

ADVANTAGES OF WETTING COAL.

The practice of wetting soft or bituminous coal seems to be favored by some engineers and firemen, while it is condemned by others. This being true, it looks like a case where doctors disagree; and then who shall decide? There are two classes of men whose opinions are worth but little in such cases, and one class is of those who are always trying to find the easiest way to do whatever falls to their lot, and the other is those who have got into the habit of doing certain things in certain ways, without being able to give any reason for their practice. I do not mean to say that the hardest way is always the best, nor yet that the easiest way will not secure good results, but I do protest against the practice of allowing the necessity of putting forth a little more energy to prevent a man from doing satisfactory and economical work. Now it is much more work to handle soft coal that is saturated with water than it is to shovel in dry coal,

and perhaps this fact may influence some men about deciding which gives the best results. The purely scientific and theoretical man asserts that there is no economy in wetting the coal because the water is decomposed and it requires as much heat to do this as we get back by the reunion of the gases which we call combustion. Furthermore, it is impossible for a direct loss to occur on account of the process, as it is almost impossible for changes of any kind to be made without some loss. Still, we find that the locomotive fireman almost invariably wets his coal, for, unless he does so, much of it is drawn through the tubes and out into the stack before it has a chance to burn at all. Where soft coal is burned under stationary boilers, the fires are frequently forced much more than they could be unless forced draught was used, and here it pays to wet the coal, for it prevents the soot from accumulating in the tubes, thus keeping the heat from acting directly on the iron or steel. Another reason why it pays to wet the coal is because it cokes up quicker, and although

this makes it necessary to break up the fire at short intervals, still, if the coal is formed into large masses, it will not fall through the grates as the fine particles always do when stirred up. When the experiment of throwing a shovelful of fine, dry, soft coal into a furnace where a brisk fire is burning is tried, it shows that it flashes into flame at once, hence the heat becomes greater in a place where it is great enough already, so that the best results are not secured; but with wet coal, the process of combining the gases or of producing combustion is retarded until they have passed further along on their journey to the stack, where the heat can be applied to better advantage, and hence more satisfactory results secured. The vapor so formed probably assists in promoting combustion, for those who have tried both the blower and the steam jet affirm that while the clinker formed by the former is hard and not so easily broken up, that formed where the latter is in use is much softer and more easily broken, so that it will fall through the shaking grates.

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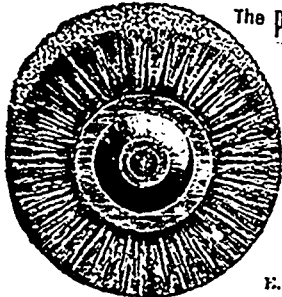
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