DISCUSSION ON "A NEW CO₂ RECORDER", AT NEW YORK,
DECEMBER 13, 1907.

A. A. Adler (by letter): The CO₂ determinations are not the only determinations to be made in the proper estimation of furnace efficiency, as a low percentage of CO₂ may be due either to too much, or too little air. When too much air is admitted through the furnace, the O determinations will show a high percentage; when too little air is admitted, the carbon burns to CO and CO₂, and no oxygen will be found in the analysis. The CO₂ recorder, therefore, only indicates that there is something wrong, and leaves it for the attendant to find the real cause.

Again there is great difficulty in obtaining the proper sample to be analyzed, and the exact location cannot be determined at random. In the opinion of the writer, it should be taken before it enters the flue on the "boiler side" of the damper, so as to eliminate the errors due to infiltration of air, when natural or induced draft are used. Frequently the infiltrated air produces combustion in the flue, when CO is present, and the temperature of the flue gas rises at the far end of the flue. Such an occurrence shows an erroneous CO₂ determination, as that combustion does not benefit the boiler.