

WOOD FILLER.—From E. P. M., *Greenville, Ohio.*—Answering "H. P.'s" enquiry concernng a wood filler, I recommend the following: Take three papers corn starch, one quart boiled linseed oil, two quarts turpentine, one-quarter pint japan; cut in half the turpentine before mixing; it will not cut perfectly otherwise. For dark woods add burnt umber to color. When nearly dry rub off with cloths. The above mixture must be used fresh, as it is of no value after it is four or five days old. The cloths used in rubbing as above mentioned should be destroyed immediately after used, as spontaneous combustion is likely to ensue from the ingredients employed.

TO REMOVE OLD PAINT.—A writer to the *English Mechanic* says: The cheapest and best solution that I know of I accidentally discovered, and it may be worth while to tell how, though very likely some may know of it. In trying experiments for press-copying some old letters, amongst others I used successfully a solution of one table-spoonful of vinegar and one ounce of washing soda to a half pint of water. A little of this was spilt on the painted window-sill, and in wiping it up the paint came entirely off, leaving the bare board quite clean. Try it; a gallon will not cost fifty cents.

KEY-HOLE SAW.—The Japanese hand saw cut on the pull-stroke; so no matter how hard the wood or dull the saw, they will not bend or buckle. It is rather more difficult to saw to line with such saws than with ours, but they have their advantages. Take one of our key-hole or compass saws, cutting on the push or shove stroke, what an aggravating limber thing it is. Now point the teeth the other way, and you have a tool that will keep stiff no matter how many knots it encounters, or how dull it gets. In other words the pull-stroke of 3,000 years ago is the best for such thin, narrow blades.

WOOD PANEL.—Mahogany can be used to much advantage as panels, by varnishing some parts more than others, so as to shade the wood without using any other paint than what is necessary for the main decoration. This should be a face, the lines and natural flesh tints of which are the only colors used. The dress, bust, and background are done entirely with varnish, except a few touches of gold to strengthen the outline. If the panel is sawed into circular shape, so as to give the head as a medallion, it is very effective.

GLUE TO FASTEN LEATHER TO IRON.—For a recipe for making glue to fasten leather to iron, in order to cover iron pulleys, take the following:—One part of crushed nutgalls is digested six hours with eight parts distilled water, and strained. Glue is macerated in its own weight of water for twenty-four hours, and then dissolved. The warm infusion of galls is spread upon the leather, the glue solution upon the roughened surface of the warm metal; the moist leather is pressed upon it and then dried.

COLORING BRASS-WORK.—Cleaned-up brass-work, if left in damp sand, is said to acquire a fine brown color, which, when polished with a dry brush, remains permanent and requires little cleaning. Black, much used for optical brass-work, is obtained by coating the brass with a solution of platinum, or with chloride of gold mixed with nitrate of tin. The Japanese are said to bronze their brass by boiling it in a solution of sulphate of copper, alum, and verdigris.

CHESTNUT GLUE.—Remove the brown coating, grind the kernel into flour, form paste with water, and pass through a sieve to separate the woody fibres. Wash the floury mass so obtained with clear water several times and settle. The starch so deposited is dried, treated with chlorine water, washed again, and made into glue in the same manner as ordinary starch glue. This glue requires no fire to keep it in readiness for use.

MIXING QUICK DRYING PAINT.—Venetian blinds should be painted to dry dead, then varnished; but few take this trouble. Mix the paint as under: White lead, boiled oil, and the least drop of turps; mix sufficient of each to form a creamy mixture; then add about 1 oz. patent driers to each 1 lb. of paint. If you want the paint darker use enough burnt umber to give the required tint. If you want to varnish, omit the oil and use turps.

CLEANING GILT FRAMES.—If possible remove the glass, lay the frame on a table or work-bench, well wash with warm water and white curd soap, using a tooth brush, but use no soda; clean off with cold water, and dry with an old silk handkerchief, refix the glass, and if your frame was of any account it will look nearly equal to new.

NEW KIND OF PLATED SHEET IRON.—In Iserlohn, Westphalia, thin sheet-iron is plated with alloys of nickel or cobalt and maganese. A half of one per cent. of maganese makes cobalt and nickel a very malleable fluid when melted, and ductile. The plates, which are already in the market are beautifully white and brilliant.

STEEL VS. IRON.—Some authorities predict that in a few years, steel will supersede iron in naval architecture, to as great an extent as iron has supplanted wood.

THE TREATMENT OF DIPHTHERIA.

Dr. Thomas Gurney, senior physician to the City Dispensary, London, makes the following contribution to the *Lancet*: "Since I have held the position of physician to the City Dispensary I have had considerably more than one thousand cases of diseases of the throat under my care, many of which, both in public and practice, have been cases of diphtheria. About this, by far the most serious diseases of the throat, we have much to learn. The stiffness in the neck, the disturbance of the circulation, the rapid rise of temperature, before any affection of the throat is observed, all point to its being a blood poison calling for prompt and decisive treatment.

"The two questions that arises when called to a case of diphtheria, as, indeed, in all diseases, are: How does the disease tend to kill the patient? and, how does nature endeavour to rid herself of the disease?

"Diphtheria tends to kill by suffocation and by its poison exhausting the vital energy. Suffocation may be either accidental, or as a natural result of the throat affection—accidental if, when the membrane is thrown off, it becomes lodged in the larynx; natural if the swelling inside the throat shuts off the supply of air to the lungs. Nature will attain the mastery over her enemy if the strength be kept up and the deposits arrested. With these points to guide us we know that the arrest of the disease and nutritious support are our great aim. To succeed in this I have adopted a respirator made of the ordinary shape and size, the front being minutely perforated. Inside of the respirator I have two or three perforated plates inserted, between which I place common tow (not cotton wool); I then drop on each of the layers of tow ten to twenty drops of a solution of carbolic acid, creosote, and glycerine. Should the patient tire of these, I use turpentine or iodine. I place the respirator over the mouth, and keep it continually applied. My next idea is to provide the patient with warm moist air. To do this I have two kettles of water kept boiling on the fire; attached to the spouts of the kettles I have an elastic tube of an inch caliber, at the end of which is a spray-like nozzle, which I put immediately under the mouth of the patient. By this means I get my disinfectant remedies carried moist to the throat. As a sedative to the pain I know nothing so comfortable to the patient. Previous to this I take care to give an active purge, which usually removes offensive stools of effete, poisonous matter. Internally I give aconite in frequent small doses—two to four minims of the tincture; at the same time freely supporting the strength with milk, cream, and eggs, with or without brandy, and beef tea *ad libitum*. As a drink I recommend patients to take as much chlorate of potash in solution as they can without vomiting. I have found chlorate of potash highly beneficial in all cases of a low typhoid character. If this is objected to, I advise the juice of lemon to be taken—by many thought to be a specific for diphtheria. Should the system be very weak, I prescribe belladonna instead of aconite; but I find better results from the latter. As soon as the urgent symptoms have subsided I order strychnia, with or without nitro-hydrochloric acid—this not only being the best tonic, but also preventing the paralysis which so often follows diphtheria. I have found this treatment to be highly beneficial, but, knowing the tendency there is to rheumatism after this terrible disease, I never forget our friend the bicarbonate of potash."

GILDING STEEL.—An old process, which, however, is by no means universally known, is as follows:—By shaking a solution of gold leaf in aqua regia with ether or naphtha the gold will leave the acids to combine with the other liquid. Polished steel surfaces, such as knives, scissors, &c., on being plunged in this solution, when dry become covered with a coat of gold, which is an excellent preservation from rust. Letters, designs, &c., may be traced by means of a pen, pointed stick, or brush, and as the ether evaporates the gold will remain fixed.