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Past, Present and Future of the Occupational-Disease Situation*

By C. O. SAPPINGTON, M. D.
Consulting Industrial Hygienist

YOU will recall in your high-school history courses that this study was divided into several parts, one pertaining to ancient history, one to medieval history and another to modern history. It will be rather convenient in presenting this review of the occupational disease situation to make comparisons between these kinds of history and the periods of evolution through which we have passed with regard to occupational-disease conceptions.

Our past experiences may well be compared to the period of ancient history and this period may also well be called the stage of guesswork and hysteria. Your interest and the interest of most people has been in the spectacular, and, in fact, this has been the basis for compensation laws in regard to mechanical injuries. There is nothing spectacular about occupational disease in the main and so your main interest has been in laws or in problems because people have continued to be crippled and killed by mechanical forces. There is no such direct appeal with regard to occupational disease. Then along came the depression with the effect of producing a number of spurious cases, which resulted in a great burden being placed upon industry in regard to the economic situation.

In addition to these factors there has been a lack of general knowledge and of trained men in the field of occupational-disease difficulties. All these factors have resulted in the production of bogies and unrest, hence the reason for applying the name of guesswork and hysteria to this period of evolution in occupational diseases as the stage.

Our present experience may well be likened to the period of medieval history. It is now believed that we have come somewhat past the bogey stage, with a swing to the factual and this stage may well be called the stage of reality. As evidence of the swing to the factual, last year occupational-disease compensation legislation was introduced in more than forty states and

as a result of this activity a number of states have actually passed laws, including Illinois.

In this stage, when emphasis will be placed upon factual evidence, plant surveys and studies have become more popular; examinations, including X-rays and clinical laboratory tests, have now come into use more widely. These devices will be used more and more to get facts in this stage of reality.

The future, which overlaps somewhat upon the present and includes developments in the immediate offing, may well be likened to the period of modern history. This may be called the stage of progress. I predict that compensation for occupational-disease disability will be general in the United States within the next five years, that physical examinations will become universal within the next ten years, and along with this will be an increased use of surveys and studies of industrial environment.

As a practical outline of important sources of difficulty relating to occupational diseases, let us merely mention the following:

1. Dust (silica and asbestos-containing dusts).
2. Metals (lead, cadmium, chromium, mercury, thallium).
3. Gases (carbon monoxide, sulphur dioxide, hydrogen sulphide, arsine, the nitrous group, cyanogen compounds).
4. Vapors and solvents (benzol and its homologues, the chlorinated hydrocarbons, and others).
5. Skin irritants (soaps and cleansing powders, dyes, oils and greases, dusts and powders, solvents, agents of infection).

This is not in any way to be considered an exhaustive list, but a number of the "high points" of importance have been picked as the chief possibilities or probabilities relating to occupational disease and these have been mentioned.

It is significant in this connection that when the U. S. Public Health Service made a cross-sectional survey of industries and published its results in the year 1934, it was discovered that in order of frequency the chief exposures

in industry were as follows: inorganic dusts, carbon monoxide, and lead. There are, of course, a number of others, but these are the chief types of exposure encountered in American industry and those which are likely to give difficulty. It is good to remember that this cross-sectional survey was made in ten different industries, embracing 615 plants and involving 28,000 employees.

It has been well said that the best criterion of an occupational-disease hazard is the occurrence of occupational disease; but none of us can afford to wait, I take it, for disease to occur. At this point it might be well to make a distinction between the two words *exposure* and *hazard*, simply because, as the U. S. Public Health Service has pointed out, if a man is exposed to lead, carbon monoxide or to inorganic dusts, it does not mean that he is exposed to a *hazard*. More must be known than the mere *fact of exposure*; we must know the quality and quantity of exposure and then, when compared with criteria which have already been established in the production of disease, we shall be able to say whether or not a *real hazard* exists. Remember that a hazard is always an exposure; an exposure is not always a hazard.

Here are some concrete suggestions which are boiled down to very brief expressions, but which contain the real essence of prevention of occupational disease:

1. Find out the *exposure* and the *hazard* in your plants.
2. Examine your men (before employment, during employment on hazardous jobs, and at the time of discontinuance of employment). The examinations will be different for different types of exposure; obviously an examination for a dust occupation will not suffice for a lead occupation.
3. Correlate cause and effect factors from the information gained by scientific study of the industrial environment and the medical data accruing from examinations and laboratory tests.
4. Control or eliminate the hazard, or furnish adequate protection for your men.

Another way of stating the above suggestions forcibly is as follows: *Management must know its men, materials, methods, and machines.*

In summary, the occupational-disease situation has become a national question; it involves socio-economic problems of tremendous significance; it presents difficulties no greater than any other industrial problem if the same amount of time, money and quality of brains are used, as have been applied in the past to similar industrial situations.

*Delivered before the Engineering Division, Greater Chicago Safety Council, Dec. 17, 1936.



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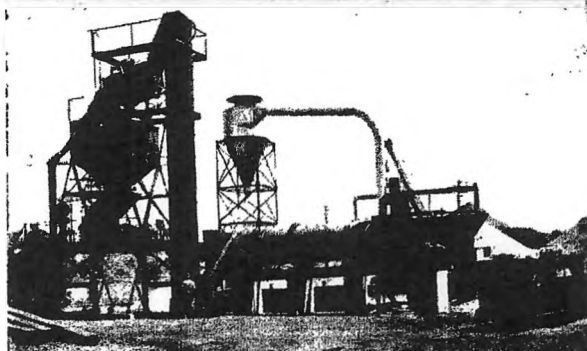
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Says "Style M"

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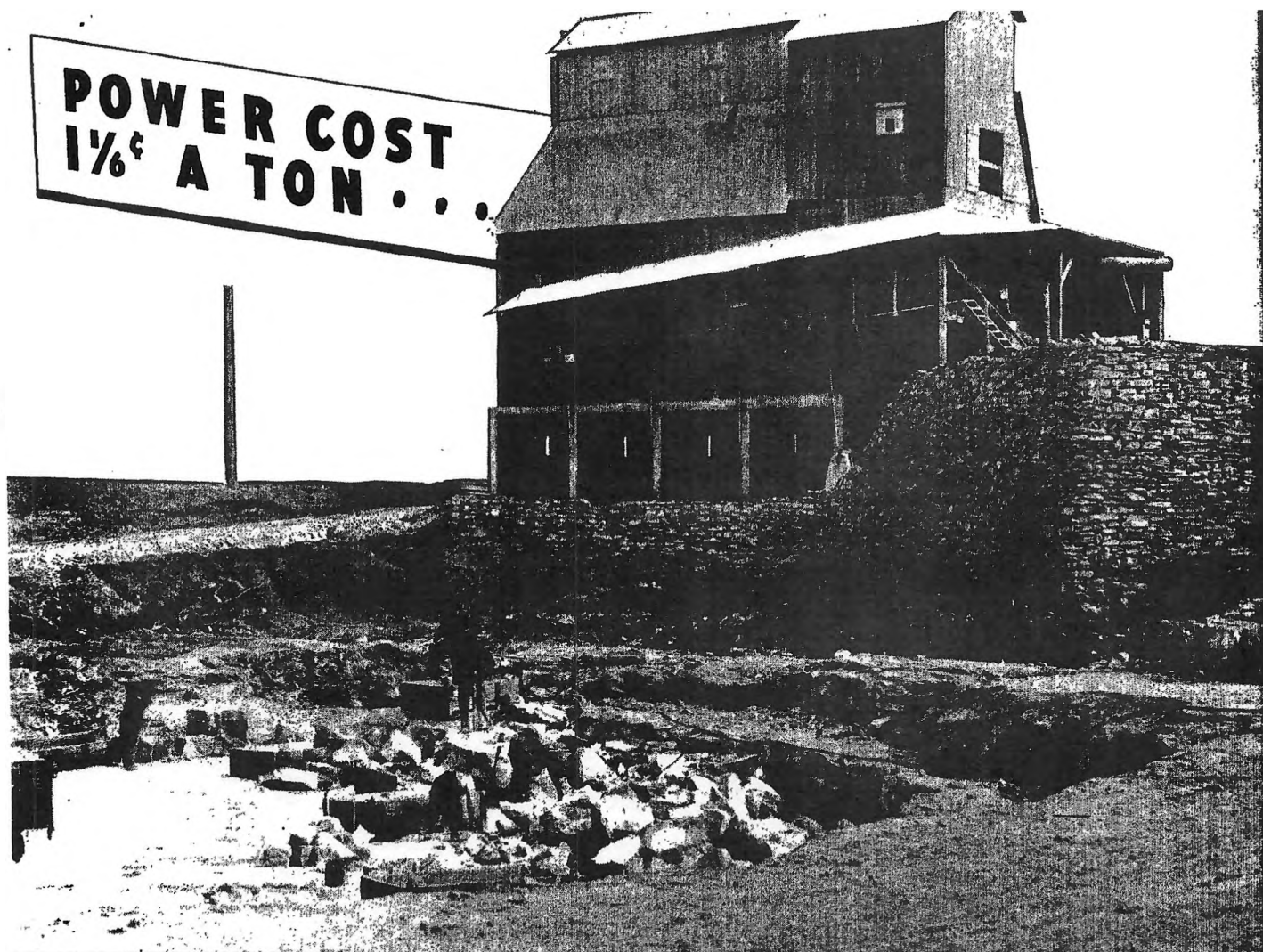
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**GOODYEAR STYLE M
AIR DRILL HOSE**
for heavy service in mines
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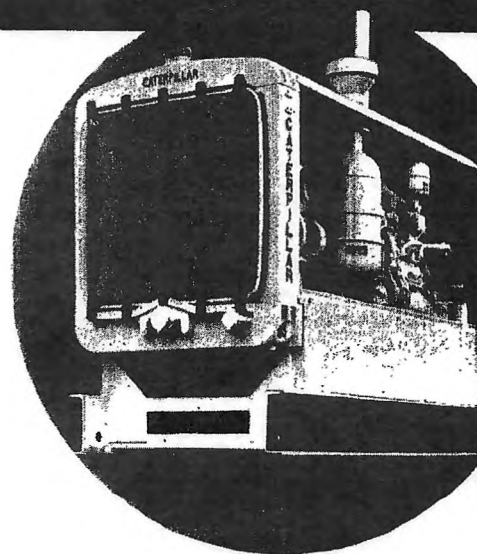
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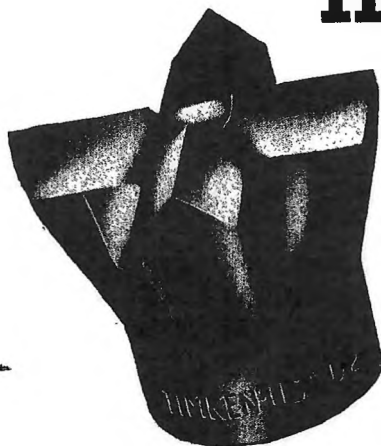


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*TIMKEN Bits

meet every need

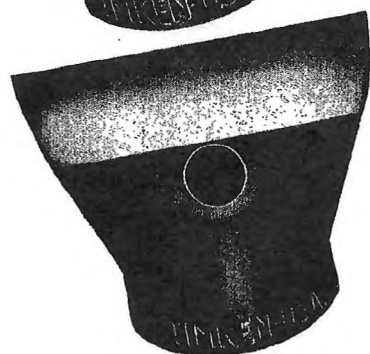


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There is only *one quality* however, and that is the highest that can be produced. TIMKEN means as much in rock bits in this respect as it does in tapered roller bearings.



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513-5

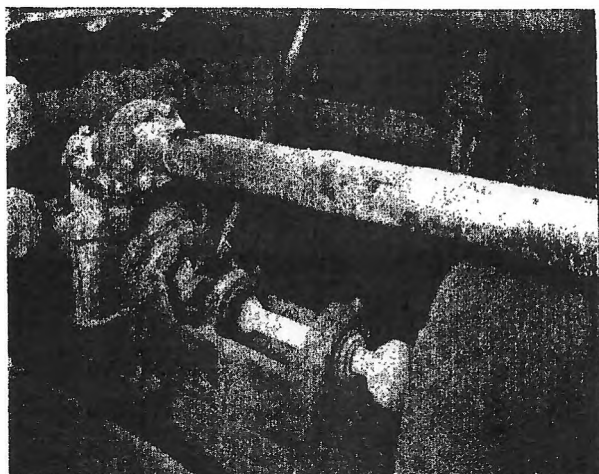
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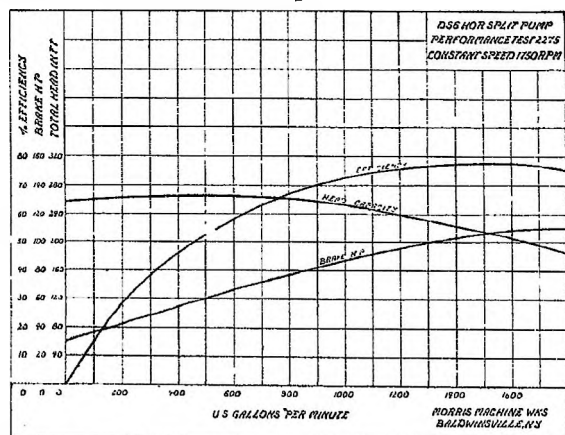
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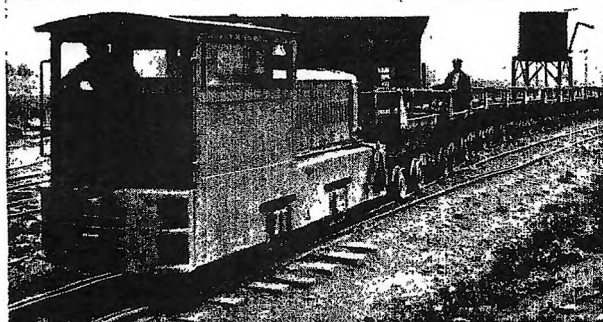
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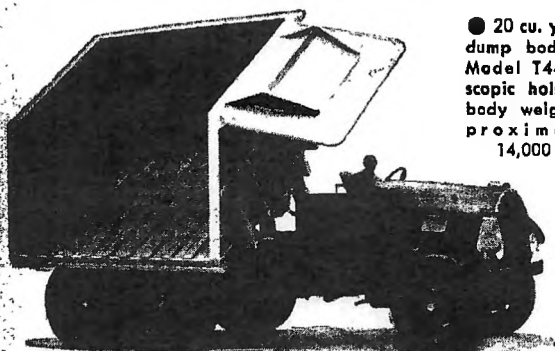
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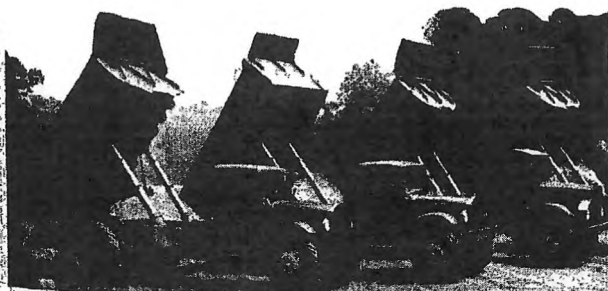
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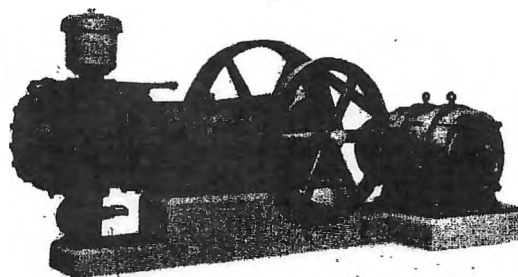
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