

## Practical Hints for the Factory or Mill Superintendent.

There are so many excellent technical publications issued throughout the world that even the most ambitious superintendent could not afford to read them all to get the cream of their articles. We propose in these pages to give some of the most practical hints and suggestions which appear in the technical press in all countries.

### Care and Preservation of Wire Rope.

From Report of Transatlantic Commission on Hoisting Ropes.

All evidence goes to show that the preservative treatment of a rope during its manufacture is a matter of the highest importance, and has a considerable influence on the life of the rope. The core, of tarred Russian hemp, should be thoroughly soaked in an acid-free lubricant. The wires should also be well lubricated while they are being laid up, and the whole rope then, if the dressing is sufficiently thick and heavy, is well prepared to resist the corrosive action of a damp atmosphere. For shipment abroad, ropes are usually coated with a black (plumbago) varnish; such a rope should be well treated with a lubricating dressing before being put to work, and this is a wise plan to adopt with all winding ropes.

#### ROPE DRESSINGS.

Regarding the composition of a suitable dressing, there are several recipes put forward. Most manufacturers favor plumbago, or graphite mixed with vaseline, linseed oil, palm or other vegetable oil.

Experience in Australia, in a Queensland colliery, showed cases where corrosion and breakage of a hoisting rope could be traced directly to the nature of the dressing used.

It should be pointed out that if a rope dressing is used which hardens on exposure to the atmosphere, care should be exercised to see that the pit-head sheave is kept clean out in the groove of the rim, as it has been proved by more than one accident that the winding rope can be thrown off the sheave by reason of accumulation of hardened lubricant in the thread.

#### QUALITIES OF A GOOD ROPE DRESSING

A good rope dressing wards off corrosion and reduces frictional wear. It should be applied every fortnight in dry, or nearly dry, vertical shafts, but more frequently in inclined shafts on account of its getting rubbed off by friction sooner. In wet shafts the dressing should be applied weekly, or even oftener, if found to be necessary from the condition of the rope. The dressing should be applied hot to the cleaned rope by slowly passing the latter through a box containing the composition. J. M. Wright exhibited a model of a mechanical rope cleaning and oiling machine, but no opportunity offered to try the device under working conditions. A simple machine should certainly tend to secure the regular and thorough cleaning and dressing of the winding ropes.

J. B. Pitchford states: "In order to make a proper examination of a rope, it is necessary to clean it properly and remove all the tar, etc., from the wires, leaving them as bright as possible. One method of doing this is to pass the rope through a trough of hot

oil, which removes all the tar. The trough is made of steel, and can be from 15 to 30 feet long. It is of U shape in section, and has a steam space of 1} or 1} in. around the bottom and sides. It is fitted with a relief valve and a drain, so that the condensation can be taken to the hot well. The trough is filled with oil and heated, and the rope to be cleaned is passed slowly through it under depression pulleys by being wound from one rope drum to another. By providing two sets of rope-handling engines, the ropes can be passed back and forth, through the oil, till they are quite clean enough for examination."

### Monopol Oils for the Dye Bath.

From the Dyer and Calico Printer.

Monopol oils are new preparations put upon the market by Dr. A. Schmitz & Co., of Heerdt-am-Rhein, as substitutes, among other things, for Turkey-red oil. Comparative trials with Monopol oils, Turkey red oils, Monopol soap, has shown that the first deserve trial, as they are useful additions to the dye-bath in dyeing with substantive dyes, such as the diamine, benziline and sulfur dyes, on wool, half-wool, silk, half silk, linen and cotton, whether in the form of hanks, cops, warp, or in the piece. They can be used alone, or in combination with the usual assistants, such as Glauber's salt, borax, carbonate of soda, or soap, as no reaction takes place between Monopol oils and any of these bodies. Monopol oils are not precipitated by hard water, as, although they form lime salts of the fatty acids they contain, these salts are soluble in water, especially when the dye bath is hot. It is well known that both soap and Turkey-red oil give precipitates of insoluble lime soaps, which not only represent waste of material, but are apt to cause uneven dyeing, as well as other troubles.

On the average, the Monopol oils are added to the dye-bath in the proportion of from 15 to 25 pounds to every 500 gallons of water. In using Monopol oils with substantive dyes no alteration in the usual dyeing methods is requisite.

It is claimed that dyeings effected with the aid of Monopol oils come out fuller, brighter and more level, and also with less tendency to rub than when other fatty mordants are employed. No other oils or any kind of soap level so well and so economically as the Monopol oils. In chemical constitution they are oxysulfo or oxysulfocarbonic acids.

Yarns dyed or printed with the assistance of Monopol oils come out with an excellent lustre and handle, and the baths exhaust well, a specially important point of baths which are to be used once only. The favorable effects of Monopol oils are specially seen in working with mixed yarns or fabrics contain-

ing both animal and vegetable fiber. The bath is slowly and uniformly exhausted, so that the vegetable fiber dyes to a somewhat darker tint than the animal fiber, as it should do.

The great solubility of the Monopol oils enables them to penetrate all classes of goods very rapidly and completely. This, of course, makes very level dyeing and renders the oils very useful in machine-dyeing, and in dealing with hard material and closely twisted yarns. They are also valuable in sizing and finishing and dissolve stains caused by lubricating oils. When they are used for soaking purposes, the troublesome scouring of cotton, wool, and linen, can often be dispensed with, and the roughening and tendering which scouring often on oils do not occur. After soaking, the goods are rinsed, and are then ready for the dye-bath. The soaking liquid consists of a one per cent. solution of Monopol oil in hot water, a strength which serves as well for cops and piece goods as for warps and yarns. This penetrating action, which is one of the most striking properties of Monopol oil, makes it a valuable help in mercerization when the mercerizing lye is mixed with about one per cent. of Monopol oil, and also in bleaching with peroxides, for which purpose the bleach bath is mixed with from 0.3 to 0.5 per cent. of its volume of Monopol oil.

The American agents for Monopol Oil are Jacques Wolf & Co., Passaic, N.J.

### Iron Crucibles in Melting Aluminum.

From the Brass World.

Considerable interest seems to have recently been displayed in the brass foundry trade about the use of iron crucibles in melting aluminum, and as many brass foundrymen, who have been accustomed to use graphite crucibles, have the idea that the iron crucibles possess particular advantages, we believe that a word upon the subject will not be amiss.

Iron crucibles have been used to some extent by the large aluminum founders, not because they possess any particular advantage but on account of their low cost. They have been used for melting large quantities of aluminum, and in instances when a large graphite crucible would not give the best of results. Graphite crucibles larger than No. 300's are rarely used, and it is in cases where much larger melts are to be made than such crucible would hold, that the iron crucibles have been employed.

It has been found, however, that the aluminum attacks the iron and not only becomes deteriorated itself, but injures the crucible. The crucible, too, frequently cracks. As far as we can ascertain, the experience with this has not been such as to warrant their extensive use.