

tapestries from Hardwick, which the school has been cleaning and restoring for the Duke of Devonshire. They are very fine, and, like the hangings sent from the same establishment to the Paris Exhibition to capture the gold medal, they are sure to attract general interest.

MILL DISCIPLINE.

The object of mill discipline is to secure the highest efficiency of each individual, and also the whole body of employees acting as a unit. When work is being done by one man for himself alone, the question of discipline is one of self-control. He decides what is best, and does it to the best of his ability. When the job becomes too large for him, and others are called in to assist, that something which we call discipline becomes necessary. The singleness of purpose and unity of action of the one man must be supplied to the number, and some means must at the same time be devised to make the knowledge, judgment and experience of each individual as available for the general good as was the knowledge, judgment, and experience of the one man for his own good. The complete attainment of these objects—in other words, the ideal discipline, is impossible. The best system is the one that comes nearest to it.

The unity of purpose and action must necessarily be supplied by giving one man authority to direct the work of the others. This is self-evident, and admits of no discussion. Converting the knowledge and skill of each individual into common property is more difficult, but not less important. It will readily be granted by all that no man should be placed in authority who is incompetent, either by lack of experience, training, or natural ability. It will also be generally admitted that this centralized authority should be given to but one man. Having secured the competent manager, and having given him the necessary authority, it only remains to hold him strictly responsible for results. He must be left free to act as he may think best for the interests of the mill.

So far, says *The Textile World*, we have made reference only to the one highest in authority. The management of industries employing a large number of hands in various processes means, however, that the head man in authority must employ subordinates to whom is given authority over certain departments. To these subordinates, whether called superintendents, overseers, second hands, or what, the same principles apply that we have mentioned in connection with the central authority, the only difference being that the sphere of action is smaller. This necessitates the limits of authority being exactly defined. When this is done, a competent man should receive full authority in his department, and be held responsible for results. So far, we think there will be slight dissent from our views. The difficulty is not in knowing what should be done; it is found in making practical application of the recognized principles. In actual practice, we find men holding positions of responsibility in our mills, but deprived of some or all of the essentials we have named. He may be competent, and lack authority. In that case, knowing what is right, he sees what is wrong without the power on his part to apply the remedy. Or his duties and responsibilities may be but vaguely defined—a condition in which either he comes in conflict with others in authority, or else some part of the work is neglected and left with no one in authority to look after it. Owing to the vast detail involved in textile manufacturing, the work is subject to numerous defects and difficulties that call for an immediate remedy as soon as discovered. Delay in correcting a fault often means heavy loss. In a properly disciplined mill, when the

work is subdivided among men who know their place, have the necessary knowledge and authority, and feel their responsibility, short work is made of most difficulties as they arise.

In such a mill there is peace of mind on the part of each competent employee who knows his place and what is expected of him, a condition most conducive to the realization of the second object of discipline—namely, making the knowledge and skill of each individual available for the general interests of the enterprise. Every textile manufacturer knows the value to the mill of the knowledge acquired by his subordinates in their daily contact with the processes of manufacture. He knows how much it would help production, quality and cost, if each employee did his best and gave his superiors in authority the benefit of his knowledge. To attain this result many schemes of profit sharing have been tried. Such schemes are open to objections under the most favorable conditions, and are totally ineffective if a business is unprofitable, and consequently in the greatest need of the best efforts of each employee. They fail to give each individual the reward of his own work.

Mill discipline should be such that each employee receives such reward in the way of promotion or recognition as his services merit. Praise, if deserved, should be administered as freely as deserved blame. No two persons are alike in capacity or disposition. It is for the employer or head manager to study the conditions in his own mill, and apply rigorously the correct principles of discipline. Engage competent men. Define their duties. Hold them strictly responsible. Use them rightly, and see that they use others the same way. If at fault, talk to the offender alone. Don't encourage insubordination by interfering with those under the authority of your overseers or superintendents. Let the work of hiring or discharging help be done by the one next in authority. Let your employees know what you want, and then leave them alone while they are trying to do it. Avoid anything that would lead an employee to think that he could safely disregard the orders of his immediate superior. See that no injustice is done to any one of high or low degree. Use common-sense, and, most of all, do not expect others to be nearer perfection than you are yourself.—*Textile Manufacturer*.

A JANUS-FACED FABRIC.

What man may become in the far and scientific future passes all calculation. It was suggested by an eminent medical authority not long ago that our descendants might lose all their teeth and get to gizzards—if, indeed, food extracts should not leave us altogether independent of digestion. Fresh conditions of life may affect other functions, and an inventive German has already set out to provide us with clothing that will make us proof against some climatic inconveniences. According to the only account we have as yet of the new material, it is founded on the fact that—"the sun ray is a compound agency, combining both heating and chemical energies, and that these different forms of energy in the sun ray can be 'split up,' and made to act independently." Well, our inventive Bavarian friend argues that the hot sun glare during summer months and in tropical regions acts injuriously on the human body, owing to its heating and chemical effects. To obviate this dual action he seeks to neutralize the different rays and arrives at his goal by making clothing of double-faced material. The outer surface is white, in order to deflect the heat rays; the inner black to absorb the mischievously