

Add to the above  $\frac{1}{2}$  pint of iron rust, obtained by steeping iron filings in strong vinegar. The above makes a perfect jet-black, equal to the best black ebony, and the receipt is a valuable one.

**A CLEANSING AND RENOVATING POLISH.**—Take of olive oil 1 lb., of rectified oil of amber 1 lb., spirits of turpentine 1 lb., oil of lavender 1 oz., and tincture of alkanet root  $\frac{1}{2}$  oz. Saturate a piece of cotton batting with this polish, apply it to the wood, then, with soft and dry cotton rags, rub well and wipe off dry. This will make old furniture, in private dwellings or that which has been shop-worn in warehouses, look as well as when first finished. The articles should be put into a jar or jug, well mixed and afterwards kept tightly corked. This is a valuable receipt, and not known, he believes, outside of the writer's practice.

**A CHEAP BUT VALUABLE STAIN FOR THE SAP OF BLACK WALNUT.**—Take 1 gallon of strong vinegar, 1 lb. dry burnt amber,  $\frac{1}{2}$  lb. fine rosepink,  $\frac{1}{2}$  lb. dry burnt vandyke brown. Put them into a jug and mix them well; let the mixture stand one day and it will then be ready for use. Apply this stain to the sap with a piece of fine sponge; it will dry in half an hour. The whole piece is then ready for the filling process. When the work is completed, the stained part cannot be detected even by those who have performed the job. This receipt is of value, as by it wood of poor quality and mostly of sap can be used with good effect.

**A WALNUT STAIN TO BE USED ON PINE AND WHITEWOOD.**—Take 1 gallon of very thin sized shellac; add 1 lb. of dry burnt amber, 1 lb. of dry burnt sienna, and  $\frac{1}{2}$  lb. of lampblack. Put these articles into a jug and shake frequently until they are mixed. Apply one coat with a brush. When the work is dry, sand-paper down with fine paper, and apply one coat of shellac or cheap varnish. It will then be a good imitation of solid walnut, and will be adapted for the backboards of mirror frames, for the backside and inside of case-work, and for similar work.

**A ROSEWOOD STAIN OF A VERY BRIGHT SHADE.**—Take 1 gallon of alcohol,  $1\frac{1}{2}$  lbs. of cam-wood,  $\frac{1}{2}$  lb. red sanders, 1 lb. of extract of logwood, and 2 ozs. of aquafortis. When dissolved, it is ready for use. This makes a very bright ground. It should be applied in three coats over the whole surface. When it is dry, sand-paper down to a very smooth surface, using for the purpose a very fine paper. The graining is then to be done with iron rust, and the shading with asphaltum, thinned with spirits of turpentine. When the shading is dry, apply one thin coat of shellac, and when this is dry, sand-paper down, as before, with fine paper. The work is then ready for varnishing.

**A SATINWOOD STAIN FOR THE INSIDE OF DRAWERS.**—Take 1 quart of alcohol, 3 ozs. of ground turmeric,  $1\frac{1}{2}$  ozs. of powdered gamboge. When this mixture has been steeped to its full strength, strain through fine muslin. It is then ready for use. Apply with a piece of fine sponge, giving the work two coats. When it is dry, sand-paper down very fine. It is then ready for varnish or French polish, and makes an excellent imitation of the most beautiful satinwood.

**A CHEAP BLACK STAIN FOR PINE OR WHITEWOOD.**—Take 1 gallon of water, 1 lb. of logwood chips,  $\frac{1}{2}$  lb. of black coppers,  $\frac{1}{2}$  lb. of extract of logwood,  $\frac{1}{2}$  lb. of indigo blue, and 2 ozs. of lampblack. Put these into an iron pot and boil them over a slow fire. When the mixture is cool, strain it through a cloth, and add  $\frac{1}{2}$  oz. of nut-gall. It is then ready for use. This is a very good black for all kinds of cheap work.

#### COACH-PAINTING.

To be a successful car-painter requires the closest attention, the most thorough application, and the most constant watching, and even then "deviltries" will appear which baffle the skill, experience, and patience of the most practical and amiable of the craft. Many, however, of the vexations and annoyances of the paint-shop have been overcome, and a large amount of the heart-rendings, crackings, flakings, and pittings are found to be due more frequently to want of knowledge, attention, and care, than to inferior material. While we admit the bad results caused by the use of such material, sudden changes in the weather, &c., there are at the same time defects and imperfections to be seen on our cars that can only be designated as careless blunders. An interchange of views formed by careful observation has done much, and will do more, to improve the character of our work. Allow me then to give as briefly as possible the method I at present pursue, not with the idea of presenting anything new or

startling, but to draw from others any experience that may differ from my own.

**THE PRIMING.**—For priming I use keg lead mixed with the best raw linseed oil. To a pint of oil I add a tablespoonful of Japan size. In mixing care should be taken not to have it too thick, and to be sparing in the use of Japan, the excessive use of which tends to lessen elasticity as well as durability. Some painters use boiled oil in priming to avoid the greasy character of raw oil, but my objection to the former is that it is less penetrating, and that it tends to congeal on the surface. The best method of preparing raw oil for priming that I have ever used is as follows:—Take 1 gallon of oil, put  $\frac{1}{2}$  lb. litharge into it, place near the stove, and shake three or four times a day for a few days, and then let it settle and run off. This improves its drying properties and frees it from grease. No gold size is used with it. Before applying, all nail holes, crevices, and beads should be properly filled, and then it should be laid on regularly and evenly, leaving no fat edges.

After the work has stood from four to six days, or longer if possible, it is then ready for the second coat, which is the same as the priming, only a little heavier. The same care should be taken to lay it on evenly and fill all crevices and holes. I prefer puttying after the second coat is on, as the holes are more likely to be filled, which is necessary for the putty to adhere; a less body of putty is also required, and therefore is less likely to swell, which is a source of trouble very often when the work is nearly completed. As a precaution against this, some painters have the holes soaked with warm water before the cars leave the erecting shop.

**THE ROUGH STUFF.**—There is no end of receipts for rough stuff, but the kind I have used with great satisfaction for some time is composed of 8 lb. mineral, 3 lb. dry white lead, 1 lb. tub lead, 2 parts gold size; 1 part rubbing varnish, and thin with turps. The laying on of this preparation is frequently deemed unworthy of the care usually bestowed on painting. But this is a mistake, as all the principles as respects the laying on of paint should be strictly followed in the laying on of rough stuff. A large amount of time is saved by not applying it to the battens, and by leaving about  $\frac{1}{2}$  of an each diagonally at the corners of the panels. One coat is sufficient except on hard wood, which should have at least two coats. When such wood is very open grained, I prefer knifing it before rough stuffing, using tub lead with a very little turps and Japan. For rubbing rough stuff, I have used different kinds of stone, but have settled down on picked pumice, which is cheaper, and at least as good as any other.

At this stage of the work the car body should be carefully examined, and if any imperfections are found, now is the time to fix them. After thoroughly sand-papering, the work is ready for colouring.

**THE PUTTY.**—The hard putty I use is composed of dry white lead and whiting in equal parts, mixed with Japan gold size and a very small quantity of raw oil or a little keg lead. I have found the whiting makes the putty less liable to swell; and let me say here that very frequently the painter is blamed for this, when the actual cause is the shrinkage of the wood. The hole or crack should be completely filled, and the putty may even project a little so that it may be rubbed down to the exact level. Very close attention must be given to this part of the work, so that little or no puttying may be required after the rough stuff has been surfaced.

The putty now being levelled down and the whole body sand-papered, the car is ready for the third coat. This is made with tub lead reduced with "turps," and a small quantity of Japan gold size laid on with the usual care. In order to secure a good job these priming coats must be perfectly dry. After three days the rough stuff may be put on.

**NECESSITY OF A GOOD FOUNDATION.**—In painting, as in most other things, a good foundation is absolutely necessary, and to secure this everything depends upon the quality and mixing of the material, and also upon the handling of it. The priming of a car is regarded by some painters as a simple matter, and as a matter of economy this preliminary work is often placed in the hands of inexperienced or low-priced workmen. This is a false step at the start, and when once taken we have to hobble through the whole job. In every part of the work there is a definite object to be accomplished. The object in priming is to fill the pores of the wood. The prime must, therefore, be cohesive and have a proper elasticity. The thinners used should enter the