

of Brewer, Watson & Co., which yielded the enormous amount of 2,500 barrels a day. Another and another flowing well was struck, until the production became so large that the market in the infancy of the trade became over-stocked. It was estimated that the production, in the winter of 1861-2, was 15,000 barrels per day, and oil declined to ten cents per barrel at the wells. The pumping wells could no longer be profitably worked and the flowing wells, whose product could not be regulated, kept the market glutted for many months. But this proved to be a fortunate circumstance in the end, for the low prices favoured the introduction of the oil into domestic use, and created an export demand, which has constantly increased, until there is now a steady market for the oil, which has again advanced in price to \$5.00 per barrel at the wells.

A description of the process of boring for oil, and of the oil wells, from personal observation, will doubtless be interesting to our readers. We will premise that Oil Creek, where the discoveries of oil have been made, is an affluent of the Alleghany river, and rises in Northern Pennsylvania. It is a mountain stream about thirty miles long, and was rightly named from the oily appearance of its surface, where the current was sluggish—a phenomenon which was noticed at the early settlement of the region. There are traces of excavations in the flats about Titusville, evidently for the purpose of obtaining oil, but whether by the Indians who inhabited this region when America was discovered, or by the French who at one time occupied the valley, or by the mysterious race of whom we have traces in the remarkable mounds of the West and in the iron tools found in the copper mines of Lake Superior, is not satisfactorily determined. Certain it is that trees which must be at least two hundred years old have grown over these excavations. The valley of Oil Creek is narrow, and is bordered by woody mountains. It is only in the flats or meadows that oil has been discovered, wells sunk even on the lowest ridges being failures.

In boring for oil, heavy iron tubing, about six inches in diameter, is first sunk through the surface soil by means of a pile driver, until it reaches the solid rock. A derrick is then erected and the rock is drilled with a centre bit of two and a half inches in circumference. As the work progresses, a rimmer is put in which enlarges the orifice to four inches. The stone which is bored is mainly shale, slate and sandstones of different varieties. Oil is sometimes found at the depth of one hundred to one hundred and fifty feet. But in these wells it must be pumped up. The flowing wells are sunk from four hundred to 500 feet, and oil is found at what is called the third sand rock. The greatest depth which has been bored is one thousand and six feet, but the operators in this case did not obtain oil. The enterprise is now considered unsuccessful, and the well is abandoned unless oil is reached at the depth of five hundred feet. Thousands of wells have been bored in the Oil Creek Valley, but it is estimated not more than fifteen per cent. have been productive. Boring for oil is in fact a lottery. Some obtain rich prizes, but more are ruined, and the valley is dotted with dilapidated derricks, the melancholy monuments of departed hopes and ruined fortunes.

* The most productive wells are now from five to ten miles down the Creek from Titusville. The flowing wells gradually decrease in productiveness. One of the original large flowing wells run from 2,500 to 3,000 barrels for several months, when it went down to 400 barrels, and then suddenly ceased to flow. With the aid of a pump, however this well now yields about 100 barrels per day. The Sherman well, which was sunk about a year ago flowed 1,500 barrels and now yields about 500. A new well was struck in February, opposite the Sherman well, which yielded 2000 barrels. Other parties boring in the neighborhood, struck the same vein about a month ago and got a well of the same capacity. But the production of the first well suddenly fell off to 100 barrels, and the parties who owned it proposed to sink another well between the two hoping to recover their lost property. To avert this the owners of the new well bought them out, paying \$145,000 for all their right, title and interest to the well, machinery, fixtures and land, and the bargain was considered a good one.

As an illustration of the uncertainties of the search for oil, the following incidents are related: one well was bored with the usual centre bit to a considerable depth. Upon withdrawing the bit and putting in the rimmer, a vein was struck at the side. The drill had just missed the vein, and the well would have been a failure had not the orifice been enlarged. A well was at one time bored which promised to be very productive, flowing a large amount. The proprietors not being ready to take care of the oil, a plug was driven into the iron tubing, upon removing which, when the tanks had been built, the oil had disappeared. The hopes of the proprietors faded away like the "baseless fabric of a vision."

Although fortunes are often realized from an oil well, yet it may be doubted whether speculations in land have not been equally productive. All the lands on Oil Creek valley have been inanced to almost fabulous prices. One farm was recently sold for \$10,000 in specie, equal to \$15,000, cash. It was bought by a minister from Cincinnati. Brewer, Watson & Co. immediately took one-half of it off his hands, paying the whole amount of the purchase money, and he has since been offered \$20,000 for one-half of the balance. There are now three flowing wells on this farm. Many farms which were originally worth not more than \$2000 to \$3,000 have been sold for \$20,000 and \$30,000. The lands are generally leased to the parties who sink the wells for one-quarter of the net yield of oil.

The aggregate production of petroleum in the in the Oil Creek valley, is now about 7000 barrels per day, worth \$3.00 per barrel at the wells. The product has been as high as 15,000 barrels per day in the winter of 1861-62, when the oil market was glutted and oil was sold for ten cents per barrel at the wells. The net value of the product is now \$21,000 per day, or \$7,000,000 per year. The oil must be refined before it can be used for illuminating purposes. This is done by distillation, the lighter and more volatile portions passing off, first in the shape of naphtha, which is largely used in the arts instead of spirits of turpentine. The second run is illuminating oil, and lastly a heavier oil flows from the still, which is used for lubricating