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**VOLUME 10**

**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**FOOD & BEVERAGE;  
MEAT & LEATHER  
INDUSTRIES;  
TRADES & SERVICES**



**NATIONAL SAFETY COUNCIL  
425 North Michigan Avenue  
Chicago, Illinois 60611**

**CRONIN:** In many instances we do not know when a guest registers in the hotel whether he's wearing a hearing aid, has an artificial arm or leg, and may be completely disabled without their use. If this fact can be brought to the attention of the front office staff, it will help us to help them. Their advising us they are handicapped in some way would be a tremendous asset.

**CHEEVER:** How do you categorize this?

**CRONIN:** I am sure we would have to dig a little deeper. Chicago hotels should make an actual stand to bring it to their attention, to help us help them.

**MURPHY:** I think we accept our responsibility—both the hotel people and the Fire Department. But I think we would like to go just a little bit further if they would

work with us. Give the information to the hotel people in advance, I know I would get it from them. I think this is a must. You're taking care of their lives.

**CHEEVER:** If you really had an evacuation problem and if you have 500 guests, you would have a problem just getting them out of there. How would you go about getting them out of there?

**MURPHY:** We only go one floor at a time. Somebody has to tell the fire department what the conditions are. The fire department then takes charge and makes the decision whether or not to evacuate. If we find we have to evacuate, we evacuate the floor the fire originated in—then the floor above it and the floor below it, and each succeeding floor, based on the degree of the fire.

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**1973** At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

**1974** You can see the largest of all safety equipment exhibits at the Congress . . . an opportunity for you to make well-informed buying decisions for your company.

This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

### FUTURE CONGRESS DATES

|      |                   |       |
|------|-------------------|-------|
| 1971 | October           | 25-28 |
| 1972 | Oct. 30 - Nov. 2  |       |
| 1973 | Oct. 29 - Nov. 1  |       |
| 1974 | Sept. 30 - Oct. 3 |       |

**NATIONAL SAFETY COUNCIL**  
425 NORTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60611

1970

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VOLUME 1

*National Safety Council.*

**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**GENERAL  
SESSIONS**

ANNUAL MEETING OF MEMBERS  
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**1970**

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**VOLUME 2**

**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**AEROSPACE and  
AIR TRANSPORT  
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**NATIONAL SAFETY COUNCIL  
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|      |                   |       |
|------|-------------------|-------|
| 1971 | October           | 25-28 |
| 1972 | Oct. 30 - Nov. 2  |       |
| 1973 | Oct. 29 - Nov. 1  |       |
| 1974 | Sept. 30 - Oct. 3 |       |

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## 1971 NATIONAL SAFETY CONGRESS OCTOBER 25-28, 1971 / CONRAD HILTON HOTEL, CHICAGO

1972 The Congress is always a big week, a worthwhile week for the 13,000 safety people who attend.

1973 At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

1974 You can see the largest of all safety equipment exhibits at the Congress . . . an opportunity for you to make well-informed buying decisions for your company.

This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

### FUTURE CONGRESS DATES

|      |                   |       |
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| 1972 | Oct. 30 - Nov. 2  |       |
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NATIONAL SAFETY COUNCIL  
425 NORTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60611



NA677

**1970**

**VOLUME 3**

**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**AUTOMOTIVE and  
MACHINE SHOP;  
POWER PRESS and  
FORGING**



**NATIONAL SAFETY COUNCIL  
425 North Michigan Avenue  
Chicago, Illinois 60611**

Back injuries can occur when the set-up man tries to get the tooling into or out of the poorly designed storage racks.

Adequate and safe parts, material, or tooling storage room is vital to operator safety.

**Operator training.** Without question, it is the responsibility of the press brake owner or user to properly and completely train his operating personnel. To prevent accidents on press brake machines we should:

1. Select physically and mentally qualified people. Some people are afraid to run press brakes or punch presses. If they are, we should not put them on the machine. If we do, we set up a very highly probable situation where an accident is likely to happen. A nervous or emotionally upset person is a top candidate for an accident.

2. Orient the person to the plant people around him and then his job. By orienting the person to the plant and people around him, you are more assured of his attention when you explain his job and the machine to him. Make sure he understands what you are communicating to him.

3. Impress upon him that you are interested and concerned about his safety. Explain that you will be insisting that he perform his work in a safe manner. These first-day discussions are important ones.

4. On every new job you assign to your press brake operator, be sure to point out the safety points that you expect him to follow. This will reinforce in his mind your concern for his safety. He will soon get the message that you want to run a safe operation.

5. Follow up from time to time to be sure the operator is following your instruction. Discipline if you have to, but be sure to compliment good safe practices when and where you see them.

**Maintenance.** Regular maintenance is good practice both from the standpoint of protecting your investment and in your accident prevention efforts. Without good regular maintenance, parts vital to the safe operation of your machine will be allowed to deteriorate to the failure point. When they fail, accidents can and will happen. Some points to check are: clutch and brake lining; air lines and pressure gages; electrical wiring and hook up; hand or foot control switches; loading and unloading devices and tooling. Make sure they are in place. Make sure the manuals and safety instructions are available to the press brake operator.

At times, warning signs become oil covered, scratched, and unreadable. This creates the impression in the operator's mind that safety is not really very important. When you see poorly maintained safety signs, have them cleaned or replaced, but make sure they are readable.

The safe use of press brake machinery requires more than an operator and common sense. It requires that you plan, design, build, and install safe tooling, and it requires that you establish safe operating objectives and exercise your management control to see that safe methods are followed. When you do these things you will be performing true management leadership. Management is a people problem but accidents can and must be prevented.

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aves, microwaves, infra-red heat, and visible light. This type of radiation does not damage cells under normal conditions of exposure and it does not accumulate.

Microwave ovens do not emit ionizing radiation. Dr. James A. Van Allen, the discoverer of the Van Allen belt which surrounds the earth, once said your chance of getting injured by a microwave oven is as likely as getting a tan from moonlight.

Microwave ovens, like all appliances, contain numerous safety controls. Therefore, the amount of leakage from a microwave oven is small, if it is present at all. Like the heat from the sun, the heat produced by microwaves can usually be felt long before harm can occur.

You can be safely exposed to intense heat for a brief period of time. You can also be exposed to heat for a longer period if you remain far enough away from it so most of its harmful energy is dissipated or cooled.

Exposure to microwave leakage is also brief in normal use. And, because of the extreme shortness of the rays, microwave heat decreases in a space of only a few inches.

Tomorrow's home—the home in which you will live—probably will contain a microwave oven. It will make today's methods of cooking as old-fashioned and funny as the coal and wood stoves appear to us today. It's important for you to know about new

developments like these in the appliances you will use tomorrow. Be respectful of their potential dangers, of course; but be assured that they represent important steps being taken by the innovative, energetic, yet intensely safety-minded home appliance manufacturing industry to provide exciting new uses of power to you.

Today's and tomorrow's products for the home represent new developments in the use of power. As the father of three sons I am keenly aware, also, of the importance of another kind of power—youth power.

It is the power you have for leadership in safety and, what is perhaps even more important, for leadership in many other fields of activity that are worthwhile in your homes, your schools, your churches, your communities, and in the nation.

The amazing machines we have been talking about have been developed under a political, economic, and industrial system that is the greatest ever developed in the history of mankind.

Don't let anyone tell you otherwise. There are those—and many of them are youths—who would destroy this system and the things in it that we cherish. Your power as leaders for the good things in which you believe can protect, preserve, and improve this system which makes life happier, healthier, safer, and more productive for all of us here in America today and which will continue to do so under your leadership here in America tomorrow.

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*The Liaison Vice President-elect for the Farm Conference made the following appointments to the Conference for the year 1970-71. They were approved by the Board of Directors at the Board Meeting October 27, 1970.* EDWARD S. ADAMS, Director of Safety, Iowa Farm Bureau Federation, Des Moines, Iowa; MRS. DONNA AGNESS, Indiana Farm Safety Council, Bunker Hill, Ind.; CHARLES BAILEY, Associate Editor, The Farm Quarterly, Cincinnati, Ohio; PAGE L. BELLINGER, Product Safety Department, Deere & Company, Moline, Ill.; DR. BOND BIBLE, Council on Rural Health, American Medical Association, Chicago, Ill.; W. J. BRAKE, Lecturer, National Grange Lecturer's Office, Haslett, Mich.; DR. B. K. BRISTOL, Illinois State University, Department of Agriculture, Normal, Ill.; NORMAN CAVENDER, Managing Editor, TOP OPERATOR, Philadelphia, Pa.; DR. JOHN B. CLAAR, Director of State Extension Service, University of Illinois, Urbana, Ill.; MAYNARD COE, Agricultural Consultant, Des Plaines, Ill.; A. B. CORDES, State FFA Executive Secretary, State Dept. of Public Instruction, Madison, Wis.; WILLIAM COX, Extension Specialist, Extension Service, U. S. Dept. of Agriculture, Washington, D. C.; WARD CROSS, Texas Farm Bureau, Waco, Tex.; CLAUDE DE ST. PAER, Assistant Director, Program Development Division, American Farm Bureau Federation, Chicago, Ill.; HOMER E. EDWARDS, VTE Program Officer, Agricultural Education, Office of Education, DHEW, Chicago, Ill.; ROGER FLEMING, Public Relations Staff, General Motors Corporation, Detroit, Mich.; CHARLES FREDERICK, Executive Secretary, National Farm & Power Equipment Dealers Association, St. Louis, Mo.; DALTON E. GANDY, National Cottonseed Products Association, Inc., Memphis, Tenn.; HAROLD HALTER, Managing Director, Farm Equipment Manufacturers Assn., St. Louis, Mo.; MARION E. HART, Manager of Administration, Division Engineering, Farm Equipment Division, Allis-Chalmers, Milwaukee, Wis.; DENIS HAYLEY, Secretary-Treasurer, National Agricultural Chemicals Assn., Washington, D. C.; JOHN P. HEIN, Director of Engineering, Grinnell Mutual Reinsurance Co., Grinnell, Iowa; GERHARD HEUTZENROEDER, Production Manager, National Farmers Union, Jamestown, N. D.; DOUGLAS HEWITT, Executive Secretary, Farm & Industrial Equipment Institute, Chicago, Ill.; DR. R. J. HILDRETH, Managing Director, Farm Foundation, Chicago, Ill.; GREGORY HOLLAND, General Product Manager, Massey-Ferguson, Inc., Des Moines, Iowa; JOHN HOVE, Chief, Field Services & Field Operations, Injury Control Program, U. S. Public Health Service, Cincinnati, Ohio; DR. A. H. ISMAIL, Director of Research, Department of Physical Education for Men, Purdue University, Lafayette, Ind.; L. W. KNAPP, JR., Chief, Accident Prevention Laboratory, University of Iowa, Oakdale, Iowa; WILLIAM KUHFUSS, President, Illinois Agricultural Assn.; Bloomington, Ill.; FRANK LADERER, Director of Safety, Nationwide Insurance Company, Columbus, Ohio; DR. FRANK LANHAM, Head, Agricultural Engineering Dept., Agricultural Engineering Bldg., University of Illinois, Urbana, Ill.; FRED LARK, KVOW Radio, Riverton, Wyo.; T. DAVID MCFARLAND, Assistant Secretary for Membership Activities, American Society of Agricultural Engineers, St. Joseph, Mich.; C. W. McMILLAN,

Executive Secretary, American National Cattlemen's Assn., Denver, Colo.; NORMAN C. MINDRUM, Director, National 4-H Service Committee, Chicago, Ill.; E. D. PATRICK, Vice President, National Grange Mutual Ins. Co., Syracuse, N. Y.; MRS. ALTA PECK, Litchfield, Conn.; V. S. PETERSON, Atlanta, Ga.; DR. RICHARD PFISTER, Extension Safety Engineer, Agricultural Engineering Dept., Michigan State University, East Lansing, Mich.; RUSSELL POYNOR, General Supervisor, Product Planning Research, Farm Equipment Division, International Harvester Co., Chicago, Ill.; L. W. RANDT, Farm & Industrial Equipment Institute, Chicago, Ill.; D. E. ROSEN, Supervisor, Product Registration, I & B's Labels, Registration and Toxicity Section, E. I. du Pont de Nemours & Company, Wilmington, Del.; LOUISE ROSENFELD, Assistant Director-Home Economics, Cooperative Extension Service, Iowa State University, Ames, Iowa; ROBERT RUPP, Editor, The Farmer, 1999 Shepard Road, St. Paul, Minn.; ROLLIN SCHNIEDER, Extension Specialist, Safety, University of Nebraska, Lincoln, Neb.; JOHN SCOTT, Master, National Grange, Washington, D. C.; CHARLES B. SHUMAN, President, American Farm Bureau Federation, Chicago, Ill.; MRS. LLOYD SPENCER, South Haven, Mich.; W. E. STUCKEY, Leader, Safety & Emergency Preparedness, State Extension Service, The Ohio State University, Columbus, Ohio; BECKY SURFACE, The Hoosier Farmer, Indianapolis, Ind.; RANDALL C. SWANSON, Sunnyside Seed Farms, Inc., Middleton, Wis.; EDWIN W. TANQUARY, Elmhurst, Ill.; ROBERT E. TAYLOR, Director of Agricultural Relations, Market Development Division, Republic Steel, Cleveland, Ohio; JAMES C. THOMSON, Editor, Prairie Farmer, Chicago, Ill.; JAMES WALL, Executive Secretary, National Vocational Agricultural Teachers' Association, Inc., Lincoln, Neb.; DALE WATLEY, Ag-Tronic, Inc., Hastings, Neb.; MRS. LEOTA M. WESTFALL, Traffic Specialist, Highway Traffic Safety Center, Michigan State University, East Lansing, Mich.; DR. F. R. WILLSEY, Extension Safety Specialist, Purdue University, Lafayette, Ind.; CHARLES WILSON, Safety Officer, Bureau of Labor Standards, U. S. Department of Labor, Washington, D. C.; JOHN H. ZICH, Mgr., Tech. Data & Standards Dept., Ford Motor Co., Tractor and Implement Division, Bloomfield Hills, Mich.; CARLTON L. ZINK, Moline, Ill.

## MEMBERS OF THE CONFERENCE FOR RELIGIOUS LEADERS NATIONAL SAFETY COUNCIL 1970-71

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Alternate delegates

## MEMBERS OF THE

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NATIONAL SAFETY COUNCIL 1970-71

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International, St. Louis, Mo.; Pilot Club International, WILDA RICHARDSON, Executive Director, Pilot Club International, Macon, Ga.; Science Clubs of America, HOWARD WEISBROD, Executive Secretary, Science Clubs of America, Washington, D. C.; United Christian Youth Movement, JOHN S. WOOD, Associate Executive Secretary, United Christian Youth Movement, New York, N. Y.; United States Catholic Conference, PHILOMENA K. KERWIN, Executive Secretary, National CYO Federation, United States Catholic Conference, Washington, D. C.; U. S. Junior Chamber of Commerce, GARY R. McNAUGHT, Program Manager, U. S. Junior Chamber of Commerce, Tulsa, Okla.; Veterans of Foreign Wars of the United States, EDWARD L. BURNHAM, National Director, Youth Activities, V.F.W., Kansas City, Mo.; Vocational Industrial Clubs of America, LARRY W. JOHNSON, Executive Secretary, VICA, Falls Church, Va.; Young Men's Christian Association, JOHN P. FISHER, Director, Community Affairs, National Council, YMCA, New York, N. Y.; Zonta International, MRS. MARTHA BAUMBERGER, Executive Director, Zonta International, Chicago, Ill.; Vice President for Youth, ALEX A. MALESKI Director, National Special Services, Boys' Club of America, New York, N. Y.; Secretary, National Safety Council, HAROLD E. HELDRETH, Manager, Youth Activities Department, National Safety Council, 425 North Michigan Avenue, Chicago, Ill. 60611

# PLAN NOW TO ATTEND THE

## 1971 NATIONAL SAFETY CONGRESS OCTOBER 25-28, 1971 / CONRAD HILTON HOTEL, CHICAGO

**1972** The Congress is always a big week, a worthwhile week for the 13,000 safety people who attend.

**1973** At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

**1974** You can see the largest of all safety equipment exhibits at the Congress . . . an opportunity for you to make well-informed buying decisions for your company.

This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

### FUTURE CONGRESS DATES

|      |                   |       |
|------|-------------------|-------|
| 1971 | October           | 25-28 |
| 1972 | Oct. 30 - Nov. 2  |       |
| 1973 | Oct. 29 - Nov. 1  |       |
| 1974 | Sept. 30 - Oct. 3 |       |

**NATIONAL SAFETY COUNCIL**  
425 NORTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60611

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# 1970

## VOLUME 7

### **NATIONAL SAFETY CONGRESS TRANSACTIONS**

# **COAL MINING**



**NATIONAL SAFETY COUNCIL**  
425 North Michigan Avenue  
Chicago, Illinois 60611

increases, respectively. The longwall was completed at the end of the midnight shift on the 14th day after instrumentation. At this time, the maximum pressures recorded at test sites 3 and 4 were 6,000 and 4,500 psig, respectively. Maximum pressures at test sites 3 and 4 after four months following completion of the longwall were 6,400 and 5,400 psig, respectively, and the pressures seemed stabilized. These two test sites are to remain in operation until after completion of the next inby panel, No. 3.

#### Conclusions

1. Adequate caving seemed to have occurred in favorable sequence with minimum overhang soon after the longwall advanced from the area affected by the bump, and fracturing of the immediate roof near the middle of the longwall stopped.

2. Adequate caving continued in the void, and apparently improved compaction minimized the length of the arch of the retreating longwall during the final stages of mining.

3. Data transmitted by the hydraulic-pressure cells indicated that the high-pressure point of the front abutment zone was contained relatively close to the advancing longwall face.

4. Pressures versus time-and-distance monitoring of the optimum load of the front abutment, as well as the load distribution (pressure waves) on the unmined portion of the panel, was important in the decision to continue the longwall to the projected "stop distance" line.

5. Pressure increases were recorded immediately following instrumentation, especially at test sites 1, 2, and 3, revealing that the coal panel was stressed in excess of static loads by the abutment from the goaf flanking the panel on left and possibly from mining stresses. Pressure increases accelerated as the longwall face approached the respective test sites.

6. Pressure increases were slight during weekend idle periods. During the process of completing the longwall, two coal disruptions, of more than ordinary consequence, occurred on the longwall; on each occasion, coal was expelled from the longwall face for a distance of about 15 feet inby the tail entry and from the tail-entry side of the coal panel, for a distance of 30 feet outby the longwall face. Intense discoloration of the coal was observed on numerous occasions near the roof line. This characteristic discoloration of the coal on the longwall face appeared usually 50 to 75 feet inby the tail-entry side of the wall.

It is believed that use of the hydraulic-pressure cells to monitor and transmit data relative to pressure changes and the pressure pattern (rate and direction) proved important from the bump aspect during the final stages in longwalling the most vulnerable portion of the coal panel. Results obtained indicate that the encapsulated hydraulic cell could be advantageous in the starting phases, first weight and caving, and in completing a longwall, or when the pressure wave pattern is abnormally intense and lingering.

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**NATIONAL SAFETY CONGRESS  
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**NATIONAL SAFETY COUNCIL  
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of most programs today) is the suggestion program.

The individual safety engineer must learn to make the best of the level of development of the suggestion program as it exists in his plant, and not seek refuge in the defenses we discussed earlier.

To this point, I may have sounded critical of the individual plant safety engineer. The safety engineer's task is not an easy one. The demands placed upon his time have grown to the point that relief is mandatory. Organized safety is utilizing every available communicating media to impress upon the line supervisor his responsibility for individual employee safety. In theory, when the line supervisor recognizes his responsibilities in this area, the safety engineer then may begin to assume the role that was originally envisioned for him—that of a program administrator. The development of the supervisor's response to job safety responsibility has not been as broad or successful as we thought it might be by this time. I suspect that the suggestion people have found the same to be true in this area. On occasion, a percentage of the suggestion workload being placed on the safety engineer is due to the suggestion people having encountered

difficulty when referring suggestions to individual job supervisors and having to a degree abandoned this aspect of the program and forwarded many of these ideas to the safety engineer. The resulting estrangement does little to advance either of our programs. More complete screening of suggestions before they are referred to the safety activity is an important must. A narrower range of safety engineer responsibility must be envisioned by the suggestion coordinator. The suggestion coordinator must himself become more conversant with general plant safety policy.

In summarizing, permit me to observe that, at the Ford Motor Company, cooperation between safety and suggestion people has saved lives and countless instances of unnecessary suffering, improved working conditions, and created new jobs. It is only when you compare the progress made with the tremendous potential for progress that you become particularly concerned about the need for closer and more effective cooperation. As a safety engineer, let me say that the suggestion people have provided us, particularly in the promotional and imaginative areas, examples that we would do well to follow.

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## 1971 NATIONAL SAFETY CONGRESS OCTOBER 25-28, 1971 / CONRAD HILTON HOTEL, CHICAGO

**1972** The Congress is always a big week, a worthwhile week for the 13,000 safety people who attend.

**1973** At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

**1974** You can see the largest of all safety equipment exhibits at the Congress . . . an opportunity for you to make well-informed buying decisions for your company.

This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

### FUTURE CONGRESS DATES

|      |                   |       |
|------|-------------------|-------|
| 1971 | October           | 25-28 |
| 1972 | Oct. 30 - Nov. 2  |       |
| 1973 | Oct. 29 - Nov. 1  |       |
| 1974 | Sept. 30 - Oct. 3 |       |

**NATIONAL SAFETY COUNCIL**  
425 NORTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60611

# 1970

**VOLUME 9**

## **NATIONAL SAFETY CONGRESS TRANSACTIONS**

# **ELECTRONICS and ELECTRICAL EQUIPMENT**



**NATIONAL SAFETY COUNCIL  
425 North Michigan Avenue  
Chicago, Illinois 60611**

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**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**GLASS,  
CERAMICS,  
RUBBER and  
PLASTICS**



**NATIONAL SAFETY COUNCIL  
425 North Michigan Avenue  
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**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

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**NATIONAL SAFETY COUNCIL**  
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THE

# 1971 NATIONAL SAFETY CONGRESS

OCTOBER 25-28, 1971 / CONRAD HILTON HOTEL, CHICAGO

## 1972

The Congress is always a big week, a worthwhile week for the 13,000 safety people who attend.

## 1973

At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

## 1974

You can see the largest of all safety equipment exhibits at the Congress . . . an opportunity for you to make well-informed buying decisions for your company.

This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

### FUTURE CONGRESS DATES

|      |                   |       |
|------|-------------------|-------|
| 1971 | October           | 25-28 |
| 1972 | Oct. 30 - Nov. 2  |       |
| 1973 | Oct. 29 - Nov. 1  |       |
| 1974 | Sept. 30 - Oct. 3 |       |

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**1970**

**VOLUME 13**

**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

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# PLAN NOW TO ATTEND THE

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**METALS**



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areas where they can be easily reached at all times. A long-handled shovel shall be provided at each receptacle to afford a ready means of laying the sand or powder around the perimeter of the fire. The implements shall be made of aluminum or other non-corrosive material.

Nearly all vaporizing liquid fire-fighting agents react violently with burning aluminum, and they shall not be used where aluminum dust fires may occur.

Water streams or liquid sprays of various kinds that vaporize quickly are highly dangerous; they cause dust to be thrown into the air, and the ignited particles instantly cause a violent explosion. For the same reason, any mechanical agitation or disturbance of the burning dust must be avoided. For these reasons, control of the activities of an outside fire-fighting department is important since this hazard in fighting aluminum dust fires may not be recognized.

**Recommended Clothing.** Outer clothing of a porous or loose weave shall not be worn since dust will easily accumulate on and even in this type of cloth. The material should be closely woven, trousers shall not have cuffs, and aprons or jackets shall not have pockets. Clothing with frayed edges should be avoided.

Chemically treated clothing that will not support combustion is recommended. This type of clothing may require retreatment after a number of washings.

**Further Precautions.** Finally, if you believe that your manufacturing procedure is developing fines with explosion potential, you will want to make a positive determination of the degree of your hazard. We suggest that you contact the U. S. Bureau of Mines and, although they do not do this type of testing anymore, they have had a broad experience in the past. They can tell your laboratory personnel how to run such an analysis or refer you to a facility that can make the proper tests.

An important factor that must not be forgotten is that a change in the mechanics of your processes, such as speeds, fineness of the abrasive medium, lubricating material, or a change in the type of alloy being processed may well create a sufficient difference in the particle size of the fines to develop a hazard potential that did not previously exist. Any change of the type described or change that could result in fines of a smaller size being generated should precipitate immediate re-analysis of the fines.

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## 1971 NATIONAL SAFETY CONGRESS OCTOBER 25-28, 1971 / CONRAD HILTON HOTEL, CHICAGO

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*(National Safety Council)*

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**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**PETROLEUM  
INDUSTRIES**



**NATIONAL SAFETY COUNCIL  
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### *Care and Emergency Evacuation of Injured*

Injured personnel should be evacuated to the nearest medical facility by the fastest means of transport available. Speed is essential to combat the combined effects of severe cold and shock.

First aid treatment includes:

1. Protection from the cold and shock.
  2. Place the victim in a warm sleeping bag.
  3. Administer hot drinks except in the case of abdominal injury.
  4. Control bleeding by direct pressure.
- Once a tourniquet has been applied, the victim should be examined by a doctor as soon as possible.

### *Body Parasites*

Body parasites are common in the more populated areas because of crowded living conditions and shortage of bathing and cleaning facilities. Under such conditions individuals should inspect clothing and the body each night for parasites. If parasites are present, the following methods of removal are recommended:

1. While extreme cold does not kill lice, it paralyzes them; therefore, garments should be hung in the cold, then beaten and brushed. This will help get rid of the lice, but not louse eggs.

2. Insecticide powder can be used to free the body and clothing of parasites.

### *Survival*

Even a short cross-country trip can entail a survival situation. Men have been known to become lost and die within a few hundred yards of safety. Anyone departing a fixed

base by aircraft, ground vehicle or on foot must carry sufficient protective clothing and food reserves to permit survival during unexpected weather changes or other unforeseen emergencies.

Never travel alone. Expected itinerary and arrival time must be left with responsible parties before departing base. Be sure you are skilled in the construction of expedient shelters from available materials. Remember that snow has excellent heat insulating qualities and is a good shelter construction material. In an emergency, remain with your vehicle or downed aircraft—it may be your best shelter. Be calm. Prepare your shelter to best accommodate you and your companions. If vehicle engines are used for operating heaters, ensure adequate ventilation to prevent carbon monoxide poisoning.

Prepare emergency visual signals in accordance with standard codes and procedures. Make every effort to attract attention by other means such as radio, flares, smoke, or reflected light. Use survival gear and rations sparingly. Keep warm and keep body heat production up by all of the standard means known to you. Never give up hope. Never stop trying to survive.

Alaska law provides the following minimum survival equipment for all aircraft in cross-country flights: sufficient food for each person to sustain life for two weeks; one axe or hatchet; small arms and ammunition; fishing gear; a knife; two boxes of waterproof matches; a mosquito headnet for each occupant; pyrotechnic signal devices; in addition, during the period October 15-April 1 snowshoes, sleeping bags, and blankets are required to be aboard.

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**VOLUME 20**

**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**PUBLIC  
UTILITIES**



**NATIONAL SAFETY COUNCIL  
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are about four more dollars of hidden losses that management is usually not aware of.

Quoting from a bulletin of the United States Fidelity and Guaranty Company: "Based on country-wide averages, for every dollar paid by the insurance company for compensation losses and medical expenses, the employer pays four dollars for the same accident."

Referring to the 1963 edition of *Safety Management*: "With the exception of the National Safety Council, which has replaced the 4:1 ratio with the Simonds method for finding a company's accident cost, many books on accident prevention still repeat the story of the 4:1 ratio." Some conservative authors feel this ratio is a bit too high, as for example the 1967 edition of *Supervisor's Safety Manual* (National Safety Council) which states: "What is not realized is that the hidden costs of accidents are higher than medical, compensation, and insurance costs. The rule-of-thumb figure is that hidden costs are about twice the direct cost of an accident."

(For comparison purposes, the Simonds method of determining the hidden costs of accidents assigns specific dollar figures for uninsured costs for various industries. The all-industry group has an average uninsured cost of \$130 per lost-time case, while in construction the cost is about \$100 per lost-time case. It is interesting to note in the Simonds studies of no-injury accidents—property damage only—that the average uninsured cost for all-industry was \$290 and for general manufacturing was \$375. No-injury accidents—no injury to employees—are said by many experts to occur about as often as lost-time injuries.)

The case is clear for accident prevention. There are thousands of dollars of hidden savings to be gained by all types of industry, as well as a large water utility. The hidden costs of accidents have been studied by many for years, including A. H. Young of U. S. Steel, who as early as 1936 stated: "We have spent \$24,860,000 on safety work . . . by multiplying the cost of settling similar accidents, we found that we had made a saving of \$117,224,000 . . . even if the figures are 50 per cent wrong, at least we got back the dollar we paid for safety and another with it."

The National Safety Council 1967 edition of *Accident Facts* reports that during 1966 in the United States the "other costs of work injury accidents" amounted to \$3,000,000,000, which included property damage, interference with production, and time lost by workers other than the injured, while the cost of medical expenses and insurance costs totaled only \$1,500,000,000. Again, the hidden costs or hidden savings available were twice as much as the insured costs of an accident.

As a closing thought, another quote from the National Safety Council's *Supervisor's Safety Manual* should be sufficient: "Property damage is one of these hidden costs. Often an accident occurs which injures no one (or in which the injury is slight), but which does extensive property damage. Because the repair bill was charged to maintenance and repair of equipment, it never appeared in the accident reports to management. Yet it was an accident cost just as surely as compensation paid to an injured worker would be. Management must recognize this."

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**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**PULP and PAPER;  
PRINTING and  
PUBLISHING**



**NATIONAL SAFETY COUNCIL**  
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conscious. Departmental plans are now designed with safety in mind. Employees are beginning to think that perhaps there is something to this safety bit. Our maintenance force responds in a reasonable time to safety work orders. We are sure of our ground and we are opening our plant to safety participation a section at a time. In time, our plant will have the safety suggestion boxes, the safety committees, the regular safety meetings, and the programs which some of you may take for granted. In reference to earlier comments, these programs will be controlled. Employees and supervision alike must understand the importance of the respective safety projects or the projects will just as readily be abandoned. The time has arrived, not only at Meredith Printing but throughout American industry, for safety to be a joint responsibility of manager and employee. If either party shirks his safety responsibility, both parties will lose.

Changing employees' attitudes today can be discouraging. Reaching these people and

influencing the way they think appears so hopeless it hardly seems worth the effort. As indicated earlier, we do bypass those cases which not only appear but are, in fact, hopeless. We are also cognizant of the fact that effective safety communication is sorely needed. Today we have succeeded in selling constructive, commonsense safety attitudes to a few of our employees. Tomorrow we will sell more of our employees. The results are proving well worth the cost and effort.

A very popular milk company had the following slogan printed in big letters on the sides of its truck: "Our cows are not contented! They're anxious to do better." Safety at Meredith is not contented. We can and will do better.

Safety is at Meredith to stay. It will not go away as a bad dream as some may have wished two years ago. Meredith management recognizes safety as a most important tool in the production process. Next year or the year after Meredith Printing will have an Award of Merit. During the interim we're going to chip, chip away!

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**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**SCHOOL and  
COLLEGE  
SAFETY**



**NATIONAL SAFETY COUNCIL**  
**425 North Michigan Avenue**  
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**1972** The Congress is always a big week, a worthwhile week for the 13,000 safety people who attend.

**1973** At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

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This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

#### FUTURE CONGRESS DATES

|      |                   |       |
|------|-------------------|-------|
| 1971 | October           | 25-28 |
| 1972 | Oct. 30 - Nov. 2  |       |
| 1973 | Oct. 29 - Nov. 1  |       |
| 1974 | Sept. 30 - Oct. 3 |       |

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**TRAFFIC;  
DRIVER  
IMPROVEMENT**



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**NATIONAL SAFETY CONGRESS  
TRANSACTIONS**

**WOOD PRODUCTS;  
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INDUSTRIES**



**NATIONAL SAFETY COUNCIL  
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**HOME  
SAFETY**



**NATIONAL SAFETY COUNCIL  
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After all, physical fitness is a quality of life we should retain as long as possible. We can all agree that the years in later life should be happy ones, full of promise if we have the energy and zest to use them well. The only way to remain alert is to be lively, and to continue that way we must have opportunity. Designers can provide it for us or deprive us of it. Of course, location of the housing often will determine the amount of outdoor space which, in turn, is related to land costs.

Housing for older people should be in active areas, close to facilities of all kinds and providing easily accessible and regular public transportation. In smaller towns, main street is an ideal location, as it is in large cities if land costs permit. If on an outlying site, transportation becomes more critical and overcoming isolation equally so. In suburban areas we might consider planning in conjunction with large shopping centers or build jointly with other public and private programs that bring the community to or near the housing site. This might include specialty shops, garden club headquarters, church social buildings, educational installations, or other people-attracting developments. All to defeat isolation and increase interest. We have seen housing for retirees successfully joined with gymnasiums for high school youth, community centers jointly used by university students, and housing for the elderly on the same site; some floors of hotels or of office buildings in downtown areas—each such combination contributing to opportunities for the older person to be part of an active environment of all age groups.

We could not close any discussion of home related accidents without reflecting the unreasonable risk of injuries due to household products. The report of the National Committee on Product Safety, as this organization knows, states that 20 million Americans are injured each year in the home as a result of incidents connected with consumer products. Of the total, 110,000 are permanently disabled and 30,000 are killed. The report

states that a majority of American homes contain potential fire hazards due to worn or defective wiring, overloaded circuits, or an absence of grounding. They further state that injuries result from dim lighting, uneven floors, irregular steps, slippery surfaces, obstacles, and steep inclines. From experience we know that stove design may cause or decrease burns; that unvented gas heaters are hazardous; and that unmarked and non-shatterproof glass on sliding doors can be very dangerous, particularly if sight is dim. Safety must be the first concern with design and equipment with proper engineering and product safety the determinants when selecting equipment for the elderly.

The National Safety Council is doing yeoman service and its efforts must be backed up by the housing designer by combining the prospect of not only a longer life but a safe and fulfilling one.

In conclusion, shelter often is the basis of man's emotional and psychological posture in society. To the degree that it is satisfying, he will in the older years often sacrifice other needs to sustain it. Dignity and self esteem may be lost when the living environment is insensitive or substandard, rendering it damaging to the body, the psyche, or emotions, the sense of security and status. Proper design of the housing environment will minimize these physical and psychological components of living and also will reduce accidents and the serious disruption they cause by innumerable falls, broken bones, pain, incapacity, or death.

Life for most of us, regardless of income or age is a continuous, if often subconscious certainty that the beautiful images we gather on the way must, in the near future, become realities and transform our hum-drum existence. For some, thoughtful and safe retirement housing makes this dream, this human aspiration, this eternal hope come true, at least in the later years. What a worthy goal and, happily, an accomplishable one. Let's be about it.

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## 1971 NATIONAL SAFETY CONGRESS OCTOBER 25-28, 1971 / CONRAD HILTON HOTEL, CHICAGO

**1972** The Congress is always a big week, a worthwhile week for the 13,000 safety people who attend.

**1973** At the '71 Congress you can meet other safety people, with the same problems and responsibilities as yourself. You can exchange views and ideas on accident prevention, health, hygiene, and fire prevention . . . on safety in industry, traffic, school, at home and on the farm.

**1974** You can see the largest of all safety equipment exhibits at the Congress . . . an opportunity for you to make well-informed buying decisions for your company.

This four-day educational program, planned and presented by the National Safety Council, can be your most thought-provoking, most worthwhile safety experience in 1971.

Make plans early to attend the 1971 Congress and bring the other people in your organization who have safety responsibilities.

### FUTURE CONGRESS DATES

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|------|----------|----------|
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| 1974 | Sept. 30 | - Oct. 3 |

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