For the Scientific American.

Japanning.

(Concluded from our last.)

The finishing part of Japanning lies in laying on and polishing the outer coats of varnish, which is necessary in all painted or simply ground colored japan work. When brightness and clearness are wanted, the white kind of varnish is necessary, for seed lac varnish, which is the hardest and most tenacious, imparts a yellow tinge. A mixed varnish we believe, is the best for this purpose, that is, for combining hardness and purity. Take then thre ounces of seed lac picked very carefully from all sticks and dirt and washing it well with cold water, stirring it up and pouring it off, and continuing the process until the water runs off perfectly pure. Dry it then and reduce it to powder and put it with a pint of pure alcohol into a bottle, of which it must occupy only two-thirds of its space. This mixture must be shaken well together and the bottle kept at a gentle heat (being corked,) until the lac be dissolved. When this is the case, the clear must be poured off, and the remainder strained through a cloth and all the clear, strained and poured, must be kept in a well stopped bottle. The manner of using this seed lac varnish, is the same as that of using the other, and a fine polishing varnish is made by mixing this with the pure white varnish described in a previous article. The pieces of work to be varnished for finishing should be placed near a stove, or in a warm, dry room, and one coat should be perfectly dry before the other is applied. The varnish is applied by proper brushes, beginning at the middle passing the stroke to one end and with the other stroke from the middle to the other end. Great skill is displayed in laying on these coats of varnish. If possible the skill of hand should never cross, or twice pass over in giving one coat. When one coat is dry another must be laid over it, and so on successively for a number of coats, so that the coating should be sufficiently thick to stand fully all the polishing, so as not to bare the surface of the colored work. When a sufficient number of coats are thus laid on, the work is fit to be polished, which in common cases is commenced with a rag dipped in finely powdered rotten stone, and towards the end of the rubbing a little oil should be used along with the powder, and when the work appears fine and glossy, a little oil should be used alone to cleanoff the powder and give the work a still brighter hue. In very fine work, French whiting should be used, which should be washed in water to remove any sand that might be in it. Pumice stone ground to a very fine powder is used for the first part of polishing and the finishing done with whiting. It is always best to dry the varnish of all japan work by heat. For wood work, heat must be sparingly used, but for metals, the varnish should be dried in an oven, also for papier mache and leather. The metal will stand the greatest heat and care must be taken not to darken by too high a temperature.

When gold size is used in gilding for japan work, where it is desired not to have the gold shine, or appear burnished, the gold size should be used with a little of the spirits of turpentine and a little oil, but when a considerable degree of lustre is wanted without burnishing, and the preparation necessary for it, a little of the size along with oil alone, should be used.

I now conclude these articles on Japanning and Varnishing. A great deal more might be said, but this may be sufficient for the present. There are other mixtures that can be used, and there are some variety of opinions among practical men. What I have said may be old to some, but presume that much may be new to many and be of some benefit to not a few. At some other period I may again present some more information on the same or other branches in connection with this subject and shall endeavor to be as condensed, plain and practical, as I trust I have been. My honest endeavor at least, being a desire to bring out in public print, something relative to an important art which winds itself round a great number of different trades, and for which I have ever sought in vain for information in any work published in my own lifetime.

M. K.

Floating Beds.

Some curious and interesting experiments have recently been tried in London, on the Serpentine River, to test the powers and buoyancy of of a novel hammock bed, of simple construction, intended for the preservation of lives at sea in cases of shipwreck. Captain Stevens and his son, and several gentlemen connected with naval matters, threw themseves into the water, into which the hammock mattresses were thrown. They got hold of them and found no difficulty in placing themselves upon them, and floating comparatively high and dry for a considerable time. The experiments took place early in the morning, and witnessed by many scientific persons.

Apple Tree Posts.

Friend Buckminster of the Massachusetts Ploughman, suggests that apple trees be set out on a line, where you wish to have a permanent fence, about ten feet apart.—In the course of ten years they would be large enough to mortise in to put cedar or chesnut rails. These, he thinks would last more than half a century. In the mean time the fence posts would occasionally bear apples, and thus they would become profitable in "divers ways."

Water Velocipede.

The Velocipede or Warer Walker is an apparatus used as here represented, *a*, *b*, *c*, are three hollow tin cases of the form of an oblong hemispheroid, connected together by three iron bars, at the meeting of which is a seat for the exhibitor. These cases, filled with air, are of such a magnitude that they can easily support his weight, and as *a*, *b*, and *a*, *c* are about ten feet, and *b*, *c*. about eight feet, he floats very steadily upon the water. The exhibitors' feet rest on stirrups, and he attaches to his shoes, by leather belts, two paddles, *d*, *e*. which turn on a joint when he brings his foot forward to take the stroke, and keep a vertical position when he draws it back against the resisting water. By the alternate action of his feet, he is enabled to advance at the rate of five miles an hour. We have witnessed the above novel experiment.

Concrete for Cellar Floors.

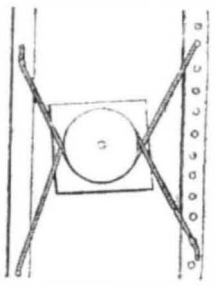
The mortar is to be made of one part sand, to one half part hydraulic cement, measured in rather stiff paste. Then one part mortar, thoroughly mixed, is to be united with two and a half parts broken stone, or brick—the largest pieces not exceeding 4 oz. in weight, or of gravel of similar sizes, or of oyster shells or of either of these mixed together. These corse materials must be very free from sand or dirt.

The concrete thus made, must be put down in a layer of not more than six inches thick, which will be about the proper thickness for the floor; rammed very hard, and until out of sight; care being taken to bring the top of the mass into the proper place of the floor by the first process; no subsequent addition of plaster being admissable By the help of a straight edge, drawn over guide-pieces, the surface may be made smooth and even by the first operation

Fires in chimneys in France have been prevented by placing three frames of wire-work one foot above each other, near the base of the chimney; no flame will pass them.

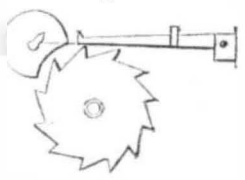
MECHANICAL MOVEMENTS.

Friction Polisher.



This arrangement has been used for polishing mirrors, where it is essential that the friction should not be repeated in the same line. The ropes which go round the central pulley are fast to the perpendicular shafts, and the square mirror is fixed to a pulley. Thus by the back and forward motion of one of the shafts, the mirror is caused to describe irregular curves on every part of its surface

Escapement.



The small centre on the left being the point of vibration of the balance, and the horizontal spring that which holds the ratchet wheel, when the small point on the balance centre is vibrating downwards, it passes a small spring which is held at its opposite extremity near the screw head on the right hand, at the same time the indented part of the circle round the balance centre holds a tooth of the ratchet; but on the return of the balance the same point again comes in contact with the small spring, which resting against a stop at the extremity of the spring, which presses on the two top teeth of the ratchet, relieves and then allows a tooth to escape at the same time that the indented part of the balance is on the return to receive it. This is called the free escapement.

For the Scientific American.

To Dye Wool with Animal Substances.

LAC RED.

Mix oxygenised muriate of tin with lac dye till thick as treacle, and set it aside for six hours. Have a well tinned copper boiler nearly filled with scalding water, into which throw some bran, and a sufficient quantity of newly made nitro-muriate of tin, (tin dissolved in one part nitric and sixteen parts muriatic acid,) add cream of tartar in nearly equal weight to the solution of tin employed, pour in the lac dye, and set aside and work in your wool.

SCARLET.

To a dye prepared as directed for lac red, add either sumac, American bark, or young fustic, in quantity according to the shade required, cool down with cold water, turn in the wool and boil it for an hour, then rinse it and the color will be permanent.

CRIMSON.

Use only half the quantity of tartar specified for lac red, and omit the yellow coloring matter; after rinsing the wool, pass it through a fresh scalding liquor, with archil or cudbear.

PURPLE.

Follow the directions given for crimson, substituting logwood for archil or cudbear.

COCHINEAL RED.

Put two pints of the best Dutch aquafortis into two pints of water, and from one to two ounces of sal-ammoniac in powder; add granulated tin, a small bit at a time, till sufficient is dissolved, and cream of tartar as for lac dye, with well-powdered cochineal in quantity according to the deepness of the shade required. Cool down the preparation with cold water, put in your wool, and boil it for two hours, then rinse in cold water. It is far better, however, to use this quantity in two boils leaving out the cream of tartar in the second, and adding instead starch, and sometimes common salt also.

COCHINEAL CRIMSON.

After rinsing the wool out of the red dye, pass it through a fresh scalding liquor of archil or cudbear as for lac crimson, or through a warm solution of liquid manure from the cow yard.

COCHINEAL PURPLE.

Proceed as for crimson, substituting Saxon blue (sulphate of indigo) for the archil or cudbear.

COCHINEAL SCARLET.

Same as for red, using young fustic, turmeric, or American bark, (Quercitron) in the first bath, and omitting it in the second. It is indispensable that for cochineal scarlet the wool should have two boilings

The colors obtained from cochineal, though superior in brilliancy, have not the permanent qualities of the lac dye or the madder red.

New Blue.

A continental paper says that one Rydni, proprietor of a great dyeing establishment near Gottenberg, a famous place for dyers, has invented a mode of dying cottons without indigo; the blue colors obtained by the substance employed is said to be as clear and fastas that obtained by indigo, resisting the strongest lye, potash and sulphuric acid, and costs but one-sixth the price.

These are the tests for permanent colors. The process is kept secret, and if it be true in relation to the price the discovery is a valuable one, if not, no depreciation in the value of indigo may be expected.

Ball Proof Garment.

The Dublin papers contain an advertisement announcing that a tradesman has succeeded in inventing a "shot and ball proof garment," which the inventor terms a "landlord's protective garment," and which will protect its bearer from being shot.

Indian Miners.

From recent discoveries on the shores of Lake Superior, it is supposed that some of the veins of copper were worked by the Indians in the days of yore. Wedges and hammers made of stone have been found in some of the pits.

An Editor down east says that the constant murmur of the sea reminds him of his wife.

THE NEW YORK

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