FINISHING PREPARATIONS.

Mr. Max Dietzmann writes to the Berlin Faber Zeitung as under:—The various preparations used for finishing fabrics and put upon the market under all kinds of high-sounding names are for the most part mixtures of substances well-known under common appellations; the fancy names given to the mixtures rarely afford any clue to their composition, and their purchasers usually have to pay a high price for a fine name and a lot of water Some of them, it is true, are very efficient, but the finisher can always make them for himself for less than he has to pay for them ready-made if he knows his business, and therefore, what is required for finishing any particular class of goods.

The fundamental ingredients of the various compositions may be classed under three heads:—1. Thickening and stiffening subsances. These include potato-pulp, starches, dextrine, gum-arabic, tragacanth, glue, gelatine, carrageen-moss, linseed and lastly vegetable gelatine—a product obtained by treating potato-pulp with caustic soda-lye and the neutralizing with sulphuric acid. 2. Substances for filling and imparting a stiff handle. Here, we have various neutral salts; common salt, Glauber's salt, Epsom salts, and phosphate of soda. 3. Substances for imparting a soft smooth handle. Such as glycerine, magnesium chloride, aluminum chloride and calcium chloride. These act by absorbing moisture from the air; the one most used is glycerine. A finishing preparation made exclusively from bodies belonging to Class 1 would give a board-like stiffness. Hence those of Class 2 are also added, and if it is required, as usually happens, especially for superior goods, to improve the handle without affecting the smoothness, Class 3 is also necessary.

By suitable mixtures, every possible finishing effect can be produced, if the effect of each ingredient is kept in view. The boiling of the composition, to amalgamate the ingredients, requires a certain amount of skill, which, however, can quickly be acquired, at no great expense, by experiments on a small scale. A very good plan is to boil under pressure in a suitable machine, such as that of Starke, of Gera, where the mass is kept stirred up by blowing steam through it. We thus obtain perfect emulsion of the starch and a quite uniform paste, without any of those lumps which are so apt to be present in pastes made in the ordinary way. Anyone who buys his finishing preparations ready-made pays freight, etc., on a large quantity of water. But he can buy the ingredients free from water, and the erection of the boiling plant entails very little expense. It is therefore obvious that it is by far the best plan for everyone to make his own finishing preparations. He then knows of what they are made, and if they do not act satisfactorily the fault is his own.

WATER IN BOILERS.

Where does the water go to when the boiler is shut down and the steam pressure is maintained and no steam used for any purpose? A certain boiler was recently held in reserve, the steam pressure being maintained at the usual point for several hours, when it was found necessary to introduce more water All the valves in the boiler were tightly closed and were believed to be absolutely steam tight because no steam or water could be seen escaping anywhere about the boiler. To all appearances no steam was getting away, yet the constantly lowering water level indicated that the water was in some manner disappearing from the boiler.

Numerous instances of this kind have come to light, but no one seems to have taken sufficient interest in the matter to investigate it and discover the reason for the loss. Although the loss of fuel in such cases is small and not particularly noticeable in the total cost of operation, still it goes to show that fuel may be wasted, often much more rapidly than is apparent to the casual observer, and in ways little thought of by those who have not paid particular attention to small leaks. One instance in which the escape of steam was detected, was in the case of a boiler of the return tubular type situated in a frame boiler house, the top of the dome reaching nearly to the roof. Windows had been placed in the walls above the boiler setting to facilitate work on top of the setting, such as packing valve stems and cleaning the boiler. The valve stems had been newly packed and everything about the boiler seemed perfectly steam tight. The drips in the steam pipes leading to different machines failed to show any leakage of steam past the stop valves, yet some steam was evidently getting away, the fact being indicated by a very gradual lowering of the water level while the steam pressure remained constant. The weather being rather cold it was suggested that by opening the windows above the boiler the escaping steam, if any, would become partially condensed, and would then be visible in the form of vapor. Lowering the temperature above the boiler showed that every valve stem leaked, a column of vapor about a foot high, rising from each stuffing box. The vapor, if condensed, says The Engineer, would produce several pounds of water in the course of 24 hours and would account for a large percentage of the total amount escaping. One cubic foot of atmospheric pressure weighs about one-half ounce, so that for every 32 cubic feet of steam escaping there would be one pound less water in the boiler. This volume of steam can escape in a surprisingly short time without making sufficient noise to be heard at a distance of even a few inches from the valve or other points of escape.

The steam issuing from the stuffing boxes on the valve stems had first to pass through the packing and escaped at a velocity so low as to render it absolutely noiseless under ordinary circumstances. It was only by lowering the temperature of the boiler room and disconnecting the blow-off pipe that a slight vapor was to be seen at the blow-off valve. This vapor when condensed was merely sufficient to produce 24 drops of water per minute, yet this amounts to 4½ pounds of water or about half a gallon in 24 hours. This added to the steam escaping at the stuffing boxes would undoubtedly have represented a large percentage of the total loss.

Attention is not called to this matter because it represents an important source of loss in the boiler plants, but to show that the loss of water from a boiler under the circumstances mentioned is not at all mysterious.—Textile Excelsior.

KILLED BY CHEAP LABOR.

A. F. Hawkesworth, manager of the Merchants' Cotton Company, Montreal, who has been in England, stated, in a recent interview, his opinion of the cotton manufacturing situation in Canada in the followig terms: "Cheap labor in the Old Country and the preferred tariff is killing the white cotton manufacturing industry of Canada. I have been in all the leading mills of England, and carefully examined the wages paid and the operation of the various departments in a cotton mill, and found that there was a difference ranging from 25 to 35 per cent. in the price paid for piece and day labor in these mills as compared with what we are paying. Our operatives are all more or less discontented with their condition, and are looking for a better place, while the English operative is content, and remains from father to son.