

It seems to me that if this committee is to have any knowledge as to whether or not those in filling stations are going to be subjected to the hazard of lead poisoning, ethyl gas should be distributed to those filling stations.

And I have sat here all day long and certainly have had no one show me that any man who has walked the streets of any city in this country has ever become affected with lead poisoning by reason of the emanation of some fragments of lead from a motor which was burning ethyl gasoline.

In view of that fact, it seems to me that if the committee is to have the information it can only get it by the practical test of what the physical conditions are of those who are in contact with the lead, and that they can not get the information if the manufacture and distribution of this material is to be stopped.

The CHAIRMAN. Do you accept the amendment?

Doctor NICOLL. I do not, with the restriction on the last clause.

The CHAIRMAN. I mean as to number.

Mrs. BURNHAM. I have something to offer as an addition.

The CHAIRMAN. Doctor Patterson, if you reduce yours to writing, we can get it as a substitute for the original. Is there a second to the doctor in the case of the original resolution. Doctor Patterson has introduced a substitute as follows:

It is the sense of this conference that the Surgeon General of the Public Health Service appoint a committee of recognized authorities in clinical medicine, physiology, and industrial hygiene, seven in number, to present to him by next January 1 a statement as to the health hazard involved in the retail distribution and general use of tetraethyl gasoline as a motor fluid.

Mrs. Burnham is about to introduce a substitute.

Mrs. BURNHAM. An addition:

This investigation shall be paid for exclusively out of public funds and not by private interests involved, and that the results be reported back to a public conference called for the purpose by the United States Public Health Service, at which labor shall be represented.

Dr. D. E. HOWE. May I make a suggestion? Do you want, Mrs. Burnham, to have a separate thing?

Doctor NICOLL. I do not. You know where you can get public funds.

Doctor HOWE. I will point out that inasmuch as there are certain chemical matters involved in this investigation there ought to be an accurate method of analysis made, and that you ought to consider having upon this committee, at least, a representative of chemistry.

The CHAIRMAN. Is there a second to the substitute of Doctor Howe, and is there a second to Mrs. Burnham's substitute?

Mrs. BURNHAM. Mine is an addition to the other resolution embodying all the things which Doctor Nicoll embodied originally, including the power of the Surgeon General to call on any technical assistance he needed. I simply added these two clauses instead of substituting my own motion.

The CHAIRMAN. Mrs. Burnham moves an amendment to Doctor Nicoll's original resolution, "That this investigation shall be paid exclusively out of public funds and not by private interests involved, and that the results of this investigation shall be reported back to a public conference called for the purpose by the United States Public Health Service, at which labor shall be represented."

Mrs. BURNHAM. The other really covers the same thing as Doctor Nicoll's.

The CHAIRMAN. I think the first thing now probably would be to vote on Doctor Patterson's amendment to Doctor Nicoll's resolution.

Mr. BERRES. Will you tell us now whether you have the funds to make this investigation?

The CHAIRMAN. We have funds to collect the data, but as to funds for making an intensive investigation it would depend entirely on how much it costs. That is something the committee itself would have to suggest to us.

Mr. BERRES. You have the money now to let them proceed upon a certain point?

The CHAIRMAN. Yes; but as to the subsequent proceedings in the investigation it would depend very largely upon the nature of the investigation recommended by this committee. Is there any discussion of the amendment of Doctor Patterson to the original resolution of Doctor Nicoll?

Doctor HENDERSON. I sincerely hope that the amendment will not be adopted. It seems to me Doctor Nicoll's resolution as originally offered covers the matter extremely well. It states in a way plain to all that the sale of tetraethyl fluid should now be stopped. In view of the long delay that there has been in the institution of the investigation, we are not asking too much if we ask six or eight months to investigate it before it is sold again. So I hope Doctor Patterson's amendment will fail and that we will pass the original resolution.

Doctor PATTERSON. Where is the clinical data coming from if the material in question is neither manufactured nor dispensed?

The CHAIRMAN. Is there any discussion of the original amendment substitute? The question has been called for.

Doctor HENDERSON. I will answer that question. The Doctor had in mind a large experiment, including a considerable number of garages. This would necessarily involve a supply of ethyl gasoline for them. There is nothing in this resolution, as I understand it, to

prevent this, or to stop the sale of ethyl gasoline to the British Government or its use in airplanes. This resolution would simply stop the general sale of ethyl gasoline to the American public.

Doctor PATTERSON. The resolution simply provides that the material shall not be made.

A DELEGATE. No distribution.

The CHAIRMAN. The original resolution says "And that until such time distribution of this substance be discontinued." I think it is probably subject to the approval of the conference. It would be well for us to vote as a unit, just as we have invited you. I will get Doctor Thompson to call the different organizations represented. It is proper to vote on the amendment first. There are two amendments, both suggested by Doctor Patterson, one to limit to seven the number on the committee.

I would say as far as having a chemist on it is concerned I shall construe industrial hygiene very liberally so as to include a chemist even if it were not specifically included.

The second amendment is to eliminate the last clause "and that until such time distribution of this substance be discontinued," so that what you are voting on now is this:

It is the sense of this conference that the Surgeon General of the United States Public Health Service appoint a committee, seven in number, of recognized authorities in clinical medicine, physiology, and industrial hygiene to present to him, if possible, by January 1 next a statement as to the health hazards involved in the retail distribution and general use of tetraethyl lead gasoline motor fluid.

Are you ready for the question?

Dr. HAVEN EMERSON. The mover and the seconder of the original resolution accept the amendment of Doctor Patterson, so that the only point at issue is whether the motion shall include the phrase "and that until such time distribution of this substance be stopped."

The CHAIRMAN. You are voting on the elimination of the last clause of Doctor Nicoll's resolution, and Doctor Thompson will call the roll. As a matter of fact, of course, this is an expression of opinion of the conference as to the cessation of distribution. There is no legal authority to compel that.

Doctor THOMPSON (calling roll). American Federation of Labor.

ANSWER. No.

The CHAIRMAN. It has been suggested that I again state that a person voting yes or no will be voting on the elimination of the last clause of Doctor Nicoll's original resolution regarding the cessation of the distribution of the substance, and a vote of aye is for the elimination of that clause; that is, the passage of the resolution with that clause eliminated.

A DELEGATE. If I am not out of order, may I ask again if distribution is to be interpreted as public sale? I would vote one way if distribution is to be interpreted to permit the sort of thing Doctor Patterson has in mind.

Doctor EMERSON. It was drafted by Doctor Nicoll and me. In the original resolution, by the term distribution, we intended the general public sale and distribution in retail commerce. It is inconceivable that any such committee could arrive at a conclusion without the opportunity of getting access for experimental purposes to the commercial material of tetraethyl gasoline as it has been used in the past by garages or elsewhere. Clinical tests of those using ethyl gasoline will have to be made, but we thought that these need not be made at the cost of resuming distribution universally of this motor fluid in the retail trade.

The CHAIRMAN. You do not intend to include in it cessation of distribution for governmental use—military or naval use—do you?

Doctor VAUGHAN. I propose an amendment to the amendment, which I believe will be acceptable to the gentleman who made the amendment, and I hope acceptable to the gentleman who drew the original resolution. If so, that will simplify it. In my mind it is impossible to recommend that something be discontinued which is already discontinued. The resolution calls for a discontinuation of the sale of ethyl gasoline, and it is not being sold at the present time; so I would move as an amendment to the amendment that the last phrase be changed so that the question of continuation or discontinuation of the use of ethyl gasoline be referred to this new committee for immediate report to the Surgeon General.

Doctor PATTERSON. I accept it.

Doctor VAUGHAN. Final action to be taken by the Surgeon General. In other words, I think this committee of experts should decide this matter and not this conference.

That the question of the continuation or discontinuation of the use of ethyl gasoline be referred to this committee to be appointed by the Surgeon General for immediate report, and that final action depend upon the decision of the Surgeon General after receiving such report. Do you accept that?

Doctor NICOLL. No, I do not; I think it might be made more grammatical. Something discontinued that is discontinued; but if some grammarian will fix up that last sentence I will accept it. No; I do not accept it.

Doctor VAUGHAN. May I suggest something more grammatical:

That immediately after the appointment of this committee the committee meet and recommend to the Surgeon General at the earliest possible moment whether it will be advisable to permit the sale of ethyl gasoline during the

period from now until the 1st of January, awaiting the complete report, and that final action be left to the Surgeon General.

The CHAIRMAN. You said you accept that?

Doctor PATTERSON. Yes.

Doctor NICOLL. I do not want to be stubborn about this thing, but we have listened for a good many hours and have reached, certainly, fairly definite if not definite conclusions and ideas on this subject, and I think that you could point out to the gentlemen of the Ethyl Gasoline Corporation and the Standard Oil Co., and manufacturers in general, whether it is advisable to continue the manufacture of this gas, in view of what we have heard. I think they will agree with me as a matter of policy, if nothing else, that it would be a great mistake not to stop it here.

Mr. HOWARD. We would be inclined to agree with you, but object most strenuously to this conference taking such action.

Mr. E. W. WEBB. In regard to the implied criticism mentioned by Doctor Henderson about the letter, the latter part of 1922, which he read, I think this conference should take note of the fact that the Bureau of Mines was requested by the Ethyl Gasoline Corporation and its predecessor to conduct examinations and experiments which they have undertaken; that Columbia University was likewise requested by the Ethyl Gasoline Corporation; and when it was brought to the attention of the Ethyl Gasoline Corporation very recently that there was a difference of opinion among men of prominence scientifically as to whether there was or was not a possible hazard in connection with the distribution of gasoline ethylized, a board meeting was called just as soon as I could get it together (a good many of them were out of town at the time), and the board unanimously decided, and I can say this without any question of contradiction, without any pressure whatsoever, to discontinue the sale of ethyl fluid to its customers.

Now, there has been no intimation by anybody representing the Ethyl Gasoline Corporation or its stockholders to-day that we intend to make and resume the sale and distribution of this product, and it seems to me this resolution carries with it an implied threat by certain gentlemen present that we must not even consider for a moment resuming its distribution, when there has not been the slightest intimation on our part that we would think of doing such a thing, which the Surgeon General knows, and I think I read it in the papers that this corporation told him that if there was any indication of a public hazard it would discontinue its sale. It seems to me if you then put it up to the committee to decide whether it should be continued or not, then we are placed in the awkward position of being forced to do something which we would voluntarily do, and I think it is very unfair to us at this time to take that position.

The CHAIRMAN. You are voting now on the question of the substitute amendment by Doctor Patterson. I will read it once more:

It is the sense of this conference that the Surgeon General of the Public Health Service appoint a committee of seven in number of recognized authorities in clinical medicine, physiology, and industrial hygiene to present to him, if possible, by January 1 next a statement as to the health hazard involved in the retail distribution of tetraethyl gas motor fluid.

And there you stop.

Those voting aye vote in favor of the resolution as I have just read it. Please be good enough to answer to your names.

Doctor HEKTOEN. I move that the amendment be laid on the table. (Seconded.)

Doctor HEKTOEN. I had reference to Doctor Vaughan's amendment.

The CHAIRMAN. The same thing will be accomplished if they vote on this resolution as I read it, because that elimination is with reference to cessation or discontinuation.

Doctor HEKTOEN. Not altogether, because Doctor Vaughan's amendment includes other matters.

Doctor EMERSON. May I suggest this, that the resolution read as follows:

It is the sense of this conference that the Surgeon General of the Public Health Service appoint a committee of seven recognized authorities in clinical medicine, physiology, and industrial hygiene to present to him, if possible, by January 1 next, a statement as to the health hazard involved in the retail distribution and general use of tetraethyl lead gasoline motor fluid; and that this conference indorses as wise the decision of the Ethyl Gas Corporation to discontinue temporarily the sale of ethyl gas.

Doctor PATTERSON. I second that resolution.

The CHAIRMAN. Are you ready for the question? All in favor of the resolution introduced by Doctor Nicoll and seconded by Doctor Emerson and Doctor Patterson and Mr. Howard will signify it by saying aye.

(The motion was unanimously adopted and the resolution was carried.)

The CHAIRMAN. I express my appreciation of this confidence you have reposed in me and the responsibility which you have entrusted to me, and I wish to explain, first, that under the law the Public Health Service has not only authority but responsibility to investigate things. We have not police authority in this matter, and I want to ask from all of you your cooperation. It is a very important question and we need all the help we can get. I think you all realize, too, that it would not be wise for me to attempt offhand to pick out the committee, but I will try to do it to-night or to-morrow and let you all know by mail, if that is agreeable to you. It would be very difficult to name offhand the individuals. I shall

want to consult frankly such people as the American Medical Association and various professional organizations and get them to suggest some nominees for the committee. I do not think we can do anything, and the committee certainly can not do anything, without the cooperation of you gentlemen who represent the manufacturing and distributing ends, and I am quite sure that we can count on you.

Doctor PATTERSON. Mr. Surgeon General, before this meeting adjourns I would like to express upon behalf of myself, and I am quite sure everybody present, the very deep appreciation we are under to you for the most fair and excellent manner in which this conference has been conducted.

The CHAIRMAN. I thank you. Has anybody any objection to the addition to the resolution as passed, as suggested by Mrs. Burnham, saying that this shall be done with Government funds, and report back to a future conference?

Doctor PATTERSON. Not if you can get the money.

The CHAIRMAN. We will do the best we can, with the Comptroller General's help. Is there any further suggestion before the conference?

Doctor PATTERSON. I move we adjourn.

(Seconded.)

The CHAIRMAN. I want to express my appreciation to those professional gentlemen who have left their universities and have come down here. Unfortunately, the Government has no authority to pay even their railroad fare. There is a great deal of hardship not only in that way but in leaving their work during the time the university is in session, when they have other work to do. We certainly appreciate their coming very much.

(There was no objection made to the inclusion of Mrs. Burnham's amendment in response to the Surgeon General's inquiry for objection. The resolution referred to, including such amendment, was adopted, and is as follows:)

It is the sense of this conference that the Surgeon General of the United States Public Health Service appoint a committee of seven recognized authorities in clinical medicine, physiology, and industrial hygiene, to present to him, if possible, by January 1 next, a statement as to the health hazard involved in the retail distribution and general use of tetraethyl lead gasoline motor fluid; and that this conference indorses as wise the decision of the Ethyl Gasoline Corporation to discontinue temporarily the sale of ethyl gas; that this investigation shall be paid for exclusively out of public funds; and that the results of this investigation shall be reported back to a public conference called for the purpose by the United States Public Health Service, at which labor shall be represented.

(Thereupon, at 5.45 o'clock p. m., the conference adjourned.)

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STUDIES IN NATURAL ILLUMINATION IN  
SCHOOL ROOMS

A REPORT ON THE OBSERVATIONS OF  
DAYLIGHT ILLUMINATION OF SELECTED CLASSROOMS OF  
DIFFERENT ORIENTATION DURING THE PERIOD  
OF AN ENTIRE SCHOOL YEAR

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