A VISIT TO POMPEII.

A recent traveler (whose name, we regret to say, has escaped us) thus speaks of the interesting city of Pompeii and the excavating operations progressing there :—

Our excursion to Pompeii was performed by railway, and occupied about an hour from Naples. On reaching the Pompeii station, a short walk brings us to the ruined city, which, contrary to general expectation, is found to be at an elevation above the level of the adjoining country. Destroyed in the first century, it was not till about 1750, that any one gave a thought concerning it, and this neglect appears the more surprising, when we are told that part of several buildings remained prominent above the soil, having never been thoroughly entombed. An accidental discovery of painted remains having suggested a regular course of excavation, the process of opening up has been going on for upwards of a century, but under great difficulties as to the disposal of the incumbent earth.

Proceeding up a winding and sloping pathway, cut through masses of rubbish, we come with startling abruptness on the silent and deserted city. A Government officer is imposed on us as a guide at the entrance, and, led by him, we suddenly find ourselves in a paved street environed by shattered walls, doorways, temples, and columns. Walking onwards, we make the circuit of the town as far as it is opened up. Going down one street and up another, crossing this way and that way, we are amazed at the extent which has been laid bare, though a much larger space remains to be cleared. While there was much to surprise and delight—much to instruct and moralize over—I feel a reluctance to impose any account of what has been so often and so minutely described. A mere glance at the more remarkable features of the exhumed city will suffice.

The guide, having drawn attention to the fact of the city having had walls and gates, proceeds to point out a group of four magnificent ruins—the Forum, the Temples of Venus and Jupiter, and the Basilica or Court of Justice. Adjoining are the ruins of the prisons, in which skeletons in manacles were found. At a short distance is the ruin of the theatre, with some handsome columns still standing. The houses of distinguished individuals are also made the subject of special notice; such as of Sallust, Pansa, and the villa of Diomedes in a suburban street, outside the walls. In these and similar mansions of the patrician order are noticed some remains of mosaics and frescoes, the greater part of such decorations having been removed, along with other objects of art, to the museum at Naples. The whole city has, in fact, been cleared of every moveable; and almost every place is as bare as in a house after a removal. The larger mansions have undoubtedly been magnificent, and in their successive courts we see the type of the modern Italian palazzo and French hotel. These superior dwellings extend considerably backward from the street, the access to them being generally by an entrance between the shops of tradesmen. All the shops are of those limited dimensions which are still common in Naples, Rome, and other Italian cities. They consist of an apartment about the size of a coach-house, the front having been entirely open, or with a counter partially running across. At night, all had been closed in with shutters. I do not think there had been any shop windows. Some of the shops seem to have had one or two small apartments behind or above. In several instances the stone-cutters are seen, with large earthenware jars as fixtures. A baker's oven, with remains of a grinding mill, are shown in one of the shops; and from the skeleton of an ass having been found in a recess of this establishment, it is conjectured that the mill had been moved by that unfortunate animal.

From a variety of such disclosures, it is evident that business was conducted in a primitive sort of way in Pompeii—the grinding of grain into flour, and the baking and selling of bread having, as just seen, taken place all in one establishment. Till the present day, as I have already mentioned, things are little advanced beyond this in Rome. In some instances, we see the name of traders on the front of their shops, inscribed in Roman letters in so rough a style as to suggest that they had been executed unprofessionally with a stick or brush. Few buildings are believed to have been more than two stories in height. Generally, nothing remains above the first story, and accordingly the city looks like a collection of short stumps of walls, which, for their preservation, are covered with tiles. In their entire state, the houses had flat roofs, a circumstance which hastened their destruction. On being excavated, skeletons were found in several houses, but not in great numbers; for, as noticed by the younger Pliny in his account of the destruction of the city, the inhabitants generally fled to a distance for safety, many of them trying to shelter themselves from the shower of scorching ashes by carrying pillows on their heads. The skeletons found appear to have been chiefly those of ladies, who, perhaps, had not the courage or power to escape. A number of them when found, had on necklaces, bracelets, and rings of gold. One skeleton was found with a purse of money grasped in its bony hand; the attempt to procure the money having been the probable cause of death.

The streets are narrow, and paved with huge stones in the old Roman style; in some places they are much worn with wheels, and most irregular. Water had been brought into the town by subterranean conduits, which emptied into large stone troughs at the corner of certain streets; and from these public fountains dwellings were supplied by water-carriers. There are back lanes in some of the streets, but no stables have yet been discovered. Possibly, horses were accommodated in the suburbs. One is pleased to see that the streets had *trottoirs*, a very curious fact, for it is only lately that side pavements for foot-passengers have come into use on the continent, seemingly introduced from England. The forming of trottoirs had, therefore, become a lost art in Italy, for in few towns are those useful appendages to a street yet employed. The trottoirs of Pompeii are about thirty inches wide, and raised a foot above the street; in some instances, they are laid with a common kind of mosaic. Corresponding with them in height, there are usually three fixed stepping stones at the ends of the streets. It appears from this that Pompeii was subject to showers that temporarily deluged the streets, and it was therefore necessary to have means of crossing dry-shod. As wheel carriages were employed, it must have required dexterity in drivers to pilot their cattle and vehicles through the spaces between the stepping stones.

The most perfect of all the public buildings laid bare is the amphitheatre, which is situated so far apart from the other excavations that we cross a field to reach it. The field lies above the still unexplored portions of the city, and it is here that those excavations are being actively carried out, of which notice has lately been taken by the press—a number of men digging out the earth, which was carried away by women and girls in baskets, and deposited in trucks. These were run off in the usual manner, and emptied at a distance, forming a railway embankment in the direction of Vesuvius. By this improved process of removal, the excavations may be expected to go on rapidly. It is to be regretted, however, that the embankment crosses over the space which remains to be cleared out, and will have in turn to be removed. The hands of the girls engaged in this toilsome labor were, according to custom, held out for donations; and they would not have been indisposed to loiter at their work, but for the jealous watchfulness of a task-master who was armed with a light whip to keep them in order. It would have been a hard heart that did not feel for them. The weather was intensely hot, and the fatigue of lifting and carrying big baskets full of earth from the deep excavations, was apparently almost too much for those poor creatures to endure.

We spent altogether about six hours in our ramble over Pompeii; and having concluded by dining at the Hotel Diomede (a house of entertainment for tourists, a short way from the railroad station), we got pleasantly back to Naples by one of the evening trains.

ENGLISH POSTAGE-STAMPS.—The manufacture of postage-stamps in England costs £27,000 a year, and the produce sells for £2,700,000.

A MIXTURE of black lead and lard is a good anti-friction compound for carriage axles.

A Race between Steam and Electricity.

Old Wash. S—— is known by almost every railroad engineer, at least by reputation. A better engineer I never knew. But Wash. had one failing—he would drink; and if he was particularly elated with any good fortune, he was sure to get full of whisky; and though in that state never known to transgress the rules of the road by running on another train's time, still he showed the spirit which controlled him by running at a terrible rate of speed. At one time the company purchased a couple of engines for the E—— road, on which Wash. was running. These engines were very large, and were intended to be very fast, being put up on seven-feet wheels. From the circumstance of their being planked between the spokes of their "drivers," that is, having a piece of plank set in between the spokes, the "boys" used to call them the "plank-roads." They were tried, and though generally considered capable of making "fast time" under favorable circumstances, they didn't suit that road; so they were condemned to the "gravel-pit," until they could receive an overhauling, and be "cut down" a foot or two. Wash. had always considered that these engines were much abused, and had never received fair treatment; so he obtained permission of the superintendent to take one of them into the shop and repair it. At it he went, giving the engine a thorough overhauling, fixing her valves for the express purpose of running fast, and making many alterations in minor portions of her machinery. At last he had the job completed, and took her out on the road. After running one or two trips on freight trains to smooth her brasses, and try her working, he was "chalked" for the fastest train on the road, the B—— express. The "boys" on the road were anxious for the result, for it was expected that "Old Wash." and the "plank-roader" would "astonish the natives," that trip. Wash. imbibed rather freely, and was somewhat under the influence of liquor when the leaving time of his train came, though not enough to be noticed; but as minute after minute passed, and the train with which it connected did not make its appearance, Wash., who kept drinking all the time, grew tighter and tighter, till at last, when it did come in, an hour and a half "behind time," Wash. was pretty comfortably drunk; so much so that some of the men who had to go on the train with him looked rather "skeery," for they knew that they might expect to be "towed" as fast as the engine could run. How fast that was no one knew, but her seven-feet wheels promised a near approach to flying.

At last they started, and I freely confess that I never took as fast a ride in my life. (Wash. had got me to fire for him.) Keeping time was out of the question as far as I was concerned, for I had my hands full to keep the "fire-box" full and hold my hat on. We had not run more than ten miles, before the brakemen, ordered by the conductor, put on the brakes, impeding our speed somewhat, but not stopping us, for we were on a heavy down grade, and Wash. had her "wide open," and working steam at full stroke. At last the conductor came over and begged Wash. not to run so fast, for the passengers were half scared out of their senses. Wash. simply pointed to the directions to use all "due exertion" to make up time, and never shut off a bit. So on we flew to B——, 40 miles from where we started, and the first stopping place for the train. Here the conductor came to Wash. again and told him if he did not run slower, the passengers were going to leave. Wash. said "Let them leave," and gave no promises. Some of them did leave, so also did one of the brakemen, and the baggage-man; away we went without them to O——, where a message from head-quarters was awaiting us, telling them to take Wash. from the engine and put another man on in his place. I told him of the message, and picking up his coat, he got off and staggered to a bench on the stoop of the depot, where he laid down, seemingly to sleep. I started back to the engine, but Wash. called after me, and asked me "how we got the orders to take him off?" I told him "by telegraph." "Humph," said he, rolling over, "wish I known that: the confounded dispatch never should have passed me!"—*Trips in the Life of a Locomotive Engineer.*

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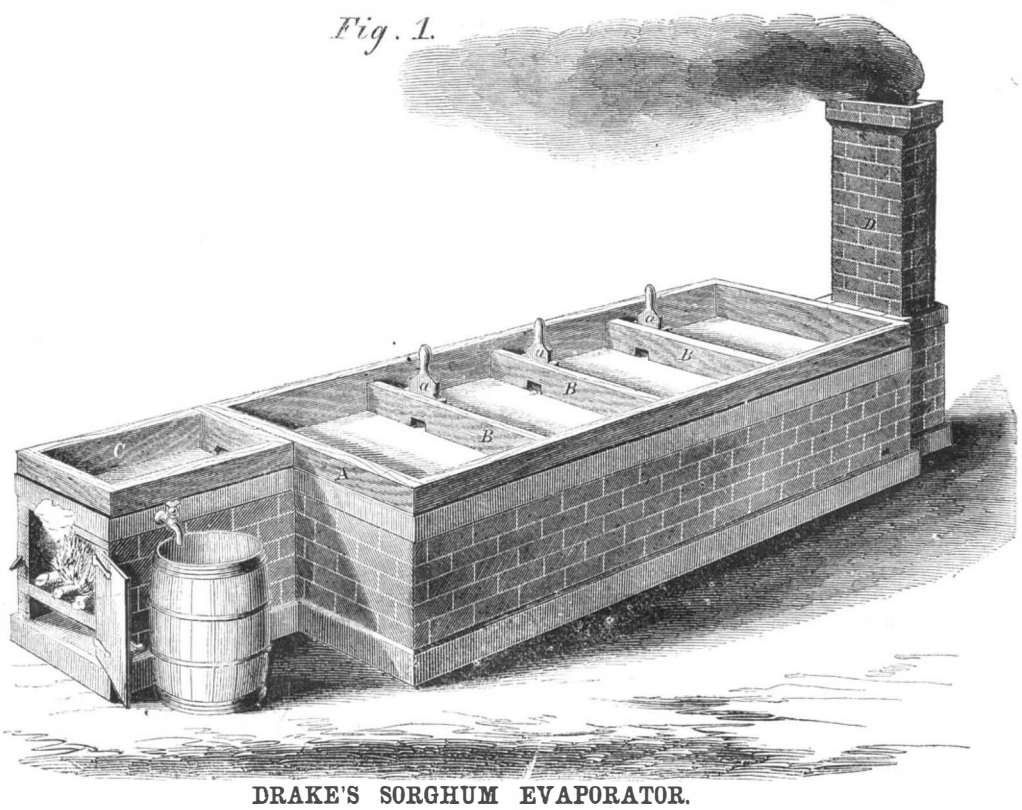
Improved Sorghum Evaporator.

The importance of the Northern sugar interest is increasing astonishingly ; it is but a very few years since the introduction of the Chinese cane, but as time developes its good qualities, it is being cultivated most extensively in the West. Inventors are turning their attention to machinery for economizing the manufacture of sugar from the juice of the sorghum, and we shall soon have a complete apparatus to make it with profit to the grower and a vast saving to the consumer. Our engraving represents a new evaporator for boiling the juice. Fig. 1 is a perspective view of the evaporator and its attachments —furnace, &c.—in full blast. The pan, A, is subdivided into four smaller pans by the divisions, B, which are furnished with gates, *a*, to shut off communication between them if necessary. The finishing pan, C, is immediately over the furnace, and is provided with a faucet, by which the sugared juice can be drawn off when it has reached the desired hight of granulation. Fig. 2 shows a section of the furnace grate and the flues, *b*, or passage-ways, for the smoke and flame on their way to the chimney, D. These details comprise the main features of the invention.

Fig. 1.

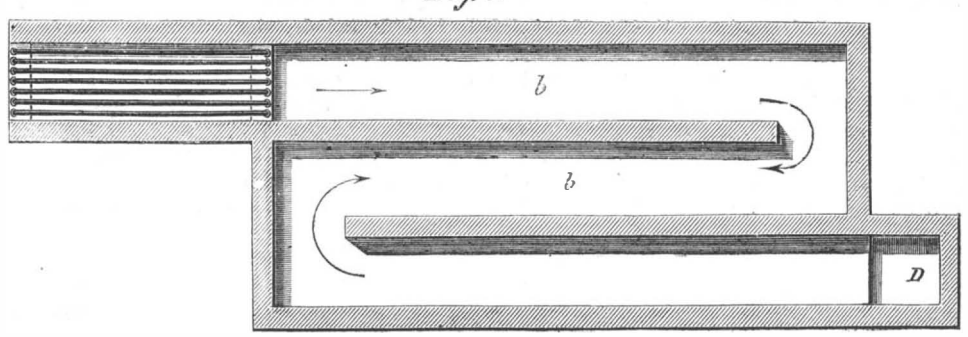


DRAKE'S SORGHUM EVAPORATOR.

The advantages arising from the use of this evaporator will be apparent upon an examination of the same. By allowing a large surface to the pan, the heat is utilized and exhausted of all its virtue before reaching the chimney ; and by having a long furnace cord-wood or any other wood can be burned without increasing the expense for cutting it up. The evaporator can be cheaply constructed, as the frame and the divisions are made of wood, and by the action of the fire and the position of the pans relatively to the same, the quality of the sirup or sugar produced is much improved. This evaporator has been tested fully. Sixteen hundred gallons of sirup were made by one of them, last fall, and the manufacture gave great satisfaction to all.

The patent for this invention was obtained through the Scientific American Patent Agency, Jan. 6, 1863, and further information respecting it can be obtained by addressing the inventor, F. D. Drake, Four Corners, Huron county, Ohio.

Fig. 2



Boiler Explosion Verdict.

The U. S. steam transport *Tillie*, on the 11th inst., on its way to Port Royal, S. C., exploded her boilers when near Sandy Hook, by which unfortunate casualty two engineers, one fireman and one coal-heaver lost their lives. The boiler of this steamer was new and had been constructed at the Delamater Iron-works, this city. In the evidence given before the coroner's jury in this case, the captain stated that the boiler had been examined by Inspector Lighthull, and a certificate was given that it could carry 45 lbs. pressure of steam safely, but it had never been submitted to the well-known hydraulic test, although Mr. Renwick had been solicited to make the test. The chief-engineer, Thomas Hawkey, stated that there was a pressure of 37 lbs. of steam on the boiler when he left it, about ten minutes before the explosion occurred, and his order was not to raise the pressure above 40 lbs. He also stated that the explosion was occasioned by the collapse of one of the arches over the furnace, but he could assign no reason why this should have been crushed, as the boiler was made of the best iron, and he would have considered it safe with a pressure of 50 lbs. There was plenty of water in the boiler according to the gage-cocks. On the 13th inst. the coroner's jury gave a verdict to the effect that they could not account for the explosion as the boiler was made of the very best materials. As usual, "nobody was to blame." And yet it appears to be a perfectly logical deduction, that if the explosion was occasioned by a collapse of the arch above the furnace, according to the testimony of the chief-engineer of the boat, then the arch was nor sufficiently strong to safely withstand a pressure of 40 lbs. of steam. The hydraulic test for steam boilers should uever be omitted by inspectors, and it should be applied both with gradually and also with rapidly increased pressure, as it reveals defects that cannot by any means be detected by mere ocular inspection. The coroner's jury took a most contracted view of this case and all the attendant circumstances, or a different verdict would have been rendered. What is the use of inspectors of boilers if they do not perform their duty ?

Repudiation of "Shinplasters."—The Revenue Stamps.

The fractional parts of a dollar issued by cities, corporations, banks or individuals, as shinplasters, we are glad to know, are being generally refused by tradesmen and other business people throughout the country. *Thompson's Bank-note Reporter*, of the 16th inst., states as follows :—

Shinplasters of all kinds are now rejected as currency, and the Postage (U. S.) Currency is exclusively used. Most of the local shinplasters are selling, in round amounts, at 5 @ 10 ℔ cent discount. We, however, find it necessary to decline purchasing any.

Revenue Stamps have undergone a change. Any stamp is now good for its face on any instrument, care being had to affix the sufficient amount of stamp or stamps required by the law. This does away with a vast amount of trouble, and enables dealers to keep an assortment on a reasonable amount of money invested in them. Orders for stamps can now be sent to us, naming only the sizes wanted. All orders for $100 and over of stamps will be filled, adding 4 ℔ cent ($104 in stamps for $100 in money).

Hereafter shinplasters of every denomination issued by cities, corporations or banks, will not be received at the office of the Scientific American. Persons who have occasion to send us fractional parts of a dollar may remit U. S. Postal Currency or postage stamps or revenue stamps of any denomination instead.

Minerals of New Brunswick.

The North-eastern British provinces of America contain natural resources, which, if properly developed and applied, would make them the greatest commercial and manufacturing commonwealths on the Atlantic sea-board. Thus coal and iron are the two grand minerals for manufacturing and for driving machinery, and these minerals are found in abundance, both in New Brunswick and Nova Scotia. At present we will only refer to New Brunswick, which has the elements of incalculable wealth stored up within its bosom. The carboniferous system of rocks covers an area equal to more than one-third of the entire province.

In Albert county, a rich carboniferous mineral—called by some coal, and by others asphalt—exists in great abundance. It surpasses all other minerals on our continent in the production of kerosene, and about 15,000 tuns per annum have been mined during the past three years. A seam of rich cannel coal has also been found in the same county.

Iron ore exists in considerable quantities near Woodstock, and smelting works on an extensive scale were at one time in operation there, very fine iron being produced. The bed of ore is in three separate seams, of 28, 15 and 17 feet respectively. Iron ore has also been found in considerable quantities, some distance below Fredericton. Its thickness is described as varying from 20 to 60 yards. One great reason why the iron of New Brunswick is not worked more extensively is accounted for by the fact that coal has not been found in the vicinity of the ore, and the cost of its conveyance thither so increases the price of the melted iron as to prevent it finding a ready sale. This is an obstacle, however, will yet be overcome by railways. Gypsum, copper, lead, potter's clay, fire clay, &c., are also found in large quantities.

Harbor Defenses.—A correspondent, Mr. Charles E. Toop, suggests that our harbors may be protected from invasion by stretching strong chains, to which torpedoes are affixed, across the narrowest portion of entrances. The chains are to be drawn taut so soon as the enemy appears by means of windlasses to which power is applied, and the torpedoes are to be fired in any way that is deemed the most practicable.

We are happy to be able to state that a portion of the United States Patent Office, which was used for a long time as a military hospital, has recently been vacated and the patients transferred to more suitable structures for sick soldiers.

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