
BULLETIN



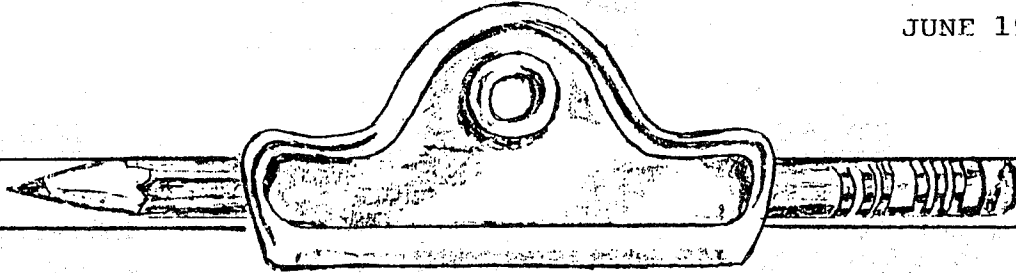
SUPPORT

SAFETY



United States Department of Labor
MSHA
Mine Safety and Health Administration

HOLMES SAFETY ASSOCIATION



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THIS SAFETY BULLETIN CONTAINING SAFETY ARTICLES ON A VARIETY OF SUBJECTS, FATAL ACCIDENT ABSTRACTS, STUDIES, POSTERS AND OTHER SAFETY INFORMATION FOR PRESENTATION TO GROUPS OF MINE AND PLANT WORKERS IS PROVIDED FREE AS A BASIS FOR DISCUSSION AT ON-THE-JOB SAFETY MEETINGS.

PLEASE USE THE POSTAGE-PAID ENCLOSED GREEN MEETING REPORT FORM AND RETURN TO THE HOLMES SAFETY ASSOCIATION.



<u>COMPANY</u>	<u>CHAPTER NO.</u>	<u>LOCATION</u>
Indiana Chapter	7567	Indiana, IN
Ike Coal Company, Inc.	7568	Elkhorn City, KY
Wachob Coal Corporation	7569	Elkhorn City, KY
D. D & J Coal Co.	7570	Virgie, KY
Kilowatt Coal Co., Inc.	7571	Nelse, KY
Ponderosa Coal Corp.	7572	Wise, VA
Kelly Energy #5	7573	Wise, VA
Lambert Coal Co., Inc.	7574	Clintwood, VA
W. S. Frey Company	7575	Clearbrook, VA
Echo Bay Exploration Inc.	7576	Juneau, AK
Echo Bay Minerals Congress Mine	7577	Congress, AZ
Zanford Mining Services	7578	Nestor Falls, CN
Echo Bay Exploration-Kettle River	7579	Curlen, WA
Highwire Inc.	7580	Davella, KY
Fast Track Production Inc.	7581	Davella, KY
Independent Training	7582	Belcher, KY
MA Walker	7583	McKee, KY
McFarland & Hullinger	7584	Tooele, UT
Community Coal Co., Inc.	7585	Lost Creek, WV
Western Arizona Rock Products	7586	Hyder, AZ
Gerrard Enterprises	7587	Clarksburg, WV
Sulenta Construction Co.	7588	Pinedale, WY
Clark Ready Mix & Construction	7589	Jackson, WY
Louisa Sand & Gravel Co., Inc.	7590	Louisa, KY
Tri-State Terminals Inc.	7591	Catlettsburg, KY
N.A. Degerstrom Inc.	7592	Jefferson City, MT
M.E.R.R. Corp.	7593	Marblehead, UT
Big Track Coal Co., Inc.	7594	Dickerson, VA
Elk Run Coal Co.	7595	Sylvester, WV
Cave Creek Sand & Gravel	7596	Phoenix, AZ
Cave Creek Sand & Gravel	7597	Phoenix, AZ
Washington Irrigation & Development	7598	Centralia, WA
Beverly Mining Corp.	7599	David, KY



H.S.A. SAFETY TOPIC

BACK INJURIES

METAL/NONMETAL MINING



The popular method of "bent knees and straight back" has not helped to reduce the number of back injuries to any large extent. It was found that, of the individuals who replied to a questionnaire concerning attendance at lectures on lifting procedures, 77 percent of the sample had adopted the lifting methods advocated in the educational programs. Of those individuals with back injuries, 82 percent said that they had adopted the prescribed lifting methods. This implies that correct lifting methods may not be the entire answer. Physical condition, age, sex and fatigue level may be additional factors involved in lifting accidents.

The physical condition of the worker can determine, to some extent, resistance to back injury. Maintaining reasonable physical fitness can reduce the possibility of undue strain or overexertion of the back muscles. An existing physical ailment can also be a limiting factor in the maximum amount of heavy work an individual should attempt.

As people age, muscle power declines, bones become brittle and the tissues become less elastic. It takes longer to recover from injury and from the fatigue brought on by physical effort. For this reason, older persons should not be used in the lifting of heavy loads or for heavy work over long periods of time. Figure 1 shows the relationship between age and physical work capacity for men and women.

Figure 1 also indicates that in general, women are not capable of lifting the same loads as men. Heavy tasks should be scaled down to accommodate their performance capabilities or provide them with additional assistance, either with another worker or provide them with mechanical aids, if available.

Heavy work causes fatigue. This in turn increases the risk of injury. As the back muscles become tired, they become less capable of supporting the spine and keeping vertebrae aligned. As a result, the spinal discs are subjected to an uneven distribution of the load and rupture can occur. As a minimum, the back muscles may be incapable of supporting the load and become strained.

Relationship between physical work capacity and ages in male and females.

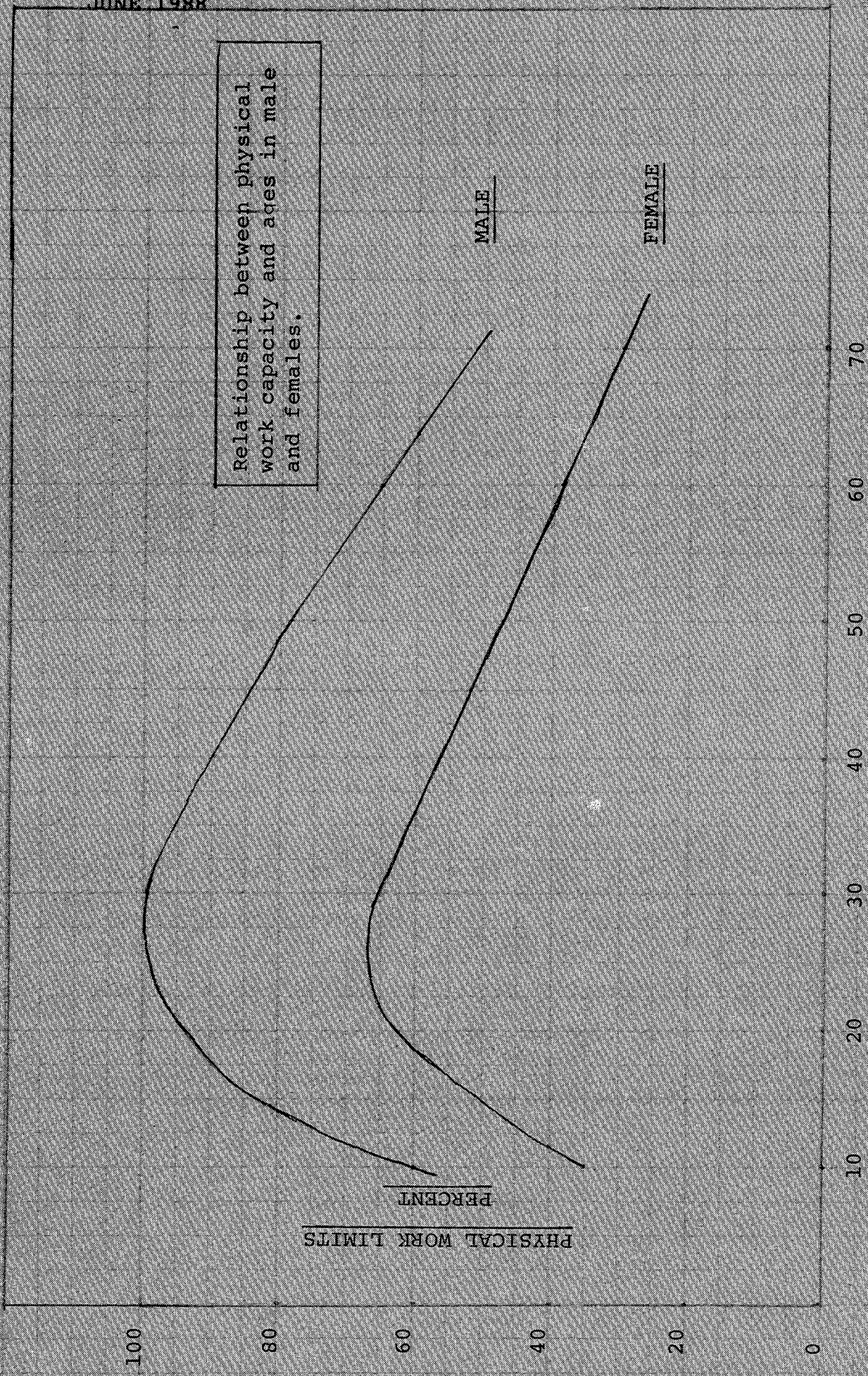


FIGURE #1

TABLE 1 - BACK INJURIES, M/NM MINING
BY ACTIVITY

<u>ACTIVITY</u>	<u>PERCENT</u>
Handling bagged material	16.3
Shoveling	8.9
Moving containers (oxy-acetylene tanks, barrels, 5-gal. cans, etc.)	7.3
Handling parts	4.9
Handling rock	4.5
Handling posts, lagging, timber, etc.	4.2
Handling metal plate	3.6
Handling pipe	2.7
Handling rail	2.4
The remaining activities contribute less than 2 percent each to the total	45.2
TOTAL	<u>100.0</u>

The moving of containers does not, with the exception of 5-gallon cans, generally require lifting off of the supporting surface. However, the most critical portion of the lift (back bent) is still encountered in getting the containers to an upright position. Five-gallon cans present an additional problem in that a twisting motion is often used in order to get the can off the floor, bench, etc.

The handling of rock, posts, metal plate, pipe, rail, etc., encompass some or all of the problems encountered in lifting bags, moving containers and shoveling.

Table 2 shows those work locations where back injuries commonly occur.

TABLE 2 - BACK INJURIES, M/NM MINING
BY LOCATION

<u>LOCATION</u>	<u>PERCENT</u>
Mill and preparation plant	38.1
Strip, open pit, quarry	27.8
Underground	17.8
Surface at underground	3.4
Shops and yards	2.5
Dredges	2.0
Office	1.5
Unknown	6.9
TOTAL	<u>100.0</u>

RECOMMENDATIONS

The manual movement of materials should be reduced wherever possible. Mechanical lifting and transporting should be used, if feasible. Supply points should be located as close as possible to the areas where the supplies are to be utilized. Within supply areas, supplies should be located efficiently to reduce unnecessary movement. When manual handling of materials is necessary, reduce large quantities into smaller units. For instance, 55-gallon drums of liquids can be broken down into 5-gallon cans for easier carrying. Heavy bags of rock dust, sand, etc., can be placed in smaller bags.

When it is not feasible to break down drums of material into smaller quantities, there are devices that can be used as aids in lifting and transporting.

Figures 4, 5 and 6 represent various methods for lifting and carrying bags, sacks, or small drums. When lifting and carrying smaller cans of oil, etc., pick them up two at a time, where possible, to balance the loading on each side of the body.

A long-handled shovel is recommended where space is not a restriction. The long handle permits the work to be done in a more upright position, using the larger muscles of the upper back.

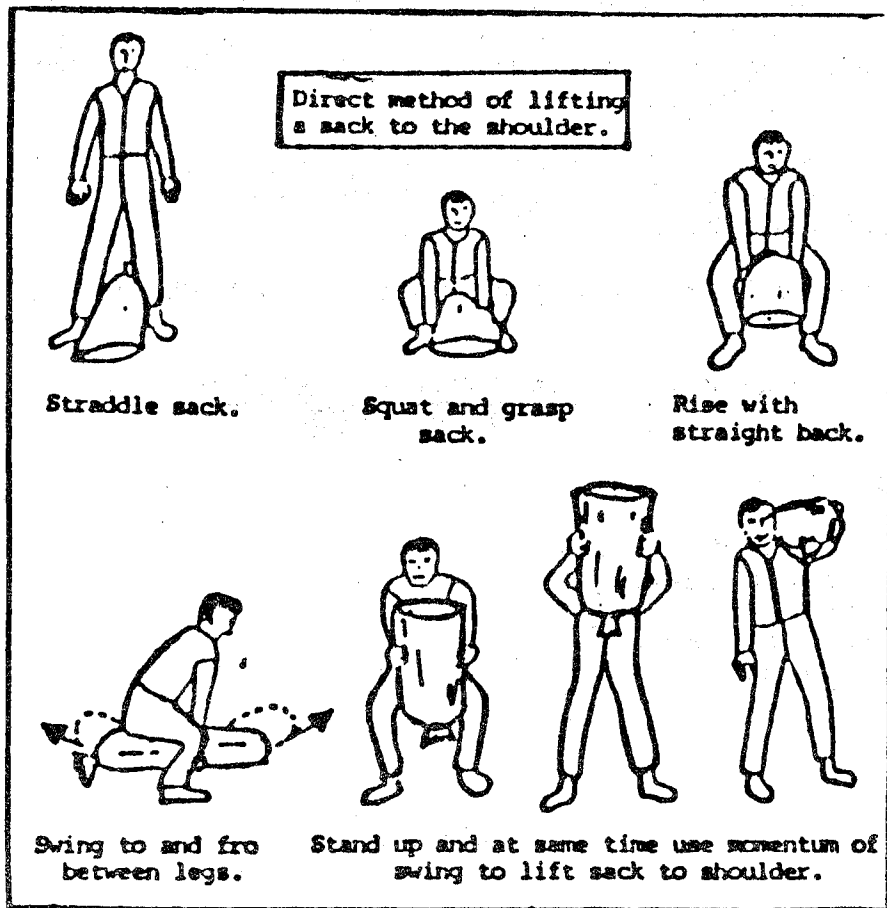


Figure 4.

Lifting and carrying smaller loads such as drums, cardboard boxes, small cases, etc.

FIGURE #5



With legs slightly apart, stand close to the load.



Tip the load on edge.



Squat and grasp the load on opposite sides at bottom and top.



Stand up keeping the back straight and raising the load; keep arms extended.

FIGURE #6

Indirect method of lifting a sack to the shoulder.



Squat with straight back and stand the sack upright.



Tip the sack over on to its bottom left corner so that it rests against the thigh.



Grasp the supported sack around the middle and, assuming a half-squatting posture with the back held straight, tip the sack on to the shoulder.



Grasp the sack and rise quickly, keeping the back straight. With the help of the knee, and using the momentum of the swing, lift the sack on to the platform.

Straighten the body, balance the sack on the shoulder, and carry it away.

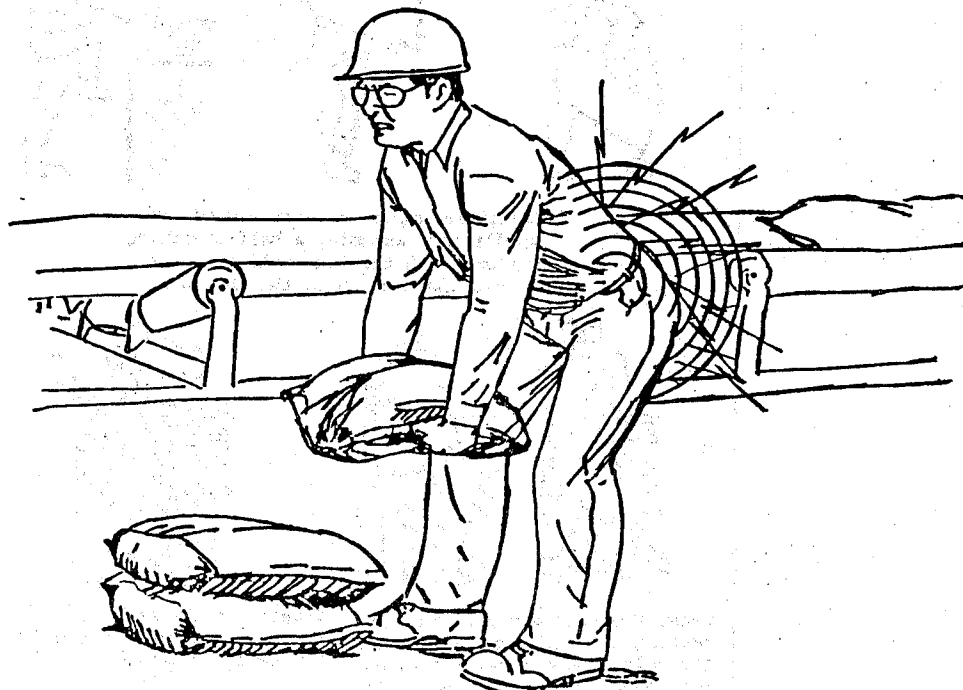


Certain guidelines to proper lifting and carrying should be followed in order to reduce back injuries. These guidelines are:

1. Don't do heavy lifting if tired.
2. Reduce the work hours involved in heavy lifting tasks. (Rotate work assignments where possible.)
3. Wherever possible, reduce weight and size.
4. Test and size up the load before lifting, get help if needed.
5. Plan where load is to be placed.
6. Place feet so as to provide a stable lifting base.
7. Flex knees, use leg muscles to lift.
8. Keep the load close (arms close to body).
9. Don't twist at the moment of lift.
10. Pick loads up slowly.
11. Turn the feet, rather than the body, when turning.
12. When carrying, maintain a clear line of sight, particularly if going up or down stairs.
13. Avoid slippery surfaces.
14. Use lifting principles when shoveling.

If repetitive lifting is required, do not do it from floor level. Store items at least 1 foot from the floor. Where possible, try not to lift from lower than knuckle height. If materials are being unloaded from a conveyor, the conveyor should be raised to permit pick-up at waist level.

Training personnel to lift properly is not the complete answer to reducing back injuries. Management must share the responsibility by promoting the motivation to perform safely and efficiently. This can best be done by training workers in the most efficient methods of handling materials and reinforce the training by constant interest in worker safety.



JUNE 1988

ABSTRACT FROM FATAL ACCIDENT

*This fatality could be discussed at your regular on-the-job safety meeting.



FALL OF HIGHWALL ACCIDENT

GENERAL INFORMATION: A fall of highwall accident occurred in the pit of a strip mine, resulting in the death of a shovel operator-mechanic. He had 30 years total mining experience and had been employed at this mine for 11 years.

DESCRIPTION OF ACCIDENT: The crew, consisting of a shovel operator-mechanic, a dragline operator, an oiler and a superintendent arrived at the mine site and proceeded to the dragline to start their normal work duties.

The shovel operator went directly to the pit to check the water pumps and pit conditions because a heavy rainfall occurred during the night. His normal work procedure, after checking the pit, was to travel to the dragline, pick up the oiler, and return to the pit to perform other duties as assigned.

The shovel operator did not arrive at the dragline, the superintendent became concerned and instructed the oiler to walk the lower roadway while he drove on the upper roadway leading to the pit ramp. The victim's pick-up truck was observed parked at the bottom of the ramp leading into the pit, but the victim was not in the vehicle. While scanning the pit further, the superintendent saw the victim approximately 80 feet in front of the truck, floating face down in about 3 feet of water.

CONCLUSION: The victim died from asphyxiation after suffering a cerebral concussion. There were two lacerations on the top left side of the victim's skull, which indicates he was struck on top of the head.

An examination of the highwall was not made by a certified person after the rain and before miners worked in the area. A violation of 30 CFR Section 77.1004(a).

A suitable hard hat was not worn by the victim while in an area of the mine where falling objects created a hazard. A violation of 30 CFR Section 77.1710(d).

JUNE 1988

ABSTRACT FROM FATAL ACCIDENT

*This fatality could be discussed at your regular on-the-job safety meeting.



FATAL FALL OF ROOF

GENERAL INFORMATION: A fatal fall of roof accident occurred approximately 11 feet in by the No. 2 drift of the underground coal mine, resulting in the death of a superintendent with 5 years mining experience.

DESCRIPTION OF ACCIDENT: The victim and four partners arrived at the mine and prepared to do other work on the surface while a federal coal mine inspector investigated an unintentional roof fall in the No. 2 drift entry.

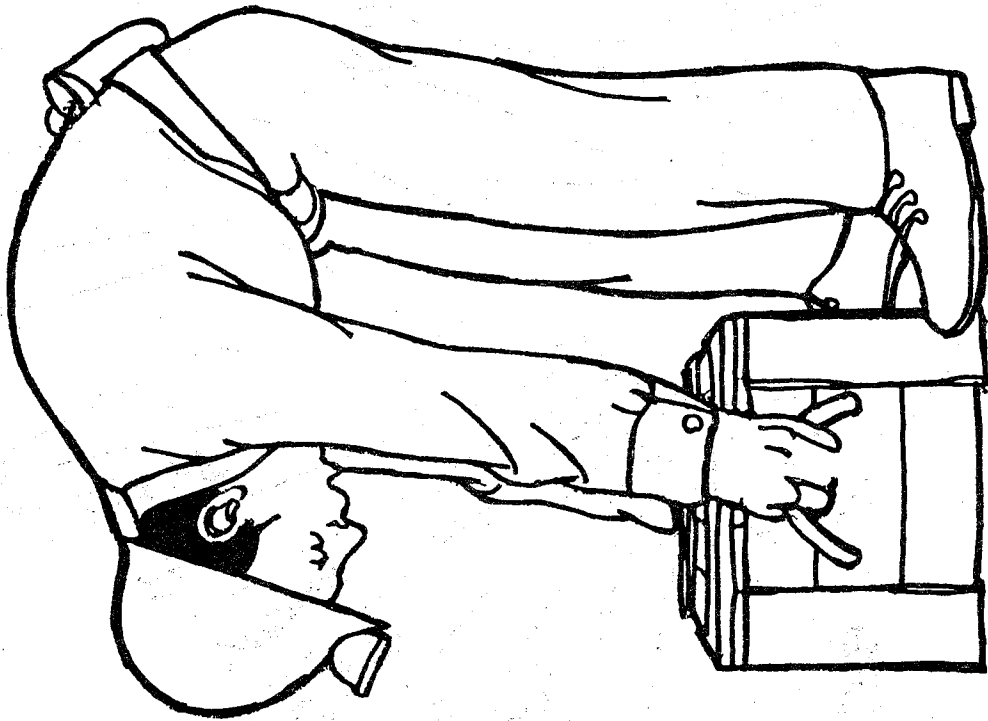
After the inspector left, they started loading rock from the roof fall utilizing a scoop tractor. The victim and a partner then began roof bolting out by the edge of the roof fall. After installing 2 roof bolts at the edge of the cavity, one partner trammed the roof-bolting machine out by and while emptying the dust box, looked up and saw the rock hit his partner on the head and shoulder.

CONCLUSION: Four posts, previously installed under the ends of three crossbars near the No. 2 drift entry, were dislodged while cleaning up a roof fall and were not reset or replaced promptly. A violation of 30 CFR Section 75.202.

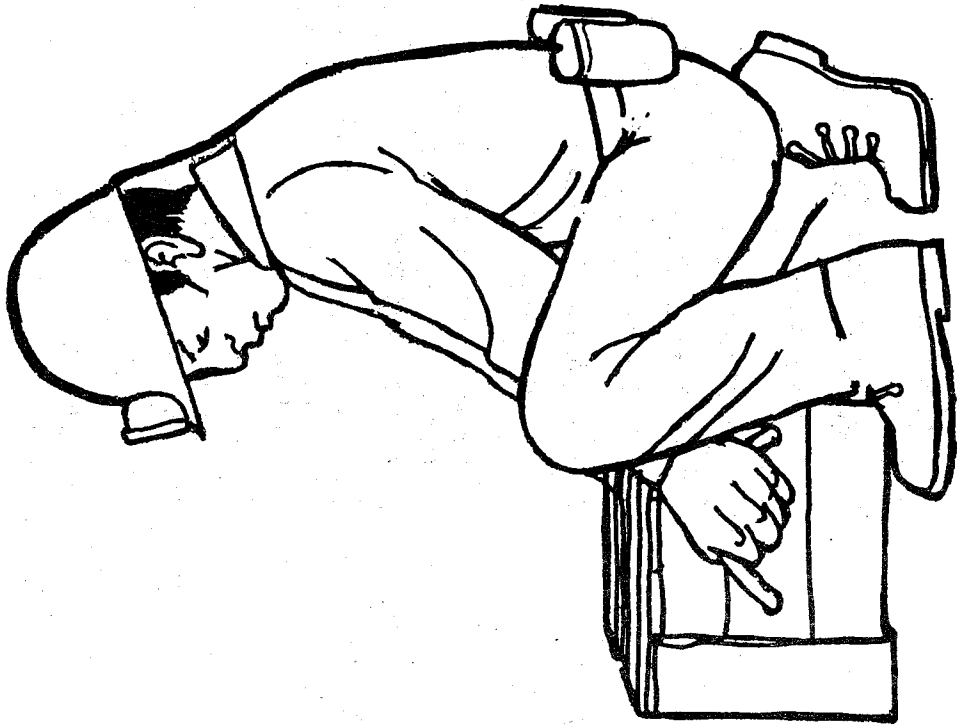
Safety Precaution No. 23 of the tentatively approved roof-control plan, was not being complied with near the No. 2 drift entry, in that, temporary roof supports had not been installed at the edge of a roof fall while 2 workmen were working, examining and installing roof bolts near the lip of the roof fall. A violation of 30 CFR Section 75.200.

The accident occurred because the victim and management failed to comply with the provisions of the tentatively approved roof-control plan by working in an area that was inadequately supported. A factor contributing to the cause of the accident was the victim's failure to properly evaluate the roof conditions.

PROPER LIFTING



NO



YES

YOUR BACK...

**IT LETS
YOU**

WALK

SIT

STAND

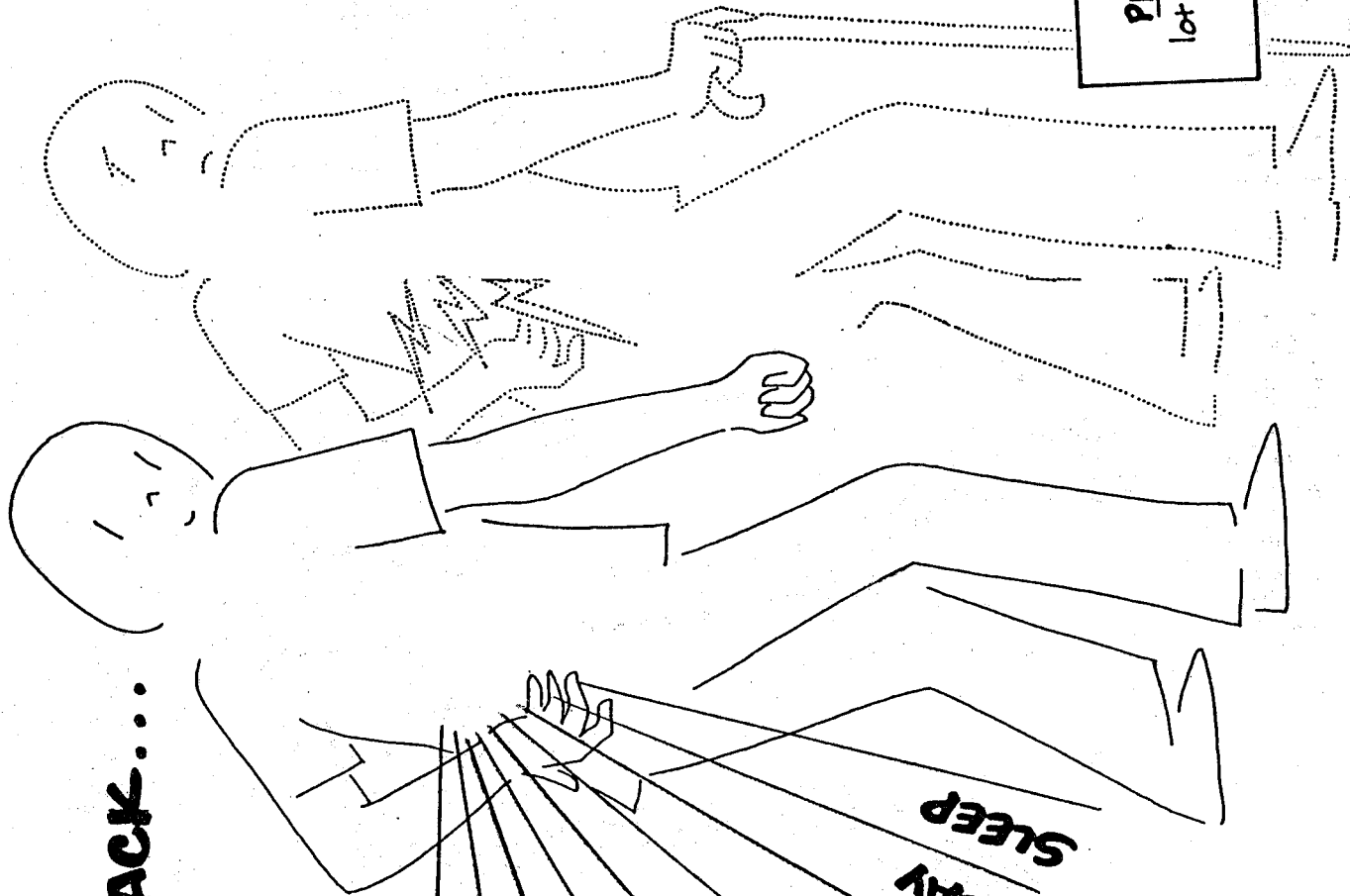
LIFT

BEND

WORK

PLAY

SLEEP



BUT--

BACK PROBLEMS

can mean

- PAIN (lots of it)
- LOST TIME
- EXPENSE
- INCONVENIENCE
- DISABILITY

YOUR BACK IS THE MOST INJURY-PRONE PART OF YOUR BODY!

MOST PEOPLE

suffer back pain at some time in their lives.

BILLIONS ARE SPENT

on an estimated 600,000 occupational back injuries every year.

ANYONE CAN BE AFFECTED

- men, women, desk workers, laborers, young, old.

PREVENTING back injuries is a lot easier than **CORRECTING** them.

Know how to LIFT THINGS SAFELY

The basic lifting rule: USE YOUR HEAD!

Think things through before you start:

- ① **EXAMINE OBJECT** to decide where and how to hold it. Check for grease, oil, moisture, sharp edges.
- ② **CLEAR PATH** of obstructions, tripping hazards.
- ③ **KNOW** where and how you'll let object down.
- ④ **GET HELP** if you have any doubts about lifting objects.

Many back injuries are the result of improper lifting.



GENERAL RULES for all situations

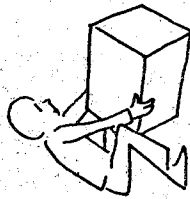
① **STAND CLOSE**

to the object. Have firm footing.



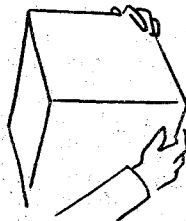
② **SQUAT DOWN**

-- straddle the load somewhat. Keep back straight; bend knees.



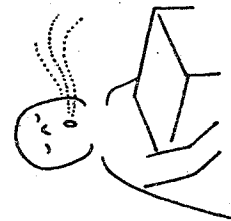
③ **GRASP**

object firmly; be sure grip won't slip.



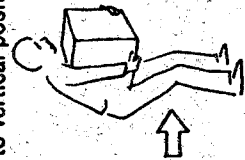
④ **BREATHE IN**

-- inflated lungs help support the spine.



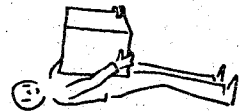
⑤ **LIFT WITH LEGS**

-- slowly straighten them. After legs are straight, bring back to vertical position.



⑥ **HOLD**

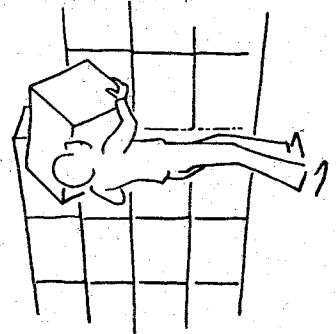
object firmly, close to body.



SPECIAL RULES for special situations

LIFTING OVERHEAD

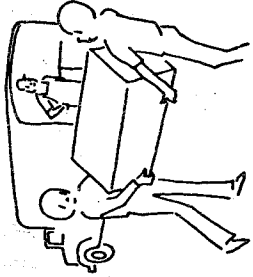
The maximum load you can lift is lighter because you can't use your legs. Use extra care. Spread feet, with one foot slightly forward. Use firm platform or sturdy ladder for extra-high lifts... not chair or box. When in doubt -- GET HELP.



LIFTING HEAVY OBJECTS

If an object is too heavy, large or hard to handle, do one of these:

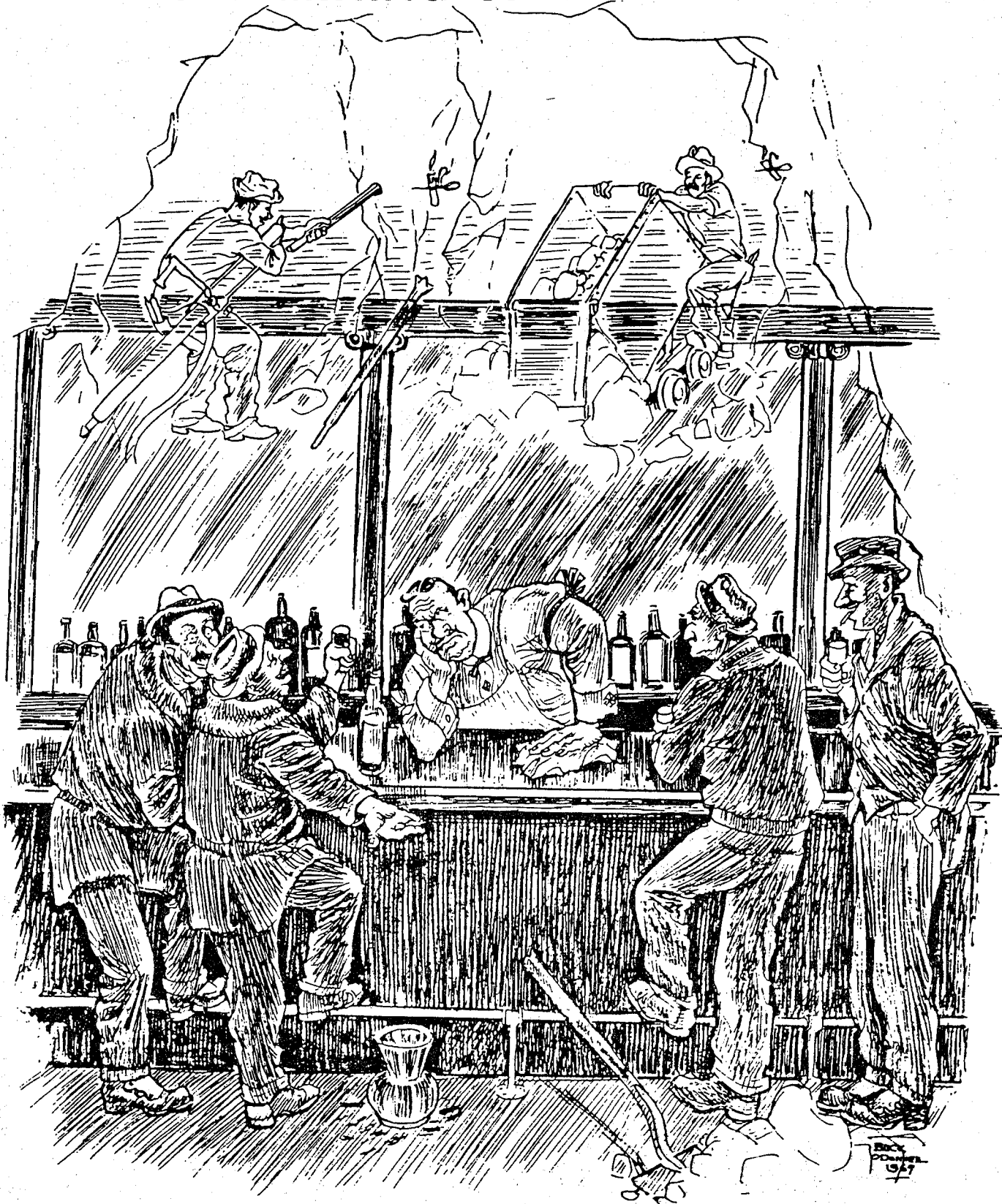
1. Get others to help. When lifting with others, be sure to lift in unison (counting out loud is helpful).
2. Use a mechanical aid -- forklift, winch, jack, etc.
3. Do it in pieces, one step at a time.



Lift smoothly. Avoid jerky motions.

Turn with feet instead of twisting back.

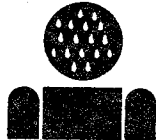
TYPICAL MINING OF THE ERA GONE BY



WHERE ALL THE MINING WAS DONE



H.S.A. SAFETY TOPIC

**Heart Attacks****PAIN IN THE NECK****PAIN IN THE CHEST****SEVERE SWEATING****DIZZINESS**

These signals may be the warnings your body gives you of a heart attack. And by ignoring them, you could be risking serious problems. Remember, each year 350,000 Americans die from heart attacks before reaching the hospital--often after much delay ignoring these warning signs.

So learn to recognize the symptoms of a heart attack. And when you see one or feel one, act quickly. As soon as you recognize a signal, seek help immediately from a paramedic. Or get to an emergency room the fastest way possible.

You may not have a second to spare.

WARNING SIGNALS OF A HEART ATTACK


1. An uncomfortable pressure, fullness, squeezing or pain in the center of your chest behind the breastbone.
2. The sensation may spread to your shoulders, neck or arms. If it lasts two minutes or more, you could be having a heart attack.
3. Severe pain, dizziness, fainting, sweating, nausea or shortness of breath may also occur, but are not always present.

JUNE 1938

**THIS DUMMY
COULD
SAVE A
LIFE.
COULD YOU?**

Learn how to use this
dummy. It may help to
save your people's lives.
Take a lifesaving CPR course.
Call the American Red Cross.

**LEARN
CPR,
PLEASE.**

1¢
American Red Cross 



H.S.A. SAFETY TOPIC



How to survive a heart attack

Every day in the United States, 4,000 people are stricken with a heart attack. Ironically, most victims are totally unprepared. Many die before reaching the hospital while others arrive too late to be saved.

What a heart attack victim does during the first three hours after the onset of symptoms can be crucial in saving a life or minimizing heart damage. Yet most heart attack victims delay doing anything because they don't think -- or don't want to believe -- a heart attack is happening to them.

New medical advances in the treatment of heart attacks cannot help if you don't know the signs of heart attack and what to do if one strikes. Here's what you need to know to protect yourself and someone you love:

*** BE PREPARED** Make sure everyone in the family knows the emergency phone number 911. Also keep the telephone numbers of your hospital emergency room and your family physician by the phone.

*** LEARN CPR** (cardiopulmonary resuscitation) and have members of your family and neighbors learn this lifesaving procedure.

***KNOW THE THREE DIFFERENT PATTERNS OF HEART ATTACK SYMPTOMS.**

The classic scenario is a sudden onset of crushing chest pain that frequently radiates to the arms, jaw and neck. Breathing is difficult. The pain is often accompanied by sweating, dizziness and anxiety.

The second variety of heart attack symptoms is similar but less intense. Pain can come and go for hours. People who never had any reason to suspect heart disease often mistake these symptoms for indigestion.

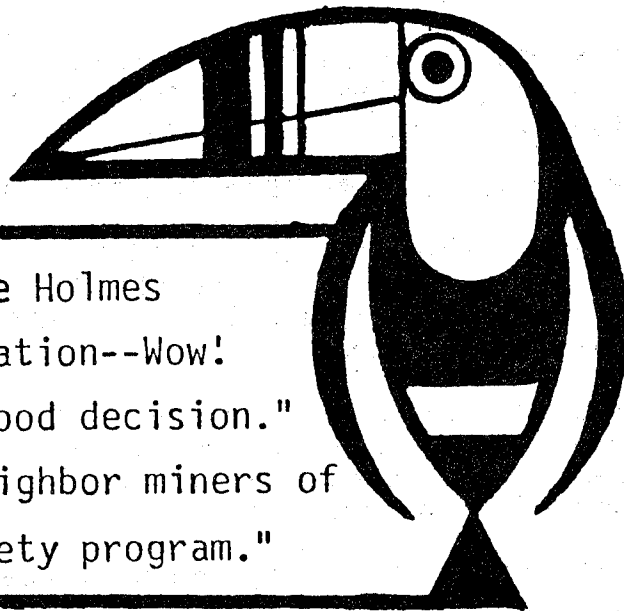
A third pattern has only recently been acknowledged and involves little or no pain. In fact, new evidence indicates that as many as a fourth of all heart attacks, called silent attacks, fall into this category. If you have vague symptoms such as sudden fatigue or shortness of breath that make you suspicious of heart disease -- see your physician.

IF YOU ARE EXPERIENCING HEART ATTACK SYMPTOMS, DO NOT DRIVE YOURSELF TO THE EMERGENCY ROOM. Even if you are with someone who can drive you, it is always better to call an ambulance or rescue service because they have emergency cardiac drugs and a defibrillator to use if cardiac arrest occurs.

TRY TO REMAIN CALM. Panicking will make matters worse. After calling for help, sit quietly and stay warm.

The good news is that about one in three people who come to the emergency room thinking they are having a heart attack turns out not to be having one. But remember, it is always better to err on the side of caution. If your symptoms fit those of a heart attack, assume that the problem **IS** a heart attack -- and go to the hospital emergency room immediately.

**A Little Bird
Told Me...**



You joined the Holmes
Safety Association--Wow!
"You made a good decision."
"Tell your neighbor miners of
this free safety program."



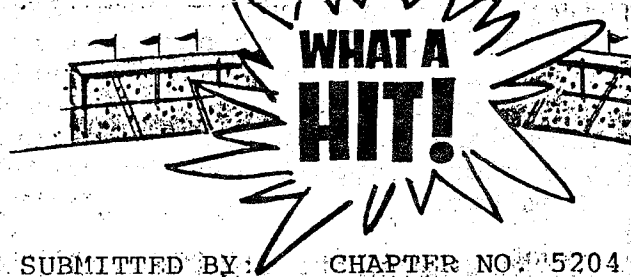
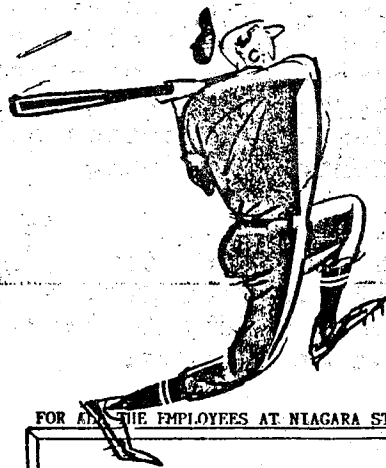
H.S.A. SAFETY TOPIC



COUNCIL NEWS

The Clymer District Council, Clymer, Pennsylvania, held its annual ladies' night dinner/dance at the VFW Country Club, Indiana, on April 30, 1988, with 96 in attendance.

Larry Smith, president of the council was master of ceremonies and gave opening remarks. Featured as guest speaker was Tim Thompson, Subdistrict Manager, MSHA, Johnstown, PA, who commented on the excellent participation of Clymer Council chapters. He then presented the 1987 Safety Award to Dan Sherry, Superintendent, Dora No. 6 mine, Doverspike Brothers, with an incidence rate of 7.79.



SUBMITTED BY: CHAPTER NO. 5204

STONE CHIPS GBP

CONGRATULATIONS!!!

FOR ALL THE EMPLOYEES AT NIAGARA STONE CORPORATION - 1988 SPRING EDITION

Niagara Stone Corporation Medina Sandstone Quarry Div.

SALUTES

John W. Harvey
Rodney C. Spears
William E. Banks
David W. Austin
Lugine M. Hockenberry
Carl J. Marsh
Juck F. Baker
Leonard A. Harvey
Charles L. Walker
Patrick J. Bernier
Robert E. Haseley
M. Jack Wodo, Jr.
Larry E. Wilt
Irvin Hockenberry
Terry L. George
Carl A. Austin
Joseph W. Norgren
Marion Hymiak

Joe Foley, Jr.
James F. Hymiak
John F. Niclsen
David R. Hanchey
Gregory R. Haseley
Robert C. Leggett
Gerald T. Stokes
Neil R. Austin
Thomas P. Scalzo
Nicholas J. Kolpack
David Morrison, Jr.
Matthew M. Latko
William M. Marsh
Jonathan W. Scalzo
Patrick J. Barney
James A. Bateman, III
Julian H. Harrell, Jr.
ON THEIR

David L. Lasher
Robert P. Franke
David R. Fittante
Barbara J. Terryberry
Vincent D. Mancini
Mark J. Schoonmaker
Randall P. Walker
Thomas L. Laufer
Timothy D. Young
Robert W. Smith
Michael E. Murdoch
Timothy P. Sullivan
Louis Destino
Jon V. Mancini
Loren K. Fittante
Lori A. Sornberger
Alfred D. Peck
Laurent Roussel

5 YEAR SAFETY RECORD

WITHOUT A LOST TIME INJURY

1983-APRIL-1988

19

A SAFE WORKPLACE
IS NO ACCIDENT

HOLMES SAFETY ASSOCIATION

JUNE 1988



Notebook

HOT CAKES - NO!!! VIDEO TAPES - YES

They're going like hotcakes! Not breakfast, but the newly released "Roof Control" Video Tapes.

Keeping in step with Acting Assistant Secretary David O'Neal's continuing effort to utilize video tape technology for training, a series of three roof-control video tapes have been produced by MSHA's Training Materials Development Branch under the direction of Technical Support and the Roof-Control Training Committee.

Interested parties of the mining community can borrow these tapes from their local MSHA District Office or purchase copies from the Health and Safety Academy. The name and time of the tapes is as follows:

1. **Roof Evaluation and Decisions --**
VC 917 -- 14 minutes
2. **Roof Bolting Facts -- VC 918 --19 minutes**
3. **The Supervisors Responsibility in Roof Control -- VC 919 -- 10 minutes**

Mine Safety Academy
P.O. Box 1166
Beckley, West Virginia 25802

(304)-256-3257

Roof Evaluation — Accident Prevention

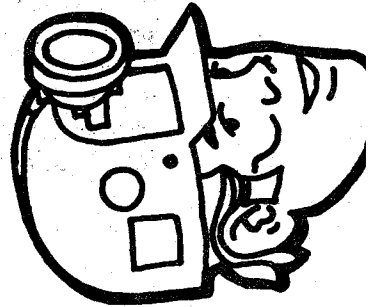
R.E.A.P. — a program developed to promote health and safety awareness in mining



JUNE 1988



STAY UNDER SUPPORTED ROOF
Don't gamble with your life.





Why Be Handicapped

I've got two arms and two legs, two feet and two hands, 10 toes and 10 fingers. I've got two eyes. What's more, all these things are in good repair and I want to keep them that way.

When a person is missing an arm or a leg, or can't use some part properly, we say that person has a handicap. And you know what a handicap is--in horse racing it's an extra dead weight a good horse has to carry to give poorer horses a chance to win. In golf or bowling, it's a system that gives the better player a disadvantage in scores so that mediocre players have a chance to win.

In life, a handicap, like missing an arm or a leg or being blind or deaf, is something that makes the whole business of living and working a lot tougher. Some people can do great things even with a handicap. But those people have to work harder than the rest of us to accomplish just as much as we do.

There's nothing in our work operations that needs to cause accidents that will leave you handicapped. But there's no kind of work in which handicapping accidents can't happen.

Any piece of moving machinery can cripple if not handled properly. If you try to oil, clean, adjust or repair a machine in motion, you're asking for an injury that may cause you never again to do a good day's work.

When you handle anything heavy, you risk a damaged back unless you lift with your legs instead of your back, and unless you get help if it's too heavy. Heavy things can also smash feet unless you handle them properly and protect your feet with hard-toed safety shoes.

An eye is very easily damaged--a tiny sliver of metal or piece of emery or other dust can damage it. So can acids and other chemicals. That's why certain work operations call for the use of eye protection--to keep you from the terrible handicap of blindness.

Then there are all those handicap-producing accidents that can happen at work, play or home--falls, burns, and so on. None of us like to think about them happening. But they can and do happen. So if you want to avoid handicaps--learn to work safely, to respect things that can burn or explode, and to keep an eye open for traffic, whether it be on the highway or at your mine operation.

H.S.A. SAFETY TOPIC



THE NATIONAL ACCIDENT FATALITY TOLL

For the fifth consecutive year, accidental deaths were estimated to number less than 100,000 in 1986. The death total was 94,000, an increase of 2 percent from 1985. Deaths by class are shown in the box below. Disabling injuries numbered 8,900,000, including 330,000 which resulted in some degree of permanent impairment--ranging from partial loss of use of a finger to blindness or complete crippling.

DISABLING INJURY TOTALS for the principal classes of accidents were: Motor-vehicle--1,800,000; public nonmotor-vehicle--2,400,000; home--3,100,000; work--1,800,000. Duplications of motor-vehicle with other classes numbered 200,000.

ACCIDENT COSTS amounted to about \$118 billion. This includes wage loss of \$32 billion, medical expense of \$20.5 billion, administrative and claim settlement costs of insurance \$21.2 billion, property damage in motor-vehicle accidents of \$21.2 billion, property loss in fires of about \$6.7 billion and certain "indirect" costs of work accidents of about \$16.4 billion.

THE DEATH RATE in 1986 per 100,000 population was 39.0, up 1 percent from the 1985 rate.

Present indications are that in 1986, as in earlier years, accidents were the fourth most important cause of death, exceeded only by heart disease, cancer and stroke.

Accidents were the leading cause of death among all persons aged 1 to 38 according to the latest detailed information (1984).

	1986	1985	Change
ALL ACCIDENTS.....	94,000	92,500	+2%
Motor-Vehicle.....	47,900	45,600	+5%
Public nonmotor-vehicle.....	19,000	19,000	0%
Home.....	20,500	21,000	-2%
Work.....	10,700	11,400	-6%

Note: The motor-vehicle totals include some deaths also included in the work and home totals. This duplication amounted to about 4,100 in 1986 and 4,300 in 1985. All figures are National Safety Council estimates.

ACCIDENT TYPES that were most important in 1986, and changes from 1985, were as follows:

TYPE	1986	1985	CHANGE
Motor-vehicle	47,900	45,600	+ 5%
Falls	11,000	11,700	- 6%
Drowning	5,600	5,300	+ 6%
Fires, burns	4,800	4,900	- 2%
Poison (solid, liquid)	4,000	3,600	+ 11%
Suffocation- ingestion	3,600	3,600	0%
Firearms	1,800	1,800	0%
Poison (gas, vapor)	900	1,000	- 10%

DEATH TOTALS BY AGE GROUPS in 1986, and changes from 1985, were as follows:

AGE	1986	1985	CHANGE
0 to 4	3,600	3,500	+ 3%
5 to 14	4,100	4,200	- 2%
15 to 24	20,100	18,800	+ 7%
25 to 44	27,400	26,300	+ 4%
45 to 64	14,700	15,700	- 6%
65 to 74	8,200	8,200	0%
75 and over	15,900	15,800	+ 1%

There were approximately 47,900 deaths from motor-vehicle accidents in 1986, an increase of 5 percent from 1985. Motor-vehicle mileage was up 5 percent. The death rate per 100,000,000 vehicle miles was 2.57, no change from 1985.

Disabling injuries in 1986 numbered about 1,800,000. Costs, including wage loss, medical expense, administrative and claim settlement costs of insurance and property damage amounted to \$57.8 billion.

The 1986 death total for work accidents was approximately 10,700, a 6 percent decrease from 1985 total. Disabling injuries numbered 1,800,000. The death total excluding agriculture was about 9,000, of which 1,100 occurred in manufacturing industries.

Industry Division	1986 Deaths	1985-86 Change	1986 Rates	1985-86 Change
ALL INDUSTRIES	10,700	- 6%	10	- 9%
Agriculture	1,700	+ 6%	52	+ 6%
Mining, quarrying	400	0%	50	+25%
Construction	2,100	- 9%	33	-13%
Manufacturing	1,100	-15%	6	-14%
Transportation and public utilities	1,500	0%	27	0%
Trade	1,100	-15%	4	-25%
Services	1,500	-12%	5	-17%
Government	1,300	0%	8	0%

Deaths per 100,000 workers in each group. Agriculture includes forestry and fishing. Mining and quarrying includes oil and gas extraction. Trade includes wholesale and retail trade. Services includes finance, insurance and real estate. Agriculture rate excludes deaths of persons under 14 years of age. Rates for other industry divisions do not require this adjustment. Deaths of persons under 14 are included in the agriculture death total.

Total cost, including loss from business fires, amounted to about \$34.8 billion.

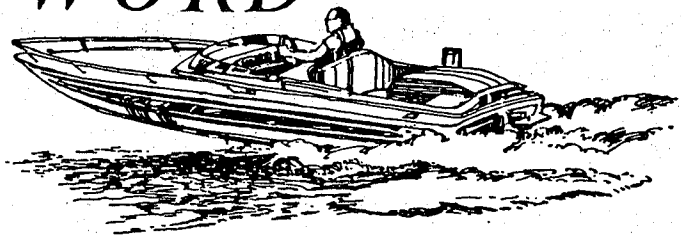
In addition to the 10,700 workers killed while at work, 36,400 died from off-the-job accidents--a death total of 47,100. Workers injured in both kinds of accidents numbered about 4,500,000.

Home accident deaths in 1986 totaled approximately 20,500, a decrease of 2 percent from the 1985 total. Disabling injuries numbered 3,100,000. Costs--wage loss, medical expense, fire losses, administrative and claim settlement costs of insurance--were \$16 billion.

There were approximately 19,000 deaths in public nonmotor-vehicle accidents during 1986, no change from the 1985 total. Disabling injuries numbered approximately 2,400,000. Wage loss, medical expense, fire losses, administrative and claim settlement costs of insurance amounted to \$11.3 billion.

THE LAST WORD

Take a moment to brush up on the rules for safe and sane water vacations--just for the sake of your family's well-being:



*Allow no one to ride on the bow or gunwale of a boat that has a motor. Accidental falls put that person in a direct line with the propellers.

*Carry at least one Coast Guard-approved personal flotation device for every person on board and make sure all nonswimmers and young children wear them whenever the boat is moving.

*Inflatable toys and air mattresses are meant to be used only as recreational equipment and not as safety devices for children or nonswimmers.

*Tell one trusted person where you're going, how long you'll be gone, and what time you plan to return. If you get lost or have unexpected trouble, someone will come looking for you.

*Keep your eye on the weather, and should clouds threaten or the wind come up, head for the nearest cove or shoreline. Better to sit out a storm than to take your chances with 4- to 6-foot waves.

*Always be prepared to spend the night out, whether you intend to or not. Mechanical failure or inclement weather can defeat even the best-laid plans. Carry a flashlight, extra food, warm clothing and a tent or a tarp.

*If you drink, don't drive--this applies to our waterways as well as to our highways.

*Should you decide to spend some time ashore, don't set up camp under an overhanging ledge or at the toe of a talus slope. Talus slopes are built of rocks that have fallen off cliff faces--an ongoing process; overhangs give way without warning.

*Never swim alone or dive into unknown water. Cramps or exhaustion can overtake even the strongest swimmer. Shallow water, hidden rocks and submerged trees can be bone breakers or cause severe spinal injuries when diving.

*Should a thunderstorm threaten, get out of the water right away. Water attracts lightning.

*If you get caught in an undertow or riptide swim parallel to the shore or diagonally across the current until you no longer feel the current's pull, then head toward shore.

*Should your feet become ensnared by weeds, don't panic. Instead, move them back and forth in a slow, waving motion to untangle the weeds.

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**MSHA, Office of Holmes
Safety Association**
Educational Policy & Development
4800 Forbes Avenue, Room A268
Pittsburgh, PA 15213

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(Rev. 12-78)



**HOLMES SAFETY ASSOCIATION
MEETING REPORT FORM**

For the month of _____

TOTAL meetings held this month _____

TOTAL attendance this month _____

Chapter Number _____ (See address label, if incorrect, please indicate change.)

(Signature)

(Telephone No.)

(Title)

FILL OUT - FOLD AND STAPLE - FREE MAIL-IN

NOTE: BE SURE OUR ADDRESS SHOWS

If you do not care to receive this Bulletin, please check here and return this form.

Please include any change of address below:

Joseph A. Holmes Safety Association

Awards Criteria--Outline

Type "A" Awards - For Acts of Heroism

The awards are medals with Medal of Honor Certificate.

Type "A" - For Acts of Heroic Assistance

The awards are Certificates of Honor.

Type B-1 Awards - For Individual Workers

(40 years continuous work experience without injury that resulted in lost workdays)

The awards are Certificate of Honor, Gold Pins and Gold Decal.

Type B-2 Awards - For Individual Officials

(For record of group working under their supervision)

The awards are Certificate of Honor.

Type C Awards - For Safety Records

(For all segments of the mineral extractive industries, meeting adopted criteria)

The awards are Certificate of Honor.

Other Awards - For Individual Workers

(For 10, 20, or 30 years without injury resulting in lost workdays)

The awards are 30 years - Silver Pin and Decal, 20 years - Bronze Pin and Decal, 10 years - Decal bearing insignia.

Special Awards - For Small Operators

(Mine operators with 25 employees or less with outstanding safety records)

The awards are Certificate of Honor:

Contact: HSA Office

Department of Labor
MSHA, Holmes Safety Association
4800 Forbes Avenue
Pittsburgh, PA 15213

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