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SILICOSIS

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There are reams of literature, all more or less technical in terms, as well as difficult to absorb, on the general subject of silicosis. I will attempt to set forth in simple language the nature of the disease and the serious problems now confronting industry in relation thereto.

Silicosis is said to be a fibrotic condition of the lungs caused by the continued inhalation of the dust of silica. It may or may not cause disability. When in the disabling state it is of a permanent nature and there is probably no known cure or treatment other than to arrest the progress of the diseases incidental to it. When not disabling, the danger is in the continuance of exposure, for by such does the disabling stage arrive. The fault of exposure is that the dust inhaled gradually lessens the lung capacity, making the subject less able to resist and throw off tuberculosis germs and lowering the resistance to other diseases. Silicosis seems unprogressive when exposure ceases. It is unlike the known diseases which, given a start, progress to a crisis unless responding to treatment. It, however, progresses under exposure and although exposure ceases, the damage done becomes permanent although not necessarily disabling. It is doubtful if there have been any cases of disability due solely to silicosis. Those charged as disability are where the fibrotic condition had developed to the stage of active tuberculosis or to that of another disabling disease coupled with so-called silicosis. The best authorities indicate that of those who die as a result of silicosis, approximately 75% of them are actively tubercular.

While "pneumoconiosis" is the general name given to respiratory affections where the predisposing factor is dust inhalation,

silicosis is the name given where the dust, inhaled over a sufficient period of time, contains silicon dioxide in sufficient concentration, said to be ten million particles per cubic foot of air, to affect the health of the worker. The danger is in the fine dust. It is asserted that particles greater than ten microns in diameter can pass through the finer bronchiales and are practically harmless. ~~There are other dusts claimed to be injurious to the lungs, causing affections now being termed asbestosis, anthracosis, etc., all of which fall under the general definition of pneumoconiosis.~~

Silicosis is usually described as falling into one of two stages, the first where definite physical signs of damage to the lungs is found without impairment of the capacity for work, and the second where the specific signs of lung damage are shown accompanied by incapacity for work. This latter stage may be classified as light or serious and temporary or permanent. Here again there is the question whether temporary means other than incapacity to remain in any dusty occupation, although permanent must mean incapacity from any work. A temporary stage relates necessarily to ability to work, for the lung affection, however slight, is generally regarded as permanent. There are therefore countless numbers of exposed and slightly affected persons in dusty occupations who are not, and probably never will be, sufferers from the exposure. Yet they are potential hazards and with the uncertainty of diagnosis their total disability or death from any cause may be attributed with some plausibility to the silicotic exposure and this will lead to serious results for employers.

Diagnosis and prognosis of silicosis is yet in an uncertain state. Microscopical

and x-ray examinations may be made but seldom do they reveal with sufficient clarity so that we can get a unanimity of opinion. The symptoms of the ordinary cough, where there has been an exposure to the dust hazard, are such as to create a suspicion of silicotic affection or progress. Given such a basis, it is unlikely that the fairest of medical testimony, with experience, can give assurance of segregation of causes. Where complicated with a tendency to tuberculosis the experts are in a turmoil, especially when trying to determine if it be silicosis bringing on tuberculosis or a pre-existing tuberculosis developing or progressing because of silicosis. In death cases when an autopsy is had usually the fibrotic changes produced by silicosis are fairly indicated. It is the lack of definiteness of diagnostic findings in the disability or claimed disability cases that makes industry the easy prey of unscrupulous claimants.

To determine a silicosis hazard it is necessary to study the industrial process with appropriate dust counts to determine the amount and character of the dust breathed and also to have a check up on the susceptibility of the workers. Silicon dioxide is commonly found in our food, air and water but unless in injurious quantity it is not a hazard. The industrial process may produce organic dusts which may tend to injure workers by causing temporary affections but it remains for the inorganic dusts to cause permanent effect. There are so many processes creating silica dust that many industries, now resting smugly in the assurance that no hazard exists, may be rudely awakened to their problem should regulatory and compensatory laws be established. Any process having a small quantity of silicon dioxide dust may be exposed to this unless such laws carefully prescribe the method of determining, not only that there is the injurious exposure but also that it caused the result on which the complaint is based. Nor can one be assured that because silicon dioxide is not used or produced in the process he is immune from the hazard. The real test is whether the worker is exposed to it from any cause, even where the dust from an outside agency may pollute the air breathed.

Prevention or avoidability of the hazard is in such a state of uncertainty at present as to be of doubtful value. Improvement in devices to prevent or reduce the exposure in this respect is in progress. Employment and periodic examinations of workers exposed to the hazard must result. The removal of those susceptible to disease into other and non-hazardous employments seems clearly indicated. Regulatory laws providing dust prevention methods have for some time existed but their efficiency has been questioned.

To compensate suffering workmen for silicosis claims under the existing Workmen's Compensation Law seems impractical without putting a tremendous burden on industry. Under the existing system every injury and death, where there was exposure to dust containing silicon dioxide, would be compensated unless the method of determination be carefully prescribed. It would seem that any law should define the dust count formula, although opinion differs on this also, the disease itself, and possibly the industries covered by it. If these are not prescribed vague testimony, founded on supposition and opinion, will be found to support awards in every case of tuberculosis, pneumonia, bronchitis, asthma and other common respiratory diseases where there is a scintilla of testimony that silicon dioxide prevails in even minute quantities in the process or in the employment. It would be, for all practical purposes, a blanket health compensation law.

The experience in states other than New York is not a happy one. The following quotation from the Bulletin of the Association of Casualty & Surety Executives is portentous:

"The Employers' Mutual Liability Insurance Company of Wisconsin, which writes about 50% of the workmen's compensation insurance in that state, has recently completed an analysis of its losses in Wisconsin on policies issued in 1932 and expiring in 1933. In that policy year the ratio of occupational disease losses to total premiums was 10.2%—to total losses was 13.5%. That was the average for all classifications, including many in which no occupational disease losses occurred. In those classifications in which occupational disease losses occurred the occupational disease loss

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ratio was, of course, much higher. Silicosis was the most costly occupational disease. It accounted for 90% of the occupational disease losses. In iron foundries 47% of the total losses, from both accidents and occupational diseases, were due to silicosis alone; in steel foundries the percentage was 88.7; and in malleable iron foundries, 89.1."

In Ontario the experience has resulted in a recent change limiting the application of the law, although information obtainable is somewhat vague. From New South Wales, where there has been more experience, we get the following, again quoting the analysis of the annual report contained in the Bulletin of the Association of Casualty & Surety Executives:

"The figures in this report indicate that the pure loss ratio under this scheme of compensation for silicosis, from 1927 to 1932, averaged over 6% of wages. In the year ending June 30, 1933, which was a period of extreme depression, the ratio to payrolls of losses paid seems to have mounted to about 17.8%. It is implied in the Report that the industries affected cannot stand any increase in their contributions and that increased subventions from the State are necessary to finance the scheme. In this connection it should be noted that the scale of benefits under this scheme is not abnormal, the maximum total payments for incapacity, for illustration, being limited to £750."

Throughout the industrial states there is to be found a few communities severely suffering from a multiplicity of suits at law directed against industries for failure to guard against the dust hazard. Most of these suits are alleging a silicosis. Many of them have been defended successfully, and while many settlements have been made on a basis of prudence, there have been few actual recoveries. Such a suit is, however, very costly to defend. During the present period of unemployment such suits are to be expected, given the slightest basis of fact. No compensation law would cure this evil as to suits already brought. It would and must operate as to future employment except that probably past exposure, when coupled with future exposure, would figure in the cumulative process of acquiring the affection.

Whether or not silicosis may be entirely prevented in future industrial operations is doubtful. It can and must be reduced and with a genuine effort to this end the danger of suits will be minimized and, in any event, with proof of the employer's effort available, defense should be comparatively easy. If not reduced, and a workman's compensation scheme be injected into the relationship, then the costs of insurance coverage must substantially increase. Of the suits now pending against industries it is fair to state that although a complete defense is available in a majority of them, under our workmen's compensation scheme, substantially all would have been the subject of an award and the costs tremendous.

In New York the plan of scheduling occupational diseases, when recognized as such, based on the English system, has long been established and these have been compensated as accidents. The main difficulty in opening the same door to a respiratory disease is, as has been pointed out, one of diagnosis. To open that door lets in most of the ordinary diseases of life and those brought on by the vices and incorrect habits of living of mankind, together with the infirmities of age. In doing so the compensation law becomes more than ever a scheme for relief as distinguished from a purpose to displace the old liability system with something more equitable, the original conception of a workman's compensation law.

In view of the uncertainties of diagnosis of the disease, if it be such, the difficulty of establishing that a hazard exists, or does not exist, and the greatly increased cost of unrestrained compensation coverage, it should be left to the industry itself to decide if such a coverage is necessary or desirable. If a compulsory compensation law is had it means that extra costs and care must be borne by many industries not now suffering from the so-called lawsuit "racket". Where the coverage is elective, the industry can survey its operations, and if it decides it has the hazard it may, if it chooses, protect itself from suits by electing to be covered as to the disease hazard by compensation, and also it could take such preventive measures that are indicated. The problem is not simple and is in no such state of certainty that the decision

may be easy to make. Until experience, both from the standpoint of prevention of the dust hazard and knowledge of the disease, progresses to the point of clearer indication it would be the part of wisdom to at this time "make haste slowly".

If silicosis is to be loosely added to the list of diseases now scheduled in compensation laws, it would be, as pointed out, disastrous from the standpoint of cost. It would be far better, if we must have compulsory coverage, to provide a separate act limiting the diseases to those that can clearly be shown to have been caused by the risks of the occupation, embodying in such a law the determination of both the disease and the hazard by a competent non-political medical body. Such a law must fit in with the many other problems brought about by the slow accumulation of such diseases, such as the period allowed for accumulation, the employer to be charged with the loss, the payments to be made when the disability is only occupational, and the degree of disability when the disease is considered in connection with other disabling or partially disabling diseases. Unless these and other protective features are incorporated we may look for a further extension of industry's assumption of the burdens of relief.

While the above was written with special reference to the situation prevailing in New York State, other states have almost the same problem. No satisfactory method of putting occupational diseases under compensation laws seems possible without permitting all determinations to be made by a board of scientific men which should be, in my opinion, 100% medical. Any studies needed by other professional aid could easily be procured. No present administrative body seems fully equipped and as about 90% of the questions are essentially medical it takes a medically trained mind to thoroughly understand them.

A wide open coverage of occupational diseases is not to be thought of from the standpoint of industry. It is true that in a few states by interpretation and under the Longshoremen's and Harbor Workers' Compensation Act there is this coverage. They are just beginning to learn what it means. The simple meaning of the term "occupational disease" is a disease that occurs during the occupation in the sense of

its being contracted in the occupation from something occurring by reason of the nature of the occupation. This opens the door wide to all manner of diseases. Communicable diseases, such as smallpox, scarlet fever, spinal meningitis, etc., may be acquired by contacts with other workers in the occupation. Colds, bronchitis, pneumonia, may be acquired by ordinary exposures, or at least attributed to those exposures in such a manner that there is no possible way to combat it, while the person affected is in the occupation. All these are within the simple definition for occupational disease now being laid down by the courts, that it must be the usual and ordinary incident of the occupation.

The usual attempt is to define occupational disease. The legal effect of it is to open the door to cover almost anything that occurs in the employment. This does not serve as an effective limitation on the coverage. It would seem that any attempt at an all-inclusive coverage should limit the hazard in which the disease may be incurred by making it compensable only when due to risks, other than those of ordinary life, specially created by the nature of the occupation. The so-called English system, long established in New York, not only enumerates the diseases but also describes the process in which the hazard exists and is not wide open. Silicosis and other dust diseases may be described but the hazard of employment in which the disease can be acquired and for which it is to be compensated should be carefully prescribed in any compensation law.

WHAT ABOUT THE "BORDER-LINE" CASES?

By R. O. Carter
Claim Agent, Missouri-Kansas-Texas
R. R. Co.

Is not our failure to settle more of these cases the real cause for many of the "far-fetched" decisions about which we complain?

Run through your Reporter, select at random some cases in which decisions adverse to the railroad were made by the courts of last resort, then try to determine why the Claim Department failed to