

## SCIENTIFIC MUSEUM.

## Power of Condensation Possessed by Charcoal.

Some gases are absorbed and condensed within the pores of the charcoal, into a space several hundred times smaller than they before occupied; and there is now no doubt they there become fluid, or assume a solid state. As in a thousand other instances, chemical action here supplants mechanical forces. Adhesion or heterogeneous attraction, as it is termed, acquired by this discovery a more extended meaning; it had never before been thought of as a cause of change of state in matter; but it is now evident that a gas adheres to the surface of a solid body by the same force which condenses it into a liquid.

The smallest amount of a gas—atmospheric air for instance—can be compressed into a space a thousand times smaller by mere mechanical pressure, and then its bulk must be to the least measurable surface of a solid body, as a grain of sand to a mountain. By mere effect of mass—the force of gravity—gaseous molecules are attracted by solids and adhere to their surfaces; and when to this physical force is added the feeblest chemical affinity, the liquefiable gases can not retain their gaseous state. The amount of air condensed by these forces upon a square inch of surface is certainly not measurable; but when a solid body, presenting several hundred square feet of surface within the space of a cubic inch, is brought into a limited volume of gas, we may understand why that volume is diminished, why all gases without exception are absorbed. A cubic inch of charcoal must have, at the lowest computation, a surface of one hundred square feet. This property of absorbing gases varies with different kinds of charcoal; it is possessed in a higher degree by those containing the most pores, that is, where the pores are finer; and in a lower degree in the more spongy kinds, that is where the pores are larger.

## Cure of Rattlesnake Bites.

A correspondent of the Baltimore American, writing from Russell county, Virginia, cites two cases, one of a negro man and the other of a boy, in which severe bites of rattlesnakes have been cured by the free administration of brandy, half a tumbler full at a time every few minutes until a quart had been taken. We have heard eye-witnesses attest the virtue of this remedy. It is said that the liquor in such cases does not intoxicate.—Washington Republic.

[The above is certainly a very easy, if an effectual cure; but when young Dr. Wainwright, of this city, was bit by a rattlesnake—of which bite he died—it was stated that the use of ardent spirits hastened his death. We never believed the assertion; but it is well known that the bite of the rattlesnake is not very dangerous at any time, in comparison with what it is after long fasting. It is probable that some of the simple remedies stated to have proved effective, were so only in cases where water might have been just as good. Tobacco has been stated to be good for the bite of the snake, and so has strong coffee, olive oil, ammonia, and various other things; personally we have had no experience, and hope we never shall, but for the sake of others it is good to present different opinions.]

## Size for Draughtsmen.

A good sizing used by draughtsmen, after scratching or spunging paper, is composed of 4oz. of white gelatine, 4oz. of white soap, and 4oz. of alum; the gelatine and soap are dissolved together in a quart of warm water, and alum is added, previously reduced to powder and dissolved in a separate vessel. As soon as this solution of alum is poured into the other liquid it becomes as white as milk; it must then be cooled and bottled for use. A thin coat of this, laid with a hair brush on the scraped part of the paper, restores its primitive size and smoothness.

## Varnish for Oil Paintings.

Dextrine 2 parts, alcohol 1 part, water 6 parts. Varnish for drawings and lithographs:—Dextrine 2 parts, alcohol half a part, water 2 parts. These should be prepared previously with two or three coats of thin starch or rice boiled and strained through a cloth.

## Immensity of Space.

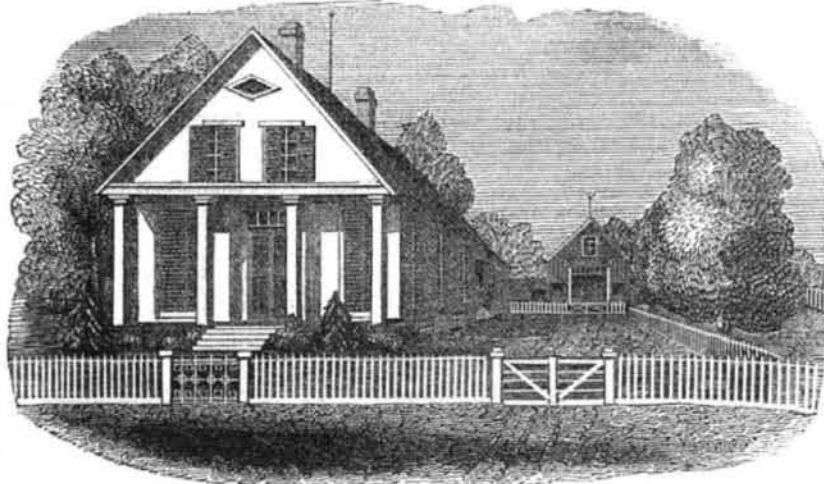
Imagine a railway from here to the sun. How many hours is the sun from us? Why, if we were to send a baby in an express train, going incessantly a hundred miles an hour without making any stoppages, the baby would grow to be a boy—the boy would grow to be a man—the man would grow old and die—without seeing the sun, for the sun is more than a hundred years from us. But what is this compared to Neptune's distance? Had Adam and Eve started, by our railway, at the creation, to

go from Neptune to the Sun, at the rate of fifty miles an hour, they would not have got there yet; for Neptune is more than six thousand years from the centre of our system.

## A Disinfecting Agent.

Mix four parts of dry, ground plaster of Paris with one part of fine charcoal, by weight, and sow them around the premises affected with any unpleasant odor, arising from decayed animal matter, and the gases producing the odor will directly be absorbed.

## A NEAT FARM COTTAGE.—Fig. 1.

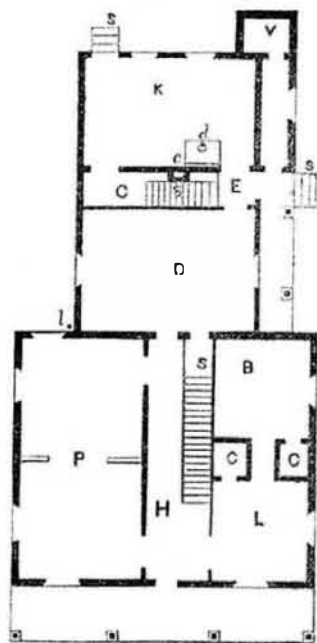


The situation, the laying out of the grounds, the arrangement of the out-houses, and the general contour of the principal building, are things to which the attention of our farmers should be particularly directed. With the general advantages possessed by our countrymen, we certainly look for the future elevation of our race in our own land. To our farmers is principally committed this trust, and we must tell them that domestic taste, domestic architecture and comforts, are the sure evidences of superiority or inferiority. What do men struggle, and toil, and moil for in this world but to render home more comfortable. A good taste is now abroad among our farmers, and when this can be gratified without any additional expense, or a very little, it should be indulged in.

The accompanying engravings represent a Farm Cottage of neat, simple, and pleasing design, and it is laid out with a view to comfort as well as taste.

Fig. 1 is a perspective, and fig. 2 is a plan view.

Fig. 2.



DESCRIPTION.—The main body of the cottage is in the form of a parallelogram, 34 feet long, including the portico, and 32 feet wide, having 14 foot posts, 2 feet of which extend above the attic floor, sustaining a roof of a 16 foot pitch, with the gable end facing the south or south-west. The back part of the house, which extends to the kitchen, is 18 by 23 feet, including the verandah, with ten foot posts, supporting a roof of 11 1-2 foot pitch, with the gable towards the north or north-east. The kitchen is 12 by 23 feet, including the passage to the vault, with 6 foot posts and a lean to roof having a 4 foot pitch.

The whole building is to be designed elevated on a terrace, or mason work, 3 feet above the common level of the ground, to be built of wood, with the outer walls lined with bricks. The roofs, also, are designed to be built of wood, covered either with common shingles or water-proof cement.

On the centre of the main body of the house, a false chimney is shown, which may be formed of metal, bricks, or artificial stone, for receiving the stove pipes from the rooms below. Between the dining room and the kitchen there is a chimney designed to communicate with the cooking range in those parts of the house.

This cottage is designed to be entered from the front gate through a portico, 6 feet wide, extending across the whole width of the house. The entry of the kitchen and dining room is also designed to be passed into on the easterly side of the back part of the building, through a verandah 3 feet wide.

The windows are all designed to be of good dimensions, and protected by wooden blinds. Towards the top of each gable end, there is a latticed window for ventilation, which may be closed at pleasure in stormy weather.

Under the entire floor of the main body of the house, a cellar is intended, with walls and arches laid in cement, to be entered by stairs from the dining room, and by a six foot doorway on the easterly side from without. Beneath the kitchen, there is also another cellar, designed for storing wood or coal, entered from the kitchen through the trap-door, and likewise by a passage, on the easterly side, from outdoors. If circumstances require it, a dairy or milk cellar may also be constructed under the dining room, and lighted or ventilated by windows at each side of the house.

In the ground plan, H, denotes the front lobby, or hall, 7 feet wide including front stairs.

P is a double parlor, 14 by 28 feet, with folding doors communicating with the front lobby, or hall. Either, or both these parlors might be used as sleeping apartments, should circumstances require.

L is a room communicating with the front lobby, or hall, 11 or 12 feet, with a closet 4 feet square, and may be used for a library, office, living room, or nursery, according to the taste or wants of the occupant.

B is a bed room, designed for the head of the family, 11 by 12 feet, with a closet 4 feet square, and communicating with the library and dining room.

D is the dining room, 14 by 20 feet, communicating with the front lobby H; the back entry, E, and the cellar S.

K is the kitchen, 12 by 20 feet, communicating with the dining room by the back entry, E, and a sliding window in the pantry, C; with the wood cellar at d; and the back yard, by the steps, S.

E is the back entry, 4 by 4 feet, communicating with the verandah, kitchen, dining room, and the back garret stairs.

V is the vault, 5 by 6 feet communicating with the verandah by a passage under cover, 3 feet wide.

C C closet, or pantries. S S S S, stairways, or steps. c, kitchen or dining room chimney. d, trap-door, covering the wood-cellar stairs. l, the lightning conductor.

In respect to the price of such a cottage, we must say that the carpenter must be consulted, and his price is alone the sure standard. The prices that we see in some of the architectural works only mislead.

## LITERARY NOTICES.

ICONOGRAPHIC ENCYCLOPEDIA.—No. 24 of this fine work has just been published and is now on our table. The engravings are illustrative of Railroads, Bridges, Locomotives, Viaducts, and everything connected with railroad engineering. They are also illustrative of Hydraulic machines, such as pumps, water wheels. Also machinery for carding and spinning, and various other machines, such as coining machinery, &c. The next number will be issued this month, and will complete the whole work; with the last number a great amount of letter press, to render complete the full explanation of all the engravings, will be issued, when the work will be finished, and will then form the only work of the kind in our language. The extra text will cost \$5, and will form a full volume of itself. Rudolphe Garrigue, publisher, this city.

THE AMERICAN RAILWAY GUIDE FOR OCTOBER.—This is the only reliable monthly publication which contains the entire list of Railroads in the United States, their time of starting, rates of fare, and distances, together with a complete Steamboat Journal, "posted up" for the present month. For sale by News Agents generally, and at the office of publication, 138 Fulton street, New York. C. Dinsmore, Publisher.

MINIFIE'S MECHANICAL DRAWING BOOK.—This valuable publication, embracing full and comprehensive instructions on the art of Mechanical Drafting, has passed through two large editions, and a third is just issued. We have several times spoken highly of this work, and are pleased to believe that its merits, as the greatest work extant upon the subject, are being appreciated. Wm. Minifie & Co., publishers, Baltimore. Price \$3.

RURAL NEW YORKER.—Published by D. D. T. Moore, Rochester, N. Y., is one of the most enterprising and ably conducted agricultural journals in America. It is issued weekly in a large quarto sheet at \$2 per annum. No. 39 contains the admirable Address of Hon. S. A. Douglass before the New York Agricultural Society, on the 19th ult.

NEW JERSEY MEDICAL REPORTER.—This excellent work commenced its fifth volume this month; it is devoted to the publication of the Transactions of the New Jersey Medical Society, and other valuable papers on medical subjects. It is published by S. W. Butler, M. D., of Burlington, N. J.

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