

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.

Yarn Sizing.

From The Textile Recorder.

The operation of sizing for the purposes of weaving cotton and linen yarns in the form of hanks and in the form of warps reaches a degree of importance that is not always recognized. Large manufacturers are generally forced by reason of the quantity of material passing through their hands and by sad experiences to thoroughly realize this point. In these instances and indeed in any works that can reasonably claim to be regarded as turning out creditable material, special provisions are at hand for facilitating the work. Colored goods manufacturers, too, are thoroughly alive to the general and particular advantages that attend the working of well and properly sized yarns.

For the quality of the sizing of warps is a very important factor in the way of controlling the quality and saleable value of the cloth ultimately produced, and, more still, in controlling the daily production from the looms. These are points which have for a long time harassed many manufacturers.

The sizing of colored yarns for weaving is by no means the simplest form of sizing, as there exist so many pitfalls leading to defects. Many of these may be anticipated. Colored yarns passing through a hot, or more often a boiling, solution of size are liable to lose some of their color, certainly to suffer some alteration in shade, and, generally speaking, to become dulled. If threads from warps of different colors are being simultaneously passed through the sizing liquor, as in slasher sizing for beaming, the possibility often exists that the one color in the act of bleeding may stain or alter the tone of the other. Naturally, alterations in shade by this means become more pronounced in the case of light shades than in dark colors. These circumstances may often result in deteriorating the value of the cloth produced to a serious extent. There exists then a question deserving, demanding the serious consideration of all manufacturers, most particularly when small warps are required. These are often needed; some might add, too often needed. Demands from the markets for woven colored cloths do not always, unfortunately, come in the shape of a large bulk orders for one pattern and one design. If a large order does make its appearance, it heralds its approach, for the most part, not on a neat little compact contract-note carrying figures up to thousands in one good-looking line, but on a large number of order-sheets, each elaborated with units. These calls for such small lots as 6, 4, 2, 1, and even half pieces of one and different designs point to the difficulty, loss of time, and expense encountered in dealing with them. Many of these difficulties, however, are overcome by many manufacturers by resorting to the practice of sizing the colored yarns in the hank form.

Given suitable machines and the necessary

conveniences, the advantages realised are shown in the saving of size-liquors and the retention of the brightness of the colored yarn. Each lot, no matter how small, may be finished by itself. Each lot, if well sized, work eventually in weaving most satisfactorily. The mechanical contrivances available for carrying out the sizing of hank yarns comprise the old-fashioned "stick-and-peg"—which, indeed, in the hands of some old experienced workmen may still be relied upon to give good results; the starch-box with rotary hooks attached over it; and recently many more or less complicated machines.

Passing in review these styles of working, it must be granted that the first-named and oldest method is, in the hands of most workpeople, the least satisfactory. Bare places and uneven sizing, due to uneven squeezing or wringing out, are very difficult to avoid. The same complaint, but in a somewhat lesser degree, may be laid against the starch box, carrying on one side a stationary hook and on the other a rotary hook. Warps made from yarns sized by either of these methods do not conduct themselves in the best possible manner during weaving, and the faulty sizing becomes painfully apparent in the finished cloth. These remarks point to the features that should be present in any yarn sizing machine which shall be efficient. Regular expression of the surplus size carried by the yarn must be provided for.

A machine which has for a long time proved most effectual in actual and continual practice finds much favor on the Continent. The idea expressed in its arrangement is based on the principle that the yarn should be first evenly impregnated with the sizing liquor, and at once nipped by passing between two rubber-covered rollers, and later by a series of four similarly covered rollers. For this purpose a couple of elliptical-shaped rollers are in position directly over the sizing trough; the uppermost of these two, lifted high, carries the yarn. The top roller, when lowered, admits of the yarn engaging with the second roller, and the two draw the yarn evenly through the liquor in the size trough, simultaneously pressing the size closely into the threads. This arrangement naturally lends itself to different ways of working. Instead of the yarn being continually in motion during impregnation with the size, it may be allowed to steep for a few minutes before squeezing. Any way, after sizing the top roller is raised, the wet yarn lifted from the undermost roller, and spread out flat by hand, and caused to pass through the other rollers carrying suitable pressure, from whence the yarn falls out behind into a suitable receptacle. Here it may lie for about half an hour. The yarn is then taken and placed on a wooden arm and well shaken with sticks by hand, and arranged for drying.

The yarn prepared in this manner does not require brushing out as by the older methods. There are, of course, some classes of yarns

which may be none the worse for brushing out before drying. The provision of a suitable brushing machine for this purpose is a simple matter.

A circular brush is found to give very satisfactory results, indeed greatly relied upon by many firms producing specialties in the way of yarns and threads. The advantages of this form of sizing and brushing apply in degree to yarns intended for the warp of cloths, especially for fine satins, broads, and delicately constructed blouse cloths.

Waste in Cotton Mills

By M. A. Cooper in Textile World Record.

Some time ago the writer noticed in your paper an article on waste, wherein it stated that the average percentage of waste in the cotton mills of this country, where a fair grade of cotton is being used for medium numbers, would be about 15 per cent.

As this is considerably in excess of what would be tolerated in a well managed mill in the old country, it may be interesting to your readers to give a few particulars as to how and where waste is made, and how extremely large percentages in any particular process can be avoided.

The first point to receive attention is to see that every bale of cotton is carefully weighed, and the weight recorded in a book. Next weigh the tares and bands from each bale used, and entered in the same book. These weights all require comparing with the invoices to see they are correct, as it may cause a percentage of loss to be charged against the working in the mill, whereas it has arisen in the tares, bands, or deficient weight.

Being satisfied that all is right so far, the next point is to examine for excess damp and though this trouble cannot be altogether avoided, it is not a difficult matter to save 100 pounds of cotton from the bales, and reweigh after it has been exposed to the atmosphere a reasonable time.

We will begin with the opener as being the first machine where there is any serious amount of loss; it requires great attention to see that it is doing its work in an efficient manner, and not allowing any fibre to get into the dust flue, or good cotton among the droppings. These droppings should be closely examined regularly to see that they are free from cotton, as "fat droppings" are a source of great loss, and can be prevented with care.

It is most important that the right sort of grids are being used, in order to make a little loss as possible in these machines, and yet remove as many of the heavy impurities as possible.

The pickers or scutchers require the last to be set very accurately, to prevent any excess loss. The distance between the beat blade and the nip of the rollers should be very carefully arranged to the best advantage.