provided to control them, and we can only conjecture what the loss would have been if the protection which exists had not been provided.

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At the Great Exhibition of London, 1851, public competitive trials of manual engines were held, the records of which show splendid results, and it is doubtful if such machines could have been much improved. Among the competitors were Messrs. G. Perry & Bros., of Montreal, who exhibited a manual engine to be worked by 40 men. It was highly commended by the judges for certain favorable features, and was awarded a prize medal. The hand engines made in the United States reached a high state of perfection, and were probably superior in finish to the European make.

During the decade 1850 to 1860, processes were at work for superseding the hand engine by a more effective machine. The steam engine was being rapidly brought into use in all industries, and its advantages for operating pumps were early recognized. Early in the nineteenth century pumps worked by steam were installed for the purpose of pumping water from mines, for drainage, and for fire purposes in large establishments, but they were all of the stationary type.

The application of steam power to work a force pump, arranging the engine, boiler, pumps, etc., on wheels was first carried out in the year 1829 by Mr. John Braithwaite, of London. The engine constructed in that year was of 10 horse-power, with two horizontal cylinders and pumps, each steam piston and that of the pumps being attached to one rod. Its weight was 4½ tons, and it threw 40 tons of water per hour, to a height of 90 feet. The engine worked with great success at the fire at Argyle Rooms, Soho, at the burning of the English Opera House, and Messrs. Barclay's brewery, at all of which it greatly assisted in preventing the fire from spreading, and for which gratuitous assistance Mr. Braithwaite received the magnificent testimonial presented to his men of ONE SOVEREIGN. Although this engine was most successful in its working and proved its adaptability for the purpose for which it was designed, it met with the opposition which important improvements usually encounter. The principal objections were, it was too heavy for rapid travelling; it would take too long to put it into operation unless steam were constantly kept up; it was too powerful for common use and required larger supplies of water than could be obtained in London streets, and even if water could be obtained the quantity thrown might be injurious and cause mischief.

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The time during which the steam fire engine reached a high state of perfection is in marked contrast with the years that elapsed in the evolution of the hand engine to anything like an efficient machine. This was due to the fact that the use of tools and machinery had reached such a stage of perfection by the middle of the nineteenth century that the design of a machine to produce certain results could be executed with a precision that was impossible 100 years before.

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This brief history of the Progress of Fire Protection, which is all that can be attempted within the limits of this paper, indicates the wonderful development that has taken place, and without which the material progress that we see to-day could not have been possible. A study of the subject appears to lead to the conclusion that the splendid public appliances which have been brought into general use have not reduced the relative loss of property by fire, and we must conclude that still further progress will be made to meet the forces that are at work increasing the danger.

As a consequence of the enormous growth in the production and storage of goods, mammoth establishments, both in height and area, have become striking features in all cities, and hazards are rapidly developing which are increasingly difficult for fire protection to keep pace with, and though an accurate forecast cannot be made of future progress, there are indications along the lines which it will probably take. There are limits to the effectiveness of brigades with the best appliances, and when conditions arise beyond these limits, other means must be provided. A fire department has its maximum force at the street level, but as the stories rise its powers rapidly diminish and a stage of inefficiency is soon reached. Aerial ladders and water towers are valuable auxiliaries, but they have their limitations and with height increase the danger to life and limb. The public must not expect firemen to attempt the impossible or risk their lives in efforts to save property and life beyond the means provided. It follows, therefore, that if buildings are erected beyond the effectve working of a brigade with the best appliances, new and secure standing ground must be provided from which firemen can operate without danger to themselves. This new fighting ground must necessarily be within the buildings themselves, and upon which must be stationary and movable appliances with full force of water to reach all parts.

In the congested districts of all cities the tendency is towards tall buildings, and when any considerable number are erected, separate and independent waterworks will have to be installed with mains and pipes of sufficient strength to maintain the pressure of the altitude, with stand pipes, hose connections and other appliances on every flat to enable the brigade to attack a fire in any part in the shortest possible time. The disastrous fires which have repeatedly occurred in tall merchantile buildings, have demonstrated the fact that they cannot be successfully combatted from the street level with the most powerful appliances, and so hazardous has the situation become in many cities that separate and independent waterworks systems are being installed or projected for the purpose of specially meeting the serious conditions which have arisen.

Mr. Sims proceeds to speak of the various kinds of hose, the aerial ladder-truck for fires in tall buildings, the fire-boat for the protection of water fronts, the chemical engine, etc. He expresses his firm belief in the effectiveness of fire alarms and prompt attention to fires in incipient stages, automatic sprinklers and stand pipes are commended, and slow burning materials are preferred to the steel frame even when protected with terra cotta against fire.

The paper closes with instructive "notes" on construction, on the spread of fires, on lighting, heating and ventilating systems, on fire protection of premises and fire alarms. Each note is suggestive of the right thought and action for the time and the occasion.

While commending Mr. Sims' paper for its very valuable information, still we hold to the doctrine that while the underwriter should know all that is knowable in relation to fire prevention and protection against fire, to prevent fire or protect against fire, is neither the business nor the duty of the fire underwriter as such, simply because, as quoted by Mr. Sims himself,

INSURANCE IS INDEMINTY ONLY.

THE CONTINENTAL INSURANCE COMPANY OF NEW YORK.

The financial Statement of the Continental Fire of New York for the past year shows assets $12,957,841,15, and including capital paid up, $1,000,000, the liabilities are $7,238,879.17, leaving surplus $5,718,961,98, a compliment to skilful management.