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*M E M O R A N D U M*

TO: Mr. Dunlap, Assistant Actuary.

FROM: Dr. Lanza

DATE: March 9, 1926

SUBJECT: Picher Clinic, Picher, Oklahoma.

The Picher Clinic is carried on as a cooperative enterprise between the Metropolitan, the United States Bureau of Mines, and the mining companies in the district. The Metropolitan contributes $6,000 a year, the U.S.Bureau of Mines $8,000 a year, and the mine operators $15,000 a year. Formal contracts have been entered into as between the Metropolitan and the Government and each individual mining company and the Government. The original plan was to have it continue for three years from February 1926.

The staff of the clinic consists of Dr. Meriwether, Surgeon-in-Charge, 2 assistant physicians, a medical officer in charge of the laboratory, an X-ray technician, and 6 clerks. Every mining company in the district contributes to the clinic upon a per capita payroll basis. Up to the present time only two small mines have refused to come in, one employing 40 men and another employing 80 men, since one of these has signified its intention of joining. Not all of these participating mines are Group policyholders, but all the big companies in the field are covered by the Metropolitan with the exception of the Eagle Picher Lead Company.

We have just completed the complete physical examination including an X-ray of every man working in the district, which includes Ottawa County, Oklahoma; Cherokee County, Kansas; Jasper County, Missouri and a few outlying villages; upwards of 10,000 men have been examined. Every man when he is examined is given a card on which is his photograph, his signature, his summary of his physical condition, the card being stamped with the United States Government seal. The card is then placed in a little leather folder.

As you know, there has been some investigative work done in the Joplin-Picher district off and on for a number of years, but no attempt has been made to deal with the condition. Previous investigations have merely been for the purpose of establishing the facts. To adequately deal with this situation two forms of endeavor are necessary; that is, mining conditions underground must be improved and every effort made to control the dust hazard, and second, the physical condition of the men must be constantly supervised so that those whose lungs have become dust damaged may be removed from the industry before they become hopelessly ill. As you know, these miners with dust damaged lungs (silicosis) contract and die of tuberculosis.

Mr. Dunlap Fisher Clinic March 9, 1926

The mining companies in recent years have been gradually improving underground conditions and these mines are less dusty than they were. I do not believe that the present conditions represent the maximum possible results in the way of dust control, but at least there is a forward movement. Our

Our purposes in making physical examinations of miners was first of all to detect all men working underground who had tuberculosis and remove them from the industry, and secondly to guarantee that no new men could be hired for underground work whose lungs were not normal. If we can get tuberculous men out of the ground and keep men with tuberculosis from being hired and if we can maintain an annual physical check-up, I do not see but that we must eventually diminish the amount of tuberculosis and the total permanent disability costs. The first effect of these examinations among Group policyholders is probably to create an increase in the total permanent disabilities, but that should be followed by an improvement in the number of these cases.

Whether we can get to the point where we can or wish to exclude men with silicosis from underground work I do not know; time alone can tell. It is our plan at the end of three or possibly four or five years to turn over the whole enterprise to the mining companies and let them run it.

Of course aside from its local features the physical examination and re-examination of the many thousands of men are going to give us a lot of valuable information both in regard to silicosis and other lung conditions which will be of general use to us. It must not be forgotten, too, that no many Group insurance in other places where the silicosis hazard is a very serious one, notably Barre, Vermont.

The most remarkable thing about this clinic has been the entire absence of objections or serious complaints from the men. I should not have believed it possible that such a scheme as this could have been put over without some serious objections. Of course the moral force of the Government and the Metropolitan is the deciding factor. It should be remembered that all the men working in this district are Americans, there being no foreigners and no negroes in that part of the country. So we are dealing with a homogeneous population which is another factor which I believe will facilitate the securing of some worth while statistics that might have a bearing on the general questions of health insurance.

Dr. Dunlap Fisher Clinic March 8, 1928

The attached leaflet is handed to the miner at the same time that he gets his card from the clinic. I have in my files Dr. Meriwether's report for the year 1927. It is rather long, but it is very interesting and comprehensive and, if you would care to read it, let me know and I shall send it up to you. Also if there are any points that are not clear or about which you would like to have further information, let me know.

[redacted]

July 8, 1944

Mr. Philip Brinker,
c/o L. T. Smith,
St.Joseph Land Company,
Bonne Terre, Missouri.

Dear Phil:

At Mr. Fletcher's request, I am enclosing a copy of the classification of silicosis. This has not been officially O.K.'d yet and I imagine that what will happen is that Sayers, as Chairman of the Committee on Silicosis of the A. P. H. A., will present it at the next meeting in Pasadena as the annual report of the Committee on Silicosis, then at one time putting on it the stamp of approval of the Public Health Service and of the A. P. H. A. Sayers has been in Europe and I have not had a chance to see him. So, in the meantime, this classification is not for general promulgation.

Sincerely yours,

A. J. Lanza, M.D.
Assistant Medical Director

# ST. JOSEPH LEAD COMPANY.

250 PARK AVENUE

NEW YORK

CLINTON H. CRANE, PRESIDENT
IRWIN H. CORNELL, VICE-PRES. & TREAS.
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TELEPHONE ELDORADO 5-3900
CABLE ADDRESS
"SAINTJOE" NEW YORK

July 5, 1934.

Dr. A. J. Lanza,
Assistant Medical Director,
Metropolican Life Insurance Company,
One Madison Avenue, New York, N. Y.

Dear Dr. Lanza:

Upon my return to New York this morning, I was very interested to find your letter of June 27, 1934.

As you know, Mr. Drinker is expecting to spend two weeks with our Bonne Terre Organization, and it would be a great help to us if he had a copy of your proposed form of silicosis classification, as he expects to go over the entire problem with our legal staff, as well as with certain of the local doctors who may aid us in our defense.

I quite appreciate that before any public announcement is made, the matter should be considered as confidential, and therefore, that you may not be in a position to send us copy of the classification, but you probably would have no objection to sending same to Mr. Drinker for such use as he may consider equable.

Very truly yours,

Vice President & Treasurer.

AF:LH
Copy Mr. Drinker

TRIP TO MONTREAL, ASBESTOS, THETFORD MINES, QUEBEC

October 16-October 21, 1944

PURPOSE

To explore the reasons for the high tuberculosis mortality rate in Thetford Mines;

To confer with the operators of the asbestos mines in Thetford concerning the establishment of an industrial health clinic in Thetford Mines;

To visit Group policyholders in Montreal with Mr. Perry and Mr. Fehnel. Mr. Fehnel to make industrial hygiene survey of Asbestos mills in Asbestos and Thetford.

SIGNIFICANT DEVELOPMENTS AND OBSERVATIONS

Re tuberculosis and asbestosis

1. Provincial Health Department to provide us with age-specific mortality rates for tuberculosis by sex for past eight years in Thetford, Asbestos and six comparable communities in addition to Dominion and Provincial rates.

2. Dr. Burnette to secure data for us on health services, character of population and living conditions in the communities for which mortality data is being secured.

3. Local physicians and nuns at Thetford Mines hospital believe asbestos dust contributes to tuberculosis.

4. Thetford hospital, built in 1930, has 150 beds—75 devoted to tuberculosis. Excellent, modern surgical equipment and basal metabolism apparatus. X-ray machine 100 milliamperes and 20 years old. No EKG. About 50 tuberculosis patients in the hospital, about 50 percent male.

5. Thetford has $15,000 health budget. County pays 10 percent, Provincial government pays the rest. One full-time health officer, Dr. Blais, and five part-time nurses are employed. Follow-up on tuberculosis is poor. The nurses lack adequate training. Dr. Foley, the Provincial Epidemiologist, thinks there are 10 unknown cases for every known open case (he insists that the unknowns are not open cases).

6. Dr. Sirou, the physician in charge of the Thetford Mines hospital tuberculosis service, believes asbestosis causes tuberculosis although, according to Mr. Sabourin, he has written and publicly stated the contrary.

7. Living conditions in Thetford have improved in recent years. Mr. Fehnel, who visited Thetford in 1930 and 1935, observed the improvement. Miss Chess, the Metropolitan Nurse, finds homes in Thetford better than homes in parts of Quebec City.

8. Asbestos companies in Thetford have no health information on their workmen. Only data may be on A&H claim forms.

9. In Johnson's Company's new mill a common tin drinking cup is still used. This was observed and reported by Mr. Fehnel in 1935.

10. In Johns-Manville plant health service has been maintained for years with Dr. Stevenson in charge. Dr. Smith has just been employed to assist him. Dr. Smith was with the Aluminum Company of Canada on foreign service. There is a small but fairly well-equipped hospital and health records on employees extending over a period of years. It is hoped to enlarge the hospital facilities soon and install newer x-ray equipment. It was recommended that a new machine be at least 300 milliamperes and preferably 500 in order to secure adequate chest films for asbestosis.

11. In Asbestos, Dr. Smith said the incidence of tuberculosis appeared to be in the young women employed in the weaving and spinning mill. Operations are very dusty. Personal hygiene, living habits, and nutrition of these girls in his opinion, were poor. Plans are under way to have a nutritionist demonstrate proper lunches and the preparation of other meals. Mr. McGaw was interested in securing all the health education materials of the Metropolitan which might help in this industrial situation. New ventilating equipment is being installed in the spinning and weaving section. The electrostatic precipitator which collects the dust from the various operations is working about 75 percent efficiently, mainly because the increased tempo of operations is overloading it.

12. At our suggestion, the three managers of asbestos mines in Thetford agreed to invite the laboratory man from Dr. Tourangeau's industrial hygiene department in the Provincial Health Department to visit Thetford and work alongside Mr. Fehnel in making dust collections. This invitation was extended by Mr. Sabourin, legal representative of the Asbestos Producers Association, to Dr. Tourangeau when we called on the latter in Quebec.

13. We suggested that the effort be made to have the Compensation Commission insist that x-rays, taken to demonstrate asbestosis, be made by a standard technique and that, if possible, diagnostic criteria be established. Mr. Sabourin thought it would be possible to have a committee on asbestosis made up of Canadian and American medical authorities meetiin Montreal and formulate such standards. He also believed a clinical symposium on asbestosis could be arranged, to which practicing physicians in communities near the asbestos industry would be encouraged to attend by paying one-half of their expenses. Dr. Gardner and Dr. Lanza were authorities mentioned to speak at this symposium and for membership on the Committee on Asbestosis.

Re <u>Industrial Health Clinic in Thetford</u>

1. The establishment of a clinic is a legal requirement in the asbestos industry. The government has recently ruled to allow the industry to establish its own health service.

2. Three companies have agreed to spend about $60,000 to establish the clinic.

3. The position of full-time industrial physician will be offered to Dr. Paul Cartier whom I met and interviewed in Montreal. If he accepts he will start at once to plan his program and secure equipment.

4. Clinic will be operated by a committee composed of the three managers. I suggested that the physician be a member of this committee.

5. Dr. Cartier, or whoever is appointed to the position, will have freedom and $1000 yearly for professional study and travel.

B. Visits in Montreal

1. Radio Corporation of Canada

a. Dr. Kaufman critical of M.L.I. Medical Examiners on A&H follow-up. This criticism has been passed on to Dr. Burnette (see Exhibit A).
b. Abnormally high claim rate in radio-assembly section where there are 90 percent females. Causes—neurasthenia, weakness, fatigue, anemia.
c. At Mr. Fehnel's recommendation, ventilating hoods have been provided on operations involving soldering. He will make recheck survey.

2. Charles E. Frosst and Co.

a. Planning health service for employees. Sent Dr. Lozinsky, Director of Research and in charge of developing service, description of service for small plant (Exhibit B).
b. Observed several working locations where dust and drug concentration in atmosphere might be hazard. (Mr. Fehnel arranged to visit and make survey.)

3. Congress of Industrial Physicians

This is a group of about 25 physicians employed in industry around Montreal. Dr. Graham Ross, of National Breweries, is president. Mr. Fehnel and I spoke to this group on the work of the Industrial Hygiene Bureau and some postwar problems in industrial medicine. Dr. Ross would like Metropolitan industrial hygiene literature which would be appropriate for these physicians. (Dr. Burnette has been informed.)

INDIVIDUALS MET DURING TRIP

Radio Corporation of Canada
Mr. Deacon, the new President
Mr. McCallum, Personnel Director
Dr. Kaufman, Medical Director
Mr. Rousseau, Safety Director

Charles E. Frosst and Company
Elliot S. Frosst, President
Mr. Sheen, Plant Manager
Dr. Losinsky, Director of Research

Asbestos Corporation
Mr. Robert Steele, President, Montreal
Mr. Alfred Penhale, Manager, Thetford

Montreal Anti-Tuberculosis League
Dr. Paul Cartier

National Breweries
Dr. Graham Ross, Medical Director

Aluminum Company of Canada
Dr. Fildfell, Medical Director

Asbestos Producers Association of Quebec
Mr. Ivan Sabourin

Mr. Sabourin made arrangements with the three operators in Thetford Mines and with the Johns-Manville Plant in Asbestos for us to inspect and make dust surveys. He also took us in his car on the trip from Montreal to Asbestos to Thetford to Quebec, and back to Montreal, and assisted us in meeting officials in the Provincial Health Department in Quebec City.

Johns-Manville
Mr. H. K. Sherry, Manager
Mr. McCaw, Director of Industrial Relations
Dr. Stevenson, Medical Director
Dr. Smith, Assistant to Dr. Stevenson

Johnson's Company
Mr. Andrew Johnson, President

Bell Mines
Mr. O. C. Smith, President

Dr. Sirou, practicing physician in Thetford Mines

Miss Chess, Metropolitan Nurse, and in addition the

Sisters in charge of the hospital in Thetford and a number of the

Plant Superintendents and Engineers in the four mines which were inspected.

Quebec Health Department

Dr. Paul Parrot, Statistician
Dr. A. P. Foley, Provincial Epidemiologist
Dr. Jean Gregoire, Deputy Minister of Health and Welfare
Dr. Jules Gilbert, Director of Health Education
Dr. F. J. Tourangeau, Director of Industrial Hygiene

Communities for Which Information on Tuberculosis Mortality and Health Conditions Is Being Obtained

Chicoutimi
Cap de Madeleine
St. Jean
St. Hyacinthe
Rimouski
Valleyfield
Asbestos
Thetford

EXHIBIT A

October 25, 1944

Dr. Norman L. Burnette
Assistant Secretary
Canadian Head Office

Dear Norman:

Your questionnaire regarding community health services and living conditions, which you planned to send to the Nurses in communities in which we are making the tuberculosis mortality study, reached me today. I think it covers everything we talked about Saturday and should give us the necessary information. If it seems necessary and we are in doubt about conditions it may be possible for me to make an inspection visit later on. I assume from your letter that you can secure the information from a trusted source known to you in Rimouski. If you are in doubt about a source in Asbestos, I believe I can secure this information through Dr. Smith, the assistant to Dr. Stevenson at Canadian Johns-Manville in Asbestos.

I have several questions which I did not take up with you on Saturday which relate to my visit. (1) Dr. Graham Ross, Medical Director of National Breweries, Montreal, was interested in our industrial health material. He has about 25 physicians in his professional organization which he and Dr. Fildfell, Medical Director of Aluminum Company of Canada, are organizing. He could use 25 copies of appropriate literature for these men. Do you have supplies of our Industrial Health Series and do you wish to supply Dr. Ross with them? (2) Mr. C. M. McCaw, in charge of Industrial Relations of Canadian Johns-Manville, Asbestos, Que., is interested in having health education material for educational work with their employees in Asbestos. They have become quite active in safety education and now want to turn to health education. He wanted to be supplied with the health education material which we have available. Do you have literature you can send him? If not, what do you wish done? I might also mention that Mr. McCaw raised the question about nursing service. He said that the impression had been given them that they would have nursing service when the insurance was purchased. I explained that we provide nursing service where it is available and that would not necessarily follow the contract. You perhaps know the background of this and you may wish to say something to him.

In connection with the nursing service, I gave Miss Chess the names of the managers of the two mines we insure in Thetford, Mr. O. C. Smith of the Bell Mines, and Mr. Andrew Johnson, of Johnson's Mine. She is planning to call on them this week.

(3) Mr. Ivan Sabourin is also interested in Metropolitan health literature. I shall arrange to put him on the Statistical Bulletin mailing list, but am in doubt as to what you prefer to do about other health literature. Would

you prefer to send him material in which you think he would be interested through the Head Office or would you wish us to do so?

While I was at RCA in Canada I met Dr. Kaufman, Mr. McCallum, and Mr. Rousseau; Medical Director, Personnel Director, and Safety Director respectively. Their claim rate, as you know, is running currently around 40 per 1,000, according to data which they have at hand. Peak was reached during August, which was more than twice this rate, I believe. Dr. Kaufman does not believe that these claims are all for legitimate illness. He is particularly critical of the part played by the Company Medical Examiners in claim administration. He said they were poorly trained for their work and their follow-up visits did not aid in the control of malingering. He stated that the Company should employ laboratory diagnostic tests such as blood examination, x-rays, etc., to check up on vague diagnoses submitted by attending physicians. The predominant diagnoses are neurasthenia, weakness, anemia, etc., and occur among the female employees, particularly in the radio assembly department, which has about 90 percent females.

In Asbestos Dr. Stevenson, who is the Johns-Manville physician, is also Medical Examiner for the Company. He mentioned that employees were abusing their A&H insurance. He has talked with local physicians about their signing of certificates and their excuse is that they are accommodating the patients. One of the attending physicians suggested that the Company print in bold letters on the form, which is given to the attending physician to fill out, that the insurance is not intended to cover vacations, rest periods, etc.

I did not know whether this comes within your province, but I thought that I would pass it on to you to do whatever you see fit.

Sincerely yours,

George M. Wheatley, M.D.
Assistant Medical Director

)PY)

February 23, 1944

Mr. Ivan Sabourin
Aldred Building
Montreal, P. Q.
Canada

Dear Mr. Sabourin:

While the matter is still fresh in my mind I am writing you at length on my impression of the situation on Asbestosis in Quebec in so far as it involves relationships between the producers, the medical profession and the Compensation Commission. One conference with Mr. Sharp, Dr. Vidal and Mr. Dick gave me a much clearer picture than I had gotten previously. Before doing so I offer a few comments on autopsy material.

I am enclosing my report on the lung tissues of Philemon Tardif. Of necessity the conclusions are not too satisfying as they are based only upon examination of two blocks of tissue, approximately 2 x 4 centimeters in diameter without even an indication of the parts of the lung from which they were taken. However, they like the material from the two previous cases, do demonstrate that the Thetford operations produce limited amounts of indisputable Asbestosis. In the presence of advanced tuberculosis this is obscured and not likely to be identified except on microscopic examination of pulmonary tissue. X-ray during life will not show it.

Today I have also examined in gross the sagital section through the entire right lung of Majorique Perron which we collected yesterday from the toxicological laboratory in Montreal. This is a much more satisfactory specimen with which to work. It likewise shows a combination of widespread chronic tuberculosis upon a background which will probably prove on microscopic examination to be minimal Asbestosis. Sections will be prepared as soon as possible for microscopic examination. In order to make my report complete in this case, I would appreciate it if you would send me a brief summary of the occupational and clinical history including: How long employed, character and date of first symptoms, date of quitting work, whether Koch's bacillus was found in sputum and date of death. I neglected to copy this information from your record.

This autopsy material on fatal cases and the X-rays that are now reaching the Commission are bound to create in their minds the impression that tuberculosis is an all too common complication of Asbestosis. If I were in their position with my experience limited to evidence of this kind I would find it difficult to resist the conclusion that there is causal relationship between even slight amounts of

asbestosis and tuberculosis of the lungs. I have told you repeatedly as I told Mr. Sharp yesterday that I did not agree with this conclusion but I doubt whether he or Dr. Vidal will be persuaded when they see a succession of cases like those which are now passing before them. They must be made to realize that these cases are the exceptions rather than the rule and that there is a great majority of employees in the asbestos industry who are free from tuberculosis.

I would therefore urge that immediate steps be taken t survey every employee in the asbestos industry in Quebec so that the necessary statistics can be assembled. Dr. Stevenson's X-ray films alre taken on the men at Asbestos will provide you with material for a preliminary report. Coupled with this there might be an analysis of portal data contrasting the total death rate from tuberculosis in Thetford and Asbestos with that in other industrial communities of the Province. It would be still more convincing if you could show the separate rates of males and females unless the number of the latter employed in the asbestos plants constitutes an appreciable proportion of the female population. Finally the age distribution of deaths from tuberculosis in those employed in the asbestos plants as contrasted with that in other occupations would help in determining whether the occupational factor wa contributory.

My own observations elsewhere and your intimation that the rate for tuberculosis was higher in St. Hyacinthe than in Thetford and / or Asbestos make me confident that the companies would acquire information of greatest service to themselves by such a survey and analysis. If asbestosis specifically is predisposing to tuberculosis in the same sense as silicosis does the effect should be just as apparent in North Carolina and Pennsylvania as it seems to be in Quebec or England But the films of employed asbestos workers in the States show a very low incidence of associated tuberculosis. It is my firm belief that in Quebec and England, factors outside the occupation are responsible.

As I sensed the situation in Montreal yesterday the asbestos industry will have to produce evidence to prove this point and start on it immediately or the industrial commission will become increasingly convinced that our position is biased and not founded upon truth.

Furthermore the industry would undoubtedly profit by undertaking a general program of community control of tuberculosis. By instituting case finding machinery not only among employees but among the members of their families, the open cases of tuberculosis would be discovered and the sources of spread of the infection could be removed.

One of the iron mining companies whom we serve has such a program with a public health nurse, a program for tuberculin testing of school children and follow up of the contacts of every known case of open tuberculosis. The program has paid dividends by practically eliminating tuberculosis with resultant lowering of compensation costs and the good will of the employees is unmeasurable. The asbestos industry of Quebec has a serious problem because its labor force is drawn from a population in which the tuberculosis rate is high but their situation is no worse than that which our other clients attacked successfully in an iron mining community.

The second point which is becoming increasingly apparent to me is that the asbestosis of the Quebec mines and mills is quite generally less severe and extensive than the asbestosis of the fabricating plants of the States. Comparison of the X-ray findings in the two groups reveals very few cases with typical patterns among Thetford or Asbestos mill men. Some asbestosis is unquestionably produced for we have microscopic evidence of it in the four autopsy cases now available but it is not advanced enough to replace much of the functional parts of the lungs and thus cause the X-ray shadows that are generally recognized as characteristic of the disease. (Most of us disagree with Dr. Pendergrass when he says in Lanza's book that there is no characteristic pattern of asbestosis). If my observations are correct this relatively slight amount of disease should not cause disability for only the framework of the lungs is involved leaving most of the parts that carry on the functions of respiration intact.

But here again the Canadian industry is on the defense against its medical profession and their representatives on the advisory board to the industrial commission. The doctors have seen only their own local manifestations of asbestosis without opportunity to compare it with the really severe manifestations that are produced elsewhere. They find the abnormal shadows in the X-ray films of exposed workmen, which they are convinced must cause symptoms and disability. They find asbestosis bodies in the lungs of autopsied cases associated with minimal tissue reactions or overwhelming manifestations of concurrent pulmonary infections and now they are sure of their ground.

In order to defend itself the industry in Quebec must have more facts which will require time to collect, analyze and publicize. These findings will have to be contrasted with those in the fabricating plants either in Asbestos or elsewhere. In the city of Asbestos the spinning and weaving mill has been in operation for only four years which is the minimum time to produce much disease in those exposed, but in another year or two one may expect to find evidence of it here unless I am much mistaken.

As I have told you in conversation, our experimental observations lead me to believe that the true hazard in asbestos plants is proportional to the amount of small, individual, uncrushed fibres in the industrial atmosphere. I suspect that the reason why one sees little or no typical asbestosis in the mines and mills is because there is probably too little such fibre in the air of these plants. Conversely the reason for the "typical" disease in the fabricating plants is the fact that the processes there open the bundles of asbestos fibre and tear them into lengths short enough to be inhaled in dangerous quantities.

The mills and mines are dusty but the dust is largely serpentine with relatively few fibres large enough to do harm to the lungs. This dust enters the lungs where it produces reaction around blood vessels and other framework structures that are just like any other inert dust. We see the shadows of such inert reaction manifested in X-ray as an exaggeration of the normal shadows of blood vessels. This condition is not asbestosis nor necessarily preasbestotic any more than the identical changes in men working in hard rock mines are necessarily presilicotic. In free silica industries regardless of exposure we do not diagnose silicosis from X-rays until we find the characteristic pattern of nodulation; in the asbestos industry we should do likewise and refrain from a diagnosis of asbestosis until the X-ray reveals the characteristic pattern of haziness or fine stippled appearance spreading throughout the lower thirds or more of the lung fields. The situation with asbestosis is even more difficult than with silicosis for today the requisite condition of the dust exposure is not appreciated by the medical profession.

M-00814459

Therefore I strongly urge that surveys be made to compare the relative quantity and nature of the dusts in the mills and the fabricating plants in order to present proof that in the first instance the percentage of thin fibre of inhalable dimensions is insignificant in comparison with the quantity created in spinning and weaving. It is going to be hard to persuade physicians of the importance of these factors but similar factors govern the reaction to quartz and the development of silicosis. These physical limitations of atmospheric dust often determine the outcome in contested cases involving a diagnosis of silicosis and I forsee that they will have equal weight in asbestosis. A competent industrial hygienist should collect and analyse enough of the atmospheric samples in weaving and spinning mills and in the mines and processing plants to establish this basic difference so that it will stand beyond controversy. We have the experimental background; we now must demonstrate its industrial application. When correlated with the results upon exposed workmen, I feel certain that our position will be secure.

To summarize: I would make the following recommendations to your clients, the Canadian Asbestos Producers in order that they may defend themselves against a growing conviction among the local physicians that employment in this Quebec industry is highly dangerous.

1. Correct an erroneous impression of the Industrial Commission that asbestosis is frequently associated with pulmonary tuberculosis.

   a) Statistical data based on X-ray of all employed workmen to indicate the incidence of pulmonary tuberculosis

   b) Comparative mortality statistics on tuberculosis in Asbestos and Thetford and in other communities of Quebec indicating the frequency by sex and age.

2. Consider the possibility of inaugurating a program of tuberculosis case finding and control in the general populations of Asbestos and Thetford in order to eliminate sources of new infection among employees.

3. Make a detailed comparative study of the nature of the dust in the fabricating plants and the asbestos mines and mills.

I trust that you will agree with these recommendations and be willing to pass them along to your clients.

May I take this opportunity to thank you for your delightful hospitality while I was in Montreal and thank you for making my visit profitable and pleasant.

Sincerely yours,

Leroy U. Gardner, M. D.
Director

LUG:MH

COPY

February 28, 1944.

Mr. Ivan Sabourin
Aldred Building
Montreal, P.Q.,
Canada

Dear Mr. Sabourin:

I have your letter of February 22 asking for comments on the relationship between asbestosis and susceptibility to tuberculosis. This question cannot be answered decisively from a study of post mortem material alone. Medical problems of this nature are usually solved on the basis of probabilities and it is this matter of probabilities on which we need further evidence in the case of tuberculosis associated with asbestosis.

Merewether in his "Memorandum on Asbestosis" Tubercle November and December, 1933 and January, 1934) admits that "the data on the subject are meager." He reports that of 374 workers while at work, only 4 showed signs of active tuberculosis and that the British Silicosis and Asbestos Medical Board in its first periodic examination of workers in this industry found only one case of asbestosis and tuberculosis in 1512 examinations. On the other hand the English post mortem material at that time revealed 35.7% of the cases complicated by tuberculosis. (Subsequently he appears to have found more cases if Dr. Riddell is correctly informed). In the publication cited Merewether concludes:

> "The evidence therefore, points to the hypothesis that at present the added risk to asbestos workers from pulmonary tuberculosis is limited and definitely less than in workers exposed to free silica; virulent massive infections will as in the general population, cause death; lesser ones will result in more widespread fibrosis than would appear in cases amongst the general population and slight infections, in common with many other affections, are likely to precipitate death in cases of advanced asbestosis where they wouldn't do so in the general population." The underscoring is mine but I agree with these views.

When Dr. Merewether was in this country last year he visited me for several days and we spent most of our time discussing these problems. He still accepts our experimental work which proves that there is no specific susceptibility to tuberculosis induced by asbestosis and he, like ourselves, is anxious to accumulate comparative statistics from various parts of the world to establish the general clinical experience.

As I indicated in my last letter the Quebec experience is not yet analyzed; there is only an impression that most of the asbestos workers die of tuberculosis without taking into account the excessive prevalence of such infection among the population of the Province. This impression needs verification by careful analysis of morbidity and mortality statistics collected from the employees of the asbestos industry, from their families not exposed to asbestos dust and from other communities in the Province of Quebec. Such data should then be compared with similar statistics for asbestos workers in other countries. If there is a specific occupational predisposition to tuberculosis it will become apparent on such analysus just as it has for silicosis. Wherever silicosis is being created, the high mortality from tuberculosis cannot be hidden.

I do not believe that there is much tuberculosis among asbestos workers in the United States and suspect that the excess mortality from this cause in England is probably due to the low living standards of industrial workers. Possibly selection of cases coming to autopsy has influenced the picture. American studies have thus far failed to demonstrate enough tuberculosis among asbestos workers to cause comment. The U. S. Public Health Service Study of Asbestosis in the Asbestos Textile Industry in North Carolina, (Bulletin 241), issued in 1938, hardly mentioned tuberculosis, dismissing the subject with the statement on page 51 that "there were only 2 cases of active, pulmonary tuberculosis in the group" (541 employees). Shull, (Radiology 27, No. 3, 279-292: 1936) examined 71 of 100 cases discharged from the plants where the Public Health Service made its study 15 months later and found 8 cases complicated by tuberculosis of slight to moderate extent but only 2 were active. These two subsequently died of this cause and in 2 others the infection later became active. Shull states in his conclusions that "asbestosis does not predispose to tuberculosis." Presumably he infers, although he does not say so, that the 4 cases of active disease among 541 workmen represented accumulated disabilities when the examination program was inaugurated. Donnelly (J. Ind. Hyg. and Tox. 18, No. 4, 222-228:1936) also examined 151 discharged employees including the 100 reported by Shull. He gives more details on the cases of tuberculosis; One of them had worked in the asbestos industry for 5 months and the others 15 months. The remaining 2 had worked 6 and 10 years respectively and their infections might have been aggravated by exposure to asbestos dust. He points out, however, that an incidence of 2 cases among 151 industrial employees is no higher than in any other industrial group. McPheeters, (J. Ind. Hyg. and Tox., 18, 229-239: 1936) likewise examined and reported on these cases and he is in entire agreement with the other reporters. In his conclusions he states, "No activating or aggravating effect of asbestos dust or asbestosis or tuberculosis was observed." Finally I believe I told you that I myself, had just returned from North Carolina where I had reviewed chest films of some 100 employees of the local asbestos industry and saw only one that showed any indication of adult type pulmonary tuberculosis. This was completely

healed. I commented on the fact to the members of the Medical Board of the State Industrial Commission with whom I was conferring and the Chairman, Dr. Vestal, told me that tuberculosis was a rare finding among asbestos workers although common enough in other industrial workers in their state. It would therefore, appear that in North Carolina asbestosis does not favor or predispose to tuberculosis.

I have just now completed a review of 125 films for an asbestos fabricating plant in another state. In this plant the amount of severity of the asbestosis on the first examination in 1930 was well marked, approximately 40% of the group showing definite X-ray evidence of the disease. Nevertheless, the total adult type tuberculosis rate was only 5%; four of these cases occurred in persons with asbestosis and 2 of them were considered probably active.

A second examination was made upon 67 of the original group after an interval of 5 years during which they remained at work. Now the incidence of asbestos had increased to 62% but the tuberculosis rate had fallen to 2.9%. A third examination was done on 57 of the original group who still remained in employment after a further interval of 3 to 4 years; in this group the incidence of asbestosis was over 80% but that fo tuberculosis only 3.5%. In spite of excessive amounts of severe asbestosis the tuberculosis rate remained within the limits usually found in American industrial populations.

The behavior of the tuberculosis in these people was not unusual. For example one man, a spinner for 13 years, was 31 years old when first examined. He had at that time an early non-specific dust reaction and evidence of old tuberculosis in the top of his lungs. In two succeeding examinations his dust reaction steadily increased to reach first stage asbestosis 9 years after he was first seen. His tuberculosis however, remained apparently uninfluenced. Most of the others behaved in the same manner. These people had already been exposed to asbestos dust for periods of 3 to 18 or more years when they were first examined and the three subsequent examinations during the following 9 years give us a good opportunity to follow what might have developed. No new case of tuberculosis appeared. If it had not by that time the chances were not very great that they would later.

After they left the asbestos industry we do not know what happened to most of them but on a few there are insurance records that indicate the cause of death. Two died of tuberculosis. One had had his infection when he was examined in 1930 at the age of 50. At that time he had an early asbestosis after weaving for 10 years and evidence of associated chronic tuberculosis. He was advised to leave which he did and died of his infection about 3 years later. The second man aged 32 had been a weaver for 12 years and had first stage asbestosis but no evidence of tuberculosis at the time. He left his job after the

first examination for reasons not stated. Three years later he was reported to have died of tuberculosis in a sanitorium. Such cases could occur anywhere.

It is possible that if we had follow-ups on more of these cases after they left the asbestos industry we would find more persons who subsequently contracted tuberculosis and died of it. However, the evidence now available indicates no such tendency. Animal experiments, contrary to those upon silicosis, disclose no theoretical reasons for suspecting that asbestosis creates any special susceptibility to the tubercle bacillus of Koch.

I am becoming more and more convinced that that the high tuberculosis rates reported in English autopsy statistics are due to causes other than occupation. I believe that the same must hold true in Quebec where the amount of severity of the asbestos dust reaction is very much less than it is in the fabricating plants in the United States.

I believe I have covered the other points raised in your letter and will therefore not prolong this discussion further.

Very truly yours,

Leroy U. Gardner, M. D.
Director

LUG:RH

cc to Mr. Vandiver Brown

To the Executive

On June 25,1929 the Welfare Committee "authorized an appropriation of $5,000. per year for five years to the Saranac Laboratory for the purpose of enabling it in cooperation with this Company to continue bacteriological studies of silicosis."

December 14,1933 I wrote to Doctor Lanza, "I showed to the President the first and second paragraph on Page 2 of Dr. Gardner's letter of December 12th to you; and the President says that with events turning as they are now we must not promise far in advance but that you can say that we look upon the proposition and upon the results that are being accomplished with favor and that our disposition will be to recommend renewal of the $5,000 appropriation for another two years beginning July 1,1934 unless meanwhile something happens to make us consider such action inadvisable." (These two paragraphs were: "Had a meeting in Chicago with representatives of the Mutual Insurance Companies (Liberty, Lumbermans, Employers and American, I think.) Whiting and Keuckle organized it to consider a research program which they would finance here at the Laboratory. In my speech to them I mentioned that the Met. had carried us for $5,000 annually during the last 5 years, but that I was not very certain that you would be able to continue. I therefore asked them to replace this grant with $5,000 of their own to continue the study on TB and silicosis. They had previously written me for a schedule of necessary experimental work in which I included a study of solubility, neutralization of silica action in the body and immunity in TB and pneumonia. After my speech they took my breath away by asking me if I could do all this program simultaneously if they gave me $10,000 a year for the next 3 years and persuaded you to continue with your present contribution. It can be done and I told them so. They are putting it up to their chiefs and seem to feel that there is good prospect of success.

"However, I don't want to be put in the position of having assumed that the Met. is going to quit before I have asked for a renewal of the appropriation and I don't want them to be bargaining with you to do something when you have already done so much and may not feel able to do more. So I lay all cards on the table.")

The 5 year appropriation described above will terminate at the end of this month. Doctors Lanza and McConnell attended the Conference on Silicosis at Saranac last week and Doctor Lanza says that on June 30th he "had lunch with Dr. Gardner, in company with three or four representatives of the Association of Mutual Casualty Companies. During the luncheon, Dr. Gardner received a telegram from the Secretary of this Association, notifying him that the Association had made him a grant of $5,000 and would be inclined to listen favorably to a request for the renewal of this grant for a period of years and also possibly the increasing of the amount. It was the hope of the representatives of the Association present to have this grant increased to $10,000 a year for three years. Mr. Graff, who represents the National Board of Surety and Casualty Underwriters, stated that he thought it was probable that the stock companies included in this Association would also support the Saranac Laboratory and it is my intention to discuss this with

Mr. Albert Whitney at a meeting that we are to have this week. As soon as I hear of any further action by the casualty companies, I shall inform you."

The question of occupational diseases which are associated with tuberculosis is of more importance to-day to the firms and wage earners which we cover with insurance, than at any time previous. Results of great value have already been attained by these research workers at Saranac Laboratory, and the promises of further and continued discoveries in the near future are brilliant. The high mortality from tuberculosis among our Industrial policyholders who are engaged in harmful occupations can and should continue to be attacked by just such research as the Saranac group are making and putting into operation.

We therefore recommend that this Company's appropriation of $5,000 per year beginning July 1,1934 be renewed for 3 years, if possible, and for 1 year anyway.

June 29,1934
K-G.

September 24, 1930

Dr. J. V. Meriwether,
Surgeon-in-Charge,
U.S. Bureau of Mines Cooperative Clinic,
Fisher, Okla.

Dear Dr. Meriwether:

Dr. McConnell is leaving here on the 24th to go to the National Safety Meet at Pittsburgh, and from there he will go to Indianapolis and from there to St. Louis and Bonne Terre and then to Fisher, where he will arrive about the first. He will telegraph you definitely about the time. I presume it will be possible to have Fred meet him in Joplin and bring him down to Fisher.

He is bringing some X-ray pictures of asbestosis cases with him. I wish I could go over them with you but it is not feasible for Mack and me to be away from the office at the same time.

I am going to Fort Worth for the A.P.H.A. which, as you know, ends up about the 30th of October. From there I am going to Houston and then home, but if it is desirable I can come to Fisher at that time. I do not like to postpone my visits to Fisher too long but it is very difficult for me to get away now. Dr. Bright is ill and away from the office continually which necessitates my sticking fairly close to New York. Anyway I will see Sayers at Fort Worth and get a chance to talk things over with him. Maybe we can go to Fisher together.

With best regards, I am,

Sincerely,

A. J. Lanza, M.D.

U. S. D. I.
United States Department of Interior
Bureau of Mines Co-operative Clinic
Pitcher, Okla.

January 17, 1931

Dr. A. J. Lanza,
Assistant Medical Director
Metropolitan Life Ins. Co.,
New York, N.Y.

Dear Dr. Lanza:

I finished reading the plates of asbestosis cases that you sent down. I wish to apologize for the delay in getting these plates back to you, but following the Christmas holidays we have been short of doctors and have had a rush of work incidental to the establishment of a rustling card system in the field, which has kept us very busy. I hope that the delay has not caused you any inconvenience. My interpretations have been attached to each film, and I will forward the films to you by express Monday, the 19th.

I wish to say that this is the best set of pictures I have seen in a long time. They are well made and the technique is that used for the detection of silicosis and asbestosis which gives the best results. The group shows a very high percentage of asbestosis and a few cases of healed or active suspected tuberculosis. However, the number of tuberculars compared with the number having asbestosis is small.

One of the surprising things to me is the large number with evidence of heart disease and I am wondering if this bunch, like the Pitcher bunch, will not show a high incidence of venereal infection (syphilis). One of the cases in particular has a great deal of evidence of lung etiology that I believe is either a chronic or fibrotic tuberculosis or syphilis and I am inclined to believe that it is syphilis. Whether the spirochetal infection of the lung is of the type (Vincent) as believed at Saranac Lake or as we believe here from a strain of the same that gives a positive Wassermann makes little difference from the therapeutic point of view, as these cases show marked improvement upon the administration of arsphenamines.

I have enjoyed very much reading these pictures; they have been very good, very interesting, and I will be glad to read any others that you have.

Yours respectfully,

(SIGNED) F. W. Meriwether,
Surgeon in Charge, U.S.Bureau of Mines
P.A.Surgeon, U.S.P.H.S.

GROUP INSURANCE — ITS AIMS AND ITS PRIVILEGES

When the first group insurance policy went into effect sixteen years ago, a new gateway was opened through which workers in the industrial and commercial fields could secure insurance protection. Through the cooperation of their employers a new means was provided for these workers to guard themselves and their families against the major hazards of life without physical examination, regardless of age, and [illegible] small. The only stipulation of the new insurance was that it had to be written on fifty or more workers, either at the employer's expense or at the joint cost of the workers and their employer. When the cost was thus divided seventy-five percent of those employed were required to enroll under the arrangement. The cost to the individual employee when insurance was on a cooperative basis was at a rate much lower than he could possibly hope to secure for himself on the open market.

From 1911 to the beginning of 1927 hundreds of thousands of workers passed through this gateway. Small concerns of fifty or more workers and great corporations such as the Southern Pacific, the St. Louis-San Francisco Railway, and the General Motors Corporation have been enrolled on the books of the insurance companies writing group. At the end of 1926, there was in force in thirty-two companies writing this type of insurance $5,425,789,000.

Many individuals of the thousands who are now protected by group insurance would not ordinarily be eligible for group insurance protection because of their age or physical condition. Men exposed to the unavoidable strain of shop and factory are likely to develop physical weakness. More-

over, great numbers of them fail to insure their lives when young and face a forbidding cost when they grow old. Group Insurance sweeps aside all these obstacles when providing this greatest of needs of working men beyond their daily bread and shelter.

The employees of many hundreds ~~practically every eligible~~ concerns in Oklahoma are covered by group protection. In the Tri State District the Metropolitan Life Insurance Company has written contracts on the following: -

Black Hawk Mining Company
Childress Lead and Zinc Company
New Chicago Mine Corporation
Golden Rod Mining and Smelting Corporation
Century Zinc Co.
Commerce Mining & Royalty Co.
Crystal Mineral Trust
Federal Mining & Smelting Co.
Skelton Lead & Zinc Co.
Vinegar Hill Zinc Company

The employees insured under Metropolitan group, in addition to the insurance privileges of the plan, are provided with the services of trained, graduate nurses when they are ill or injured, provided they live in one of the 4,000 Metropolitan nursing centers. These nurses call at the homes of the employees, ~~remain as long as necessary~~, carry out the doctor's instructions, and instruct the family in the care of the patient during their absence.

The Conversion Clause

Every man needs as much life insurance as he can possibly carry — for his wife, for his children, for his home. When an employee quits his work his protection under the group plan terminates but in all companies he is given the privilege to continue his insurance under a standard contract by paying an appropriate premium and this he may do without physical examination. He must, however, apply for his insurance before thirty-one days have elapsed.

Men leaving the services of companies which carry group insurance for them or cooperate with them in providing insurance for themselves and their

families should be very careful to take advantage of this conversion clause. There is no physical examination, no red tape. It may mean salvation for his family — help when they need help most.

.....

[redacted]

MR. LINCOLN
PRESIDENT

December 27, 1945

Dr. Lanza's history in brief in his professional capacity is as follows.

Prior to coming with the Company:

1. From 1907 to 1920 he was an officer of the U. S. Public Health Service, in charge of industrial hygiene.

2. In 1920 he served on the staff of the Rockefeller Foundation as special adviser on industrial hygiene to the Government of Australia.

3. In 1924 he served as executive officer of the National Health Council.

* * * * * *

Dr. Lanza came with the Company on January 1, 1926 as Assistant Medical Director, assigned to the Policyholders Service Bureau of the Group Division.

He was on leave from the Company to General Motors in 1931 and 1932, aiding in the development of an industrial health service for that company.

He was transferred from the Policyholders Service Bureau to the Welfare Division in 1932.

Dr. Lanza's war leave stretched from March 1941 to February 1945, during which time he organized the Occupational Health Division of the Surgeon General's Office of the Army, the Industrial Hygiene Laboratory in Baltimore, the Industrial Research Laboratory at Fort Knox, and other vital services.

He went into the Army as a Lieutenant Colonel and came out as a full Colonel with the Legion of Merit. Dr. Lanza became Associate Medical Director in February 1945.

* * * * * *

Dr. Lanza's contribution to the industrial hygiene work of the Company is of unlimited value. He has guided its research and educational services. He has been of particular assistance to the Policyholders Service Bureau and the Group Division in establishing medical and health services in industry, in conserving the health of industrial employees, in developing industrial research work both in the Company and outside. His fame as an authority on certain industrial disease such as silicosis is both nation and world wide.

[redacted]

Dr. Lanza is the author of an authoritative textbook on industrial hygiene, an outstanding scientific treatise on silicosis and asbestosis, and of numerous articles in the industrial hygiene and public health field.

Dr. Lanza is a prominent member of industrial hygiene committees of the American Medical Association, the U. S. Chamber of Commerce, the Air Hygiene Foundation, the American Public Health Association, and other agencies.

H. H. Armstrong, M.D.
Second Vice-President,
Health and Welfare

Dr. Anthony J. Lanza, associate medical director of the Metropolitan Life Insurance Company, retires December 31st from his Metropolitan post after 23 years of association with the company. He is an outstanding leader in the field of industrial hygiene and a recognized authority on silicosis.

Upon his retirement he will assume full-time duties with the New York University-Bellevue Medical Center as chairman of the Institute of Industrial Medicine and professor of industrial medicine in the College of Medicine. For the past year his services have been loaned by the Metropolitan on a part-time basis to the medical center.

His career is marked by service in both World Wars. During World War I he served with distinction in the U.S. Public Health Service, and in World War II he had an outstanding record in the U.S. Army, attaining the rank of colonel in the Medical Corps, and receiving a high decoration.

Dr. Lanza was born in New York City on March 8, 1884, the son of Manfredi and Clara Hammond Lanza. He received his education in Washington, D. C., where he attended St. John's College and George Washington University, being graduated from the Medical School of the latter institution in 1906.

He entered the service of the Metropolitan in January 1926, as an assistant medical director. In conjunction with the late Dr. Wade Wright, he was in charge of the industrial health service of the company's policyholders service bureau. Later he was associated with the welfare division, of which he became executive in charge under Second Vice-President Donald B. Armstrong. Dr. Lanza was appointed associate medical director in February 1945.

During World War II, Dr. Lanza served for more than two and a half years

in the United States Army Medical Corps. His service covered the period from March 12, 1942, through December 1944, when he resumed his connection with the Metropolitan. Commissioned a lieutenant colonel less than three months after the Pearl Harbor attack, Dr. Lanza was later promoted to colonel. He was director of the occupational health division, preventive medicine service, office of the surgeon general. His office had entire charge of industrial hygiene and industrial medical service in all the plants owned and operated by the Army, including Ordnance plants, Chemical Warfare plants, air bases, and ports of embarkation. These Army-operated industrial plants employed at their peak about 900,000 civilians, of whom approximately 40 percent were women. In addition, the occupational health division was responsible for and maintained supervision over Army-owned contractor-operated industrial plants. The occupational health division also maintained the Army industrial hygiene laboratory which was located in the School of Public Health, Johns Hopkins University, in Baltimore. This laboratory was under the direction of Colonel Raymond Hussey. The occupational health division was also responsible for the organization of the Armored Forces medical research laboratory at Fort Knox, which was under the direction of Colonel Willard Machie.

Dr. Lanza carried out his assignment with such sterling ability that he was awarded the Legion of Merit Medal, which was presented to him in April 1945. The citation accompanying the presentation of the award reads:

"For exceptionally meritorious conduct in the performance of outstanding services from March 1942 to December 1944. Colonel Lanza contributed in a high degree to the development of the Army's present industrial health program for civilian workers in Army owned and operated industrial plants. He organized for the Surgeon General a special health service which protects the health of almost a million civilian workers in Army industrial plants, thus contributing to the

He is a member of the Cosmos Club of Washington, D. C., and of the Sleepy Hollow Country Club, Scarborough, New York. He is a member also of the following organizations: American Medical Association, American Public Health Association, Association of Industrial Physicians and Surgeons, and National Tuberculosis Association, New York Academy of Medicine.

He serves on the following directorates and committees:

Chairman, Council on Industrial Health, and member of Editorial Board, Occupational Medicine, American Medical Association;

Committee to Promote Educational Activities Among Medical Examiners, Association of Life Insurance Medical Directors;

Chairman, Industrial Medical Committee, and member Board of Trustees, Industrial Hygiene Foundation of America;

Chairman, Committee on Industrial Medicine, New York County Medical Society;

Board of Directors, New York Tuberculosis and Health Association;

Board of Trustees, Trudeau Sanatorium and Foundation;

Medical Advisory Committee, Health and Welfare Fund, United Mine Workers of America.

Nov. 28, 1947

DEVELOPMENTS IN THE HISTORY OF INDUSTRIAL HYGIENE

1870 - 1900

I

Partial List of Publications, Books, and Journals

Hirt, (Germany) 1870:
Diseases of Workers.

* Layet, (France) 1876:
Hygiene of Industries (one of the earliest lists of hazardous occupations).

Eulenberg, (Germany) 1876:
Handbook of Industrial Hygiene.

Delpech & Hilairet, (France) 1876:
Diseases of Chrome Workers - Carbon Bisulphide in Rubber Industry.

Mantigazza, (Italy) 1881:
Occupational Hygiene.

Gruber, Max (Germany) 1882:
Carbon Monoxide and Sulphurous Acid Asphyziation with Respiration Apparatus.

Popper, (Germany) 1882:
Text-book on Industrial Hygiene.

* Robe, G. H. (United States) 1884:
Hygiene of Occupations.

Ireland, J.H. (United States) 1886:
Preventable Causes of Disease.
Injury and Death in American Manufacturing and Workshops.

* Arlidge, (England) 1892:
Diseases of Occupation.

* Kobert, (Germany) 1893:
Text-book of Industrial Poisons.

Lloyd, J. H. (England) 1895:
Diseases of Occupation.

Sanarelli & Trambusti, (Italy) 1895:
Occupational Pathology and Hygiene.

Albrecht, (Germany) 1896:
Handbook of Practical Industrial Hygiene.

* Weyl, T. (Germany) 1897:
Handbook of Industrial Hygiene.

* Sommerfeld, (Germany) 1898:
Handbook of Practical Industrial Hygiene.

Laudenheimer, R. (Germany) 1899:
Carbon Bisulphide Poisoning in the Rubber Industry.

DEVELOPMENTS IN THE HISTORY OF INDUSTRIAL HYGIENE

1910 - 1920
WORLD WAR PERIOD

Period of rapid growth in Industrial Hygiene began following the War.

I

Publications

Legge and Goadby: Lead Poisoning, London, 1912.

Agasse-Lafont & Heim: Researches on Industrial Hygiene, Paris, 1912.

Goldmark, J.: Fatigue and Efficiency, New York City, 1912

Gilbreth, F. & F.: Fatigue Study, New York, 1912

* Rambousek, J.: Industrial Poisoning, Prague, 1913.

Münsterberg, Hugo: Psychology and Industrial Efficiency, Boston, 1913.

Thompson, W. G.: Occupational Diseases, New York City, 1914

Price, George M.: Modern Factory, New York City, 1914

* Collis, E. L.: Pneumoconiosis: Dust Diseases of the Lungs, Milroy Lectures, London, 1915 (Published 1919)

* Kober, G. M. and Hanson, W. C.: Diseases of Occupation and Vocational Hygiene (text-book), Philadelphia, 1916 (Revised by Kober and Hayhurst, 1924)

Lee, Frederick S. (Columbia University): The Human Machine, New York, 1916

Wright, Florence S.: Industrial Nursing, New York, 1919.

* Hill, Leonard,: Science of Ventilation, British Medical Research Council, London, 1919.

Mock, H. A .: Industrial Medicine and Surgery (text-book), Philadelphia, 1919.

* Journal of Industrial Hygiene (International Board of Editors), Harvard School of Public Health, Boston, 1919 (now published at Baltimore)

Modern Medicine: Chicago (later Nation's Health, later combined with American Journal of Public Health, New York City, 1919.

Lanza obituary

His first assignment as Chief Surgeon was to take over the investigations of health conditions in the lead and zinc mines in the Joplin, Missouri, district, which had been started by the Public Health Service but in 1914 were assumed by the Bureau of Mines. There was an extraordinary prevalence of tuberculosis among the miners, and, accompanying it, was an underlying occupational disease which they themselves recognized and labeled "miner's con." Doctor Lanza examined the miners at a clinic established for that purpose at nearby Webb City, and, with Edwin Higgins, Mining Engineer, made extensive studies of ventilation, temperatures, and dust conditions underground. His first report (with Higgins), published in 1915, covered the pulmonary diseases among the miners and their relation to rock dust in the mines. His second, in 1917, was on "miners' consumption." And his third (with Harrington), in 1921, had special reference to lung conditions in the Montana area.

About the time Doctor Lanza began the Joplin studies, the Public Health Service established its Division of Industrial Hygiene, under Doctor Joseph Schereschewsky, who, as head of the Office of Field Investigations of Occupational Diseases, had just completed an exhaustive study of the health of garment workers in New York City. When World War I interrupted the mining investigations centering in Butte, Doctor Lanza was assigned to the Laboratory Station in Pittsburgh, under Schereschewsky's direction. He was followed as Chief Surgeon of the Bureau of Mines by Doctor R. R. Sayers, who had been associated with him in the Joplin and Butte investigations. In January, 1918, Schereschewsky was given charge of the USPHS Division of Scientific Research, and Doctor Lanza succeeded him as head of the Division of Industrial Hygiene. While the war continued, this Division's principal concern was the health of the workers in munitions plants and the environment in which they lived and labored.

In 1920, after thirteen years in the Public Health Service, Doctor Lanza resigned to become Medical Director of the Hydraulic Steel Company, at Cleveland, Ohio. This was an unusual company. All its executives were young men — none was over forty; and its labor relations and social and personnel policies were decades ahead of their time. Being the head of its Medical Department was a comfortable job. But Destiny hadn't been preparing this man for that kind of a life. It allowed him a year of it, and then the International Health Board of the Rockefeller Foundation, which had been arranging to set up a Division of Industrial Hygiene in the National Health Service of Australia, offered him the position of Special Field Officer. He promptly accepted, and — with Wilbur Sawyer who afterward became head of the International Health Board, and Frank Longley, Engineer — set sail for "down under." He was stationed in Melbourne, the capital; his Chief was Doctor H. L. Cumpston, Director General of Health. Australia, however, was not ready for industrial hygiene supervision on a national scale, and the undertaking resulted in not much of permanent value. The State of New South Wales established its own Industrial Hygiene Division, which is still active; but it took the exigencies of World War II to demonstrate to the general economy the advantages of doing the same. After a little more than three years — during which he had visited mines and factories in all parts of the continent, seeing and learning, and had ventured a published comment on his observations — Doctor Lanza felt that he had accomplished all he could, notified the International Board, and returned to the United States. He was thinking of going back into industry as a Medical Director — not, however, for Hydraulic Steel, as it had lost its identity in a merger — when the opportunity to join Metropolitan Life Insurance Company as an Assistant Medical Director presented itself. He says of this: "Fortunately for me, I had the good sense to accept."

At Metropolitan, together with the late Doctor Wade Wright, he conducted a consultation service in industrial medicine and industrial hygiene for the benefit of the many concerns whose group life insurance was carried by his company. Among those who worked with him side by side throughout the twenty-three years he was with Metropolitan were J. Wm. Fehnel, experienced in industrial hygiene, and Doctor Wm. J. McConnell, quiet, capable possessor of vast wisdom in industrial medical matters, freely shared when it would serve a need. The varieties of working conditions with which these men became familiar were all that could be imagined, and the problems they presented ran the gamut of the possible and sometimes nudged the impossible. A soon-discovered relation between the problems and the kind of industry in which they occurred led to the inauguration of industry-wide studies, and beginning with its survey of occupational pulmonary disease in the asbestos industry, the Metropolitan group became distinguished for its industry-wide analyses of the hazards to health in foundries, potteries, chemical plants, the making of steel, and many other kinds of work.

In 1925 the Metropolitan Life organization, together with the Mine Operators' Association, the Public Health Service, and the Bureau of Mines brought about the establishment, at Picher, Oklahoma, of the Picher Clinic for the further investigation of miners' diseases and

working conditions in the Tri-State area (Kansas, Missouri, Oklahoma). Two years later, at age forty, Dr. Leroy U. Gardner, already distinguished as a pathologist and authority on tuberculosis and pneumoconiosis, became Director of the Saranac Laboratory, at Saranac Lake, New York, and thereafter, at Doctor Lanza's behest, he and his Assistant Director, Donald Cummings, gave invaluable aid to the Picher Clinic in advice and counsel, and by way of scientific research that brought the Saranac Laboratory into enduring fame. Reports of the Picher enterprise are found in various governmental publications. Doctor Lanza and Doctor Gardner became great friends, and each was a source of inspiration to the other. Considering the unusual ability both possessed to inspire others in general, this was a high-voltage relation. The remarkable success of Doctor Gardner's Symposiums on Silicosis in bringing together scientists and researchers from all over the world owed much to Doctor Lanza's cooperation, and reflected, to an extent, his international acquaintance among those who were interested in the pneumoconioses. During the 1930's Doctors Lanza and Gardner, together with Doctor R. R. Sayers, of the USPHS, who had succeeded Doctor Lanza as Chief Surgeon of the Bureau of Mines, were "a persuasive triumvirate" in widespread educational activities among medical and technical societies, industrial organizations, and legislative groups, aimed at bringing about a better understanding of occupational diseases in their clinical as well as their compensation aspects. Doctor Gardner died in 1946, at age 58, untimely taken in his brilliant prime.

At the outbreak of World War II, Doctor Lanza, on leave from Metropolitan, was commissioned Lieutenant Colonel in the Office of the Surgeon General of the Army, and put in charge of the newly-created Division of Occupational Health, Preventive Medicine Service, under the direction of the late General James S. Simmons, who afterward became Dean of the Harvard School of Public Health. This was an entirely new enterprise for the Army, and it necessitated much reshaping of traditional attitudes regarding the functions of a military physician. The Army quickly became owner of all types of manufacturing plants, and the operator of most of them, the others being run by contractors. Doctor Lanza's Division was concerned only with the Army-operated plants, but these produced ordnance, airplanes, chemicals, clothing, food and food containers, munitions, quartermaster supplies, and whatever else the Army needed, and, at the peak of the war effort, employed more than a million people, about forty percent of them women. Here again Doctor Lanza had the benefit of the abilities and services of Doctor William McConnell, who was charged with the responsibility of health supervision in the ordnance plants. Under Doctor Lanza's Division of Occupational Health were the Army Industrial Hygiene Laboratory, first set up in the School of Public Health at Johns Hopkins, under the direction of the late Doctor Raymond Hussey, and the Armored Force Medical Research Laboratory at Fort Knox, better known as the Tank Laboratory, a most successful enterprise headed by Doctor Willard Machle.

In 1942, Doctor Lanza was promoted to the rank of Colonel. When he left the Service three years later and returned to his position at Metropolitan Life, he left to his successor, Colonel Leigh Cook, the well-organized industrial medical program he had established in the Army. This has been continued, and for a long time has had its counterparts in the Navy and the Air Force. The Industrial Hygiene Laboratory became the Environmental Hygiene Laboratory, located at Edgewood, New Jersey. Doctor Lanza was awarded the Legion of Merit.

In 1947, Doctor Lanza was asked by New York University if he would be interested in organizing an Institute of Industrial Medicine in its Post Graduate Medical School. This he considered a challenge and an opportunity he could not refuse, and so, through the cooperation of the University authorities and Metropolitan Life, it was arranged that he would give half his time to each until his retirement from Metropolitan which, under Company regulations, would be due in 1949. At the start the Institute was part of the Department of Preventive Medicine, of which Professor Edward Melany was Chairman. After two years it was set up independently, with Doctor Lanza as Director and Professor of Industrial Medicine. The Institute was successful in bringing together as faculty members a young and enthusiastic group, both full-time and part-time; and when Doctor Lanza, under the University's compulsory retirement system, retired in 1954 as Professor Emeritus he left it solidly established, with Doctor Norton Nelson as its able and energetic Director, and Doctor David Goldstein, Medical Director of *The New York Times*, its Professor of Industrial Medicine.

Although compulsory retirement age has overtaken him twice — at 65 at Metropolitan Life, and at 70 at New York University — the third time is not yet, for now, at 76, Doctor Lanza is still active, still interested, writing and editing within his beloved field. In addition to other commitments, he is Editor-in-Chief of the series of Modern Monographs in Industrial Medicine (Grune & Stratton) now appearing from time to time. One wishes he would pen the narrative of his long and varied experience. There is more

than the suggestion of drama in many of his "catalyzer" episodes. Their stories all would be interesting, and some could have definite value, particularly those of his contacts with the military mind — which knew nothing and cared less about industrial medicine, and couldn't conceive of an Army doctor in any other relation than as serving troops. What he did, and the fact that he did it, are history, but the firsthand account of *how* he did it could prove useful in many places.

Doctor Lanza's thirteen years in the Public Health Service, 1907-1920, coinciding as they did with the years of industrial medicine's most rapid and intensive growth, brought him into contact with practically the whole range of its problems; and his investigative, analytical, and retentive mind stored up an encyclopedic knowledge of their causes and solutions. This, as the years were to prove, was excellent scientific equipment for a long future as consultant. The year or so as Medical Director for Hydraulic Steel reinforced his practical background, and his temperament and special abilities furnished all else that was needed to make that long future a successful one. Interestingly, it does not appear that such a future was the one he sought — there was even a period, just after his return from Australia and while he was in an advisory capacity with the National Health Council, during which the comparative security of a Medical Directorship in industry seemed much more attractive. However, it was the future for which he had been prepared and the Guiding Hand that had led him thus far was not to let him stray. Industrial medicine already had consultants — in surgery, diagnosis, toxicology, administration, research, occupational diseases, techniques in general. But, even so, there was the feeling that more were needed, although what for was only dimly seen. Tony Lanza's emergence was a sort of cumulative answer. It was gradual, almost imperceptible as it came to pass; the successive needs he filled had a way of seeming to appear tangible only after he had met their demands, or quieted their latent threats. And so his progress toward the eminence that is his was little noted as it went along, and thus was unrecorded. And by the time it was realized that he had become a consultant of such abilities as gave new meaning to the term, it was much too late for timely memos on how he got that way. In review, however, and because there is no alternative, something of a record may be attempted from several objective sources.

One of these sources is the recollections of the many who have worked with him or have seen him in action. He was always a "team" worker; never a "cause" man, or crusader; never protagonist in any individualistic purely Lanza enterprise. The matter in hand was his only concern; and his attitude toward it was objective, his interest in it proportional to its value in the development of industrial medicine, his treatment of it impersonal. In his contacts with organized medicine, grudgingly aware of the new profession growing in its midst, and with industry, interested but unconvinced, he was the perfect liaison. Unselfish, sincere, plain spoken — sometimes almost blunt — his presence was felt, even when his part in what was going on was only the undramatic "passiveness of a catalyst in the result." Granting the "catalyzer" role, he gave it his own distinction. Whether active or passive in the action or reaction, he left something of himself in it and added something to his own experience from it. He was too forceful to be present without the one; too sensitive to leave without the other. The influence of his personality was almost tangibly and measurably a quiet, palpable, centripetal force, impelling toward the center of whatever was in hand.

All this, throughout the years, built up a second source from which, with search and patience, the record as to Tony Lanza's place in the development of industrial medicine may be confirmed. This consists of the impressively large number of references to him, items about him, and comments on his work that one comes upon in the literature of industrial health, occupational diseases, and industrial hygiene — "comes upon" because they are not indexed and mostly they occur in identification with co-workers and associates, or with the subject of the text. An example is found in a reference to "a world review and evaluation" of "Silicosis and Allied Disorders." One reads: "This report was prepared by the (Industrial Hygiene) Foundation's Medical Committee, under the leadership of its Chairman, Dr. A. J. Lanza, and 'brought together for the first time a practical summary of what was known and remained to be learned about dust diseases.'" Another occurs in connection with industrial medicine in Western Pennsylvania; he is named as one of four distinguished men who "figured prominently in its development." There are many similar allusions to his part in whatever was going on. But much more numerous are such capsule encomiums as: "pioneer in the investigation of industrial dust hazards in the United States"; "distinguished for long and instructive experience in industrial hygiene"; "leader in the development of industrial medicine in the United States and the world." Students of the published material on occupational diseases and industrial hygiene encounter recognitions of this kind so frequently and in so many contexts that they take them quite for granted as fittingly phrased and properly placed. In the permanence

of the printed word, "A. J. Lanza" is an often-met and much-respected name.

A third source from which information about this man may be derived is the formal, indexed account of the books he has to his credit, the addresses he has made, and the articles, reports, and technical papers he has produced. These are listed in several chronologies. Their texts confirm his distinction as indeed a pioneer in the investigation of dust diseases in general, and the identification of silicosis in particular. His books include *Silicosis and Asbestosis* (1938) — "the still definitive book in this field" — and *Industrial Hygiene* (with Jacob Goldberg, 1939).The timing of his articles and reports shows the second half of them published in 1933-35 (the last two in *J.A.M.A.*), after which it seems that the "catalyzer" part of his work grew into first attention. His continuing interest in occupational diseases, however, is evident from his organization affiliations. He was a Trustee of the Trudeau Foundation, and of the Industrial Hygiene Foundation, and in the latter, Chairman of the Medical Committee. In the New York Academy of Medicine he was Chairman of the Committee on Industrial Health; in the American Public Health Association, Chairman of the Committee on Pneumoconiosis; in the American Institute of Mining and Metallurgical Engineers, member of the Committee on Health and Safety in Mines; in the New York Tuberculosis and Health Association, Chairman of the Industrial Hygiene Committee. He was a member of the Medical Subcommittee of the Pennsylvania Commission on Compensation for Occupational Diseases, which made its report in 1933, and a member of the Committee on Prevention of Silicosis through Medical Control, established by the Secretary of Labor in 1936. The American Medical Association's Council on Industrial Health, established in late 1937, added him to its membership a year later.

If they mention it at all, the long-time chronicles of industrial medicine no doubt will consider it pure coincidence that the middle thirties, when Doctor Lanza was beginning to be really effective in his self-styled role as "catalyzer," saw the start of a remarkable spreading out of industrial medical programs among industries of all kinds. This was clearly reflected in the upsurge that began about then in the membership of the industrial physicians' association. From the lowly 1935 total of 287 — survivors of the twenty-year doldrums in which the average had been barely more — the number of members grew to seven times that many ten years later, and then went on to double that in the next ensuing ten. The economic influences then at work will be credited, of course, but it is within the memory of many who lived in the thirties that there were also the influences of powerful personalities, and that these had so much to do with the happenings of the period — in big affairs and little — as to make its truest history properly biography. Tony Lanza was one of them; and the Knudsen Award, industrial medicine's highest honor, given him in 1946, was one of the ways his medical colleagues had of telling him, and the world, that they knew him to be so. He was the seventh recipient of this Award. The citation stressed his leadership. But a "catalyzer" leader? Easily enough, when the leadership is less of leading than of being followed. In this man's case it was effectively that. Unmatched skill in unifying: a positive genius for enlisting the aid and cooperation of those with whom he worked; the "with" that pervades the chronology of the things he accomplished; the results obtained, with the credit shared equally by all — these characterized the many years of days in which he did "to the best of his ability" whatever fell to him to do.

At the meeting of the Permanent Committee and International Association on Occupational Health on the day preceding the official opening of the Thirteenth International Congress on Occupational Health, at New York, July 25-29, 1960, Doctor Lanza, along with Doctor R. R. Sayers (United States) and Professor F. Koelsch (Germany), was made an Honorary Member of the Permanent Committee. This brought to five the number of Honorary Members, only W. R. N. Kranenburg (Holland) and Alice Hamilton (United States) being the living holders of that distinction at the time of the meeting. And on July 27, 1960, at a reception at New York University Medical Center, Doctor Lanza was the recipient of a New York University Presidential Citation "for his leadership in the field of industrial medicine and his service to the University." Some three hundred of his colleagues, many of them delegates to the International Congress on Occupational Health, attended the ceremony. After stating that Doctor Lanza in 1947 became the first Director of the University Medical Center's Institute of Industrial Medicine, and, in 1949, the first Chairman of the newly-organized Department of Industrial Medicine in the NYU Post Graduate Medical School, the citation continued: "Throughout his career Doctor Lanza's guidance has been sought by many. He has served as adviser in industrial medicine to many industries and other organizations. . . . Behind any recital of dates, titles, and geography are those qualities that help make the man those around him have known: the warm understanding, the unfailingly perceptive intellect, the unassailable integrity, and, most of all, the calm and steady wisdom."

—A.D.C.

ANNUAL REPORT FOR 1942
of
THE INDUSTRIAL HEALTH SECTION

* * *

PLANT SURVEYS

During the year 1942, nearly twice as many surveys were conducted as in 1941. The number of different industrial plants studied in 1942 was 58, as compared to 30 in 1941. As in 1941, firms engaged in manufacturing heavy metals comprise the major part of the studies, with ore mines second. The industries studied may be classified as follows:

| | |
|---|---|
| Metals | 62.1% |
| Ore mines | 15.5 |
| Coal mines | 8.6 |
| Asbestos plants | 8.6 |
| Chemicals | 1.8 |
| Quarries | 1.7 |
| Wood | 1.7 |
| | 100.0% |

The samples collected in the plants necessitated making 1,536 separate analyses in the laboratory. Analyses have also been made, as in the past, of materials shipped to the laboratory from plants of our Group policyholders. These tests were mostly for free and total silica. A number of materials used in our Home Office buildings has also been analyzed.

In addition to the above surveys, the plants or offices of three policyholders were visited and advice given regarding hazards or medical service.

Requests for plant surveys and information were received from Group policyholders and others in all lines of industry. To give an idea of the variety

of firms which request this service, the following are some of the more important firms which we have served:

Armstrong Cork Company
Consolidated Gas Electric Light & Power Co.
Pennsylvania Greyhound Lines
American Viscose Corp.
Idaho Maryland Gold Mines Corp.
American Rolling Mill Co.
Standard Oil Co.
Union Carbide Co.
American Seating Co.
Humble Oil & Refining Co.
Tennessee, Coal, Iron & R.R. Co.
Blackwell Zinc Co.
Republic Steel Corp.
Kohler Co.
Marshall Field & Co.
Vickers, Inc.
National Enameling & Stamping Co.
Montgomery Ward Co.
Bethlehem Steel Co.
Pendelton Ship Yards
Norfolk & Western Railroad
General American Transportation Co.
Kimball Piano Co.
General Motors Corp.
Ruberoid Co.
Continental Baking Co.
Higgins Corp.
Atlas Powder Co.
N.Y. Telephone Co.
International Business Machine Corp.
Braden Copper Co.
Florida Power & Light Co.
Lewisburg Chair and Furniture Co.
Norton Company
U.S. Leather Co.
Virginia Electric & Power
Caterpillar Tractor Co.
Johns-Manville Corp.
Baker & Taylor Co.
Bell Telephone Laboratories
A.P. Green Fire Brick Co.
N.Y. Employing Printers Assoc. Inc.
General Electric Co.
Monarch Machine Tool Co.
Asbestos Textile Corp.

RESEARCH STUDIES

Due to the increased number of requests for plant surveys resulting from the speed up in production, due to industry's victory effort, more routine work has been loaded upon the laboratory. This additional work has left little time for research problems. The laboratory staff did design and construct a new type of centrifugal pump which could operate on A.C. or D.C. current of 110-220 volts.

TRAVEL CREDIT

The amount of money expended for travel in the Industrial Health Section during 1942 amounted to $4507.57. However, of this amount $4047.63 was paid to us by the Group policyholders for expenses incurred by our men in the field while conducting plant surveys. Therefore, our total expenditure for travel for the year amounted to $459.94.

ANNUAL REPORT

INDUSTRIAL HEALTH SECTION

1946

Plant Surveys

The Laboratory of Industrial Hygiene conducted forty surveys of health conditions in the plants of our Group policyholders. Although this is a reduction in the number of plants surveyed last year, the individual plants surveyed were larger and employed a greater number of employees. Also, the initiation of a very large project - the surveying of approximately one hundred and twenty plants of the General Electric Company - as well as surveys of several other companies could not be included in this year's schedule due to the transportation strikes which held up for weeks trunks containing equipment and samples collected in the previous surveys.

A typical plant survey report includes a description of the processes, plant construction and layout, plant housekeeping and personal facilities; discussion of methods of sampling and analyses; chemical analyses and other findings of the samples collected; and recommendations for control of any health and safety hazards found. Attention is also called to safety hazards. A section of the report discusses the health hazards found - symptoms, toxic concentrations, treatment, etc.

The samples collected in the plants and sent to the Home Office Laboratory necessitated making 2,494 separate analyses. Exclusive of such environmental factors as defective illumination, inadequate local and general ventilation, and sanitary defects, a total of 42 different substances known

1946

to affect adversely the health of exposed workers was detected. These consisted of dusts, such as silica (which is by far the most prominent), asbestos, lead, manganese; solvents, such as carbon disulphide, tetrachlorathane, trichlorethane, trichlorethylene, benzol, toluol, ethyl, methyl and butyl acetate, amyl and ethyl acetate, naphtha, as well as hydrofluoric, hydrochloric, and sulfuric acids.

A number of new instruments were purchased for the Laboratory during the year in order to facilitate and expedite the survey work and to attain the best possible accuracy in determining hazardous exposures. These are a mercury vapor detector, a sound meter used to determine noise levels, and a Geiger-Muller meter for measuring radiant energy.

A ventilation engineer is now available for consultation in planning new ventilation and exhaust systems or necessary revisions of those in use.

Home Office Inspections

The Industrial Health Section and the Laboratory of Industrial Hygiene has continued to make periodic sanitary and industrial hygiene inspections of the Commissary Division. These inspections include methods of preservation of food, refrigeration, food handling and disposal, dish washing, vermin control and cleanliness generally.

The office has also continued to be of assistance in such work operations as paint spraying, lead soldering, welding and other operations where solvents and toxic materials are employed throughout the building.

1946

Another paper by Dr. McConnell entitled "Summary of Twenty-Two Trinitrotoluene Fatalities in World War II" appeared in the May 1946 number of the "Journal of Industrial Hygiene and Toxicology".

Conferences

During the year, Dr. Lanza held sixty-two conferences and Dr. McConnell held eighteen, in the office with representatives of our Group policyholders and others from health organizations.

Field Trips

Dr. Lanza visited the plants of twelve of our Group policyholders and conferred with management regarding nursing service, poor claim experience or other matters of interest. Among policyholders visited were the Corning Glass Company, the General Electric Company, the General Motors Corporation, Johns-Manville Company and the American LaFrance Foamite Company. Dr. Lanza also made thirty-six other field trips during the year for the purpose of conferring with the executive staffs of health organizations, Government Bureaus, universities, other insurance companies, etc. regarding methods of improving the health of industrial employees. Some of the more important of these trips were for the following purposes:

He had a conference with Dr. Dudley Irwin in Pittsburgh concerning the future activities with respect to the aluminum treatment of silicosis.

He visited a number of Group policyholders on the Pacific Coast during the first part of July when he attended the annual meeting of the American Medical Association at San Francisco.

(1947)

## SUMMARY FOR 1946 OF WORK OF INDUSTRIAL HEALTH SECTION

| | |
|---|---|
| Surveys conducted by Industrial Hygiene Laboratory | 40 |
| Analyses made in Laboratory | 2,494 |
| Home Office Inspections | 62 |
| Travel Credit | $2,405.26 |
| Special inquiries handled by mail or conference (An increase of approximately 125% over 1945) | 675 |
| Literature sent (Industrial Health Series) | 3,684 |
| Publications completely revised | 2 |
| Publications slightly revised | 1 |
| Leaflets revised | 2 |
| Other publications written and published | 3 |
| Conferences in Home Office | 80 |
| Field visits to Groups | 14 |
| Other field visits | 36 |
| Meetings attended by staff | 61 |

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Dr. Lanza has been made a member of the Board of Trustees of the Trudeau Sanatorium and Foundation.

A ventilation engineer is now available in the Laboratory of Industrial Hygiene for consultation in planning new ventilation and exhaust systems and necessary revisions of those in use.

We have secured the services of another chemist in the Laboratory.

The following are a few of the more outstanding research jobs conducted by the Laboratory.

The Rochester Gas and Electric Company was visited by Mr. Pelnel to outline and supervise a program for the study of atmospheric dusts and gas pollution. The company is planning to erect a new steam electric generating plant which will take about two years to build. The Metropolitan is to make studies each season of the year of the normal dust counts and supervise the study of the dust fall and sulfur dioxide concentrations in the City of Rochester before the erection of the plant. After completion of the plant and when it is in production, we are to supervise check studies to see if the plant causes any pollution of the air which will be detrimental to the health of people living in the vicinity of the plant. The Metropolitan was asked to do this work by the Rochester Gas Company on the advice of the Republic Steel Corporation for whom similar work has been done.

A study was made of the possible exposure of employees to hydrogen fluoride generated by the addition of sodium fluoride to molten steel when pouring rim heat. The study was made over a prolonged period to determine the extent of the exposure of employees before this method of making steel was put into operation. Recently a strike was called at the Ford Motor Company due to complaints of employees who had been exposed to the irritating fumes of hydrogen fluoride generated at a similar process. It is interesting to note that before any new process is developed or any new materials are used in the plants of the Republic Steel Corporation, the company requests the Metropolitan to make a study to determine the existence of any possible health hazards.

Tests were conducted on certain days of the week for three consecutive weeks in the carding room of the Manville, New Jersey plant of the Johns-

Manville Corporation to determine the dust pollution that could be expected when carding and spinning four different mixtures of asbestos and cotton. This is another example of tests being made by the Industrial Hygiene Laboratory of contemplated processes in the plants of our Group policyholders before being put in production to eliminate any potential health hazards.

Triethylene Glycol Study

In certain areas in the new building (Unit 1) the air supplied to the sections is treated with triethylene glycol as a method of air sterilization. We have taken air samples in the sections with the impingers and absorption tubes and made quantitative triethylene glycol determinations. Considerable work was done in checking and adapting the analytical method used. By adapting a special filter, we were able to use our Electrophotometer in the analytical work in these determinations.

The results of our study to date indicate that the concentration of triethylene glycol vapors in the atmosphere is not at the optimum quantity and, therefore, no positive results are indicated nor can they be expected until the triethylene glycol concentration is increased until it reaches the bactericidal or killing range.

A.P. Green Products

# A.P. GREEN FIRE BRICK CO.

MEXICO, MISSOURI U.S.A.

MANUFACTURERS OF A COMPLETE LINE OF HIGH GRADE REFRACTORIES

July 11, 1938

Dr. M. J. McConnell,
Assistant Medical Director,
Metropolitan Life Insurance Co.,
New York City, N. Y.

Dear Dr. McConnell:

Upon my return from my vacation I found your letter of June 17 and the report of the survey which was made of our plant this spring.

I want to express the appreciation of our Company for this very splendid report, which will be of great value to us in correcting any hazardous dust conditions. I am glad to advise that we are now installing what we consider to be a very complete as well as efficient dust collecting unit in the Tunnel Kiln Grinding Department. The report will be most useful as a guide in carrying on this work in other parts of the plant.

I consider that we are very fortunate in that through our group insurance connection with the Metropolitan we have been able to get the benefit of one of these surveys.

Yours very truly,
A. P. GREEN FIRE BRICK COMPANY

WQStaley/ec

Assistant Treasurer.

Industrial Health Section
December 1937

Industrial Hygiene Laboratory

Surveys of the following plants were made during the month by members of the Laboratory staff:

Northern Wire Division
Uniontown, Pennsylvania

W. & G. Taylor Co.
Cumberland, Maryland

Union Drawn Steel Co.
Beaver Falls, Pennsylvania

Republic Steel Corporation

The plant of W. D. Byron & Sons, Williamsport, Maryland, was visited and inspected for the purpose of determining the cause of the poor claim experience.

Laboratory analyses of samples collected in the following plants of the Republic Steel Corporation were made during the month:

| | |
|---|---|
| Northern Wire Division<br>Uniontown, Pennsylvania | Niles Plant<br>Niles, Ohio |
| Warren Plant<br>Warren, Ohio | New Wire Mills<br>South Chicago, Chicago, Illinois |
| Union Drawn Steel Co.<br>Massillon, Ohio | W. & G. Taylor Co.<br>Cumberland, Maryland |

During December, 33 analyses were made for zinc, sulphuric acid, silica, lead, ammonia, para-dichlorbenzene, calcium carbonate, wax, and solvents.

Reports of the surveys made in the following plants were completed and sent to the company representatives:

Warren Plant
Warren, Ohio

Union Drawn Steel Co.
Massillon, Ohio

Republic Steel Corporation

Home Office Conditions

Samples of 36 cleaning materials used by members of the Home Office Building Department were received in the Laboratory for analysis.

Industrial Health Section

During December, 46 requests for information on the various phases of the subject of industrial hygiene were received and answered.

Groups

Republic Steel Corporation
Niles Plant
Niles, Ohio

The report of the survey conducted in this plant was completed and sent to Mr. J. A. Voss, Director of Industrial Relations. The survey showed the presence of sulfuric acid fumes in the air surrounding several operations. Otherwise the air was not found to contain dangerous concentrations of dust.

Republic Steel Corporation
Warren Plant
Warren, Ohio

The report of the survey conducted in this plant was completed and sent to Mr. J. A. Voss.

Republic Steel Corporation
Union Drawn Sttel Co.
Massillon, Ohio

The report of the survey made in this plant was completed and sent to Mr. J. A. Voss. The working conditions in the plant were considered to be good and no health hazards are believed to exist.

W. D. Byron & Sons
Williamsport, Maryland

This plant was visited and inspected for the purpose of determining the cause of the poor claim experience. The processes do not involve any hazard except for one where lacquer spraying is done. There are a number of elderly men employed which undoubtedly accounts for the number of claims due to heart disease.

West Virginia Pulp and Paper Company
New York, N. Y.

Mr. J. W. Towsen, Personnel Manager, wrote saying that his company is planning set up medical services throughout their various branches. Before any plans can be laid, the number of employees and the policy of the company regarding the extent of the medical services to be administered must be considered. Described the functions of a medical service, and sent a copy of our booklet "Physical Examinations in Industry" and the physical examination form which is recommended for use in small industrial plants.

Dunbar Glass Corp.
Dunbar, West Virginia

Mr. Payne, General Manager, wrote to Supervisor Jones of Clarksburg, West Virginia, asking for information on establishing a system of physical examinations among their employees. Letter was referred here for answer. Plans for introducing physical examinations in a plant, methods of conducting them, and a follow-up system were described.

St. Joseph Lead Company
New York, N. Y.

Mr. Andrew Fletcher, Vice-President and Treasurer, visited the office bringing with him X-ray films of thirty-eight of their employees at Edwards, New York, for reading and interpretation.

Johns-Manville
New York, N. Y.

During the year, 1025 X-ray films of the chests of employees of the Asbestos, Quebec, Plant were read and interpreted in this office. This report was sent to Mr. Vandiver Brown, Attorney, at the New York City office.

Pangborn Corporation
Hagerstown, Maryland

Mr. Stern visited the office with Mr. Barrett of our Policyholders Service Bureau. The services available through this Section were explained, and he was shown through the Laboratory.

International Nickel Co.
New York, N. Y.

Mr. Brady visited the office with Mr. Duncan of the Group Division. Discussed different phases of silicosis and some of the solvents used in industry. He was shown through the Laboratory.

Non-policyholders

Dr. Arthur B. Robbins
Bureau of Tuberculosis
New York City Department of Health
New York, N. Y.

Requested information on the health hazards of the fur cutting industry. He we especially interested in the incidence of tuberculosis in this industry. Sent informati on mercury poisoning among fur cutters, and sent references to literature on the occurren of respiratory diseases.

Miss Adele E. Yoe, Health Educator
City Department of Health
Louisville, Kentucky

At her request, sent information on health education plans in industry.

Textile Products Industries
Chicago, Illinois

Mr. Glimm of our Chicago Group Office asked that information on writer's cramp be sent to Mr. Kasmark of the above company. Described the condition, the causative factors, and remedial measures.

The Quaker Oats Co.
Chicago, Illinois

Mr. E. F. Terras, Assistant Treasurer, asked that their procedure for making physical examinations be reviewed. After reviewing it, made a number of suggestions.

Crucible Sttel Co.
New York, N. Y.

Mr. C. B. Avery telephoned for information on the urine sulfate test for determining benzene exposure. Described method of analysis given in a report of the Bureau of Mines along with the results of their studies, and the references to them.

Western Electric Co.
Chicago, Illinois

Dr. F. L. Smith, Medical Director, requested information on the vaccine treatmen of colds. Sent a bibliography on vaccine prophylaxis of common colds, and referred him to industrial physicians who have been experimenting with vaccines among their employees.

Globe Indemnity Co.
New York, N. Y.

Mr. G. Watts requested information on the nature of dust created by glass grinding and polishing operations. He also asked for data on the toxicity of fused silica. Sent this information.

Standard Oil Company of New Jersey
New York, N. Y.

Mr. Roy S. Bonsib, Chief Safety Inspector, requested information on the treatment of eye burns due to electric ophthalma. Described the treatment and referred him to a good source of information.

Later in the month, sent to him, at his request, information on tricresyl phosphate. Described symptoms of poisoning, and gave the toxic doses which have been determined through animal experimentation.

Dr. May R. Mayers
Division of Industrial Hygiene
New York State Department of Labor
New York, N. Y.

Requested references on cancer of the bladder due to aniline. Sent the Statistical Division's monograph on cancer and made a bibliography.

Mr. Donald C. Scott
Springfield, Massachusetts

Came to the office for references on organic dusts, especially jute dust. Gave him our regular publications and a list of references on organic dusts.

Travelers Insurance Co.
New York, N. Y.

A representative telephoned for information on air conditioning. His company has a claim for sinus trouble said to be due to air conditioning, and he wanted references relating to this.

Mr. Clyde R. Place
New York, N. Y.

Mr. Place is an air conditioning engineer who asked Dr. McConnell to investigate the air conditioning system of the East River Savings Bank. Dr. McConnell made an investigation and sent a report to Mr. Place.

Mr. A. L. Clarke
Marchant Calculating Machine Co.
Oakland, California

Requested information regarding a solvent called Blacosolv. Blacosolv is a trade name for trichlorethylene. Referred him to an article which appeared in a recent issue of the Journal of Industrial Hygiene and Toxicology which discusses the toxicity of trichlorethylene.

Mr. Herman Dean
Canton, Mississippi

Mr. Dean is an attorney who is preparing a silicosis case and he asked if Dr. McConnell would testify for him. Explained that this is impossible and suggested other industrial physicians who are in a position to do so.

Dr. L. R. Hazzard
Portsmouth, New Hampshire

Asked for information on the toxic effects of fumes given off by fluxes during welding operations. The kind of fumes would depend upon the composition of the fluxes, which varies greatly. Listed references.

Requests for information on the following subjects were also received and answered:

Hospitalization facilities in Georgia
Sprains as they occur in industry
Health education
Physical examinations in industry
Silicosis and other dust diseases
Air conditioning in homes
Foot trouble
Arthritis
Coronary thrombosis
Value of good plumbing
Effect of household dust on health
Hernia

Metropolitan

Mr. Dunlap
Actuarial Division

A report of Mr. Fehnel's visit to the W. D. Byron & Sons plant at Williamsport, Maryland, was sent to Mr. Dunlap.

Mr. Walling
Premium Receipt Division

Brought a sample of an abrasive powder to the Laboratory for analyzing.

Miss Williamson
Welfare Division

Reviewed manuscript of "Multiple Aspects of Growth" which was prepared for publication in a forthcoming issue of the Teacher's Bulletin.

Mr. McConahay
Home Office Service

A study of the illumination in the Premium Receipts Division was made with recommendations for improvement.

Dr. Armstrong
Welfare Division

At his request, prepared a letter on "state medicine".

Mr. Vane
Statistical Division

Sent information on weight-lifting and the maximum loads for man-handling.

Mr. Perry
Group Sales Division

Sent information on the health hazards of radio manufacturing.

Interviews

Mr. Carruthers, Editor
Safety Engineering
New York, N. Y.

Called at office to discuss the purpose of the new Bureau of Hygiene of the City of New York.

Mr. J. J. Bloomfield
Passed Assistant Sanitary Engineer
U. S. Public Health Service
Washington, D.C.

Mr. Bloomfield is Chairman of the Industrial Hygiene Section of the American Public Health Association, and he called to discuss the work of the Section for the year.

Mrs. Furst
New York, N. Y.

Mrs. Furst is an assistant to Dr. Leopold Brahdy of this city. She came to the office for references on industrial fatigue in connection with the speed-up systems used.

A young chemist from Rochester, New York, came to the office for information on lead and arsenic poisoning from sprayed apples.

Publications

The booklet "Health Protection of Welders" is about ready for reprinting, and revision of some portions of the text has been started.

The Industrial Health Section is compiling a catalog of trade names of the chemicals which are being used in industry. The information gathered in this catalog is available to members of the Welfare Division whenever they wish it.

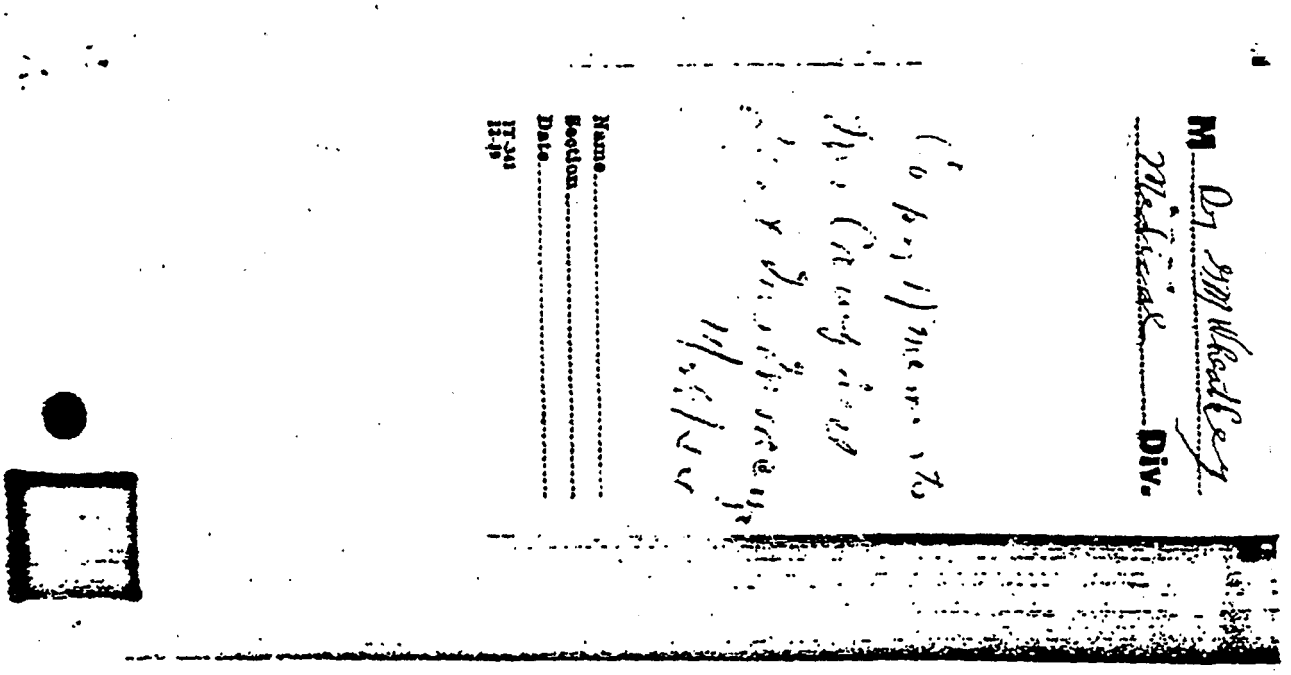
Literature

During December, 280 pieces of literature were sent out from this office, and 100 pieces were sent out through Welfare Division order.

Letters

Incoming: 211
Outgoing: 120

W. J. McConnell, M.D.
Assistant Medical Director
Director, Industrial Health Section



Dr. G. M. Wheatley
Assistant Medical Director
Medical Division

RE: Johnson's Company - 43 G²

As you requested, I am sending a list of claims on this group, showing, among other things, the age at death and the date of death.

This group is operated from the Canadain Head Office.

This group was written in 1929 at T + $2 which has been the rate ever since. However, the rate is to be increased to T + $5 as of the renewal date, July 1, 1944.

G. Moorcroft
Group Life & Health Record Section
Actuarial Division

June 23, 1944
GM/ch

# GROUP LIFE CLAIMS 4-6-41 TO 3-31-44

GROUP NUMBER: 43 - G 2

NAME OF GROUP: JOHNSON'S COMPANY

| CLAIM NUMBER | SERIAL NUMBER | DATE ~~RECEIVED~~ | AGE | TYPE OF CLAIM | CAUSE OF DEATH OR DISABILITY | AMOUNT | REMARKS |
|---|---|---|---|---|---|---|---|
| 2148 | 73 | 5-[illegible]-41 | 49 | DTH. | Tuberculosis | $ 2,000 | |
| 2247 | 479 | 11-26-41 | 54 | " | Arterio sclerosis | 1,000 | |
| 2251 | 322 | 12-[illegible]-41 | 77 | " | Disease of Coronary Arteries | 3,000 | |
| 2252 | 726 | 12-[illegible]-41 | 34 | " | Pulmonary Tuberculosis | 1,000 | |
| 2297 | 515 | 3-2-42 | 74 | " | Accident | 1,000 | |
| 2312 | 1573 | 3-13-42 | 26 | " | Accident | 1,000 | |
| 2332 | 1378 | | 58 | " | Syphillis | 413 | |
| 2341 | 86 | 5-12-42 | 60 | " | Acute Peritonitis | 1,000 | |
| 2342 | 1384 | | 31 | " | T. B. of respiratory system | 783 | |
| 2388 | 966 | 8-28-42 | 54 | " | Asystolie | 1,000 | |
| 2400 | 1390 | 9-25-42 | 24 | " | Pulmonary Tuberculosis | 1,000 | |
| 2456 | 143 | 1-11-43 | 64 | " | Cancer | 2,000 | |
| 2536 | 1159 | 5-21-43 | 24 | " | Tuberculosis Cachexia | 352 | |
| 2573 | 433 | 7-[illegible]-43 | 64 | " | Dis. of Myocardium | 2,000 | |
| 2589 | 947 | 8-18-43 | 31 | " | Tuberculosis | 1,000 | |
| 2590 | 481 | 8-18-43 | 52 | " | Pulmonary Tuberculosis | 2,000 | |
| 2609 | 785 | 9-21-43 | 34 | " | T. B. of respiratory system | 489 | |
| 2700 | 523 | 2-1-44 | 63 | " | Pneumonia | 1,000 | |
| 2702 | 153 | 2-2-44 | 65 | " | Arterio Sclerosis | 2,000 | |
| 2708 | 1888 | 2-7-44 | 63 | " | Heart attack | 1,000 | |
| 2714 | 571 | 2-14-44 | 65 | " | Heart trouble | 1,000 | |
| | | | | | | | |
| | | | | | TOTAL DEATH PAID | $ 26,037 | |
| 2767 | 187 | 4-19-44 | 48 | DTH. | Dis. Coronary Arteries | 5,000 | Pend. asof 3-31-44 |
| | | | | | | | |

Form ACT. 478—Apr. 1937—PRINTED IN U.S.A.

ACTUARIAL DIVISION

# GROUP LIFE CLAIMS 4-6-41 TO 3-31-44

| GROUP NUMBER | NAME OF GROUP |
|---|---|
| 43 - G 2 | JOHNSON'S COMPANY |

| CLAIM NUMBER | SERIAL NUMBER | DATE [illegible] | AGE | TYPE OF CLAIM | CAUSE OF DEATH OR DISABILITY | AMOUNT | REMARKS |
|---|---|---|---|---|---|---|---|
| 616 | 1384 | 9-12-41 | 30 | DIS. | Pulmonary Tuberculosis | $ 217 | DDC |
| 648 | 785 | 5-4-42 | 32 | " | Pulmonary Tuberculosis | 511 | DDC |
| 654 | 1037 | 5-21-42 | 23 | " | Pulmonary Tuberculosis | 663 | DDC |
| 664 | 1397 | 8-31-42 | 36 | " | Pulmonary Tuberculosis | 1,000 | |
| 696 | 1159 | 3-17-43 | 23 | " | Pulmonary Tuberculosis | 148 | DDC |
| 699 | 128 | 4-2-43 | 56 | " | Pulmonary Tuberculosis | 1,000 | |
| 710 | 293 | 5-26-43 | 70 | " | Right hemiplegia & cardio renal disease | 1,000 | |
| 711 | 1693 | 5-31-43 | 18 | " | Pulmonary Tuberculosis | 1,000 | |
| 741 | 1540 | 3-20-44 | 18 | " | Tuberculosis | 1,000 | |
| | | | | | | | |
| | | | | | TOTAL DISABILITY PAID | $ 6,539 | |
| | | | | | TOTAL DISABILITY PENDING | $3,000 | |

# M E M O R A N D U M

Re: Minimum First-Year Extra Premium for
Group Life Insurance on Asbestos Milling
and Manufacture of Asbestos Cord and Fabric

This will make record of a conference in Mr. R. J. Vane's office on October 20, 1948 concerning the industrial hazard in the asbestos industry. Present were Mr. Vane and Mr. J. William Fehnel, Director of Industrial Hygiene Laboratory and Field Service, and the undersigned.

After consideration of the asbestos industry in general, and based on Mr. Fehnel's report to Mr. Perry with respect to the Turner & Newall Company, Montreal, Quebec, Canada, and supplemented by our discussion with Mr. Fehnel, Mr. Vane agreed that if it is possible where working or other conditions differ/between employees in the same industry for purposes of Group Life Insurance, to differentiate that the Turner & Newall Company could be accepted as a standard risk without any extra premium required for industrial hazards. Considerations which accepted this conclusion were:

1. There are no backlog of asbestosis cases since the employer is following the practice of not hiring anyone who was formerly employed in the asbestos industry or/in any other industry in which there is a dust hazard.

2. The dust count in the plant will be well below the threshold at which the hazard actually begins to exist. Mr. Fehnel assured us that in his opinion there was no asbestos hazard in this plant.

3. Chest X-rays of the employees are taken both at the original hiring and at frequent intervals thereafter. Mr. Fehnel told us that such X-rays are taken by a mobile unit which is brought right into the plant and it is not necessary for the employees to either take time off from work or to make any trip in order to avail themselves of the X-ray examinations as commonly occurs in an asbestos plant in this country.

4. The employer was starting out in this plant very much aware of the potential hazard and had taken active steps to eliminate it.

5. Our experience on Asbestos-Manhattan for the Life portion during the last seven years at T rates has been satisfactory.

6. Dr. McConnell assured Mr. Vane that in their studies of the asbestos cases in this country, which work he has been doing for the past twenty years, they have not been able to find any new cases developing and that the cases they have are not showing a progression.

Therefore we have decided to quote the Turner & Newall Company at "T" rates. We will file with the New York State Insurance Department a change in the classification of asbestos milling and manufacture of asbestos cord and fabric from the minimum extra of $5 to "Refer to Home Office".

It is intended that the T rate will only be considered for cases which are select in every respect and which measure up to the strict requirements of the Turner & Newall Company case, and that for other cases there will be an extra premium of $2 or more.

.....

W. S. Thomas
Group Actuarial Division

October 21, 1948
WST/ch

MEMORANDUM

October 18, 1948

MR. N. R. PERRY
REGIONAL SALES MANAGER

Re: Turner Newall Company
Montreal, P.Q., Canada

Mr. N. R. Perry, Regional Sales Manager, Mr. Gordon Pfeiffer, Group Supervisor, and I made a visual survey of this plant on Tuesday afternoon, October 12, 1948.

We met Mr. Jackson, President, who introduced us to Mr. Anderson. Mr. Anderson conducted us through the plant and through his conversation showed that he was familiar with the many details of the plant processes.

The plant is housed in a one-story reinforced concrete building with monitor type roof. Skylights provide excellent natural illumination while artificial illumination is provided by properly hung and spaced fluorescent type lamps.

The floor is of concrete and has an area of ten acres.

The textile department is partitioned off from the rest of the processes.

The manufacturing operations comprise:

1. Textiles

   a. Carding
   b. Ring frame, spinning, and twisting
   c. Spooling
   d. Weaving of tape, brake band material and cloth

2. Manufacture of magnesia insulation

   a. Calcining of magnesia
   b. Mixing of asbestos fibre and magnesia with water
   c. Steam pressure forming of pipe coverings
   d. Slitting and cutting to length
   e. Packaging for shipping

3. Manufacture of molded brake lining

   a. Weighing and mixing of asbestos fibers
   b. Disintegrating mixing and bagging
   c. Mixing with binders and solvents
   d. Steam press forming of brake bands
   e. Grinding, drilling, and finishing of brake bands
   f. Packaging of brake bands for shipment

4. Asbestos cement manufacture

   This process is not in production. The machinery is being installed. The process will produce a wet refractory or insulating cement.

30

1. Textile Department

This department has a mechanical humidifying system in which humidified air is distributed to the room through ducts. Air is withdrawn from the room, passed through the bag filters and recirculated to the room during the winter months in order to conserve heat. During the summer months the air is discharged to the outside atmosphere.

Cotton is opened by passing it through a picker in a room separated from the textile department. The opened cotton is mixed with asbestos fiber on the floor of a balcony at one end of the department.

A garnet machine and a waste yarn chopper are used to reclaim waste materials. These machines are efficiently hooded and exhausted.

The carding machines are hooded and exhausted to prevent the dispersion of dust.

No dust control measures are applied to the spinning, twisting, and spooling machines and visually no dust, of any consequence, is generated by these machines.

Exhaust is applied to the looms and in some instances the warp is passed under a water spray.

No "doped" brake band lining is woven in this department. This is of extreme importance in evaluating the health hazards associated with the manufacturing operations in this department because the "dope" material usually contains lead compounds and harmful solvents. The "dope" is applied by passing the warp through a pan of the material. Naturally solvent vapors and lead compound bearing dusts are dispersed into the work room atmosphere. In many weave rooms of textile departments, a greater potential lead hazard than an asbestosis hazard was found.

2. Manufacture of Magnesia Insulation -

The calcining of magnesium carbonate (dolomite) is done in a rotary kiln in a separate room. The rest of the processes are wet and dust dispersion is negligible. Any material spattered upon the floor is washed down a floor drain so the drying out and dispersion of the dried material, as dust, is kept to a minimum.

The formed pipe insulation is slit and cut to length on circular saws that are well exhausted.

3. Manufacutre of Molded Brake Lining

The weighing, batch mixing, and bagging of asbestos fiber generates some dust at the present time. Although exhaust is applied to these operations, to prevent the dispersion of dust, the system is not complete. Until such time that the exhaust system is fully installed, respirators are furnished to employees working at these operations.

The asbestos fiber is mixed with binders and petroleum naphtha in a hooded and exhausted chaser.

The blended mix is then put into autoclaves to complete the solution of the binders, and is then molded on steam presses after which it is sized on grinders and finally drilled for the rivet holes.

The grinding operations are efficiently exhausted.

4. Asbestos Cement Manufacture

This process is not in production at this time.

The type of machinery installed and the fact that a wet type of cement is to be made indicate that the dust production will be kept to a minimum.

Medical Services

A well equipped hospital staffed by a full-time nurse and a part-time physician is maintained.

The medical program includes a premedical examination including a chest X-ray of all employees. Periodic physical examinations including chest X-rays are planned for all employees on the basis of three months, six months, and one year, depending on the degree of dust exposure of the employee. No applicants from competitive asbestos industries or those afflicted with any respiratory diseases are accepted.

Conclusions

Factory Layout and Manufacturing Processes

This is undoubtedly the most modern and best laid out plant on the American continent.

Potential Health Hazards

The generation and dispersion of all types of dust are kept to a minimum by types of machines constructed so as to generate a minimum of dust and by a scientific application of exhaust hoods to points of dust generation. No potential health hazards other than a minimum of asbestos dust exposure were found.

Recommendations

On the basis of observations made of the medical setup and manufacturing operations in this plant, in comparison with the experience gained in surveying similar plants during the past twenty years, I would recommend that the Group Division of the Metropolitan Life Insurance Company grant this company a preferred rating in quoting any forms of group insurance.

J. Wm. Fehrel, Director
Industrial Hygiene Laboratory and Field Service

NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER
OF NEW YORK UNIVERSITY
INSTITUTE OF INDUSTRIAL MEDICINE

325 EAST 38TH STREET
NEW YORK 16, N.Y.

*Mailing Address:* 477 FIRST AVENUE, NEW YORK 16, N.Y.
*Telephone:* MURRAY HILL 9-1580

April 12, 1954

Dr. Leona Baumgartner
Commissioner
Department of Health
City of New York
125 Worth Street
New York, New York

Dear Doctor Baumgartner:

I take pleasure in enclosing a memorandum which speaks for itself.

The complexities as well as the desirability of establishing labeling procedures are apparent and it is our hope that this memorandum may be the basis for effective and unified action.

With best regards and best wishes, I am,

Sincerely yours,

A. J. Lanza, M.D.
Chairman
Institute of Industrial Medicine

AJL:lc
CC: Commissioner J. Trichter
Bl. C: Mr. Slocum
Mr. Bowditch
Dr. Wheatley

NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER
of New York University
INSTITUTE OF INDUSTRIAL MEDICINE

325 East 38th Street
New York 16, N. Y.

MUrray Hill 9-1580
Mailing Address: 477 First Ave.
New York 16, N.

April 12, 1954

MEMORANDUM

TO: Dr. Leona Baumgartner
Commissioner
New York City Department of Health

This memorandum has been authorized by the New York Paint, Varnish and Lacquer Association and is submitted at their request for your consideration.

During the last few years an increasing amount of attention has been attracted to the problem of lead poisoning among small children. Various studies and reports on this situation have been made, particularly in the cities of Baltimore, Boston and elsewhere. The general picture that has emerged from these studies and investigations is that small children, particularly during the summer months, tend to eat the paint that flakes off railings, verandas and walls in properties that have been allowed to run down and which are occupied by the lowest income group families.

This situation causes concern to the public health authorities, particularly of our larger industrial cities. The paint industry is also thoroughly conversant with this situation, shares this concern and is anxious to cooperate in every possible way with the public health authorities in steps that may be effective in the prevention of lead poisoning among children.

The American Standards Association has appointed a subcommittee Z66 to consider labeling of coatings and it can be stated that the work of this subcommittee is being prosecuted with gratifying speed. It is expected that this committee will report at an early date on standard labels for paints suitable for interiors, furniture and toys. This will enable the paint manufacturers to submit these labels to the health authorities with the assurance that they will meet the needs of any child health situation where special labeling is indicated.

For some considerable time, lead paints have not been used by manufacturers of children's toys, cribs and other furniture designed for use by small children. The above committee, in which paint manufacturers and health authorities are represented, has as one of its objectives the elimination of more than a minimal amount of lead and other toxic ingredients from interior paints. Lead-containing paints are used for outside painting where the paint is exposed to the weather.

As one of the basic means of prevention, it has been advocated by health authorities that containers of paint, if lead is an ingredient, be labeled with a warning label. It is apparent that such a procedure will be of no avail as far as the families are concerned who continue to live in old, run-down and decrepit properties. In this situation, other remedies must be sought.

The paint industry is strongly opposed to the enactment of varying labeling regulations by individual governmental agencies, since it is obvious that if various jurisdictions enact differing local regulations for labeling, the utmost confusion will ensue, together with inordinate expenses occasioned by the variations in labels as between localities. This would also cause extreme confusion in the handling of paint containers through jobbers and distributing houses.

The practical and effective method of handling labels for paint containers is by national standard. This would enable the manufacturers and distributors, as well as the retailers, to meet all health requirements without fear of contravening the law.

The paint industry is very appreciative of the assistance that it has obtained from the Department of Health in New York City and particularly from the Division of Environmental Sanitation. The Industry will keep the Department informed of progress and is always ready to welcome any suggestions that the Department may care to offer.

A. J. Lanza, M.D.
Chairman
Institute of Industrial Medicine

AJL:lc

**Dr. ARMSTRONG**

**ASSISTANT SECRETARY**

This was prepared for Intelligence by Miss Peggy Boyle. I do not think it is out yet.

a.g.h.

1/9/28

T-4
10-25

PICHER CLINIC

Go to any of the "hard rock" mines of the world, in Canada, Australia or the United States, the South African Rand or the "big hill" in Butte, Montana, and watch thousands of miners going to the mines where gallows frames and mine houses, skeleton-like structures, stand over well-like shafts; watch them enter the cages which drop hundreds, sometimes thousands of feet under ground, and follow them to the stopes and raises where they extract gold, lead, zinc or copper from the veins of ore that thread the earth.

Some of the miners walk slowly, hesitatingly, and once in a while, they stop for a rest. These are the men whose lungs have been "dusted". They have "miner's con", "silicosis" as the doctors call it, because of the silica in the dust. Some of these men too, have tuberculosis as well.

The miners work in a dusty atmosphere, for it is hard to ventilate underground, and hard rock dust arises from blasting, shoveling and boulder popping. Much of this dust is controlled by water, which is used in drilling and in wetting down muck piles.

Inhaling the tiny particles of silica dust injures the lungs, which, irritated, inflamed and injured by the hard rock dust, become fibroid. A scar-like tissue develops which has none of the normal elasticity of the lung. Breathing is impaired, and as the disease attacks both lungs, there is a gradual lowering of vital power. Shortness of breath, coughing, loss of weight and weakness cut into a man's capacity of work when "miner's con" or silicosis attacks him.

"Miner's con" is not infectious, nor is it contagious. It carries a great menace, however, because of the injured lung, together with lowered vitality in the whole body, affords an ideal condition for the development of

tuberculosis. It is well known that men with dusted lungs are unusually susceptible to tuberculosis. When this happens, not only is the miner threatened with early death, or at least a more hopeless future, but he is a source of danger to others, his fellow-workers, his family and the community. This infection is a factor of prime importance to the health and hygiene of the community.

The hazards in hard rock mines are so great that when a worker wants insurance he pays extra for it: page 591 of the Metropolitan rate book tells the story — "Joplin, Mo. lead and zinc mines, sheet ground miners; special Class B; no disability, no double indemnity."

Several years ago the operators in this particular section, which centers around Picher, Okla., and extends up to Joplin, Mo. made a study of Group insurance. One clause appealed to them particularly, considering the conditions they faced in the mining industry in the Joplin sector. Group insurance could be bought without a medical examination, regardless of age. Many operators bought Group insurance, conscious of the fact that Group policies gave the miners a necessity which cost so much under ordinary circumstances they couldn't buy as much protection as they needed.

Another thing that appealed to the Joplin operators was the effective work the Metropolitan had done along lines of health and sanitation. Many of the operators bought Metropolitan Group insurance and about a year ago the Metropolitan initiated a special health service, a cooperative experiment similar in aim to other investigations made by the Company in Framingham and in the Thetford Mines.

About a year ago the Policyholders' Service Bureau learned the United States Bureau of Mines would be interested in expanding the Bureau of Mines clinic in Picher and in making a more intensive study of health conditions/

so the United States Bureau of Mines, the Metropolitan, and the operators in the Tri-State region combined forces and enlarged the existing clinic. As many of the operating mines in the lead and zinc field which centers around Picher, Okla., extending up to Joplin, Mo., and Baxter Springs, Kan., are covered by Group policies, the Company was vitally interested in a community health problem which definitely affected the mortality and morbidity of its Groups.

A memorandum which embodied the suggestion for a cooperative experiment reached the President. "Would the Metropolitan be willing to contribute an annual sum for a clinic in the Picher mining region to study silicosis, its effects and to formulate remedial measures?"

"Yes," was the laconic reply and the Metropolitan agreed to contribute an annual appropriation of $8,000, provided the United States Bureau of Mines contributed $8,000 and the local operators, $16,000.

The clinic was financed for a period of three years. It offers free medical examination to all the miners in the district. Its general purpose is to examine miners and diagnose their cases, and to carry on educational work tending to eliminate silicosis and tuberculosis.

The building which houses the clinic was built by the mine owners and Dr. F. V. Meriwether of the United States Public Health Service, assisted by a staff of Government physicians are conducting it. On some days they examine eighty men and they expect to examine fourteen thousand before their work is through. Two clerks interrogate the miners and fill in the information on an examination card. The miners go to the X-ray room where there chests are X-rayed by one of the best machines purchasable, operated by a skilled technician. Late in the afternoon Dr. Meriwether holds a conference with the other physicians, the X-ray films taken

the day before are put on view and are read in conjunction with the man's history of clinical findings, and a final diagnosis determined. Each physician has a special field of interest in the investigations and is gathering data for his particular branch of research.

Dr. A. J. Lanza, who was largely responsible for bringing the Metropolitan, the operators and the United States Bureau of Mines together in establishing the Picher Clinic, says that the cooperation of the operators and miners augers well for the investigation. "The miners and their families are practically all of American stock. They are intelligent, independent and industrious. They are efficient and individually take out more rock than any other miners in the country. Many of them prosper and it is a common saying in southwestern Missouri that every miner is a prospective operator. The wages are good.

"It is to the interest of the miners, of the operators and the Metropolitan, incidentally, since the Company has Group insurance on most of the miners in the region, to have a high degree of sanitation and good health in the region.

"Lack of funds have prevented making investigations of silicosis comparable to those carried on already, but the establishment of the clinic will result in a thorough inquiry into silicosis and its relation to tuberculosis. When the silicosis patient becomes tuberculous, then is the time to watch the case, to see that the people at home and at work do not become infected.

"The Director of the United States Bureau of Mines has given permission to distribute a leaflet among the visitors to the clinic which describes briefly and simply silicosis and tuberculosis, their nature and prevention. It

recommends a physical examination every six months for men working in rock dust, examinations to be given free by government doctors of the health clinic.

"As no harm can come from a man having true knowledge of his state of health, the miners welcome the chance to avoid long and serious illness and hardship. Because the clinic has been in operation a short time, its results cannot be predicted at present but government officials believe that in scope and thoroughness it will stand out as one of the most important contributions to industrial hygiene."

METROPOLITAN LIFE INSURANCE COMPANY

MEMORANDUM FROM NURSE'S REPORT

Dr. Mc Connell
Industrial Health & Safety Bureau
To: Mr. Bensiger
Office 2nd Vice-Pres. Kavanagh

Date: November 9, 1934

From: Dr. Lanza

In Re:- Armstrong Cork Company

Address:- Liberty and Mary Sts.
Lancaster, Pa.

Business:- Mfg. floor covering & cork products

Number of Employees:- Over 2000

Visited By:- Hortense E. Gruber

Date:- October 9, 1934

Interviewed

Mr. W. D. Custer, Personnel Mgr.
Miss M. Brenner, R.N., Company Nurse

The following is quoted from report of service visit:

"Both Mr. Custer and Miss Brenner, R.N., Company's nurse, were very cordial and recalled my previous visit.

I talked with Mr. Custer in his office and with Miss Brenner in the Medical Department.

Appreciation for our Nursing Service was expressed by Mr. Custer and Miss Brenner.

Mr. Custer said: "I know the service is satisfactory as no complaints have been brought to my attention."

He further stated that through his department Armstrong Cork strives to give the employee every consideration and mentioned especially the service of a special nurse to the very ill employee. Mr. Custer said that when he deems it necessary he wishes the sick employees to receive this attention.

Miss Brenner spends the entire morning visiting the absentees and refers to our nurse immediately anyone whom she considers needing Nursing Care.

Miss Brenner has been with the Company for fourteen years and Mr. Custer highly commended her services.

Mr. McConnell
Mr. Benziger

In re: Armstrong Cork Company

In re: COOPERATION OF OUR CLAIM DEPARTMENT

Mr. Custer remarked that he guards our Group Insurance very jealously and is always alert to stimulate feeling of good will between M. L. I. and the certificateholder. As an example he mentioned a case of a Pittsburgh employee. He said that the woman was on leave of absence during pregnancy. Through an error of Armstrong Cork her Group Insurance was cancelled.

When the employee made application for her sick benefit and the error was discovered, Mr. Custer wrote to our Home Office explaining the case and the employee was reinstated.

Mr. Custer said that he was very much pleased with the splendid cooperation received from us and he considers a case of this sort the means of establishing good will between the certificateholders and our Company.

In re: SURVEY OF LANCASTER PLANT FOR INDUSTRIAL HEALTH HAZARD

Miss Brenner informed me that Mr. Keen, the Company's Safety Engineer, had met our Doctor McConnell at a recent National Safety Conference and had discussed with Doctor McConnell the possibility of arranging for a plant survey for lead hazard.

Miss Brenner said that as far as the Company knew, there was no lead used in the Manufacture, but that there had been a discussion of a possible lead hazard and the Company wished to refute the statement.

NOTE - Apropos of the above during my conference with Miss Miller, R.N., Director of Lancaster Visiting Nurse Association, she called to my attention that during the past year and within six months' time, four Armstrong Cork employees had died of a respiratory disease.

Doctor Staher, the Company's doctor, diagnosed one case as Pneumoconiosis. All of the employees worked in the oxidising department.

I did not discuss the above with Miss Brenner.

Lanza, Anthony J.

MAGAZINE ABSTRACT

To:

From: The Library

MATERIAL WRITTEN BY DR. LANZA, ARRANGED CHRONOLOGICALLY.

Pulmonary disease among miners in the Joplin district, Missouri, and its relation to rock dust in the mines.
Anthony J. Lanza and Edwin Higgins.
U.S. Mines, Bureau of. Technical paper, #105. 1915;
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National safety news, 3: 9,14 Feb. 21, 1921

Locatiopand equipment of modern industrial dispensaries.
Personnel 3: 1-2, April 1921

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To:

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Policyholders service bureau [1927?], 16p.

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American journal of public health 19: 635-640, June 192

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Journal of the American medical ass'n.
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8/30/32



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The President explained that the United States Bureau of Mines had requested us to co-operate with it in the investigation and remedial measures of the prevalence of tuberculosis and

silicosis in the lead and zinc mines in Joplin, Mo. and further requested an agreement with the Bureau under which the Bureau will expend from $9,000. to $12,000. and asking us for an appropriation of $8,000. a year for three years.

The President stated that our death and sick claims had been very high showing a deficit, whereupon the Committee appropriated $8,000. a year for three years for the study of health and housing conditions of zinc miners in co-operation with the Bureau of Mines.

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On motion,

Adjourned.

--o--

E. C. Thiele
Clerk.

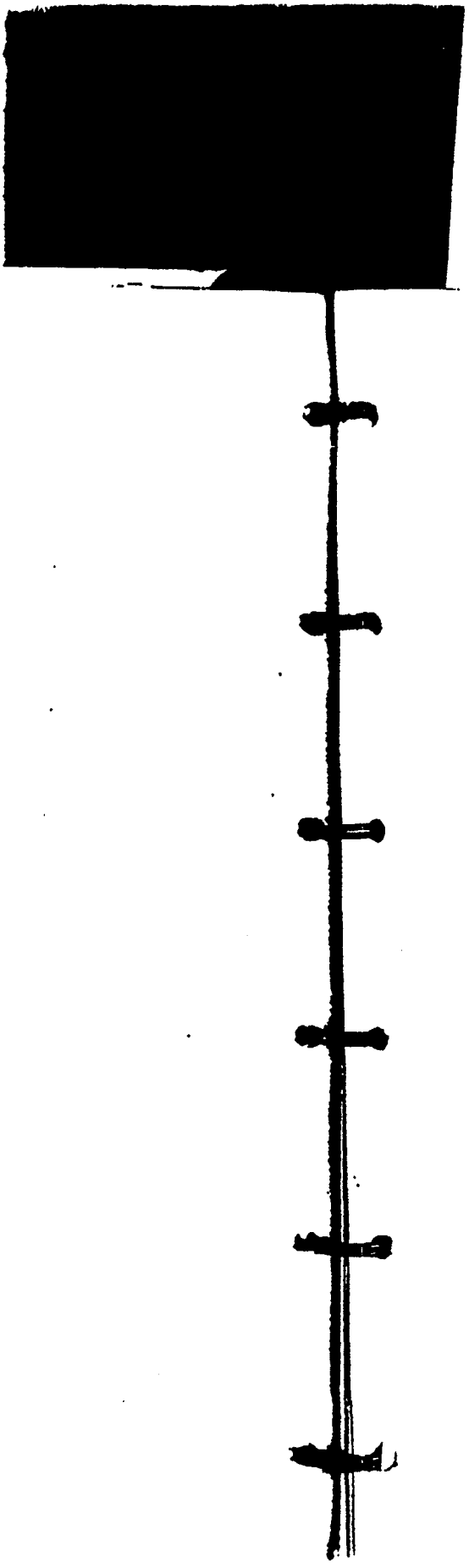
GROUP RATE BOOK

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1-1-45

Roger D. Lewis



## MINIMUM FIRST YEAR EXTRA PREMIUMS FOR GROUP LIFE INSURANCE ISSUED ON THE ONE YEAR RENEWABLE TERM PLAN TO COMPANIES IN HAZARDOUS INDUSTRIES

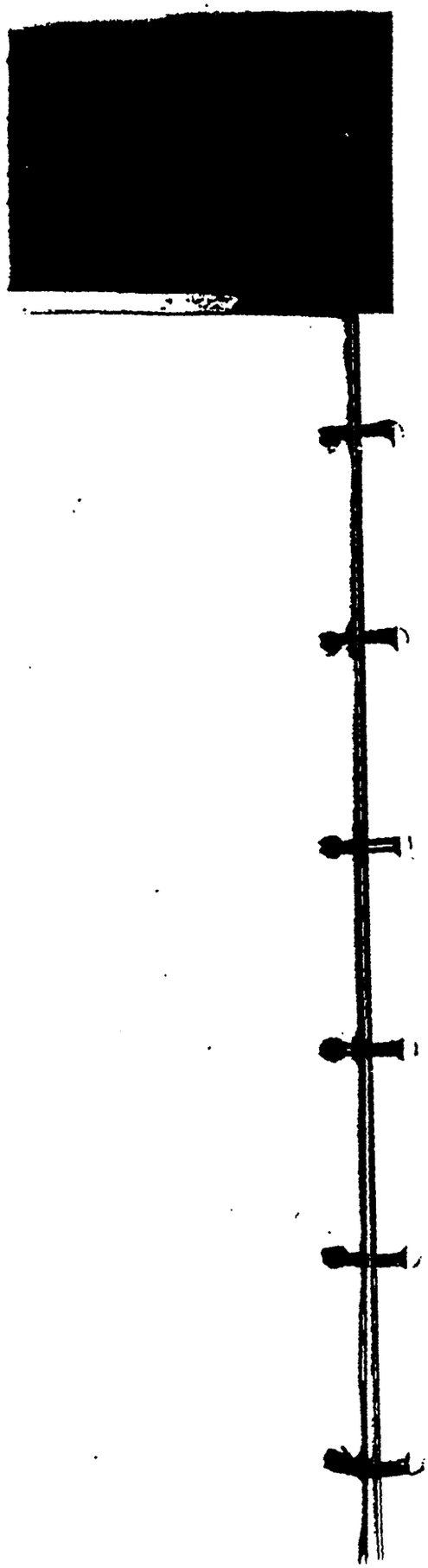
Where one concern is engaged in two or more industries, any or all of which require an extra premium, all the facts, including an occupational analysis, should be referred to the Home Office before a quotation is made.

The fact that some industries are not listed below should not be construed as indicating that no extra premium charge is necessary. If there is any question as to the correct premium to be charged for any certain industry, be sure to communicate with the Home Office before any definite commitment is made.

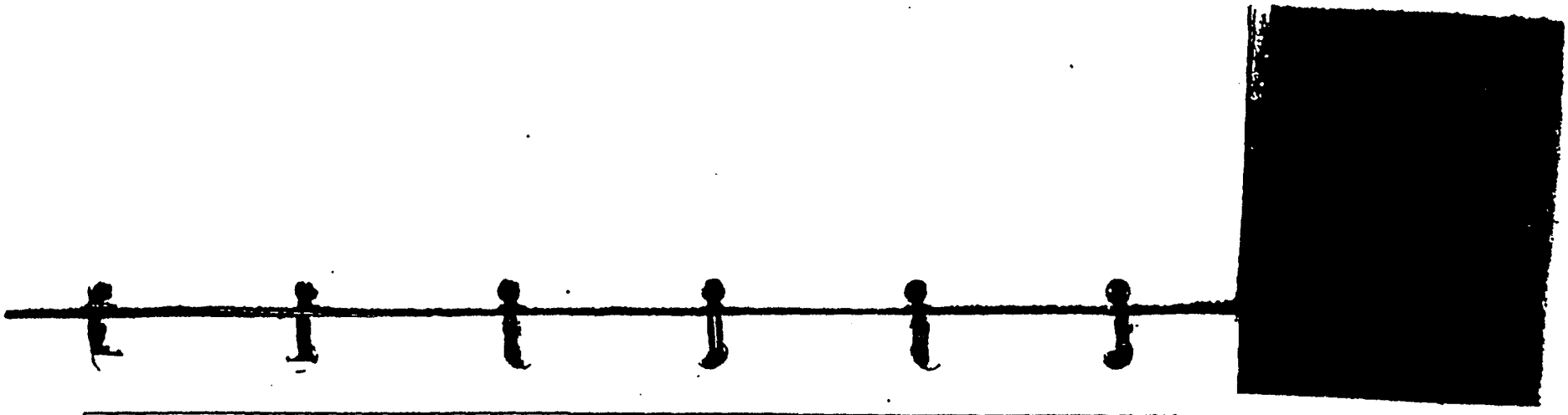
The minimum extra premiums for the industry are applicable if all the employees of the employer are to be eligible. Where only certain occupational classes are to be eligible an occupational distribution of all employees, including those who are not to be eligible, should be submitted to the Home Office for proper rating of the classes to be covered.

The prospect should definitely understand that all quotations are subject to final Home Office approval.

| INDUSTRY | MINIMUM FIRST YEAR EXTRA PREMIUM RATE PER $1,000 OF INSURANCE | |
|---|---|---|
| | Annual Premium | Monthly Premium |
| **MINING** | | |
| Coal - Surface or Underground. . | $ 3.00 | $ 0.26 |
| Lead and Zinc - Surface or Underground . . . . . | Refer to Home Office | |
| Other Metals - Surface or Underground . . . . . | 3.00 | .26 |
| Minerals (Clay, Phosphate, Salt, Shale, Talc, Feldspar, etc.) - Open Pit or Underground (Does not include salt production where no mining operations are involved) . . . . . | 3.00 | .26 |
| Quarries, Stone Yards and Mills (Granite, Marble, Stone, Slate, or any substance including Rock) | 3.00 | .26 |
| **SMELTING AND REFINING OF METALS** (By other than Electrolytic Process). . . . . | 1.00 | .09 |
| **IRON AND STEEL** Iron ore Milling and Blast Furnace Operation. . . . . (risks engaged in steel making, even though including blast furnaces, may be written without extra). | 1.00 | .09 |



| INDUSTRY | MINIMUM FIRST YEAR EXTRA PREMIUM RATE PER $1,000 OF INSURANCE | |
|---|---|---|
| | Annual Premium | Monthly Premium |
| **IRON AND STEEL - Continued.** | | |
| Steel or Iron Foundries. . . . . (if the basic industry of a risk is other than a foundry but foundry operations are involved, a composite extra premium will be computed by the H.O. upon receipt of a complete occupational distribution of employees.) | $ 1.00 | $ 0.09 |
| **TRANSPORTATION** | | |
| Airplane Transportation, Transport and/or Air Mail Companies, and Flying Schools. . . . . | Refer to Home Office | |
| Electric and Street Railways, other than Subways and Elevated Railroads . . . . . | 1.00 | .09 |
| Subways and Elevated Railroads . | 3.00 | .26 |
| Steam Railroads (Class 1 Railroads). . . . . | Refer to Home Office | |
| Terminal Railroads and Other Railroads not Class 1 Railroads . . . . . | 3.00 | .26 |
| Stevedoring, Lightering, Tugs, Barges and Dredges. . . . . | 2.00 | .17 |
| **MISCELLANEOUS** | | |
| Manufacture of acids (Heavy) and Poisonous and Corrosive Gases (Carbolic, Hydrochloric, Hydrofluoric, Nitric, Prussic, Sulphuric, Sulphurous, etc.). . | 2.00 | .17 |
| Asbestos Milling and Manufacture of Asbestos Cord and Fabric . . | 2.00 | .17 |
| Breweries. . . . . | Refer to Home Office | |
| Manufacture of Explosives and Fireworks . . . . . | Refer to Home Office | |
| Fertilizer . . . . . | 2.00 | .17 |
| Fishing (Deep Sea) . . . . . | 5.00 | .43 |
| Fire Departments . . . . . | 3.00 | .26 |
| Police Departments . . . . . | Refer to Home Office | |
| Refractories (Manufacturing fire brick or fire resistant materials, composed chiefly of silica or silicate minerals). . | Refer to Home Office | |
| Manufacture of Rockwool. . . . . | 2.00 | .17 |
| Sewer, Road, Dam, and Bridge Construction, and Structural Iron and Steel Buildings. . . . | 1.00 | .09 |
| Woodsmen and Loggers . . . . . | Refer to Home Office | |



5-1-49

## Schedule of Minimum Monthly Premiums Per $10 Non-Occupational Weekly Benefit

### No Industry Loading

### Schedule A

Applicable to groups which both (a) are on the Simplified Accounting System and (b) require that all eligible employees must become insured.

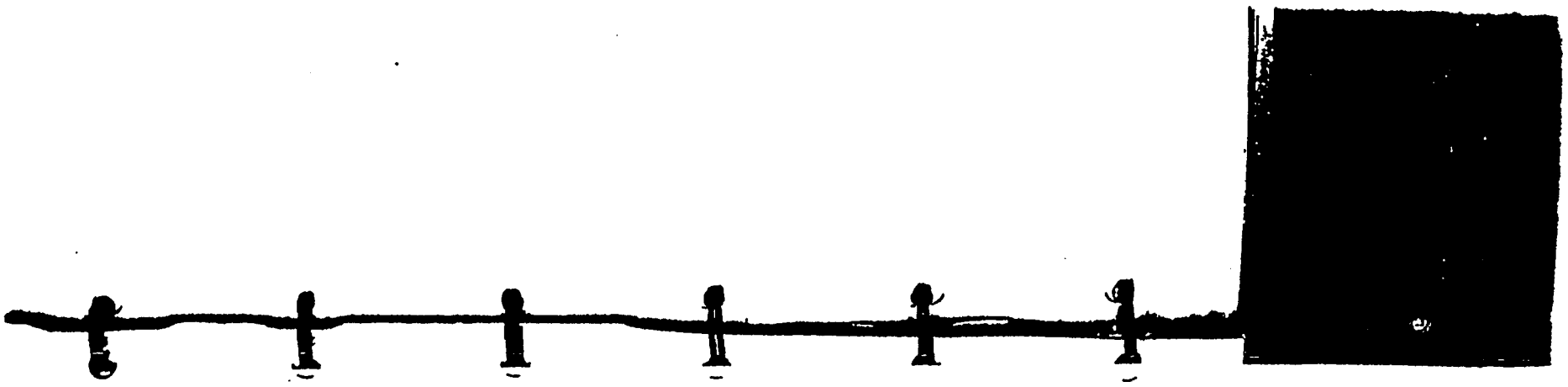
| Day Benefits Begin | | Maximum Duration (Weeks) | % of Benefits on Females | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Accident | Sickness | | Less than 11 | 11-21 | 21-31 | 31-41 | 41-51 | 51-61 | 61-71 | 71-81 | 81-91 | 91 and over |
| 8th | 8th | 13 | $ .57 | $ .60 | $ .63 | $ .66 | $ .68 | $ .71 | $ .74 | $ .77 | $ .80 | $ .83 |
| | | 26 | .68 | .72 | .77 | .81 | .84 | .88 | .92 | .96 | 1.01 | 1.05 |
| | | 52 | .88 | .95 | 1.02 | 1.08 | 1.13 | 1.19 | 1.25 | 1.31 | 1.38 | 1.44 |
| 1st | 8th | 13 | .63 | .66 | .71 | .74 | .76 | .81 | .84 | .87 | .92 | .95 |
| | | 26 | .73 | .78 | .83 | .88 | .91 | .96 | 1.00 | 1.05 | 1.10 | 1.14 |
| | | 52 | .93 | 1.01 | 1.08 | 1.15 | 1.20 | 1.27 | 1.33 | 1.40 | 1.47 | 1.53 |
| 4th | 4th | 13 | .73 | .78 | .83 | .88 | .91 | .96 | 1.00 | 1.05 | 1.10 | 1.14 |
| | | 26 | .83 | .69 | .96 | 1.01 | 1.05 | 1.12 | 1.17 | 1.22 | 1.29 | 1.34 |
| | | 52 | 1.05 | 1.15 | 1.23 | 1.31 | 1.37 | 1.46 | 1.53 | 1.61 | 1.69 | 1.77 |
| 1st | 4th | 13 | .76 | .81 | .87 | .92 | .95 | 1.01 | 1.05 | 1.10 | 1.16 | 1.20 |
| | | 26 | .86 | .93 | 1.00 | 1.05 | 1.10 | 1.16 | 1.22 | 1.28 | 1.34 | 1.40 |
| | | 52 | 1.08 | 1.18 | 1.27 | 1.35 | 1.42 | 1.50 | 1.58 | 1.66 | 1.75 | 1.83 |
| 15th | 15th | 26 | .61 | .64 | .68 | .71 | .73 | .78 | .81 | .84 | .88 | .91 |
| | | 52 | .79 | .85 | .91 | .96 | 1.00 | 1.05 | 1.10 | 1.15 | 1.21 | 1.26 |

These rates are for Plans excluding maternity benefits.

GROUP SICKNESS AND ACCIDENT (EXCLUDING MATERNITY BENEFITS)



GROUP SICKNESS AND ACCIDENT INSURANCE (EXCLUDING MATERNITY BENEFITS)



5-1-49

## Schedule of Minimum Monthly Premiums Per $10 Non-Occupational Weekly Benefit

### No Industry Loading

### Schedule B

Applicable to groups which have 50 lives or more insured at issue and do not meet both of the following requirements: (a) group is on the Simplified Accounting System and (b) all eligible employees must become insured.

| Day Benefits Begin | | Maximum Duration (Weeks) | | | % of Benefits on Females | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Accident | Sickness | | Less than 11 | 11-21 | 21-31 | 31-41 | 41-51 | 51-61 | 61-71 | 71-81 | 81-91 | 91 and over |
| 8th | 8th | 13 | $ .60 | $ .63 | $ .66 | $ .69 | $ .72 | $ .75 | $ .78 | $ .81 | $ .84 | $ .87 |
| | | 26 | .72 | .77 | .81 | .85 | .89 | .94 | .98 | 1.02 | 1.06 | 1.10 |
| | | 52 | .93 | 1.01 | 1.07 | 1.14 | 1.20 | 1.26 | 1.32 | 1.39 | 1.45 | 1.51 |
| 1st | 8th | 13 | .66 | .70 | .74 | .77 | .81 | .84 | .88 | .92 | .95 | .99 |
| | | 26 | .77 | .83 | .87 | .92 | .97 | 1.01 | 1.06 | 1.11 | 1.15 | 1.20 |
| | | 52 | .98 | 1.07 | 1.14 | 1.20 | 1.27 | 1.34 | 1.41 | 1.48 | 1.54 | 1.61 |
| 4th | 4th | 13 | .77 | .83 | .87 | .92 | .97 | 1.01 | 1.06 | 1.11 | 1.15 | 1.20 |
| | | 26 | .87 | .94 | 1.00 | 1.05 | 1.11 | 1.17 | 1.23 | 1.28 | 1.34 | 1.40 |
| | | 52 | 1.11 | 1.22 | 1.30 | 1.38 | 1.46 | 1.54 | 1.62 | 1.70 | 1.78 | 1.86 |
| 1st | 4th | 13 | .80 | .86 | .91 | .96 | 1.01 | 1.06 | 1.11 | 1.16 | 1.21 | 1.26 |
| | | 26 | .91 | .99 | 1.05 | 1.11 | 1.17 | 1.23 | 1.29 | 1.35 | 1.41 | 1.47 |
| | | 52 | 1.14 | 1.25 | 1.34 | 1.42 | 1.50 | 1.59 | 1.67 | 1.76 | 1.84 | 1.92 |
| 15th | 15th | 26 | .64 | .68 | .71 | .74 | .78 | .81 | .85 | .88 | .91 | .95 |
| | | 52 | .83 | .89 | .95 | 1.00 | 1.05 | 1.11 | 1.16 | 1.21 | 1.27 | 1.32 |

These rates are for Plans excluding maternity benefits

GROUP SICKNESS AND ACCIDENT (EXCLUDING MATERNITY BENEFITS)



GROUP SICKNESS AND ACCIDENT INSURANCE (EXCLUDING MATERNITY BENEFITS)

## ADDITIONAL LOADINGS DUE TO INDUSTRY
## NON-OCCUPATIONAL GROUP ACCIDENT AND HEALTH INSURANCE AND GROUP HOSPITAL EXPENSE INSURANCE

The minimum extra premiums for the industry are applicable if all the employees of the employer are to be eligible. Where only certain occupational classes are to be eligible an occupational distribution of all employees, including those who are not to be eligible, should be submitted to the H.O. for proper rating of the classes to be covered.

If a risk involves two or more industries, on one or more of which an extra is required, a composite rate will be computed by the Home Office upon receipt of full facts including a complete occupational analysis.

Any rate quoted on the basis of an occupational classification will be subject to change if the enrollment cards secured show any material change in the occupational distribution of the employees.

The percentages mentioned herein are to be applied after adding the extra, if any is required, for female and/or non-Caucasian benefits and not to the base rate for the plan sold.

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Breweries, wine manufacturers, wholesale liquor dealers and wine merchants, and distilleries of ethyl or methyl alcohol or of alcoholic beverages . . . . . 15%

Felt hat factories . . . . . Home Office

Furriers . . . . . 15%

Hot Metal industries, smelting and refining. . . . . 15%

Lime, cement and gypsum (No Quarrying) . . . . . 15%

Marble and stone yards (Granite—refer to Home Office).. 15%

If cutting and polishing operations are an important part of the work, refer to Home Office.

Mines—Lead and Zinc in Joplin District. . . . . Home Office

Mines—All others. . . . . 40%

Quarries—Granite. . . . . Home Office

Quarries—All Others . . . . . 40%

Railroads. . . . . Home Office

Railways, Electric and Street. . . . . Home Office

Refractories . . . . . Home Office

Shipbuilding . . . . . 25%

Tanneries. . . . . 15%

Textiles . . . . . Home Office

Any and all operations from the receipt of the raw material to and including spinning, weaving, knitting, braiding, bleaching, dyeing, and finishing of any product from cotton, wool, rayon, hemp, jute, silk and flax.

Woodsmen and loggers . . . . . 25%

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If a foundry is combined with other operations of a company whose primary business is not a hot metal industry, that company shall for rating purposes be considered as engaged in two or more industries. Foundry employees are those engaged in the occupations commonly designated as:

Core Makers, Melters, Molders, Cupola Tenders and their Helpers, Foundry men, and Foundry Foremen;

Foundry Helpers and Laborers, including among others Coal and Coke Heavers, Ladlers, Pig Breakers and Sand Shovelers;

Casting Cleaners, including among others, Grinders, Sand Blasters, Chippers, Rattlers and Snaggers.

The above named occupations are familiar to persons engaged in foundry work, and no difficulty should arise in obtaining such a classification.

## CLASSIFICATION OF INDUSTRIES (Continued)

| INDUSTRY | LIFE<br>Minimum Extra Annual Premium | ACCIDENTAL DEATH OR DISMEMBERMENT<br>Minimum Monthly Premium | NON-OCCUPATIONAL DISABILITY COVERAGES<br>Refer to N.O. | OCCUPATIONAL DISABILITY COVERAGES<br>% Extra |
|---|---|---|---|---|
| **TRANSPORTATION AND PUBLIC SERVICE (CONTINUED)** | | | | |
| Taxicabs | | $.15 | | 20% |
| Telephone and telegraph | | .10 | | 20 |
| Water transportation (excluding stevedoring) | | | | |
| - Ocean and Great Lakes | N.O. | .30 | N.O. | 40 |
| - Inland waters (except Great Lakes) | N.O. | .20 | N.O. | 40 |
| Water works | | .15 | | 20 |
| **MISCELLANEOUS** | | | | |
| Artificial Leather | | .15 | | N.O. |
| Asbestos milling and manufacturing of asbestos cord and fabric | N.O. | | N.O. | 40 |
| Fishing (deep sea) | $5.00 | N.O. | | N.O. |
| Ice manufacturing (no harvesting) | | .20 | | |
| Ivory, horn, and bone goods | | .10 | | 6 |
| Oil cloth and linoleum | | .15 | | 20 |
| Photographic supplies and development of moving pictures | | .10 | | 6 |
| Plastic products - pyroxylin | | .15 | | 70 |
| - other than pyroxylin | | .10 | | 20 |
| Pyroxylin manufacturing (viscoloid, amberloid, fibreloid, and celluloid | | .15 | | N.O. |
| Rockwool manufacturing | 2.00 | | N.O. | N.O. |
| Rubber | | .10 | | 6 |
| Salt wells and works (no mining) | | .15 | | |
| Upholstering | | .10 | | 6 |

In the case of those industries which require a minimum Accidental Death or Dismemberment monthly premium in excess of $.10 per $1000 -

| If % of female employee is | Then the minimum monthly premium per $1000 will be reduced by |
|---|---|
| Over 40% but less than 55% | $.05* |
| 55% or more | .10* |

* Provided that in no event will the monthly premium be less than $.10 per $1000

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-- FEBRUARY 1927 --

New York, February 23rd, 1927.

A stated meeting of the Committee was held at the Home Office this day at 3 o'clock P.M.

Present: Mr. Williams presiding, Mr. Kirby; Mr. Knapp and Mr. Ollesheimer designated; the President.

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