UNITED STATES PATENT OFFICE.

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PAINT COMPOUND.

No. 883,517. Specification of Letters Patent. Patented March 31, 1908.

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To all whom it may concern:

Be it known that I, WILLIAM N. BLAKEMAN, Jr., a citizen of the United States, and resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Paint Compounds, which invention is fully set forth in the following specification.

The object of this invention is to render available for use, as a basis for paint, those pigments which carry no water in combination and were formerly known as anhydrous, but which may also be designated as pigments containing no hydroxyl, all of these pigments being deficient in spreading power when ground in the usual oil vehicle.

Linseed and other oils used as paint-vehicles are, as found in commerce, regarded and sold as normal or neutral, although a chemical examination thereof will generally show the presence therein of a varying quantity of free acid; but whether this commercial oil be found neutral or acid upon such examination, no white pigment, with the exception of Dutch lead, has sufficient spreading power when ground therein, to be used as a sole basis for paint, this property of Dutch lead being due to the hydrated oxid of lead which it carries in combination.

I have discovered that commercial oil can be so treated that all those pigments which ordinarily are deficient in spreading power shall, when ground therewith and applied as a paint, produce a smooth, uniform, homogeneous and elastic film, similar to that obtained by the combination of Dutch lead and linseed oil. This I accomplish by subjecting the oil to a rancidifying process, as will now be described.

I carry out my process by exposing a large mass of commercial oil to air and light for a considerable period of time, the oil being exposed in broad surfaces and agitated at intervals. Tests should be made from time to time to ascertain the degree of rancidity obtained, and when it appears by test that the oil contains about from one quarter to one half of one per cent. of hydrated fatty acids not found in ordinary commercial oil, the rancidifying process may be regarded as completed. The oil will not be thickened by this treatment or its fluidity appreciably affected. This method of rancidifying will be found to be a slow one, and in order to hasten the process I can obtain the same result by first oxidizing the commercial oil either by boiling it on oxidizers (such as manganese black oxid) or by submitting it, with heat, to the action of pure oxygen under pressure, or by passing through it, with heat, thoroughly dried air. When the commercial oil has been thus oxidized by any suitable method, I expose it, in broad surfaces, to the action of air and light, with agitation, testing from time to time for the progress of the rancidifying action, and when the oil is found to contain about one quarter of one per cent. of hydrated fatty acids not found in commercial oil, the rancidifying process may be regarded as completed.

Commercial linseed oil, or other animal or vegetable oil, treated by my process as above described, will be found to impart spreading power to all those pigments which ordinarily are deficient in spreading power when ground in oil. Among the pigments which may be used either singly or in combination, are zinc oxid, zinc sulfid, lead sulfate, lead sulfite, lead oxysulfate or sublimed lead, barium sulfate, barium carbonate, calcium carbonate, strontium sulfate, strontium carbonate and the like. Thus, 100 parts of commercial linseed oil, rancidified as above described, when properly ground with 200 parts of oxysulfate of lead, or 80 parts each of lead sulfate and zinc oxid, or 30 parts each of zinc oxid, lead sulfate and barium sulfate, and spread as a paint (with the usual quantity of liquid drier) will follow the brush in a smooth and uniform film, in all respects equal to Dutch lead in linseed oil. Another very satisfactory mixture may be made by taking 100 parts of linseed oil showing 50/100 of 1 per cent. of rancidity and grinding therein 120 parts of zinc oxid treated with from 3 to 5 per cent. of zinc hydroxid as described in my Patent No. 726623, issued April 28, 1903.

The degree of rancidity to be imparted by my process to commercial oil, may be varied as practice shall dictate and will depend partly upon the character of the pigment with which the oil is to be used. The presence of as little as 1/10 of one per cent. of hydrated fatty acids will exert a decided influence, and from 25/100 to 35/100 of one per cent. will be found to answer all general requirements; but as much as one per cent., or even more, may be found necessary, in practice, to obtain the best results with a particular pigment or pigment-compound. Heat, pressure and agitation may be employed at any stage of the process.

Having thus fully described my invention, I claim:

1. A compound or mixture of a pigment deficient in spreading power, and a rancidified oil.

2. A compound or mixture of a pigment deficient in spreading power, and rancidified linseed oil.

3. The process herein described which consists in first rancidifying an oil, and then grinding therein a pigment deficient in spreading power.

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Witnesses:

FRANCIS P. REILLY,

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