

of eight blacks, four of which have been developed with 5 per cent of Benzo Nitrol developer. Half Wool Skirt Edging, dyed in one bath, No. 744, 1899. This card is composed chiefly of benzo and sulphon colors; forty very suitable shades are shown. Pluto Brown R, N B and G G on cotton yarn, No. 745, 1899. The above colors are shown in 4 per cent shades, before and after developing with Benzo Nitrol developer. Diamond Black 2B, on knitting yarn and cheviot, No. 746, 1899. Three shades are given with and without Diamond Black F. Being much bluer than the latter it is admirably suited for dyeing dark navy shades.

**Katigen Yellow Brown GG, Patented.**—The method of dyeing this new Katigen dyestuff is very simple, yet it possesses excellent properties. It dissolves very readily in boiling hot water, with the addition of an equal quantity of sulphide of soda, and dyes cotton in a boiling bath, containing 25 to 50 per cent. common salt. Katigen Yellow Brown GG exhausts very well and produces even shades of a fine cutch tone which are very fast to acids, and extremely fast to milling. This color is also very fast to light, rubbing, perspiration, ironing and stoving. It is an excellent self color or combines well with Katigen Black Brown N. On account of its low price and excellent fastness to all agents it should meet with considerable attention.

**Thiazole Yellow R (Patented).**—The older brand, Thiazole Yellow, will hereafter be known as Thiazole Yellow G. The new brand, Thiazole Yellow R, does not differ in properties from the older brand, the fastness to alkalis, and light, etc., being exactly the same. The only difference between the two dyestuffs is, that the shade of the new brand is not quite so greenish, although just as clear. Thiazole Yellow R is a true cotton dyestuff, and is adapted for the production of sulphur yellow shades on cotton in all branches of manufacture, as well as for half silk and half wool, and further for shades on wool fast to milling and stoving. Method of dyeing: For a very full shade use  $1\frac{1}{2}$  lbs. Thiazole Yellow R, 15 lbs. Glauber's salt,  $\frac{1}{2}$  lb. soda for every 100 lbs. cotton goods; boil one hour, lift and rinse.

**Alizarine Cyanine W R N paste.**—Alizarine dyestuffs have, in course of time, come very much to the front, and are now being more and more used as the shades produced with them are marked by their extreme fastness. Alizarine Cyanine W R R and W R B produce excellent navy blues and are often used. Alizarine Cyanine W R N paste possesses all the well known qualities of W R R and W R B and its shade lies between these two colors. It is specially adapted for producing fast navy blues, and any depth of shade may be obtained by darkening with Alizarine Blue Black B. Can also be used to advantage in fashion shades. Pattern cards now ready.

**Phenylamine Black T and 4B.**—These two new wool blacks are inexpensive colors. Owing to the general downward tendency in prices of wool blacks, these colors should meet with some demand. They are especially adapted for piece dyeing. The 4B brand shows a fine bluish black shade over hand, whereas with the "T" brand a deep black is obtained, both being of good fastness to rubbing. They penetrate evenly and their fastness to shrinkage (steaming) is good. They are fairly fast to light. Owing to the fastness of the 4B brand to washing, it should be employed for knitting yarns. Both colors are admirably adapted for hat dyeing, producing fine useful blacks, and standing the various operations which hats have usually to undergo in finishing.

For any of the above, apply to the Dominion Dyewood & Chemical Co., Toronto.

—Three methods are in use for cleaning wool before dyeing—  
—with acid, with alkali, and with bichromate. The best alkali

is ammonia, and it usually works better than acid. The acid most commonly employed is oxalic. Bichromate gives excellent results, and removes old spinning oil which has become rancid and many other impurities which make level dyeing practically impossible. The goods are boiled for about an hour with  $\frac{1}{4}$  per cent. of bichromate and  $\frac{1}{2}$  to 1 per cent. of sulphuric acid, then dye with an acid dye. The ammonia process is usually employed for yarns.

### SPRINKLERS IN STOREHOUSES.

In the Boston Manufacturers Mutual Fire Insurance Co.'s report for June, President Edward Atkinson says: Attention is called to the numerous fires which have occurred in June and to the effectiveness of the service by which they have been extinguished, with a total loss to this company of less than \$20,000, diminishing our dividends by only two points. We cannot compute constructive savings; we cannot say what the damage, for instance, in the Globe yarn mill would have been except for the two sprinklers, which put out a fire caused by lightning, in which there would have been great delay under any other conditions. Except for the sprinklers the damage could not have failed to have been very heavy, even if the mill had not been destroyed. In the case of the cotton house of the Tremont and Suffolk mills, this cotton house had been constructed with heavy party walls, but the end was unprotected, having in view a further extension. It was boarded up. The large stock of cotton suddenly put in, filling this house, rendered it necessary or expedient to put up a light wooden shed for excess cotton, twenty-five feet distant, in which the fire originated. The speedy destruction of this light wooden covering and the great efficiency of the Lowell fire department, and the good work of the mill fire brigade rendered the dispersion of the bales of the burning cotton and the extinguishing of the fire, in detail, comparatively easy work, as will be witnessed by the small amount of the loss and the large salvage. The excessive heat of this fire, at its first outbreak, made it nearly impossible to approach within a hundred feet of it. The wooden end of the cotton house was twenty-five feet away. The heat passing through the cracks or thin boarding started the sprinklers, which were on a dry pipe system, before the boarding had taken fire in any considerable measure. Mr. Thomas, the agent, reports that he was on the spot within less than five minutes after the private alarm had been given, which preceded the public alarm, when he witnessed the operation of the sprinklers in this cotton house. Reference may be made also to the fire in the cotton house of the Dwight Manufacturing Co., well managed and well saved, where, in the judgment of the inspectors, little or no loss would have occurred had the sprinklers been in position. Reference may also be made to the considerable loss in the works of the George H. Gilbert Manufacturing Co., where sprinklers were under agreement, bringing to a conclusion very heavy expenditures which have been made on these works during the last two years in more important places. Reference may also be made to the very numerous instances of the successful working of sprinklers even in this one month. These and other facts will call the attention of all members to the expediency of making immediate contracts for sprinklers in all storehouses. The time to put them in is now, when there is little or no stock in the way. We have called attention to this defect in the safeguards, from time to time, during the last three years; but, considering the large expenditure met by our members in remodeling hydrant systems and in bringing the standard of sprinklers in the factory proper up to 100 per cent., we have delayed pressing the matter until more favorable business conditions have arrived. The losses on storage are now, in ratio to the losses on protected factories, out of all due proportion. It has been proposed to double the rates on storehouses, pending protection;