

that perspiration in the first stages has a weakly acid reaction, while in the later stages it is weakly alkaline. This fact alone at once complicates the devising of a satisfactory test.

The action of perspiration on colors may be two-fold in effect, viz., change of shade and causing the color to bleed on to the adjacent clothing or the body itself. It must not be overlooked, however, that faulty dyeing may be the actual cause of the bleeding, due to imperfect fixation of the dyestuff or insufficient washing, in the same way as a fast-milling color will bleed under the same circumstances.

**Actual personal test.** Give a dyed swatch, sewn along with white wool and cotton, to the boiler man, and get him to wear it under the arm-pit during a shift, then notice the effect after washing the swatch. This is probably as satisfactory as any test; but it is not always convenient to carry it out, and it also cannot get over the difficulty that the perspiration of no two individuals reacts on colors in the same way.

**Boiling water test.** Throw a swatch of the color along with an equal swatch of white wool and white cotton into boiling water, and lift out at the end of one minute. Notice if the water is stained; also dry the swatches, and see if they are stained. If stained, the color is reputed not to be fast to perspiration. This is a very severe test even for acid colors, and still more severe for substantive colors.

**Alkali test.** Make a solution of 5 ounces Marsilles soap and 3 ounces ammonia in cubic foot. Work the pattern to be tested along with white wool and cotton in some of this solution for ten minutes at 122°F.; then wring out, but do not rinse. Now wrap the pattern in a piece of white calico and iron it dry with a hot iron, then examine the pattern to see how it has stood the test. This can be made still more severe by wrapping the pattern tightly round a glass rod; fasten it on, and dry it slowly at 122°F. This is suggested by Dr. Davidis for the black and white woolen goods, which have been so popular.

**Acetic acid test.** Make up a solution containing 10 parts acetic acid (30 per cent.) and 1 part common salt per 100 parts water. The salt is added because perspiration contains salt. The pattern, along with white wool and cotton, is soaked in this, and slowly dried at 104°F. This test is varied in that the pattern is kept moist at this temperature with this liquid from an hour to as long as 24 hours before the pattern is dried.

## Buying Belting for Planing Mill.

By Uncle Dudley in Wood-Worker, Indianapolis.

The best equipped plants, in purchasing belting, usually get several firms to figure or the entire equipment, and the lowest bidder gets the job, and sometimes the quality of the belting must be cut in order to get the figures low enough to secure the order. The price of leather governs the cost of belting, and the mill man must bear in mind that to get the best belting he must necessarily pay a good price for it.

When a firm agrees to sell you the best

belting, or strictly center stock, weighing not less than 16 ounces to the square foot, with short laps, at 70 per cent. off the list, you can just bet you will get soaked, and that in good shape; however, if you do not care for the best, this will no doubt answer and take the place as belting, but in the long run it will be found quite expensive, and there probably will always be a large amount of belting on hand that is damaged or stretched on one side, or stretched at the laps. When your Uncle-Dudley purchases belting, he gets the best, regardless of price. Have bought belting that cost as high as 45 per cent. off the list, and it was cheap at that. Why so? Because, in the first place, it was about 9-32 inches thick, and has been running on planers and matchers for the past seven years, and is still running. It has worn down to about 3-16 inches thick. Had one mill man tell me if he could get belting that would last him two years on heavy planing machines he was perfectly satisfied. That is all right, but if the belting will last six and seven years, would not he be better satisfied? Belting costs money, and if you can make it last twice as long as you did a few years ago, would you be sorry it did not give out sooner? Suppose you should get a new superintendent and he would make your belting last twice as long as your former superintendent; would you give him an advanced salary? Would you thank him for it? Would you tell him he was doing better than the other fellow and see how much he would save the coming year? Would you give him any encouragement for saving you this great expense? I'd bet dollars to doughnuts you wouldn't say a thing to him, not even let on that you appreciated his efforts in the least, but would think he ought to get along on about one-fourth what he had the past year. Let me tell you, Mr. Millman, you are on the wrong road. Go to him and tell him what he has done. He will pay you many times for your extra trouble. Let him know you appreciate his efforts. Give him a good salary. Let him have full swing. Tell him to run the plant just as though he were the owner instead of the superintendent. This will have the desired effect and will bring grand returns.

In concluding this belting question—which is one of the greatest chances for leaks about a factory—there comes up the question of belt-fasteners. You must have them, that is certain, but there are many places where they can be avoided to a good advantage. For instance, there should be but one place in a belt that should be put together with any other method than good cement. Saw a blower belt at one time that had at least twenty pieces of belt put together with whang leather; this belt had to be relaced at least once a day, the mill stopping, with the men standing about waiting, and all this under expense. Let me tell you all that whang leather is the most expensive belt-fastener on the market, for you have to pay at least 30 cents per square foot, and it does not take long to use a foot.

Wire that is soft will last very well if used on an open belt, but not so well if used where both sides of the belt run on pulleys, as on the side that is crossed it will soon wear off. Have used this wire in connection with whang leather, and in every instance the wire was the winner; besides, it is noiseless when it goes over the pulleys. As for fasteners for

the spindle belts on matchers and all heavy machines where an endless belt cannot be used, would advocate the use of genuine Blake studs. If properly put in, they will make but little noise, give good service and last a long time. For single belts use the No. 1. That is the only size I use. Wherever it is possible to use an endless belt, do so, by all means. Sometimes a belt will give out during the day and it seems almost impossible to get along without it. The best way out of the difficulty is either to cement it during the noon hour, or put on a new belt and cement the old one, thus saving the laps of the old belt.

Good belt cement will dry and be ready for use in an hour's time, so one need not be timid about cementing during the noon hour or at any other time. The cost of tools for making cemented joints is small. I have known many to have no other tools than a heel shave and a couple of scrapers, with the edge turned. These will cut the belt down very fast, and one can get a good, even splice. Always try to get the joint the same thickness as the rest of the belt. On high-speed belts, like those for planers and matchers, I always make a 6 inch splice, and find this about the right length. Have the glue or cement hot, apply with a brush, then hammer until it is set, and you have a joint that will stay. It used to be the custom to use rivets or lacing or pegs, and sometimes stitching, but these are entirely done away with except with the few who still insist on this antiquated method.

## A SERIOUS DRY GOODS FAILURE.

A despatch from Montreal says: Moses Genser, manager of the Dominion Dry Goods Co., is missing, and there is a list of known creditors whose claims aggregate \$51,000. Through an indirect medium Genser has suggested that he may be able to pay 20 cents on the dollar, but the entire stock in the warehouse is valued at only \$1,500. The settlement of the estate has been placed in the hands of Wilks & Michaud.

The following is a list of the more prominent creditors as far as known: Auburn Woollen Mills, Peterboro', \$796; Universal Knitting Co., Toronto, \$756; Slingsby Mfg. Co., Brantford, \$2,059.90; Massey Knitting Co., Montreal, \$306; Montreal Suspender Co., \$726.05; Dominion Textile Co., Montreal, \$756.54; J. B. Perry Knitting Co., Hamilton, \$855.95; Jos. Simpson Sons, Toronto, \$3,607.67; H. J. Dingman, Toronto Knitting Co., \$592.08; Bates & Innes, Carleton Place, \$811; J. P. Black & Co., Montreal, \$967.44; Bohan Bros., Toronto, \$1,593.86; Pennans, Limited, Paris, Ont., \$3,446.69; Alex. Burnett, Montreal, \$837.31; A. E. Smith, Montreal, \$874.52; A. Caisse, Montreal, \$705.81.

The John Deere Plow Co., Winnipeg, Man., have been incorporated with a capital of \$500,000, to carry on the business of dealers in agricultural implements, carriages, wagons, machinery, etc. The provisional directors include W. Butterworth, W. L. Velie and G. W. Mixer, Moline, Ill.