

another at the head of Curtis' creek, on the Anne Arundel side. Both of these furnish most copious supplies of the finest water for drinking and culinary purposes, from a depth of one hundred and seventy-eight feet.

A well has been sunk to the depth of one hundred and sixty feet at Fort Carroll, now being constructed in the Patapsco river, between the other two wells. When I was last there the water was strongly chalybeate, but as the strata consist of alternations of sand, clay and gravel, they have only to penetrate below a thick bed of clay to shut out the chalybeate water. They may expect to find a stratum of sand or gravel, containing good water, at a depth not exceeding two hundred feet. The tube in this well has a diameter of twenty inches, and it would long since have been finished but for a sort of small economy on the part of the General Government, which has several times arrested the work.

An artesian well was sunk at Annapolis some years since, within the grounds of the Naval School. The diameter of the tube is eight inches and the depth two hundred and twenty feet. The water discharged seven feet above the surface is at the rate of eleven thousand gallons in twenty-four hours, except when the pipe becomes choaked up with sand. This happens because the sinking was improperly stopped in a loose sand, instead of being continued down to a firmer stratum of sand or gravel. The strata pierced by this well belong to the cretaceous or green sand, and the water is chalybeate.

I have before had occasion to allude to the artesian well proposed to have been sunk in the State House yard at Annapolis, two years ago, but which was omitted because of the insufficiency of the appropriation to improve the State House. If it be the pleasure of the Assembly to provide an ample supply of water for drinking, as well as for the protection of the venerable State House from fire, I beg leave to make the following suggestions :

1st. That the appropriation be made specific for this purpose.

2d. We cannot say at what depth precisely we shall meet a stratum of firm sand giving pure water; but, to avoid the errors of the General Government at Fort Carroll and at the Naval School, it would be safer to estimate going down eighty feet lower than the latter. Add to this the difference in level, say fifty feet, we would have three hundred and fifty feet as a depth *within* which we are sure of a full supply. This, at \$4.50 per foot, will amount to \$1,575; but as other fixtures would be required for distributing the water and for getting rid of the waste, the appropriation should be for \$2,000.

A successful well of this kind would not only be invaluable for the purposes before stated, but would furnish information relating to such wells of great value to our citizens in several tide water counties. By preserving an accurate account of the strata passed through, we should be materially aided in determining the probable depth of wells required to supply good at or near the surface, in a number of those counties.

We all know the necessity of good water to preserve health; and that this has been effected by means of such wells there is no doubt whatever. I shall give an illustration: The low ground, (but little elevated above tide-water) near the head of Bear creek, was long noted for its insalubrity. Intermittents and other diseases prevailed, especially late in summer and in the autumn, because of the water of their shallow wells being loaded with organic matters during those seasons. During the winter, spring and early summer, the larger supply of water afforded to these wells dilutes these poisonous solutions. It is only when they become more concentrated, later in the season, that their baneful effects upon man, and doubtless upon other animals, is fully experienced.

The remedy for all this is to use water, from depths at which it is found, free from these deleterious matters. I am informed that since this was done by means of the well on Bear creek, intermittent fevers have been altogether banished. It has long been the opinion of some eminent medical men that much more disease is produced by drinking impure water than by inhaling what is called miasma. Chemistry has utterly failed to detect this *imaginary* sub-