

## LEAD WATER PIPES

It has long been a subject of discussion, among scientific men, whether lead pipes for conducting hydrant water communicate poisonous qualities to the water. The chemists seem to disagree on this as notoriously as doctors are found to do in matters of diagnosis. The question was recently investigated by J. P. Kirkwood, the engineer of the Brooklyn water-works, and the result of his laborious examination is that no definite conclusion can be reached. He examined all the writers on the subject and found that they disagreed on every point. Prof. Hersford, of Harvard University, maintains that water, in passing through iron pipes, is deprived by the iron of the oxygen which might act upon lead, and lead pipes consequently may be used without fear to take water from iron pipes; while Prof. B. Williams, jr., of Yale College, "confidently states the important fact that the passage of water through iron pipes prepares it for a more speedy and certain action on lead." In such differences of opinions the engineer of the water works naturally hesitates which to recommend, and remarks "that it does not become a non-professional observer to pronounce positively either way." This, however, he judges, "may be conceded from the testimony before us that the uninterrupted flow of water through the lead pipes of a house to immediate use could not affect it injuriously, whatever the character of the water. (On the other hand, should the water stand long in the pipes without change, or should water be passed through lead pipes which have been some time empty, it may become sufficiently tainted to affect injuriously certain constitutions." The practical result deduced from the investigation only amounts to a recommendation of caution. Consumers of water should generally draw off sufficient water, before using, to exhaust what had stood in the lead pipe. This is particularly necessary in the morning, or after a hydrant has not been drawn from for several hours. In the doubt which exists as to the effect of lead pipes, that material will probably be continued in use, on account of its superior adaptability, and measures for security must rest with individuals.