

# **Considerations on destructive fires, and the means of prevention in future / [George William Manby].**

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## CONSIDERATIONS ON DESTRUCTIVE FIRES,

AND

### THE MEANS OF PREVENTION IN FUTURE.

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THE Public at large are greatly interested in every circumstance which shall tend to lessen the great calamity of Fire; but the Insurance Companies, who incur great losses in every part of the British Empire, and particularly in the metropolis, have a common interest in whatever is calculated to its prevention.

The general police respecting the extinguishing of fires is totally and exclusively in the hands of the different Fire Insurance Companies, and properly so, because in all calamities of this nature, they are the chief sufferers. To them, therefore, who have lost so many millions for want of the immediate means of extinguishing fires in their very beginning, I solicit to examine with the most scrutinizing attention, the merit or demerit of the method proposed, and to afford encouragement, if it shall be found to possess those properties which shall tend to prevent fires in their incipient state from being so tremendously destructive as they have almost uniformly been found to be, for want of a prompt supply of water, and equally prompt collection of engines. In spite of the excellent arrangements which have already been made, this desideratum has scarcely in any one instance been attained, and hence the great losses which have been experienced are to be ascribed; the preceding considerations are therefore most respectfully submitted to general attention.

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The numerous fires in the metropolis and other places, with their fatal and destructive consequences, (particularly when they happen in the night) shew that some simple method of easy and IMMEDIATE application, is still necessary to counteract the extension and rapidity of the flames.

It must be obvious, that the ready extinction of fire depends entirely on the facility with which water is brought to act upon it at its commencement; and that when left uncontrolled during the delay of engines to arrive, the procurement of water, and the further delay of getting the engines into full action, it reaches a height at which its reduction is highly doubtful, and at least very difficult. Many instances of destruction by fire have been caused by obstructions to the conveyance of engines to the spot, or from the impossibility of procuring water to enable them to act when they have arrived; and in every case some delay necessarily takes place in preparing the engines, even when water is at hand. It is a well known fact, that many of the great and destructive fires in London and other large towns, where water-pipes are laid, might have been controuled, if water could have been obtained in time. In places not so provided, as villages, the detached residences of gentlemen, and other buildings in the country, magazines of combustibles, repositories of stores, theatres, ricks of corn, &c. the want of water at hand or other means of extinction, makes their total destruction, in case of fire, almost inevitable.

From observations which I have made in witnessing fires, particularly one at Edinburgh, in January 1813, (which raged on the fifth floor of a lofty pile of buildings, and rapidly extended itself from the difficulty of getting engines to act upon it from its great height,) first called my attention to the subject; and from information of those persons con-

stantly employed on such occasions, I am also assured, that a small quantity of water well directed, and early applied, will accomplish what, probably, no quantity would effect at a later period. This has excited my attempts to provide some portable and efficient means by which the anxious and often important interval of DELAY would be obviated, and the fire OPPOSED ON THE FIRST ALARM. To attain this object, I propose to apply a small quantity of fluid, in the most EFFICACIOUS manner, from a PORTABLE Machine, (on a principle very long known in science,) requiring the simplest management, and constructed with as little expence as possible, that it may be within the means of purchase by numbers, in the hope that many houses will be furnished with it, and at least those, under whose roof combustible materials are lodged, or property which no insurance can replace, as papers, books, pictures, and other valuables. This engine is to be kept always charged, and when slung across the body of a servant or watchman, is easily carried to any part of the building on fire, however difficult of access. On opening the stop-cock, the pressure of condensed air instantly propels a stream of water with considerable force, that may easily be directed with the most exact precision on the part in combustion, a circumstance extremely important, when the incipient fire is not within reach of efforts by the hand, and when the air, heated by the flames, prevents approach to cast water upon it by common means. A portable chest or box containing other engines, charged with water impregnated by a solution of an ingredient best adapted to extinguish fire, will be an appendage, that when the first engine has expended its store of antiphlogistic fluid, a supply of others in succession may keep up a constant discharge, (in the manner the Engraving beneath represents,) until regular engines and plenty of assistance arrive, should the fire not be entirely subdued by these first efforts.



When a small quantity of simple water is cast on materials in a state of VIOLENT combustion, it evaporates into steam from the heat, the addition of other fixed incombustible ingredients consequently becomes necessary, to make quality supply the place of quantity.

To give the most efficacious extinguishing properties to common water has engaged the serious attention of many, and numerous experiments have been made in several countries with that view. It having been rendered more effective to extinguish fire than forty times of the same quantity of common water, is not a matter of speculation but of experience, and has been confirmed by trial made upon buildings erected for that purpose. But the experiments I have made, give to simple ingredients dissolved in water, that will penetrate and fill the pores of the burning substances, a decided preference; they have likewise the superior recommendation of the readiness with which any person may imbue the water with them; while the compounds cannot be had but at considerable cost, nor be prepared without labour and nice accuracy in their proportions.

Every fire, even the greatest must arise from small beginnings, and when discovered in its infant and commencing state, is easily to be kept down and prevented from becoming tremendous, if means of EARLY application were at hand. An arrangement for this purpose would undoubtedly have preserved the valuable property of Mr. Bone, in Berkley Square, and many other similar cases of great destruction; but in a more recent instance, I shall, with the permission of the Hon. Capt. Pellew, state an abstract of a letter transmitted to me, on a circumstance of conflagration that came under his view:—

“ Having been one of those who witnessed with much satisfaction, the trial of your newly invented Machine for the extinction of fire in its early stages, I cannot refrain from relating to you, that in the late fire close to my house, at the coach makers, (*Wimpole Street,*) and which I myself discovered, if I had had one of the Machines at my immediate command, I do not hesitate to say, I could have saved the whole premises, and an uninsured property of nearly £12000. I can venture to assert this fact, because it came under my own inspection, and therefore cannot be deceived. The fire when I first saw it was just caught, and I conceive was quite extinguishable by your Machine for at least twenty minutes.

“ I may also here give you my opinion as a naval man, as to its great use on board ships in case of fire below, where water is not easily conveyed. I shall never go to sea again without one of them for the use of the store-rooms, &c. &c.”

In presenting these suggestions to the Public, which I am led to do by the opinions of many persons distinguished for their judgment, considering the design eminently calculated to extinguish fires before they get to a head, and no doubt be extremely beneficial in many cases. This has induced me, respectfully, to conceive its adoption not unworthy the consideration of the Magistracy of this metropolis, and the Insurance Companies. I trust too, that it will be thought worthy the attention of those under whose authority and direction the watch-houses are placed; they surely possess a peculiar propriety as depositories of the apparatus. We often hear of the alarm of fire given by watchmen long before the arrival of the engines on the spot, and if they were provided with the apparatus, the alarm of the watch and the application of the means of extinction would be simultaneous. The liberality with which the Insurance Companies have always remunerated those who have been successful agents in subduing fires, and even those who have exerted themselves strenuously, though without ultimate success, encourages me to expect that the prevention of great destruction by fire in the metropolis and other large towns, would be the consequence of such an arrangement.

Sanguine as I am of general benefit from this method of INSTANT and EFFECTIVE application to check flames, I consider it most peculiarly appropriated to fires on board ships, either in ACTION, or from ACCIDENTAL causes; the portability of the Machines admitting them to be easily carried and directed on flames which have broken out in the rigging, but particularly to parts below, in the vicinity of the magazines or in recesses in store-rooms, to which water by other means cannot be conveyed without difficulty, and then can be used but with little effect, from the want of a just direction in a condensed and continual stream.

GEORGE W<sup>M</sup>. MANBY.

LONDON, JULY, 1816.



My Penning

Royal Exchange

Assurance Office

Call made

Capt. Manby begs to inform J. P. Walker  
that his prearranged expenditure for the present  
Despatcher fees, as herein with explain with  
the place beyond the Royal Arsenal at Woolwich  
Monday next the 24th at one of local - the road  
on the road to Plymouth at the further extending of the  
lot to be J. P. Walker the order on the