

The simplest kind of protective equipment, goggles, will protect the worker against practically all industrial injuries of the eyes. The types of equipment for special hazards, such as glass guards on grinding wheels, shields guarding welding or chipping operations, exhaust fan, and proper safety devices for handling corrosive liquids, should be selected by a team of physician and safety engineer, or those experienced in eye protection.

The various visual functions in which defects may occur and create an employment handicap are to be considered both individually in relation to the job adaptation and also as integrated into a comprehensive sight-saving program. They include central vision acuity of each eye, determined separately for distance and near, binocular vision, muscular balance, peripheral vision and color vision.

A GROUP OF POISONINGS BY CARBON TETRACHLORIDE USED IN FIRE EXTINGUISHERS. C. DELECOUR and C. AMOUDRU, *Rev. méd. minière* 2:28 (July-Aug.-Sept.) 1949.

The incident described took place when a fire occurred in the place where two motors were housed, which drove a coal shaker at a pit head. Eight men took part in efforts to extinguish the fire, which lasted ten hours. For the purpose, carbon tetrachloride fire extinguishers were freely used. The men had to work bent double in a confined space charged with coal dust into which fresh air could not be introduced. Two men were exposed to the bad atmosphere for only 20 minutes; four worked until the fire was subdued, and two for the last two hours. The last two were most affected. Six men were only mildly affected with headache and nausea and quickly recovered. Two men were severely poisoned; one was in hospital for 14 days before his vomiting stopped and his kidneys resumed normal action. The other man was a habitual drinker; he did not reach hospital until 15 days after the fire; there he rapidly collapsed and died two days later. Permission to make a postmortem examination could not be obtained. There is little doubt that this fatality was due to preexisting alcoholic cirrhosis of the liver. A discussion on carbon tetrachloride poisoning directs attention particularly to accidents with fire extinguishers. These may be due to ignorance of danger or to leakage of the apparatus. Further, if tetrachloride is subjected to unusually high temperatures, it may disintegrate to form oxychloride of carbon, carbon monoxide and hydrochloric acid, each of which may cause its own reactions. Fires are of different kinds: Wood, straw or paper are best extinguished with water; for oils and fats tetrachloride and methyl bromide are useful; electric short circuits call for the same substances, as well as sand or carbon dioxide. Some advantages would accrue from substituting methyl bromide for carbon tetrachloride, but, so long as care is exerted, tetrachloride need not be prohibited.

From Bulletin of Hygiene.

NEW STUDIES OF WATER-SPRAY DRILLS AT THE AMERCOEUR COAL MINES, Communication no. 70, Dust Control, Institut d'Hygiène des Mines, A.S.B.L., Hasselt, Belgium, March 10, 1950.

The latest model of a water spray drill developed by the Armand Colinet machine shop was tested at the Chuamonceau site of the Amercoeur coal mines during February 1950. The tests were performed in the first stope of the West Hermite coal mine at the 575 M. level. The stratum had a slope of 35 degrees and consisted of alternate layers of coal and rock with an over-all thickness of 90 cm. The working face was 55 ft. (16.5 M.) long, and mining progressed at the rate of 1 M. per day.

The drill was a La Croix type M.B. 50, having two valves situated in the handle, one regulating the air and the other the water in the spray. The valves could be set in three fixed positions, closed, partially opened and fully opened. The flexible water hose was attached to the drill at the handle by means of a bayonet coupling, and the air hose was attached to the handle by a screw connection.

During the eight days of this study, duplicate air samples were collected from the return air shaft by means of the M.S.A. midget impinger. Three samples of 10 minutes each were collected between 9:00 a. m. and noon with a half-hour interruption during the workers' meal time. Data were simultaneously collected on air temperatures and humidity, ventilation rate, coal production, water consumption and moisture content of mined coal.

Tabulated results indicated considerable fluctuation, due in part to erection of barricades, introduced during the second day, which retarded the fall of the coal in the stope. The