tracheal injection experiments confirm that peribronchiolar fibrosis is produced by asbestos fibers between 20 and 60 microns in length, but not by particles shorter than 20 microns (tables 16 and 18). This indicates that the minimum length of fiber possessing the capacity to produce the typical peribronchiolar fibrosis in animals is somewhere between 20 and 50 microns. Pointed studies have not been carried out to determine the upper limit of effective fiber length. It appears, however, that that limit will be determined by the inhalability of the fiber.

C. The mode of action of the long asbestos fiber in the production of asbestosis is primarily mechanical rather than chemical in nature.

The evidence for this conclusion has been reviewed in a preceding section, page 40. The flexible filamented structure of asbestos fibers plays an essential part in the irritating action, since the solid inflexible fibers of glass wool do not produce fibrosis (fig. 23).

D. Typical experimental asbestosis was produced by the inhalation of an atmospheric suspension containing an average of 138 million asbestos particles per cubic foot of air by light-field count, of which less than 1 per cent consisted of fibers longer than 10 microns.

In the inhalation experiment with 100 per cent ball-milled asbestos dust containing 0.6 per cent of fibers longer than 10 microns (table 11), a typical fibrosis was obtained (table 9). The evidence presented shows at least that an atmospheric concentration of asbestos dust containing less than 1 million (0.6% x 138 million) fibers, longer than 10 microns, per cubic foot of air is capable of producing