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DEFECTIVE PUBLIC BUILDINGS.



THE sensation created by the falling of the Pemberton Mill, a few weeks since, has vibrated through every heart in the land, and the testimony taken before the coroner's jury on the case has been read by millions. By such information, the people at large have now become the unofficial, but not the less interested, judges of the cause of that calamity. A very great diversity of opinion prevails upon the subject. Most persons say "the testimony is so contradictory that we do not know what to make of it." There is one point, however, on which many seem to agree, namely, the immediate cause of the accident was the breaking of a cast iron pillar which supported one of the floors. It is believed that it first gave way, also the floor which it supported, carrying with it the walls, and crushing down all the floors beneath. We have been requested by several persons to express an opinion on the subject, from the printed evidence taken during the investigation, and will do so as briefly as possible.

By a careful examination of the testimony we are led to the conclusion that the Pemberton Mill was one of the most defective buildings for manufacturing purposes ever erected. Its walls were far too weak, and the iron pillars which supported the flooring were too few in number, and were inferior castings at that. Some of the floor beams also were too short, and were also improperly connected with the walls. All these deficiencies have come out in the investigation, and to us it appears perfectly conclusive that those who had the control of planning and erecting the mills did not do their duty, or they were incapable of filling the offices in which they were placed. We will give our reasons for expressing such opinions. The chief engineer, Charles H. Bigelow, testified that, at the time the Pemberton Mill was being built, he was also engineer of the Pacific Mill, and was so much engaged that he left the care of the erection of the former chiefly to his assistant, Benjamin Coolidge; still he was the actual ruling superintendent of the structure. To show how very weak the walls must have been, it is enough to state that the building was 284 feet long, 84 feet wide, 5 stories high, and the walls only 20 inches thick. Such feeble walls for a factory of such size, containing, as it did, masses of heavy machinery, never had a parallel in any country, we believe. The masons who had charge of the brickwork testified that, when they were putting up the walls, they complained of the quality of the bricks, and told the engineers that, in their opinion, the walls were too weak. This opinion of the masons was considered an impertinent criticism. Mr. Coolidge, the assistant-engineer, said he believed the structure was a very substantial one, with but one doubtful exception; that was the iron supporting pillars of the beams. One of these was broken during the time of their erection; its defect was made known to him, and he said "he always felt uneasy about them ever since." With such knowledge as he possessed, if he had persisted in refusing them, we think they would not have been used. It was also admitted by this engineer that the defective cast iron pillars employed were contracted for of a certain founder, because he offered to furnish them much cheaper than other parties. This is another damaging point which has been clearly proved.

Although a general opinion prevails that the immediate cause of the fall of the mill was the breaking of

the cast iron pillar, we have not been able to find proof for this in the testimony taken. The smallest cast iron column used was five inches in diameter. Unless it had been thrust out of line by the springing of a beam or some other cause, we have no hesitation in asserting that it could not have been broken; but if thrust out of perpendicular it would have broken like a reed. According to the testimony given by practical men, it appears that the pillars were placed so far apart that if one gave way the whole flooring would fall, and the walls also, as the beams were so anchored into the walls as to bring all down together. Such imperfect engineering appears to be without a precedent. Just conceive of the safety of such an immense factory depending upon the contingency of a single cast iron pillar five inches in diameter, and cast in a manner generally conceded to be very imperfect! The walls of all buildings belonging to corporate bodies, in which large numbers of persons assemble for labor or other purposes, should possess sufficient strength to stand alone. They should be strong and safe beyond peradventure; this was not the case with the Pemberton Mill.

PATENT OFFICE REPORTS.

We have before us a specimen number of the illustrations which form the third volume of the Patent Office Reports, for the year 1858. The work was executed at the establishment of E. K. Jewett, in the city of Buffalo, and appears to be done in a style superior to that of any of the preceding reports. The printing of these illustrations is done—not from wood-cuts, but by a process somewhat akin to that of electrotyping; but as the process is as yet a secret, we are not allowed to publish its exact nature. Some of the details are executed with great clearness, although so minute as to require a glass to be seen distinctly.

These illustrations cover 674 pages of the size prescribed by the act of Congress. The figures are made as small as is consistent with distinctness, and they are crowded together on the page as closely as it would seem practicable; there being on an average nearly six illustrations on each page. The whole number of patents in 1858 was 3,710, nearly all of which are illustrated with drawings, and most of them require two or more drawings to show those different parts and different views of the respective inventions in order that they may be fully understood.

The number of patents for the year 1859 is about five hundred greater than for the preceding year. If the number of patents shall be made to bear the same ratio to the number of pages as for the year 1858, it will require for these illustrations more than 750 pages in the report.

The act of Congress for 1837, requires the Commissioner of Patents to lay before Congress, annually, a detailed statement of the expenditure and payments made from the patent fund; a list of all patents which shall have been granted during the preceding year, designating under proper heads the subjects of such patents, and furnishing an alphabetical list of the patentees with their places of residence; a list of all patents which shall have become public property during the same period; together with such other information of the state and condition of the Patent Office as may be useful to Congress or the public.

In compliance with this latter requirement, it has been customary to make a very condensed description of each and every patent that has been issued during the year, stating only sufficient to give a general idea of the nature of the invention, when taken in connection with the illustrations corresponding with the respective descriptions.

All these matters require space. The letter-press (or reading-matter) of the report for 1858 fills two volumes of some 800 pages each. It is wholly impracticable to condense it into much smaller compass without rendering the descriptions unintelligible. And yet, by a resolution adopted by the last Congress, and upon which we have already commented in our issue of the 21st ult., the report of the Commissioner of Patents for the year 1859, with its 500 additional patents, is to be crowded into 800 pages, embracing letter-press, illustrations and all! This is simply impossible, if they are to be got up in such a way as to render them of any value at all. Rather than attempt such an impracticability, it would be far better to suppress the report altogether; at least so much of it as attempts to describe the patents that have been issued during the year. All else that is required by the

existing law may be embraced in a volume of much less than 800 pages.

In preference to such a mutilation of the report, however, we would recommend that Congress give the copyright to some enterprising publishers, who would doubtless be willing to undertake it at their own risk and expense. The public, then, by paying their money, could become informed of what had been the operations of this important branch of the public service. This, although by no means commendable, would be far preferable to keeping them in ignorance, or attempting to communicate information in some impossible manner.

Or—what would probably be still better—let the inventors and patentees be taxed sufficiently to pay for the publication of these reports by having them printed at the expense of the Patent Office fund, and then sold or gratuitously distributed as may be deemed expedient. The Patent Office is now, in the main, a self-sustaining institution. This would render it almost entirely so. In that case it would be necessary to increase the expense of obtaining patents; but better so than worse. No class of men have contributed so much to the progress of our age and of our race as the inventors—none so much to the glory of our country. It would seem but just that they should receive their fair proportion of the benefits of the government to the support of which they contribute equally with other citizens, in addition to the fines paid by them into the Patent Office. But if the printing of public documents necessary to show the action of the government, and necessary to the due information of the people, is also to be thrown upon them, they would rather do that than not be put in possession of this most useful and interesting information. No documents published by the government are read with so much interest and usefulness, by so large a class of readers as these Patent Office reports—none that so well deserve to be published at the common expense.

It will we hope be understood that we do not recommend any of the measures above suggested, except as a choice of evils. We hold that each and all would be derogatory to the dignity and justice of the government but that they are either of them better than to undertake to crowd into the space of 800 pages, what cannot well occupy much less than three times that compass.

It might perhaps produce some effect upon the conduct of many members of Congress, if they could realize that although machines cannot vote, the inventors of those machines can—that a continuance of what they will feel as an injustice will be calculated to drive them into organizations for their own protection—and that the proper method of preventing this is to obviate the cause. This is not intended for a threat, but merely a warning.

THE NEW COMMISSIONER OF PATENTS.—At the moment of going to press, last week, we learned and accordingly published (in our first edition only) the statement that the Hon. Samuel C. Ingham, United States Commissioner of Customs, had been appointed to succeed Mr. Bishop as Commissioner of Patents. The appointment was tendered to Mr. Ingham, and we were informed that he had decided to accept it, which fact was also confirmed by the telegraphic correspondence of the daily papers. It now turns out that, upon further consideration of the matter, he thought it would not pay to "swap off" an office with whose duties he was familiar for another of the same salary but of more responsibility, and requiring more study to master its details. The latest and probably the most reliable phase of the matter is that Ex-governor P. F. Thomas, of Maryland, has been appointed Mr. Bishop's successor.

A SOCIAL GATHERING.—A few evenings ago, our distinguished fellow-citizen, Mr. Cyrus W. Field, gave (at his residence) a splendid reception to Mr. Du Chillu, who has recently returned from explorations in Central Africa. The company present was large, and included many of our most eminent men of science and learning. The whole affair was exceedingly social and agreeable.

A LEGISLATIVE LOCOMOTIVE!—On the New Jersey Railroad they have a passenger locomotive bearing the name of Governor Pennington, the lately-chosen Speaker of the House of Representatives. When the news of the distinguished gentleman's election was received by the engineer, the way he piled on the flags and banners, and made the machine to scream and snort, was a "caution."