

# UNITED STATES PATENT OFFICE.

WILLIAM HERBERT HYATT, OF LONDON, ENGLAND, ASSIGNOR TO THE  
HYATT'S SULPHATE WHITE LEAD COMPANY, LIMITED, OF SAME  
PLACE.

## WHITE LEAD.

SPECIFICATION forming part of Letters Patent No. 582,355, dated May 11, 1897.

Application filed July 20, 1896. Serial No. 599,922. (No specimens.) Patented in England May 8, 1893, No. 9,194; in France April 7, 1894, No. 237,591; in Belgium April 10, 1894, No. 109,420; in Germany April 10, 1894, No. 81,008; in Turkey April 23, 1894, No. 393; in Austria April 27, 1894, No. 44/1,229; in Hungary May 5, 1894, No. 349; in Victoria May 12, 1894, No. 1,346; in New South Wales May 15, 1894, No. 5,047; in Spain May 25, 1894, No. 15,708, and in India August 30, 1895, No. 35.

*To all whom it may concern:*

Be it known that I, WILLIAM HERBERT HYATT, a subject of the Queen of Great Britain, residing at 1 Milton Road, Herne Hill, London, in the county of Surrey, England, have invented certain new and useful Improvements in White Lead, (for which I have obtained patents in Great Britain, No. 9,194, dated May 8, 1893; in France, No. 237,591, dated April 7, 1894; in Belgium, No. 109,420, dated April 10, 1894; in Germany, No. 81,008, dated April 10, 1894; in Austria, No. 44/1,229, dated April 27, 1894; in Hungary, No. 349, dated May 5, 1894; in Spain, No. 15,708, dated May 25, 1894; in Turkey, No. 393, dated April 23, 1894; in India, No. 35, dated August 30, 1895; in New South Wales, No. 5,047, dated May 15, 1894, and in Victoria, No. 1,346, dated May 12, 1894,) of which the following is a specification.

The object of this invention is to provide a substitute for the white lead of commerce which shall have the same opacity and covering power as ordinary white lead.

Now according to this invention I take sulfate of lead, preferably that which has been precipitated from acetate-of-lead solutions and reduce the same to powder by grinding. While the grinding process is going on, I add to the sulfate of lead borax or other salt of boron which will form a borate with lead (the said salt being preferably dissolved in glycerin) in the proportion of half a pound to one pound of boron salt to one hundred pounds weight of sulfate of lead and thoroughly incorporate the whole by grinding, the resulting product being a white-lead powder free from grit. The quantity of glycerin used is only just sufficient to dissolve the quantity of boron salt added to the sulfate of lead in order to keep the resulting product in the form of powder. When the powdered sulfate of lead and boron salt is mixed with oil or other medium to form a pigment, saponification takes place and a lead soap or glaze is formed, as is the case when oil is mixed with carbonate white lead. Furthermore, the boracic acid liberated from the boron salt acts on the

margaric stearic and oleic acids contained in the oil, dissolving them in considerable quantities and causes a more even distribution of these acids in the oil, thus allowing the oxygen of the air to more readily oxidize them and so enables paints mixed with my improved white lead to dry more quickly than if mixed with carbonate white lead in the usual way. White lead made from sulfate of lead has hitherto been wanting in opacity and covering power, as no saponification has taken place when mixed with oil or other medium and without saponification the paint will not cover. In addition to its great density, opacity, and covering power my improved white lead has the advantage of being free from the sickly smell of carbonate white lead, and as neither sulfate of lead nor borax are poisonous they are not in any way injurious during manufacture or when in use. Neither is the color of the pigment changed by sulfureted hydrogen.

I am aware that sulfate of lead has been previously mixed with oil and zinc-white and that oil has been mixed with borax.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. As a new article of manufacture sulfate of lead, mixed or combined with sodium biborate (borax), or other salt of boron which will form a borate with lead, dissolved in glycerin; all substantially as hereinbefore specified and in the proportions stated.

2. As a new article of manufacture a mixture or compound of sulfate of lead and sodium biborate (borax), or other salt of boron which will form a borate with lead, substantially as described and in the proportions stated.

3. As a new article of manufacture, a pigment consisting of sulfate of lead, sodium biborate (borax), or other salt of boron which will form a borate with lead, and oil substantially as hereinbefore specified.

WILLIAM HERBERT HYATT.

Witnesses:

J. MADIGAN,

T. E. HALFORD.