

FILE NAME: National Safety Council (NSC)

DATE: 1932 Feb

DOC#: NSC213

DOCUMENT DESCRIPTION: NSC - National Safety News - The Question Box -
Drinker Respirator

health has been developed with the object of giving to the membership of the Council up-to-date material from the experiences of its members, and knowledge available in contemporaneous literature.

This brief review of our informational material is presented so that

readers may avail themselves of consultations on these subjects or suggest the possibility of articles on other subjects, or present problems of different types for solution.

Inquiries directed to the Industrial Health Division will receive personal attention.

THE QUESTION BOX

(Editor's Note.—Each month Dr. Sappington will answer certain questions relative to industrial health and first aid. Because of limited space, it is sometimes necessary to abbreviate the question or use only a portion of it, while the rest may be answered by correspondence and be given fuller consideration.)

CARBON MONOXIDE

Q.—Is it possible to be poisoned by carbon monoxide gas while in street traffic?—J. L. M.

A.—This question can be interpreted from the viewpoint of three persons: the automobile driver, the pedestrian, and the traffic policeman. Under ordinary conditions, the so-called "diluting" effect of air currents would be sufficient to disseminate carbon dioxide to the extent that poisoning in street traffic is likely improbable.

Most cases of carbon monoxide poisoning occur in enclosures, frequently in garages where there is no ventilation and where the engine is running. A few cases have been reported, where drivers in closed cars have suffered mild chronic effects.

In a few instances, the research work of Bloomfield in taking air samples on various thoroughfares where travel is heavy, has shown that under certain unfavorable conditions, such as heavy air due to moisture, traffic policemen may suffer the mild effects of carbon monoxide poisoning temporarily. These instances, however, are few in number.

DRINKER RESPIRATOR

Q.—Can you tell me something about the Drinker Respirator?—F. D.

A.—This apparatus was devised by Prof. Philip Drinker, Assistant Professor of Industrial Hygiene, Harvard School of Public Health, Boston. It consists essentially of an airtight tank connected to an electrical slow-speed blower such as is used in ventilators. The artificial respiration tank is large enough to accommodate a man 6 feet 4 inches tall and weighing 225 pounds. The patient lies on a mattress placed on a truck which is attached to the lid of the tank. The head and neck of the patient extends beyond the lid through a rubber collar, the head resting on a stand of adjustable height outside the tank. It is possible for a patient to live, sleep and eat in the respirator indefinitely.

By means of electrically driven blowers alternate positive and negative pressures are applied to the air within the tank. In-

spiration is caused by the negative pressure and expiration by the positive pressure in a manner so arranged that it is approximately the physiological normal.

The chief uses of the apparatus so far have been to maintain respiration in those individuals who because of some disease or other conditions have had the muscles of respiration paralyzed. The cost of the respirator is \$2000, and most of the principal large cities have provided a number of these for use in different hospitals.

TOURNIQUETS

Q.—What is the present viewpoint on the use of tourniquets to control bleeding?—A. W. B.

A.—Tourniquets are still used by a considerable number of first-aid instructors, especially in controlling hemorrhage from large arteries. There is a growing conviction on the part of many first aid authorities that most bleeding, especially from smaller blood vessels, can more easily be controlled by digital pressure. In this method, there is also not the danger of preventing the circulation of blood, which may lead to severe difficulty, finally, in the production of gangrene. The Council has a recent poster on this subject, No. 1984-B, sample copy of which will be sent for the asking.

WEIGHT LIFTING

Q.—Are there any standards of weight lifting in different states?—C. L.

A.—The following states have made regulations as noted (applying to women only) relative to the lifting of certain weights of material: California, 75 pounds; Ohio, 25 pounds; Pennsylvania, 15 pounds; New York, 25 pounds.

In each case the maximum number of pounds is stated. As far as we know, there are no similar regulations applicable to male employees.

The problems of weight lifting are rather complicated and we shall be glad to discuss them with you in correspondence. The Council has a very good poster on the proper way to lift weights, samples of which can be obtained for the asking.

COMPENSATION COSTS

Q.—What is the cost of compensation for occupational disease?—L. A. B.

A.—It is difficult to get national figures for the cost of occupational diseases, because of the great variation in the various laws of different states. In the State of Wisconsin, where complete coverage has

been in effect for a period of years, comparisons have shown that the cost of occupational disease coverage is approximately one per cent of the total amount paid out in that state for industrial injuries.

An idea of the cost of occupational diseases in the States of California, Wisconsin, Massachusetts, Connecticut, North Dakota, and Maryland, may be obtained by referring to the reports of the Industrial Commissions of these states.

EXAMINATION FORM

Q.—Where can I get a good record form for physical examinations in industry?—A. J. K.

A.—In our Health Practices Pamphlet No. 2 on "Physical Examinations in Industry," is to be found a composite form for physical examination work. This form is the result of the study of hundreds of individual forms used by different industries. The form is made especially elastic, so that spaces may be left blank, or that other items may be inserted, according to the wishes of the physician who uses the form.

Sample copies of Health Practices Pamphlet No. 2 may be obtained by addressing the Industrial Health Division of the Council.

MICA DUST

Q.—We use a great deal of powdered mica in our plant; is this injurious to the lungs?—H. L. K.

A.—The expression "injurious to the lungs" when used with reference to the effects of various dusts, is construed to mean causing a fibrous tissue reaction in the normal lung structure. At the present time there are only certain dusts known to cause this injurious effect, these being free silica dust, asbestos dust, and carborundum dust.

Chemically, mica is a very complicated compound, essentially composed of the silicates of aluminum and other alkalies, such as potassium, sodium, and lithium. Mica is, therefore, an example of the combined silicates, such as clay, talc and feldspar.

The only known combined silicates that produce fibrosis are those two mentioned above, namely, asbestos, and carborundum.

HERNIA

Q.—(a) What percentage of hernias are thought to be "accidental"? (b) Who accepts the responsibility for industrial hernia?—W. W.

A.—The exact percentage of industrial hernias classed as "accidental," is not known. Most authorities agree that only a very small number (presumably less than 10 per cent) are thought to be industrial or accidental in origin.

In general, the employer always accepts the responsibility for industrial hernia, although this may vary in any given case. Some states have specific provisions in their compensation laws relative to hernia, while in others hernia is considered an industrial injury and comes under the general interpretation of the provisions for compensation for industrial injuries. Information can be given by letter relative to any particular state in which you have an interest.