THE PLACE OF PAINT IN MODERN CIVILIZATION

MODERN METHODS FOR THE USE OF DRIERS IN CONNECTION WITH PAINTING TRADES

Raw Linseed Oil inseparably connected with the subject — The composition of various driers shown and advice given as to their use—Some pigments influence the rate of drying — Paint should dry as quickly as possible in order to have good clean surface.

TEMPERATURE AND HUMIDITY.

During the past few years our knowledge of paint pigments has been wonderfully increased. We have gained a lot of valuable information regarding their chemical and physical properties. We have also added to our knowledge of linseed oil, but for some reason or other we have not made a corresponding advance in our knowledge of driers.

The subject of driers is inseparably connected with raw linseed oil. We cannot think of one without thinking of the other. Under ordinary conditions raw linseed oil will dry in about three or four days, so that if we have made a paint consisting only of raw linseed oil and a pigment and applied it to the surface it would take it so long to dry that the dust and dirt of the atmosphere would collect on the freshly painted surface and spoil its appearance when it finally dried. To overcome this slow drying of raw linseed oil we add driers. Driers for linseed oil may be divided into two classes, first oil driers and second resin driers. Those belonging to the latter class are generally called Japans, of these two classes there are numerous varieties differing in color, consistency and their ability to dry linseed oil. The function of a drier in an oil paint is to absorb oxygen and convert the film into a hard insoluble product. The linseed oil during this process is changed into linoxyn. However, the action of the drier does not stop here, but continues its oxidation until the paint film is eventually destroyed.

How Driers Are Made.

Oil driers are made in this manner. A certain amount of linseed oil is put into a kettle and heated. Drying salts are added, usually salts of lead and manganese and the oil run up to about 500 degrees F. In running the oil up to this temperature it gathers considerable head and must be whipped down. The temperature is allowed to drop and turpentine, or a mixture of turpentine and benzine, added.

Resin driers are made in much the same manner, except that resin is used in place of linseed oil.

Of these two classes oil driers are to be preferred because they exert a less harmful action on the paint film.

The drying salts used in the manufacture of driers are quite numerous, but those which find the widest application are salts of lead, manganese and cobalt. Only recently have cobalt salts come into favor, and it is claimed that they are less harmful in their action. They affect the colors of the oil only slightly. We must not overlook the properties of the thinning medium used in a drier. When turpentine alone is used, it adds to the drying power, but when benzine is used it exerts no such influence.

Temperature and humidity are important factors in influencing the rate of drying. As a general rule, the higher the temperature the more rapid is the drying, and the lower the temperature the slower the drying. Humidity seems to exert less influence than temperature.

Some pigments influence rate of drying quite considerably. Thus, lampblack dries very slowly. This effect has been attributed to oil which it contains, but tests made from lampblack containing absolutely no oil give the same results. This phenomena is due to the physical properties of lampblack, and that owing to its extreme fineness a lampblack film cannot breathe with the same facility as an ordinary film. We know that a paint film made from linseed oil and lampblack is very durable, and this durability is, no doubt, due to the inertness of the lampblack, in that it has no oxidizing influence on the oil. On the other hand, lead compounds, such as white lead and red lead do have an influence on the oil, so that the chalking of white lead may be due in a measure to the fact that white lead itself exerts a drying action. Certain lakes and aniline colors are affected by driers. In some cases the shade is affected to a considerable degree, due to the influence of the metallic salts in the drier. The bleeding of para reds has been attributed to the destructive influence of driers.

Some Abuses.

The abuse of driers seems to be the use of more than the requisite amount necessary to dry the paint film. If the drier used were an oil drier the effect would be so serious, but would result in the film not having the usual gloss. If, however, the drier were a resin drier, the paint film at first would have a very high gloss, but cracking would probably be the final result.

Strange as it may seem, the use of too much drier prevents drying. Hard insoluble linoxyn is either not formed, or is dissolved by substances formed by secondary chemical reactions, so that the film remains tacky.

New linseed oil, or oil which is not well settled, affects the drying. A well settled, aged oil will dry more rapidly than one freshly made, for the latter contains mucilaginous matter, which settles out with age.

The more knowledge a painter has of the material he uses, the better are the results he will obtain and the wider application he will find for the material. Now, applying this to driers if he had some definite knowledge of the strength of a drier, say it was a 1 to 20 drier, that is, under ordinary conditions, one part of the drier would dry to the touch twenty parts of linseed oil in twelve hours, he would know just how much to use and he would know just what results to expect.

AGED WHITE LEAD MAKES BEST PAINT

After white lead has been ground with refined linseed oil to form a ground white lead, it should be aged for several months before being used. If this is done the product increases its value materially. If ground white lead is too new it is granular in texture and when mixed with oil and turpentine does not produce such an easy working paint as that produced from aged lead. On account of the large amount of capital that is locked up by manufacturers of white lead, there is sometimes a tendency for white lead not to be aged a sufficiently long time.

UNGAR'S LAUNDRY FOR CARPET CLEANING.

PAINT AND VARNISH THAT DRIES QUICKLY.

A paint or varnish that dries with an excessive speed does so as a rule at the expense of some other properties of the materials. Some materials owe their drying properties to the oxidation of linseed oil. Too fast drying is usually regarded as being done at the expense of durability. This may show itself in a tendency to crack or lose gloss. Unless work is exposed to severe conditions out of doors as much latitude as possible should be allowed in regard to drying.

PAINT SOMETIMES CONTAINS WATER

Where protective purposes are the object for using a paint it should be absolutely free from moisture, but for other purposes a small quantity of water is sometimes beneficial. It communicates to the paint certain physical properties which are sometimes of advantage from a decorative point of view.

The question of painting newly cemented surfaces is still the subject of a great deal of research work on the part of paint experts, and the last word has by no means yet been said on the subject. One method consists of coating the surface with a solution of zinc sulphate and water, mixed equal parts by weight, and then allowing three days to elapse before coating with oil paint. The most approved method of dealing with old cemented surfaces which are free from active caustic lime is to apply a preliminary coat of boiled linseed oil thinned out a very little with turpentine to assist penetration, and with sufficient red lead added to act as a drier. After this preliminary coat the work may be proceeded with in the usual manner.

"Do cows drink fish, Reginald?"

"Oh you foolish dear! Why of course not!"

"Well I found two minnows in our milk this morning."

MATTERS OF IMPORTANCE FOR PAINTERS

Points to be remembered in connection with flatting—Secure good materials.

In order to turn out a satisfactory job in flatting it is well to watch carefully certain things. In the case of a plastered wall and ceiling, for example, you cannot do a satisfactory job of flatting unless you stop all suction in the plaster. The walls and ceiling will require at least three or four coats of oil paint before flatting. The number of undercoats depends upon the porosity of the plaster. The last coat before flatting ought to dry glossy, without any sunken places where suction has not been stopped, and should not stand too long, nor dry too hard before flatting. There are many ways of mixing flatting, there are also many good flat paints, ready mixed, on the market, which can be had from any of the paint manufacturers advertised on this page.

Thin Coats Well Rubbed

Thin coats of paint well rubbed in and out, as painters say, are not without value. A heavy coat of paint is nearly always a bad thing. Better four thin coats than two or three which contain as much paint as the four. The question is how much to rub it out on the work and not altogether how much lead or how much oil to use.

REMOVAL OF SMOKE STAING

Stains caused by soot on a wall or ceiling may be fro mthe deposition on the outside or may have penerated through from underneath. The cure for the latter case rests in covering the wall or ceiling before painting is carried out. The materials now on the market for this purpose have essentially the same properties, that of penetrating the plaster to a slight extent forming a hard impervious skin which keeps back the smoke, causing the stain. The deposited matter on walls and ceilings caused from coal dust is distinctly acid. It has therefore a destructive influence on paints as well as stone work itself. The painting of exteriors which have become contaminated with smoke or soot calls for special consideration before the mode of treatment is decided upon.

DISCOLORATION IN WHITE ENAMEL

The usual causes of discoloration in white enamel are as follows: Where enamel is exposed to constant heat and is protected at the same time from the bleaching action of light it is liable to turn yellow. Sometimes in a poorly lighted room enamel work near a fire-place or around a register in a side wall takes on a yellow color. When this is subjected to continued action of sun-light it bleaches white again. Of course, on new work yellow stains are frequently found on the surface, which can usually be traced to the action of the colored sap from the wood, particularly is this the case among some of the softer woods. The only treatment for this is to apply shellac knotting to the wood-work before the enamel is applied. Yellow stains from the resin in knots in wood will frequently cause trouble. Sometimes in the best work these knots are covered with gold leaf. The trouble may be due to the enamel itself, which subject we will not attempt to cover here. Buy the best product possible and carefully observe the above.

AN UNDERCOATING FOR WHITE ENAMEL.

Some painters use zinc white and turpentine with a little enamel to bind it as an under-coating for ordinary white enamel work. The work may be brought forward with white lead and zinc in equal proportions using very little raw linseed oil, driers and turps. Use about one part of oil to three parts turpentine, with a final under-coat of pure zinc white and turps as specified above. White lead that has been properly aged together with turpentine might be used. The trouble that sometimes occurs appears to be that in some cases the lead is not aged enough to give the best results for an under-coating.

he drummer was boasting about the immensity of the firm he was travelling for.

"I suppose your house is a pretty big establishment " said the customer

"Big? You can't have any idea of its dimensions. Last week we took an inventory of the employees and found out for the first time that three cashiers and four bookkeepers were missing. That will give you some idea of the magnitude of our bussiness."