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THE GREAT FIRE AT CHICAGO. A NATIONAL CALAMITY AND A TERRIBLE LESSON.

While, from pulpit and press, has issued and is still issuing a flood of lamentation over the great misfortune that has befallen Chicago, and which is not her calamity alone, but a national disaster: and when eloquence and rhetoric have striven to give forcible utterance to the intense sympathy for the sufferers that pervades the civilized world: we can add little, by any words we may pen, to the public realization of the magnitude of the catastrophe, or to the universal generous impulse to extend efficient material aid to the homeless and bereaved; an impulse that has not expended itself in useless talk, but in prompt, noble, and openhanded munificence.

Our sorrow is sweetened by the pride we feel in these generous deeds, which go far towards restoring our faith in humanity, severely tasked by revelations, of fraud and dark doing, lately brought to light in our midst. There must be some good left in the world when such spontaneous and genuine sympathy for suffering is displayed.

Is there no useful lesson taught us in this dreadful catastrophe? The fire record of this country is one which may be profitably reviewed, in connection with this last crowning event, in the dark catalogue which eclipses all that has gone before. New York, Troy, Portland, and Chicago have so far been the cities doomed to feel the fiercest wrath of the fire fiend.

All these great fires occurred under a combination of peculiar circumstances. There had been long drought, and everything combustible was in the proper condition to burn with the fiercest rapidity. There were quarters in each of these cities in which the fire could feed itself fat on wooden structures whose combined burning generated a heat too intense to be withstood by walls of brick or iron. In each case, there was a fierce wind that blew the flames directly upon the heart of the city, and speedily forced the conflagration far beyond human control. In each case, it was seen that so called fireproof structures are not proof against such a combination of circumstances; that walls of stone or brick, with beams and columns of iron, alike succumb to heat of sufficient intensity, and that in structures made of materials that will not of themselves burn, there are usually stored goods that, in the ovenlike heat which warps, crumbles, and cracks fireproof walls, take fire and increase the power of the conflagration to destroy other similar structures.

The wooden sidewalks and pavements which abound in Chicago no doubt did much, in their excessively dry condition, towards spreading and adding fury to the flames; and it is stated that the fire ran along these streets to great distances, interfering with the work of the firemen, and rendering their efforts hopeless.

It is safe to infer from the careful general study of fires in cities, and the consideration of all the circumstances of the four great fires above alluded to, that, were it not for wooden buildings massed together in cities, there never could be such extensive conflagrations. It is in these sections of summer-dried wooden buildings that the fire first gets beyond the means of control. In them it gathers its intense power of destruction, which every new morsel it licks up increases, until finally glutted, or obstructed by a providential

change of wind or a heavy fall of rain, it falters in its work of ruin.

The ruin that has befallen Chicago awaits every city within whose bounds masses of wooden buildings stand, whenever a similar combination of circumstances shall arise.

The Brooklyn, Jersey City, Newark, and Paterson papers have been loud in their expressions of sympathy for the destitute of Chicago, and Brooklyn was among the very first to send a large sum of money to the sufferers. Let generous Brooklyn itself beware. It boasts that Chicago alone of all American cities has rivaled it in rapidity of growth. It may be that Chicago alone of all American cities can rival it in ruin. Nearly half the city of Brooklyn, as well as the other cities named, is built of wood. Some time will come the dry season, the fierce gale, blowing toward the heart of the city; and a fire, that under ordinary circumstances would be easily quelled, will spread into wide destruction.

After all these examples of the danger of massing wooden structures, it would seem we should learn wisdom. One third of a prosperous city now lies desolate; and, practically, its entire business, its means of recovering its loss, is destroyed. In this respect, as well as in the extent of area burned over, this fire has been more disastrous than any on record, except the great fire of London. It is no surface injury the city has sustained; she is hurt in her most vital part. She will recover, but for years will feel the effect of this blow. Regret is unavailing. We can only extend the hand of sympathy and assistance, and learn from her fate to avoid the danger that has proved the prime cause of her fall.

Among the many reflections that crowd themselves upon the mind, connected with this event, the evidence of the growing feeling of brotherhood among nations, is one that will not escape the notice of the thoughtful; and the means by which this feeling is nourished, will also be easily recognized. The news that Chicago was burning, reached London and Paris, and the chief European centers, only a little later than it was known in New York; and the telegraph wire that sent the sad news across the Atlantic, flashed back words of sympathy and cheer, and pledged assistance, which will soon reach its destination. "Pay to the order of"—pulsates along the cable, and a check is drawn in New York for Chicago. Truly, this is like shaking hands across the mighty waters that, fifty years ago, separated two continents by months. Rapid communication has done more to unite the interests of the civilized world than all other influences put together.

The total amount subscribed up to Wednesday night, the 11th inst., was over two and one quarter millions dollars, and probably that amount will be doubled before this paper reaches its readers.

These timely succors, together with the insurance—at least fifty per cent of which will, in all probability, be paid—will do much toward restoring the business of the city, which had, before this trouble, immense vitality.

The wooden buildings, sidewalks, and pavements will be replaced by more substantial structures, and, in time, the Garden City will perhaps be all the stronger for this purification by fire.

AN EXAMPLE TO MANUFACTURERS.

A correspondent writes from Berkshire county, Mass., giving an account of what has been done in the village of Housatonic towards elevating the condition of the workmen in the mills, and rendering their lot as comfortable, refined, and respectable as that of any class of citizens in the community. It is an example worthy of imitation on the part of all manufacturers, and we should hear less about strikes, shut outs, and combinations, if a similar consideration for operatives was everywhere exhibited.

The Owen Paper Company, of Housatonic, has been celebrated for many years. It was one of the pioneers in this branch of industry, and has established an enviable reputation for the superior quality of its manufactures and the honorable dealing of all concerned. It is not, therefore, necessary to speak of the paper made here, or to give a gratuitous advertisement of the products of the factory. Everybody has used the paper, and many years of successful industry is a sufficient public notice; but there is one feature of the mills, entirely disconnected from its business affairs, which is not known to the world at large, but which ought to be, for the good example it affords; and it is of this that our correspondent speaks.

The present owners of the property have purchased all of the land on both sides of the river for several miles, chiefly for the purpose of controlling it and preventing the approach of any element discordant with the general principles they have adopted in their conduct of affairs. The moment the stranger crosses the line of the property, he is conscious of the presence of a presiding authority, as the road is kept in admirable order, the fences are neatly painted, shade trees are judiciously planted, and little parks laid out; and in front of the mills, instead of litter and dirt, boxes, bundles, and confusion, there are neat gravel roads, grassy inclosures, clumps of trees, and such order as one generally only sees about the grounds of a wealthy country gentleman. This at once gives an air of refinement and civilization to the place, and prepares the visitor for the neatness and discipline that reign within the walls.

The process of the manufacture of paper is always an interesting one, but when it can be followed from the rags to the finished "cap," in an establishment kept as neat and orderly as the Housatonic mills, it is not alone the beautiful application of mechanical genius that attracts us, but the practical solution of the question of how a business can be carried on as a pecuniary success, and, at the same time, with a constant regard for the comfort of the workmen. It is a

place through which a lady could walk without fear of soiling her dress, even if she wore the unsightly train the sex affects so much under present fashions. The neatness of the place suggests the propriety, on the part of the visitor, of carefully removing all dust from his shoes before entering it. The appearance of the women engaged at work is entirely in keeping with the surroundings. They wear neat calico dresses, and have the air of being quite as refined and respectable as persons engaged in the more fashionable and aristocratic occupations of teachers, governesses, and the like. In fact, the woman question here meets with its proper solution. Women are enabled to support themselves, to lay up money, to carry their share of the burthens quite as respectably and independently as the men.

The company make more money, beyond a doubt, by having in their employ persons of such thorough respectability; and if it costs money to keep the place clean, to plant shade trees, and surround the operatives with refining influences, they more than get their return in the improved character of the work and the emancipation from discontent and strikes. All of the persons employed in the mills are provided with homes. Comfortable cottages, surrounded by gardens and flowers, dot the hill sides, and adorn the banks of the river. They are all handsomely painted, and vary in size and elegance according to the business responsibility of the occupant. Some of the higher officers occupy what might be called villas—really architecturally beautiful houses, such as any gentleman from the city would like to own as a country seat. For the unmarried women, there is a fine boarding house, with its cupola, piazza, and every modern convenience, conducted under the careful superintendence of a matron. It looks more like a boarding school for young ladies, than a place in which women live who work hard to earn their daily bread. Ample provision is also made for the education of the children. And in order that the religious instruction of the community should not be neglected, the company have built a handsome church, and contribute liberally to the support of the minister. There is a fine circulating library and reading room attached to the mill, absolutely free to all; and the character of the books on the shelves, and the good use made of them, is one of the most interesting features of the place. There are often five hundred volumes out at a time, some of them histories, some novels, some travels, and all capital reading for instruction or amusement. There is a librarian paid by the company, an intelligent woman, who is in attendance from 11 A. M. until 9 P. M., who cheerfully gives any information to her patrons, keeps a record of the books, and takes care of the place. Between 12 and 1 o'clock, the usual time for dinner, after partaking of that meal, clusters of the men and women can be seen entering the reading room, to look over the files of papers; and in the evening, the place, being warmed and well lighted, is often full of persons who come to consult such books and journals as cannot be taken home. Religious papers of all denominations, several of the monthlies, illustrated papers, and the leading scientific journals, are kept on file, and among them the SCIENTIFIC AMERICAN is a great favorite, if marks of frequent handling may be taken as a test. There are no grog shops or nuisances of any kind, and if any of the workmen show a tendency to visit such establishments, they are immediately furnished with a permanent leave of absence—their room is counted much better than their company.

At the time of the French Exposition of 1867, a reward was offered to the owners of the best conducted manufacturing establishment, taking into consideration the care of the workmen, the moral features of education, lodging and general deportment of the men. There were numerous competitors, and we do not recollect who won the prize, but it is evident that the mills now owned by Mr. Cone, at Housatonic, ought to have competed for the honorable distinction.

Much is said, in this country, about the dignity of labor, but most people act as if they had no faith in it. A successful mechanic rarely wants his son to pursue the same calling; he sends him to college, and, after college, to a profession, where he often learns ways that are decidedly unprofessional and unworthy of his father. It is not the labor that dignifies, but the character of the man that makes any honest work respectable; and when manufacturers take this view of the question, and surround their work by refining and elevating influences, so that no one need feel ashamed to be found at his task, they become real benefactors of their race, and are reformers in the right acceptation of the term. There is no dignity in labor, if it be conducted in a low and groveling way. There is nothing more dignified than labor, when carried on with a pure and elevated spirit. The example set among the hills of Berkshire appears to be worthy of study and imitation.

RECENT PROGRESS IN METALLURGY.

At the recent meeting of the Lyceum of Natural History, Professor Egleston, of the School of Mines of Columbia College, made a few extemporaneous remarks on the recent progress of metallurgy in Europe, whence he had just returned. The Professor stated that the Pattinson silver process was now almost entirely abandoned; and in its place had arisen, to great favor and almost universal adoption, the zinc process described in a former number of our journal. The advantages of the zinc process were set forth many years ago by Karsten, but, for some inexplicable reason, pronounced impracticable by the workmen who tried it. It was afterwards rediscovered and patented by Parkes in England, but then found no favor, and fell a dead weight in the repository of new inventions; finally, in 1858, it again raised its head, and, after many modifications and revolutions, has driven all other methods from the field. The old Pattinson desilverization is now chiefly confined to very poor ores, and