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THE NEW POST OFFICE, NEW YORK CITY.

On Saturday, August 28, the Post Office Department of New York city moved into the new and handsome structure erected at the south end of the City Hall Park. We give herewith an engraving (Fig. 1) showing the south and west fronts, and giving a good general idea of the outer appearance of the structure.

The new post office is by far the finest edifice in this city.

The immense size, beauty, symmetry, and strength of the building, and all its splendid internal arrangements, can only be adequately realized by a close inspection. Ground was first broken on August 9, 1869, and it will have cost, when completely finished, about \$8 000,000. The general plan is an immense triangle, inclosing an open triangular court. The light from this court extends down through three glass tessellated floors to the sub-cellar. The court is entire-

ly open down to the first story. All the upper stories are well lighted and ventilated by this open space. The building, which is fireproof throughout, occupies 21 city lots, has a frontage on Broadway of 340 feet, on Park Row of 320 feet, on the City Hall Park of 200 feet, and at its southern side a frontage of 130 feet. The height from the sidewalk to the lantern crowning the dome is 195 feet. The first two

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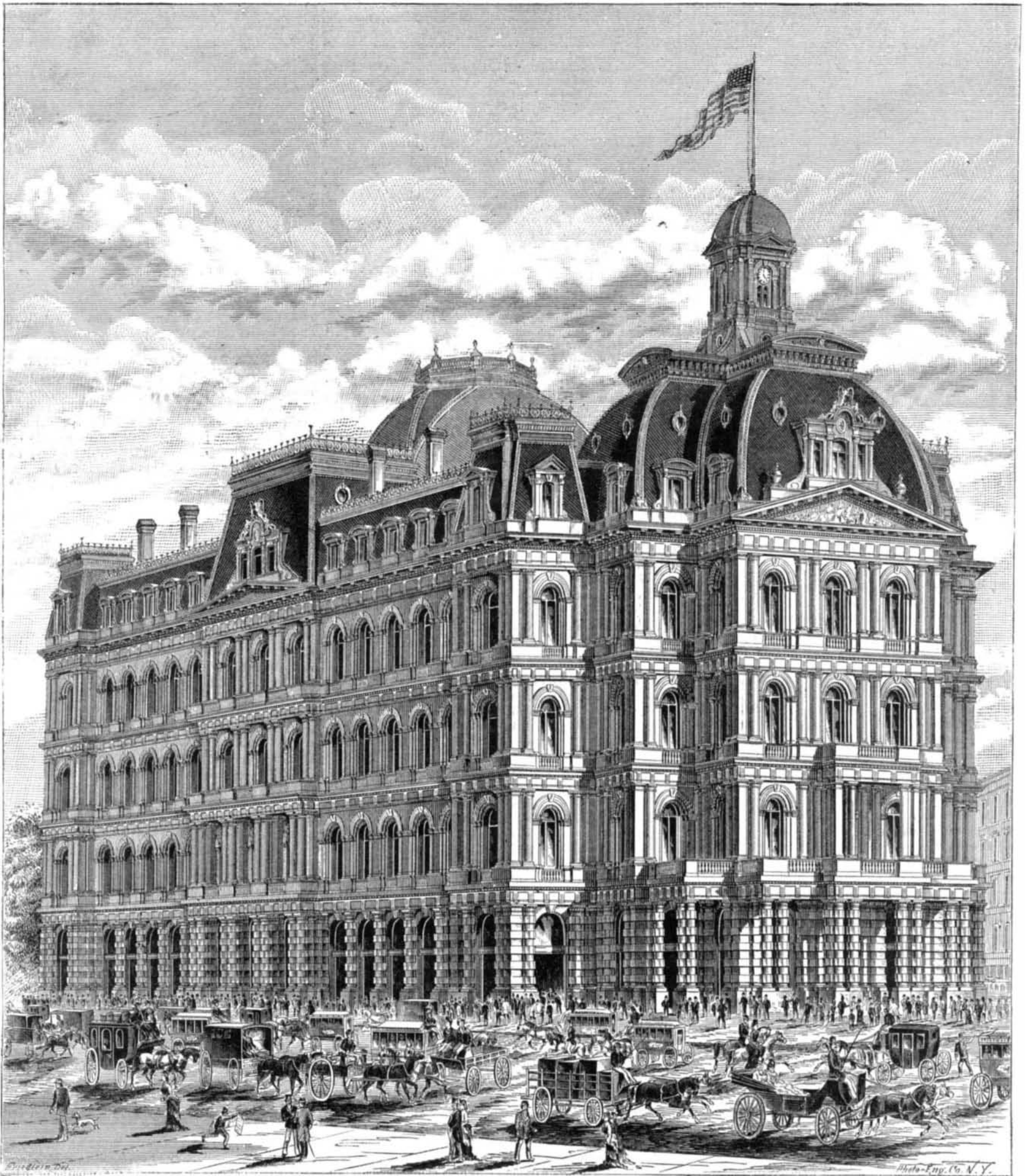


Fig. 1.—THE NEW YORK POST OFFICE.

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floors and the basements below are occupied by the post office, and the third and fourth floors by the United States courts and offices (the interior of the United States Court is shown in our Fig. 2). There are ten elevators for mail matter, and four for passengers. The building looms up grandly above the structures in the vicinity, and attracts and interests the attention of every beholder. The solid walls of the post office contain half a million cubic feet of granite. Every credit is due to the great ability shown by A. B. Mullett, formerly United States Supervising Architect, in perfecting the plans of the building, and giving to New York an edifice that will be a continual source of pride to it.

The business transacted in the post office in this city is something marvelous, being nearly double that of any other city in the Union. The average number of domestic letters received and distributed daily is 300,000; the number of foreign letters received, 30,000; the number dispatched, 35,000; and the number of local letters received and distributed, 120,000. There are 5,795 lock boxes for letters, and 372 lock boxes for newspapers. At the post office and stations there are about 1,300 employees, and 390 carriers are employed. In the post office proper there are 600 clerks.

Experience has shown that Mondays and Thursdays are generally the heaviest days. To properly manage a business so vast and so complex as that transacted in the New York post office requires the highest order of executive ability, combined with a quick perception of details needed to systematize the work so as to make one harmonious machine.

THE ELEVATORS.

One of the most noticeable features of the interior of the building is the telescopic hydraulic elevator. Eight of these are used for handling the mails, and four for passengers. Of the latter the two principal ones are located in the wells of the grand spiral stairways which occupy the pavilions at either extremity of the north or park front. The elevator cars are of elaborate design and finish. Their most striking peculiarity, however, is their mode of operation. Imagine an iron telescope about 18 inches in diameter and 30 feet long when closed; set the small end up, with a car resting on the eye piece. Now this telescope, being strong enough to resist great internal pressure, has its three polished wrought iron slides working through watertight stuffing boxes; and it is obvious that, when water is forced into it, the slides will be forced out and up, and the car, resting on the upper one, will in consequence be elevated. To lower, the confined water is permitted to escape, when the weight of the car and slides causes a prompt descent. These operations are controlled by a three-way valve, actuated from the car by a guide rope in the usual way; and by its means the speed in either direction can be instantly adjusted to any rate, from an almost imperceptible motion to 100 feet a minute with perfect ease and steadiness.

The engraving, Fig. 3, represents one of the large passenger elevators extended to its full height. Their range is from the first to the fourth floors, a distance of about 80 feet.

These elevators were built by Messrs. Davidson & Mars, of 36 Courtland street, New York city.

The foregoing engravings are all executed by the new process of the Photo-Engraving Company, No. 62 Courtlandt street, this city, an account of which we give in the subjoined article.

Photo-Engraving.

The production of metallic plates engraved by the aid of light, for use in printing, was attempted as early as 1813, by Niepce, about twenty-five years before the art known as photography was invented. Since then, many attempts at photo-engraving have been made, and numerous specimens of more or less merit have been exhibited; but it is only within the last few years that this art has been brought to such a degree of perfection as to serve a useful purpose.

Among the various inventors in this field, John C. Moss, superintendent of the Photo-Engraving Company, of this city, seems to have achieved the highest success. Being both a practical photographer and a printer, his experience gave him great advantage in his endeavors to prepare plates, by means of photography, to be used on the ordinary type press. He commenced his experiments with great enthusiasm, in the spring of 1858; but it was not till ten years later that he had so far succeeded as to get his process into prac-

tical working; and then the want of means compelled him to carry on his operations in the same apartments where he lived, in Jersey City.

After prosecuting his work for a year or more under these embarrassing circumstances, and subsequently, for a few months, in a loft on Cedar street, in this city, his plates had

attracted so much attention that he was induced to unite with others in the organization of a company for the purpose of carrying on the work upon a large scale. Accordingly the Actinic Engraving Company was formed. But this did not prove a financial success; and after a year and a half it was abandoned.

There are some inventions which, though of great value, are slow in winning their way to public favor. This proved to be one of them. There existed in the minds of many publishers a strong prejudice against process engraving, due to the fact that several processes had been introduced, of which they had made trial with very unsatisfactory results. Time was required to prove that Moss' process was not like the others.

Another and perhaps greater obstacle was met in the reluctance of artists to adapt their style of drawing to the requirements of this new art. They had been accustomed to make their drawings with pencil and brush, often hastily, leaving the work to be perfected and finished by the slow and tedious toil of the wood engraver. Now they were asked to furnish pen and ink drawings, executed with the care and exactness necessary to secure the desired result. Their first attempts were generally failures, increasing the indisposition to change.

But Mr. Moss had pursued his invention too long to be disheartened by these obstacles and delays. A new organization—the Photo Engraving Company—was formed, something more than three years ago. Expensive apparatus and machinery have been introduced, important parts of which have been invented and constructed expressly for this use; workmen have been carefully trained to perform their respective parts; a corps of artists, patiently instructed, have become skillful in the style of drawing required by this method of engraving; and the process itself has, in several respects, been essentially changed and improved.

One of the methods devised by Mr. Moss to save labor in the production of pen drawings is this: The copy from which a drawing is to be made is photographed double the size of the plate required, on arrowroot paper, and then fixed and well washed, but not toned. Directly upon this print the drawing is made with a pen and india ink. When the outlines and all the important parts of the drawing are complete, a saturated solution of corrosive sublimate in alcohol is flowed over the drawing, which bleaches away the photographic color without at all injuring the lines in ink. The finishing touches are then added, when the drawing is ready to be reduced and engraved. Thus the tedious operations of sketching and tracing are obviated, and a degree of accuracy is secured which it would be difficult to obtain by any other means.

It should be observed here, however, that drawings are not required for all the engraving done by this company, since a large part of their work consists in the direct reproduction of woodcut, lithographic, and steel plate prints, either of the same size as the originals, or of reduced or enlarged sizes.

Up to the present time this company has engraved over 50,000 relief plates, measuring over 500,000 square inches; and it is estimated that, with about 60 employees, they are annually performing an amount of work that would require for its accomplishment at least 1,000 skillful wood engravers.

The view of the New York Post Office Building, on our first page, was engraved by this process from a pen drawing made by one of their draftsmen.

The English Polar Expedition.

News has been received in England from the polar expedition, which sailed early in the summer. Both ships had arrived at Disco, Greenland, after a pleasant voyage, and preparations for pushing further north were in active progress. During next spring six sledges will start for the pole. One sledge will leave the party and return every week or so, transferring its surplus provisions to the others. When the exploring party is thus reduced to one sledge, that will push on alone and reach the pole by itself. If this is done satisfactorily, and all the surveys are completed, the expedition will be able to return to England during the autumn of 1876.

MR. PROCTOR, the celebrated English astronomer, who lectured in this country two years ago with so much success, is about to come again. He is an able and interesting speaker.

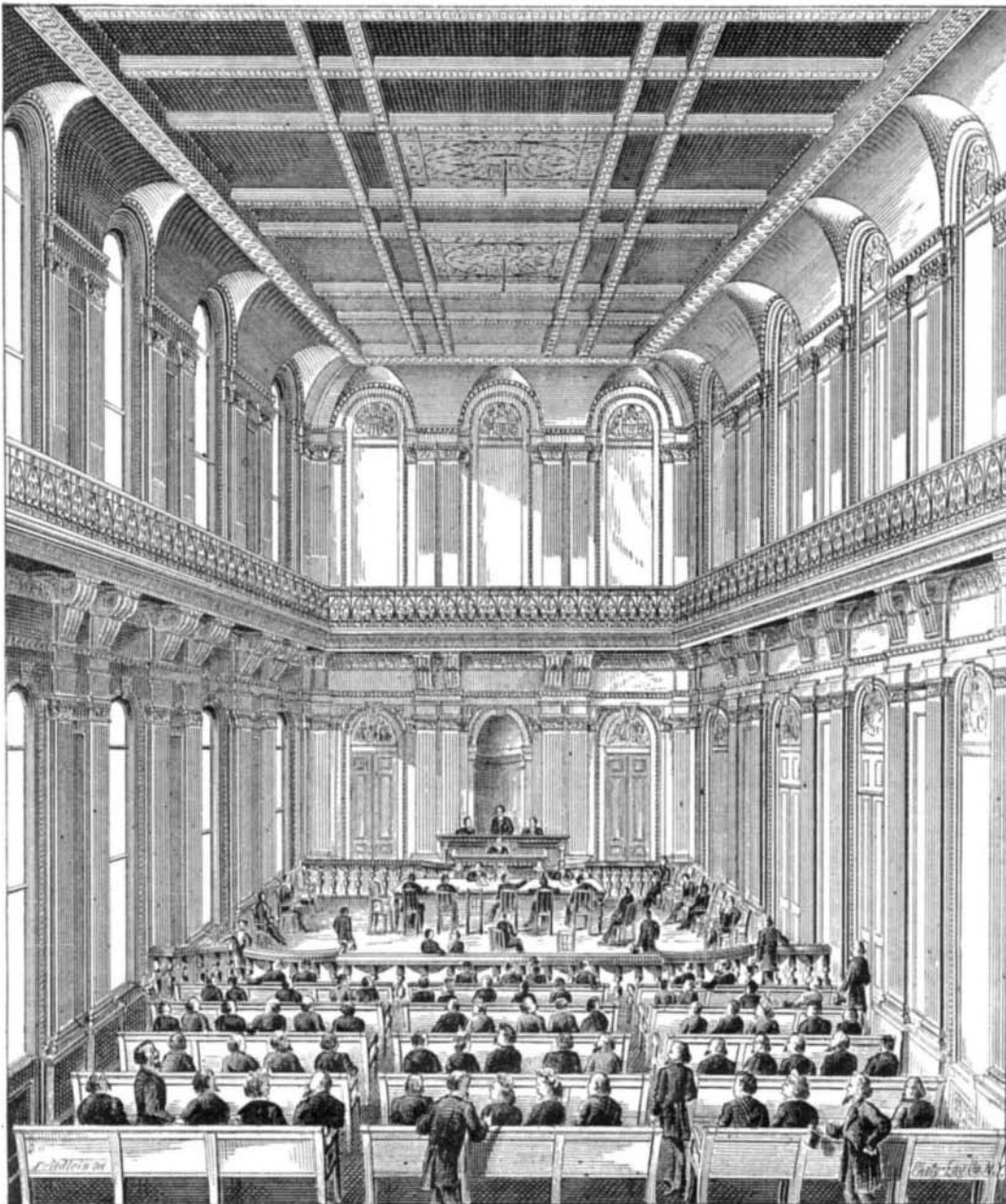
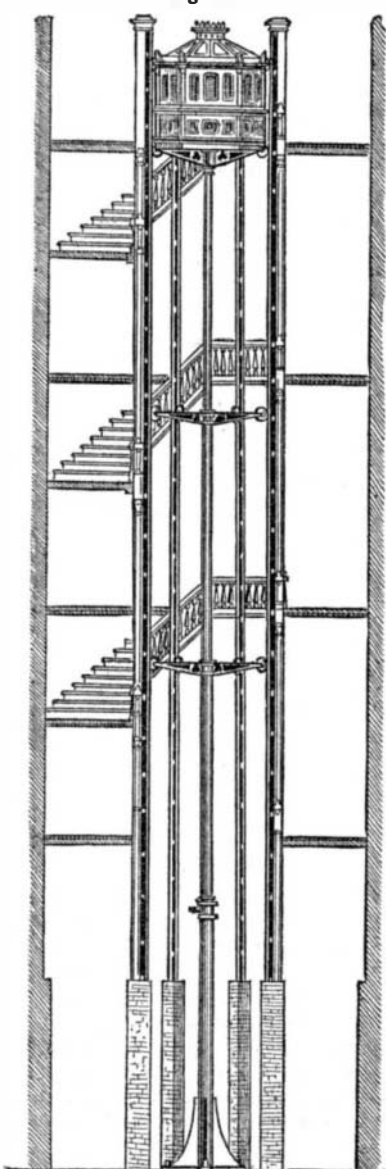


Fig. 2.—THE UNITED STATES COURT, POST OFFICE BUILDING, NEW YORK CITY.

Fig. 3.



THE HYDRAULIC ELEVATORS, NEW YORK POST OFFICE