

practice in 1464. Other trade customs were regulated by a further Act of 1483.

By the commencement of the 17th century, dyeing had made such progress in Holland that both from England and France wool was sent thither to be dyed. Under Colbert's rule, France learned to dye as well, and began to be at the head of the cloth trade. Colbert imported Dutch dyers, Scotch, Irish and German cloth-makers, and did his best to promote the wool trade by assisting allied trades, by offering prizes, and in many other ways.

The scarlet dyeing industry was founded in Paris in the 14th century by the Gobelin family. They succeeded in spoiling the German trade in scarlet cloth, which had been highly famed during the 12th and 13th centuries and was esteemed fit to present to the most exalted personages (in 1489 it cost 96 shillings an ell in England), and the Thirty Years' War had a most prejudicial effect on the German wool trade. Scarlet dyeing reached England first in 1645, when Kegler set up a dye-house in London.—From the Deutsche Farber Verband.

### GARMENT DYEING.\*

BY A PRACTICAL HAND.

The business of garment dyeing has undergone many changes during comparatively recent years. Formerly, the trade was wholly in the hands of the practical man working for himself. Here and there a job dyer had one or two assistants, and they employed comparatively simple and primitive means—a few rinsing tubs and a plain copper or vat in which to boil the goods and conduct the dyeing operations. Now, however, the trade has drifted largely into the hands of large firms, such as Pullars, of Perth; P. & P. Campbell, of Perth; G. Wright & Co., of Stockport; J. T. Holderness, of Ashton-under-Lyne; John Berrie and W. Reynolds, of Manchester; Smith & Sons, of Dewsbury; to name only a few whose names come most readily to our minds. These firms have established agents in various towns either in their own immediate districts or in the case of the Perth firms, all over the country, who collect the goods from the customers and transmit them to the works to be dealt with. The consequence is that such firms have an enormous quantity of material to deal with, rendering it quite impossible to employ the primitive means of their predecessors, and necessitating the introduction of machinery to enable them to deal with larger quantities at a time.

In the introduction of machinery, then, we have one of the changes which have come over the garment dyeing trade. There are machines for carrying on the washing and cleaning operations, whether these be carried out by the old-fashioned plan, with soap and water,

or the newer plan with benzoline. These machines are made to work with hand power or with steam or other mechanical power. Then again the dry cleaner on a large scale finds it worth while to so treat this benzoline that he can use it over again, and so we find benzoline filtering machines and benzoline distilling machines in use in all modern garment cleaning works. Such machines were undreamt of by our forefathers. Then, again, the old fashioned plan of wringing by hand of the garments from the various liquors is really too slow for modern ideas, while there is the great disadvantage of producing creases in the goods. Now we have the modern hydro-extractor, introduced in the dyehouses, with the result that the work is better done, for more liquor can be got out of the goods by the hydro-extractor than by wringing, while there is an absence of creasing in the goods. This is a particularly valuable feature in connection with velvet, plush, and all fabrics with a pile, or with goods which have a raised pattern and with silk goods, all of which are more or less spoiled if they are creased or the pile pressed down in any way, which is inevitable by any system of wringing, but which cannot occur with an hydro-extractor. The old dye coppers were not made very large, perhaps to hold from two to six dresses at one time or a few yards of curtains. Generally they were heated by fire, and were worked by hand, the men stirring up the goods by poles or rakes. Now the machines are made large: for the modern garment dyer, having a wider field for collecting his goods, can depend upon having a large number of garments to dye any particular shade. Then, again, they are heated by steam, which is much more convenient, as well as more cleanly than fire and the temperature can be regulated better. Moreover, they are made to work with mechanical power, thus easing the labor required in carrying out the work. The old garment dyer had to dry his goods in the open air, or before a fire, much as the household laundress dried her week's wash. Now there are drying rooms heated by steam or fire, in which the drying is carried on more quickly and in a more satisfactory manner. In many other minor details we can trace improvements in the machinery and methods of working in the industry of garment dyeing.

One considerable innovation must not be omitted; that is the change from the natural dyes, like logwood, fustic and cudbear to the coal tar dyes like magenta, naphthol black, naphthylamine black, acid violet, to name only a few of the vast number now available. In the olden time the garment dyer was much put to it to produce the shade desired, for he could not quite depend upon how his dyes would work. The recipes and formulæ he used then were something truly fearful to contemplate, and it is a marvel that he got any results at all, for it seems as if the dyes and chemicals were put in without rhyme or reason. One followed the other,

\*Extracted from the Dyer and Calico Printer.