

WORKSHOP MANAGEMENT.

Frederick Smith, an Englishman, has written a book on this subject in which he makes the following among other points, as described in a review. Not every one who owns or has charge of a workshop knows, or cares to know, upon what principles it should be conducted in order that success may accrue. Indeed, we do not hesitate to say that the incompetents are largely in the majority. Too often proprietors, so that they get an income which means a handsome interest on capital invested, an easy life, and some dignity, do not trouble themselves to inquire closely how the details of their business are being carried out; and as a result petty tyranny often flourishes, and frequently dissimulation and dishonest practices grow apace. The teaching that employers owe to their work-people the duty of watching their condition is not sufficiently recognized, and the consequences are found in diffidence and contentions. Now, to ignore this duty is unwise as well as improper, for where the employer evinces little or no interest in his people—is rarely seen by them, and more rarely heard as counselor—the belief forces itself that there exists indifference and selfishness, and corresponding qualities spring up on the other side. Demoralization is then rapid. "Give the least you can for the most you can get" becomes a guiding principle. What follows is depreciation of profits, and where drastic remedies are not applied crippling embarrassment often rears its head. If employers, then, desire the maximum of benefit from their business, among other things their knowledge of their workshops should be intimate and their interest in the laborers in them active. To the advocacy of this, much of Mr. Smith's book is devoted. But the author also finds ample opportunity for scathing condemnation of unworthy foremen, who connive at dishonest practices, and, by showing they have no self-respect, set the example of impropriety to those whom they are entrusted with the care and guidance of. The capable foreman and his qualities are, of course, likewise considered. He should be honest, honorable, respecting and respected, with his conscience ever for his guide, and intelligent enough to exercise his brains when difficulties present. Of course there are very few such; but only such are fitted for the position; and an employer who lacks the foresight enabling him to detect such qualities is minus a power he can ill spare.

CONTAGION IN CARPETS.

Sewerage in these days is receiving a fair share of public and private attention, and the walls of houses, where contagious diseases have been, are very generally cleaned, whitewashed, or newly papered; but carpets are too often overlooked as the carriers of disease. The truth is that they, more than any article of furniture, more even than the walls of the room, gather and retain dust; and this dust, though chiefly inorganic and comparatively harmless, contains organic germs, which only need to be raised into the air and taken into the human economy to develop into active disease, creating, under favourable circumstances, an epidemic. Dust usually considered as comparatively harmless, is a most fruitful source of catarrh and consumption. The irritation of the mucous membrane of the nose, throat and lungs, becoming chronic, leads to serious disease, that undermines health and destroys life.

Many women say: "If it were not for the sweeping of my carpets I could get along with housekeeping very well." Many women know from experience that sweeping is one of the great trials of the housekeeper's life, and that it causes much of "the weakness" among women. "Fore-warned is to be fore-armed." When we see the need of change, we are ready to accept the better methods. What shall these better methods be in relation to carpets and disease?

How easy carpets may convey contagion was proved by a case quoted by Prof. Tyndall, when he showed that a case of scarlatina, which was supposed by the physicians to be sporadic, was not so, but obtained by contagion. He said: "The question arose, How did the young lady catch scarlatina? She had come on a visit two months previously, and it was only after she had been a month in the house that she was taken ill. The housekeeper at once cleared up the mystery. The young lady, on her arrival, had expressed a wish to occupy a nice isolated room. In this room six months previously a visitor had been confined with an attack of scarlatina. The room had been swept and whitewashed, but the carpets had been permitted to remain."

The electric light is about to be tried on the Copenhagen forts, and will light up a large part of the Sound.

THE King of the Belgians has been to the electro-metallurgic works of Haeren to see the statue of his late mother, Queen Louise-Marie, which is to be erected in one of the principal squares of Philippeville. The monument is about eleven feet high, and represents the Queen seated, plucking the leaves of flowers.

THE LATEST LUBRICANT.—A writer in one of the foreign technical journals expressed a decided preference for soapstone powder, in the form of dust, as a lubricant, for the axles of machines. For this purpose, it is first reduced to very fine powder, then washed to remove all gritty particles, then steeped for a short period in dilute muriatic acid, in which it is stirred until all the particles of iron which it contains are dissolved. The powder is then washed in pure water to remove all traces of acid, after which it is dried, and is the purified steatite powder used for lubrication. It is not used alone, but is mixed with oils and fats, in the proportion of about 35 per cent of the powder added to paraffin, rape or other oil—or, the powder may be mixed with any other of the soapy compounds employed in the lubrication of heavy machinery.

DUST EXPLOSIONS.—Says the *Northwestern Lumberman*:—"Wherever there are liable to be accumulations of fine dust there is danger of an explosion; and it must be admitted that in wood-working factories, and particularly those converting dry material, it is rare indeed that dust is not found in abundance. It is true there have been few if any fires in wood-working factories traced directly to this cause; but it will not do to argue from this that none have occurred. A large proportion of the fires in planing-mills and similar institutions, are of unknown or accidental origin, and it is far from unreasonable to suppose that many of them would be found, if it were possible to investigate the matter, to have been the result of explosions of this character. There are many ways in which the necessary combination of dust and air might be effected, and the fire to ignite it supplied, while the chances of discovering just how it was done after the mill is destroyed are very small indeed."

DURABILITY OF ZINC ROOFS.—As zinc is an easily oxidizable metal, it has been suspected that it could not last long for a roof; but the fact is that the film of oxide soon formed over its surface is quite a protective coating, effectually preventing further oxidation. The film is water-proof and firmly adhering, and this is the cause of its protective capacity. Zinc differs in this respect very much from iron, of which the coating of oxid formed by exposure to moist air, is very porous and has not the adhesive quality, so that it is easily shaken off partially, while the moisture and air penetrating under it find a stronger hold, and eat, as it were, into the metal still more at every place where a rust spot covers it. Observation and experiments with exposed zinc have proved the extreme slowness of its oxidation, and the German *Zeitschrift für Gewerbe* reports that the data verified led to the deduction that a sheet of zinc one-fiftieth of an inch thick would occupy 1,243 years in complete oxidation. A weight of 130 grains of zinc spread over the surface of a square foot would make a layer only one-5000th of a line thick. If the sheet be 0.25 line thick, there will be 46.04 such layers; and this, multiplied by 27, gives 1243, the total number of years.—*Manuf. and Builder*.

CELLARS.—There are hundreds of houses in the country that are built over dark, noisome holes full of dampness, impure air, decaying vegetables, and rotting timbers. The holes in the ground are called cellars, but they are so unsuited for the purpose which they are designed to serve, that they deserve rather to be called "death-traps." Light is as essential to the healthfulness and purity of a cellar as it is to the dining-room or parlour. The requisites of a good cellar are freedom from dampness, light, and a temperature low enough to prevent decay, and there is no difficulty in securing these conditions if cellars are only constructed above ground. Dark, close houses are notoriously unhealthy, and every possible device is resorted to to light and admit air-currents in them; yet we see cellars that are a hundred times worse than the darkest of houses left without light or ventilation, to breed germs of disease and death. All houses require cellars, both for the storing room they afford and their contribution to the comfort and health of the dwellers; but there is no reason why sanitary law should be set at defiance in their construction, neither is there any necessity for groping about in darkness, and, besides, when light is admitted there is an immunity from the danger of fire which attends carrying a light into the darkness, and which, from accident or carelessness, results sometimes in a disastrous fire.