

## Phillip's Fire Annihilator, 1851

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Here's a nifty news article from 159 years ago, about a piston-powered fire extinguisher. It appeared in the *Daily Southern Cross* on March 15, 1850. Publisher and city of said paper unknown. Found while doing research. Enjoy.

### PHILLIPS'S PATENT FIRE ANNIHILATOR.

Several ladies and gentlemen were present at the London Gas Works, Vauxhall, on Friday week last, to witness a course of experiments by Mr. W. H. Phillips, for the purpose of demonstrating the applicability and power of his invention for extinguishing fire. Hitherto, water has been considered the only available agent for extinguishing flame. But upon *flame*—the really destructive property of fire—water, as Mr. Phillips clearly showed, has no effect whatever. All that the water does, is to saturate the burning materials, and prevent the further emission of inflammable gases ; but, before this can be done effectually, considerable time must necessarily elapse, as in ordinary cases of fire water can be applied only partially, the flames, in the interval, increasing with fearful rapidity. Besides, many materials, and those especially of the most inflammable nature, completely resist the effects of water. For instance, water poured upon oil, turpentine, tar, sugar, and other highly inflammable substances in a state of combustion, only increases the evil ; whereas Mr. Phillips readily extinguishes them by a machine easily portable by a man or woman, which can be put in motion in an instant, and from which a stream of aerated vapour is forcibly ejected

in which flame cannot exist. The experiments were first shown on a small scale. Spirits of turpentine were set on fire in an iron vessel, water was poured on the flame, and no effect was produced; but on a stream of the vapour from the machine being directed upon it, the flame was instantaneously extinguished. A model of a house was next exhibited, in which wood saturated with resin and spirits of turpentine was ignited; this burning mass was also extinguished with equal facility; and then a model of a ship, filled with similar inflammable materials, was used. The flames here poured out of the hold to a considerable height, but were as readily extinguished as before; and it is right to inform our readers, that the machine employed in these three instances did not exceed in size a pint cup. Mr. Phillips next explained the construction of the machine, and the method of using it. The machine for ordinary use (two or three of which he would recommend to be kept in readiness in dwelling-houses) is about 16 inches in height by 10 in diameter, and weighing nearly 40lbs. It consists of an outer iron case, with a chamber at the bottom containing water—two cylindrical cases, one inside the other, perforated with holes; in the inner case is placed the charge which generates the vapour; in the centre of the charge is a hole of three or four inches in depth; into this hole is placed a glass bottle containing the priming of the charge; this being broken, ignition of the charge takes place. This is effected by a small iron piston. placed in the cover of the ma

... piston, placed in the cover of the machine, being driven down forcibly. To prevent an accidental ignition of the charge, this piston is protected by a wooden plug at the top of the cover, and which is taken out on the machine being wanted, the smaller end of the plug serving as an instrument for striking down the piston, and thus breaking the bottle, igniting the charge, and causing an instantaneous emission of the vapour, in which, as we have before said, flame cannot exist. Mr. Phillips next proved the efficiency of his invention on a large and imposing scale. At the end of an extensive gas retort-house, a pile of wood, about 18 feet in length and 10 in height, was constructed in such a manner as to afford the greatest facility for the draught of air to pass between, and thus augment the flame. The wood was saturated with pitch and turpentine and coal tar, and loose shavings were hung about it, and placed below and among the pile. When this mass of inflammable materials was set on fire, the flames, as may be easily supposed, raged and roared with the utmost violence ; indeed, a conflagration of a magnitude and intensity was produced, such as few have before witnessed. The heat was so great, that the spectators were obliged to stand off at a considerable distance, and then was shown the really astonishing power of Mr. Phillips's invention. A machine was put into action of a size larger than the one already described (but still easily carried by a man with one hand), and no sooner did the vapour issue than he was at once protected by it from the



heat. He approached the fire within a few feet, and by directing the stream of vapour where requisite, the fire was extinguished as if by magic. We may safely say that in less than two minutes a fire was extinguished, which, with the mere ordinary means available, would have extended to such a height as to defy the utmost efforts of water-engines to subdue, until any building in which it might have broken out had been completely destroyed. Nor is the utility of Mr. Phillips's machine confined to the bare extinction of the fire. The vapour which issues from it acts also as a purifier of the atmosphere, which has been rendered by the fire destructive of life. This was shown by Mr. Phillips, in the next instant after the fire was put out, ascending a staircase, and standing on a platform (upon which, just before, a lighted candle was extinguished by the smoke from the fire below), with a lighted torch in his hand. We cannot conclude this notice without expressing a hope that the patentee will meet with ample reward for the genius he has exhibited in an invention so inestimably valuable to life and property. We expect, indeed, to see the time when Mr. Phillips's machine will be regarded as necessary to the security of a house as a street-door, whilst distillers and other manufacturers of combustible materials generally, will here possess a protection for their property and the lives of their workmen not before within their reach. Again, when we contemplate the fearful disasters of a fire at sea, and call to mind the ill-fated *Ocean Monarch*, we maintain that no vessel should be at

...should be allowed to sail without the protection of several of these powerful machines.

*Description of the Portable Fire Annihilator.*—The work of charging the Portable Fire Annihilator is performed in a minute. The two lids, E and F, being taken off, the charge (which is already provided with the igniter bottle) is introduced, and the two lids are replaced, the outer one being secured by a thumb-screw. The igniter pin is placed in the neck and covered over with a wooden stopper, and this may be sealed down at pleasure. Water is then poured into the handle, and confined by a small screw plug.

The charge H is a compound of charcoal, nitre, and gypsum, moulded into the form of a brick. The igniter I, is a glass tube, enclosing two bottles; one containing a few drops of sulphuric acid placed over another containing a mixture of chlorate of potass and sugar.

*Directions for use.*—Carry the machine to the place on fire; take out the wooden stopper; with the knob of the stopper strike down the plug or pin in the neck of the machine; hold the machine by the handle, in the best position for the vapour, which will come out of the hole on the top, to reach the flame, which is almost momentarily extinguished.

The action of the portable machine is as follows:—The pin being forced down, breaks the igniter bottles; the sulphuric acid falling on the mixture of potass and sugar, ignition takes place; the flame of the ignition mixture spreading over the

upper surface of the charge, the charge instantaneously ignites and evolves heated gases, which, in their passage through the perforated cylinders, impinge against the water chamber, expand the contained air and produce steam, by which the water is forced through the tubular passage. The steam of the water mixing in the annular chamber with the hot gases escape together from the discharge tube in a dense expansive cloud, and are continuously delivered until the charge and water are expended.

The difference of principle between the Fire Annihilator and the common fire engine is explained in the following manner :—Water, being a compact body, does not act simultaneously on the surfaces of the innumerable particles of the gases which combine to produce flame, and is, therefore, inefficient in extinguishing flame, while gaseous vapour, being of a subtle nature, intermixes with the gases which combine to produce flame, and so intercepts their contact that their chemical union and inflammation is prevented, and the Fire Annihilator is therefore made to evolve a mixed atmosphere of gases and vapour, which neutralise the elements of combustion ; and these vapours being thrown either into the inflammable vapour or gases issuing from the heated material, or into the air about the fire, or into the flame itself, at once extinguish the active part of fire—flame. The reduction of the flame instantaneously reduces the draught of air by which the red combustion was supported, and the heated materials being enveloped in the vapours thrown out by the



Fire Annihilator, combustion ceases, the accumulated heat is rapidly absorbed, and hence the fire is extinguished.

Mr. Phillips, while explaining the utility and object of his invention, expressed his gratification at the universal attention and approbation with which his invention has been favoured by the thousands of persons who have been present at the demonstrations which, although fully proving the practical usefulness of the portable engine, should be considered only to the further development of the invention on a grander scale ; for whilst the portable machine is valuable for the protection of dwelling-houses, detached buildings, and ships, public stores, warehouses, manufactories, and large piles of buildings are to be more completely protected by stationary engines of immense power, the construction of which engines varies materially from that of the portable machine, although based on the same principle of action, namely, that of extinguishing fire by gases and vapour resulting from combustion.—*The Historic Times*.

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