

The results indicate that the new sampler has an efficiency of practically 100 per cent on ammonium chloride fumes. It is thought that it can be made equally efficient for almost any dust or fume—in fact, any particulate matter. This can be accomplished by increasing the height of the column and holding the density constant; or by increasing the density. Its use is necessarily limited to those cases in which analytic procedures are available for the determination

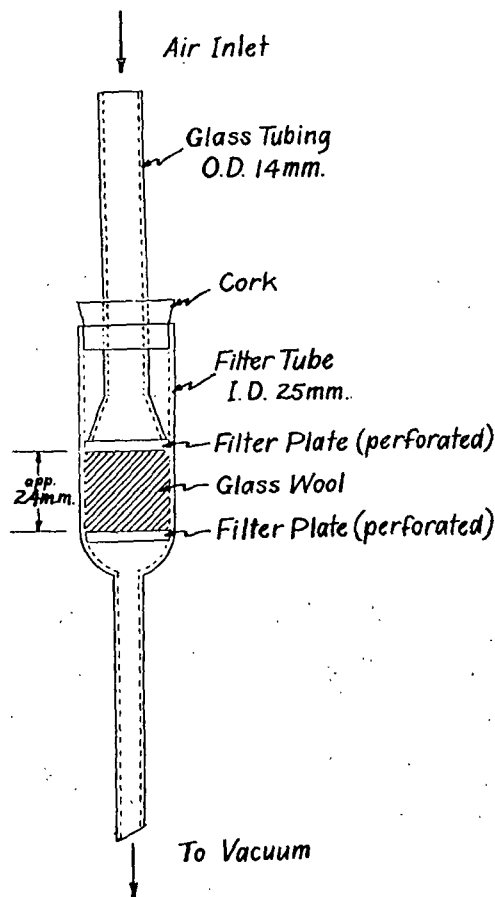


Fig. 1.—Diagram of the air sampler.

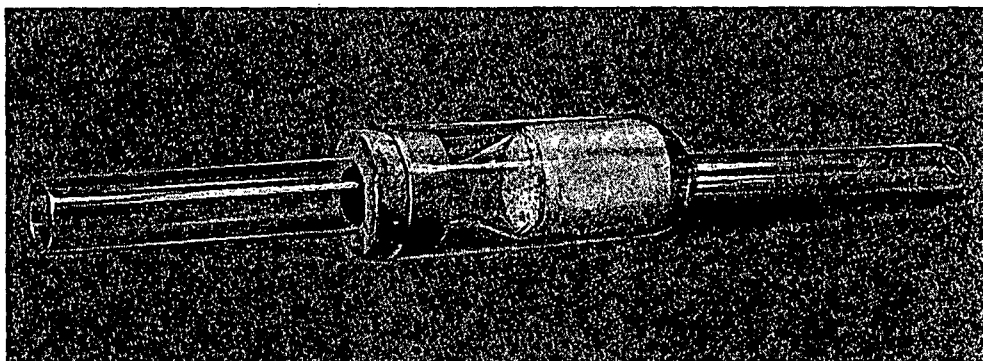


Fig. 2.—The air sampler ready for use.

of the substances in question. It cannot be used successfully for pneumoconiosis-producing dusts, because they cannot be separated from the filtering medium for counting purposes.

Air samples of freshly prepared lead oxide fumes were taken to determine whether the improved sampler would retain these fumes. This was done by placing the sampler in series with, and ahead of, another sampler employing no. 50 Whatman filter paper. A second series of tests was made with two of the improved samplers in series. The lead oxide fumes were prepared by heating metallic lead in an open ladle under an exhausted hood. In each case the