

stand the test of sunshine and rain through years. This was the rule followed by Mr. Morris in all he did. It is a regrettable circumstance that many of the most lovely pieces made at the commencement of the present century have been ruined by the decomposition of certain dyes, which have turned quite brown, while others have faded altogether.

"I should like to enter more at length into this deeply interesting subject, but the *Mercury*, unfortunately for the indulgence of such a desire, is a business paper, written for business men, and I must needs be terse, and say what I have to say in as few words as possible. Here then, briefly summarized from my notes, is a description of the process employed at the Gobelins, where only a simple color is required.

The bath is charged with the deepest color of the scale required, each tint according to its position in M. Chevreul's well-known classification being graduated in 24 tones, from the deepest to the most delicate. The dyer having placed upon his sticks the skeins which are intended to be of the deepest tint, plunges them into the bath, watches them, raises them up, hangs them on uprights at his right hand, re-plunges them in the copper, examines them, and notes the time during which they are soaked or dry. When he considers them to have reached the desired stage, they are withdrawn and spread out. During this time the bath gets weaker and weaker, more coloring matter being added if it loses its color too quickly. The liquid gradually assumes so pale a tone that the 24th tint becomes almost white. It is in these later operations that a sure eye and skilful hand are required.

"Tapestry is woven from the back, the results being visible to the worker by the aid of a small mirror, which reflects the pattern as it is formed. The principal features of the design are marked on the warp in Indian ink, while the drawing from which the weaver works lies beside him. In a low warp loom the work cannot be seen, and the trouble with the high warp is that it works over the curtain, which is thrown over the warp beam. A tapestry representing "The Visit to the Magi," designed by Burne-Jones, was being woven by Mr. Morris, for his old college (Exeter), at Oxford. The appearance of the fabric when completed must be extremely beautiful. The deeper reds employed by Mr. Morris are obtained from the insect dye known as the *kermes*, and the designs are executed in the same manner as the old Gothic tapestries. There were twelve warp threads to the inch in the pattern shown me.

"From tapestry we went to the furniture stuffs, which were being woven by hand looms. A hanging was shown, the rate of production of which was about 12 yards weekly, the width being 54 inches. A brocette with a linen weft, an Ispahan hanging at 11s. to 12s. the yard, designed by Peacock; a silk warp and worsted weft stuff that does not hang nicely, and a silk train, intended for a dress for Lady Wolseley, were amongst the articles being produced as I passed in and out amongst the looms. The next process inspected was that of block printing.

"A more charming personality I never encountered than when I met Mr. Morris, whose socialistic views were quite as interesting as his wonderful factory. No one will dispute the sincerity of the capitalist and man of culture, who openly advocates principles the carrying out of which, while tending to raise the common ruck, would depress to a lower level such men as Mr. Morris himself, as far as the possession of worldly goods is concerned. 'I do not want art for a few,' said Mr. Morris before the Trades Guild of Learning, 'any more than education for a few, or freedom for a few. No, rather than that art should live this poor thin life among a few exceptional men, despising those beneath them for an ignorance for which they themselves are responsible, for a brutality which they will not struggle with, rather than this, I would that the world should, indeed, *sweep away all art for a while*. Rather than that the wheat should rot in the miser's granary, I would that the earth had it, that it might yet have a chance to quicken in the dark.'

"Much more might be said concerning the business carried on by Mr. Morris within the precincts where the 'Statutes of Merton' were enacted in 1236, when the English nobles made their memorable reply to the prelates who wished to conform the civil to the ecclesiastical code: 'We will not change the laws of England.' Down the Wandle there at Garratt are Baker and Tucker's printworks; across the railway yonder are those of Mr. Littler; and away beyond the horizon to the westward, in the valley of the Cray, is another relic of the block printing days of old at Crayford, where David Evans and Co. continue on a diminished scale a business which, in the time of our forefathers, was the glory of this section of the South. We Northerners may even yet, with all our boasted wealth, our perfection of machinery and what not, learn something from a study of the quiet little industries still conducted in Surrey and Kent. Some of our calico printers do not disdain, at any rate, to steal Mr. Morris' designs; and if his work be worth stealing, the results of his efforts are certainly worth reading about. Londoners know nothing of the ancient textile arts, which are still conducted almost under their noses; let not the same charge be laid against the North, which is so much more concerned in the matter."

THE TAYLOR SYSTEM OF AIR COMPRESSION.

The utilization of compressed air for mechanical purposes has long attracted the attention of scientific engineers; but compression by steam or hydraulic power has never been perfectly successful, on account of the loss of power caused by the heating of the air in mechanical compression, and the cooling of it in transmission. These difficulties have been overcome by the Taylor system, the air from which is, by the tests, six times drier than the normal atmosphere, and of the same temperature as the water fall. This system, the invention of a native Canadian, C. H. Taylor, of Montreal, was fully described and illustrated in *The Canadian Engineer*, in April, 1895, the article having