

early workers, has again perished in the glare of imperial sunshine. The *panem et circenses* of imperial Rome have again been lavished in the form of gold and the firebrands of political and social agitation. A trade is now no longer a man's duty and absorbing occupation; it is a mere means of making money. The German operative has become restless, he is seized with the desire to partake of the luxury which he sees indulged in by the classes socially above him. He grows discontented; an injured feeling is the result, a feeling which is fostered by agitators, chiefly of the socialistic school. The educational facilities have as yet only yielded a partial culture, which does not mend matters; for the artisan now estimates his position, not by the suggestions of economy or the tradition of his fathers, but by an exaggerated idea of what is due to him as a man of education and intelligence. Can it then be hoped that, in the midst of this struggle for an artificial existence, there can be that enthusiasm or that calm and contented application to work, without which all artistic and industrial progress is impossible?

The strictures of Professor Beuleux are confined to the manufacturers of his own country; but thoughtful Englishmen cannot disguise from themselves that in substance they are not altogether without application here. It is impossible to walk through the streets of any large town and not to be impressed with the carelessness and want of taste exhibited on all sides by our manufacturers and artisans. We do not mean to say that beautiful and perfect articles are not made, or that our workmen are not perhaps as capable of good work as ever they were, but we do say that good work is the exception, and every employer can substantiate the statement that workmen will not as a rule take trouble over the many small matters which make all the difference between what is excellent and what is only ordinary. Of late years the number of buyers has increased enormously, and competition among producers has become keener as a matter of course; but discrimination and taste have not been present in proportion to the increase in the purchasing class. Money has been more plentiful, commercial prosperity great, and these and other causes have contributed to produce a feeling of restlessness and dissatisfaction among our industrial classes. In face of heavy demands for wages and the cutting down of prices entailed by competition, manufacturers have not had much money to spend in educating public taste. So long as the public will buy anything short of the best, the demand will be supplied. On the other hand, artisans, when employment and wages are abundant, prefer to make their wages in the shortest possible time and in the easiest possible manner. They regard their work merely as an uncomfortable task, the performance of which sufficiently well to secure a sale, results in money to themselves. Their thoughts and interests are, as a rule, elsewhere than in their work, and when here and there a few men maintain an opposite and a healthier spirit, they are weighted in their course by the opposition of their fellows. The craftsman has been replaced by the labourer; the skill and pride of the artisan is rapidly degenerating to an unintelligent and half-hearted spirit. This is a desponding view to take of the present state of our industries, but we fear it is only too justifiable. So long as we have a rich and careless purchasing class, a severe competition among manufacturers, and dissatisfied and ill-advised artisans, we cannot hope for much change for the better. We believe that signs are not wanting of improvement in the public taste, but even here and there there is discouragement. Our manufacturers agree that men are difficult to find who care to undertake fine work, even if they are capable of carrying it out. Good work requires care and thought, which workmen, as a rule, will not give if they can make money without so troublesome an expenditure. On the whole, we expect that the change for the better, when it does come, will be found to be due to pressure from without rather than to any initiative taken by the industrial classes themselves.—*The Engineer*.

PARALLEL RULES.—For lines parallel to the sides of the drawing board, the T-square is the best possible parallel ruler, and may be used in conjunction with a set square of 45 deg. for mitre and similar lines. The set square of 60 deg. by 30 deg. will give increased facilities in setting out many ornamental geometrical forms. A T-square with shifting head is also very useful; but as ordinarily made it is clumsy. For parallel lines not falling within the range of the T and set squares, the best tool, in the opinion of many, is the rolling parallel ruler. This is more quickly set to any two points, and more cleanly in use than any other form. A plain black ebony one is best for general use. A set square and straight edge are used by many, but they more easily get out of place and soil the paper. Set squares and T-squares should be French polished, and then they can easily be cleaned.—*Technologist*.

SLEIGHS EXHIBITED AT THE CENTENNIAL EXHIBITION.

(See page 292.)

SHAW'S FOUR-PASSENGER HALF-TOP SLEIGH.

No. 1.—A light and graceful looking sleigh, although the proximity of the seats prevents the possibility of making a good-shaped top.

The principal dimensions are:

Width of front seat, 36½ inches; width of hind seat, 38 inches, Track, 39 inches. The runners at the forward extremity are contracted to 18½ inches.

Painting.—Blue, striping in gold, carmine, yellow, and white.

Trimming.—Crimson plush.

RUSSELLS PORTLAND-CUTTER.

No. 2.—This is a handsome cutter, plain and tasteful in both design and finish. The body has a pleasing shape, which is the more praiseworthy because the simplicity of its lines gives little room for the display of form. The front-finish of the body is the latest used for this pattern of cutter.

The principal dimensions are as follow:

Width of seat, 33½ inches; width at bottom, 30 inches; width of body over all, 34½ inches. Track, 36 inches out to out.

Painting.—Body, vine color, with black border and a fine line of gold. Running-part black, with gold striping; trimming in pink plush.

WAGNER'S SWELL-BODY CUTTER.

No. 3.—This pattern shows several original features, and its effect is unquestionably good. The somewhat increased cost of the body, caused by swelling the sides, is amply repaid by the fine appearance of the body when painted.

The seat-frame is 25 inches wide. Track, 39 inches.

Painting.—Body, light, vine color, with black border.

SCIENTIFIC NOTES.

• **WASHING FLANNEL.**—The most effectual way to avoid shrinkage in flannel and woollen goods is to plunge them, when new, into boiling water, and let them dry without wringing.

CLEANING DEAD SILVER.—Dead or engraved silver goods should never be cleaned with plate powder, but be washed out with a soft brush and some strong alkali, and well rinsed afterwards. When the dead or frosted parts are quite dry, the polished parts are carefully cleaned with powder.

USE OF COLOURED GLASS IN HOTHOUSE.—The general result of several carefully-conducted experiments seems to be that, although violet glass favours somewhat germination, yet, taken as a whole, none is so satisfactory in its effects as the plain uncoloured glass, which permits a nearly free passage of the different coloured rays, as they exist in the sunbeam.

NON-INTOXICATING DRINKS.—To 2lb. of white sugar, 2oz. of best Jamaica ginger, well bruised, 2oz. of cream of tartar, and the rind of two lemons, add two gallons of boiling water; stir altogether till they become lukewarm. Toast a slice of bread, pour on it two tablespoonfuls of good fresh yeast, and place it to float on top of the mixture. Cover the whole up for 24 hours, then strain and bottle it, taking care not to fill the bottles; cork and wire it securely. This quantity will make three dozen bottles, and will be ready for use in three or four days. **Lemonade.**—A capital glass of lemonade may be made by adding two tablespoonfuls of lemon juice to two spoonfuls of sugar dissolved in a tumbler of water. If a small quantity of carbonate of soda is added, it will afford a cooling effervescing drink.

TRADE MARKS IN AMERICA.—In the United States a bill has recently been introduced into Congress by Senator Conkling, to supply deficiencies in the present law regulating trade marks. The counterfeiting and false use of trade marks are now regarded only as an invasion of the property rights of their owners, an injunction and suit for damages being the only remedy. The piracy of trade marks has, therefore, flourished because only the actual owner could interfere with the pirate. The consumer, who is in many cases as great a sufferer, can rarely detect the imposture; and if he does he has no redress. Mr. Conkling's bill is directed at providing an adequate punishment for the wrong by making the counterfeiting of trade marks a penal offence. An imprisonment not exceeding two years is imposed upon any person who engraves, or knowingly has in his possession, or sells, or offers for sale, or uses counterfeit trade marks; and also upon any person making dishonest use of empty packages with genuine trade marks thereon. All such imitation goods are, furthermore, to be forfeited.