

Cutter, of 386 East Ninth-street, whose firm have a reputation, as successful ship-joiners, second to no other in the country; examples of their skill may be seen in the construction of the *Adriatic* and other large ocean steamers. The mammoth signs which grace the three fronts of our offices were painted by



Ackerman & Miller, of 101 Nassau-street, and of whom it may safely be said there are no better sign-painters to be found anywhere. Their work speaks for itself on upwards of 250 feet of continuous sign-board running along the outer walls of our offices. The interior painting and graining was admirably executed by those knights of the brush, J. Henry, of 141 South Fourth-street, Brooklyn, (E. D.) and John Dillon, of 118 East Thirtieth-street, this city. The light carpentry was done by Saml. Cary, of 123 Fulton-street, (well-known here as "the only carpenter under

tilation, and yet how little attention is paid to this all-important subject! Some "old fogey" will contend that the best method of ventilating a room, under any circumstances, is to lower a window and let a blast of air blow through the opening; another will insist upon it that the door must be left open; and thus, perhaps, the thermometer varies from 50° to 70°, and *vice versa*, in as many minutes. Now, the careful reader of the *SCIENTIFIC AMERICAN* knows that neither of these is the true system of ventilation. Warming and ventilation should be so combined and carried on together as to produce a uniform temperature. It is not enough simply to open a flue for the escape of foul air, or to open a hole for the ingress of fresh air, neither is it considered healthy or agreeable—no matter how large the apartment—to have the confined atmosphere warmed and breathed over and over again continuously; the idea is revolting to every delicate sensibility. Well, what shall be done to obviate these serious difficulties? We will explain the system adopted in our offices. The warming is effected by steam, generated in a boiler in a vault under the sidewalk in Nassau-street, which is brought to our premises by leading pipes and distributed through two boxed coils of pipe, each containing six hundred feet. These coils are covered with patent iron screens of elaborate design. Cold air is brought from the exterior of the building through wooden troughs, and comes in contact with the heated coils through registers arranged immediately beneath them. By this means a large quantity of fresh air is capable of being constantly introduced into the room; this, however, could not be effectually carried on without the aid of flues sufficiently large to carry off the impure air by producing a constant current or draft through the room. We have provided six flues with two registers in each; one at the top for the escape of the rarified air, and the other to eject the foul air which lies nearest to the floor. This system ordinarily works well, as we calculate that, in our entire offices, containing over seventy-seven

thousand cubic feet, the atmosphere is completely changed about once every hour. The warming and ventilating apparatus was supplied by J. O. Morse & Co., 76 John-street, this city, who have had long experience in fitting-up steam warming and ventilating apparatus for both public and private buildings.

For the transaction of any business requiring extraordinary secrecy, we have private consultation rooms, so that inventors and others can always feel the utmost confidence in our arrangements for guarding them from intrusion. We have also a very conveniently arranged private model room, which is repre-



VESTIBULE OF THE "SCIENTIFIC AMERICAN" OFFICE, NEW YORK.

sented by the view on the next page. Altogether, the above-described apartments combine to form the most complete as well as the most extensive establishment of the kind in the world.

**An Atmospheric Dryer.**

A substance capable of drying the walls and the atmosphere of damp houses is important and valuable. Such a substance, is the chloride of calcium. It is a salt which has such an affinity for moisture, that it attracts no less than 124 parts of water for every 100

parts of itself, from the atmosphere or other sources. It will even dry damp clothes, if placed near them in a room, and will remove the sweat from damp walls of buildings. As damp houses are generally unhealthy, causing chills and fevers, and rheumatism, it is a most useful substance, we believe, for the remedy of such evils. If placed in sheet iron pans in close proximity to damp walls, it soon becomes saturated with the moisture for which it has a great affinity, and as a consequence, the walls soon become dry. A moderately dry at-



the *Sun*,") a good workman, and whose attempts at rhyme, albeit of the doggerel order, are proofs of the existence of a poetic fire of no ordinary kind. Our apartments are lighted naturally by twenty-six windows, but as artificial light is sometimes necessary, the latter is supplied by forty gas-burners fitted in simple but graceful gasoliers and branches, manufactured by Locke, Craigie & Co., 927 Broadway, who rank "No. 1" as gas-fitters and house-plumbers. We must also mention the names of Ogden & Mount, No. 608 Greenwich street, masons and plasterers, whose work is likewise creditable and satisfactory.

One of the most important considerations in the construction of stores, dwellings, or offices is a proper system of warming and ven-

timosphere is undoubtedly the best preservative in cold weather against sudden chills, and it is well known that a damp atmosphere feels more chilly than a dry one, even when the latter is several degrees lower in temperature. It is also very dangerous for any-one, and especially a person predisposed to lung diseases, to sleep in a damp apartment. Now to remedy this difficulty, take one pound of dry chloride of calcium, spread it upon an iron pan and it will soon absorb the moisture, and render the room safe and comfortable. In many cases it may thus be employed as an excellent sanatory agent, and it is for this reason we direct public attention to it, as the qualities which it possesses are not very generally known. It may also be used over and over again by driving off the water which it absorbs,

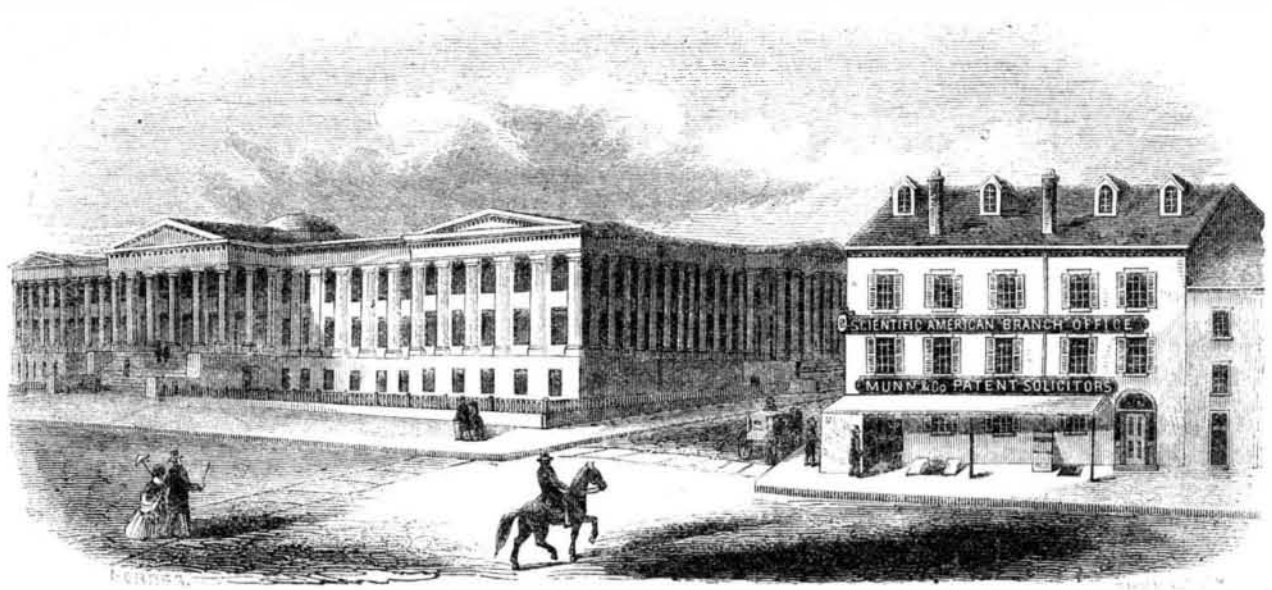
by heating the iron pan containing it over a fire.

**Sensation of Heat from Carbonic Acid.**

An interesting communication on this subject was recently read before the Academy of Sciences, in Paris. All parts of the body when brought into contact with carbonic acid immediately feel an extraordinary sensation of heat, although the thermometer does not exhibit the least indication of it. A person placing his naked arm in a jar of it, immediately feels as if he had plunged his arm into an atmosphere thirty or forty degrees warmer than the air of the room. M. Boussingault, while he was in a trench of a sulphur mine in New Granada, was thrown into a violent perspiration by carbonic acid gas, while his

thermometer gave no indication whatever of any increase of temperature. He also felt a severe pricking sensation in his eyes, from the effect of this gas, and the miners assured him that they all suffered from weakness, and that blindness was also a common result from a constant exposure to its influence.

**To GILD SILK.**—Take a piece of silk and dip it into a solution of nitrate of silver and ammonia, in which it must be suffered to remain for about two hours. It is then taken out, exposed to a current of hydrogen gas, which reduces the nitrate and leaves the silver in a metallic state adhering to the fabric. This silvered surface can be easily covered with gold by the electro-plating process. Gilt and silvered lace are thus produced in France.



THE AMERICAN PATENT OFFICE, AND BRANCH OFFICE OF THE "SCIENTIFIC AMERICAN," WASHINGTON.