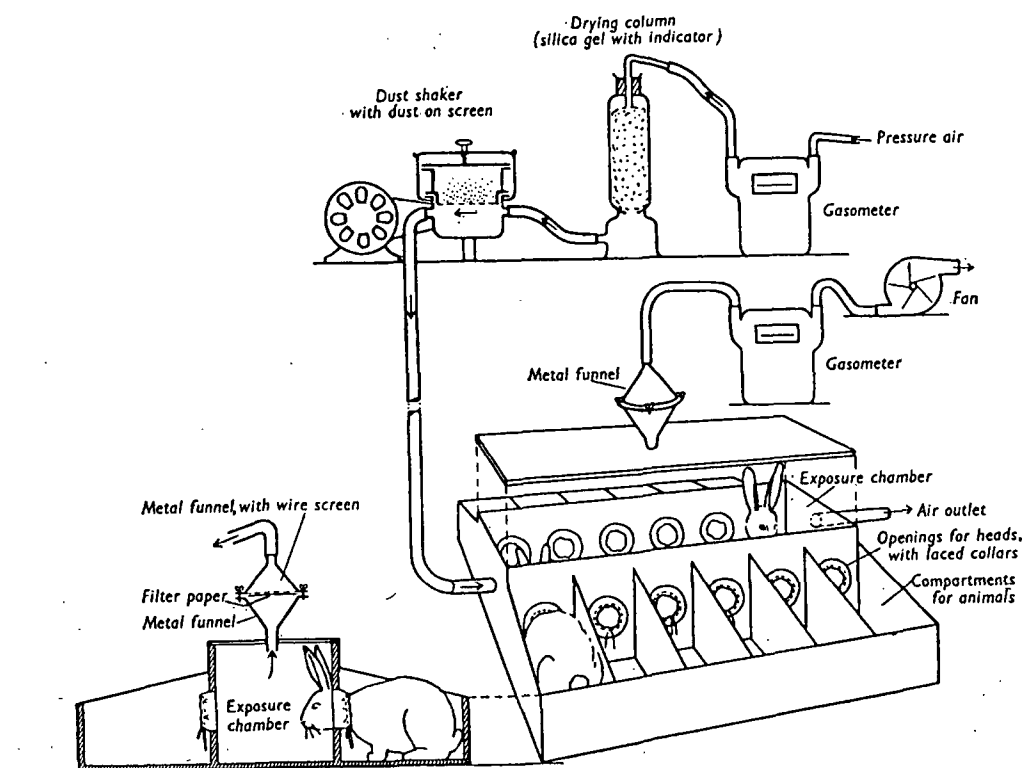


during short exposures; the range of these doses, however, is comparable with the scanty data in the literature (Heimberger²).

The experiments were divided into three groups:

1. Experiments in which 13 animals were exposed to high concentrations of dust (*c.t.* varying up to 44.46) for one or two days and then were subjected to autopsy, both those which had died during the course of the experiment and those which had been killed.
2. Experiments in which six animals were exposed as in (1) but were allowed to recover for 24 days, whereupon they were killed and subjected to autopsy and compared with a series of equally exposed animals belonging to group 1.
3. Experiments in which 12 rabbits were exposed to vanadium dust for one hour each day (with the exception of holidays) for a total period of eight months and were then killed and examined.



The apparatus used in the dust exposure experiments.

With the exception of those used in the very beginning, the animals were killed in the following manner: About 1.8 mg. of tubocurarine chloride was injected intravenously. This preparation was chosen to avoid convulsions, and total paresis set in rapidly in most cases. When the action of the heart showed tendencies toward ceasing, one carotid artery was severed and the blood withdrawn so far as possible by holding the animal upside down.

The appearance and in some cases also the weight of the organs were recorded on autopsy. The following examinations of the different organs were made:

1. Microscopic examination and comparison of exposed rabbits and controls from the same stables.
2. Historadiographic examination of the lungs according to the method described by Engström.¹⁸ A microtome section of the lung tissue fixed by the freezing-drying technique and

18. Engström, A.: Quantitative Micro- and Histochemical Elementary Analysis by Roentgen Absorption Spectrography, *Acta radiol.*, supp. 63, 1946; *Microradiography*, *ibid.* **31**:503, 1949.