

Comments

Here's something that might be of interest particularly for our men who work on Trade Sales' products and house paint specialties. From below you can note that the failure of white lead house paint was a perplexing problem as far back as 1804. It is also interesting to note the terms and somewhat peculiar theories of the failure and construction of linseed oil.

No. XIII

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ON THE DECOMPOSITION OF
WHITE LEAD PAINT.

To Mr. Benjamin Silliman, Secretary of the Connecticut Academy of Arts and Sciences.

Sir,

It is well known, that a white paint, formed by mixing oil, and usually vegetable oil, with the white oxyd of lead, is very expensive, and not very durable. Within a few years after this paint is laid upon a building, it is observed that the oil has been separated from the lead, and the latter may be rubbed off with the hand, being reduced to a state in which it is easily pulverized. It is observable also, that the like paint on inside work, not exposed to water, is not liable to the same change. From these facts, it is probable that the oil, when exposed to water, undergoes a slow decomposition.

Oil is proved, by chemical analysis, to be composed of carbon, or pure charcoal, and hydrogen, or the base of inflammable air, in the proportion of nearly four parts of the former, with one of the latter. Now carbon has a very strong affinity for oxygen, one of the constituent elements of water. Is it not probable that the decomposition of the oil of paints is owing to that affinity--the carbon of the oil combining with the oxygen of water, and the hydrogen of the oil, being set free, escaping in the form of gas? If so, the art of rendering the paint durable will consist in fixing the oil, or preventing this decomposition. This is undoubtedly a great desideratum in the arts. In the course of my scanty reading on subjects of this kind, I have found nothing satisfactory. The experiments of M. de Morveau, as related in a paper communicated to the Academy of Dijon, of which an extract is found in the Encyclopedia, were evidently made before the date of the new Chemistry. It is believed that the causes of the changes which paints undergo, and which he ascribes to phlogistic vapors, are now better understood than when he wrote; and it is desirable that the attention of the chemist, as well as the artist, may be invited to the subject.

If the funds of the Academy would permit, it might be well to offer a premium for the discovery of a substance which should fix the oil in white paints, without changing their color.

I am, Sir, respectfully, your obedient servant,

N. Webster, Jun.

New-Haven, Oct. 30, 1804

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