

## SCIENTIFIC MUSEUM.

## A Ship Canal to Albany.

It seems that a Committee, consisting of W. E. Bleeker and Lansing Pruyn, were appointed by the City of Albany, to inquire into the expediency of constructing a Ship Canal from Albany to New Baltimore, a village 14 miles below the Capital of the Empire State. Between these two places, during the dry months of summer, steamboats, sloops, &c. often get aground, and at no time can ships get up past what is called the "Overslaugh," or mud banks. There are many shifting sand and mud banks between the two places, so that the channel not unfrequently changes during heavy freshets, when the ice is breaking up. A letter has been addressed to the Committee named, by Mr. McAlpine, our able State Engineer, who states that his public duties have prevented him from giving the subject a complete personal investigation, but says that the duty was performed by Messrs. O. Blanc, J. D. Coleman, and W. A. Perkins, who have made the necessary surveys, maps, &c. and have proposed the route of the canal. The report is favorable for a canal elevated above the reach of freshets, to be 12 miles long, 20 feet deep, 120 feet wide at top and 50 at the bottom, and to have locks at Albany, to pass vessels 215 feet long and 30 feet wide, and locks, at New Baltimore, to pass boats 300 feet long and 80 wide.

In connection with this project, provision has been made in the plans and estimates for a large basin, covering 255 acres of land, and nearly one mile in length. The estimated cost of the canal, basin, locks, and works complete, according to this report, is \$2,450,000.

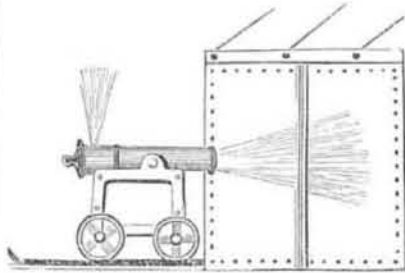
The object proposed to be accomplished by the work in question, is to afford an uninterrupted navigation to the city of Albany for such classes of vessels as are required to navigate the ocean, and thus permit the transfer of freight received by the canal to be made at Albany instead of New York.

Instead of making this Ship Canal, Mellen Battel, of Albany, proposes making the Hudson River navigable for ships, by building two strong walls parallel with each other, at such a distance from the shores as to contract the current of the river to 1,056 feet. Or, to copy his own description, his plan is to commence at the end of the present dock at the south end of the city, and opposite, at Greenbush, a pier on each side of the river, at least 15 feet above low-water mark, contracting the river to 1,056 feet, and carrying it down with one width as straight as possible, cutting off all intersecting branches and islands; and where it crosses branches or runs in deep water, sinking cribs of timber, filled with stone, to low-water mark; then commence a rough stone wall 8 feet wide at bottom and 4 feet at top, and at least 15 feet high, covering the top with stone the whole width—where it runs on the islands or near the shore, driving piles and laying down cap timbers and cross-ties at low-water mark; and then commencing a stone wall. Where there is a landing, says he, and a lower dock is desirable, I would build a bulk-head extending to the high ground, to prevent the current from passing back of the wall. Where I passed the branches or into deep water, I would leave gateways, so that if it were necessary to excavate to get 15 or 20 feet of water, I would pass through these gates to dump the earth or stone behind the wall.

The cost he estimates at \$1,000,000: his plan strikes us as by far the best and most reasonable. A ship canal on the Hudson, for 14 miles, to get over sand banks, &c., is something strange, indeed, especially as it is considered that it will require \$285,000 per annum to pay the interest on the money invested in the canal, furnishing a supply of water and tending the locks. Mr. Battel's plan is quite practicable, only the dredging machine must always be kept in operation. If the City of Albany would keep two good dredge boats going all the navigable season, they would keep the river channel, always open. Nature has given to Albany a river, which, at the driest period of the year contains as much water as would float a seventy-four gun-ship to her wharfs (if the river were well mana-

ged)—let not the people despise the gift by constructing a canal. A canal to New Baltimore, in our opinion, would be a march backward in engineering. Next week we shall publish some statements and facts respecting the improvement of the river Clyde, which, sixty years ago, contained two feet of water twenty miles below where the Arabia—a ship of 2,300 tons—got in her engines, and where ships of 1800 tons burthen now pass daily.

Artillery Ore Crusher.



The annexed engraving represents a new plan of crushing ore by gunpowder, invented by Capt. Shrapnell, London, and recently patented in England. It has been illustrated and described in the "London Mechanics' Magazine," from which we have derived our information respecting it.

The invention consists of a chamber about 10 feet long, 8 feet high, and 6 feet wide, the back of which is made of inch and a half wrought iron, and the sides of sheet iron.—The sides are rivetted and strengthened with ribs. The whole rests upon a bed of timber strongly framed. A short railroad track is placed in front of the box for the cannon to run upon. The gun is charged with powder and a wad rammed down upon it, and all above the wad is charged with broken pieces of ore, and the whole covered with another wad. It is now moved forward on the rails, against the front of the chamber, in which there is a circular hole rather larger than the muzzle of the gun. The muzzle is just introduced within the thickness of the plate, the piece is primed and fired, when the charge is projected against the strong thick plate forming the back of the box. To relieve the sides of the box from the concussive force, the roof is formed in doors upon hinges, which suddenly fly up when the explosion takes place, and act as safety valves, after which they immediately fall. The reduced ore is acted upon by a gentle blast which sends off the lighter particles and allows the heavier metallic to fall. A perforated false bottom allows the reduced ore to fall down into a drawer, which is withdrawn with the dust, to submit the latter to the winnowing process.

The method of reducing ore by powder is certainly a novel one, and naturally enough it comes from a man whose business lies in the shooting line. The "London Mechanics' Magazine" asserts that masses of California quartz, and the hardest granite were reduced to powder at one charge, in presence of the editor. We introduce this invention to the consideration of our quartz companies in California. Along with the process for making gun cotton described in the Scientific American of last week, we suppose that our gold miners may consider themselves in a fair way of reducing all the rocks of California into powder. Every invention of this kind should receive a fair trial, as the economy of any machine or invention is determined by experience alone. Although quartz may be thus reduced to powder, it strikes us that the mode of separating the earthy and metallic dust, by winnowing will not be easily accomplished. If we had the opportunity of a personal inspection of the operations, we would be able to give a candid and decided opinion; in the meantime the invention is illustrated and described, so that our readers may know what it is, as no small amount of curiosity has been excited respecting it, by the numerous paragraphs which have appeared in various periodicals, some of which have described its action very accurately while others have not.

The English Government have come to the decision that the public interests would be best consulted by allowing chicory to be sold in a state of mixture with coffee, provided it was so described in labels attached thereto.

## The Heliocromy.

The following is a Report made by Senator James, of Rhode Island, in the Senate, on the 3rd inst., and which has been published in the "National Intelligencer":—

"The Committee on Patents and the Patent Office, to whom was referred the memorial of Levi L. Hill, in reference to his alleged discovery in Heliocromy, or sun-painting, as denominated by Mr. Hill, ask leave to submit the following report:

Mr. Hill, having been before the committee, explained to them the history and principles of his invention, and submitted to their inspection numerous specimens of the productions of his art or invention. The committee have formed the opinion that those specimens afforded sufficient proofs that the inventor has solved the problem of photographic coloration. The committee had in their hands the fact of the invention and the durability of the pictures. It is believed that most of the philosophers, both in Europe and America, long since gave up, as hopeless, the search after this branch of science, which has now been discovered by one of our citizens, in one of the wild valleys of the Catskill mountains, far removed from the schools of art. The committee learn that Mr. Hill has arrived at this discovery, by which the works of nature may be copied in their original hues, through three years of persevering toil. The committee is informed by Mr. Hill that his discovery has not yet been perfected in its practical details, which is not surprising, it being but little more than two years since he obtained his first result. But the beauty of the results to which the process has already attained would seem to afford evidence that it will be perfected at no very distant day.

The prospective utility and importance of this invention are very apparent in its application to portraits, landscapes, botany, morbid anatomy, mineralogy, conchology, aboriginal history, the reproduction of valuable paintings, and to various ornamental purposes. The committee are satisfied of Mr. Hill's claim to originality and priority of invention, and deem it but just and right that he should be suitably protected and encouraged; and they deem it more particularly so, seeing that a rival claim has been set up in France since the announcement of his discovery was made. The means by which this process is carried out being strictly chemical, it would seem that the existing patent laws would not afford to the inventor the security required. Owing, however, to the short period remaining of the present session of Congress, and the press of business, the committee have been unable to devise any better or more efficient mode by which to recognise the claim of Mr. Hill, than by recommending that his memorial, together with this report, be placed on the records of the Senate."

[We would respectfully state that the Senate had better take charge of the Patent Office at once, make all the examinations and grant all the patents. If it does so in one case, out of the proper and just order of business, why not in every case? The claims of one inventor are just as sacred as those of another. Mr. Hill's course has certainly been a singular one; he has never revealed how he colored his daguerreotypes, but merely shows his pictures, and hence his claims are recognized, and the Committee reports that he should be suitably protected. Let him take out a patent, then, in the usual way. The coloring of daguerreotypes, is now public property, and would be so decided by law; the art was discovered in France and given to the world, so far as it is perfected. Mr. Hill is apparently afraid of this, hence his singular mode of procedure. What his claims are we do not know. The U. S. Supreme Court has decided that an art is not patentable; whatever new means he has adopted—his chemical, &c.—are patentable, and no more. Mr. James has made one mistake—France has set up no rival claim to that of Mr. Hill—none. M. Niepce, the favorite nephew of the discoverer of Daguerreotyping, has colored some pictures and given the result of his experiments to the world, which have been published in our co-

lumn, and from said descriptions an American in Ohio, Mr. Campbell, has tested the same and produced some striking results, which have also been given to the world through our columns, along with some of his own improvements. Does Mr. Hill employ any of the processes described in our columns? If so, let us know it; if not, he is entitled to what is his own, and no more.

## Crystal Palace in England.

Great and rapid progress is making towards the completion of the new Crystal Palace at Sydenham, England. It cannot, however, be opened until the 16th or 20th of May next, instead of the 1st, as promised. When completed, this building will, notwithstanding the magnificence of its great predecessor, be the most splendid building of its kind the world ever saw. In size it dwarfs the greatest cathedrals. It will be approached by an avenue and staircase ninety-six feet broad, and will be entered through an archway two hundred feet in height, from the summit of which will be seen a vast and splendid natural panorama—the winding "silvery Thames," and the gigantic city of London appearing as only a portion of it beneath the lofty roof. Palms, the tallest and of the most stately dimensions, will rear their graceful head unobstructedly. There will, in the extensive and amply wooded ground, be many fountains of large proportions, some, two hundred feet across, will be in full play. One capacious basin, extending two thousand feet, will contain one thousand and one jets, accommodating two pyramidal fountains, with more than ninety jets each, throwing the water two hundred feet high. One half the building will be devoted to the new world and one half to the old. A conservatory, to contain the rarest and most beautiful exotics produced in the world, is in rapid progress. Statues, most perfect as works of art, and all the tributes of art and science, will adorn the building. The experiences of the past will be applied to the future, and a structure will be presented to the gaze, of the most fascinating, magnificent, and imposing character, which description is wholly unable to reproduce.

## LITERARY NOTICES.

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