

UNITED STATES PATENT OFFICE.

FREDERICK W. SPERR, JR., OF OAKMONT, PENNSYLVANIA, ASSIGNOR TO H. KOPPERS COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

PAIN'T AND METHOD OF MAKING SAME.

1,275,778.

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No Drawing.

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To all whom it may concern:

Be it known that I, FREDERICK W. SPERR, Jr., a citizen of the United States, residing at Oakmont, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Paints and Methods of Making the Same, of which the following is a full, clear, and exact description.

My invention relates to paints, and more particularly to those designed for covering and protecting iron and steel and other metals from corrosion, such as in structural iron work exposed to dampness, acid fumes, etc.

I have discovered that if melted coal tar pitch is mixed with solvent naphtha at a somewhat high temperature; i. e., preferably between 100 degrees and 200 degrees centigrade, I can thereby obtain a colloidal solution which affords a good paint; of particular value for protecting iron and steel from corrosion.

I prefer to use ordinary solvent naphtha direct without any purification beyond its production by simple distillation, as the substances contained in ordinary solvent naphtha facilitate the holding of the pitch in solution. Solvent naphtha which has been purified by sulfuric acid is not as effective for this purpose. Solvent naphtha does not form a solvent for cold coal tar pitch for this purpose, and my improved paint is not a real solution, but a colloidal solution. This is shown by the fact that if the solvent naphtha is used in excess of a certain percentage the finely divided pitch will begin to precipitate. Such precipitation will begin if the proportion of solvent naphtha exceeds about fifty per cent. by volume of the mixture.

The solvent naphtha which I use may be defined as the liquid fraction obtained from coal tar or from the light oils recovered from coal gas or other illuminating gases, but distilling above 120 degrees centigrade. Preferably ninety per cent. of such solvent naphtha should distil under 210 degrees centigrade.

Low boiling point benzols may be mixed with this solvent naphtha, in small proportions, but their use is not an advantage and may injure the quality of the paint by precipitating the free carbon.

It is desirable that the coal tar pitch should have as low a content of free carbon

as possible. It is preferably made from by-product coke oven tar, of which the original percentage of free carbon should be not over six per cent.; and it is desirable to use a medium soft grade of this pitch, although harder pitches may be satisfactorily used. By "coal tar pitch" I mean the ordinary commercial coal tar pitch which is a residue from the modern distillation of coal tar up to a temperature of approximately 320 degrees to 350 degrees centigrade or even higher temperatures, which is solid at ordinary temperatures, which has a melting point not less than 40 degrees centigrade, and which is free of any such quantity of oils, such as anthracene oils, as would hinder the ready drying of my paint.

The paint thus produced is of advantage in that it dries rapidly and gives a smooth glossy coating of very good covering properties; and the essential feature of my invention lies in the colloidal solution of coal tar pitch in solvent naphtha, the pitch being preferably made from tar low in free carbon. Other ingredients may be added to the paint, if desired, and other changes may be made without departing from my invention.

I claim:

1. As a new composition of matter, a paint having as its essential constituent a colloidal solution of coal tar pitch in solvent naphtha, and which will readily dry to form a smooth glossy surface.

2. As a new composition of matter, a paint having as its essential constituent a colloidal solution of coal tar pitch in solvent naphtha, and which will readily dry to form a smooth glossy surface, the coal tar pitch having a relatively low content of free carbon.

3. As a new composition of matter, a paint having as its essential constituent a colloidal solution of coal tar pitch in solvent naphtha and which will readily dry to form a smooth glossy surface, the coal tar pitch having been derived from a tar containing not over six per cent. of free carbon.

4. The method of making a colloidal solution of coal tar pitch in solvent naphtha which will readily dry to form a smooth glossy surface, consisting in melting solid pitch and mixing it in melted condition with solvent naphtha at a temperature of between 100 degrees and 200 degrees centigrade.

5. The method of making a colloidal solu-

tion of coal tar pitch in solvent naphtha,
consisting of mixing melted pitch with sol-
vent naphtha at a temperature of between
100 degrees and 200 degrees centigrade, the
5 solvent naphtha being added in a proportion
less than that which will produce precipita-
tion of the pitch.

In testimony whereof, I have hereunto set
my hand.

FREDERICK W. SPERR, Jr.

Witnesses:

GEO. B. BLEMING,
W. C. LYON.