

## SCIENTIFIC MUSEUM.

## The Hillotype.

Professor Morse, the inventor of the magnetic telegraph, publishes a long letter in the National Intelligencer of the 8th, sustaining Mr. Hill's claim of having discovered the mode of fixing the colors in daguerreotypes. The letter is dated Oct. 4th; and Mr. Morse, who, as an accomplished artist and colorist himself, would be presumed a competent judge, says that he has seen twenty specimens of Mr. Hill's colored daguerreotypes.—The most of these were, he says, like all those of M. St. Victor, "copies of colored engravings." They were taken by the camera, and not, as has been reported, "mere transfers of colored prints;" but all were not "copies of colored engravings." Two were exquisitely beautiful portrait heads from life, and one a full length of a child from life. One a landscape view from nature, principally buildings which, although imperfect in parts, served from that very circumstance to verify to me the genuineness of the discovery. The colors in Mr. Hill's process are so fixed that the most severe rubbing with a buffer only increases their brilliancy, and no exposure to light has as yet been found to impair their brightness. They are produced in twenty seconds. Mr. Hill has been suffering from hemorrhage, which has interfered with his labors, but Morse says:—

Mr. Hill has made a great discovery. It is not perfected. There is much yet to be done to make it perfect, but he is in advance of all others, and has, within the year, successfully overcome two of his difficulties. Both yellow and white were defective in quality and truth a year ago—both are now comparatively obtained. There are other colors which, in order to make them so true as to satisfy an artist's mind, will require yet further experimenting. Is not this reason enough for not at present giving his process to the public? Who has a right to demand him to reveal it to the public now? Who, indeed, has a right to demand it at any time?—[Philadelphia Ledger.]

[Nobody, so far, as we know, has ever demanded of Mr. Hill, to reveal his alleged discovery; the public have a right to demand proofs of a discovery from a man who has publicly professed to have made it. This is all the public has done to Mr. Hill, and it would be more to the credit of himself and such friends as Mr. Morse, to produce public proofs of this discovery. It is at least two or three years since the discovery was pretended to be made. Nobody wants the process, but we want facts, and not talk about it.]

## Hobbs and Chubb Again.

The London correspondent of the U. S. Gazette says:—

"The directors of a well known insurance office in Moorgate street, had assembled at their rooms last week to hold an important meeting. When the books and papers of the company were called for, the secretary could not find the key of the large vault where they were kept. After an unsuccessful search, Mr. Chubb, the maker of the large iron door and lock was sent for, and was asked if he had a key that would open the lock. He replied in the negative. He was then asked if he could pick the lock. He again replied in the negative, and rather indignantly withal, at the insinuation that his celebrated locks could be picked! The directors asked what was to be done? Mr. Chubb answered that the only method by which the books and papers could be procured was to cut the door down. The directors would not consent to such a proposition, and Mr. Chubb left the premises. A messenger was dispatched to Cheapside for the American, Hobbs, who sent one of his workmen, with instructions to take an impression in wax of the keyhole of the lock. The man departed, and in a few minutes returned with the impression. Mr. Hobbs then selected a few simple instruments, and accompanied his workman to the insurance office. After operating on Chubb's lock ten minutes only, the bolt was turned, the door was opened, and all the books and papers were placed before the Board of Directors, and to their utter astonishment!"

## Race of Clippers from Canton.

A Liverpool paper says:—"Great interest has been excited from the fact that five of the most celebrated clippers, two English and three American, are now on their way to this port and the port of London, with cargoes of tea. Though the time of starting differs, there will be opportunity sufficient afforded for test-

ing the respective merits and qualities of the craft. The Chrysolite, for Liverpool, and the Stornaway, for London, both English, sailed on the 4th of July. The Surprise and the Challenge, for London, and the Race Horse, for Liverpool, (all American,) sailed on the 15th of July. We may add that not a few wagers are pending on the result."

## MINING MACHINERY.

Figure 1.

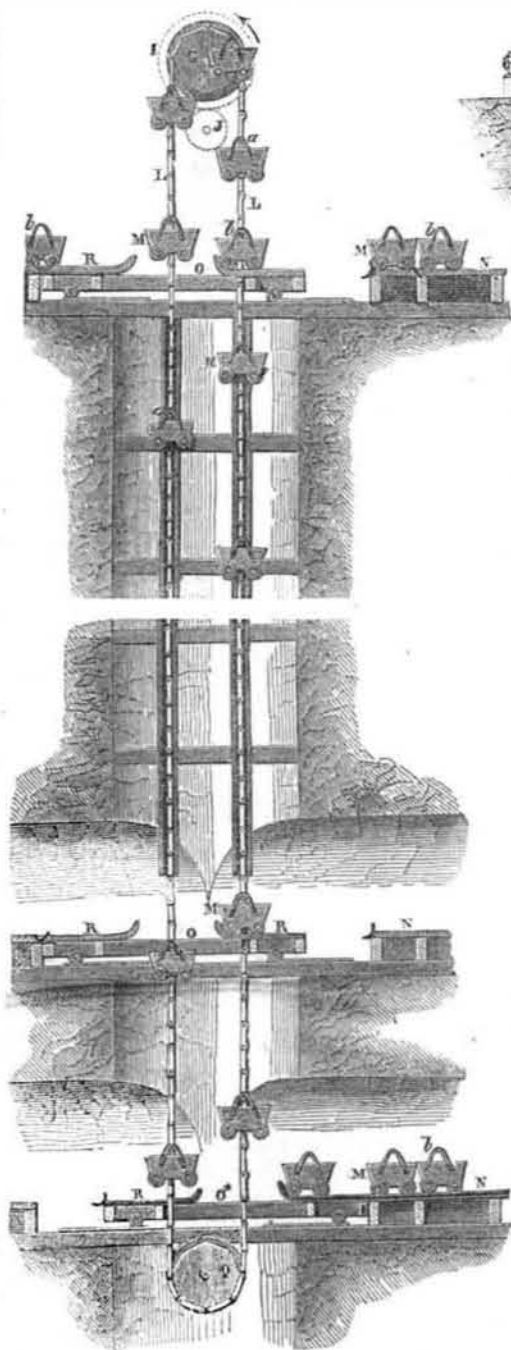
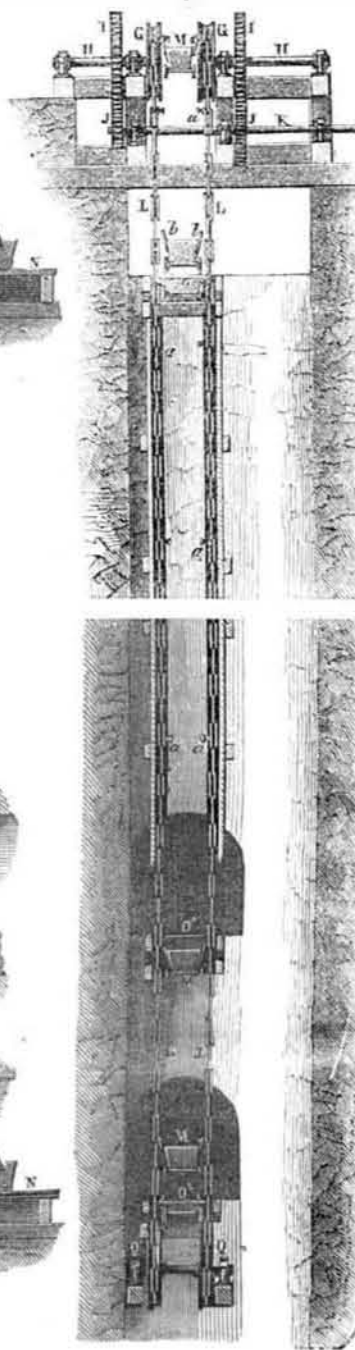


Figure 2.



The machinery which we have here illustrated is for raising metals and minerals from deep mines. It is the invention of M. Cave, a machinist of Paris; it was illustrated and described in the "Le Genie Industriel," from which this is a translation, so altered as to render it clear to our American readers. The plan of Mous. Cave is quite different from any heretofore in use, and does him no small amount of credit. It is applicable in raising heavy loads, whether in working mines or coal pits, and affords a continuous self-acting hitching-on of the loaded cars or buckets.

Fig. 1 is a side view of the succeeding figure. Figure 2 represents a front view of the apparatus, with section of the cranks with which it is attached.

It will be seen that this apparatus is composed of two parallel pulleys, G G, with octagonal faces between the flanges, and mounted at each end of the axle are iron shafts, H, which are each controlled by the cog wheels I, into which mesh upright pinions, J, mounted on the axle of the shaft, K, this last being none other than the movable axle or crank, which receives its rotary movement from a steam engine or power wheel.

On the face of the two pulleys G, pass the endless chains, L L, of which the links are of the exact length of each side of the octagon. Each of these chains carries, at fixed distances, the gudgeons or projecting buttons, a a, for the purpose of suspending the wagons, M, in ascending or descending. These wa-

gons are simple boxes placed on four wheels; they are provided on each side with iron handles or ears, b b, which place themselves on the buttons, a a, of the chains at the instant they pass, as represented.

Allowing the mine to have two galleries, at the height of the first gallery, the wagon M, (which has been conducted either directly by the railroad, N, or by the intervention of a horizontal movable frame work, O) is suspended by the buttons to the two ascending sides of the chain, and, being thus carried away by the chain is inevitably carried to the top of the apparatus. It then descends (always suspended by the same buttons) directly upon a railroad, R, placed at the entrance of the pit, and which carries it from thence to the spot where it is desired to empty it.

In the descent of the chains to the bottom of the pit, where they pass over two parallel pulleys, Q Q, similar to the first, and both mounted on the same axle, they are enabled to serve a number of successive galleries situated at different heights. In the engraving are shown two galleries placed at a little distance from each other.

When the same apparatus is enabled to effect at the same time the ascent of the loaded wagons, and the descent of the empty ones, the constructor places at the entrance of the pit, and at the mouth of each gallery, chariots or movable frame work, O, O', O'', which are made simply of a wooden frame on four

wheels which carries to each end, sections of the rails, R, for the purpose of receiving successively each of the wagons which ought to approach the chain either in ascent or descent. This frame work thus receives a strong impetus from a mechanical power very simple which has been applied by M. Cave, or the wagons can be drawn part of the way along the galleries by horses, as is common in some coal mines, and then pushed between the chains by hand, to be hitched on by the catch buttons, a a. The endless chains are composed of long links which, at certain distances, are provided with gudgeons or projecting buttons, a a, upon which the car is supported or hinged by the aid of these gudgeons made in a flattened oval form.

Mining is well enough understood in America, for there are thousands of miners among us who have had great practical experience; but although this is true, there is no such a thing as mining practiced as it is conducted in Europe. The reasons for this are sufficiently obvious; the newness of our country, and the absence of any necessity as yet for the working of deep mines. None of our coal mines are deep, but the time is coming when we will have to dig deeper in search of both coals and metallic ores; this engraving will then be remembered and its merits appreciated. In presenting such apparatus and plans, our object is to exhibit improvements which may be required for useful operations, present or prospective.

## LITERARY NOTICES.

GERMAN PRONOUNCING DICTIONARY.—Weik & Wiecek, of Philadelphia, have just published a pronouncing German Dictionary (German & English, and vice versa), by J. C. Oehlschlager, Prof. of Modern Languages in Philadelphia. The pronunciation of the German part, and the manner in which the genitive case, plural number, is indicated, are novel in works of this size. This book is for the pocket, is well printed, contains 350 pages, and is sold for the low price of \$1. The author has had long experience as a teacher of languages, and has endeavored, very successfully, to present a pronunciation of a universal character, understood in all Germany, although the varieties of pronunciation in different States of that country present far greater incongruities than those of the county dialects of England and Scotland. This is an excellent work, and we recommend it to all students of the German language.

BOOK OF THE WORLD.—The publishers Messrs. Weik & Wiecek, of 195 Chestnut street, Philadelphia, have furnished us with two numbers of a beautiful monthly Encyclopaedia, containing interesting and amusing stories in natural philosophy, history, &c. &c. Each number of the Book of the World contains 32 pages letter-press, a steel engraving, and three superbly colored plates, illustrating objects of natural history, ornithology, entomology, etc. The work will be a splendid affair when completed, and is astonishingly cheap for the price at which it is sold—25 cents per number; 12 numbers complete a volume. Subscribers should address the publishers as above.

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