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april 20, 1796

Thomas Bedwell

Dated April 26. 1796.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Thomas Bedwell himself of an Improvement in the mode of forming a yellow color Specification of a yellow color invented by Thomas Bedwell of the City of Philadelphia and State of Pennsylvania intended for Oil varnish or water painting — by combining the finer coloring parts of vegetable substances with the oxides of Lead so as to produce a beautiful permanent color the principles of which are minutely described in the process herewith annexed Process. Take one hundred weight of white lead free from any admixture of calcareous earth (which should it be so adulterated must be extracted by the means of weak vitriolic acids to be added until no more effervescence is observed, after which it must be well washed with clear water until no remains of the acids is left) mix with this 10 pounds of english alum previously dissolved in warm water, when the oxide of Lead and the solution of alum are well incorporated, add two ounces of tin dissolved in aqua regia — stir the whole well together, at least 10 or 12 times in the space of one hour, which being expired, boil any of the yellow coloring barks, for instance, Fustic or, which is the best in clear water until the liquor assumes the color of small beer — pour this off into a tub or cellar having holes all down its side at two inches distance from each other with pegs filled therein suffer this liquor to remain undisturbed for one hour at the expiration of which let out as much by withdrawing the pegs (beginning at the uppermost) as will run clear taking a particular care to let none of the gross precipitate or matter at the bottom to mix in the running off — pour this upon the mixture of the lead as aforedescribed and let it be well stirred up, the coloring matter will now be found to have united with the oxide and the water rises upon its surface clear and nearly colorless, which must so soon as the color is duly settled, be poured off and thrown away. The process must be renewed so far as relates to the adding the bark liquor, which is continued so long until the color has attained its requisite strength. Dr

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some instances (from a cause that is not thoroughly known perhaps from a difference in manufacturing the oxides) the color refuses to form in this combination. when this is found to be the case there must be added to the bark in the boiling state ½ ounces of pure fixed alkaline salt to a kettle containing 60 gallons. this will cause the coloring matter to precipitate and the process goes on as before described. When the color is finished it must be repeatedly washed with warm water to cleanse it from the salts. it is then drained upon linen cloths, and dried in the shade or stove room. The above is the general proportions in the mode of composition, it however admits of change in the process, as by boiling the alum in the bark & so last upon trial none succeeded so well as that above mentioned. This color is found to resist the action of the air or weather, it requiring near a red heat to expel its dear position, is preferable to the english patent yellow, which seldom admits of more than one ounce of white lead to lower it to its usual shades in painting, and is attended with an infinitude of trouble in the grinding, being little less than an imperfect vitrification Whereas the above mentioned color receives more than an equal weight of white lead to reduce it to the same standards, and is ground full as easy as any color now in use. In testimony whereof I have hereunto set my hand and seal this 15th day of February 1796.

Witness
Joseph Burr
John Mason

Thos Bellwell [L.S.]

Patent dated 20th Feb. 1796
Recorded & Recorded Jan. 2nd 1806