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Elmira Foundry Co.,
J. D. McCann, and
Rowe,

600 men employed

50 at night working about 9 hours.

The moulding sand has from 50 to 70% free silica, possibly 80%; core sand is pure silica and so is sand blast sand. There is a gas complained of by the moulders which Rowe thinks comes

from the oil used in the binder of the cores, but he is not sure because he believes it comes also from pouring castings which have no cores. The chemist believes that last is impossible and gas can come only from the cores. There is no tongue of flame or smoke unless there is a core but in that case there is always smoke. Probably, it is acrolein.

A The core room has damp sand. There are windows on four sides and a sky light. The chipping and grinding of castings is at one end beside the door. The man uses a portable carborundum wheel and a piece of carborundum for rubbing by hand. Just beside him is a man sifting dry D mould sand which blows over the two chippers. Both men sometimes use an air hammer for chipping. One digs out the core with an air hammer. C The dust is evident here. This is Number one foundry.

C In the next room there are boring machines but only for cleaning the metal for the sand has already been got rid of. In number two foundry the cleaning department is very dusty. There are seven tumble E six of them working at the time; there is core digging with air hammer and two Sly sand blast cabinets of the usual type. One man operates both. He has a respirator but does not wear it and a helmet which he Q does wear but which has no air supply. Twenty are employed here, no night shift.

A The Mould Room is well ventilated. This is a small room at the end where cores are made. Out in the big mould room of Number two,

off parts of the mould with the apparatus because they would have to get it inside, close to the surface, while with compressed air this is not necessary. Dust arises also at one end of this room from the sand slider. The man wears a respirator. The sand is said to be moist but clouds of dust come out.

Number three is very large and well lighted. The walls practically all glass but it is dusty. About 300 men work here. Much of the work is mechanical and there are many conveyors. Moulds are filled and jolted and squeezed by machine. There is an elaborate ventilating system delivering warm air in winter and cool in summer. The work here is a continuous process, gravity conveyors carrying the moulds down to the pourers then they cool and come back to the starting point for shaking out. This is done by dumping them on to the grating of a hopper, the sand falling through. No shaking is needed before they go to the tumblers. A conveyor down mid-way does what is done by hand at the other end; that is, castings are dumped on the conveyor and then dropped to another which runs at right angles and as it drops the sand falls out and the casting passes out to a tunnel which runs along the outer wall of the building. This is known as continuous mould and pouring. The men stand on a grate all the sand falls through, is mechanically recovered and re-conditioned for use. There is very little dust in the air. A canvas screen has been placed to keep from two men the dust which another man raises when he blows out his moulds. The far end of the room is dusty. Most of the dust comes from a leaking Sly blast mill. A revolving table of the usual kind which stands near is fairly good but now and then a puff of dust escapes and at the take-off the man shakes off a good deal of sand. There is also a great deal of compressed air chipping and fine clouds of dust come off the top of a revolving table about nine feet up. Both these sources are said to be accidental caused by the clogging of the exhaust

cleaning department of number three, there are tumblers and a Sly rotary table which is hand operated with steel grit, The man standing outside and looking through a window. Buffing is done here and air hammer work. Steel grit is used on castings which have a lot of sand adhering to them. There are six men working with straight silica sand blowing it into moulds. There is another hand sifting job beside one end of the conveyor which is very bad, and even without it, quantities of dust fall from the castings. In a separate room three slim lads are doing continuous pouring, The weight of the kettles being taken entirely by the over-head trolley. This is a very good room. The moulds travel on into a tunnel so that no gases come off in the pouring room.

Mould sand needs no binder because it is not baked; cores must have a binder. Mr. McCann says that they would have no way of knowing if a man suffers at all from the dust. No doctor is connected with the plant.