

For the Scientific American.
Linen from Unrotted Flax---Errors Corrected.

Some errors seem to prevail on the subject of flax which ought to be corrected. It is quite natural for those who have always done their work in one certain manner to think no other will answer, and especially when new modes of doing the same thing have been often attempted and as often failed.

The first error I would notice is, that flax cannot be used for making linen where the seed has ripened—that flax for linen must be taken up before the seed is matured. This was formerly the opinion in Ireland, but when it was found that the Belgians saved their seed, and at the same time, produced better flax than the Irish, the course was changed, and, for several years, the Irish flax-growers have adopted the recommendations of the "Royal Society for the Promotion of the Growth of Flax in Ireland," and saved their seed, which frequently amounts in value to \$20 per acre.

Another error is, that flax must be rotted or steeped. This is necessary when only mechanical means are relied upon to prepare it for spinning, as by the present mode of manufacture adopted in Ireland, and to some small extent in this country. The steeping or water-rotting process takes out a portion of the gluten, which, in the unrotted flax, connects the fibres together, making them too harsh and wiry for fine spinning. But, by the new mode, previously described in your paper, which I adopt, rotting is entirely unnecessary, and, indeed, injurious, as all rotting more or less injures the fibre. By a little over-rotting, to which it is always liable, it is much weakened in strength or entirely spoiled.

The linen made by the new process will have the advantage of having not only all the strength of the fibre, but being in strength entirely uniform.

Another error is, that the processes of refining the fibre before spinning, by the use of chemical means, or such solvents as are necessary to take all this glutinous or incrusting matter from the fibre, takes out the essential oil, which is said to be necessary to the spinning. Now there is no essential oil in flax, besides, experience has shown that it can be spun as well when so refined as the rotted flax. Besides if there were any such oil or other analogous material, it cannot be of any value to the linen, for by the universal practice of boiling the yarns in alkali before offering them in the market, and by the subsequent severe process of bleaching, all such materials are entirely removed from the fibre.

Another error is that flax for linen must be pulled, and that the American mode of cutting flax when grown for seed, renders it unfit. Thirty years ago it was the practice to pull hemp, but it is found much better as well as more convenient to cut it, and if any one will carefully examine the flax plant, he will see that it would be better cut, and if well done, close to the ground, it will result in no great loss of lint, and especially by the new process, can be much more conveniently managed than if pulled, since the root contains very little fibre, and is seen to be broken off and wasted in the process of breaking.

The correction of these errors will do much to prepare the way for the introduction of linen manufactures into this country, especially as cotton factories can easily be altered for linen, and as it is now rendered certain that linen may be produced as cheap as cotton goods, when cotton is not below 7c. per lb.

O. S. LEAVITT.

Pacific Hotel, New York, Aug. 16th.

(Mr. Leavitt has devoted a great number of years to this subject, and has visited Europe to obtain all the information that could be acquired there. We have seen some of his samples, and beautiful they are. We hope that our manufacturers will give the subject their candid and serious attention.)

The Paris journals announce that the first railway in Sweden has just been completed; it extends from the Lake of Dangbar to that of Yngen, in the district of Filipstand, and is about seventy-five miles in length. America has as much railroad as all other nations.

THE PATENT OFFICE---ITS ARCHITECT.

TO THE EDITORS OF THE SCIENTIFIC AMERICAN.

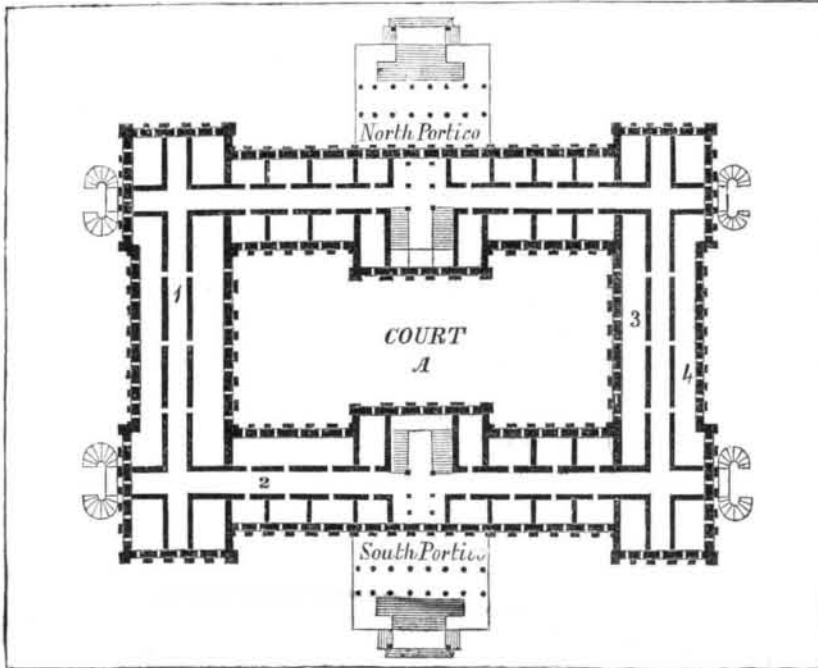
GENTLEMEN:—My attention has been drawn to an article, published in your valuable journal, under date of February 1, 1851, in relation to the Patent Office Building, erecting in this city. This article bears the following heading:

"History and Description of the U. S.

Patent Office Building, Designed by W. P. Elliot, Architect and Engineer, of Washington, D. C."

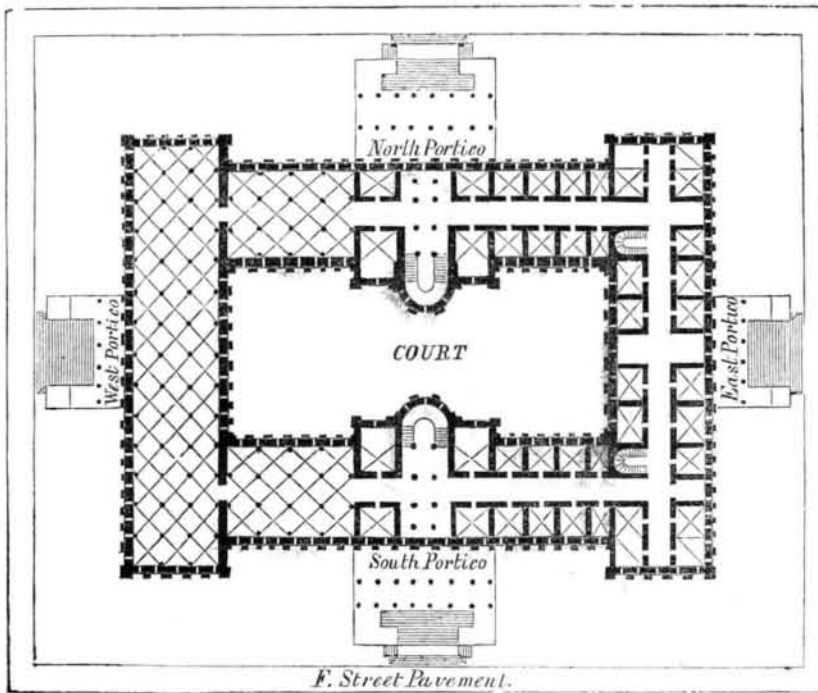
Whoever is the author of this article has overlooked material facts in the case of this building, and thereby done great injustice to the bona fide architect of this building, Robert Mills.

The facts in the case are these:—In 1836 a



Plan of this building was presented to the Committee of Congress, by Town & Elliot, which, being approved, an appropriation was made of \$110,000 to erect the portion of building now occupied by the Patent Office. The bill, as passed by the Senate, contemplated a brick building, with wooden floors, filled in with

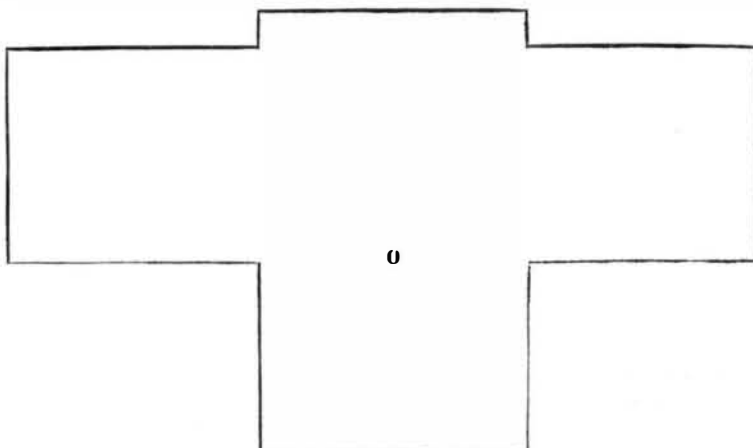
brick; when the bill went into the House, the material for facing the walls was changed from brick to cut stone, but no change was made in the Appropriation List to provide for its additional cost, by the use of cut stone; in this shape it passed both Houses, and the whole subject was referred to the President of the



United States. The plans were laid before the President, and he adopted, substantially, that presented by Town & Elliot, and I was appointed the Architect to carry out, substantially, this plan, according to the appropriations made by Congress.

When I commenced operations I was furnished by Town & Elliot with an outline plan, designating the foundations (of digging) for that portion then required by the Office. (See Plan.)

When we were ready for laying the founda-



tions, I called on the Commissioner of Public Buildings, with whom the drawings ought to have been left, to furnish me the plans as approved by the President, but no such plans were to be found, and, as they never came into my possession even to this day (fifteen years), I was compelled, *de novo*, to form plans of my own conception, following substantially the outline of that approved by the President; a large drawing, in perspective, of the whole facade was soon after made in my office for exhibition, first to the President, then to Congress, and which has been exhibited in both Houses of Congress, from time to time, ever since, and in the Patent Office proper.

I then proceeded with the work, arranged all the details externally and internally, according to the requirement of the office—made the building thoroughly fire-proof by arching every story with brick, and was gratified in finding the accommodations proved satisfactory to the government business.

In 1849, the increasing business of the Patent Office, and the creation of a new Department (the Department of the Interior), to which was attached the Patent Office as a bureau, demanded a further extension of this building, and Congress made the necessary appropriations to carry out the two wings of the same, according to the "original plan." The question of "the original plan" coming up in the Senate, I was compelled to present my plan to explain what were its requirements, this was satisfactory, and the appropriations passed. In the spring of 1849 I submitted plans of the interior arrangement for these wings to the Secretary of the Interior, which were approved, and I am now proceeding with the work (the east wing first), with the prospect that, before Congress shall assemble in December, to have all the office rooms prepared for occupancy by the Secretary and his officers; there will also be a grand model room, 270 by 65 feet, and 30 feet high. After making all my plans, and, in a measure, settling upon all the details of the building, which have been for more than a year made public, I was not a little surprised to see in your journal of February last, the main features of my arrangement of this building exhibited in various plans engraved on its face, and not a word of the name or the services of the practical architect. Is this, Messrs. Editors, doing justice to me? I have always accorded to the original inventors, or designers, of this plan of the Patent Office Buildings, the credit of the outline and the architectural order used, but as they never favored me with any plans of their views of the interior or the exterior of the building, I claim some little merit in the business of carrying out the plan to their satisfaction (as I understand), and also that of the public, and especially of the Government.

The only plans that were laid before the Committee, or the President, exhibited simply the arrangement of the second or principal floor, and it was of this character—(see Plan A). Nothing of the upper story arrangements was laid down; the only character of large rooms for models in the plan A were those on each side of the passage, at 1, 2, 3, 4, about 21 feet wide; whereas, in plan B, now exhibited, according to my arrangement, the whole width of the building is taken for the Model Rooms—the vaulted ceilings being supported on columns, as shown in the plan. The principal, or third floor, throughout, has been thrown into one Grand Exhibition Room, each section being 270 feet long, 64 feet wide, and 30 feet high, all vaulted with groin arches, supported on massive columns.

The original plan contemplated above, no doubt, the same arrangement as below, viz., long and narrow rooms each side of the passage. This may be denied by your correspondent, but no evidence has been given otherwise, until February last, in your journal, after the lapse of fifteen years, and my plans made public.

My only object in making this communication is to exhibit facts to the public, the mind of which should be disabused, that justice should be meted to whom it is due. Very respectfully, your obedient servant,

ROBERT MILLS, Architect P. B
City of Washington, D. C., August, 1851