

**THE WATER WORKS.** — Mr. FISHER, the City Engineer, on Wednesday last, took a survey of the grounds lying between the city and the proposed reservoir for the water works. He finds the head will be from 90 to 100 feet above the pavement in front of the State House, which is one of the highest points in the city. This gives sufficient elevation to fill the tanks in the attic of the Lunatic, Deaf and Dumb, and Blind Asylums, and upon the Capitol, and in short, gives sufficient force for all useful purposes. Taking this in connection with the views of Mr. SULLIVANT, as expressed in this week's paper, the water works may be looked upon as a fixed fact.

**MR. GREINER** :— In reply to your question "what have the water works committee done, or what are they going to do," I answer—that immediately after their appointment, they met and organized by appointing myself Chairman, and **MR. GEO. GERR**, Secretary. Upon consultation, they determined to confine themselves at present to three points: 1st. The quality of the water. 2d. The supply. 3d. An elevation sufficient for a reservoir and head for distribution.

A portion of the committee have visited Whetstone, and selected a suitable point for guaging the stream at a proper time. A partial examination of the water has been made, and **MR. FISHER**, the City Engineer, is engaged in ascertaining the levels. I consider the *quality* of the water as the *fundamental question*, for an abundant supply and an elevation sufficient for its distribution may be had, and yet, if the quality of the water is bad, it would be useless to proceed.

As far as the examination of the Whetstone has gone, it is more favorable than I expected. My friend, Prof. Wormley, has kindly taken the specific gravity of this and other specimens which I furnished him. Calculated from their specific gravity, rain water from my cistern had about 10 grains of solid matter in the gallon, Whetstone water contains about 20 grains in the gallon; water from my own well, which I consider softer than usual, 68 grains; and the water from the public pump, at the corner of State and High, which may be taken as the type of hard water, contains 78 grains to the gallon. How much of these constituents are merely suspended matter, which may be separated by subsidence and filtration, or how much is held in chemical combination by the water, can only be determined by an analysis.

The hardness of water depends mainly upon the salts of lime and other alkalies held in solution, and the quantity of these, with the organic matter, can be ascertained *but by a careful chemical analysis*.

It is to be borne in mind that the weight of the Whetstone water was taken just as it came from the stream, and no doubt includes a portion of matter in merely mechanical suspension; and this is the more probable, for it is now, after standing a few days, perfectly clear, and the bottom of the vessel covered with a copious deposit; and the rain water from my cistern, when filtered, lost much of its weight, and was within a very small fraction as pure as distilled water. In fact it has been proved, by experiments upon a large scale, that water in passing through a series of properly prepared filtering beds, loses not only the organic matter in suspension, but a portion of its salts also, held in chemical combination. As such a system of filtering beds is included in the scheme submitted to the Council, we may reasonably hope by this means to effect a further amelioration of the water.

**Dr. Wormley** has promised to weigh the Whetstone water again after subsidence and filtration, and to make an examination of its solid contents, and from his skill we may expect accurate results.

It was stated in one of the city papers that the committee could report at the next meeting of the Council. This is a mistake, for, although the committee will lose as little time as possible, it will not be practicable to report at so early a period.

Several levels must be run from the city, not only up Whetstone, but up Alum creek also; several examinations as to the purity of the water in both streams must be made, for it is well known that when at their lowest point the water is most fully charged with salts and organic matter; and these examinations should continue for some time — at least until the streams are affected by the fall rains. So also, both streams are to be guaged for the quantity of water several times, and under varying circumstances. Indeed the duty with which the committee is charged will take more time and is more difficult than the public seem to comprehend. But only from a careful examination of *all* the facts, can the committee make a report reliable as far as it goes, and such as the importance of the case demands.

Respectfully, J. SULLIVANT.