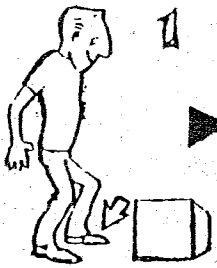

BULLETIN



MARCH, 1990

How to Lift Properly



1 ► **Get a firm footing.** Keep your feet apart (shoulder width) for a stable base; point toes out.



4 ► **Lift with your legs.** Let your powerful leg muscles do the work of lifting, not your weaker back muscles. Maintain your three natural curves.



2 ► **Bend your knees.** Don't bend at the waist. Keep the principles of leverage in mind. Don't do more work than you have to. Maintain your three natural back curves.



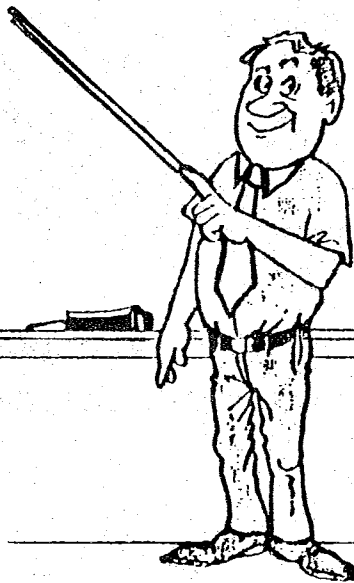
5 ► **Keep load close.** Don't hold the load away from your body. The closer it is to your spine, the less force it exerts on your back.

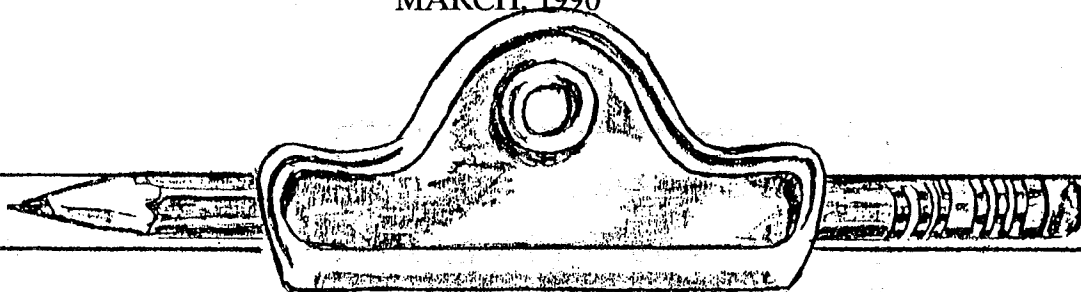


3 ► **Tighten stomach muscles.** Abdominal muscles support your spine when you lift, offsetting the force of the load. Train muscle groups to work together.



6 ► **Keep your back upright.** Whether you are lifting or putting down the load, don't add the weight of your body to the load. Avoid twisting; it can cause injury.





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KEEP US IN CIRCULATION.

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.

MARCH, 1990

**WELCOME
NEW MEMBERS**

| NAME | CHAPTER NO. | LOCATION |
|------------------------------|--------------------|-----------------|
| M. C. Mining, Inc. | 8568 | Meta, KY |
| Wynchester Mining Co. | 8569 | Point, WV |
| CH & S Coal Co., Inc. | 8570 | Sandlick, VA |
| Glamorgan Coal Co. | 8571 | Wise, VA |
| Fiddle Coal Co., Inc. | 8572 | Amonate, VA |
| Nephi Sandstone Corp. | 8573 | Nephi, UT |
| Larson Limestone Co. | 8574 | Lehi, UT |
| Emery County Road Dept. | 8575 | Castle, UT |
| Carbon County Road Dept. | 8576 | Price, UT |
| B. Wallis Industries | 8577 | Central, UT |
| Leavitt Const. Co. | 8578 | Veyo, UT |
| West Virginia Electric Corp. | 8579 | Fairmont, WV |
| Valley General Contracting | 8580 | Fairmont, WV |
| Interstate Fabricators | 8581 | Fairmont, WV |
| Kelso Coal Co. | 8582 | Seth, WV |
| Kelso Coal Co. | 8583 | Seth, WV |
| Kelso Coal Co. | 8584 | Seth, WV |
| Kelso Coal Co. | 8585 | Seth, WV |
| Kelso Coal Co. | 8586 | Seth, WV |
| Kelso Coal Co. | 8587 | Seth, WV |
| Kelso Coal Co. | 8588 | Seth, WV |
| Kelso Coal Co. | 8589 | Seth, WV |
| Lanta Loadout | 8590 | Van, WV |
| Kelso Coal Co. | 8591 | Seth, WV |
| Red Dog Coal Corp. 5A | 8592 | Rockhouse, KY |
| Sunshine Mining Co. | 8593 | Eureka, UT |
| Chemstar Lime Inc. | 8594 | Grantsville, UT |
| Ed Hanslovan Coal Co., Inc. | 8595 | Morrisdale, PA |

WINTER ALERT

MARCH, 1990



H.S.A. SAFETY TOPIC

RECOMMENDATIONS FOR HANDLING MATERIALS IN LOW-SEAM COAL MINES¹

It is estimated that approximately 25 percent of all injuries in the mining industry involve trauma to the back and that the cost of back injuries in coal mining alone approaches \$20 million a year. However, the tremendous cost of these injuries is overshadowed by the human disability and suffering experienced not only by the affected miners, but by their families as well.

Unfortunately, the underground coal mining environment presents some uncommon barriers to preventing back injuries. The restricted roof height of many low-seam coal mines (mines with seams less than or equal to 48 inches) forces workers to adopt exceptionally stressful working postures during manual lifting activities, generally stooping or kneeling, which produce a considerable strain on the low back. This may help to account for the high incidence of low-back pain in coal miners. The use of certain types of mechanical-assist devices is also made more difficult by the confined workspace of low-seam mines. In addition, poor illumination and slippery footing serve to compound the problems associated with underground materials-handling.

The traditional approach to reducing the risk of back injuries has been to train miners to cope with the existing conditions; unfortunately, the effectiveness of this method has been relatively limited and new approaches are needed. This article briefly describes methods that can be used to redesign hazardous materials-handling tasks to reduce the threat of injury to workers. The redesign strategies outlined may be broadly applicable to many industrial hygiene settings.

¹Submitted by: Sean Gallagher, Research Physiologist, Pittsburgh Research Center, Bureau of Mines, U. S. Department of the Interior, Pittsburgh, Pennsylvania

WINTER ALERT

A MODEL FOR REDESIGN OF MATERIALS-HANDLING TASKS

The model in figure 1 outlines the steps that should be followed (and questions asked) when developing alternative materials-handling strategies.

THE ANATOMY OF PROPER LIFTING

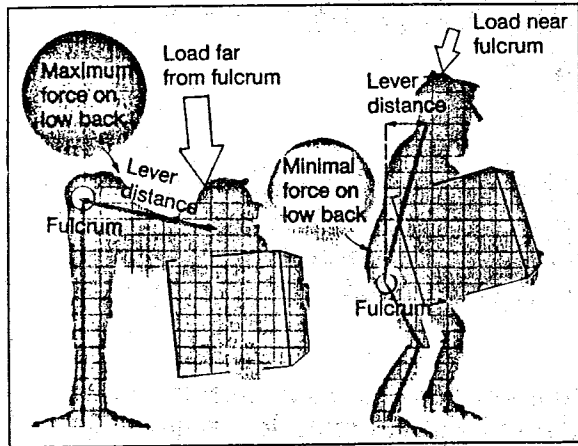


figure 1

The Biomechanics of Lifting

Most back injuries result from improper lifting. According to the principles of biomechanics, the worst lifting situation occurs when the body is extended over the load: the lower back becomes a fulcrum supporting the weight of the body plus the load. Twisting in this position invites injury. Keep your back upright to shift weight onto the powerful left muscles and reduce the lever effect. Maintain your three natural curves in their normal, balanced position.

Examining the Current Supply-Handling System

The first step to developing safer materials-handling procedures is to carefully examine the current supply-handling system and to identify materials-handling problems that can be modified. A review of past accident records and a task analysis (usually a videotaped analysis of hazardous jobs or tasks) can distinguish areas where redesign is needed. The analysis of past accidents identifies occupations and activities that lead to injuries, so they can be prevented in the future. Obviously, the occupations or tasks with the highest injury rates are primary candidates for redesign strategies.

After analyzing accident statistics, problem areas should be visited and hazardous tasks should be documented so that alternative materials-handling strategies can be considered. This can be performed using a task analysis that identifies the hazardous components of a job. Videotape, still photography and portable tape recorders can all be used in this identification process. Videotape is the preferred method, because it can be subsequently reviewed as often as necessary to provide required information to develop alternative strategies. However, videotape equipment is generally not permissible and may be used only outby the last open crosscut.

Evaluating Alternative Strategies

Once specific materials-handling problems are identified, it is necessary to consider ways of modifying tasks to increase their efficiency and safety. As seen in figure 1, the redesign techniques that should be considered (in order of preference) are (1) elimination of the task, (2) use of a mechanical assist device to perform the task, and (3) if the task cannot be eliminated or mechanized, redesigning the manual lifting task according to the physical capabilities of the worker. A fourth alternative is suitable worker selection and training procedures. These techniques are discussed in more detail below.

Task Elimination

The optimal solution is to eliminate unnecessary materials-handling tasks. In some cases, this may be as easy as having the supplier deliver items in a different configuration. In one mine, concrete stopping blocks were delivered to the mine's supply yard in large banded loads. The surface supply workers had to unband these blocks and manually stack them onto the supply car, because a section of the haulageway was too low to allow the banded units to pass. A simple solution to this problem would be to have the supplier deliver the banded block in units small enough to pass through the low area of the haulageway, so the block could be mechanically loaded onto the supply car, without considerable manual lifting.

Using Mechanical-Assist Devices

If a task cannot reasonably be eliminated, the next best redesign strategy is to use mechanical devices to perform the job, until manual handling becomes absolutely necessary. One problem is that many mines do not keep supplies palletized or in unit loads long enough. Often supplies are delivered on pallets only to immediately break the pallets and load supplies manually onto supply cars. This increases the chance of back injury. If supplies are palletized longer, the number of times the supplies can be handled mechanically increases (via forklift or front-end loader), and the number of times that material must be handled manually decreases.

When individual supply items cannot be palletized, specialized tools or devices may be needed to assist in handling them. However, there appear to be virtually no mechanical-assist devices to aid in handling heavy, bulky items in low-seam mines. The Bureau has therefore initiated research specifically addressing the materials-handling problems that occur after supplies have been delivered underground and are being used during mine or equipment maintenance. This research has indicated that inexpensive and easily fabricated mechanical-assist devices can be developed, decreasing the risk of a low-back injury.

Match Job Demands to Worker Capabilities

Unfortunately, some of the supply-handling tasks in underground mines are of such a nature that they cannot be eliminated or mechanized. Even supplies that are palletized or handled as large units may have to be handled repetitively as individual items during their final end uses. In such cases, it is important that the manual lifting tasks that the workers must perform do not exceed their lifting capacity. While a great deal of lifting research has been accomplished in recent years, most of it has been aimed at establishing the amount of weight that can be safely lifted in unrestricted postures, most of the results are of little use in low-coal mines. Recently, several Bureau of Mines studies have examined the lifting capacity of underground miners in both stooped and kneeling postures. Studies in the Bureau's Ergonomics Laboratory have shown that there is a significant reduction in the amount of weight that can be safely lifted in the kneeling posture, compared to a stooped posture. For compact repetitively-handled loads (such as rock-dust bags, stopping block, cribbing block, etc.) the recommended weight of lift is 55 pounds in the stooped posture, but only 45 pounds in the kneeling posture.

These results have important implications for the amount of weight that supplies should have when delivered to low-seam mines. Rock dust is typically packaged in 50-pound bags. This is an acceptable weight to lift in the stooped posture; however, it exceeds the recommended weight for the kneeling posture. Serious consideration should be given to packaging rock dust in 40-pound (instead of 50-pound) bags when miners have to repetitively lift rock-dust bags in a kneeling posture.

Worker Selection and Training

In addition to the primary redesign techniques described above, there are other methods that involve worker selection and training. While the emphasis of this document is on redesign of materials-handling tasks, worker selection and training are sometimes the only way to reduce the injury risk. Selection of workers usually includes evaluation of one or more of the following: physical strength, aerobic capacity, or a clinical examination of the individual. It is important that the test or tests administered be directly related to the specific demands of the job in order to prevent accusation of discriminatory selection procedures.

Worker training does not appear to be as effective in controlling injuries compared to the previously described methods. However, it can assist the worker if the following areas are covered: risks of unsafe materials handling, basic anatomy and biomechanics of lifting, use of mechanical assist devices and accident avoidance. Active involvement of the worker during the training process is crucial to the success of the program.

Implement Solution and Evaluate Changes

Once a choice for the redesign of the task has been made, the new strategy must be implemented. Communication with a number of individuals not influenced by the process until this point may play a very important role as to whether implementation of the strategy is successful or not. Although management might initiate a new method of performing a particular task, unless the idea is supported by the miners it affects, implementation will be difficult.

WINTER ALERT

Evaluation of the newly implemented materials-handling strategy is another essential step. Occasionally, the strategy used to redesign a task may overlook important unintended consequences. Therefore, it is crucial to get feedback on how the changes are working and how well the miners are accepting the new procedures and suggestions on how the new plan might be made more effective can be solicited. It should be noted that unintended consequences are not always negative. For instance, it may be found that a newly developed mechanical-assist device may work better for a lifting task other than the one for which it was originally developed. Evaluation should consist of a systematized method of determining if the redesign strategy has fulfilled the desired goal of reducing the worker's risk of injury.

The Role of Management in Reducing Costs

Despite the benefits that can be derived from the redesign techniques described above, management must realize that not all back injuries are preventable. When they do occur, management's policy for dealing with the injury may have a significant role in determining the duration of the disability and the costs to the company. Often, management does not respond properly. The injured worker may be suspected of malingering; this, in turn, causes the workers to try to "get back" at management. As adversarial situations develop, costs of the injury may increase significantly for both the worker and management. However, enlightened management can often reduce and perhaps even prevent the disability associated with low-back pain through a program of positive acceptance of low-back pain, early intervention, good communication and follow-up and early return-to-work programs.

This article has briefly recommended practices that can reduce the incidence of back injuries and other musculoskeletal injuries. Redesign techniques such as task eliminations, use of mechanical-assist devices, designing manual-lifting tasks to worker lifting capacities and worker selection and training procedures have been discussed; the role of management has also been considered. If correctly implemented, these can have a significant impact in reducing the cost and incidence of back injuries in low-seam coal mines.

REMINDER



**ANNUAL MEETING TIME
SEE PAGES 11-18 FOR
FURTHER INFORMATION**

WINTER ALERT



H.S.A. SAFETY TOPIC

Do's and Don'ts When Your Back Is Hurting

SITTING

AVOID SITTING. If you must sit, get up and move around every twenty minutes.

Sit with your knees higher than hips.

Use a small towel roll behind your back.



DRIVING

Bring car or truck seat as far forward as possible safely so that knees are higher than hips.

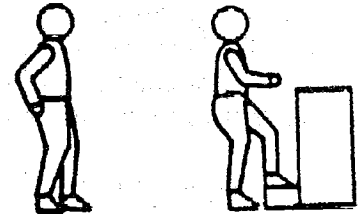
Use towel roll, magazine roll or backrest for support.

STANDING

Stand with one foot in front of the other with knees slightly bent.

Or, place one foot on a stool.

This will eliminate a lot of pressure on the low back.



LYING

Use the resting position frequently.

Sleep on a firm mattress.

The floor is too firm.

Sleep on your back or side with knees bent.

When rising from lying, use arms for support.



LIFTING

AVOID LIFTING. If you must lift, put one foot in front of the other.

Bend to the floor and keep the object as close to your body as possible.

Use your legs instead of your back.

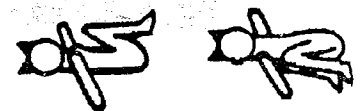


ACTIVITY

Stay as active as possible.

Muscles tighten and stay in spasm if they are not allowed to stretch.

Walking is a good exercise for low back pain.



*Courtesy of Spine Education Center, Dallas, Texas

MARCH, 1990

**ABSTRACT
FROM
FATAL
ACCIDENT**

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



FATAL MACHINERY ACCIDENT

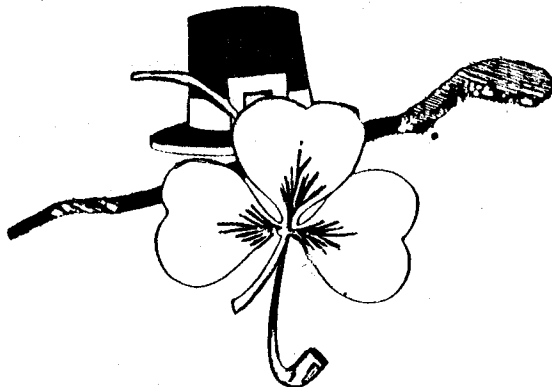
DESCRIPTION OF THE ACCIDENT: On the day of the accident, the victim, a crusher operator and a front-end loader operator reported for work at their normal starting time. Towards the end of the day, the front-end loader operator observed the crusher operator using a metal wedge to try to dislodge some rock which had bridged in the opening of the crusher. He got off his loader which he was using to feed rock into the hopper and went to help the crusher operator. They were standing by the crusher opening using metal wedges trying to dislodge the rocks. Unknown to the front-end loader operator, the crusher operator left the crusher area and attempted to climb up to the operator's compartment of the rock breaker. His foot slipped from the frame on which the breaker was mounted, causing him to fall backwards. In trying to break his fall, he accidentally grabbed the left swing lever.

The victim was pinned between the boom of the rock breaker and a guard on the outer edge of the working platform on which the rock breaker was mounted.

CAUSE OF THE ACCIDENT: The cause of the accident was the failure to provide a safe means of access to operating controls of the Massey Ferguson rock breaker.

The following actions were taken to prevent a recurrence of this accident:

1. A set of steps were provided as a safe means of access to the controls of the Massey Ferguson type boom.
2. The stop-start switch was moved from the crusher building over to beside the operator's controls. Also, a type of foot-operated dead man switch was installed to prevent the boom from being moved unless the operator was in the operator's seat.



WINTER ALERT

MARCH, 1990

**ABSTRACT
FROM
FATAL
ACCIDENT**

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



FATAL POWERED HAULAGE ACCIDENT

GENERAL INFORMATION: On the day of the accident, the mainline motorman and the trail motorman entered the underground coal mine and began the normal work duties of transporting empty mine cars throughout the mine and returning to the underground rotary dump with loaded mine cars.

While gathering their first loaded trip, one of the laborers requested a ride to the No. 6 switch. The trip then proceeded outby to the underground rotary dump with stops at 4 loaded track to pick up some additional loads and at No. 6 switch to discharge the laborer.

The motormen, while transporting their second loaded trip, returned to 4 loaded track with 28 loaded mine cars and coupled onto 25 additional loaded cars. After they passed through the "S" curve, they saw a red blinking light and several cap lamp lights at the No. 6 switch. They reduced the trip speed and flashed the locomotive headlights several times. The trip traveled about 400 feet and as the locomotive passed over the mantrip switch, the driver turned the headlight "off." As the locomotive entered the No. 6 switch area, the motorman suddenly observed mine cars in addition to the workers on the track haulageway. Before the trip could be stopped, the locomotive struck one of the cars knocking one end off of the track and crushing the laborer between the car and coal rib.

FINDINGS OF FACT: 1. An audible warning was not given by the mainline locomotive operator while approaching the No. 6 switch where miners were working. An audible warning shall be given by the operators of all self-propelled equipment including all off-track equipment, where persons may be endangered by the movement of the equipment. A notice to provide safeguard, Section 75.1403.

2. The mainline locomotive headlight was turned "off" and the locomotive continued traveling towards the No. 6 switch, where miners were working. All track mounted self-propelled haulage equipment shall be equipped with a sealed-beam headlight on each end and the headlight shall be turned on in the direction of travel while the equipment is in motion. A notice to provide safeguard, Section 75.1403.

3. The miners working in the area of No. 6 switch did not take refuge in shelter holes or other places of safety upon the approach of moving haulage equipment. All persons shall take refuge in shelter holes or other places of safety upon the approach of moving haulage equipment. A notice to provide safeguard, Section 75.1403.

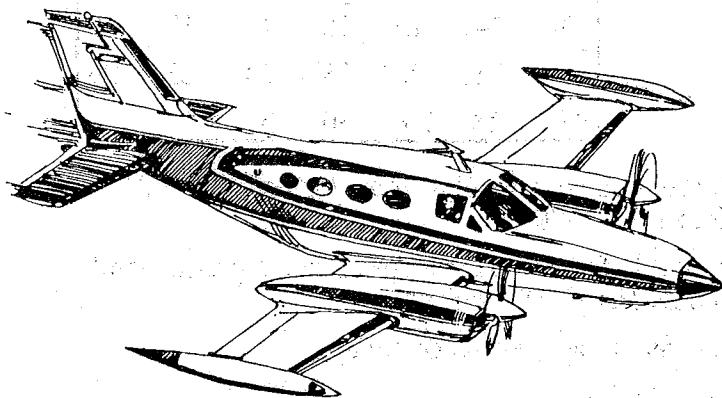
WINTER ALERT

MARCH, 1990



HOLMES SAFETY ASSOCIATION

SPECIAL AIRFARES TO PHOENIX, ARIZONA



The Holmes Safety Association has selected American Airlines as official carrier for attendees of the Holmes Safety and Joseph A. Holmes Safety Association, National Safety Council Southwest Safety Congress, Western Regional State Grants and American Society of Safety Engineers meetings. American is offering special discounts for attendees and guests.

The meeting saver fares offer a 45% discount off round-trip day coach fare with a minimum of 14-day advance ticket purchase; 40% off a 7-day

advance ticket purchase; or a 5% discount off any other round-trip fare including promotional fares; all rules and restrictions apply.* This offer is valid within the continental United States to travel on American Airlines.

Call early to secure lowest fares available on American and follow these steps:

- Travel between May 5 and 18, 1990.
- Call American's Meeting Services desk at toll-free 1-800-433-1790, between 7:00 AM and 12:00 PM central time, seven days a week.
- Ask for STAR File #S-0850Q3

Reservations for these special fares are only available through American's Meeting Services desk.

If you use a travel agent, the fares will also be available, provided the above steps are taken.

*Passengers are subject to a \$30.00 service fee when applying for a full or partial refund once tickets are issued.

WINTER ALERT

MARCH, 1990



HOLMES SAFETY ASSOCIATION

"MARK YOUR CALENDAR"

Holmes Safety Association
Joseph A. Holmes Safety Association
Annual Meetings
Sheraton San Marcos Resort
Phoenix/Chandler, Arizona
May 9-10, 1990

MAY

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

Plans have been finalized to hold the Holmes Safety Association National Council Annual Meeting in Phoenix/Chandler, Arizona, on May 9 and 10, 1990.

American Airlines/American Eagle discount is available for attendees from servicing cities and local airports. Call 1-800-433-1790 and Ask for STAR FILE #SO-850Q3

Limousine service to and from airport and hotel -- \$9.50 per person one way

Hotel Rates - \$50.00 single/\$55.00 double plus tax

Following is a **tentative** agenda:

May 8

Tuesday 8:00 AM - 8:00 PM Registration

May 9

Wednesday 7:00 AM - 8:00 AM Registration

8:00 AM - 11:30 AM National Council Executive Meeting - Lodge

1:00 PM - 5:00 PM Scottsdale Shopping Expedition Bus Tour

1:30 PM First Annual Mixed League golf tournament
(All HSA members-\$28 with cart) (\$50 all others)
Scores will be by Calloway System 90 up/90 down
Loads of Prizes

6:30 PM Western Cookout (Country Club golf course patio)
Host -- Cyprus Coal Company

MARCH, 1990

MAY 10

| | | |
|-----------------|--------------------|---|
| Thursday | 7:00 AM - 8:00 AM | Registration |
| | 8:00 AM - 12:00 PM | National Council Regular Meeting Reports of Executive Meeting Mine Safety/Merit Awards Treasurer's and Financial Reports 1990-91 Slate of Officers New and Old Business |
| | 12:00 PM - 2:00 PM | Lunch |
| | 9:00 AM - 1:00 PM | Southwestern Heritage Botanical Garden Bus Tour |
| | 2:00 PM - 4:00 PM | Joseph A. Holmes Safety Association Board of Directors Meeting Joseph A. Holmes Safety Association Regular Meeting Approval of Awards Nomination of Officers New and Old Business |

| | | |
|-----------------|-------------------|--|
| Thursday | 5:30 PM - 6:30 PM | Social Hour host -- National Mine Service |
| | 6:30 PM | Awards banquet on the Veranda under the desert skies President's Welcoming Address Council and Chapter Awards Door Prizes and 50/50 Drawing Dancing in Lounge |

MAY 11

Friday CHECK-OUT

(Reservation Forms for Banquet, Hotel, Spouses Tours and Golf Tournament will be forthcoming.)

For further information, please contact H.S.A., 4800 Forbes Ave. Pgh. PA 15213

(412) 621-4500 Ext. 650

OR:

H.S.A., 300 W. Congress, Room 7K, Box FB-52, Tucson, Arizona 85701

(602) 670-6631

WINTER ALERT

MARCH, 1990

HOLMES SAFETY ASSOCIATION LODGING RESERVATION FORM

Please reserve accommodations for:

Name

Arrival Date

Address

Departure Date

City, State, Zip Code

Phone Number

Main hotel rooms are located in close proximity to the hotel lobby, restaurants and gift shops, swimming pool and whirlpool. Lodge guest rooms are situated by the golf course near the meeting room. There is also a swimming pool located adjacent to these rooms.

Please indicate type and location of room required/Check One:

- () Single Room @ \$50 per night -- Main hotel room
() Single Room @ \$50 per night -- Lodge guest room
() Double Room @ \$55 per night -- Main hotel room (Sharing with _____)
() Double Room @ \$55 per night -- Lodge guest room (Sharing with _____)

Room Tax is 8.9% per night.

Please enclose a check or money order for one night's deposit or guarantee to credit card
_____ /Expiration date of card _____

Master Card

Diner's Club

Carte Blanche

American Express

VISA

**Return to: Reservation Department
Sheraton San Marcos Golf and Conference Resort
One San Marcos Place
Chandler, Arizona 85224**

Reservation cut-off date: April 9, 1990

A written confirmation will be sent to each individual upon receipt of deposit.

MARCH, 1990

MAY 10

Thursday

7:00 AM - 8:00 AM

Registration

8:00 AM - 12:00 PM

National Council Regular Meeting

Reports of Executive Meeting

Mine Safety/Merit Awards

Treasurer's and Financial Reports

1990-91 Slate of Officers

New and Old Business

12:00 PM - 2:00 PM

Lunch

9:00 AM - 1:00 PM

Southwestern Heritage Botanical Garden Bus Tour

2:00 PM - 4:00 PM

Joseph A. Holmes Safety Association

Board of Directors Meeting

Joseph A. Holmes Safety Association

Regular Meeting

Approval of Awards

Nomination of Officers

New and Old Business

May 10

Thursday

5:30 PM - 6:30 PM

Social Hour host -- National Mine Service

6:30 PM

Awards banquet on the Veranda

under the desert skies

President's Welcoming Address

Council and Chapter Awards

Door Prizes and 50/50 Drawing

Dancing in Lounge

MAY 11

Friday

CHECK-OUT

(Reservation Forms for Banquet, Hotel, Spouses Tours and Golf Tournament will be forthcoming.)

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OR:

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(602) 670-6631

WINTER ALERT

MARCH, 1990

HOLMES SAFETY ASSOCIATION LODGING RESERVATION FORM

Please reserve accommodations for:

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Arrival Date

Address

Departure Date

City, State, Zip Code

Phone Number

Main hotel rooms are located in close proximity to the hotel lobby, restaurants and gift shops, swimming pool and whirlpool. Lodge guest rooms are situated by the golf course near the meeting room. There is also a swimming pool located adjacent to these rooms.

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() Double Room @ \$55 per night -- Main hotel room (Sharing with _____)
() Double Room @ \$55 per night -- Lodge guest room (Sharing with _____)

Room Tax is 8.9% per night.

Please enclose a check or money order for one night's deposit or guarantee to credit card # _____/Expiration date of card _____.

_____ Master Card _____ Diner's Club
_____ Carte Blanche _____ American Express
_____ VISA

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MARCH, 1990

Banquet and Tour Reservation Form
Holmes Safety Association
Joseph A. Holmes Safety Association
Annual Meetings
Sheraton San Marcos Resort
Phoenix/Chandler, Arizona
May 9 - 10, 1990

Enclosed is a check for _____ (number of) banquet tickets at \$24.50 each (includes tax and gratuity). Dinner includes prime rib of beef au jus, soup or salad, fresh vegetables, potatoes or rice, dinner rolls, dessert and beverage.

Name(s) of attendees (Please list first and last names as all attendees will be issued I.D. badges).

Name and Title _____

Name and Title _____

Name and Title _____

Name and Title _____

Company _____

Address _____

Phone Number _____

Please return reservation form with check by April 9, 1990 to:

MSHA, Holmes Safety Association
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

MARCH, 1990

This year the Association has contracted with a local tour company to make available two tours for spouses, children and guests.

For the nongolfers, there will be a Scottsdale shopping tour on **Wednesday** afternoon. Shopping in the Scottsdale area of Phoenix includes Fifth Avenue, an area filled with hundreds of shops, many with native Southwestern crafts; Old Town Scottsdale, offering everything from real western boots to exotic leather items; and, The Borgata, a collection of 50 unusual and hand selected boutiques. Bus departs from hotel at 1:00 p.m. and returns at approximately 5:00 p.m.

Cost: \$14.00 per person

Thursday's tour incorporates native Arizona flavor. The first stop is the Heard Museum. Located in an old Spanish hacienda, this museum features countless American Indian artifacts and treasures. Tourgoers will view the Capitol Building and Heritage Square on the way to the Desert Botanical Gardens featuring over 1,000 different cacti and unusual plants growing in a natural desert setting. Bus departs from hotel at 9:00 a.m. and returns at approximately 1:00 p.m.

Cost including admissions to Museum and Gardens: \$22.00 per person

Tour Reservation Form

Please reserve the following number of seats on the bus tour(s):

_____ seats for Scottsdale Shopping Tour @ \$14.00

NAME(S) _____

_____ seats for Southwestern Heritage Tour @ \$22.00

NAME(S) _____

Enclosed is a check* in the amount of \$ _____

***Make check payable to:** William H. Hoover, Treasurer
Holmes Safety Association
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

MARCH, 1990

Golf Reservation Form

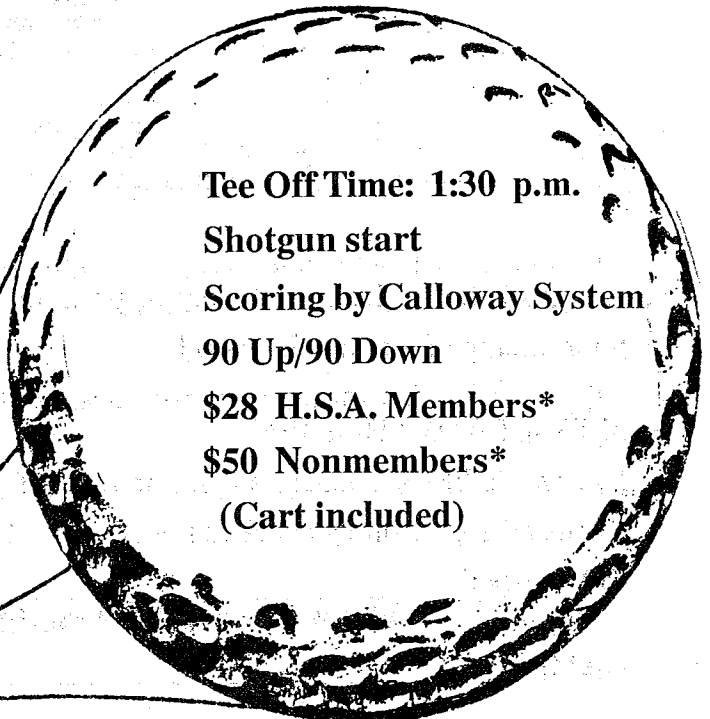
"PLAY GOLF"

in the
First Annual Holmes Safety Association

SHERATON SAN MARCOS RESORT
GOLF & COUNTRY CLUB
MAY 9TH, 1990



Mixed League Tournament



Tee Off Time: 1:30 p.m.
Shotgun start
Scoring by Calloway System
90 Up/90 Down
\$28 H.S.A. Members*
\$50 Nonmembers*
(Cart included)

Make checks payable to: John Clark, Pro

Mail to: MSHA, Holmes Safety Association
4800 Forbes Avenue, Room A-271
Pittsburgh, Pennsylvania 15213

I/We want to play in the tournament:

Tournament limited to 140 players.

***All remaining proceeds, after tournament expenses are met, will be donated to:**

Child Protective Services
4620 N. 16th Street
Phoenix, Arizona
(602) 255-4987

Address: _____

Telephone _____

All awards will be presented at Barbeque on Wednesday evening.

MARCH, 1990

First Annual Golf Tournament



The Holmes Safety Association invites you to sponsor a tee(s) in the First Annual Holmes Safety Association Golf Tournament at the Sheraton San Marcos Resort on May 9, 1990.

All sponsors will have their names or company logo imprinted on a banner at the tee as well as being listed in the annual meeting program and the Holmes Safety Annual Report.

Sponsorship of tees are \$100 each.

All proceeds, after tournament expenses, will be donated to the CHILD PROTECTIVE SERVICES OF PHOENIX.

I/we would like to sponsor a tee(s) in the golf tournament:

Enclosed please find a check in the amount of \$ _____.

COMPANY _____

Flag will be imprinted exactly as listed .

NAME _____

STREET _____

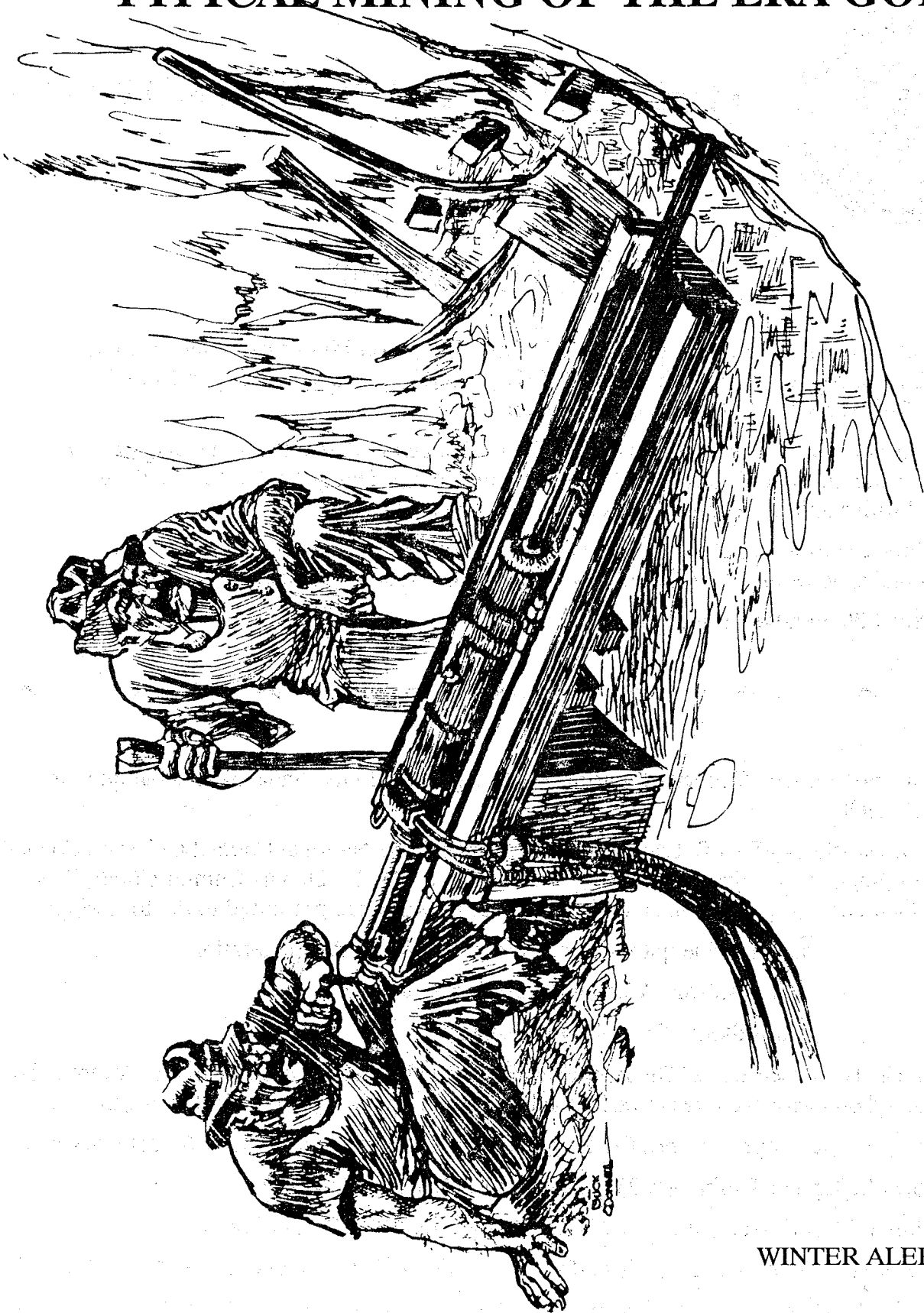
CITY _____ STATE _____ ZIP CODE _____

TELEPHONE () _____

Please make check payable and return to:
William H. Hoover, National Secretary
MSHA, Holmes Safety Association
4800 Forbes Avenue, Room A-271
Pittsburgh, Pennsylvania 15213

DEADLINE FOR SPONSORSHIP: April 9, 1990

TYPICAL MINING OF THE ERA GONE BY



THE FINN BOARD

After the mucker cleaned out the blasted rock from the face, the rock drill was placed on the "Finn Board" for the bottom easer and lifter boles. This method was easier than resetting the heavy cross bar to drill these holes.

WINTER ALERT

MARCH, 1990



HOLMES SAFETY ASSOCIATION

"COUNCIL NEWS"

Congratulations to Gene Jones, Manager of Mines, Tunnelton Mining Company, Robert Nelson, Supervisory Coal Mine Inspector, MSHA, and Rick Radakovich, Supervisor of Training, Rochester and Pittsburgh Coal Company.

These men were recognized by the Indiana District Council, Indiana, Pennsylvania, for their years of outstanding and distinguished service to the Holmes Safety Association. All were presented with a gold-tone miner statue at the January meeting.

Messrs. Jones, Nelson and Radakovich have been active in all phases of Holmes Safety activities and have received the "Merit Award" from the National Council in previous years.

There were 128 attendees at the council meeting.



The Coal River District Council, Madison, West Virginia, held its annual awards banquet on January 13, 1990.

After the invocation by Bart B. Lay, Jr., President of both the National Council and State Council of West Virginia, and a keynote address by William "Bolts" Willis, Deputy Commissioner, West Virginia Dept. of Energy, Joseph A. Holmes 40 year awards were presented to the following:

Earnest Sheppard - Mine Safety and Health Administration

Bob Damron - Westmoreland Coal Company

Jim Adkins - Cannelton Industries

The Council also presented its 1989 Appreciation for the Promotion of Mine Safety Awards. This award, based on incidence rates in various categories, was presented to the following mines:

1. Swamp Fox Development, Inc., Coalburg No. 3 mine -- 0.0 incidence rate, 68,121 work hours.
2. Harley Mining, No. 2 mine -- 5.96 incidence rate, 134,132 work hours.
3. Birchfield Mining, No. 1 mine -- 17.76 incidence rate, 259,057 work hours.
4. Eastern Associated Coal Corp., Lightfoot No. 1 mine -- 24.62 incidence rate, 495,482 work hours.
5. Peabody Coal Company, Big Mountain No.1 Surface -- 0.0 incidence rate, 18,455 work hours.
6. Beth Energy Mines, No. 131 Preparation Plant --0.0 incidence rate, 97,409 work hours.

WINTER ALERT

EQUIPMENT GUARDING*

The following illustrations conclude our article on the basic principles of equipment guarding.

A guard for a drive belt and pulleys is shown in figure 23.

This type of guard is adequate where the belts and pulleys are accessible from the front only.

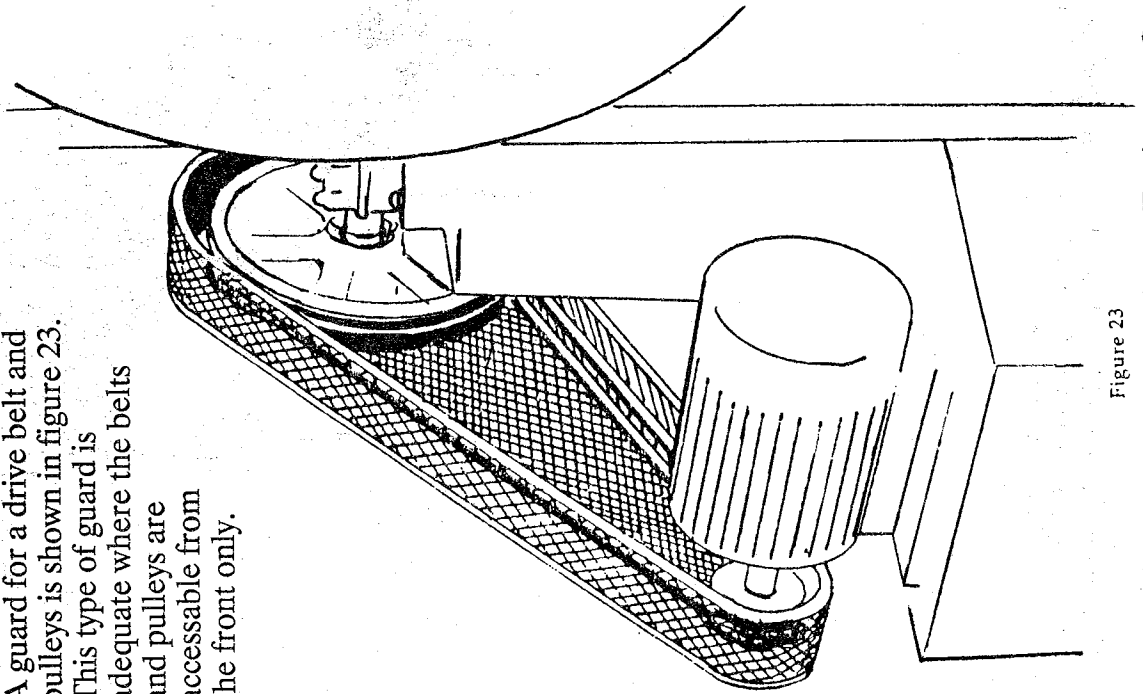


Figure 23

However, where access is possible from both sides, the belts and pulleys should be totally enclosed as shown in figure 24.

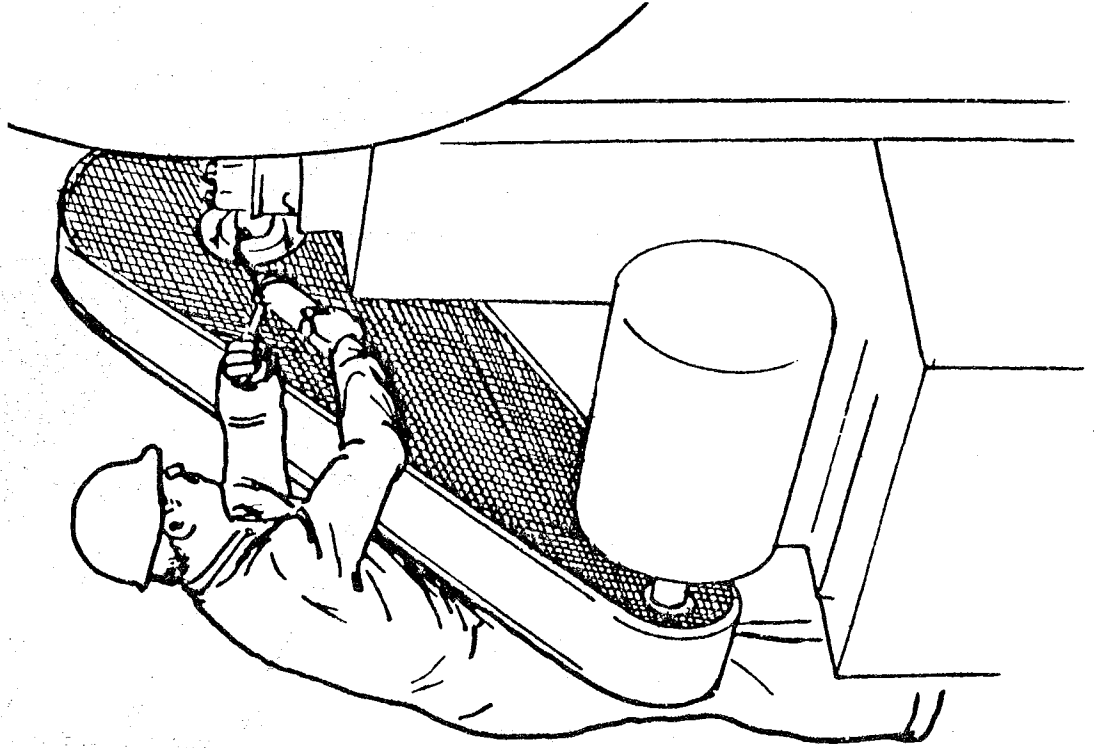


Figure 24

* Excerpted from MSHA's Guide to Equipment Guarding

FIGURE 25 and 26

Whenever hazards are created by belt breakage to persons working or traveling nearby, as shown in figure 25, the drive should be totally enclosed as shown in figure 26.

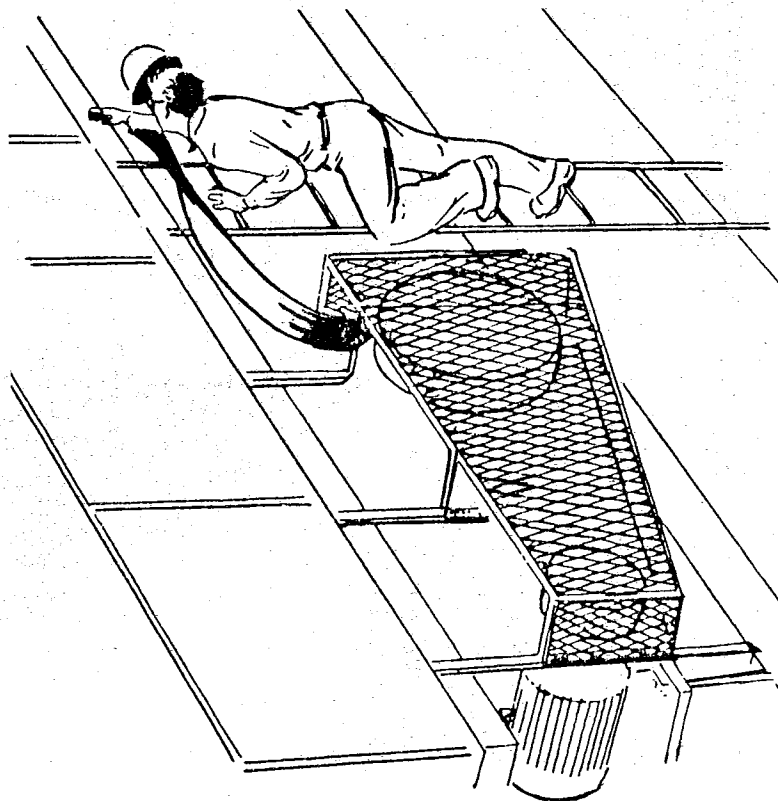


Figure 25

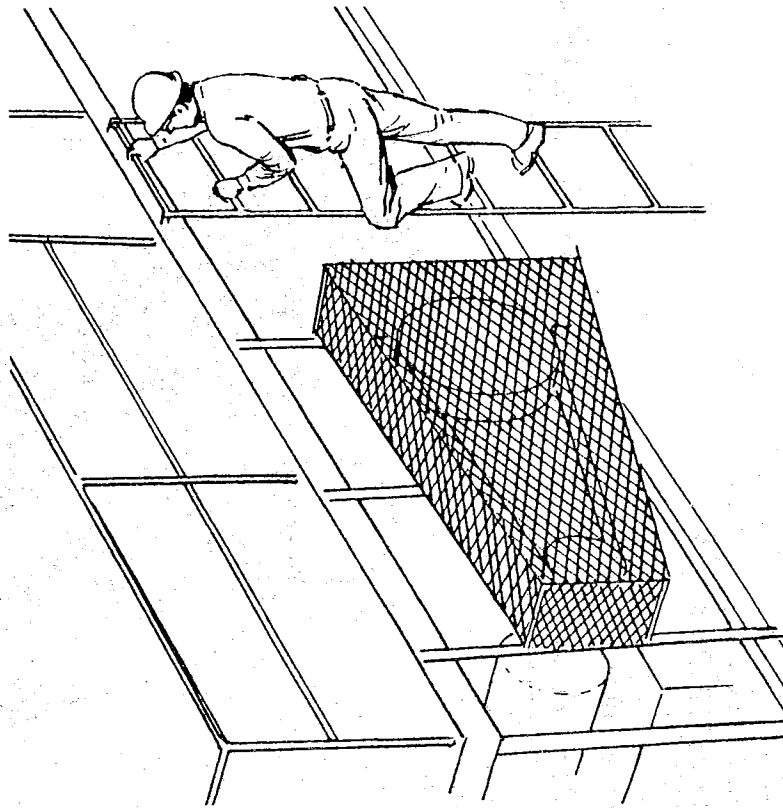


Figure 26

FIGURE 28 and 29

Fan inlets should be guarded regardless of location, not only to prevent contact with fan blades, but where free flying blades would create a hazard.

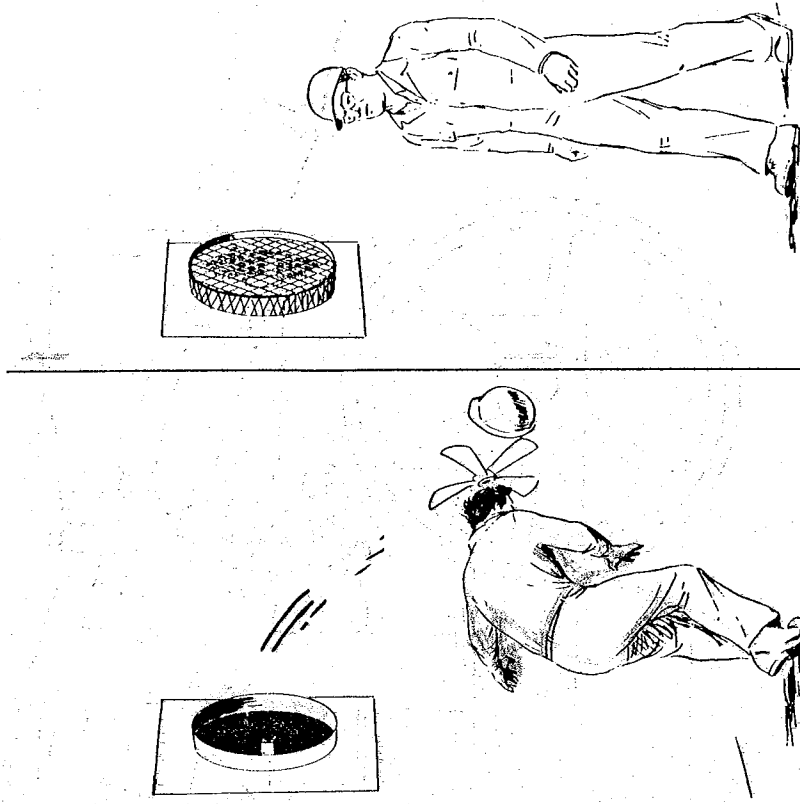


Figure 29

Figure 28

FIGURE 27

An effective way of guarding protruding shaft ends is shown in figure 27. A simple sleeve with an end cap is placed over the shaft, thereby preventing any contact.

As a rule, shaft ends other than keyed shaft, should be guarded whenever they protrude further than half the distance of the diameter of the shaft.

All shafts with a keyway, regardless of the distance they protrude, shall be guarded.

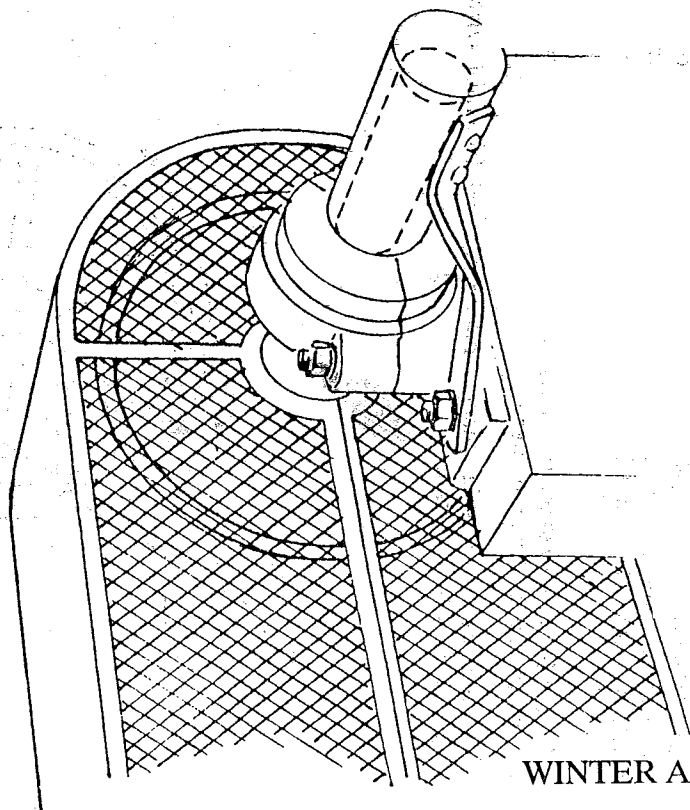


Figure 27

WINTER ALERT

FIGURE 30, 31 and 32

Figure 30 shows a flywheel guarded by location (7 feet or above). A build-up of material can, at times, place the flywheel within easy reach, as shown in figure 31 and therefore the flywheel should be guarded.

Where it is not necessary to totally enclose the flywheel, a guard as shown in figure 32 may be used.

If a build-up of material places the unguarded flywheel within reach, it must be guarded.

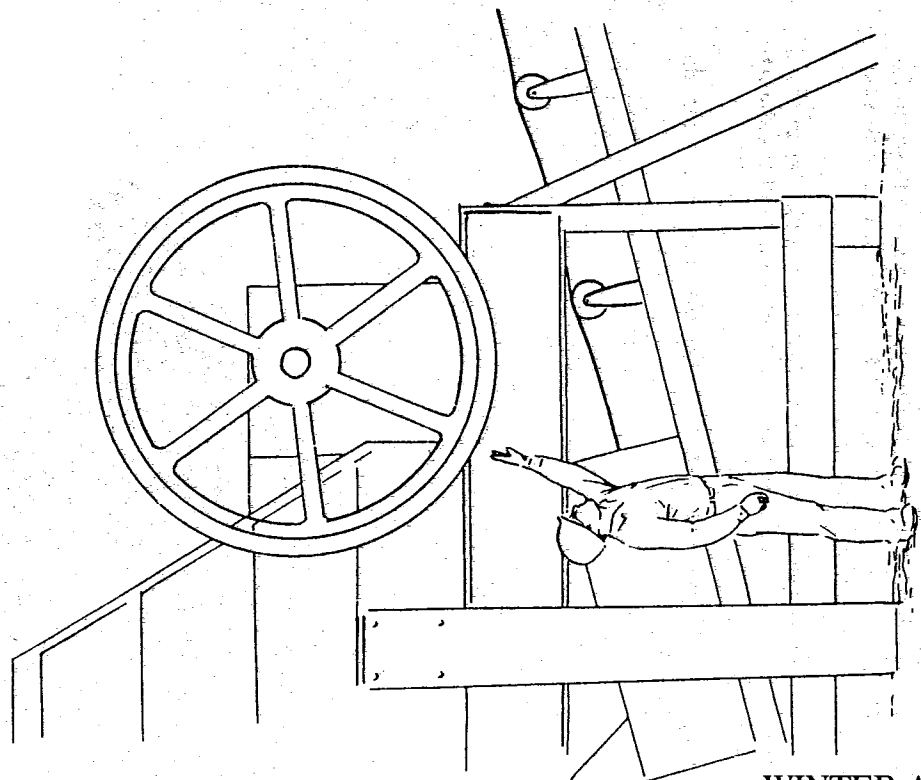


Figure 30

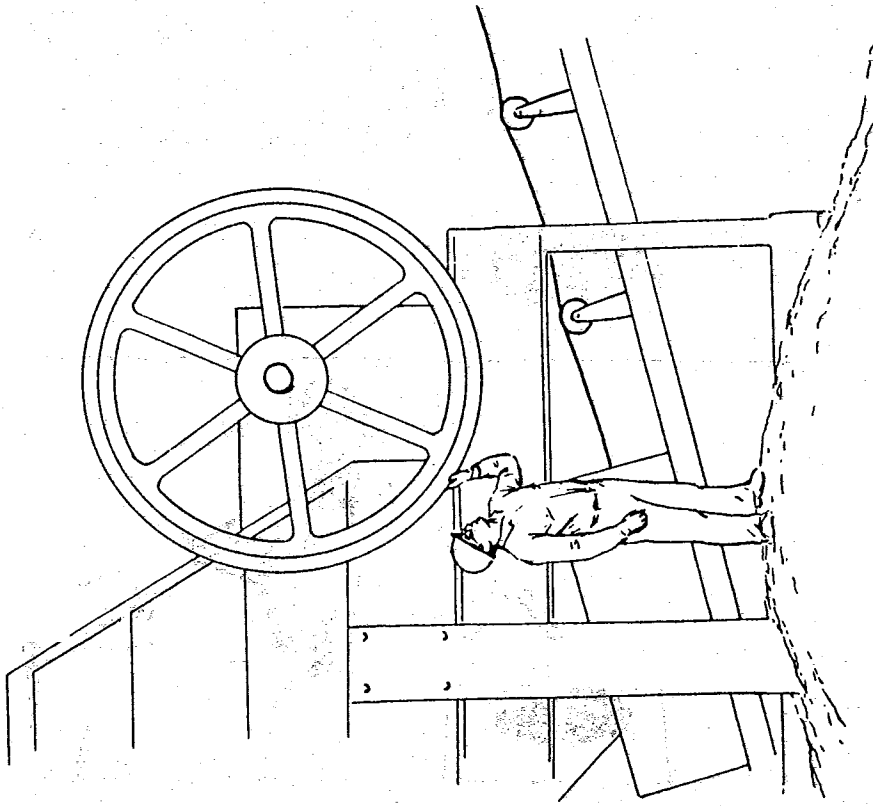


Figure 31

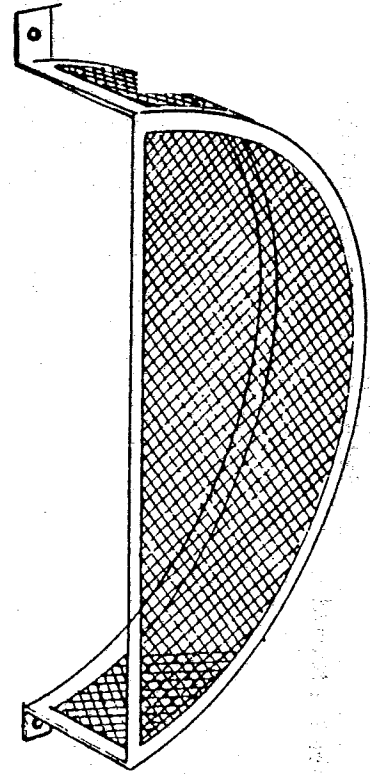
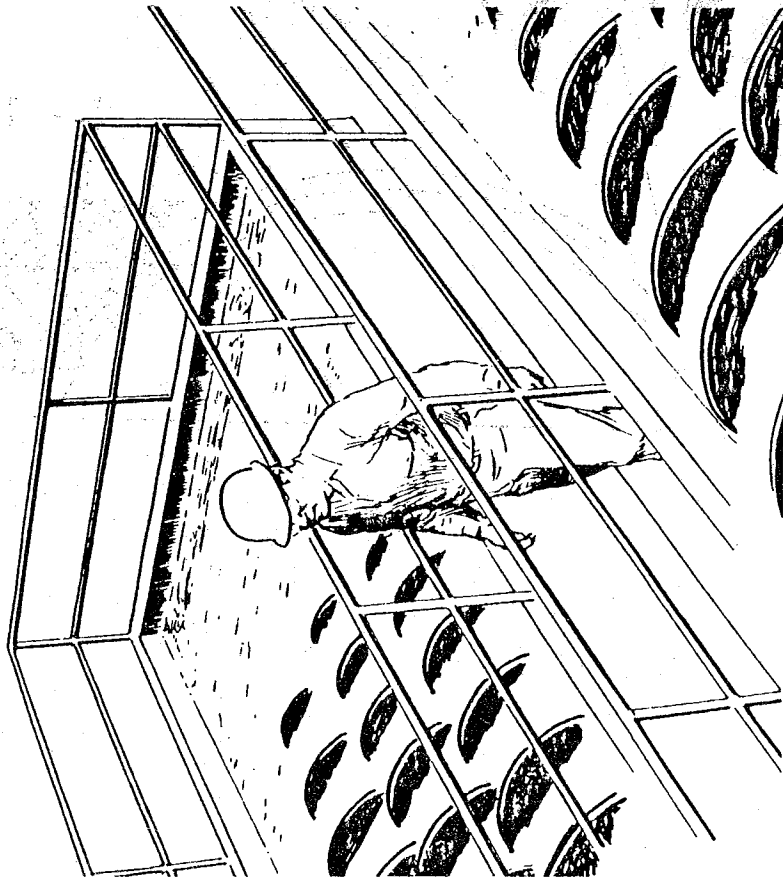


Figure 32

FIGURE 33

Figure 33 shows a classifier which is not practical to guard individually. In such cases protective railings can be installed to restrict access.



WINTER ALERT

Figure 33

FIGURE 34

Figure 34 shows a dryer with a railing restricting access to the trunnions. This should not be considered as a guard, since the pinch points are exposed and present a hazard to servicing personnel.

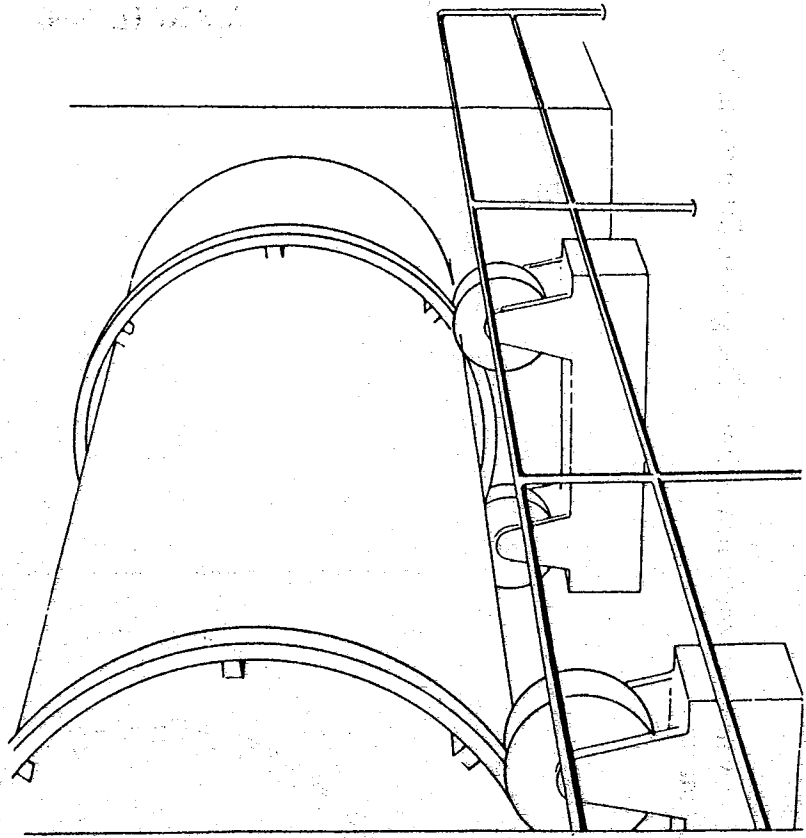


Figure 34

FIGURE 35

Figure 35 shows the trunnions with individual guards. This is an effective way to cover the pinch points. The grease fittings can be extended through the guard, so servicing can be done while the dryer is in motion.

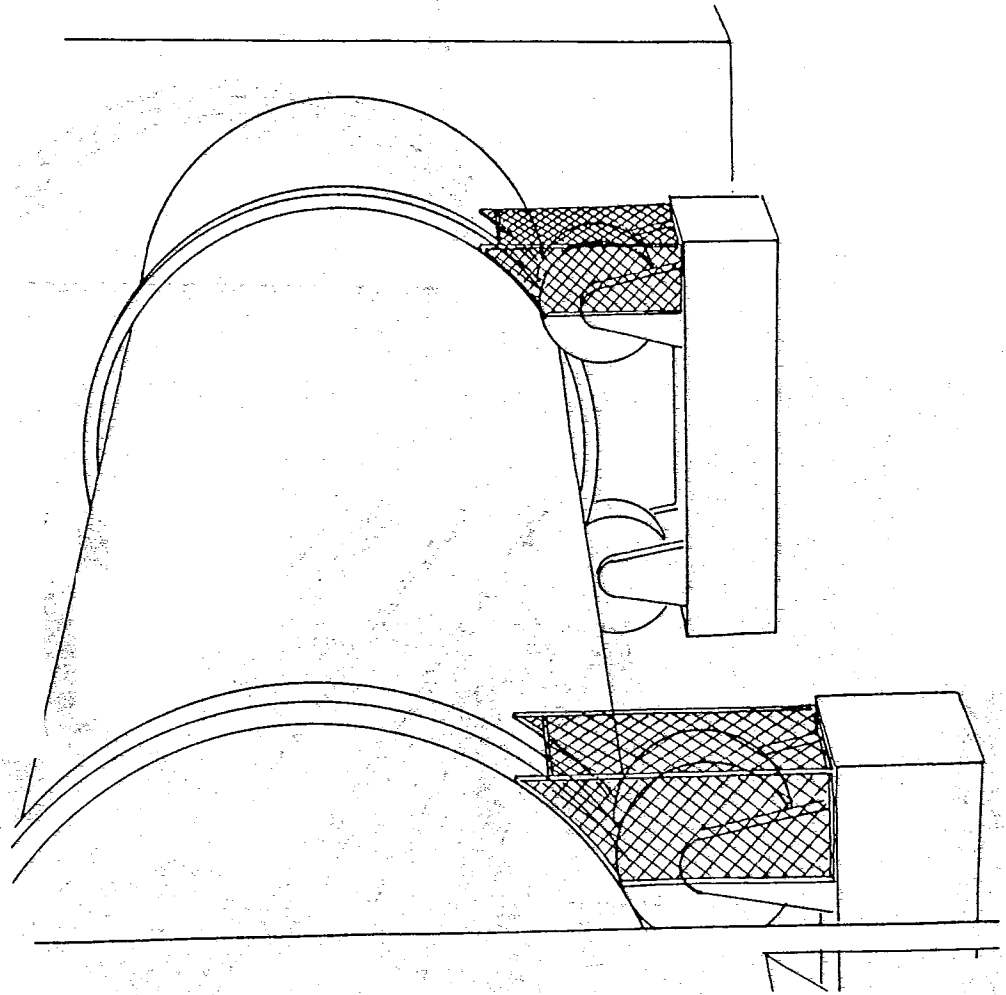
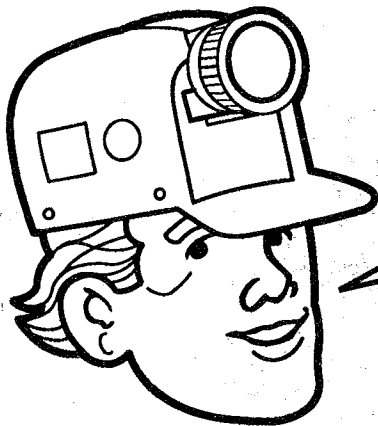
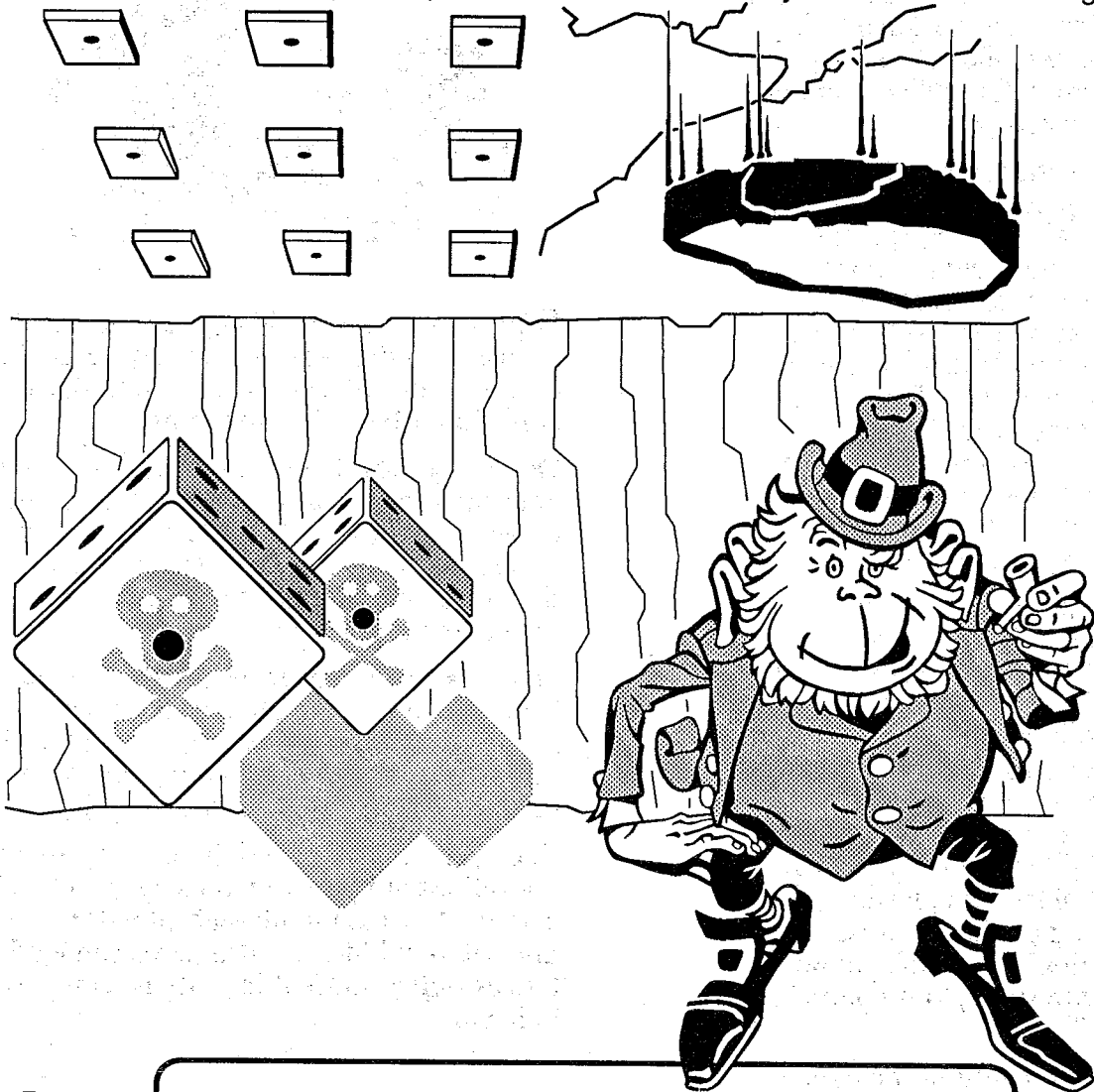


Figure 35

WINTER ALERT

Roof Evaluation—Accident Prevention

REAP—a program developed to promote health and safety awareness in mining



**Don't put your trust in luck...
the gamble will never "pay off."
Remember: INBY IS OUT!**

MINERS: Credit for this month's safety slogan goes to: **William H. Homistek, Company Inspector, U.S. Steel Mining Co., Inc., 351 West Beau St., Washington, PA 15301.** Please send your suggestions to: MSHA Office of Information, 4015 Wilson Boulevard, Graphics Room 609, Arlington, VA 22203-1984. (703) 235-1456



THE LAST WORD

DANGERS FOR KIDS

To help prevent your kids from choking, the National Safety Council's Children's Injury Prevention Checklist offers the following steps:

While eating, insist that kids sit in one place. Mash or cut food into small, bite-size pieces. For instance, cut hot dogs lengthwise, then cut into bite-size pieces. Instruct kids to take small bites and chew food thoroughly. Don't give them hard candy, whole grapes, popcorn, nuts, gum or cough drops. Also, don't let kids put anything in their mouths that isn't food.

To create safer surroundings for your baby and to prevent suffocation, use a crib that has no more than 2-3/8" spacing between the slats. Be sure the mattress fits snugly to the frame. No mobile strings, drapes or blind cords should hang within the baby's reach. Don't place thin plastic covering on the mattress. Also, don't have soft pillows or toys with small, loose parts in the crib.

Other precautions include:

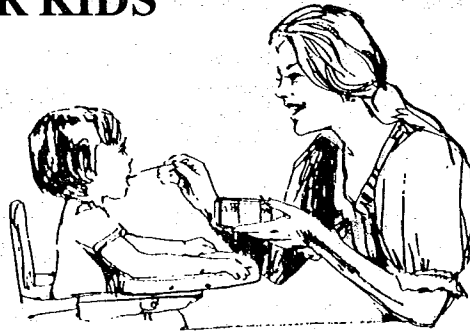
Keep furniture away from electric, curtain and blind cords.

Secure extra lengths of drape drawstrings high enough so that toddlers can't reach them.

Use only pierced earrings that have safety locking or screw-in backs.

Don't let small children play with balloons.

Buy toys appropriate for the child's age.

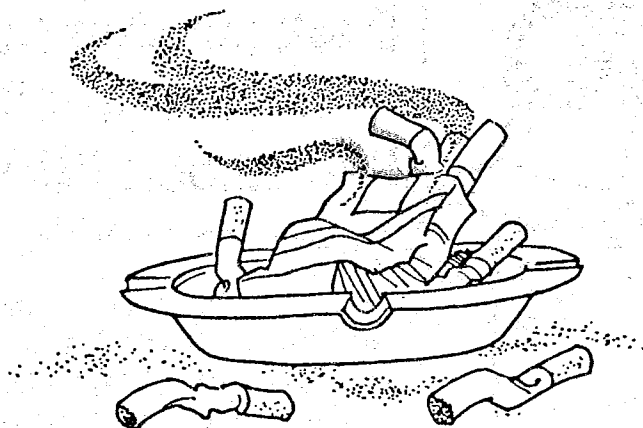


Exposure to household cigarette smoke can cause chronic middle ear disease and related hearing problems in children, according to the Journal of the American Medical Association.

Doctors report that exposure to two or more household cigarette smokers increases the risk of persistent middle-ear fluid build-up by nearly three times. With household exposure to smoke from more than three packs a day, the risk of ear problems increases to four-fold.

Smoke is most dangerous for children who have frequent nasal congestion or a tendency to certain allergies. When these sensitive children live in the same house as heavy smokers, the risk of ear damage increases by six times, says the report.

Each year in the United States, over one million operations are performed to insert tubes in children's ears to alleviate middle-ear infections. If left untreated, middle-ear problems can lead to hearing loss as well as difficulties with learning, speech and behavior.



WINTER ALERT

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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