

Rubber Section

1157

- b. Keep caps on tops of drums when not charging.
- c. When charging CO² tank, see that the valves between CO² drums and tank are opened before valve on top of CO² drum is opened.
- d. See that there are no leaks in CO² tank or piping.
- e. Pump vulcanizer to zero pressure before opening its door.
- f. When throwing away old CO², see that it is discharged out of doors where it will not be injurious to the health of employees.
- g. Test all safety valves daily or during each heat.

The CO² drums stand at a much higher pressure than any pipe, tank, or fitting which is used in connection with them, so it is absolutely necessary that the full drum pressure be prevented from extending to any connection or related apparatus. If a drum head breaks, the drum will fly around like a fire hose nozzle, and is liable to do serious damage, so great care must be taken in handling same.

CO² gas should not be permitted to escape in a confined space where persons are present.

ADJOURNMENT.

FRIDAY MORNING SESSION

THE meeting was called to order at 9:50 A. M., by the Chairman, Mr. Sidney M. Schott.

CHAIRMAN SCHOTT: Report of the Nominating Committee, Mr. Harold T. Martin of the Fisk Rubber Company, chairman.

MR. H. T. MARTIN: Mr. Chairman, the Committee has selected for your approval as Chairman, Mr. E. H. Fitzgerald of the Federal Rubber Co., as Vice-Chairman, Mr. P. B. Martens of the Firestone Company, and as Secretary, Mr. W. N. Fitch of the Goodrich Rubber Co.

CHAIRMAN SCHOTT: If there are no other nominations I suggest a motion for the unanimous election of those named.

(A motion was made and seconded that the nominees be unanimously elected. The motion carried.)

Address on "Industrial Sanitation" by Mr. W. N. Fitch of the Department of Safety and Hygiene of the B. F. Goodrich Company, Akron, Ohio.

INDUSTRIAL SANITATION

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To many, sanitation may seem to be a new word but history carries the word "sanitation" back to the time of Moses, who along with many other honors was recorded as being the first sanitarian.

Agrippa in Caesar's time, in the year 27 B. C., built the Pantheon, called the All Holy Place, which was a wonderful structure of Roman art and contained the splendid baths in which the Romans took such high delight. One of the characteristics of the ancient sanctuaries of the old churches of Rome was the provision for bathing accommodations for the weary pilgrim. So down through the ages the various angles of sanita-

tion have progressed, but only within the last few years has industrial sanitation been given any consideration by the employer.

As a result of investigation by progressive employers, the safety first movement was inaugurated and this was the first step to improve the working conditions of the workmen. Then paralleling it came the sanitation movement.

Employers, recognizing the economic side of sanitation as applied to industry, have taken the lead and made great progress toward improving working conditions, not waiting for the representative boards of health, state factory inspectors, and commissioners of labor to secure legislation to force better sanitary conditions.

Those who have given sanitation consideration realize how much workmen are affected in their health, habits, personal appearance, and efficiency by the environments under which they work. In passing through our industrial centers we have only to gaze upon the manufacturing buildings of yesterday and those of today to appreciate the fact that industrial architects are giving important consideration to the two great problems confronting the working conditions of employees in industry—safety and sanitation.

GENERAL CLEANLINESS

There is probably no type of factory sanitation which is so much neglected as general cleanliness. Industrial managers are just beginning to understand the economic values resulting from proper cleansing of the floors, walls, ceilings, light fixtures, and machinery.

To maintain a pure air supply, both artificial and local ventilation are now being applied to units which produce large quantities of dust, thus eliminating the particles of dust flying and settling about the room and impairing the health of employees.

Two prime essentials in the different operation of any plant are sufficient light and pure air, clear of dust or poisonous vapors. Light and cleanliness are to some extent interdependent; for however good the first installation may be, if layers of dust are allowed to accumulate on fixtures and windows as well as walls and ceilings which act as reflectors, the lighting standard will be greatly lowered. Then, the dark shop while not necessarily dirty is usually so. Dark, uncleanly surroundings have a noticeably depressing effect on the cheerfulness and morale of the employee, a fact clearly recognized by physicians and hospital superintendents.

The broom and brush formerly used almost entirely as a medium of cleaning the floors and benches, are fast being relegated by progressive employers to the museums as relics of the past, while the up-to-the-minute manufacturer turns to new and improved methods.

The large and progressive ventilating and vacuum cleaning manufacturers, who have made it possible for the housewife to clean carpets, rooms, walls, and upholstered furniture with less physical effort and more efficient results by eliminating flying dust, realize the possibilities of cleaning industrial plants by a similar method.

Rubber Section

It is true that vacuum cleaning has been used for a number of years on specialized processes but it is only within the last year or two that real efficient vacuum equipment has been introduced to the industries and today industries are having an opportunity of trying out portable machines of large units.

One of the foremost industrial plants has for several months had a machine on trial. The room in which the machine is located has been painted white and a complete test is being made both as to the efficiency and the economic value of vacuum cleaning of floors, walls, pipes, and machinery as against the old broom and brush method.

Observations taken so far show that the floors are not only being cleaned but the dust is being absorbed instead of stirred into the air. The dust is being sucked from the cracks. As a result, no dust is circulated into the air, therefore, the walls, ceilings, and pipes remain comparatively clean. Furthermore, it appears that the operation of the layout is much more economical than the broom and brush method.

Industry has only to be patient and co-operate with the vacuum cleaning manufacturers in their efforts to work out the problem and industry will soon be cleaned by the most economical and efficient method yet produced—vacuum cleaning.

Of great importance to general cleanliness is prompt and efficient removal of all rubbish, sweepings, etc. It is very good sanitary practice to furnish receptacles of fireproof material in which rubbish and sweepings can be deposited. Employees can be persuaded to use these sanitary receptacles for rubbish by means of education through the house organ and by bulletin boards.

DRINKING WATER

Every industrial establishment should have an adequate supply of drinking water of a pleasing temperature as well as attractively clear and, by far the most important, it should be pure. Drinking water should be tested for impurities daily by a bacteriologist.

In some of the older plants there still exists the crude method of serving water to employees by the use of the Bristolware jars. Water of a proper quality but of varied temperature may be served reasonably safe in this manner if the jar is provided with a faucet and an individual cup of either metal or paper is used. However, extra care must be exercised to prevent the contamination from others using the same drinking vessel.

The filling of these jars safely depends largely upon the unit used. A tank mounted on wheels equipped with a pump has been found very efficient. This method prevents the possibility of an operator with dirty hands filling the jars from a pail and coming in contact with the water, also is less likely to catch any flying particles of dust that may be in the atmosphere.

Many industries where they have a good pure water supply either of their own or from the city, have installed individual cooling fountains at various points throughout their plants which are equipped with sanitary

drinking fount heads, the water being cooled by the medium of ice placed in the cooling tanks. This system works out fairly successfully.

The most satisfactory and effective method of distribution of water is by an automatically cooled circulating system with founts located at convenient places throughout the building for employees. There are several types of drinking fount heads on the market and if considering such a system, great care should be taken to give a thorough study to the drinking fount head as this is the point at which contamination can occur.

One of the heads which has given exceptional satisfaction and by many is believed to be the safest from contamination is one from which several streams of water flow from the inside of the ring toward the center. These streams unite in the center and form a larger stream of such pleasing quantity of water as to satisfy the employee.

It must be emphatically borne in mind that these founts as all other types of drinking units must be thoroughly cleansed daily to prevent contamination and to present a wholesome appearance.

A cuspidor is sometimes placed a short distance from the fount for the use of those who are in the habit of chewing tobacco. It is claimed by many to eliminate the possibility of employees expectorating into the bowl of the drinking fountain, which is very disgusting and insanitary.

Those desiring further information along the best lines of drinking equipment are referred to the United States Public Health Reports, Volume 32, issued May 11, 1917.

CUSPIDORS

Cuspidors are a most necessary nuisance both in offices and factories to prevent spitting on floors and other places. The proper cleansing of the cuspidor is a very serious problem. First, because the work is not desirable; and, second, there are very few really efficient methods. However, I have in mind one which has been used for several years and has given fair results. Cuspidor is made of galvanized metal about 9 inches in diameter with a removable top which is concaved with 2-inch opening.

COLLECTION AND DISTRIBUTION

The collection and distribution is done through the medium of a rectangular metal box equipped with a cover in four parts mounted on a four-wheel truck and demountable in order that the load, box included, may be promptly removed from the truck and a load of clean cuspidors started on its tour of distribution and collection.

Cuspidor is emptied into a digester composed of $\frac{1}{4}$ -inch screen receptacle placed on a sewer, the opening of which is surrounded with a metal cylinder with foot operated cover. When the solid matter has filled the screen receptacle, it is removed from the cylindrical vessel and an empty screen replaces it, the full screen being emptied into a garbage can and covered ready for final disposition at the incinerator. Cuspidors after being emptied at the digester are passed to a bench provided with

racks properly equipped with pegs to set the bowl and covers of the cuspidor. These racks are placed in a machine having a capacity of four racks.

This machine is provided with warm water into which has been placed a washing solution. The water is pumped on to the contents through rapidly revolving sprays of considerable force. When the washing is done, which requires 1½ minutes, pump is stopped and the cuspidors are rinsed with a douche of steam and hot water. This thoroughly cleanses and disinfects also heats the metal of which the cuspidors are made and they dry rapidly after removing from machine. After removing from trays they are again placed in the metal box ready for distribution.

TOILETS

Perhaps in some industries no item is so neglected as toilet accommodations. Frequently you find them located outside of the factory, sometimes quite a distance, causing a loss of time and endangering the health of the employees. Toilets should be located within a factory building on an outside exposure for light and ventilation.

All industrial and sanitary codes demand separate toilet compartments for each sex in every factory where men and women are employed.

It is good practice to provide toilets on each floor with due consideration as to distance the employee has to travel. Frequently toilets are installed in a tower especially built for elevator, stairs, and toilet rooms located at the most practical point for the convenience of the occupation of the building and due consideration for future building construction. Much expense and trouble will be eliminated if the industrial engineers will select a standard of toilet equipment, considering the various points as applying to sanitation and efficiency. (See Safe Practices, No. 27, p. 14, "A Toilet Room to be Proud Of.")

The following points have been tried out and found practical to good, sanitary toilet equipment:

1. Location on outside walls for light and ventilation.
2. Solid porcelain closets with open front type of seats automatically flushed by seat action.
3. Each closet enclosed in a metal cabinet with doors.
4. Inside dimensions of cabinet 48-32 inches, door having a minimum height from the floor of 18 inches.
5. Each door provided with a spring which will close it up to a point of about 1½ inches.

(Where a compartment door is ajar, not locked, it gives the same privacy but eliminates possibilities of employees loafing, maneuvering with the equipment, or writing inscriptions on the walls.)

6. Metal for cabinets formed in such manner as to leave practically no opening for the accumulation of dirt.

(Fig. 1 shows lock on door which is not practical, use spring instead.)

7. Floors constructed of concrete pitched to floor drain.

Hose bibb supplied for attaching hose for flushing entire unit.

8. For convenience, one small porcelain or white enamel lavatory foot control, no stopper, spray head should be installed in every toilet room having five toilets or less with an additional lavatory for each multiple of five.
9. For the sake of cleanliness, closets should be washed every twenty-four hours with a solution saturated with a disinfectant. It is desirable that some standard painting scheme along practical lines be adopted, such as a 6 inch slate wainscoting, white enamel walls and ceilings and cabinets, and black around the handles of the doors.
10. Full-length solid porcelain urinals equipped with supply pipe for



FIG. 1. A GOOD TYPE. THE LOCK ON DOOR, HOWEVER, IS NOT CONSIDERED PRACTICAL

constant running water is good installation. If there is more than one urinal, they should be separated by a screen for privacy.

11. Urinals should be set on floor slab with concrete platform 6 inches at the outer edge and tapered to the lip, platform to be $30 \times 30 \frac{1}{2}$ for a single unit.

A clearance of $\frac{3}{4}$ -inch to be left on sides and filled with pyrex.

NECESSITIES AND COMFORTS

Until recent years little or no attention was paid to the comforts of employees in reference to where they should hang their coats, hats, or

dinner baskets; how or where they should wash their hands or take a complete bath. In most instances, the coat and hat were hung on a nail in the workroom, the dinner basket was set under the work bench and if complete change of clothing was made into a working uniform it was done in the open workroom. It can be readily understood that under the old type of sweeping and performing of work without ventilating units, the dust circulating in the air settled over the clothes and dinner basket.

Many plants have no washing facilities and lunch is eaten with hands soiled from work. Investigations and efforts upon the part of progressive industrial managers have worked many improvements. The locker has taken the place of the hook, washing facilities and showers, even tho in some instances crude, have come to stay. In most instances lockers and washing units are distributed on working floors. Investigations and systematic study develop that from an economic standpoint lockers, washing units and showers should be centralized under a caretaker at one or more entrances in the mill.

Almost invariably the individual locker system is being adopted as the cleanest, safest depository for outer garments. Some system of inspection, however, must be provided to prevent the housing of unnecessary articles in lockers and to bring about the proper care of the locker itself by the employees.

Lockers should be constructed of metal connected in units to the best advantage of space available. Sufficient depth should be allowed for the use of a coat hanger in order that the garments of the employee could be spread out, for on some occasions they will be damp as a result of rain and spreading them on a coat hanger they will dry more quickly and will have a more presentable appearance. The width of the lockers should be sufficient to allow the hanging up of the hat and other garments if the employee desire to make a complete change. The height should be sufficient to take care of the average length coat.

The top of the locker slanting toward the floor eliminates the catching of dust, the catch-all for various types of material which might fall off and injure employees, and presents a more orderly appearance. (See Safe Practices, No. 27, "Drinking Water, Wash and Locker Rooms, and Toilet Facilities, p. 10.)

For purpose of cleaning, locker should be set up sufficient height from the floor, at least 8 inches, also to make it possible to attach a ventilating system to the bottom of the locker.

The selection of the latch and lock have much to do with the life of the locker. The latch should be of a type that the handle may be operated by pulling upward and outward. Cabinet lock system is more apt to get out of order than a padlock system and combination padlocks have been found to be the most appreciated by the employee on account of there being no keys to bother with or lose. Less garments have been stolen as a result of combinations being picked.

The following is a description of a locker unit used by one of the largest industries of the country after a most thorough investigation and

test made both by the Engineering Department and its Safety and Sanitary Organization:

Unit composed of 5 lockers setting upon a base of 4 legs, 8 inches from floor.

Height from the floor of the locker from the base to top is 5 feet.

Height back is 5 feet 6 inches.

Width of each locker 10 inches, and depth 18 inches with a shelf within same 54 inches from floor extending 9 inches from back.

A groove in the shelf upon which the coat hanger can be hung.

Two hooks on the opposite side from groove.

In the bottom 2 inches from the back end is a 2-inch hole.

Edges turned down for ventilating purposes.

Over this opening is a slanting hinge cover, back of which is 5 inches from the floor, louvred so as to allow passage of air.

This installation protects garments from covering up the ventilating floor of locker or any material falling into the hole.

Slanting roof, combination padlock insert from top of locker door.

In selecting lavatory equipment, economy of course is a most important factor. The type of unit as to construction, material, control, life and appearance is also important. Units of porcelain and white enamel iron are perhaps the most desirable.

In large washrooms where the control of water can be handled by a caretaker, very practical lavatories are those constructed 8 feet in length of white enamel iron with five goosenecks provided with spray heads about 2 inches in diameter located 20 inches from the bottom of the lavatories through which the water flows with some pressure. Liquid soap dispensers are located between each spray head. No stopper at the waste openings should be supplied thus allowing the dirty water to run away, the employee washing under clean running water from the spray heads. Individual linen or paper towels can be used. (See Safe Practices, No. 27, p. 8.)

Where lavatory units are not under the control of a caretaker, it has been found most desirable from a health standpoint to control the water by foot equipment. The box foot control valve is considered one of the economic types of individual controls, requiring less upkeep.

A most desirable individual porcelain unit is now on the market. It is simple in construction, having no stopper and water is supplied by a gooseneck with spray head and a foot control. The soap can be either furnished by individual tilting style of liquid soap container or from one container with individual control for each lavatory. (Fig. No. 2 illustrates this type.)

SHOWER BATHS

Every industrial plant whether they do or do not have centrally located locker rooms ought to have a few shower baths. Where you have centrally located locker and washrooms, it is most desirable and efficient to put in a neatly constructed shower bath equipment, taking into consideration the number of showers required for the type of occupation of

plant. If the work is dirty and grimy and poisons are used, men should shower before leaving for home especially if they change all their clothes upon entering and leaving the mills.

LUNCH ROOMS

The sanitation in industrial lunch rooms is most frequently a much neglected situation. The success of the lunch unit and the health of the employees depends largely upon the inspection and sanitation of the unit itself and the control of the foods. I shall not go into detail on this

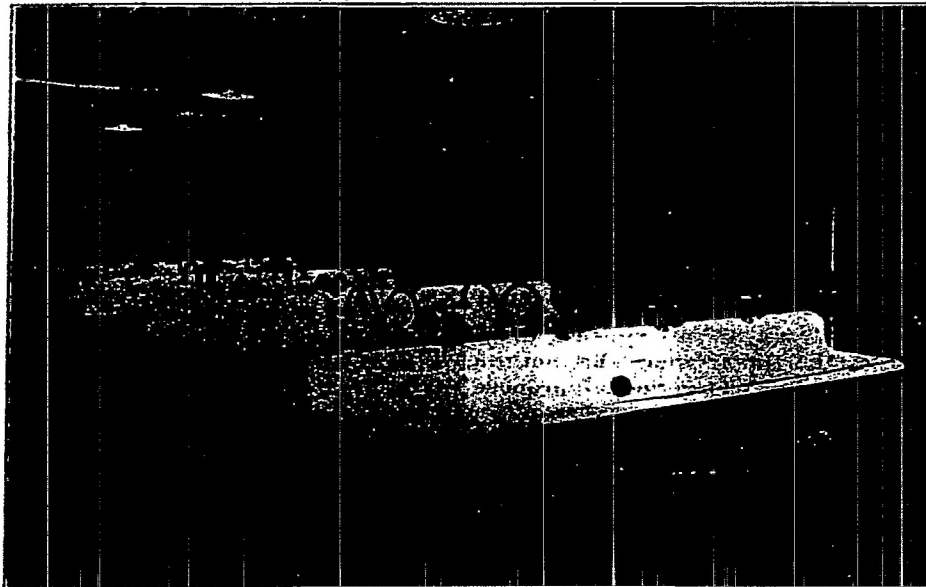


FIG. 2. PRACTICAL TYPE OF LAVATORY WITH LIQUID SOAP DISPENSERS.

subject but I wish to warn all industrial managers that if their lunch units are not a success, they should make a thorough personal investigation and without doubt they will find that sanitation enters more than any other item into the unsuccessful result.

After all, we are all human and we have more or less pride not only in our dress and cleanly appearance but in the food we eat. The Bible tells us: "Cleanliness is next to Godliness."

The better dressed and cleaner an employee, the greater asset he is to your business.

It goes without question that in the future both men and women are going to be attracted to the industrial plants which have good, clean, healthful working conditions.

DISCUSSION

MR. HOENER: One question that has often come up in various layouts for new plants is the question of whether or not washrooms should be located in toilet rooms, or whether they should be located adjacent.

MR. FITCH: The general washroom should not be in the toilet room. I think that in every toilet room there should be at least one lavatory. That is very important.

MR. J. T. BURKE (Chief Factory and Office Building Inspector, Province of Ontario, Toronto, Canada): Is it necessary to provide double lockers, one to take care of the shop clothes and the other for the street clothes?

MR. FITCH: It is a question in my mind whether we ought to have double lockers; at the present time we are using the single locker. In our compound rooms we have just built on new locker rooms and a very fine shower bath. We are studying the plan of what to do about the clothes. Every man who comes in, who works in our mill rooms where there is dust and in our compound rooms, comes into the locker room which is centralized, removes his street clothes and puts on a uniform which he himself pays for and is properly numbered. I am figuring with the vacuum cleaning people to see if we can't secure an arrangement whereby those suits, until they become so dirty that it is necessary to wash them, can be thrown into some type of vacuum cleaning apparatus so that we can clean them quickly. The caretaker can take care of the clothes. They are all marked, and my idea is to put a hook on the outside of the locker where the clothing will be hung for the caretaker.

In the new locker room I propose to go further and put in some sort of washing unit so that we can wash those clothes and dry them over night, or between shifts if necessary.

Each man should be given a washrag and towel, and either liquid soap or individual cake soap should be furnished. Those who are using lamp black are probably having a lot of trouble trying to find a soap that will quickly get rid of the lamp black. We are using a soap put out by the West Disinfecting Company. We have used all kinds of cake soap. We also have a colored fellow in there and he is put into a bathing suit and he washes the backs of the men. At the present time he is using a brush which he sticks in a solution between each act, but we propose to give them a washrag and they can wash themselves, and he will take this washrag and wash their backs.

MR. BURKE: How many showers have you determined for a certain number of employees, and how long does it usually take each employee to take a shower?

MR. FITCH: I don't think we have been able to work that out ourselves.

MR. BURKE: Do you find, as a matter of fact, that the men take the shower bath opportunities?

MR. FITCH: We don't have a bit of trouble. The first thing they do is look for the shower. Adjacent to that same room we have built a lunchroom. The men in the compound room go there to eat their meals, and they cannot get in there until they have washed. We have provided a

special washroom outside of the lunchroom so they have to go through that. We haven't put that lunchroom into action yet, but that is the scheme, and one of the foremen every day stands at the door and sees that the men are washed.

MR. SCOTT: In the white lead industry they have two locker rooms with a shower bathroom between. The men come in and leave their street clothes in one room, go through the shower room to get into their working clothes, and when they get through they take their working clothes off and have to go through the bath and shower room to take their shower before they can get their street clothes. A law in the State of New York provides for that. The National Lead Company uses that system and employs men to see that the men do take their showers.

The United States Steel Company has some statistics and figures on the number of showers required per unit. The New York State Safety School also has some information on that.

CHAIRMAN SCHOTT: Mr. Fitch, what is your opinion regarding the spraying of locker rooms, lockers and workrooms? Have you had any experience on that?

MR. FITCH: We haven't done any of that work at all. I have talked with our doctors and they laugh at it, so we haven't started it.

MR. R. N. WATSON: I may say that the employees sometimes request that you clean out their lockers. We have had that experience, men coming in from the factory and requesting that old lockers be cleaned out before being put into use, and we have had to use a disinfectant spray on those. I think our medical department claims the same as Mr. Fitch says—that the spraying actually doesn't do any good, that the best way to do is to take a scrubbing brush and water and wash the locker out thoroughly on the inside. We have made a practice of doing that in rooms used by compound men and lamp black departments, etc.

MR. HOENER: We have had considerable trouble in some of our shower bathrooms, especially where the men use soapstone, due to the men slipping on the floor, and we have found it necessary to put in wooden racks made out of slats about one inch wide spaced about a half-inch apart to prevent slipping.

MR. FITCH: We have used matting in our mill rooms.

MR. HOLMES: How long have you had the seat-operated valves in your factory? Have you had more or less trouble with them than with the hand-operated valves? Can you give me any comparison as to the upkeep and maintenance?

MR. FITCH: We have had the seat power valves for a good many years, and while there is some upkeep sometimes from the abuse of the employees, it isn't any greater than that of the other type. One of the reasons we changed is so that a man does not have to touch his hand to it. This is worth while from the standpoint of health and cleanliness, even though it costs a little more.

CHAIRMAN SCHOTT: Regarding lighting at night for purposes of cleaning the factory and other purposes, what is your opinion regarding the

Cooper-Hewitt light in factories? Has anyone had experience with those lights?

MR. HOENER: We had considerable experience, and we have had quite a discussion with the Cooper-Hewitt people recently. The United States Government at the time we were making balloons insisted on the Cooper-Hewitt lights in our assembly plant. That happens to be our present calender room and we have left those lights in. Our medical authorities took the stand that even though they didn't injure the eye they had something of a bad effect on the morale of the employees, and recommended that we change them.

MR. FITCH: I think the Cooper-Hewitt light leaves a sickly impression, and the workmen look up and see the effect and it kills the cheerfulness of the room.

MR. LARKIN: We went into the subject thoroughly at Chelsea and we put Cooper-Hewitt lights in the mill and calender room. After a week or so the employee gets used to it and he can't see that yellow color. A Cooper-Hewitt light is a peculiar affair in that respect. The first time you see it everything looks purplish. After you have worked in it for a week everything looks white. You love that effect absolutely. We had Cooper-Hewitt lights in the drafting room, for instance, and there were great objections—everything looked blue but after a short time everything looks the right color. After a month's use in this calender room the men preferred it to the old system. It gave far more light with less expense and less wattage. We call it a success.

CHAIRMAN SCHOTT: One of the objections to the Cooper-Hewitt light has been that the men could not distinguish the colors of the various stocks, but the Cooper-Hewitt people say that the Cheney Silk Mills use Cooper-Hewitt lights, so I guess rubber plants ought to be able to use them.

MR. C. W. KENNEDY (Wisconsin Industrial Commission): Recently the Advisory Committee in this state has been revising its orders on industrial sanitation, and we have reported on some of the points that have been taken up in Mr. Fitch's paper.

We have reported favorably on cleaning equipment in plants that have explosive dust, and we are recommending the use of the vacuum systems in all other plants for the purposes of cleaning. Taking up the matter of pure water, I find in going over the state that many plants do not consider cross connections as important; yet you will find your drinking water sometimes cross connected with process water which sometimes has many different kinds of industrial poisons in it. That is one thing that I think is important.

One thing that our committee on sanitation here is recommending throughout this state—the considering of the main points on new construction, and we have two conditions that face us—new construction and existing construction. In plants that are now operating it is well sometimes to consider, instead of fixing up and patching up the present department, the construction of new buildings to take care of those departments.

I want to commend that part of the paper which so well took up the matter of toilets. It seems to me that there is a very common sense way of putting it—the requirements which are necessary to make a plant as clean and efficient as it should be.

The matter of double lockers for street clothes and working clothes was taken up, and we almost concluded to report favorably on the asking for the use and furnishing of those lockers by the employer whenever the man was working in industrial poisons—when his clothes were covered with poisons and not merely dirty—but we did not come to a unanimous decision in regard to that. We did, however, come to a decision in regard to the cleaning of clothes, and we reported that some help should be given and some attention should be paid to the matter of cleaning the workmen's clothes when he is working in industrial poisons in such a way that his clothes become saturated with them.

MR. L. H. SHEA (Lycoming Rubber Co.): We have had considerable trouble with employees who would not take cement from their hands after making shoes. They would go direct to the cafeteria or eat their lunches that way, and those who would clean it off would use benzine or anything they could get a hold of, and the fumes would remain on their hands and probably a considerable amount of this material. The results of this were that quite a number of severe headaches were reported by employees who reported to the dispensary four or five hours after taking this into their system through the food. We have tried petrolatum, to be applied to the hands in a very small quantity before beginning work in the morning or after they have had their hands cleansed at noontime. It worked very well as far as taking the cement from the hands is concerned, but it left a yellow tinge, and also the employees claimed that it had a disagreeable odor.

I would like to know if any of the men here have a knowledge of anything which will not be disagreeable which can be used either to take the cement off the hands, or be put on the hands before they start work in the mornings?

MR. SCOTT: We have had cases where people using gasoline to wipe the cement off of their hands have burned themselves. They don't like to use kerosene. They don't want to use kerosene and then go to the lunch room. I would like to know if anybody knows anything that would take it off without being objectionable.

MR. FITCH: I won't attempt to answer that question as to what will take it off. To my mind it is a matter of control—you have to impress upon a number of employees the importance of good health, the importance of eating their meal with clean hands, and while you can't do that to the whole group you perhaps can bring some leaders into your medical department and convince them of the importance of that, and have the foremen with them. If you sell it to them it will gradually percolate through the department. You have to deal with the employee like a human being. You have to talk to him in a business way and convince him of the proposition. I don't think you will have much trouble then.