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THE BRIDGE OPENED.

The great bridge that connects the two cities of New York and Brooklyn, and practically unites the island of Long Island to the main land, was formally opened to public travel by significant and appropriate ceremonies on Thursday, May 24. The President of the United States, the Governor of New York, the Mayors of the two cities in interest took part in the ceremonies. On the New York side was a procession of the famous Seventh Regiment of fourteen companies, preceded by a military band of ninety pieces, policemen mounted and on foot, acting as escort to the President, members of his cabinet, Governor Cleveland, and other notables, occupying twenty-five carriages. The President and guests walked across the bridge and were met by the Mayor of Brooklyn and other officials, and were escorted to the Sands Street bridge station by the Twenty-third Regiment. In the station addresses were made by Wm. C. Kingsley, Abram S. Hewitt, and Rev. Dr. Storrs.

The salutes from the five naval vessels in the harbor and from Governor's Island were an impressive feature in the "pomp and circumstance" of the occasion. But the culmination of the display was reserved for the evening. It is doubtful if ever, in this country, at least, was there so magnificent an exhibition of pyrotechnics as that from the bridge. It was absolutely indescribable, and was as gratifying in its profuseness as superior in its beauty. A levee held by the President and the Governor later in the evening at the Brooklyn Academy closed the public ceremonies, after which the bridge was thrown open to the public, and thousands passed over from one city to the other, making a continuous procession during the entire night.

Our full-page engraving gives a view of the engine room and the engine which is to propel the steel-wire rope that draws the passenger cars across the bridge railway.

DEATH OF WILLIAM MASON.

Mr. William Mason, builder of locomotives and cotton machinery, died at his home in Taunton, Mass., on Monday, May 21, of pneumonia, at the age of seventy-six.

Mr. Mason's life was a signal illustration of the power of genius and perseverance in overcoming obstacles. The disadvantages of poverty in youth and a limited education were to him to be only incentives to more strenuous efforts. By his inventive talent he rose gradually from the position of day workman as a machinist to the superintendency of a large establishment. The perfection of his self-acting mule for cotton spinning first brought him into prominence among manufacturers. By this invention he has been better known for the last forty-five years than by all his other inventions and improvements, and they were many, and not confined to machinery for textile manufactures; his locomotives are probably unsurpassed in all the requisites of use by those of any other builder.

At the time of his death Mr. Mason was carrying forward extensive improvements and additions to his large establishment at Taunton, which would nearly double the area of the buildings and vastly increase the productive capacity of the establishment.

Mr. Mason was a fine specimen of manhood in physique. He was reticent in habit, but not morose; unbending from apparent thoughtfulness when in the presence of friends. He was much liked by his employees; some of whom, starting with him when he first went into business, still remain.

CONSIDERATION FOR OLD EMPLOYEES.

Physical vigor and mental activity are necessary in all kinds of employment and all sorts of business. Lacking either, the man is, in some degree, incompetent. The cases are exceptional where profitable employment is fitted to the infirm, whether physically weak or mentally slow. And yet there are cases where employment and occupation should be given to such persons, not alone as a matter of policy—to prevent mental and bodily injury—but as a duty. An employe who has spent the vigor of his best years in the service of an employer deserves something more in his last years than cold neglect. Even the turning out of an old horse to die is a subject for attention by the officers of humane societies.

If an employe is of any value whatever, he ought to earn for his employer something above his stipend; in fact, the labor of employes, combined with the judicious use of capital, should accumulate for the employer a competency, if not actual wealth. The wealth thus gathered represents, in part, the excess of the value of the labor performed above the amount that has been paid to the laborers. Although the employe has no legal right to demand more than the agreed sum as wages, or salary, which he receives, the fact remains that the wages, or salary, may not represent the proceeds of his work in full.

This fact may not constitute even a moral claim by the employe for anything beyond his regular compensation, under any circumstances. It may be that the compensation was sufficient to have placed the employe, in his old age of feebleness, in a condition of comparative independence, but he may have neglected to provide for the inevitable rainy day. Employers have no special supererogatory duties toward employes of this class. Nor is it, perhaps, incumbent on them to pension off old employes, as governments sometimes do public servants. The circumstances will alter the cases. It is not to be expected that employing establishments or individuals are to become insurers against the decrepitude of old age and its attendant incompetency. But the dictates of humanity and the demands of business policy

may so far go harmoniously together as to prevent the too common spectacle of an old, faithful employe deprived not only of a position of profit because of inability, but of occupation adapted to his failing powers. There are few sadder sights than this, and pity for the unfortunate man and detestation for his thoughtless or perhaps avaricious employer is felt by every spectator.

As men grow old in any particular service their business ways and work habits become fixed, and all the surroundings of their secular days' employments become more familiar to them than their home life. It is like casting them adrift without rudder, oars, or chart to turn out old employes under such circumstances. Who has not felt a pity for some superannuated employe thus set adrift, as he has noticed him returning occasionally to his old haunts, and looking about wistfully on scenes of which he once formed a necessary part, but in which he is now only an incumbrance and a disturbing element. Too old to start anew in another line, and possessing none of the hopefulness of youth and the ambition of mid-age, he becomes disheartened, melancholy, and perhaps imbecile, until death steps in to his relief.

There is a large manufactory in a New England State that for more than thirty years has been running with pecuniary success, employing young and old, male and female, in its various departments. When business has been dull, and the markets unstable, work has been reduced, and wages shortened, as was necessary to prevent financial disaster. But good employes were kept, if possible, even in the dullest times. There never was a strike, nor a threat of one, in this establishment. Among other humane practices and considerate measures for the comfort and well being of their employes, this company keeps their hands even when old and unprofitable. There is one old man, now more than eighty, who has worked faithfully, for the best part of his vigorous manhood, for the company. He still works—not, however, full hours—and his employment is of so trifling a character that but for the circumstances it would be ludicrous. But the old man is proud of his employers and that he is still able to work, and is living a happy, contented life, believing that he is independent of charity and that he is still useful, if not necessary, to his employers. This is an example that might properly be followed by others.

A REMARKABLE WIND STORM.

A storm, or a series of storms, of high wind, rain, thunder, and lightning swept over portions of northern Texas, Nebraska, Missouri, Illinois, and Wisconsin, May 17 and 18, destroying property and lives, and making waste the country in its path. In some places the path was only 300 yards wide, in others it covered a width of one-fourth of a mile, and in other places extended to a width of two miles and more. No structure of man withstood the blast within its well defined limits; substantial buildings of brick and lighter buildings of wooden framework alike succumbed to the gale that accompanied the storm. In some localities the storm assumed a whirling motion, but in most places it appeared to be a straight-away gale. Unlike the popular idea of a tornado, which is that it comes suddenly after an apparent elemental slumber, this storm appeared to be the culmination of a severe rain and thunder storm. And yet there were indications of a peculiar electrical activity. Globes of fire were observed in the midst of dark clouds; a well defined hole was made in a roof as if cleanly cut; the top story of a brick dwelling was carried away, while the remaining portion of the house remained untouched.

The destruction of life and property that accompany these elemental disturbances renders desirable some accurate knowledge of their cause, with a view to their prediction, to enable those exposed to them to take such preventive and protective measures as are possible. To this end the United States Signal Service is making efforts to investigate these phenomena, and Sergeant John P. Finley, U. S. Signal Station, Detroit, Mich., who has charge of the investigation, asks for information from any person who, in this or previous years, has witnessed any remarkable wind storm.

We read now and then of cases in which burglars are supposed to have rendered their victims unconscious by holding cloths wet with chloroform to keyholes before entering an apartment. Of course the absurdity of such a fiction is sufficiently apparent. Whether sleepers can be made to pass from natural to chloroform sleep, if the chloroform is held near to the face, is still a question. Sometimes the experiment has succeeded, but in five experiments recently made to determine the fact, every one of the sleepers experimented upon woke at the expiration of three minutes, before they had come under the influence of the drug.

When nitrate of silver is used as a medicine for a length of time, the skin becomes of a peculiar bluish or slate color. Many may remember the familiar face of the blue man who formerly lived in this city, and whose face had assumed this singular hue. There is also a "blue man of Missouri," whose skin is discolored in the same manner and from the same cause. When about fifteen, he took five drops of a solution of nitrate of silver, containing twenty grains to the ounce, and continued this for five or six months. At the end of that time he observed that his face and hands were becoming dark. This color has become permanent, and hence his sobriquet. Nitrate of silver is sometimes used as a remedy in epilepsy.

The Material and Manufacture of Canes.

The manufacture of walking sticks and umbrella handles is an industry in which a great deal of capital is invested. The material is as various as can well nigh be conceived of. The *Chicago Times* recently had an article on the subject, from which we extract:

Many are of imported woods, some from the tropics, China, and the East Indies. The celebrated Whongee canes are from China, where they are well known and celebrated for the regularity of their joints, which are the points from which the leaves are given off, and the stems of a species of phyllosiachys, a gigantic grass, closely allied to the bamboo. The orange and lemon are highly prized and are imported chiefly from the West Indies, and perfect specimens command enormous prices. The orange stick is known by its beautiful green bark, with fine white longitudinal markings, and the lemon by the symmetry of its proportions and both prominence and regularity of its knots.

Myrtle sticks possess also a value, since their appearance is so peculiar that their owner would seldom fail to recognize them. They are imported from Algeria. The rajah stick is an importation. It is the stem of a palm, and a species of calamus. It is grown in Borneo, and takes its name from the fact that the rajah will not allow any to go out of the country unless a heavy duty is paid. These canes, known as palm canes, are distinguished by an angular and more or less flat appearance. Their color is brownish, spotted, and they are quite straight, with neither knob nor curl. They are the petioles of leaf stalks of the date palm. Perhaps the most celebrated of the foreign canes are the Malacca, being the stems of the Calamus sceptonum, a slender climbing palm, and not growing about Malacca, as the name would seem to indicate, but imported from Stak, on the opposite coast of Sumatra. Other foreign canes are of ebony, rosewood, partridge or hairwood, and cactus, which, when the pith is cut out, present a most novel appearance, hollow, and full of holes.

The manufacture of canes is by no means the simple process of cutting the sticks in the woods, peeling off the bark, whittling down the knots, sandpapering the rough surface, and adding a touch of varnish, a curiously carved handle or head, and tipping the end with a ferrule. In the sandflats of New Jersey whole families support themselves by gathering nanneberry sticks, which they gather in the swamps, straighten with an old vise, steam over an old kettle, and perhaps scrape down or whittle into size. These are packed in large bundles to New York city and sold to the cane factories. Many imported sticks, however, have to go through a process of straightening by mechanical means, which are a mystery to the uninitiated. They are buried in hot sand until they become pliable. In front of the heap of hot sand in which the sticks are plunged is a stout board from five to six feet long, fixed at an angle inclined to the workman, and having two or more notches cut in the edge. When the stick has become perfectly pliable, the workman places it on one of the notches, and, bending it in the opposite direction to which it is naturally bent, straightens it.

Thus sticks apparently crooked, bent, warped, and worthless are by this simple process straightened: but the most curious part of the work is observed in the formation of the crook or curl for the handles which are not naturally supplied with a hook or knob. The workman places one end of the cane firmly in a vise, and pours a continuous stream of fire from a gas pipe on the part which is to be bent. When sufficient heat has been applied, the cane is pulled slowly and gradually round until the hook is completely formed, and then secured with a string. An additional application of heat serves to bake and permanently fix the curl. The under part of the handle is frequently charred by the action of the gas, and this is rubbed down with sandpaper until the requisite degree of smoothness is attained.

Harmony of Color in Floriculture.

Artistic arrangement in flower gardens is a thing very easy to talk about, but it is not quite so easy to put it into practice. Anybody can point out the errors, the want of taste, the glaring defects in the laying out of a parterre, but it is quite another thing if they are asked how it is to be remedied. Everything seems so easy and so simple when you merely look on as a critic prepared to find fault without having any share in the labor. So many difficulties lie in the way of harmonious coloring and arrangement as applied to flower gardening—far more than would appear to a superficial observer. Although there are flowers of every hue and of all sizes, yet they may not bloom at exactly the same time, or some may fade sooner than others, or the form and size of one plant may not contrast favorably with the others.

Of late years we have made rapid progress in artistic floriculture. No longer do we submit to see our gardens scattered over recklessly, without regard to harmony or contrast, with flowers of every color or species. In our days we see more tasteful arrangements and dispositions in the flower gardens of some of the poorer suburban streets than were displayed in the extensive and costly parterres of thirty or forty years back. Flowers were formerly taken by striking contrast, without relation to harmony, and planted here and there, wherever a spot appeared suitable for their reception; but now, by grouping plants in masses, and attending, so far as possible, to their relative hues and forms, we can produce a finer and more striking effect with half a dozen species than the gardeners of past times did with half a hundred.

Nothing looks worse in a flower garden than to see plants, large and small, bright or somber, placed heterogeneously together in one bed. It is usual to see small beds filled with six or seven varieties of flowers of as many different colors. This imparts a very scattered effect to a parterre, for too much variety in detail leaves no spot for the eye to rest on. Small beds should never contain more than one species and one color, though this may be as bright as you please. Large beds, on the contrary, may be planted with a greater variety of flowers. Great care should always be taken to plant flowers of the brightest hues—scarlet pelargoniums, for example—in the center of the group; and these should be softened by degrees with flowers of a less brilliant tint toward the margin of the bed. White flowers are, perhaps, the best to plant along the margin immediately inside the box or turf edging.

In large parterres the beds should be separated from the bright gravel paths by a margin of green turf not less than two feet in breadth. In smaller gardens, however, this would occupy too much space, and box edging is generally substituted. But this verge should not be less than three inches in thickness, and perfectly flat on the top.

To form perfectly harmonious contrast in a parterre, it is best to plant one of the three primary colors—scarlet, blue, or yellow—next to another; or, if a perfect primary is not at hand, to take the complementary color formed by compounding the other two, green being complementary color to red, orange to blue, and purple to yellow. Many persons, indeed, say that two primaries form too violent a contrast, and recommend that the complementary should be employed in preference. For instance, red must be contrasted by blue or yellow, or else by green, but not by purple or orange, because red enters into the composition of both these colors. In default of any of these colors, white or some neutral tinted flowers may be employed. In the same way blue flowers should be contrasted by either red, yellow, or orange, but not by purple or green, because blue enters into the composition of both colors. Also, with yellow, you must contrast with blue, red, or purple, but not with green or orange. There are many neutral colors, as red brown, or olive brown, or pale lavender, or even light pink, which will form sufficient contrast to the others. White is very useful for placing between flowers of a brilliant hue which harmonize badly.

Very bright colors, however, should always be used sparingly and never placed in large masses, because the eye is wearied by too much positive coloring. It is a very great mistake to plant a clump of dark, funereal looking evergreens in the center of a bed of bright scarlet pelargoniums, bright yellow dahlias, or white candytuft as a strong contrast, and to make the whole look cheerful. But so far from having this effect, it imparts a harsh, disagreeable effect to the entire group. Masses of dark green should never be contrasted immediately with brighter colors. If they are softened by degrees with neutral tints, or even by pale yellow or white flowers, the group blends insensibly into the surrounding landscape in place of standing out in violent contrast from the rest.—*Land and Water.*

Defective Vision among Weavers.*

Should weavers be allowed to wear spectacles? This is a question which, we believe, has not occurred to many manufacturers, but we venture to put it in the general interest of the trade. Weavers are human beings like other workers, masters as well as servants, and subject to the same weakness of the senses. Indeed, it may be maintained that weavers are sufferers from defective vision to a much greater degree than others employed in the textile industries. Let any one who wishes to test this ask a number of weavers coming out of a mill on a Saturday afternoon. He will find that a great many young as well as old men and women will not be able to distinguish objects at a certain distance, and that a considerable number will only know their companions across the street from their general appearance or gait, and not from their features.

We know this to be the case, having tried it ourselves. If this is a fact, we ask, how is it, and what has produced this defective vision? With the men of the present age it may, to a certain extent, result from the desire to improve their education by reading in the evening, when the eyes are tired with the day's work, and suffer from the heat of the gas, now so general even in cottages; or it may be the dust of the shed flying about and irritating the fine texture of the eye, and the ocular nerves; or it may be the result of direct injury to the eye by minute particles of dye from colored yarn in the case of colored work; or, again, it may result from the attempt of the eye to follow the quick motion of the sley and the shuttle, or be caused by a combination of all these factors. But we think the principal cause must be looked for in the speed of the looms, now so much greater than in former years.

It is the business of a weaver to keep his or her eye upon the work. The shuttle does not require his or her attention as the weftfork watches over that—still the eye, when on the cloth, cannot help following it. The sley moves at right angles, and when the eye is on the cloth it naturally also takes in this motion. These two motions struggle with each other in their effect upon the eye, and produce an unnatural strain, which must be weakening to the nerves. Let any one not accustomed to this try to follow the objects he passes in a railway train. An ordinary shuttle in a calico loom runs at the rate of about ten miles an hour, while the

average speed of a railway train may be taken at about thirty miles. But on the other hand, the objects passed in a train are larger and at a greater distance from us than the shuttle is from a weaver. On trial it will be most fatiguing to the eye to follow, we will say, the telegraph posts regularly one by one, and we are convinced that not many people will be able to do this for more than five minutes at a time.

We may therefore fancy what a strain it must be upon the eye of the weaver to watch the flight of the shuttle the whole of the day, and day after day. It is the suddenness of the motions which tires the nerves, and this of course increased by a greater velocity of the loom. A handloom weaver with 60 picks a minute has not nearly the strain put upon his eyes which a powerloom weaver has with 200 picks a minute, but while we see many old handloom weavers wearing spectacles we miss them in the shed among the powerloom weavers.

It is a well known fact among oculists, that weak eyes are far more frequent at present than half a century ago. This is so well recognized on the Continent that even military men have taken cognizance of it, for while in former years young men liable to military service managed to escape when they could prove their vision to be shortsighted, this is not allowed as an excuse under present regulations, and they are compelled to wear spectacles enabling them to compete with others at target practice at 1,000 yards distance. We may therefore take it for granted that on the whole there are more weak eyes among weavers than among the average of human beings. It is the nature of the work which produces weak and short sight, often ruining many young eyes in this way in a few years, so that we have to deal as much with younger people, before the looms, as with those whose hair has turned gray.

Spectacles and eyeglasses, when of the correct strength, are a help to the eye. They relieve the strain and are often the means of strengthening the nerves. Our improved mechanical facilities have made spectacles both better and cheaper than formerly, and like many other things they have passed from the position of luxuries to that of commonplace necessities. How often do we now see children sent to school with spectacles, generally more to strengthen the eyes and to prevent undue strain. There is still the "heavy swell," with his gold eyeglass, or the fast young lady who thinks an eyeglass a necessary part of her outfit, but many more people will be found wearing glasses in the present day, simply because they require them and find them both a comfort and a relief.

The buyer when he examines the cloth he wants to purchase looks at it carefully through an eyeglass, in case he is shortsighted; the manufacturer produces his glasses from his waistcoat pocket when he looks at his deliveries, or when the new patterns are submitted to him; the clerks in the office imitate their master with or without necessity, by sporting eyeglasses; but the poor weaver, who has to look at the cloth and the yarn it is made of far more closely, who has not to miss a pick in a complicated pattern or allow a float or other defects in the cloth, has to do all with the simple assistance of his natural vision, whether this is perfect or not. If a warp end breaks behind the healds, he or she must find it and tie it in the proper place. Here they cannot always bring their eyes close to it, and very often have to do it by feeling more than by seeing.

We believe there is an unwritten law among weavers prohibiting the wearing of spectacles, but we are not aware that masters would be averse to it. We see no reason why they should, and fancy the matter need only be brought properly before them to receive a hearty support from many humane employers.

Cheap Gas for Cooking.

The small city of Nakskov, Laaland, has tried the experiment of cheap gas and encourages its use for cooking as well as illumination, and the consumption has reached 94 cubic meters (nearly 3,590 cubic feet) a year for each inhabitant. This result was accomplished by this arrangement.

1. The price for purposes of illumination is 4 cents per cubic meter (\$1.16 per 1,000 cubic feet).
2. The price for heating purposes is 3 cents per meter (87 cents per 1,000 cubic feet).
3. The gas is put in the houses free.
4. The meters are sold to consumers at cost.
5. The house pipes, fixtures, and appurtenances are furnished as cheaply as possible, and five years are allowed for paying for them in quarterly installments, with four per cent interest.
6. The gas is paid for monthly.
7. When all the arrangements are completed, every consumer can burn gas free the first month.
8. One burner is allowed in the kitchen at the same price as for heating.

All classes of people are well represented among the consumers of heating gas, especially the small families of working men. The gas works are so managed that all the officials and each of the permanent employes receive, in addition to their regular salaries, a portion of the net profits of the works.

In spite of the extremely low price the gas works are doing a good business, besides lighting the streets gratuitously.—*D. A. Polyt. Zeitung.*

TIMBER covers about two-thirds of North Carolina; Mississippi has some twenty million acres of it; Louisiana, fifteen million; Texas, a great amount.

*The Textile Manufacturer (London).