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Contents:

(Illustrated articles are marked with an asterisk.)

ANOTHER GREAT FIRE IN CHICAGO, AND THE MATERIALS ACCUMULATING FOR ONE IN NEW YORK.

Chicago was visited, on the 14th ult., by a second great fire, which devastated about eighteen blocks of buildings, and entailed a loss estimated in the neighborhood of two millions of dollars Though falling far short of the conflagration of 1871 in its disastrous effects, this visitation has been the means of rendering thousands of people homeless Unlike its predecessor, which destroyed some of the fairest portions of the city, it was mainly confined to rookeries and dens, in the obliteration of which the community is rather the gainer; but, as is the rule in such quarters, the population was dense, and consequently the numbers deprived of shelter are greater than would be the case had other parts of the town been burned.

There is evidence of mismanagement of the fire department, to which is probably owing the non extinguishment of the fire at an earlier period. Engines were posted behind the flames instead of in their path, and attempts at blowing up buildings were miserably unsuccessful, owing to lack of powder, a state of affairs difficult to comprehend. To one good substantial fireproof building, the safety of almost the entire city is due. The blaze lapped it all around, but its marble walls stood grandly; and then, as the fire attempted to crawl over it, the flames grew weaker and were beaten back by the firemen on the other side One honest structure was the savior of millions of property; and the builders of the metropolis may well take the fact to heart.

New York, at this moment, fairly invites the fate of Boston, Portland, and Chicago. Buildings are being run up to hights to which water by the fire engines cannot be thrown There are wooden structures in close proximity to some of the grandest edifices; there are blocks upon blocks of tenements filled with swarms of people, the majority of whom, from poverty, use kerosene in place of gas, and in which a great fire, once started, would work terrible ravages. In our up-town streets, houses shoot up half a dozen at a time together, a mass of the thinnest possible walls and kindling wood beams and fittings, built to sell and to realize a big interest on capital, without any regard to the simplest precautions in favor of safety. We have an admirable fire department, to the prompt exertions of which our immunity thus far is mainly due; but if circumstances combine to engender a great fire, as in both cases in Chicago, it will be through the mercy of Providence, and not through our own foresight, if we escape a terrible visitation.

CHOLERA AND ITS TREATMENT.

In view of the general uneasiness which reports of apparent cases of Asiatic cholera, as they recur, will tend to engender, a little volume before us is of timely interest, inasmuch as it not only gives valuable information regarding the origin, symptoms, and nature of the disease, but also points out, probably, the most efficacious methods for its cure. The book, which is entitled "Observations on the Pathology and Treatment of Cholera" (G. P. Putnam's Sons, New York), has been written very recently by Dr. John Murray, Inspector General of Hospitals in England, and late of Bengal; and it aims to give the result of the author's forty years' experience during a residence in a country ordinarily considered as the hotbed of the disease.

Cholera is caused, we are told, by the presence of the poison in the system, and until this is removed health cannot be regained. The first stage of the disease, *malaise*, is frequently unnoticed by the patient, and it may be produced by many causes independent of cholera poison, such as overexcitement, fatigue, depression from misfortune, and similar physical or mental conditions. Hence, while such symptoms, under ordinary circumstances, need excite no especial apprehension, still, if the patient has been in contact with cholera cases, or in the neighborhood of an infected region, they should be regarded as the signal of approaching danger and carefully treated. The system should be relieved, and the blood purified without causing diarrhœa.

Improper food, over fatigue, and purgative medicine, the last especially, tend to develop the second stage, which varies in duration from two or three hours to two or three days. The evacuations become watery and colorless, and the effect is to predispose to collapse. The great danger is from the purging increasing and becoming uncontrollable. The remedy which the author prescribes is composed of opium one part, black pepper two parts, and assafœtida three parts, divided into five grain pills, and given with a little cold water after every evacuation. These pills are used all over India and distributed to the troops. Astringents Dr. Murray condemns as useless, if not injurious, and he adds that chalk mixture, infusion of capsicum, camphor in alcohol, and similar compounds are not to be relied upon. It should be remembered that it is at this stage of the disease that the infection is communicated, and hence disinfectants should be freely used with the evacuations. The diet should admit of no solid food unless farinaceous, such as bread, arrowroot, and sago. Exercise in fresh air is desirable, but fatigue is dangerous.

The following stage is collapse; and as, when the disease is thus far advanced, danger is imminent, treatment becomes most difficult. It would be impossible, with the space here at our command, to follow the author through the various symptoms laid down and the remedies advised. He describes the stages generally under three heads: The first is incipient collapse, where there is a great prostration of strength; but the voluntary life of the body is active, and the involuntary life only partially suspended. The treatment here recommended is in great measure expectant, to gain time to allow Nature to eliminate the poison through the individual secretory organs. In the second or confirmed degree of collapse, voluntary life is impaired and involuntary life is flickering. The treatment advocated consists in palliative cold drinks, hot saline enemata, and strong mustard poultices or blisters upon the abdomen. The addition of a small quantity of quinine to the water administered is useful, and the appearance of bile in the evacuations is the first sign of hope. In the last form of collapse, the powers of voluntary life are very low and those of involuntary life are paralyzed. The hope of recovery is very faint, and there is no remedy on which reliance can be surely placed.

Dr. Murray devotes the larger portion of his work to the consideration of collapse, and also to the discussion of the after effects of the disease during convalescence. In referring to hospitals, he says that those best suited to the disease are small buildings on open ground, well drained, and in the vicinity of trees, if possible. Huts may be used with great advantage, and should be located in the center of the infected district. In conclusion, the necessity of deciding on the best course to pursue *before* an epidemic actually occurs is urged upon local health authorities, as, when the disease appears, excitement ensues, and often confusion, amounting to panic.

THE INSPECTION AND INSURANCE OF STEAM BOILERS.

The recent amendment of our State law of boiler inspection, making the certificate of inspection issued by any company authorized to insure steam boilers equivalent to an official certificate, gives occasion for more than a passing interest in the management of this department of the insurance business.

What is the basis of the business? How is the work carried on? And why should the parties engaged in it be accepted as trustworthy agents of public safety within the scope of their business operations?

In response to inquiries of this sort, the Hartford Steam Boiler Inspection and Insurance Company, the leading as well as pioneer corporation of the kind in this country, have courteously laid before us, for the information of our readers, full details as to the method, purpose, and practical results of their work.

That the use of steam power is fraught with danger is only too well known; the extent of the danger, however, as indicated by the number of explosions every year and the loss of life and property entailed, is but vaguely appreciated by the public at large. No official record is kept of such accidents, and only those of exceptional interest are reported in the newspapers; nevertheless the number so reported and brought to the notice of a single individual during the past five years is but a little short of six hundred, causing the death of 1,329 persons, and the wounding of upwards of 1,500 more! The amount of property destroyed cannot be told: any one knowing the destructive character of boiler explosions will understand that it could not have been small.

Against losses of this character, ordinary insurance offers no indemnity, since the destroying element is neither fire nor water, though both have something to do with it. The need of a special system of insurance to cover these particular risks was early appreciated by steam users in England; in this country it remained unmet until 1866, when the company above named went into operation.

Unlike other forms of insurance, this does not undertake merely to indemnify the policy holder for losses of the special nature embraced in its plan of operation, but to prevent such losses by a watchful care of the property insured. Its tendency is therefore quite the reverse of ordinary insurance in that it lessens instead of increases the likelihood of "accident."

Boilers do not explode without cause, which cause, in the great majority of cases, may be detected in its incipiency by proper inspection, and the risk removed by timely repairs. It is in this department of its work that the company becomes an unofficial guardian of public safety: a prime condition of every policy of insurance being that the company's inspectors shall at all reasonable times have access to the property insured, and be afforded every facility for a thorough examination of the boiler and its attachments: and in case defects are discovered at any time, in any way affecting the safety of the boiler, the assured is bound to correct the evil at once, or the policy dies. Should the owner choose to assume his own risk and refuse to make the needed repairs, the company's inspector is required to notify the official inspector for the district, who alone has power to compel the disuse of the dangerous boiler if in his judgment its condemnation be just. This, however, is a purely imaginary case, no instance having thus far occurred of a policy holder slighting an inspector's suggestions, or declining to correct defects to which his attention had been called.

A brief statement of the work done by the company's thirty inspectors during the past year, with the number and kind of defects discovered and corrected, will give a rough idea of the character and usefulness of its work

The number of inspections made was within two of twenty five thousand, more than a third of which were thorough internal inspections, including external examinations of tubes, flues, and fire sheets, internal and external of the bracing and staying, and the condition of all boiler attachments. The number of defects discovered was 11,988, of which 2,892 were regarded as dangerous, that is, of such a character that an accident was liable to occur at any moment. In 178 cases boilers were condemned outright, as so completely worn out or injured by carelessness as to be beyond repair.

In detail the defects may be classed as follows: Furnaces out of shape, with sheets contorted and buckled, 599, dangerous, 124; fractures, 1 003, dangerous, 459; burned plates, 682, dangerous, 291; blistered plates, 1,737, dangerous, 298; cases of deposits of sediment, 2,263, dangerous, 227; of incrustation or scale 2,180, dangerous, 205; of external corrosion 818, dangerous, 163; of internal corrosion 333, dangerous, 92; internal grooving 206, dangerous, 47; defective water gages 561, dangerous, 96; defective blow-out apparatus 253, dangerous, 83; overloaded or defective safety valves 321, dangerous, 107; defective pressure gages 1,470, dangerous, 280, the extremes of variation from a standard gage being from *minus* 57 to *plus* 50; boilers without gages 682, dangerous, 62; deficiency of water 113 cases, dangerous 69; cases of loose and broken braces and stays and insufficient bracing 465, dangerous, 230.

Who can estimate the amount of peril to life and property obviated by the discovery and timely correction of these twelve thousand defects and deficiencies?

The fidelity and skill with which the inspections were made during this and preceding years, as well as the correctness of the theory on which they were based—a theory which gives small space to the mysterious in accounting for boiler explosions—are sufficiently attested by the almost entire absence of serious accidents in connection with the thousands of boilers of all sorts and conditions that are or have been in the company's care. In two cases only has life been lost by the explosion of such boilers, the victim in one being the driver of a locomotive, in the other the engineer in charge of a stationary boiler which exploded for some cause that baffled detection.

Of course it is impossible to say that any others would certainly have exploded if left in the condition of the uninsured and less frequently inspected: still a glance at the museum of boiler defects collected by the company's inspectors would convince the firmest believer in protecting providence that, without their intervention, nothing short of perpetual miracle could have kept some of the diseased subjects from sudden and violent ends.

Further evidence of the value of the company's inspections is given by the increasing appreciation of them by steam users. To a very large extent the inspection and approval of the Hartford Steam Boiler and Insurance Company is made a condition without which a boiler will not be accepted; while many leading boiler makers have all their work thus inspected, the company's certificate going with each boiler as a guarantee of its soundness and proper construction.

So far the business affects only boiler makers and boiler users The late legislative enactment makes the community at large a party also, in that it practically entrusts the public safety within certain limits to the care of the insurance companies. It is but right and natural that the public should ask why and wherefore.

The amendment was passed in response to a petition very