

Scientific American

NEW YORK, APRIL 19, 1851.

Expense not Spared.

The magnificent engraving of the Glass Exhibition Building—not Palace—(we don't like the name), which we have the pleasure of presenting before our readers this week, was ordered from our agents in London expressly for the "Scientific American," and is probably the largest engraving, by far, ever published in a newspaper in this country.

The expense of procuring the engraving has been enormous, but if our readers are only pleased with it, we shall feel amply repaid for the expense and trouble we have been at in procuring it. Our Agents have been instructed to forward an engraving of the external view of the same building, which we hope to be able to present to our subscribers before the expiration of the present volume.

The engraving of the external view of the building, which we hope to be able to possess, will be of the same size as the one represented in this number, and will cost over \$200.

This building was designed by a Mr. Joseph Paxton, who has been celebrated in England, for a number of years, as an ingenious superintendant of buildings for green-houses and rural decorations. The plan was conceived and elaborated in one night. Among the many plans proposed, and the competitors were men of no ordinary character, Paxton's was selected by the Commissioners, and his name will go down to posterity with the history of the World's Fair. The building is a vast one. It is 1,848 feet long, 408 feet broad, 66 feet high, with a transept of 108 feet in height, enclosing a row of elm trees. For a very minute description of it, we refer our readers to page 99, this volume, of the Scientific American. We do not like to take up space with the repetition of any matter.

There is an appearance of some dissatisfaction, as noticed by our foreign correspondent, between our American exhibitors and the Commissioners of the Exhibition. We have not any particular information respecting the main causes of the difficulty, we are not able, therefore, to express an opinion. We hope that all may end satisfactorily, but we do not believe this is possible. Many will be disappointed from just causes, and many, no doubt, will be so unwarrantably.

Mineral Naptha.

We have lately seen some specimens of a mineral naptha in the possession of Mr. F. Johnson, 327 Hudson street, this city, and which is a subject of curiosity and importance. It was obtained at Burkesville, on the Cumberland River, Ky. The naptha was obtained from a well which was bored, about twelve years ago, by sinking a shaft for a salt spring. After digging down through fifteen feet of earth, the borers came to a rock, through which they penetrated to the depth of 170 feet; and when the auger was then withdrawn, there spouted up, about twenty feet above the surface of the rock, a stream of salt water and what appeared to be a kind of oily fluid. This substance filled up the well and ran down into the river, no person appearing to take any particular notice of it, or to think it anything very extraordinary, except from its repulsive odor. A few years after this, a peculiar incident brought the subject before the people. While one of the steamers was passing down the river one night, a spark from her funnel fell upon the naptha, ignited it, and truly accomplished that supposed impossibility, "setting the river on fire." The news soon spread abroad, and thousands went to witness the phenomenon. Public attention being thus attracted towards it, the fluid was examined, and found to be of an invisible-green color, and of a strong pungent odor. Its composition is said to be coal naptha, in combination with some sulphur, turpentine, and iron. It is no doubt the product of subterranean action among the coal strata underneath.

Among the first uses to which it was applied, was the healing of sprains and bruises in horses and cattle, and for these cases it was

found to be an excellent remedy. It was then extended in its application, and for some years it has been successfully applied for burns, bruises, rheumatic pains, and especially, as we are informed, with great curative effect, to cancers. It is an excellent solvent, and were it not for its pungent smell, it would be universally used as a meat preservative. The well belongs to a company, and the gentleman whose name we have given above, received some bottles, to introduce it to the attention of the people of the East. The supply is exhausted, but it is very volatile, and when exposed to the atmosphere for some time it is absorbed and carried aloft on the wings of the wind.

California Fifty Dollar Gold Piece.



We here present a fac-simile of the new California \$50 gold piece, the size of the above engraving being precisely the size of the coin. The letters represented outside the rim in the above cut do not appear in that position on the coin, but are pressed in on the edge in a similar manner to the words impressed on the old American half dollar pieces. The first of these \$50 pieces came in the "Empire City," and we are indebted, to Messrs. Weeks, Kelly & Co., for the loan of one sufficiently long to take the above sketch, which may be relied upon as correct, and which we have not before seen published.

It is not circular but octagon, having on each side of the edge the following sentence:—"Augustus Humbert, United States Assayer of Gold, California, 1851." It contains the figure of a spread eagle, with a scroll in his talons, on which is inscribed "Eureka." Underneath are the figures and initial, "50D," of course meaning \$50; and over the eagle are the following figures and abbreviation of the word thousand, as follows: "887-thousand," designating its fineness, namely, 887 carats out of 1,000 pure gold. Its diameter is not greater than that of a silver dollar piece, but it is thicker. The new State, whose motto is "Eureka," must have \$50 pieces.

The Three Cent Coins.

These are representations of the new three cent coin, which was ordered by the Act of Congress to meet the demands of the new post office law, that goes into effect on the 1st of July. The C with the numerals III, means three cents. They are surrounded with 13 old Star States. On the reverse side there is a single star expressive of the unity of our



confederation, with a shield upon it; and around it the usual legend, United States of America, and the date, 1851. The devices are new and simple, and perfectly conformed to the law, which provides that they "shall be conspicuously different from those of the other silver coins and of the gold dollar."

The metal is composed of three-fourths silver and one-fourth copper, and will always retain a silvery color, though not quite equal in that respect to the other standard. It leaves a margin of profit to government, which the other coins do not; the reason of which may be explained as follows: The original bill for this coinage, prepared before the postage bill was initiated, contained another provision by which the worn out Spanish money which circulates largely amongst us, and which is everywhere regarded as a nuisance, should be drawn into the mint and worked up. But, in order to effect that, it was necessary to pro-

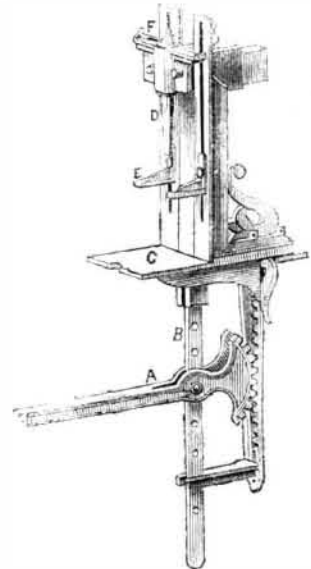
vide means for buying them at their nominal value, or not much below it; otherwise, the people could not be expected to make the sacrifice—those coins being really worth some ten or twelve per cent. less than their current value, by reason of wear. The reduction of fineness from nine-tenths to three-fourths in the three cent pieces was therefore intended to enable government to call in the fips, levies, and quarters, as also to pay expenses of transportation, insurances &c.

In reference to the adulteration Thompson's Bank Note Reporter says:—"It is somewhat thinner and smaller than a half dime, and while new has the appearance of silver, with rather a slippery feeling; 3,333 1/3 of these pieces make a hundred dollars, and contain \$83,33 of silver, leaving a profit in the hands of the Mint of \$16,67 on every \$83,33. A dead swindle of full 20 per cent. God save the Republic."

The Treasury Department has authorized the mint to withhold the same until there shall be an accumulation of half a million pieces to start with. They will no doubt be ready by the beginning of May, as the coinage has commenced. They are to be paid out in sums of thirty to one hundred and fifty dollars, that is, one thousand to five thousand pieces—and will be exchanged for American gold or silver coins, or foreign silver coins.

Compact Mortising Machine.

The accompanying engraving represents a very convenient and compact mortising machine, all made of good iron and steel, manufactured by Mr. J. S. Alcott, of Oriskany Falls, Oneida Co., N. Y. A is the lever, B is a flat pitman, through which a pin passes in any of the holes, forming the axis of the lever. The inner end of the lever is a segmental rack meshing into a straight vertical rack united



to the table, C, behind. The work to be mortised is secured on this table, and there is a vertical plate with slots and set screw clamps, E, for holding the work down. Thick and thin blocks are secured on the table with the same facility. D is the mortising chisel secured in the cutter box, F. The pitman, B, is secured to the plate on which the chisel, D, is fastened, therefore, as the lever is operated the pitman, B, works the chisel to mortise the work on the table. This mortising machine is very simple, portable, strong, and effective. The price is \$20. Address Munn & Co., at this office. We will supply all orders with faithfulness and dispatch.

Steamboat Challenge.

Mr. Darius Davison, of this city, advertises in the Tribune that he will undertake to build a steamship, and to enter into contract with responsible parties in the United States or England, that she shall be unequalled by any vessel afloat, and that she will run 100 miles further in 24 hours. The terms of the contract are, that upon his building a vessel within 18 months, possessing the qualities set forth, the opposite contracting parties shall pay him a quarter of a million of dollars, and will have the privilege and right to purchase said vessel by paying therefor the cost of building her together with the right to run her on any route while she lasts. He is also prepared, he states, to enter into a contract upon

the same terms, nearly, to build a steamboat that will run to Albany in 5 hours, or at the rate of 30 miles per hour. The way we understand this, is, that if he does what he sets forth, he must be paid \$250,000,—no other benefit to be derived by others than simply the privilege of purchasing the said boat, and also for the privilege of running her. He surely thinks that the world is filled with philanthropists. No parties possessed of common sense will enter upon such a contract. The advertisement looks more like a bravado than anything else. If he does not build a steamship, however, to perform according to the contract, he is to pay over \$250,000. This appears to be fair, but no one, if he does build it according to contract, would get their value for the amount required to be paid. When he builds a steamship that will make a voyage to Liverpool, running at the rate of 100 miles per day faster than the Pacific, then we will believe he has made some grand discovery, but not before. Clear away the smoke, Mr. Davison, and let us see the effect of your shot. To pay you for your steamship, and the right to run her on any route while she lasts, is about as much as you might expect of any conscientious man. If Mr. Davison would offer to contract for building a vessel or vessels, possessing all the qualities set forth by him, and allow the parties the right of running them for a reasonable price, he no doubt would find numerous parties ready to enter into contract with him upon such reasonable conditions. To enter into contract upon any other conditions would be very unwise and imprudent in those of the second part.

Improvement in Forge Fires.

Mr. A. S. Beadleston, of Ausable Forks, Essex Co., N. Y., has made a valuable improvement in the construction of forges, for which he has taken measures to secure a patent. In connection with any forge fire used in the manufacture of wrought iron, there is placed an oven between the fire and the chimney, this oven is heated with hot air and the ignited gases proceeding from the fire. This oven is for charring the ore previous to its being introduced into the forge fire. It is so situated that the ore can be properly introduced into it and moved directly from it into the fire. The object of the invention is to save time and fuel by employing heat, which otherwise is wasted.

Paragraph to Editors and Publishers.

Editors desiring files of the "Scientific American," have only to insert the prospectus, which may be found on the last page in their own papers, 3 or 4 times, and forward a single copy to this office with advertisement marked. Editors and publishers upon complying with the above terms, will have forwarded to them a complete file from the commencement of Volume 6, and also the remaining numbers of the volume as they are issued.

Steam Job Printing.

Our neighbors, Messrs. Oliver & Bro., are prepared to execute all kinds of job printing in an expeditious and superior manner. Blank deeds of assignment, for the use of inventors, neatly printed, and show bills of any and every description. Also printing in colors, by steam, and all kinds of fancy cards. Messrs. O. & Bro. have the largest job printing establishment in New York, and are prepared with a variety of designs for every kind of job work. Office over the Scientific American Office: entrance 89 Nassau street.

A Golden Model.

Messrs Editors—As an item of novelty, I inform you that I have recently made a set of drawings of a double acting forcing pump, from a model of which the barrel or working chamber, piston, valves, side posts, cross bars, double brake, and connecting rods, were all of solid fine gold. It was invented by Mr. E. K. Jenner, of California. Yours respectfully, RUFUS PORTER.

Washington, April 12, 1851.

Professor Jacobi.

The European journals record the death of this distinguished Russian Savant, whose name is intimately connected with the discoveries made in galvanoplastics and electro-magnetic science. He died at Berlin.