

see that a constant circulation of air is thus carried on.

I now proceed to show you a set of diagrams which came to my hand most opportunely whilst preparing this paper. They illustrate a series of experiments by an architect, Mr. Warren R. Briggs, and are published by the State Board of Health of Connecticut. They show how much more important than is generally supposed are differences in the relative positions of inlets and outlets in providing for the distribution of fresh warm air in all parts of a room.

Mr. Briggs' object was to determine by what relative arrangement of inlet and outlet the pure warm air could be best distributed throughout the whole of the breathing space—the carrying out of principles 1, 2 and 3, enumerated above. The mode of experimenting was to cause smoke to pass into the room through the inlet and out through the outlet flues, the latter being heated. The breathing

line (the horizontal plane near which are situated the respiratory passages of the inmates) is indicated in the diagrams † by a dotted line. The results obtained are thus stated by Mr. Briggs:—

“The air entering upon the outer wall at the floor, and being removed on the inner wall at the ceiling level, does not benefit the occupants of the room as it should. The action of the air as it enters is rapidly upward to the ceiling, where it stratifies, then along its surface to the outlet, as indicated in Fig. 2. The entering air is warm and light, and naturally rises and flows across the top of the room to the nearest outlet. The foul air of the room, being heavy with impurities, remains at the bottom, becoming constantly more contaminated. There is no doubt that a certain amount of radiation or mixing is going on, but the great bulk of the pure warm air entering the room takes the short cut across it and up the chimney, as shown in Fig. 2. This action of the warm

sent to the following among other persons:—To the clerk of every municipality, to all school inspectors, to all medical practitioners whose names are on the Registrar's roll, and to the secretaries of Mechanical Institutes.

† The plates used to illustrate the experiments of Mr. Briggs have been kindly loaned by the Connecticut State Board of Health.

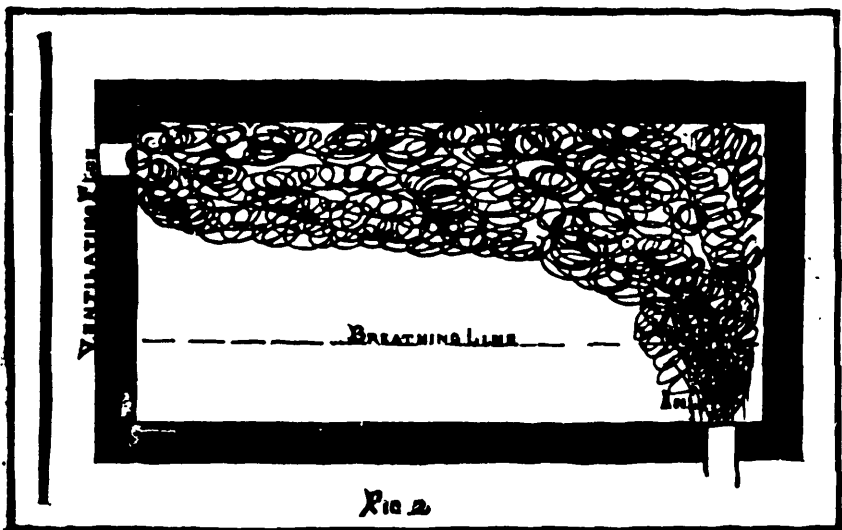


FIG. 2.