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ARTESIAN WELLS—SUBTERRANEAN RESERVOIRS.

The subject of artesian wells is one of very much interest, just now, to the inhabitants of this city, and of the Territory generally.

Strenuous efforts are being made to raise sufficient means to procure the necessary boring apparatus and make the experiment of sinking one or more, in pursuance of the resolution adopted at the late Mass Meeting. The amount of encouragement, thus far, places the matter beyond a doubt that the importance of the undertaking is generally realized, and that we will soon be in a position to test the practicability and value of wells of this description.

The process of boring artesian wells is, in the main, very simple. A cutting instrument—chisel—of a size proportionate to the diameter of the bore, is employed for forcing its way down from the surface of the earth, being driven through the various strata with a force applied above, which is increased as the opposition the chisel meets from rocks or other hard substances becomes greater. A sort of cylindrical auger, fitted with a valve, is next employed to draw up the dirt, cuttings, gravel and pieces of rock, left in a loosened state when the chisel is drawn out. This process is continued until the water is reached. The inside is then cased, as far down as may be deemed necessary, by a piping, jointed as it is inserted, to protect the well from the falling of gravel, sand or loose matter from the upper strata, and to prevent waste by leakage or other causes. The well is then ready to furnish its supply of water. In boring the famous artesian well at Grenelle, in France, a hollow tube was used for passing through the softer material, and a chisel-shaped tool was employed to penetrate the chalk and flint through which it had to pass.

The importance and utility of artesian wells have been tested for centuries, though it is of later years that they have been so extensively and widely employed. France has the credit of being the pioneer in using them, the name being derived from the ancient province of Artois, where, it is stated, the first practical application of the principle was made. Now, they are very numerous in that country, much of the water supply of Paris being obtained by this means. They are used in England, in Asiatic and Southern European Russia, in Egypt, and they have measurably robbed the great Sahara, of its fearful terrors to the traveling caravans, which often left their entire companies, camels and human beings, one mass of death-stricken victims in its burning and thirsty sands. They are also being extensively and successfully bored in various parts of the United States, both on the eastern and western slopes, those in Missouri and California being the most prominent; and an enterprising citizen of the neighboring Territory of Nevada is sinking one close to Carson.

The question of greatest interest with us is not, what the cost of the experiment will be, but, will that experiment be successful. Under the most favorable circumstances the probabilities of success would be well worth the outlay, situated as we are, to test their practicability here. But we think the reasons for believing they will be successful are very strong, and such as give good hopes of a sufficient supply of water being obtained at a reasonable outlay.

That the great quantities of snow and rain which fall on the mountains around us do not all descend in the form of streams to the valleys beneath is very evident. No doubt much is evaporated and again ascends to the atmosphere, another portion is absorbed in supporting the vegetation on the mountains and in the canyons, while another portion undoubtedly finds its way down wards, filtering through the various strata and uniting sub-

teraneously in small veins, which, as they combine, form rills of greater magnitude, and thus continue till they find a porous stratum, supported upon one of greater density where they rest, forming a subterranean reservoir ready for use when it can be reached. The pressure exercised upon it by being thus confined, with the ever constant additions to it, force it to seek an outlet above, which it does wherever it can; hence the springs that rise up spontaneously or when wells are dug to a limited depth; and all that is necessary to procure an abundant supply of water is to tap these internal reservoirs.

A remarkable instance of the force with which such water will rise when an outlet is made for it occurred in the digging of a well near London, in England. The workman, when he had descended close upon 600 feet saw signs of approaching the main spring, and gave instructions for being raised with rapidity as soon as he gave the signal. Upon striking the water the appointed signal was given, yet so rapidly did the water rise that it was with difficulty he escaped being drowned. Though the well was a wide one, intended for a draw-well, the water rose for about fifty feet almost as fast as those above could bring him up. It gained a height of 200 feet in twenty-four hours, and afterwards rose about a foot an hour till it attained its altitude. The artesian well, at Grenelle, threw out, and continues to do so, over 600,000 gallons of water per hour, through a six inch bore.

What the geologic strata are through which the boring would have to pass here, and consequently the depth to which it would require to go, it is impossible at present to say; but when the great African desert could be successfully penetrated and its hidden stores of water brought to the surface, where but a few oases, at immense distances from each other, pointed out that there was water beneath, which threw up those refreshing springs in the midst of an almost illimitable desert, we have the strongest grounds for believing that the necessary fluid can be reached here where there are such abundant sources of feeding the reservoirs beneath. The heavy and continual influx of waters to the Lake west of us, by the impouring of the various rivers which apparently add nothing to its volume, indicate the existence of an evaporation of no ordinary character. Hence, from that quarter nearly all our rain and snow storms come, which, attracted by those immense condensers, the mountains, east and west of us, fall in rain or snow, the heaviest portion of which lights upon the mountains. This, percolating downwards must form into large bodies of water underneath, the surface water not being diffused over so large a portion of space as in countries where rains are more frequent and gentler. We have evidences of this in the numerous springs that feed our streams and enrich portions of the soil in the valley. All that is necessary is to reach these reservoirs by boring, and the much-desired water will be obtained.

PRESIDENT YOUNG'S COTTON AND WOOLLEN FACTORIES.—We had the pleasure of accompanying President Brigham Young on a visit to his cotton and woollen factories at the mouth of Parley's Canyon, on Monday afternoon. The machinery is of the newest style, and possesses all the advantages of the latest improvements. The superintendent of the works informed us that they are now making 100 lbs. of cotton yarn per day, with only two frames running. Scarcity of water prevents the working of more than two frames at a time, which must be a great disadvantage to the proprietor. If all the four frames could be worked at once they would turn out 200 lbs. of good marketable yarn every day; and there is abundance of raw cotton on hand. The woollen factory is in full blast, and it is astonishing to those unacquainted with machinery, to observe the rapidity with which wool is picked, carded and spun, and we hope yet to see the day when we shall be able to do as they do in some of the large factories in the eastern States and in Great Britain, where they take a bale of wool or cotton in at the upper story and bring out the cloth in the lower part of the factory in an incredibly short time.

Considering the disadvantages under which we have labored, since the first settlement of these valleys, we think this machinery and factory a credit to the Territory, and one of the many proofs of the enterprize of our President, and of his constant study and labor

to assist the Latter-day Saints in becoming independent of foreign importations.

On our return we visited President Young's farm, where everything is kept in "apple pie order," and we have no hesitation in saying that there is the best farm house in the Territory, situated too in the prettiest rural retreat we ever visited. The house is, we believe, 83 by 38 feet, two stories high, with verandah all round.

Elders George A. Smith, Joseph Young, Sr., H. S. Eldredge, Wm. S. Muir, Thos. Bullock, George Thatcher, L. Young and Bishops Woolley and Sharp and Col. Ross, were of the company who went with the President. After assisting to do justice to an excellent dinner, we returned to the city well pleased with all we had seen, heard and tasted.

THEATRICAL.—The "Duke's Motto" was repeated on Wednesday and Saturday evenings last, each time with increasing interest. In some parts there was a visible improvement, and the immense audience of Saturday night showed how attractive a piece it is.

Last night—the closing one of the season—the performance was for the benefit of the Ladies and Gentlemen of the Association. The bill was an exceedingly attractive one, "Don Cesar de Bazan," and the fairy extravaganza of "Beauty and the Beast" being presented. We were pleased to see a crowded house on the occasion, a tribute both to the Members of the Association and the care with which the Management caters for the public gratification. In consequence of going early to press we cannot offer any remarks on the performances, but judging from an opportunity offered of witnessing a rehearsal we have no doubt that it was very fine.

OUR IMMIGRATION.—Capt. W. S. Warren telegraphed from 62 miles beyond Laramie, Aug. 27th, that they were "all right." They are making good time, some 15 miles a day, and Capt. Canfield is probably near them, for they were together at Cottonwood springs.

Capt. J. S. Rollins was at Deer creek, 411 miles from here, on the 26th, "passengers and teams doing well." Nine of their oxen died between Laramie and Deer creek, but that does not seem to have materially checked their progress, for they also are making good time.

Capt. John R. Muddock's mule train arrived on the 26th inst. Three adults and two children died on the road, and Mr. Sidney Beckstead, from Goshen, Utah county, was killed by the accidental discharge of his rifle, while on guard 12 miles this side of Platte bridge.

DESTRUCTIVE FIRE.—About 2 o'clock on Monday morning a fire broke out in the store room and stables of Mr. John M. Boltwinkel, and although there was scarcely a breeze to be felt at the time, the flames could not be subdued until the roof, the entire wood work and most of the loose property inside were reduced to ashes. Among the articles destroyed were sixteen sets of harness and a number of large military tents. The cause of the fire is not known, but it is thought probable that some carelessness on the part of those connected with Mr. B's freight train which arrived on Sunday afternoon, was the cause of the fire. Mr. B. estimates the damages at \$4,000.

POLICE REPORT.—John Cahoon was arrested on the 25th for committing an assault and battery on Thomas Hulet. He was brought before Alderman Clinton and fined \$7.50. On leaving the court room he again assaulted Hulet, by kicking him, for which he was fined \$15. Very moderate for such an offence.

Elijah Maxfield was arrested on the evening of the 27th, charged with disorderly conduct at or in the Theatre, for which he was fined \$5.

Elbridge Tufts, was also arrested for being drunk and disorderly at the Theatre. Fined \$7.50.

Two Israelites, half brothers, supposed to be of the kingly tribe of Judah, merchants or dealers in ready made clothing, on the west side East Temple street, got into a sort of family quarrel on Monday afternoon, and finally from words to blows. They are said to have fought bravely. When brought before the Doctor they gave the names of John Ray and Richard Doe, not wishing their real names to be known, and not knowing them ourselves we cannot give them, but perhaps others can. One was fined \$15 and the other \$10.

NEWS FROM THE FRONTIERS.—By the politeness of Wm. S. Godbe, Esq., we are enabled to give the following:—Yesterday morning Mr. Godbe received a dispatch from his agent at Atchison to the effect that Emerson Shurtleff, J. Chinn, Mr. Truman and John Worley, freighters for Mr. G., and Mr. Crandall, freighting for Walker Brothers, are all encamped at Marysville, about 100 miles out from Atchison, waiting for an escort.

Claudius V. Spencer, with a train of twelve ox wagons, crossed the Weber yesterday morning, and will arrive in town to-morrow.

DRUNK AGAIN.—As our reporter passed down East Temple Street yesterday morning, to take items, he saw a man named Snyder—said to be an excellent book-keeper when sober,—lying drunk under the balcony of Salt Lake House. Police Constable Dewey and assistant escorted him to the lock-up. Snyder is reported to be on a big burst, having been "tight" for the last week or ten days. Our reporter saw him staggering down the sidewalk on Monday, cutting and sawing the air, and otherwise pitching into something that he imagined to be occupying space above and around him.

COUNTY SUPERINTENDENTS.—We call the attention of those concerned to the notice of Superintendent Robt. L. Campbell, found in another column. County superintendents should attend to this matter without delay, as they are required by law to make reports to the Territorial Superintendent by the first of November, and he to the Legislative Assembly during the first week of its session.

DESERET CITY.—We have been favored with the perusal of a letter from this newly settled region, in which the writer speaks highly of the location, and expresses the opinion that there are greater facilities for the enterprising farmer than in any other part of the Territory. Of course, he can only speak of those parts of the Territory he has visited, but it is a good feeling to have of one's home. The dam made across the Sevier river for the purpose of turning the water on to the arable land, has cost the inhabitants much labor and means, having been washed away three consecutive years, but it is now believed to be a permanent affair, and water proof at that. Probably the entire cost of this dam has not been less than \$10,000, besides the losses sustained on account of the failure of crops by reason of insufficient irrigation. The resources of that district of country, and its capability to sustain a large population are not yet known. Though the land varies, in quality, being good, middling and poor, yet if 16,000 acres were brought into successful cultivation many thousands of persons would be benefitted thereby. There is land enough and water sufficient to enable an enterprising farming population to raise bread for 30,000 persons.

We understand that there is in the vicinity of Deseret an excellent summer range for stock, and the winter range is as good as any other in the Territory. Clear Lake, a pond of bad mineral water situated about eight miles from the settlement, is surrounded with extensive meadows, from which thousands of tons of hay can be cut annually. At a distance of twelve miles there is plenty of Cedar suitable for firewood, which can be obtained without going into the canyons at all. Pine timber in great abundance, adapted for building purposes, is accessible within twenty miles. The winters are mild, and it is believed that all the varieties of fruit that will grow in Baltimore, can be successfully cultivated in Deseret city.

We wish success to the good folks of Deseret.

SPANISH FORK.—In a letter from Spanish Fork, we find, among other good things, the following cheering paragraphs:

The Gardener's club at this place, is in a prosperous condition; the members are active and striving to compete with each other in specimens, and I think that soon we shall be able to come up with similar clubs in our sister cities.

Our crops, as a general thing, in this place are good, owing to an abundance of water that we are blest with. Our small grain is pretty much secured, and every thing is moving on finely.

BOUQUETS.—We have received from Mr. Charles H. Oliphant two pretty bouquets, doubtless selected with a view to their delicacy of colors, and consisting of choice Delphiniums, Snap dragons and Asters. Mr. Oliphant will please accept our thanks.