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Elmira Foundry Co.
Elmira,
New York.

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J. D. McCann, Works Manager.

The problem here as in all foundries, is the protection of workmen against silica dust. It is not so serious in this foundry as in some others belonging to the General Electric Company because no steel is cast here, and the moulding sand has less than 80% free silica, running usually between 50 and 70%. However, the core sand is pure silica and so is that which is used in sand blasting.

The general conditions are decidedly better than the average, the buildings lighter and better ventilated, and there are more mechanical aids, less heavy hand work. No. 3 foundry, the largest building, with some 500 men employed, has a continuous mould and pouring, which makes the labor of pouring far lighter and does away with hand work in shaking out and dumping castings. In this way what is often a serious source of dust in a foundry has been rendered almost dust free. There is however considerable chipping and grinding of castings; cores are dug out with the air hammer when necessary, and moulds are blown clean with compressed air. All of these are sources of dangerous dust. The tumblers, blast mills, and revolving tables do not leak as long as the exhaust pipes are working well, but vigilance is needed here and also at the take-off where sand is shaken off the cleaned castings as the man removes them. Two dry sand blast cabinets of the usual type are operated by one man, who is not sufficiently protected against the sand. He wears only a canvas helmet, and it is not divided with positive air pressure.

A small group of men who also need special attention are blowing pure silica sand into moulds. These are all jobs which are necessarily dusty and more or less dangerous, but there are also a few needless sources of silica dust aside from the ever-present liability of the sand blast equipments to start leaking. One of these is the sifting of dry mould sand in No. 1 foundry, another is the same job at the end of the conveyer in No. 3 foundry. At this latter point there is in addition a good deal of dust which falls from the castings. Some sand rises also from the sand sling. Blowing moulds clean with compressed air is I am told an unavoidable source of dust for to use a vacuum cleaner would be to risk breaking the mould.

It can be seen that there are many sources of silica dust in this foundry, a few of which are preventable, but the larger number are inherent in the character of the work.

I should like to make three suggestions. First, that all unnecessary dust escape, or dust production, be prevented. Second, that the sand blast operator be provided with a positive air pressure respirator to wear under his helmet. And, third, that the foundry adopt the system already in force in the General Electric Foundries where similar dangers are present; i.e., a careful selection of men for employment and a re-examination of these men at stated intervals. It is not necessary to include the whole force, - only those with dusty jobs, men working on sand blast equipment, blowing moulds, cleaning castings, sifting sand, etc. At present there is no way of knowing if any of the men have been injured by the dust. The examination should include an X-ray photograph of the chest, and if this shows injury from the dust, the man should be shifted to other work; if not, he should be re-examined every six months.