

Scientific American

A WEEKLY JOURNAL OF PRACTICAL INFORMATION IN ART, SCIENCE, MECHANICS, CHEMISTRY AND MANUFACTURES.

Vol. XII.—No. 6.
(NEW SERIES.)

NEW YORK, FEBRUARY 4, 1865.

\$3 PER ANNUM
(IN ADVANCE.)

Improved Feed-water Heater.

A very great waste of fuel occurs in high-pressure steam engines where the exhaust passes off without imparting its heat to the feed water. It is well known to engineers that when the boiler is pumped up the pressure generally falls unless the heating surface is ample. The heaters commonly used, although they heat the feed water, are mischievous in another respect, for the exhaust is forced to traverse a coil or its equivalent, and go through intricate passages. This arrests its progress and causes undue back pressure on the piston, which it is desirable to avoid. The heater shown in the accompanying engraving is a very efficient one, for the water passing through it is heated to ebullition, while the exhaust openings are unreduced and unobstructed. The water is introduced to the heater at the top one of the series of plates, A, and flows through the annular channels, B, alternating from the center to the circumference of each in its passage to the bottom. A pipe, C, is fitted at the points above-mentioned, through which the water runs into each partition.

The exhaust enters the pipe, D, and fills the whole cylinder passing around, above and below each plate, so that it is in direct contact with the water to be heated; it finally emerges at the bottom opening, E. The feed water is also taken from the bottom compartment and admitted to the pump, so that by this arrangement the difficulty usually experienced in pumping hot water is obviated.

One great advantage of this heater is the deposition of minerals held in suspension by the water. The scale which ordinarily forms in boilers adheres to the plates of this heater, and may be easily cleaned off. As much as a bushel has been taken out at one time. The plates are readily got at for inspection by taking off the dome, F, each plate can then be lifted out by unscrewing the nuts, G, from the columns which support it. The water in rapid circulation takes up the heat of the steam passing through the heater, and fuel is thus economized and the boiler prevented from the injurious deposit of scale, as previously set forth.

This heater was patented by Messrs. Lamon and Gaskill. For further information address Ehrick Parmly, No 3 Bond street, New York.

The Flowing Well at "Pitt Hole."

A correspondent of the Pittsburgh, Pa., *Commercial* gives the following interesting account of a valuable well at Pitt Hole, near Oil Creek, Pa.:—

"And what a strange and busy scene around the well itself! To get to it you pass through a forest, or rather grove, of lofty and venerable white pines. What a contrast to the impressive solitude which has reigned there for so long a period, disturbed, per-

haps, only by the deer as they came down to drink. A number of men were hewing and hauling logs, and making corduroy roads, to render easier the ascent to the top of the bank. Another number were just putting the finishing strokes to a huge tank, to hold twelve hundred barrels of oil. Numerous horses, sleighs and curious visitors were grouped here and there. Still more men were engaged in filling bar-

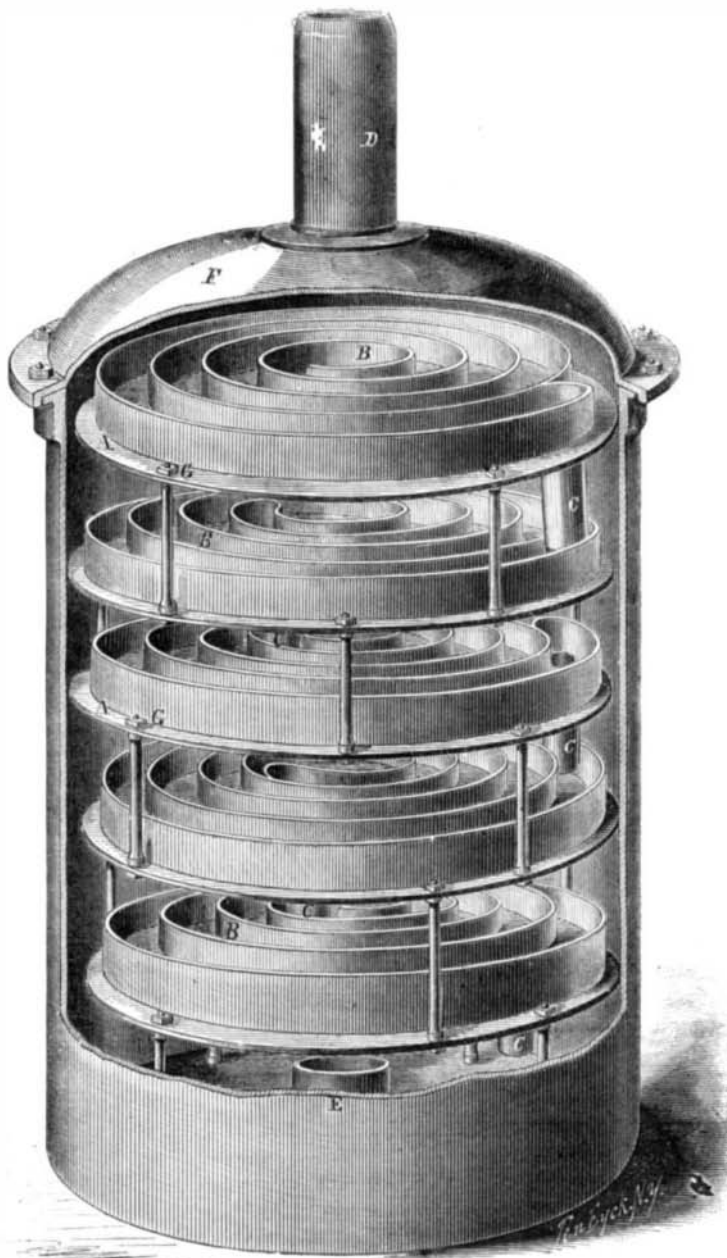
rels from the receiving tank, while scores of sleds were loading and driving off as fast as possible, their places being supplied by other scores.

little spurt, and then it resumes its even and steady flow. Standing over the well, the oil can be plainly heard ascending the tubing. Near by stands the engine-house, with its trim, polished and powerful engine from New York city, looking as demure and innocent as if its ceaseless and powerful workings were not the cause of all this hubbub. No need for an engine now, except to sink another well, for this

'big well' is a *flowing* not a *pumping* one. It runs by nature's gas, not by man's steam. How long it will thus flow, who knows except the Omniscient and Omnipresent Power who made the oil, and who has so mysteriously concealed it in the earth until man's need for it was greatest? The men about the well claimed for it a steady flow of two hundred and twenty-five barrels per day. Experienced oil men who visit it, assert that it flows *strong two hundred*. It may yet come up to three hundred, five hundred or even a thousand barrels per day. Eight or nine thousand dollars a day—minus a quarter royalty—besides the sales of land and leases at enormous figures, will afford the New York petroleumites a snug little interest on their modest investment. This well was sunk through four distinct strata of sand-stone rock, instead of three, as customary in other localities. The first sand-stone was reached at one hundred and fifteen feet; the second at three hundred and forty-five feet; the third at four hundred and eighty feet; the fourth at six hundred feet, and the oil itself at six hundred and fifteen feet. The well was pumped for a day or two, but the vast amount of gas in the subterranean caverns or fissures which held the oil, soon rendered useless that expense."

Regarding the social characteristics of the natives in the vicinity of this well, the correspondent promulgates the following scandal. 'Buckwheats' is a rustic cognomen indicative of the principal crop raised by the farmers thereabout:—

"They say here that when the 'Buckwheats' sell their farms for fifty, seventy-five or a hundred thousand dollars, they all go to Westfield or Jimtown, N. Y., to live and spend their money. At



LAMON AND GASKILL'S FEED-WATER HEATER.

rels from the receiving tank, while scores of sleds were loading and driving off as fast as possible, their places being supplied by other scores.

"Mounting a rough ladder, you get your first view of the oil which has been so rudely disturbed from its long slumber far down in the very bowels of the earth. You see nothing but an iron two-inch pipe, with a stream of fluid flowing out as large as a heavy hydrant stream, and looking like country-house molasses and of about the same consistency. Every couple of minutes the gas—which can be plainly seen issuing from the tube-like waves of heat—gives the stream a

one place the farmer had sold out a couple of months before; the ambition of the man was to drive teams, and of his wife to keep a boarding-house for the men. A sled, having on board his whole family, was driven into Oil City by an old farmer carrying with him the title deeds of a fine farm somewhere near Pitt Hole. The farm was soon picked up by an agent at a hundred thousand. The farmer's son—a stolid, shock-headed youth—was congratulated by some of the hotel stove-surrounders, when he simply remarked "Dad's farm might be darned good for ile, but it was so poor that dad couldn't raise a pint of beans on it."