in the dust counting microscope.