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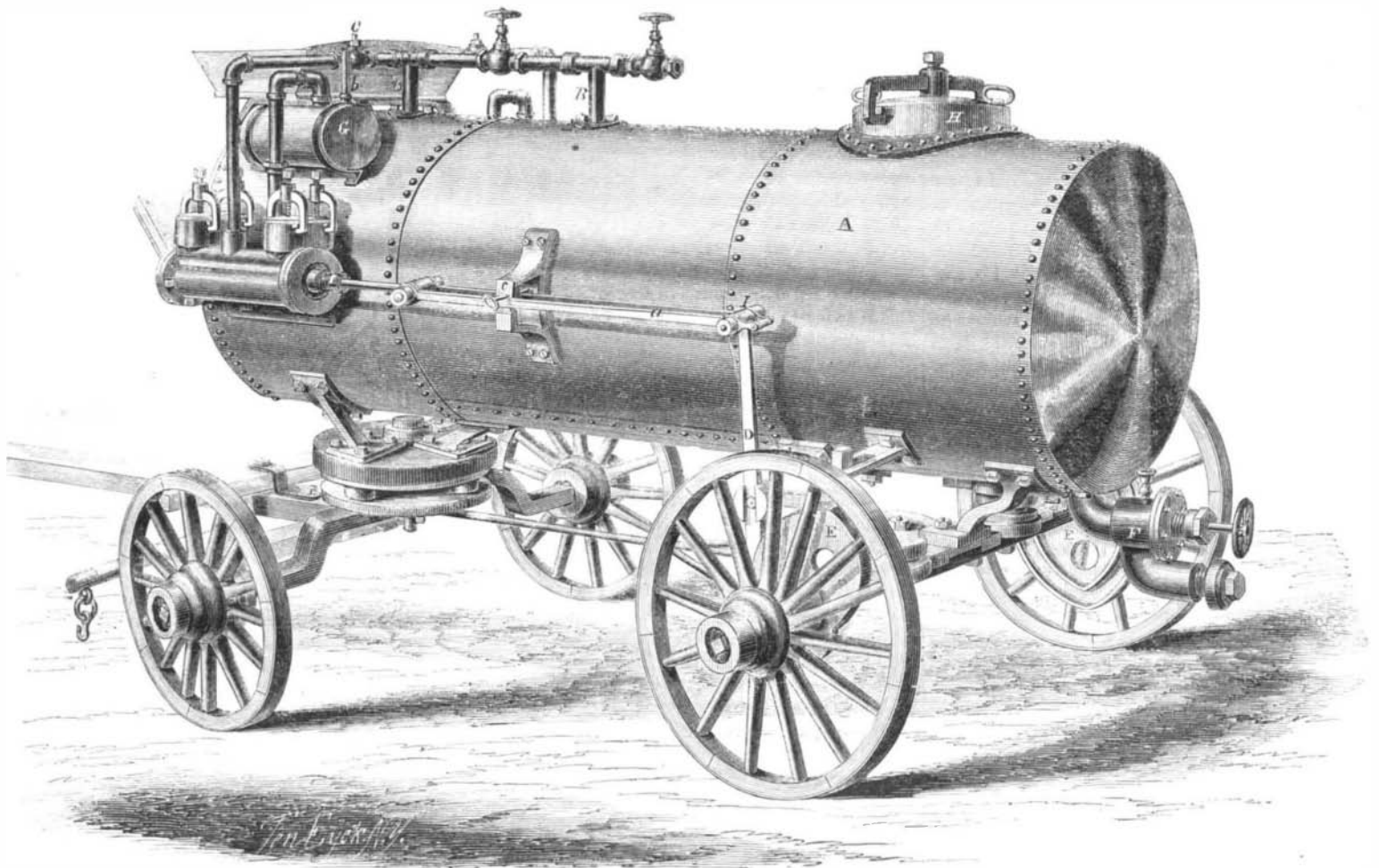
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Improvement in Vacuum Tanks.

This invention consists of a truck upon which is mounted, in a suitable manner, a cylinder-shaped tank, A, resembling a steam generator in form, 7 feet in length and 38 inches in diameter, divided into two compartments, which are connected by the tubes, B, on the upper side of the tank. On the side of the

the piston rods and pumps. By the working of the pumps the air is exhausted from the tank. The object in having two compartments is, that while the larger one is the recipient of the solid substances drained, the smaller one absorbs the gases; when the machine is loaded and ready to be discharged, the gases exert a pressure on the matter, thus facilitat-

the pin, c, which would be below the rods when such alteration took place. During the above-described operation nothing offensive is seen, nor does any odor, whatever, arise; neither is there any hand labor, the machine doing all the work itself. On arriving at the place of deposit, the valve is again opened, a small length of hose attached, and the contents are



WALTER'S INODOROUS DRAINING MACHINE.

tank there are secured two air pumps, having suitable connecting-rods, a, connecting with the check valves, C, on the top of the tank, through which the air from the two compartments of the tank is exhausted. The pumps, one on each side, are worked by the levers, D, receiving their motion from the cams, E, attached to the hind wheels of the truck. To the rear end of the tank is attached the main valve, F, through which the properties drained have to pass before entering the tank, and through which they are again discharged when the tank is to be emptied. Just over the pumps, and in connection therewith, are attached two small copper vessels, G, of the capacity of one gallon each. These contain a disinfecting fluid, and as the air is exhausted from the tank it passes through these vessels and is thus deprived of all bad odor. The exhaust pipe may be seen at b. The man-hole, H, is provided as a means of reaching the interior when necessary.

The working of the machine is as follows:—It is drawn by two horses, and as the wheels revolve they give motion to the lever which is connected to

ing its expulsion. As the pumps are double-acting, as well also the cams, it will be seen that when the machine is driven at a common pace each pump receives two strokes each way at every revolution of the wheel. It is calculated that this would, under ordinary circumstances, form a vacuum in 15 minutes. To indicate the extent of the vacuum a gage is applied to the tank.

When the vacuum is formed and the machine has arrived at the place to be operated upon, a gutta-percha hose of suitable length having previously been laid down, the end of it is immediately coupled to the valve at the end of the boiler; the valve is then opened and in the space of two minutes the tank is filled with the contents of the sink, cesspool, or whatever place is operated on. When the machine is loaded the hose is detached and the whole apparatus driven off to the designated place of deposit. As a matter of course, the pumps are now disconnected from the motion of the cams and the levers. This is done by raising the rods—they merely hooking over the lever—and letting them rest on

discharged. By this method, an ordinary sink or cesspool can be drained in the space of half or three-quarters of an hour, provided four or five machines are at work, each taking one load. Each machine requires one driver and two horses.

The advantages of this invention over the present system, as now practiced in all our large cities, are apparent to all. As a sanitary measure these machines are extremely desirable, and should be adopted forthwith. They require little or no hand labor, and consequently can be worked at a much less expense than the present obnoxious method. They do in minutes the work it requires hours to perform by the other methods, and they can be worked in the day time during the year round without causing disgust. Three human lives were recently lost in Brooklyn by cleaning a sink in the old way. If this machine had been used no such accident would have occurred.

This invention was patented, through the Scientific American Patent Agency, on May 6, 1862, by Joseph P. Walter. Further information can be had by addressing Walter & Jones, 193 Broadway, New York.

The Diamond Market.

For the first time in many years diamonds of the "first water" are not to be bought wholesale. The commencement of the present war found diamonds abundant and comparatively cheap. As the trade knows, however, diamonds in point of value are only second to coin. If of first water, free from defect, a diamond of a given size represents at all times a corresponding equivalent in coin. A tour among extensive dealers in and manufacturers of jewelry now shows a minimum stock, from which all the best have been culled, with great difficulty in filling their places, though prices have advanced fully seventy per cent. The duty is *ad valorem* ten per cent., but the cost of exchange brings up the price. During the last three years the demand for diamonds, we learn, has been quickened in the European capitals to a large extent. They were cheaper during the Crimean war than before or since. Wealthy Turks placed thousands of them in the market, and a desire to realize upon long-hoarded gems seized the minds of Christians as well as Mussulmen. Now matters are in a different position, and diamonds are diamonds in the strictest interpretation of the phrase. A new class of purchasers have sprung up. People who two years ago could not tell the difference between a tiara of gems in purest ray serene, and the gingerbread affairs sported by queens in tragedy, have of late been the best customers to the lapidaries. A case in point, narrated to us (yesterday) by a jeweller, is worth publishing.

An Irishman, dressed in fine clothes (to his very apparent discomfort), entered the store. His face was bronzed, his hands horny, his nose was an unmitigated pug, and his teeth were indelibly stained by second-class "Cavendish". A tailor had clothed him like a gentleman to the manor born, but his garments were an evident incumbrance.

"I want to look at some dimons," he said, as he entered the doorway. A junior clerk showed him to the "dimons" counter. He here repeated his request to a senior clerk. The latter took a quick glance at his customer, and made up his mind that the man had come to the wrong place.

"You wish to see diamond jewelry?"

"I do."

The clerk produced a tray filled with imitation gems, and submitted them for inspection.

The man fingered several of the articles without speaking, and as silently laid them down. "Thim isn't what I'm afther. I want the rale kind. Show me somethin' wid the rale sparrikle."

Thinking to get rid of a profitless customer the clerk produced a velvet case, in which reposed, in gorgeous effulgence, a bracelet, breastpin and earrings, in the finest diamonds.

"How do those suit you?" asked the clerk.

The man looked at them. "Ah! thim's the beauties. What's the price o' thim?"

"The set is seven thousand dollars," said the clerk, preparing to return them to the case, not dreaming of its purchase.

"Well, I'll take thim," was the quiet and prompt reply.

The clerk was somewhat astonished. In his experience the purchase slightly exceeded all former precedents.

Word was quietly passed to one of the firm that a seven-thousand-dollar customer was at the diamond counter, and the head of the house very briskly came forward. The result was the further purchase of a single-stone diamond ring at eight hundred dollars. The purchaser gave his check in payment for the lot. He was detained, without his knowing the fact, in an inspection of other goods, while one of the clerks was sent to bank to test the value of the check, but the clerk returned with the money, and the information that if drawn for five times the amount it would have been as promptly honored. Subsequent inquiry led to the discovery that the purchaser of the diamonds in question had accumulated money in following up the army and purchasing its offal for soap manufacturing, at the same time loaning money to officers at usurious interest, and purchasing claims of soldiers and others against the Government. The man, two years ago, was foreman in a lard and tallow factory.

This incident, which is literally true, is an illustration of the causes to which are attributable the present prices of gems. What is true of diamonds is

true, also, of pearls, opals and emeralds. Rubies of any size are out of the market. Even garnets, the cheapest of all the precious stones, have advanced in price with the rest of the precious stones. The uncut garnet is termed a carbuncle; it is equally familiar in either form. At the Continental Hotel, the other day, we saw in the possession of a Cuban lady, a rosary, upon which she kept devotionally tally, composed of a string of garnets. The larger ones were of the size of a hazel nut, the smaller ones the size of marrowfat peas. The entire affair, in ordinary times, would foot up to the value of a thousand dollars.

The transmutations caused in society by the present war are most singular. Many people, all their life long accustomed to the possession of gems, have parted with them forever; many others, who now wear them, knew not, two years ago, the difference between the finest diamonds and the glassy baubles that glitter upon the nude arms of the ballet girls and danseuses of the concert-saloons.—*U. S. Gazette.*

The Last of the "Gumbacks."

The counting of the soiled postage-stamps, which were deposited two or three months ago at the New York Post-office for redemption, is not only completed, but at least nine-tenths of the stamps have been redeemed, and notice is given to the owners of the remaining one-tenth that they should forthwith report themselves at the Post-office with their certificates of deposit, and receive current funds in lieu of their old "gumbacks." It is desired to close the account, and persons interested may save themselves inconvenience by making early application for the money which is due them.

The aggregate amount of claims of depositors is over \$260,000, and the whole number of washed and other stamps which were thrown out is comparatively small, being only about five per cent. of the whole. This is owing to the care that was taken by honest holders to throw out all stamps that had been used before making their claims at the Post-office, so that a large proportion of the five-per-cent. of rejected stamps was offered with knowledge of their character, or fraudulent design.

The assorting and counting of the stamps has occupied three months' time. This work was performed, with that of redemption also, under the general supervision of the Post-master, but the particular direction of the whole was assigned to the Treasury Department. An agent of the Government also gave his attention to the details of the reception of the stamps and to other matters connected with the redemption. The counting of the stamps was a most troublesome business. Their denominations were from one to ninety cents; there were few, however, of greater value than twenty-four cents, and quite as many one-cent stamps were of the number, it is estimated, as of all other denominations. A considerable proportion were so begrimed with dirt that it was difficult to recognize them.

Some idea of the extent of the labor involved may be formed from the fact that the counting would have occupied one man for the space of two years and a half; and it is believed that that man, in consequence of the perplexing nature of the work, would, at or before the end of the time, have become insane. The number of persons who presented packages of stamps was about fifteen thousand, and the value of the packages ranged from one dollar to nearly nine thousand. In the course of a few days the last of the soiled stamps deposited at the New York Post-office will have been paid for and destroyed. The public will be glad to hear of this consummation.

The Wind as a Musician.

The wind is a musician by birth. We extend a silken thread in the crevices of a window, and the wind finds it and sings over it, and goes up and down the scale upon it, and poor Paganini must go somewhere else for honor, for lo! the wind is performing upon a single string. It tries almost anything on earth to see if there is music in it, it persuades a tone out of the great bell in the tower, when the sexton is at home and asleep; it makes a mournful harp of the giant pines, and it does not disdain to try what sort of a whistle can be made of the humblest chimney in the world. How it will play upon a great tree till every leaf thrills with the note in it, and the wind up the river that runs at its base is a sort of

murmuring accompaniment! And what a melody it sings when it gives a concert with a full choir of the waves of the sea, and performs an anthem between the two worlds, that goes up, perhaps, to the stars, which love music the most and sung it the first. Then how fondly it haunts old houses; mourning under eaves, singing in the halls, opening the old doors without fingers, and singing a measure of some sad old song around the fireless and deserted hearths!—*Exchange.*

Trapping a Tiger.

A most ingenious mode of tiger-killing is that which is employed by the natives of Oude. They gather a number of the broad leaves of the *praus* trees, which much resembles the sycamore, and having well besmeared them with a kind of bird-lime, they strew them in the animal's way, taking care to lay them with the prepared side uppermost. Let a tiger but put his paw on one of those innocent-looking leaves, and his fate is settled. Finding the leaf stick to his paw, he shakes it, to rid himself of the nuisance, and finding that plan unsuccessful, he endeavors to attain his object by rubbing it against his face, thereby smearing the rosy bird-lime over his nose and eyes, and glueing the eyelids together. By this time he has probably trodden upon several more of treacherous leaves, and is bewildered with the novel inconvenience; then he rolls on the ground, rubs his head on the earth in his effort to get free. By so doing he adds fresh bird-lime to his head, body and limbs, agglutinates his sleek fur together in unsightly tufts, and finishes by hoodwinking himself so thoroughly with leaves and bird-lime, that he lies floundering on the ground, tearing up the earth with his claws, uttering howls of rage and dismay, and exhausted by the impotent struggles in which he has been so long engaged. These cries are a signal to the authors of his misery, who run to the spot, armed with guns, bows, and spears, and find no difficulty in despatching their blind and wearied foe.—*Houlledge's Illustrated Natural History.*

About Roses.

A correspondent of the *Culturist* writes to that journal concerning the care and treatment of roses. As the season of this beautiful nymph of Flora is rapidly approaching, our readers will doubtless find much advantage from perusing the letter which we here append:—

"Everybody loves the rose, and almost every one desires to possess information that will tend to give the greatest possible effect to this pet of the garden and conservatory. It is not as well known, perhaps, as it might be, that to have roses in full perfection of size and color, proper planting and exposure are absolute essentials. The rose requires abundance of air and light, and to look their very best I think that judicious grouping is indispensable. I know no way of accomplishing this more effectually than by pyramidal grouping, that is, forming a rose pyramid, rising gradually in height from the minutest dwarf at the base, to the tallest standard at the apex. As the varieties are almost endless, it would be impossible to enumerate them. Almost every florist's catalogue will supply the list, and the taste of the operator direct the arrangement. A proper discrimination should of course be manifested in regard to the time and continuance of blooming, so as to secure the finest possible effect. I once read of a very simple method of imparting a stronger and more agreeable odor to the rose. It is done by planting one or two large onions close to the root. It is said that water distilled from roses grown under such circumstances is decidedly superior to that prepared from ordinary rose-leaves. It is a French idea, and as it will cost little to try it, perhaps some persons may feel disposed to experiment on it."

THE "INDIANOLA."—There is no doubt now about the fate of the *Indianola*. A letter to the *Cincinnati Gazette* from Young's Point, La., says:—"The wreck of the *Indianola* stands several feet out of water, and could have been raised by the proper means; but as this is impossible, under the circumstances, Admiral Farragut amuses his ship's crew by firing broadsides into the wreck each time he passes up or down, so as to prevent it from being of any use to the rebels, provided they should ever raise it."