

THE following method of extinguishing Fire, is recommended to the attention, and submitted to the judgment, of the Public.

IT is apprehended that this dreadful calamity, which on a sudden reduces numbers to a distressed condition, may be more effectually prevented, or lessen'd, by the use of earth, than water.

To prove this opinion by experiment, let two fires be made of the same size and strength, each consisting of three or four tons of coal, and let the same number of men be employed to extinguish each fire, one with earth, and the other with water; let the earth and water be carried at equal distance, or let the same quantity of earth and water be flung on each fire, and it will be found that the earth will sooner and more effectually answer the end.

In this experiment the earth is supposed to be dry, without the assistance of any water to moisten it, and that one remedy may be as readily procured as the other; whereas it is certainly otherwise: earth is very often nearer at hand, especially in country villages and about detached houses, and may be conveyed by more ways and methods than water; and tho' most cities and towns are furnished with fire-engines greatly improved by the ingenious Mr. Newham, yet it is imagined the persons necessary to work one of these engines may do more effectual service, and stop the progress of fire sooner, by carrying earth: besides, so much time is generally taken up, in procuring and setting an engine to work, that a fire often gathers such strength, and rises to such a head, that it becomes very difficult to surmount. Now, if the first opportunity was embraced of applying earth, very probably the fire might be smothered in its birth.

Earth has, undoubtedly, one very visible and signal advantage of water, in stopping the progress of fire. Suppose the roof and upper floor of a house are burning so violently that they cannot be preserved, if the floor beneath is covered over with earth or sand a foot or six inches deep, (and there is frequently time enough for doing this) the progress of the fire downwards will be checked, and by this means all the lower part of the house secured, for whenever the upper floor falls in, the fire, not meeting with fresh fuel, will gradually diminish, and may soon be quite extinguished.

It is the nature of fire to act upwards, as water does downwards; to increase in velocity as it ascends; and to communicate in houses from roof to roof. Therefore, when a fire breaks out in a town, the inhabitants of the houses adjoining to the house on fire should immediately be employed in covering their garret floors with earth, that in case the fire should reach them, and their roof be destroyed, all the other part of their houses might be preserved.

The effects which dry earth has on fire, is every day seen by the Makers of Charcoal, tho' not thought least of in this case: when their fire is at the greatest height, it is the constant practice to smother it with dry dust, even its own dust and ashes.

I will venture to affirm, that, in many cases, one bushel of earth will be more serviceable than a hundred gallons of water. When water is thrown on a floor that is on fire, it instantly runs off, and if the quantity is not sufficient to quench the fire, it adds to the strength and fury of it. A small quantity of water on a hot fire acts like wind; as many be proved by the blast of the Elopile. Wind and water have the same effect on fire; if the quantity of wind is sufficient, it will put out a fire; but if not sufficient to extinguish, it increases the flames: as may be observed by a lighted torch; a great wind will blow it out, a moderate one make it burn fast. On the contrary, whatever quantity of earth is thrown on a fire, it remains there, and no degree of heat is capable of making it increase, but as far as it covers, it prevents the progress.

Many bad fires have begun in small chimnies of bedchambers; the foot taking fire, falls down, and sets fire to the floor, and (if the fire be not timely extinguished) to the whole room. Suppose there were only two people in this house, and the room was two stories high, and these people fetched up as much water as they could carry, and flung it on the

fire, by the time they could return with more, it is very probable the fire might be greatly increased; whereas if each of these persons had fetched an apron full of sand or earth, and spread it on the floor but half an inch thick, and that moistened with a small quantity of water, it would have prevented the floor from burning, and given sufficient time to extinguish the whole. The best method of putting out a fire in a chimney, is to stop it at the bottom, for no fire can burn without air.

One inconvenience from water is obvious to every spectator at a fire; that from the water thrown upon it a steam is generated, which is oftentimes so copious and dense, as to intercept the view of the fire, and so extremely hot as to prevent any near approach to it for a considerable time, during which the fire is increasing. Another disadvantage from water, when two stories of a house are on fire, is, that the steam of the water from the lower fire acts like a pair of bellows to the fire above. And tho' a fire happens to be soon extinguished by water, the loss sustained is generally great, by the damage done to fine ceiling, hangings and furniture, which are sometimes entirely ruined by the water flung in: when the fire is only in one room, the water damages most part of the house; whereas if it had been extinguished by earth, no room would have suffered but that where the fire was.

The principal objection to the use of earth on this occasion, is the difficulty of conveying it to the roof of a house, and when conveyed there making it to remain. In answer to this, I think a machine may be contrived to convey it expeditiously to the top of the highest house: and in the next place, the loss of the roof is inconsiderable in comparison to the loss of the whole house and what it contains. If the garret floor was covered with a proper quantity of earth, the roof might be knocked down, without any danger of communicating the fire to the lower part of the house; and if the great advantage of earth was generally known, and proper use made of it, many fires would be suppressed before they reached the roof.

Houses that have flat roofs or parapet walls, or where houses are built close together, some earth might be placed on the outside of the roof to great advantage.

I would recommend to the inhabitants of London, or any large town, by way of a precaution to have always a considerable quantity of dry earth or sand in small bags, containing 50 or 100 wt. each, lodged in some proper and convenient places, from whence it may be readily and expeditiously fetched on any emergency.

And I wish some of those philosophical Gentlemen who delight in mechanics, would give themselves the trouble of contriving two machines, one for expeditiously raising earth to the top of a house, and the other for throwing of earth on a fire, when it is got to such a height that no body can come near enough to throw it on by hand.

I have put these few hints together with a design that they may be considered and improved upon by persons who are more capable of handling this subject.---If they shall be deemed in any degree useful or serviceable to the end proposed, I shall have great pleasure and satisfaction: if they are looked upon in another light, all I can say in excuse, is, that I meant to contribute to the happiness of my fellow-creatures, if it had been in my power.