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THE STORAGE OF WIND POWER.

This interesting subject continues to be discussed by several of our valued correspondents. We give some of their contributions in another column. We notice they omit to give estimates of the works they propose. It would add to the value of such papers if approximate bills of the probable expenses for apparatus, machinery, care, interest, etc., were given.

THE GREAT BRIDGE AS A SPECTACLE.

During all the years of its building, from the sinking of the first caisson to the establishment of the line of electric lights, the construction of the bridge has attracted the interest of engineers and mechanics. But it is doubtful if it has been accorded its value as a work of art and "thing of beauty," except by casual visitors to New York, who have not watched its gradual progress for a dozen years.

From the river, either by the Roosevelt Ferry boats, or those of the Fulton Ferry, the best perspective view of the bridge can be had. From the deck of the ferry boat the wonderful structure looks like a daring gigantic spider's web against the sky. The eye sees all the understructure of the bridge, and unless one is a calculating, almost agnostic mechanic, it is hard to believe that the suspended structure represents solidity and permanency.

After nightfall, when nothing but the bridge itself interposes between it and the dark sky, with its gracefully curved lines revealed by electric lights and defined by the darkness of the water below, and the other darkness of the sky above, the bridge appears like a gossamer structure, and has a fairy like appearance.

THE FOREMAN.

The position of foreman of a shop or boss of a gang of workmen demands as its object the turning out of a fair amount of good work. Some fill one portion of this demand and others the other portion, but it is only the manager of men who fills both.

Employers are sometimes at fault in demanding from foremen the largest possible amount of work in a given time, always prodding and pushing, grumbling because a job occupied more time than they expected, and picking up every trifling interruption as a deliberate attempt at imposition. If a foreman is honorable and sensitive he will not bear this nagging, and so in shops ruled by such a system changes of foremen are frequent.

There are, however, some foremen who are instructors rather than managers of men. Under their rule more time

is spent in the details of work, in correcting errors, in "doing over," than should be required to complete the job. The scrap heap under their management grows to enormous proportions; every slight error in work and every slight mistake in apprehension of an order makes another accretion to the growing pile.

A truly capacitated foreman is a possibility, and his portrait is drawn from no fancy sketch. In the establishment where he is a manager a strike has not occurred since it had an existence—twenty-five years. Probably there are many like him, and his portrait may stand for those of others.

Although he is generally as exact as the workmen to the "bell hour," there is no stir among them if he is late and no letting down of attention when he goes out. He assumes a part of every job and does it, wearing his honorable overalls like his men. He is not afraid of a loss of dignity or a relaxation of authority by addressing his men familiarly. He suffers no diminution of, well earned superiority in asking advice of some of his more experienced men.

MACHINE SHOP MANAGEMENT.

"My own idea of a machine shop is that the money made out of it is always made because the mechanical manager of it is sharper than other people. I never knew a machine shop to make money the head of which was not a skilful mechanic. To manage a machine shop a mechanical man with business qualifications is needed."

This opinion is reported from a conversation in which the veteran machinist, William Mason, of Taunton, described himself very accurately. There are competent mechanics, industrious workers, judicious overseers of men, and capable layers out of work, who have had little success financially in the business of conducting a shop. Yet the ordinary observer would suppose that these enumerated qualifications comprehended all that was necessary to success.

The manager of a machine shop business ought to be able to sum up, at least once a week, the salient facts of expenditures and income, and he ought to know wherein the improper proportion between them exists, if it does exist. The little daily wastes of oil, of files, of slow feeds, of loose and slipping belts, of temporary tinkering, of fussing about a job, and other unnamed wastes, all using up time and delaying the progress of work—all should be noticed by him.

But all these requirements do not comprehend the entire qualifications necessary to the successful manager of a machine shop business. The actual cost of the production of an article, which is usually reckoned by cost of material and cost of time used, includes a large number of items any one of which is subject to occasional variation. For instance it would be folly to fix the same price on an article composed of iron, steel, and work when iron, and steel, and labor were at their highest price as when either one or perhaps all were at a lower price.

Paper Gas Pipes.

These are made by passing an endless strip of hemp paper, the width of which equals the length of the tube, through a bath of melted asphalt, and then rolling it tightly and smoothly on a core, to give the required diameter. When the number of layers thus rolled is sufficient to afford the desired thickness, the tube is strongly compressed, the outside sprinkled with fine sand, and the whole cooled in water.

DICTATOR, 20 years of age, a celebrated stallion, sire of many fast horses, has lately been sold for \$25,000. This horse is of Hambletonian origin, and a brother of the famous Dexter.