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Keeping Down the Dust

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Closer supervision of plant practices will often reveal methods of reducing the amount of dust created. After dust gets into the atmosphere its removal is extremely difficult and expensive

DURING the last few years, much has been written about the pathological effects of dust. From this material there seems to be some lack of agreement among scientists as to the pathological effects of these types of dust, their dangerous dimensions, the length of time one must be exposed to their inhalation, the density of concentration which is dangerous, and the extent to which they are directly causative or contributory to disease.

It is unfortunate that in the twilight zone between ethics and non-ethics, there are certain members of the legal and medical profession who are willing to take advantage of these uncertainties and capitalize on them largely for their own benefit.

Everyone will agree that the day has passed when employers in civilized countries can be accused of neglect or indifference to the welfare of their people. Were it not that education, civilization and the broader culture of modern life would make these things abhorrent, the very economic essence of the thing would bring forward the truth that sickness, causing the employees to be absent or replaced, is reflected in labor turnover which is an important item of expense in industry.

In our modern life, there are duties to be performed in essential industries which are inherently dangerous. There are risks in many industries where human ingenuity has been unable to provide complete protection, but the demands of modern existence call for these risks to be taken, and no accusation of homicide has been made against the industry in which they occur.

When all the facts are known, all possible preventive means should, of course, be adopted, but the individual must also be trained to do his personal part to minimize the hazard. He individually

must carry some of the risk, particularly if it is his own option to work at the particular trade he elects.

There has been a tendency to hysteria in consideration of the problem. Various legislative bodies, state industrial boards and other associations have lately become very much interested in the subject, and there is no question but that they have an honest and humane purpose to inquire into the conditions under which work is performed and to see to it that those conditions are as sanitary, healthy and safe as they can be, but one must not assume that the manufacturer is not equally interested, and with as good a reason, or that he is not willing to do his part to the limit.

When the foundry industry was confronted with the accusation that it harbored a potential health hazard, its leaders immediately took steps to study the problem, with the object of eliciting all the facts and determining upon a course of procedure to eliminate the causation. This study has been under way in some localities for some time, but its procedure presents many difficult problems.

Varying Compensation Laws

Our industry is widely spread over the United States, our compensation laws are not uniform, and vary to a large degree in their scope of provisions. Only ten states at the present time cover occupational diseases in a general way and in some of these states, the law still provides fertile ground for dispute due to the wording of the Act. Some occupational diseases occur as quickly as an accident. Others are of gradual onset and slow development. Members of the medical profession are continually confronted with new problems and it usually takes some time before sufficient experience is gained to qualify one for an expression of authoritative opinion. In

many localities it is only quite recently that the medical profession has been confronted with our problem.

It is also of interest to note that in some states where there is no occupational disease act, or where the disease in question is not specified, a more serious medico-legal aspect was developed. The examination of old employees and pre-examination of new employees, in many instances, discloses a surprising lack of evidence to support or substantiate that we are harboring a health hazard in proportion to the suits which are being brought against the members of the industry.

The Dust We Create

The mechanical control of dust is not our only problem, nor does the accomplishment of such control depend upon large expenditures of money. We know from experience that gradually human ingenuity will provide ways and means to this part of the problem.

But let us digress from the subject to consider the amount of dust we as individuals create. Take the molder, for instance, who goes to his bench at the start of his day's work. He reaches for his air hose, and starts the day by removing with its force everything he can from his equipment. In close proximity to his bench, or on the window sill in front of him, you will usually find a varied collection of relics. He will usually wet down his sand pile, but seldom his floor or gangway. When he is through with his shift he usually grabs the air hose and proceeds to take a compressed air bath.

And we have the foundry laborer; he has many menial tasks to perform. When he sweeps or uses a shovel he seems to be of the opinion that his efforts are judged by the atmosphere he creates. If he does sprinkle the floor it is usually done very sparingly.

Shake-out men and crane men seemingly give little attention to the results of their thoughtlessness. Grab buckets are usually lifted to the limit of their lift and then dumped. Many companies have furnished equipment, such as posi-

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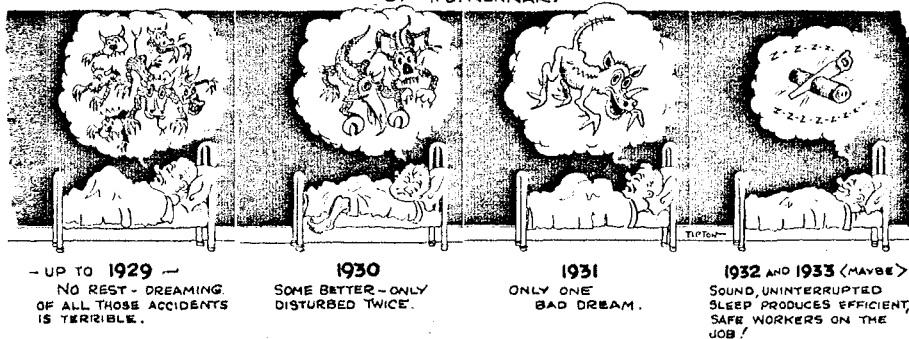
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WORSE THAN PINK ELEPHANTS ! "THE NIGHTMARE OF LOST-TIME ACCIDENTS"

BY P. D. KENNARY



SINCE their safety drive was started back in 1928, the distribution department of the El Paso Electric Company has overlooked no opportunity to think in terms of safety. The accompanying cartoon strip, planned by P. D. Kennary, and executed by their cartoonist, J. C. Tipton, is a graphic illustration of the kind of interesting material displayed regularly.

Once this distribution department had

a veritable "nightmare" of accidents, but the safety consciousness of the men has consistently been built up to a point where accidents rest at zero. Up to and including July 24, the 78 men in the department had completed a total of 422,802 man-hours without a lost-time accident. During the last 27 months, or since April 24, 1931, men in the distribution department have maintained a record of perfect safety in operation.

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tive pressure helmets and respirators, to employees who work in extremely dusty atmospheres. But it is surprising to note the apparent lack of interest on the part of the employee for whose protection this equipment is furnished.

From these remarks some may say "Why shift the responsibility?" Not a bit. We have merely cited these few facts as an indication that possibly we can improve the supervision. If we make every man responsible for the cleanliness of the vicinity in which he works, and every foreman responsible for his department, and then in turn make the superintendent answer for the cleanliness of his shop, we will not have to worry about the increase in labor cost. After dust gets into the atmosphere, it is, of course, very difficult and expensive to remove. Keeping the foundry floor off the ceiling is a man size job.

Now to return to our subject. Ventilation is a problem everywhere. A diligent survey of our existing equipment may develop the fact that by small expenditures we can improve conditions. Inspect your dust-arresting equipment. See that the rapping device is in order,

that the screens are in good condition, we suggest that they are rapped and the hoppers emptied regularly. Repair any leaks in pipes. See that the valves close properly. Chutes should be kept in good repair, and when emptying arrestors, respirators should be worn by the men whose duty it is to perform this work. If refuse from the arrestors is not removed at once, keep it in containers or wet down until it is removed. Above all, watch your air velocities and make sure you are removing at the source as much of the dust as the equipment was originally designed to do. You pay for the current the motor consumes to operate your suction equipment, therefore get the proper return for that expenditure.

Do not store or allow sand to accumulate around your blasting equipment. Make sure you are receiving the proper air changes in your sandblast rooms. Inspect your masks to the amount of air purging through. The wearer is prone many times to just crack or partially open the valve, and when this is done he is not getting the full protection for which the helmet was designed. We

suggest that the helmet be removed from the sand blast room and stored at the end of the day in a dust tight cabinet, instructing the wearer to clean before re-using.

In your cleaning rooms where tumbling barrels are used, we deal again with air velocities. Piping should be diligently inspected and kept in good repair. Make sure traps are performing the service they were designed for. It might be well to keep floors in this department wet down. Remove the day's accumulation of refuse at the end of the day's run. When cyclones are used, make sure you are not exhausting at the level of windows which may be opened in other parts of your plant.

We will have to look for further co-operation from the foundry equipment manufacturers who serve our industry. Equipment will have to be sold to us not to meet existing codes, but as dust tight as human ingenuity can design them. After the equipment is installed, it will be the purchaser's responsibility to see that it is regularly inspected and maintained to perform the service for which it was originally designed.

And we refer again to the employee's responsibility. When he elects to work in a foundry, he should be willing to cooperate and wear the safety devices which are provided by his employer, and it will be the purchaser's responsibility to see that the equipment is well cared for and properly maintained.

Our industry is a basic one and we hope that it will long continue to be essential. For this reason we want to assure those who are sitting on the side lines that it is our determination and hope that, with the help of those in the medical profession who have given so generously of their time in scientific study, we can soon determine the actual extent of the hazard.

In the meantime, while many diverse opinions are being brought into agreement, it is imperative that we give more than passive assent to suggested measures of precaution or improvement. The accomplishment of worth while results depends upon the diligent and active cooperation of everyone concerned and the utilization of all known means of prevention and control. Only through united effort can we hope to accomplish an effective program which will give maximum of advantage to employers and employees alike, and to such an end we are confident the foundry industry will continue to dedicate its earnest and conscientious efforts.