

UNITED STATES PATENT OFFICE.

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OIL AND COMPOUND THEREOF.

989,225.

Specification of Letters Patent.

Patented Apr. 11, 1911.

No Drawing. Application filed May 26, 1905, Serial No. 262,374. Renewed August 22, 1910. Serial No. 578,472.

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 Oils and Compounds Thereof, which invention is fully set forth in the following specification.

The object of this invention is to treat oils in such a manner that, when a pigment is ground therein, a paint will be formed which will dry satisfactorily and be durable and permanent.

The invention consists in chlorinating an oil before a pigment is ground therein, as will now be described in detail and then set forth in the claims.

Any of the drying fatty oils (such as linseed, hemp, poppy or tung) or the non-drying fatty oils (such as cotton, sunflower and corn) may be chlorinated in carrying out my invention.

Taking cotton oil, for example, I chlorinate it by passing chlorin through the mass of oil, arranged in a tall column, until a slight change of color in the oil is apparent; or by exposing the oil, in broad surfaces, to the action of chlorin, using heat, pressure and agitation if necessary; or by subjecting the oil to any other suitable chlorinating process.

When the oil has been chlorinated, I grind therein one or more pigments, and I prefer those which are ordinarily deficient in spreading power when ground in oil, such as zinc oxid, zinc sulfid, lead carbonate, lead sulfate, lead sulfite, sublimed lead, barium carbonate and barium sulfate. It will be found to be of decided advantage to use an oxid or a sulfid (which for my purpose is the equivalent of an oxid) either as a sole pigment or combined with others, as oxids and sulfids appear to form a more satisfactory combination with the chlorinated oil.

A drying oil, raw or oxidized (such as linseed or tung) or a commercial drier, or both, may be added to the compound to accelerate its drying when spread as a paint.

In many cases, and in particular when using a non-drying oil as a vehicle, I have obtained better results by oxidizing the oil in addition to chlorinating it. Such oxidation may be effected by heating with oxidizers; by introducing a portion of highly oxidized matter soluble in, or miscible with, the oil;

by elaidinizing the oil; or by introducing a portion of elaidinized matter soluble in, or miscible with, the oil.

A combination of oils, either drying or non-drying, one or more of which have been chlorinated, may be used as a vehicle with very satisfactory results; and it will be found advantageous to allow the oils to stand for a few days for "blending."

My invention is particularly adapted to the non-drying fatty oils, as such oils when chlorinated and used as paint-vehicles, either alone or in combination with drying oils, will form with all pigments ordinarily deficient in spreading power when ground in oil, paint-compounds, which will dry into smooth and tough films repellent to the elements and unaffected by climatic changes.

In most cases I prefer to incorporate in the vehicle, a proportion of tung oil, as its presence appears not only to accelerate the drying of the paint, but also to improve the surface and wearing qualities of the film.

The proportions of oils and pigments to be used can be easily regulated in practice and are capable of considerable variation. If an oxid or sulfid be employed as a pigment, it may be used in such proportion as to form the sole pigment, or only a small proportion may be used and the remainder of the necessary quantity of pigment be formed by any of the other metallic salts above named. If sublimed lead be used as a pigment I prefer to combine with it a proportion of free zinc oxid: A compound of 100 parts of chlorinated cotton oil carrying 15 per cent. of tung oil, 120 parts of sublimed lead, and 80 parts of zinc sulfid, will, with the usual quantity of liquid drier, form a satisfactory film when spread as a paint. So also will a compound of 100 parts of chlorinated cotton oil carrying 10 per cent. of oxidized linseed oil, and 10 per cent. of tung oil, 120 parts of sublimed lead and 80 parts of zinc oxid.

Iron oxids and the ferruginous earths, when ground in a chlorinated non-drying fatty oil will form cheap and permanent paints.

The degree of chlorination to be imparted to the oil will vary somewhat with the character of the pigment to be used, but, in general the oil may be regarded as sufficiently chlorinated when a slight change in color is apparent. A very satisfactory course to pur-

sue, in order to obtain exact results, would be to test a small quantity of the oil from time to time, while being chlorinated, with the particular pigment with which it is to be used, and, when the drying and surface of the film appear satisfactory, to arrest the chlorination process.

In addition to chlorinating the oil, the pigment may be chlorinated, if desired, by combining a metallic chlorid therewith before it is ground in oil, as described in my application filed herewith, Serial No. 262,373. And, if desired, a chlorinated agent may be added to the oil as described in my application No. 262,375. Or a metallic chlorid may be ground in the oil, as described in my application No. 262,376.

Heat, pressure and agitation may be employed whenever deemed advisable.

Having thus fully described my invention, I claim:

1. A compound or mixture of a chlorinated oil and tung oil.
2. A compound or mixture of a chlorinated non-drying fatty oil and tung oil.
3. A compound or mixture of an oil oxidized and chlorinated and tung oil.
4. A compound or mixture of a non-drying fatty oil oxidized and chlorinated, and tung oil.

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Witnesses:

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