

15-1151
1:939

UNIVERSITY OF IOWA
MAR 25 1940

State of Iowa
1940

TWENTY-NINTH ANNUAL REPORT
OF THE
State Fire Marshal
FOR THE YEAR 1939

JOHN W. STROHM
State Fire Marshal

DEPARTMENT OF PUBLIC SAFETY
STATE FIRE MARSHAL DIVISION

Published by
THE STATE OF IOWA
Des Moines

DOCUMENTS

13-F51

1:939

PROPERTY OF THE LIBRARY
UNIVERSITY OF COLORADO

State of Iowa

1940

TWENTY-NINTH ANNUAL REPORT

OF THE

State Fire Marshal

FOR THE YEAR 1939

JOHN W. STROHM

State Fire Marshal

DEPARTMENT OF PUBLIC SAFETY
STATE FIRE MARSHAL DIVISION

Published by
THE STATE OF IOWA
Des Moines

LETTER OF TRANSMITTAL

Des Moines, Iowa, January 31, 1940.

HON. GEO. A. WILSON, *Governor of Iowa*,
Des Moines, Iowa.

SIR: In compliance with the provisions of law, I have the honor to submit the Twenty-ninth Annual Report of the affairs of this office covering the period beginning January 1, 1939, and ending December 31, 1939, both dates inclusive.

Respectfully submitted,

JOHN W. STROHM, *State Fire Marshal*,
STATE FIRE MARSHAL'S DIVISION,
DEPARTMENT OF PUBLIC SAFETY.

PROCLAMATION

TO THE PEOPLE OF IOWA, GREETINGS:

It is indeed of great value to all Iowa that, by custom, we set aside one week of the year for special educational emphasis upon the lessons of fire prevention which we should keep in mind throughout the year.

During the year 1938, one hundred and four persons died in Iowa from the effects of fires, some of them horribly burned. Two hundred persons were injured. The property loss amounted to \$4,179,650. Four-fifths of these fires are deemed preventable.

Therefore, I, Geo. A. Wilson, Governor, do hereby designate the week of

OCTOBER 8 TO OCTOBER 14, 1939

as

IOWA FIRE PREVENTION WEEK

I urge the participation of all citizens and of the schools in teaching the methods and value of preventing fires. I also urge the active following of measures designed to prevent fires. It is also fitting at this time to pay tribute to the army of professional and volunteer firemen who fearlessly pursue their duties in a constant contribution to the public safety.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the Great Seal of the State to be affixed, at Des Moines, this twenty-sixth day of September, in the year of Our Lord One Thousand Nine Hundred Thirty-nine, and in the One Hundred Sixty-fourth Year of the Independence of the United State of America, and of the State of Iowa the Ninety-third.

GEO. A. WILSON, *Governor*.

(SEAL)

STATE FIRE MARSHAL'S REPORT

DEPARTMENT NOTES

Five thousand four hundred nine fires have been reported during the year, representing a total fire loss of \$4,745,909, an increase of \$566,000 over the year 1938.

Sparks from chimneys, smoker's carelessness, bonfires, defective flues, defective electric wiring, defective auto wiring, defective oil and gasoline stoves, spontaneous combustion in rags and rubbish were responsible for the greatest number of known causes of fires, and 762 fires were reported as "Unknown."

Past experience has proven that when fires are reported as "Unknown" very often someone is reluctant to admit his negligence or pure carelessness in the elimination of fire hazards in and around the premises and this one classification always shows the largest amount of fire loss, being \$1,809,377 for the year 1939.

The State Fire Marshal's office makes investigations of fires when requested by the sheriff, his deputy, county attorney, fire chief or township clerk, in compliance with the state law.

One hundred sixteen such investigations were made during the year 1939, and you will find information on the confessions and convictions obtained in this report.

We are also required to inspect fire hazards and cause the removal thereof when necessary. Two hundred twenty-eight inspections have been made by the Department in the year 1939, and we have been successful in removing practically all fire hazards on which orders have been issued.

Fire escape inspections are now made by the State Fire Marshal.

Fire prevention education work is carried on through the schools, social and civic service clubs, Chambers of Commerce and other fire prevention organizations.

All fires occurring in the state are required to be reported to the State Fire Marshal's office where they are recorded in fire records that date back to July 1, 1911, when the Fire Marshal's office was first organized.

It is our hope that in reading this report you will realize the importance of practicing Fire Prevention in your own home or place of business, and that you will do your part in cooperating with the firemen and every other Fire Prevention group in an effort to reduce the loss of life and property by fire in Iowa.

DEPARTMENT OF PUBLIC SAFETY STATE FIRE MARSHAL'S DIVISION

Appointed by the Commissioner, Department of Public Safety,
Term, Four Years. Expires July 1, 1943

Office	Name	Legal Residence	County
Fire Marshal	John W. Strohm..	Clinton	Clinton
Assistant	A. Lubberden	Pella	Marion
Assistant	J. Leon Leeper..	Leon	Decatur
Assistant	C. W. Cornell.....	Bedford	Taylor
Secretary	Olive R. Sly.....	Boone	Boone

TO FIRE CHIEFS, MAYORS and TOWN CLERKS:

This Department expresses sincere thanks to you for the fine cooperation given us at all times and it is our aim to serve you in every way possible to accomplish the most good for the citizens of Iowa as a whole.

You and the members of this Department are charged with the duty of educating the citizens of Iowa in Fire Prevention with a view of eliminating every possible fire hazard and reducing our annual fire loss from year to year.

Elsewhere in this report you will find tables showing the fire loss by counties, and the number of fires reported from each county, the kinds of property destroyed and the causes of fires.

In going over the first list, you will find that in many counties very few fires have been reported—perhaps few fires occurred in those particular counties and again, it is possible that some of the fire chiefs, mayors or township clerks in those counties are not familiar with the state law which requires that all fires be reported to this office within one week of the occurrence of the fire.

In cities and towns where they have an organized fire department, the fire chief is required to report all fires that occur WITHIN the corporate limits of the city or town. If no fire department exists, then the mayor is required to report such fires.

The township clerk is required to report all fires that occur within the township for which he is clerk, outside of the corporate limits of any city or town within the township.

Fire Chiefs SHOULD NOT report fires that occur OUTSIDE of the corporate limits of their respective city or town—that is the only means we have of recording city, town or rural fires and it is confusing to this office when rural fires are reported by a fire chief.

All fire reports should be complete—all questions in the report answered fully, and the reports sent into this office promptly, rather than holding them for several weeks or months before sending them in. When reports of fires are delayed until the end of the year, it creates an unnecessary amount of work in the office just at a time when we are closing our books for the year and preparing material for the Annual Report, and we will greatly appreciate your cooperation in relieving this situation by sending in your reports PROMPTLY in the future.

The law passed by the last session of the State Legislature

creating the Department of Public Safety, provides that reporting "fees shall not be paid to any full-time salaried public official who is paid for full time at such duties." This law became effective April 21, 1939.

FIRE FACTS

It is more or less common belief of most people that fires are important solely from the standpoint of destruction of property. Injuries and the loss of life from fires are factors which must be taken into consideration. This life hazard is vitally affected by building construction. It has been the experience in many places that no amount of exit facilities will offset the life hazard introduced by open stairways, elevator shafts and light courts. These are prolific causes of death from smoke and fumes in apartment and tenement houses, hotels and schools.

FIRE TAX

Forty-nine factory fires amounted to a loss of \$431,658; 20 hotel fires amounted to a loss of \$44,961; 27 school fires amounted to \$117,772; 191 store fires amounted to \$604,953; 102 warehouses and storage fires amounted to \$118,306, or a total of \$1,317,650.

This fire loss must be paid by every citizen in Iowa in the form of "fire tax." Not only do we pay our share in the form of higher insurance rates, higher taxes, etc., but we must pay our share toward the protection of those who are thrown out of employment as a result of fires in buildings of this type. Many of these establishments are never rebuilt.

CAUSES OF FIRES

LIGHTNING

Lightning is one of the greatest causes of farm fires. Each year lightning destroys approximately \$20,000,000 worth of farm property, and takes the lives of 500 people, and injures many others in the United States.

Lightning caused 115 fires with a loss of \$276,361 in Iowa during 1939.

DEFECTIVE FLUES

Defective chimneys or flues were responsible for 253 fires and a loss of \$272,049 in Iowa in 1939.

These fires are often discovered too late to save the property,

and many times death is caused by fires that break out in the night as a result of a defective flue.

This is due to the fact that the defect is usually concealed and the fire often gains great headway before it is discovered.

DEFECTIVE ELECTRIC WIRING

Defective electric wiring has caused 241 fires and a loss of \$336,545 in 1939.

Electric wiring should never be done by any person other than a competent electrician. Electricity is one of our most valuable servants, but its value and convenience should not lead us to forget that carefulness in its use is ALWAYS a factor of safety.

SMOKER'S CARELESSNESS

There were 423 fires reported with a loss of \$172,203, caused by smoker's carelessness in 1939.

This property loss does not include the loss of life—deaths were caused by persons smoking in bed, homes were destroyed, barns and other buildings were burned as a result of smoker's carelessness.

SPARKS FROM CHIMNEYS

One thousand two hundred twenty-two fires resulted in a loss of \$410,449 in 1939, as a direct result of sparks from chimneys.

This item still holds high place for the largest number of known fire causes. The loss could be materially reduced by proper care of your roof, protecting your own and your neighbor's property. Fires of this type are capable of destroying an entire community.

SPONTANEOUS COMBUSTION

Spontaneous combustion caused 215 fires and a loss of \$316,838 in 1939.

One hundred nine of these fires were caused by spontaneous combustion in rags and rubbish—why not make an inspection of your premises and remove all old rags and rubbish, oily rags, waste, and other similar articles which may ignite in this manner any time?

WHERE FIRES OCCUR

Two hundred ninety-nine barn fires with a loss of \$714,361, and 425 farm dwelling fires with a loss of \$895,261, were reported in 1939.

This gives you but two items under the heading of Farm Fires, totaling \$1,609,622, or an average of \$2,250 per fire.

This does not include numerous other buildings on farms de-

stroyed by fire annually such as "chicken brooders, poultry houses, corn cribs and granaries, hog houses, and machine sheds," the majority of which occur on farms.

Is it not high time for all Iowa to join in a rural fire prevention campaign to prevent the needless waste of our agricultural wealth?

With twelve per cent of all agricultural buildings in the state of Iowa, you and I cannot afford to lose a single opportunity to do our part in the reduction of our rural fire loss.

Farm educational groups, rural schools, 4-H Clubs can organize fire prevention groups, can appoint fire prevention committees to promote an active rural fire prevention program and accomplish a great deal in the elimination of many fire hazards on farms in Iowa.

THE PUBLIC'S INTEREST IN THE FIRE DEPARTMENT'S WORK OF FIRE PREVENTION

Fires are of a general interest only to the average person. He reads of them in the daily paper, especially those which may be considered catastrophes, and wonders as to the consequence. As a purely personal matter the average man or woman has little knowledge of fires or fire causes. This is a natural condition as this average person may live his allotted time of three score and ten with never an actual fire experience.

Fire prevention literature, full of statistics, total losses in hundreds of millions of dollars, seems meaningless to most people, even when broken down to a per capita figure.

The question then is why should the public be interested in fires and fire prevention?

The outstanding factor is that of danger to life or to bodily injury. Hardly a day goes by but that the papers tell of someone burned to death in bed, or by the careless handling of gasoline, using kerosene to start fires, etc. Fire prevention and the fire department have a bearing on this and are worthwhile endeavors.

The national fire loss is a staggering sum and must be paid out of the earnings of the people. There is no value received by the individual or by the nation in this burning up of wealth and therefore the country as a whole is poorer as a result of **each** fire.

Back of all improvements in conditions is knowledge. To prevent fires there must be knowledge of fire causes, of prevention

and extinguishment, knowledge as to how materials can be used, stored and handled without bringing about action which will cause fire, and as to proper building construction, suitable fire alarm systems, correct heating equipment, adequate private fire equipment and the need of public fire service.

The fire department is a true emergency outfit, gladly lending its aid in preventing fires, and in suggesting changes and additions which will lessen the effect of a fire.

Firemen, everywhere, are uniting in their efforts to reduce the fire loss in our cities, state and nation, by learning new and improved fire fighting methods and it is our duty to encourage them in their work by doing our part to reduce our annual fire loss from year to year.

THE VALUE AND PURPOSE OF FIRE DEPARTMENT INSPECTIONS

Fire departments are maintained by municipalities for the purpose of giving the citizens protection against loss of life and property by fire. For many years putting out fires was considered the primary job of the fire department, but in the last decade or two fire fighters have increasingly been brought to realize that their full measure of service to the citizens requires as much attention to preventing fires as to putting them out.

Intelligently made inspections are the backbone of effective fire prevention work. They can be made a powerful factor in the reduction of losses of life and property both through the prevention of fires and through opportunity for more intelligent handling of fires. The average business man and property owner is not trained to recognize fire hazards and does not have a practical knowledge of fire fighting and the factors influencing the spread of fire. A fire department which has this training and knowledge can render a real service to the community.

Seven purposes of fire department inspections may be outlined as follows:

- (1) To obtain the correction of conditions creating an undue fire hazard.
- (2) To make sure that fire protection equipment is being properly maintained.
- (3) To secure proper maintenance of features providing protection against spread of fire, and where possible the adoption of

such additional measures of this kind as may be necessary for reasonable protection to life and property.

(4) To secure proper maintenance of exit facilities for use in case of fire.

(5) To check up on the compliance with the laws, ordinances and regulations dealing with the four above-mentioned subjects.

(6) To impress upon the owners and occupants of buildings that inasmuch as the fire department is being maintained by them at considerable expense for the prevention and control of fires, it is to their advantage that the fire department be called immediately in case of fire and that the advice of the fire department be sought in connection with problems of fire prevention or protection. By such educational efforts the inspector can greatly enhance the standing of the fire department in the community.

(7) To provide the members of the fire department with a working knowledge of the conditions bearing on the fighting of fires in their territory. Maximum efficiency in the handling of fire fighting facilities requires a detailed knowledge of the building in which a fire is being fought. Knowledge of its fire hazards, its fire protection equipment, its construction features affecting the spread of fire, and its exit facilities is necessary for the safety of the firemen as well as for efficient handling of the fire to eliminate unnecessary loss of life and property.

Some of our Iowa fire chiefs have carried on a home inspection campaign during the last few years with very satisfactory results.

RECOMMENDED PROCEDURE FOR MAKING FIRE DEPARTMENT INSPECTIONS

Fire department inspections of buildings must be repeated at frequent intervals if the seven purposes set forth above are to be accomplished. Inspections should be made at least twice a year, and in closely built portions of the city four times a year.

The city or town can be divided so that each inspector has his district, and other members of the department, particularly the officers, should also make frequent inspections so as to familiarize themselves with the buildings in which they may be called upon to fight fires.

At each building or plant visited the inspector should first seek permission of the person in charge of the premises to make the inspection, presenting his badge or other means of identification, and explaining what he has come to do. In stating the object of his visit, he should seek to show that the inspection

is for the benefit of the owner and occupants as well as the fire department. Permission to make the inspection should always be sought even though not legally necessary. The inspector should ask the man in charge to go through with him on the inspection or to have someone else who is familiar with the property do it, as a matter of courtesy and for his own assistance and information.

Many inspectors prefer to start at the roof and go down through each floor to the basement, but it is not so important where the inspection is commenced as it is that it be done in an orderly fashion so that every portion of each floor will be visited.

As far as possible the inspector should get conditions involving accumulations of rubbish and other easily corrected hazards taken care of while he is on the premises. Careful notes should be made of all conditions which need correction but which cannot be taken care of immediately.

A thorough inspection will include giving attention to fire hazards, fire protection equipment, construction features providing protection against spread of fire, exits for use in case of fire, and compliance with laws and ordinances on matters affecting fire prevention and protection.

The inspector should not feel satisfied until the correction of the hazardous condition which he has discovered and pointed out has been obtained. Wherever possible an attempt should be made to get conditions taken care of without recourse to any legal proceeding. Where admonition and reasoning concerning the desirability of the recommendation are ineffective, the available legal processes should be resorted to.

FIRE HAZARDS TO BE LOOKED FOR IN MAKING INSPECTIONS OF MERCANTILE BUILDINGS

Accumulations of waste materials present an easily recognized fire hazard. In addition to checking up on the ordinary rubbish conditions, the kind and location or receptacles for ashes, and the method of storing and handling waste paper, rags, empty packing cases and excelsior should be investigated. Rags containing paint or vegetable oils are especially hazardous because of the danger of spontaneous heating and ignition.

Chimneys should be examined for defects which might cause fires, the more obvious of which are cracks in the chimney, and stovepipe openings which are not properly closed. These may allow hot gases to escape into the building and thus cause the

ignition of combustible materials. Other important items bearing on the fire hazard are the construction of the chimney, its height above the roof, and the clearance of wood beams, joists and lathing from the chimney. These should be checked up as far as practicable. They should properly be looked after while the chimney is being built.

The principal source of fire hazard in connection with heating equipment comes from insufficient clearance from combustible materials. Heating appliances, smoke pipes, range hoods, warm air pipes and registers, and steam and hot water pipes should all be examined for their clearances from combustible materials. The mounting of heating appliances and the construction and protection of warm air pipes and range hoods should also be checked up.

Electric wiring and equipment should be examined for the more prominent defects which may cause fires, such as wiring that is insecurely supported or unduly subject to injury, loose or broken fixtures, wires with damaged insulation, fuses bridged or too large for the circuit they protect, outlet, fuse or switch box covers open or missing, improper use of flexible cord, and highly flammable materials in contact with light bulbs. If a large number of defects is found or the wiring appears to be in a hazardous condition, the situation should be called to the attention of the local authority governing electrical installations.

The storage and handling of flammable liquids should be carefully investigated. Those more commonly found are gasoline, kerosene, alcohol, ether, turpentine, benzine, linseed oil and fuel oil. The principal features in regard to their safe handling and storage are the type and construction of storage containers, the quantities stored in the building, methods and devices used for drawing the liquids from the containers, and proximity of open flames or other sources of ignition.

Among the many other substances of special hazard which may be found in mercantile buildings are the following: Matches, explosives, fireworks, small arms ammunition, etc.

Mechanical refrigerating machines are a source of hazard where the refrigerant employed is a flammable, irritant or toxic gas as most of them are. The principal features to be looked into are the possibility of leakage from mechanical injury of piping or tubing and the possibility of and provisions for relieving excessive pressures.

The inspections should be made to determine whether all fire hazards are properly safeguarded, also to acquaint the members of the fire department with the hazards which exist in the buildings, where they may at any time be called to fight a fire. The fire department should know the locations where flammable liquids or hazardous chemicals are kept and approximately how much. They should know the location of the main gas shut-off valve and the electric service switch. They should also know what gas the refrigerating system contains and what to do in case the gas becomes released.

WHAT TO LOOK FOR IN DWELLING-HOUSE INSPECTIONS

Here we suggest some of the things members of fire departments should look for when making inspections of dwelling houses. The use of an inspection blank to be filled out for each dwelling house is recommended. Such a blank can easily be made from this list. It assists the inspector and also allows the chief to review the work and make summaries of the results for newspaper and other publicity.

ITEMS TO BE CHECKED FROM OUTSIDE

1. Condition of roof. Roofing that is old and warped collects sparks and flying brands.
2. Condition of chimneys. Chimneys supported on wood posts or brackets are apt to crack from settlement and allow hot flue gases to set fire to woodwork. Loose bricks, open joints and cracks indicate that similar defects may exist in other parts where they might start a fire. In such cases a thorough investigation should be made.
3. Condition of yard. Dry grass, leaves, paper, boards, branches of trees and other combustible waste materials in yards and under porches and houses are readily ignited and are a fire danger to buildings.
4. Condition of garages and sheds. Cleanliness and good maintenance are important precautions against fires that apply to sheds and garages as well as other buildings.
5. Materials of special hazard. Oil and kerosene containers or tanks must be substantial and a type that the contents will not spill. Preferably they should be provided with a pump. Gasoline, benzine and naphtha, except in very small quantities and in suitable containers, should not be kept in dwellings. Such materials should never be used for home dry cleaning.

ITEMS TO BE CHECKED IN BASEMENTS

6. Accumulations of waste and discarded material. Waste paper and discarded furniture constitute a wholly unnecessary fire hazard which householders would frequently be glad to be rid of. A suggestion from a fireman may provide just the necessary impetus to get such accumulations removed. Oily rags are especially hazardous because of the danger of spontaneous ignition. Occasionally other waste materials found in basements are subject to the same hazard.
7. Disorderly arrangement of fuel. Fire wood should be neatly piled or placed in a bin and kept separate from all waste papers and rags. Papers and rags mixed in with wood or coal may start spontaneous heating.
8. Ashes in contact with wood. The practice of putting hot ashes in wooden boxes or barrels or piling against wooden partitions is a dangerous one responsible for many fires. Metal containers are the only safe kind to use.
9. Furnaces, stoves or smoke pipes close to combustible ceilings or partitions. The firemen should be familiar with local regulations governing such installations and see that they are complied with. Charring of wood and blistering of paint indicate exposure to excessive temperature. During operation of the furnace, wood that is too hot to hold the hand on may be considered subject to excessive temperature.
10. Condition of smokepipes. Poorly supported and corroded smoke pipes present a fire hazard.
11. Gas appliances. Corroded piping and rubber tubing may result in gas leaks. Automatic gas devices without thermostatic provisions for cutting off of supply when the pilot flame is extinguished may produce an explosion.
12. Oil burner installations. Oil burners, supply tanks and piping need to be properly installed to avoid danger of fire. Installations should be checked against local regulations.
13. Chimney defects and clearances. Wood beams extending into chimney walls have started many fires. Unused chimney openings should be sealed with brick or with tight fitting metal stops.
14. Clean-out door at base of chimney. These are needed in cleaning out the soot, which is necessary to avoid chimney fires.
15. Work rooms. Removal of shavings from work benches

and the orderly storage of paints, varnishes, oils and turpentine are features to be commented upon.

16. Firemen should note, for their own convenience in fighting fires, location of exits from basements.

17. Fire stops. The spaces at the bottom of wall studs should be tightly stopped to prevent fires in the basement from finding their way directly into the walls and up to other parts of the house. Fire stops also protect against vermin.

COMPRESSED GAS SYSTEMS AND THE NEED OF SAFEGUARDING HAZARDS

For several years the use of compressed gas systems for heating and cooking has steadily increased, especially in rural and suburban districts where city gas is not available. These systems utilize mixtures of propane and butane which are derived from crude petroleum. These materials are similar to gasoline except that they are more volatile and are in the liquid state only when under pressure. For this reason they are termed liquified petroleum gases.

A requirement of cardinal importance is that the cylinders or drums and regulating equipment used in connection with compressed gas systems must be installed outside of buildings, well removed from all openings whereby escaping gas may enter or accumulate within the building.

Every fire chief and public safety official should thoroughly understand the danger of these compressed gases. If it is realized that they are in reality a form of gasoline, a better idea of their danger will be gained. Their economic value cannot be disputed, but compressed gas systems can only be safely permitted when installation is in compliance with the regulations of the Iowa state law.

Fire prevention codes should include the basic requirements of these regulations and in addition should provide some regulation for the distribution and transportation of the cylinders.

The state law also provides that extra cylinders shall be stored outside of any building where the gas is being utilized and where they may be protected from extreme heat. No combustible material shall be piled within twenty (20) feet of cylinders, fires, and electrical apparatus such as switches and other apparatus which may cause sparking shall not be located within twenty (20) feet of the cylinders or regulating equipment.

Violations of this law should be reported to the State Fire Marshal when so found by the fire department or other inspection official.

ARSON INVESTIGATIONS

Our office does not investigate every fire that occurs in the state—only those where we are requested to make such investigation by the sheriff, his deputy, the county attorney, chief of the fire department, mayor or township clerk in accordance with the state law.

Following are some of the investigations made in 1939 where confessions and convictions were obtained, or sufficient evidence secured to refer the case to the grand jury.

BENTON COUNTY: An investigation was made of a dwelling house fire that occurred in Belle Plaine, Iowa. A young man was arrested in connection with this fire and he made a statement implicating a resident of Belle Plaine who was also arrested and charged with the crime of arson. Unfortunately, the young man making this statement was killed before the investigation was finished and inasmuch as he was the state's main witness, the case could not be tried.

CLARKE: We made an investigation of a farm dwelling house fire near Osceola, Iowa. The tenant on this farm was arrested and admitted setting the fire. He entered a plea of guilty and was sentenced to 20 years in the state penitentiary.

DALLAS COUNTY: An investigation was made by this office of a farm dwelling fire southwest of Perry, Iowa. The suspect was picked up in this case and made a statement that he burned the house for revenge. He plead guilty and was sentenced to two years in the state penitentiary.

DECATUR COUNTY: An investigation was made of a town dwelling house fire that occurred in Decatur, Iowa. The lady occupant of this dwelling admitted burning the house for the purpose of collecting insurance and was sentenced to a term of five years at the Women's Reformatory at Rockwell City, Iowa.

DECATUR COUNTY: An investigation was made of an oil station and dwelling house fire at Grand River, Iowa. The tenant was arrested and plead guilty to a charge of attempted arson to defraud the insurer and was sentenced to five years in the state penitentiary.

DECATUR COUNTY: An investigation was made of a barn

fire on a farm near Leon, Iowa. In this case a young hitchhiker was arrested and made a statement wherein he admitted burning this barn and the case is pending at this time.

DECATUR COUNTY: An investigation was made of two barn fires on a farm near Leon, Iowa. This case is pending.

DECATUR COUNTY: An investigation was made of a store fire in Lamoni, Iowa, and at this time the case is pending before the grand jury.

DES MOINES COUNTY: An investigation was made of a series of fires that occurred in Burlington. The suspect was picked up and questioned regarding these fires and admitted setting four fires in Burlington over a period of several years. This man was committed to the State Hospital at Mt. Pleasant, Iowa.

GRUNDY COUNTY: We made an investigation of a farm dwelling fire near Grundy Center, Iowa. The owner and occupant of the dwelling were arrested and charged with obtaining money under false pretense. This case is awaiting trial.

HOWARD COUNTY: An investigation was made of a furniture store fire in Cresco, Iowa, January 14, 1938. The owner of the store was arrested and indicted by the Howard County grand jury, and in January of 1939, the owner was tried in the District Court of Howard County, found guilty and was sentenced to the state penitentiary for a term of ten years. An appeal was filed by the defendant and the case is now pending before the Supreme Court of Iowa.

IOWA COUNTY: An investigation was made of a series of fires in Parnell, Iowa. The suspect was arrested in connection with these fires and while being held in the county jail he committed suicide.

JACKSON COUNTY: An investigation was made of a dwelling house fire on a farm near Maquoketa, Iowa. It was found that the tenant's 17-year-old daughter set the fire. She confessed setting the fire and was sentenced to one year in the county jail.

JEFFERSON COUNTY: An investigation was made by this office of a dwelling house fire in Fairfield, Iowa. The occupant of the dwelling was arrested and made a statement wherein he admitted burning the dwelling to collect the insurance on his household goods. This man was taken before the judge of the District Court and sentenced to five years in the state penitentiary on a charge of attempting to defraud the insurer.

JOHNSON COUNTY: An investigation was made by this office of a series of fires of unknown origin which had occurred during the summer months in 1939, in Lone Tree, Iowa. It was found these fires were started by some small boys in the town of Lone Tree, and the case was referred to the mayor for final disposition.

LINN COUNTY: An investigation was made of a series of farm fires that occurred on the outskirts of Cedar Rapids, Iowa. Two young men were arrested and admitted setting these fires. Both were charged with arson in a county attorney's information. One of the boys, 19, plead guilty to the charge filed, and was given an indeterminate sentence of ten years at the Men's Reformatory at Anamosa, Iowa.

Inasmuch as this young man did not have a previous criminal record, he was sentenced and paroled.

Owing to the age of the second boy, 16, he was returned to the Boy's Training School at Eldora, Iowa, for violation of probation.

MAHASKA COUNTY: This office made an investigation of a fire in a store building in Barnes City, Iowa. The evidence was submitted to the Mahaska County grand jury and the owner of the building was indicted and charged with attempted arson and the case is now awaiting trial in the Mahaska County District Court.

MARION COUNTY: An investigation was made of a dwelling house fire in Melcher, Iowa, and after questioning the suspect, he committed suicide.

MILLS COUNTY: An investigation was made of a dwelling house fire on a farm near Glenwood, Iowa. The tenant had two insurance policies on his household goods and before charges were filed he committed suicide.

POCAHONTAS COUNTY: An investigation was made of a feed mill fire in Rolfe, Iowa. The person responsible for this fire was mentally ill and was re-committed to the State Institution at Woodward, Iowa.

POLK COUNTY: An investigation was made of a fire in Des Moines, Iowa, and the tenant of the dwelling involved made a statement in which he admitted hiring a young man to burn the dwelling. This man was committed to the state penitentiary on a charge of breaking and entering and the arson case has been left open for future developments.

POLK COUNTY: An investigation was made of a fire that occurred in a one-room dilapidated dwelling in Des Moines. The person responsible for this fire was apprehended and in view of the fact that he was intoxicated and there was very little damage done by the fire, the case was referred to the county attorney for final disposition.

POTTAWATTAMIE COUNTY: We made an investigation of a church fire in Council Bluffs, Iowa. A young man, 15, admitted that he was responsible for this fire and was taken before the juvenile judge in Council Bluffs and committed to the St. Bernard's Mental Hospital for examination and treatment.

POWESHIEK COUNTY: An investigation was made of an automobile fire on Highway No. 146 in Poweshiek County. The owner of the car admitted setting the fire and entered a plea of guilty. He was sentenced to six months in the county jail.

WARREN COUNTY: We made an investigation of a barn fire and dwelling house fire that occurred on a farm near New Virginia, Iowa. Three men were arrested in connection with these fires and all three confessed and entered a plea of guilty, and were sentenced to a term of ten years each at the State Penitentiary at Fort Madison.

WOODBURY COUNTY: An investigation was made of a dwelling house fire in Moville, Iowa. The person suspected of setting this fire was returned to the State Hospital at Cherokee where he had previously been committed.

In addition to the above investigations made by this office, we have been informed of six persons, three of whom were juveniles, who have been apprehended and convicted by local authorities in the state, in connection with the crime of arson.

FIRE DRILLS IN SCHOOLS

The first essential in the event of a fire in any school is to have the children leave the building in an orderly manner and to reach a point of safety without injury.

Questions of fire fighting, of salvaging wearing apparel, or of attempting in any way to save mere material things are secondary to the safety of the school children, and should not be undertaken until all the pupils and all the teachers, or others who are responsible for any group of pupils, have left the building and have been accounted for; even visitors must leave the building if only as an example, to the children, of orderly

procedure. The matter of saving property from destruction can well be left in the hands of the fire department or to such adults as may be detailed to this work after all have left the building. The quick transmission of an alarm to the fire department is an essential which must always be provided for.

Fire safety for school children must provide a definite program by which the location of all the available exits will be known to all of the children. To accomplish this it is necessary to have frequent drills, well planned, properly supervised, and intelligently coordinated. When an actual fire occurs, the selection of the proper exit should be made without any hesitation.

Every school building is different; the age, size and nationality of children change yearly; and the teaching staff and building employees do not remain the same during the entire term. It is necessary therefore for each school to consider the question of removing the children from the building at time of fire a personal one requiring a definite study by the principal or superintendent and the various adults working in the building. Drills might be subdivided as follows: Plan, Purpose, Procedure.

PLAN: The plan will depend upon the type, kind, design and location of the school building, the number of teachers, age of the children, the possible use of older children as monitors, and the general character and physical condition of the children. Special provisions must be made for the removal of those who are crippled, or otherwise have to be helped.

It may be necessary to completely re-assign the use of rooms to permit the quick exit of the younger children, who sometimes are improperly housed on upper floors. Definite detailed plans must be prepared, explained to the teaching staff and to others who may be called upon to act in a supervisory manner, and they should be modified as little as possible from any standardized drills used in other schools in the district. A standardized drill and fire alarm signal is an essential for every community.

PURPOSE: The purpose of any drill is to perform the operation a sufficient number of times so that it is possible in an emergency to carry it out in a natural, unhurried manner.

Drills therefore should be started during the first three days of school in the fall term. This first drill should be a slow-motion affair, so that all of the details can be explained and a full understanding obtained. Numerous other drills should be held during the early part of the fall term until the evacuation

of the building becomes so well established that the influx of a few new pupils will not make it necessary to hold the drills so frequently in severe winter weather. Drills are to accustom people to the action which should be taken during a fire. Fires may occur at any minute, therefore no fixed time should be set for any drill, no notification should be sent to any teacher, and the only ones notified should be those whose duty it is normally to transmit an alarm to the fire department. To completely evacuate the building is the main consideration and must always be borne in mind. Other work or duties should never be assigned which would interfere with the exit of any of the pupils.

PROCEDURE: In executing fire drills, consideration should be given to the health of the children, but except at such times when there are epidemics of colds, the short time the children will be out of doors seldom endangers their health even in severe cold weather.

Practice in mass marching is always worth while. Release from discipline inside of a building is seldom advisable. Well disciplined drills can be made a part of the evolutions used when children leave auditoriums, gymnasiums, or go out of doors at recess time.

There are many ways to improve the execution of fire drills. They should be varied to correspond to the possibility of an exit being blocked, they must provide for classes to cross streets safely where sufficient yard space is not available, they must not leave children at locations where they would be injured by falling walls, they must not release children who in their excitement might return to the building, they must not be such as to interfere with the work of the firemen, nor should the firemen in any way block the exit of the children with their hose lines or ladders.

Exit drills should be planned and executed with the one thought of removing the children to a point of safety, and in carrying out this plan the advice and cooperation of the chief of the fire department should in all cases be requested. He should be more competent than any other person in your community to inspect the premises and to develop and aid in the execution of an efficient fire drill, whether as a test or as an emergency.

FIRE DRILLS REQUIRED BY LAW

Numerous complaints have come to this office that no fire drills

are held in a number of Iowa schools. In some cases we find those in charge of the schools are reluctant to take time for fire drills in so-called "fireproof" buildings—others claim they know nothing of the state law that requires regular fire drills to be held in schools.

School authorities too often feel that because they have never had a fire, they are never going to have one. Fire has no respect for persons or property and always strikes at the most unexpected time and place; therefore, it is up to you to be prepared for an emergency by properly training the school children under your supervision to know what to do to properly protect themselves.

Section 1651, Code, 1939, provides:

Fire Drills in Public Schools. It shall be the duty of the state fire marshal and his designated subordinate to require teachers of public and private schools, in all buildings of more than one story, to have at least one fire drill each month, and to require all teachers of such schools, whether occupying buildings of one or more stories, to keep all doors and exits of their respective rooms and buildings unlocked during school hours.

We respectfully solicit the cooperation of every citizen in Iowa in the enforcement of the above section of the Iowa law.

RURAL FIRE PROTECTION

From close observation of farm fires reported to this office it definitely appears the value of modern rural fire protection offered by well organized and equipped small town fire departments is becoming widely recognized in Iowa.

A number of loss reports which come in with comment indicating a small loss resulting from the efforts of a neighboring fire department are becoming definitely noticeable. It is not unusual to find what normally would have been a total loss on a farm dwelling held to a loss of between \$200 and \$500. The cases that have been brought to our attention range from roof fires to fires within the walls of dwellings and indicate that on the slower burning type of building it is possible to save a building from complete loss. Of course on the large hay barn type of building with a higher combustible content we find very few cases of salvage of the building involved. However, in these cases we find that where the protection is received, the loss is usually confined to one building and that the damage to adjoining buildings generally constitutes scorch or water damage.

We are beginning to believe that rural fire protection is practical and feasible, but that it is all dependent upon organization and equipment, and of course water supply on the farm.

With the trend towards rural electrification it would seem that now is the time to interest the farmer in establishing a dependable water supply for use in case of fire, that it is time to enlist his interest in the development of a rural fire district in and about his marketing town, and that it is time for those interested to take advantage of the new law passed by the 48th General Assembly, which provides as follows:

5570.1 Authorization. The township trustees of any township may purchase, own, rent, or maintain fire apparatus or equipment and provide housing for same and furnish services in the extinguishing of fires in said township, independently or jointly with any adjoining township or townships, likewise authorized as herein provided, or with any city or town.

5570.2 Levy. The township trustees may levy an annual tax not exceeding one mill on the taxable property in the township for the purpose of exercising the powers granted in section 5570.1, when so authorized by an affirmative vote equal to at least sixty per cent of the total vote cast in the township at the last preceding general election.

5570.3 Election. Such proposal to levy the tax provided for in section 5570.2 may be submitted by the township trustees at any regular election held in the township, or at a special election called for the purpose, and such township trustees shall submit the proposition when petitioned therefor by twenty-five per cent of the qualified electors of said township. Notice of said election shall be given by posting in three public places in said township, not less than ten days before the time of such election.

5570.4 Anticipatory Bonds. Township may anticipate the collection of taxes authorized by sections 5570.2 and 5570.3, and for such purposes may issue bonds payable in not more than ten equal annual installments and at a rate of interest not exceeding five per cent per annum and payable at such place and be in such form, as the board of trustees shall designate by resolution.

We firmly believe that activity in this direction would perhaps offer the most constructive program in the line of fire protection and prevention at this time. We of course feel that supervision and inspection of electrical installation in the country is of foremost importance and that with this activity developing so rapidly there is great danger of improper and dangerous installation which may give a very serious fire experience in future years.

Iowa has no state law regulating the installation of electric wiring, therefore we urge that every precaution be taken to have any and all electric wiring installed in accordance with the Electrical Code and specifications of the National Board of Fire Underwriters.

IMPORTANCE OF PROPER CLEARANCE BETWEEN HEATING EQUIPMENT AND COMBUSTIBLE MATERIALS

Fire records indicate that about 10 per cent of the total fire loss of the United States is due to fires caused by heating equipment, and that insufficient clearance to combustible materials is an important factor in a large percentage of these fires. The need for adequate clearance is emphasized at periods of severe cold weather, when heating equipment is run at full capacity, by a marked increase in the number of fires.

Special attention should be given to clearances above heating devices as well as at the front, sides and rear, and to clearances from smoke pipes, range hoods, warm air pipes and registers and steam and hot water pipes, not overlooking any heating device or apparatus which may give off heat in sufficient quantity to ignite combustible materials.

Defective and overheated stoves and furnaces caused a fire loss of \$212,367 in Iowa in 1939.

IOWA'S FIRE SCHOOLS

The annual Fire School was held in May, 1939, and an attendance of 434 reported from approximately 100 fire departments in Iowa. This is an increase over previous years and we are looking forward to an even larger attendance at the Fire School in May in 1940.

The state law now gives cities and towns authority to pay the expenses of firemen to fire schools, therefore we urge you to contact your local councilmen and ask them to send one or more members of your fire department to the Fire School in May at Ames, Iowa, or to some of the District Fire Schools that are held throughout the state in the fall.

The expense is not large, and we feel that every fireman is benefited by attending these Fire Schools and taking part in the instructive and educational program dealing with new and improved fire fighting methods.

IOWA STATE FIRE PREVENTION ASSOCIATION

In cooperation with the Iowa State Fire Prevention Association, a non-profit organization working for the reduction of fire loss in the state, the following general inspections and fire prevention talks have been made in 1939:

Town	No. of Risks	No. Defective	Recommen- dations	People Addressed
Iowa City	310	256	837	2,455
Sidney	70	69	238	370
Charles City	177	160	596	1,110
Sheldon	106	83	245	230
Newton	134	117	375	3,109
Clinton	465	345	1,106	4,017
	1,262	1,030	3,397	11,291

FIRE PREVENTION WEEK TALKS

Number of addresses to school children.....	21	
Number of children addressed		15,257
Number of addresses to adults.....	2	
Number of adults addressed		85
	23	15,342

DANGER WITH GASOLINE

Too many people do not seem to realize that gasoline vapor can be exploded without the presence of an open flame. In theory, the spark from your cat's fur is enough to set it off; in practice, this frictional electricity or static can be generated by rubbing the wet garments by agitating the liquid, even by pouring it from a container to a pan. If the atmosphere is moist enough, that static charge will be carried off harmlessly; on a dry day, a spark will be produced which will result in an explosion if the mixture is ripe. Unfortunately, it is not humanly possible to determine by the senses alone when the air is dry enough to free that deadly spark, hence it is a risk which cannot be guarded against in the typical home.

DRY CLEANING IN THE HOME

Few women realize that gasoline vapor is heavier than air and seeks the lowest level; it is not necessary to have an open flame near the gasoline in order to cause trouble, and this brings home the fact that this vapor, properly mixed with air, forms a high explosive at least equal to dynamite when the conditions are right.

Sparks are tossed into vapor-laden air by other means than static. In one instance, a girl switched on an electric light while her mother was doing some dry cleaning; the fixture sparked, and the resultant explosion blew both of them right through the wall of the building, dead.

More than one blast has been caused by an electric fan which made an arc—and at least one woman is dead because she put gasoline into her electric washing machine with dire results.

Gasoline cannot be safe when it is allowed to vaporize freely—and you cannot use gasoline for cleaning purposes without evaporation. The liquid itself is not explosive; it is the vapor produced by the liquid which does the damage, and when you stop to think that it takes the vapor from but a tablespoonful of “gas” to drive your automobile up a moderate hill, you begin to realize how easy it is for the vapor from a panful of gasoline to carry you right out of existence.

DRY CLEANING ESTABLISHMENTS

Section 13242. **Use of Dangerous Fluids Forbidden.** It shall be unlawful for any person to establish or operate any dye works, pantorium, or cleaning works, in which gasoline, benzine, naphtha, or other explosive or dangerous fluids are used for the purpose of cleaning or renovating wearing apparel or other fabrics, in any building any part of which is used as a residence or lodging house.

NATIONAL FIRE PROTECTION ASSOCIATION

The National Fire Protection Association is the clearing house for all that is authoritative on the subject of the fire waste, fire protection and fire prevention. It is a non-commercial and non-profit making organization supported by the dues of its members, which include 135 national and regional organizations, and approximately 4,800 individuals, firms and corporations. Membership is open to any individual or organization interested in the protection of life and property against loss by fire. The membership is widely distributed among men and companies of varying interest.

The National Fire Protection Association has two functions: One is to make the standards under guidance of which the fire waste may be checked; the other is to educate the people in the observance of those standards and point out the grievous economic penalties for ignoring them.

PUBLIC EDUCATION

In the great work of public education, all members may and do share. Whatever is wasted in the home makes the struggle of the family harder. Whatever is wasted in a nation makes it harder for its people to live. The greater the fire loss the more people are assessed to pay for it, and the less they have

to spend for other things. The public does not realize this. People must, therefore, be taught in the press, by radio, in the schools, and by public speaking; first, that the fire waste adds to the cost of living, and second, how to stop it.

The Association has a Fire Marshals' Section composed of state, provincial and city fire marshals, which is active in promoting the work of these officials, and a Chamber of Commerce and Safety Council Section, which serves local fire prevention committees.

The Association also has a Volunteer Firemen's Section, organized to be of assistance to this important group, and through this section is reaching regularly some 13,000 volunteer fire departments throughout the United States and Canada with useful educational data.

VOLUNTEER FIREMEN

The membership fee is \$10.00 per year for a minimum of 20 men, for over 20 men it is 50 cents per year per man. I feel certain that this money, if used for said subscription, will prove beneficial in many different ways.

For information regarding the Volunteer Firemen, you can write to the National Fire Protection Association, 60 Battery-march Street, Boston, Massachusetts, or to the office of the State Fire Marshal.

DEATHS BY FIRE

The records in the State Department of Health office show that there were 121 deaths by fire in Iowa in the first 11 months of 1939.

INJURIES BY FIRE

Following is a partial list of injuries by fire in 1939. Complete information was not available at the time this report was made up.

Two persons were injured in a hotel fire thought to have started from an explosion of paint materials used in refinishing furniture stored in the room.

A young woman, 18, suffered severe burns when a gasoline flatiron she was using flashed up in flames.

Three young men were injured when gasoline being used to scrub the floor of a filling station exploded.

A child, four months, was seriously burned when her bed clothing caught fire while she was being given a vapor both.

A man suffered severe burns when a small can of gasoline flared up as he was kindling a fire in the kitchen range.

A child, nine months, received second degree burns when he tipped over his nursery chair, falling on a hot air register.

A man was seriously burned when his clothing caught fire in a fuel oil explosion.

A man received second degree burns while cleaning a carburetor with gasoline.

A man was badly burned when he threw gasoline on what he thought was a dead bonfire.

A woman was burned about the face and arms when a gasoline iron she was using exploded.

A 13-month-old child was seriously burned when some newspapers among which she was sitting were set on fire by other children.

Two women were found near death due to inhaling coal gas and exposure.

A man was seriously burned when his clothing caught fire in a fuel house where he had built a small fire on the floor of the building, presumably a cement floor, and was lying near it to keep warm.

A girl, 7, was seriously burned when her dress caught fire as she was standing in front of an open stove.

A girl was injured by the explosion of a stove as she was kindling the fire.

A man, 43, was seriously burned when he attempted to extinguish a fire that broke out in some rubbish, supposed to have started from a lighted cigarette.

Three firemen were injured while helping to extinguish a fire that occurred in a dwelling house.

Two men were injured and seriously burned when they attempted to locate a noise in the dark. One of the men lighted a match which ignited the gas and the explosion followed.

A woman, 80, was critically burned when she accidentally threw a lighted match into some papers on the floor after lighting her lamp.

A man, 57, was seriously burned when bed clothing caught fire in his shack.

A man suffered burns in a fire at his home which resulted in the death of his wife.

A woman was seriously burned when her gasoline iron exploded, setting her clothing on fire.

A man was painfully burned when working in his shop with an acetylene torch.

A woman was seriously burned at her farm home while attempting to save some baby chickens which were threatened in a brooder fire.

A man, 78, was seriously burned in a fire at the home of his son.

A woman was burned when she attempted to light the gas under a steam table where she was employed.

A woman, 30, was critically burned by a flaming oil stove that was being carried out of the house.

A man was seriously burned when an explosion of gasoline fumes followed by fire damaged the service station where he was employed.

A woman was seriously burned when gasoline in which she was cleaning a silk dress ignited.

A man, 25, was burned in an explosion and fire when he was filling his tractor with fuel, using a lighted lantern.

A woman suffered severe burns when her clothing caught fire as she was working near a wood stove in her home.

A woman was painfully burned while washing some clothing in gasoline in the washing machine.

A woman was critically burned when fire destroyed her home, and caused the death of other members of her family.

A woman, 45, suffered burns as she extinguished flames which fatally burned another woman in the house with her.

A fireman was severely burned when debris from a burning building fell on him while fighting the blaze.

A child, 7, suffered severe burns when kerosene exploded as she was lighting a fire in the kitchen stove.

A man was burned when a kerosene stove exploded in his home.

A child was seriously burned while playing with gasoline which exploded.

A man was badly burned by a gasoline explosion.

A boy, 14, was severely burned when a can containing a small amount of gasoline exploded as they were trying to make a plane crash more realistic by throwing gas on the burning plane. A second boy was also injured in this accident.

A boy was badly burned in a bonfire while playing with a group of boys.

A boy, 14, was seriously burned when a gasoline can was ignited by flames from a bonfire.

A man was seriously burned when he struck a match to light a brooder stove. The gas fumes and gasoline that had overflowed for lack of an overflow pipe to the outside ignited, causing a fire.

A man, 29, was burned when a heating stove exploded.

A girl, 14, suffered burns when she attempted to start a fire in the kitchen stove with gasoline instead of kerosene.

A woman was severely burned when a gasoline iron exploded by reason of too much pressure.

Two children, 11 years, and 1 month, were seriously burned when fire destroyed their home, causing the death of other members of their family.

A child, 4, was seriously burned when her dress caught fire, believed to have been caused by the child playing with matches.

A man, 27, was seriously burned when he accidentally came into contact with a switch controlling the ground line of a 2,400-volt line.

A man, 45, was seriously burned when a blow torch exploded as he was welding a pipe.

A man was severely burned when he put out a fire resulting from the explosion of a small gasoline stove at his home.

A woman was seriously burned in a gasoline explosion as she attempted to start her car by pouring gasoline into the carburetor.

A man, 28, was seriously burned when the bedding caught fire from his cigarette.

A man was severely burned when his clothing caught fire as he attempted to burn some rubbish in the furnace in his home.

A child, 3, was severely burned while playing with a bonfire.

A woman was seriously burned when a can of liquid she was using in polishing the stove exploded.

A woman was seriously burned about the face and arms when cleaning some garments in gasoline.

A man was burned while attempting to extinguish a fire in his automobile.

A man was badly burned when a gasoline pressure stove exploded.

A man was injured when an oil barrel he was starting to weld exploded.

Two women, 60 and 38, were injured when a cleaning fluid exploded. The younger woman was cleaning clothes in the kitchen when the fumes were ignited by the fire in the kitchen stove.

A woman was burned when her gasoline stove blazed up and caused a 10-gallon can of gasoline to explode, standing nearby.

A boy, 14, was painfully burned when pupils in the school attempted to start a fire in the school stove with gasoline.

A man was seriously burned when a gasoline stove in the kitchen exploded after he had filled it while the stove was burning.

Six firefighters and 6 boys were burned when a gasoline tank exploded while the firemen were fighting a fire.

A young woman, 19, was seriously burned when her dressing robe was ignited by a gas stove burner as she passed by the stove.

A woman was seriously injured when escaping fumes in the gas stove oven ignited and exploded.

A young man, 18, was injured while aiding firemen at a fire.

A man was severely burned about the face when he lighted a match to see how much fuel oil there was in the tank.

A man was seriously burned when a blow torch he was using spit flames on his hands.

A woman was seriously burned when she attempted to carry a pan of blazing oil out of doors.

A man was severely burned about the face when he struck a match to see what was wrong with his tractor. The accumulated gas exploded in his face.

A man, 33, was seriously injured when an asphalt melting pot exploded.

A fireman was critically burned when a gasoline tank exploded while the firemen were fighting a fire.

A fireman was painfully injured at a fire when falling bricks from the chimney struck him.

A gas station worker was injured when an explosion destroyed the oil station.

A man was severely burned about the face and head when the gasoline tank of an old car he was wrecking exploded when pierced with the flame from an acetylene torch.

Two men were seriously burned when the pumphouse at the

bulk oil plant caught fire and exploded. Another employee also suffered burns in this fire.

A man suffered minor burns as he escaped from a burning truck.

A woman suffered serious burns in a fire believed to have been caused by gasoline mistaken for kerosene being poured on a fire in the kitchen stove.

A man was severely burned when his gasoline engine exploded.

A five-month-old baby and an older brother were severely burned when a gasoline stove exploded.

A man was seriously burned when he rekindled the fire with kerosene.

A man, 85, was seriously burned when his pipe fell and caught his clothing on fire.

A man was severely burned when an oil stove exploded.

A man, 35, was severely burned while carrying gasoline into the basement for his customer. The gasoline ignited from a gasoline engine which was being used to charge batteries of the light plant.

A man was burned in making his escape from a burning store building. He was sleeping in the building and was wakened by smoke from the blaze which started in a rear room.

A woman was burned when she came in contact with live wires in an automobile accident.

A man was burned when a gas stove exploded in his home.

A father and 14-year-old son were burned when a gasoline stove exploded while being filled.

A woman suffered burns about the face and hands when the gasoline stove she was filling exploded.

A woman was seriously burned when her kerosene stove blazed up and ignited the curtains in her kitchen.

A woman was severely burned about the feet and legs when a pan of gasoline caught fire from a pilot light on her gas stove. She had been cleaning garments with the fluid in her basement.

A woman suffered painful burns on her arm when gas which had been turned on but not lighted exploded at her home.

A man, 22, suffered burns as he battled a fire believed to have been caused from automobile backfire while the car was standing at the side of the road with the motor running.

A man, 33, was severely burned when he attempted to repair

a leak in a gas stove. The pipe broke, allowing fumes to escape to the burning gas jet.

A father was burned in attempting to extinguish the flames that caused the death of his 5-year-old daughter.

A man was painfully burned when his tractor exploded while being primed.

A man was seriously burned when a gasoline can of high test gasoline exploded. Fumes were ignited by his cigarette.

A boy was burned about the hands and face when a gasoline tank exploded while he was wrecking a car with a blow torch.

A man was burned while installing a tank of gas in his customer's home and in some manner the gas was ignited, catching his clothing on fire.

A man, 60, was critically burned as a result of an explosion of powder in a factory where he was employed.

A young woman, 18, was severely burned when a portable gasoline stove exploded at a picnic she was attending.

Fireworks were responsible for one injury by fire in 1939.

A young man, 18, lighted his cigarette after spraying weeds with a chemical solution. When a spark from the cigarette fell on the spray stains on his clothing, the fire resulted.

A young man was seriously burned when gasoline exploded while he was burning brush on the farm where he was working.

An oil station owner was burned when fire broke out in the gasoline pumps of the service station.

A man was wrecking an automobile, using a gasoline torch, when the gasoline tank in the car exploded, burning him severely.

A young man was burned in a gasoline explosion that occurred when he was cleaning parts of the tractor with gasoline.

A woman was burned when a gasoline stove exploded in her home.

A man was burned in a gasoline explosion that occurred at the filling station where he was employed.

A woman was severely burned—after lighting her gas oven, she left the room and when she returned found the flame had gone out. She struck a match and the accumulated gas exploded.

A mother, waiting on one of her children with a coal oil lamp in her hand, tripped on a rug and fell, hurting herself, breaking the lamp and spreading the flames.

A man, 29, was seriously burned when he braved a wall of

flames to rescue his wife and two small children from their burning home.

A man suffered severe burns caused by gasoline exploding while working with a tractor.

A woman was seriously burned when she used gasoline to kindle the fire and it exploded.

A young man, 19, was severely burned when gasoline used to exterminate cockroaches was ignited by a lighted burner on the kitchen stove.

NATIONAL FIRE LOSS

The annual fire loss for the United States has been reported by the National Board of Fire Underwriters as follows:

1935	.....	\$235,263,401
1936	.....	266,659,449
1937	.....	253,859,796
1938	.....	265,591,231
1939 (Estimated)	.....	317,539,640

IOWA'S FIRE RECORD, 1920-1939

1920	.....	4,539 fires	\$ 9,040,357
1921	.....	4,769 fires	9,608,145
1922	.....	5,553 fires	10,151,011
1923	.....	5,510 fires	8,233,967
1924	.....	5,435 fires	7,929,650
1925	.....	6,118 fires	9,724,482
1926	.....	5,665 fires	7,984,007
1927	.....	5,197 fires	7,211,831
1928	.....	5,232 fires	6,141,522
1929	.....	5,339 fires	6,776,473
1930	.....	6,987 fires	8,353,175
1931	.....	6,201 fires	8,593,966
1932	.....	6,593 fires	6,626,965
1933	.....	6,317 fires	4,838,790
1934	.....	5,932 fires	4,262,762
1935	.....	4,657 fires	3,202,393
1936	.....	6,551 fires	6,206,233
1937	.....	5,181 fires	4,337,105
1938	.....	4,739 fires	4,179,650
1939	.....	5,409 fires	4,745,909
Totals	.....	111,924 fires	\$381,148,393

FIRE LOSS IN LARGER CITIES

	1935	1936	1937	1938	1939
Ames	\$ 2,623	\$ 9,186	\$ 4,957	\$ 52,308	\$ 25,440
Boone	3,509	7,673*	26,396	3,528	27,163
Burlington	29,125	31,935	21,735	20,277	62,425
Cedar Rapids	51,006	84,209	59,539	46,575	101,812
Clinton	125,520	20,392	41,398	20,519	22,678
Council Bluffs	91,829	72,732	49,221	171,736	42,072
Davenport	48,158	59,698	57,234	41,933	54,095
Des Moines	181,560	308,862	317,627	338,170	666,965
Dubuque	22,238	97,204	29,832	129,689	13,063
Fort Dodge	24,944	63,917	43,531	51,877	30,665
Fort Madison	9,445	46,418	24,260	9,219	13,551
Iowa City	43,430	69,352	450,806	35,969	10,630
Keokuk	12,547	10,431	24,258	13,149	15,787
Marshalltown	17,786	10,413	19,574	28,498	10,048
Mason City	31,591	21,230	182,099	22,305	19,310
Muscatine	15,286	19,320	25,320	22,340	17,487
Oskaloosa	69,366	59,626	26,152	38,615	17,182
Ottumwa	54,940	37,674	53,528	57,413	115,897
Sioux City	67,350	70,404	106,966	45,258	73,347
Waterloo	67,918	54,148	61,396	177,125	67,853

*The fire loss for Boone, Iowa, was incomplete at the time books were closed for 1936.

IOWA'S FIRE LOSS

(Compiled by Months)

Month	1935	1936	1937	1938	1939
January	\$ 462,635	\$ 456,911	\$ 384,481	\$ 538,973	\$ 361,463
February	498,475	577,500	373,629	366,786	700,392
March	257,554	531,712	400,947	459,019	388,877
April	309,606	500,825	245,041	516,682	450,411
May	230,287	272,960	135,923	169,072	298,258
June	111,308	326,059	193,415	158,408	313,588
July	132,315	1,280,340	310,702	190,815	343,695
August	162,525	1,020,032	286,263	232,946	214,636
September	169,787	313,585	440,879	251,389	384,744
October	173,835	333,240	325,632	297,040	429,750
November	244,777	378,244	532,067	453,187	470,149
December	449,289	214,825	708,126	545,333	389,946
	\$3,202,393	\$6,206,233	\$4,337,105	\$4,179,650	\$4,745,909

TABLE NO. I

Showing the total number of fires reported by counties. Cities of more than 10,000 are set out separately. Damage to buildings and contents is combined.

Counties and Cities of 10,000 and Over	No. Fires	Loss
Adair	11	\$ 9,380
Adams	12	17,009
Allamakee	10	22,768
Appanoose	57	70,486
Audubon	21	11,215
Benton	31	37,473
Black Hawk—Waterloo	159	67,853
Balance—Black Hawk County	28	51,218

TABLE NO. 1—Continued

Counties and Cities of 10,000 and Over	No. Fires	Loss
Boone—Boone	33	27,163
Balance—Boone County	15	11,114
Bremer	8	12,179
Buchanan	34	30,520
Buena Vista	25	23,285
Butler	21	23,568
Calhoun	9	17,430
Carroll	46	184,245
Cass	34	26,586
Cedar	27	34,710
Cerro Gordo—Mason City	103	19,310
Balance—Cerro Gordo County	9	24,655
Cherokee	25	34,993
Chickasaw	6	2,760
Clarke	29	32,795
Clay	34	38,296
Clayton	34	59,123
Clinton—Clinton	98	22,678
Balance—Clinton County	25	36,200
Crawford	29	52,889
Dallas	26	26,991
Davis	12	9,122
Decatur	30	26,451
Delaware	35	48,917
Des Moines—Burlington	111	62,425
Balance—Des Moines County	17	27,947
Dickinson	10	19,225
Dubuque—Dubuque	144	13,063
Balance—Dubuque County	12	18,680
Emmet	29	48,426
Fayette	60	37,852
Floyd	30	18,646
Franklin	21	18,287
Fremont	38	27,269
Greene	37	30,894
Grundy	13	25,031
Guthrie	18	29,046
Hamilton	29	21,565
Hancock	13	21,937
Hardin	28	44,068
Harrison	40	40,691
Henry	13	10,633
Howard	19	41,821
Humboldt	31	33,168
Ida	3	5,400
Iowa	26	75,955
Jackson	18	23,532
Jasper	91	50,937
Jefferson	42	52,887
Johnson—Iowa City	49	10,630
Balance—Johnson County	13	10,053
Jones	16	37,029
Keokuk	21	20,296
Kossuth	16	23,059
Lee—Fort Madison	43	13,551
Keokuk	71	15,787
Balance—Lee County	16	17,863
Linn County—Cedar Rapids	185	101,812
Balance—Linn County	12	34,383
Louisa	26	21,528
Lucas	26	21,830
Lyons	14	9,020
Madison	31	40,380
Mahaska—Oskaloosa	19	17,182
Balance—Mahaska County	28	46,310
Marion	56	44,252
Marshall—Marshalltown	58	10,048
Balance—Marshall County	7	15,700
Mills	21	32,311
Mitchell	9	1,289
Monona	14	13,120
Monroe	33	32,577
Montgomery	39	20,345
Muscatine—Muscatine	91	17,487
Balance—Muscatine County	15	45,493
O'Brien—Muscatine	38	41,787
Osceola	13	15,721
Page	38	33,303
Palo Alto	8	5,570

TABLE NO. 1—Continued

Counties and Cities of 10,000 and Over	No. Fires	Loss
Plymouth	30	54,522
Pocahontas	26	23,318
Polk—Des Moines	932	666,965
Balance—Polk County	46	182,062
Pottawattamie—Council Bluffs	184	42,072
Balance—Pottawattamie County	9	14,004
Poweshiek	38	57,627
Ringgold	23	13,392
Sac	25	39,523
Scott—Davenport	169	54,095
Balance—Scott County	22	14,626
Shelby	28	35,148
Sioux	39	32,979
Story—Ames	32	25,440
Balance—Story County	48	25,046
Tama	20	20,103
Taylor	13	14,478
Union	29	20,950
Van Buren	15	11,709
Wapello—Ottumwa	61	115,897
Balance—Wapello County	27	54,388
Warren	29	30,501
Washington	17	47,365
Wayne	30	14,968
Webster—Fort Dodge	74	30,665
Balance—Webster County	19	216,761
Winnebago	6	11,095
Winneshiek	28	56,183
Woodbury County—Sioux City	345	73,347
Balance—Woodbury County	14	25,187
Worth	12	13,030
Wright	19	25,970
	5,409	\$4,745,909

TABLE NO. II

Showing the kind of property destroyed. Damage to buildings and contents set out separately.

Kind of Property	No. Fires	Damage to Buildings	Damage to Contents
Automobiles	392	\$ 16,124	12,342
Trucks	72	12,216	1,411
Auto accessories	1	13	0
Repair shops	3	15,220	1,700
Awnings	52	2,112	32
Bakeries	19	52,765	44,995
Banks	1	20	0
Barns—Farm	299	530,080	184,281
Town	90	26,308	11,742
Beer taverns	35	30,014	15,726
Bridges	4	810	0
Cars—box cars and coal cars	11	2,478	410
Passenger and street cars	2	163	0
Car repair shops and roundhouses	1	150	25
Chicken brooders and hatcheries	70	10,479	8,285
Chicken houses (poultry houses)	31	5,863	3,950
Churches	22	87,733	11,101
Cleaning and dyeing	5	512	214
Corn cribs and granaries	43	33,514	33,897
Creameries—cream stations and dairies	5	830	211
Dance halls	1	8,000	2,000
Depots—freight	3	5,375	6,050
Passenger	2	45	0
Elevators and seed houses	7	26,015	19,985
Engine and boiler rooms	6	775	615
Factories	49	159,700	271,958
Filling stations	29	7,675	6,923
Oil storage	2	265	1,965
Foundries	6	4,130	1,056
Garages—private	278	36,572	34,508
Public	39	19,865	40,807
Hay, grain and straw stacks, grain fields and meadows	70	7,802	80

TABLE NO. 2—Continued

Kind of Property	No. Fires	Damage to Buildings	Damage to Contents
Hoghouses	20	11,135	3,827
Hospitals and nurses' homes	4	150	135
Hotels	20	31,783	13,178
Houses—Apartments	107	29,700	7,754
Fraternity	7	2,227	410
Farm	425	678,603	216,658
Town	2,318	445,058	171,076
Rooming houses	13	18,224	2,723
Summer kitchens and wash houses	21	2,145	2,494
Ice houses	8	5,695	383
Laundries	7	240	411
Lodge halls	15	19,494	6,044
Lumber yards	10	20,061	40,329
Meat markets	5	728	2,405
Mills—feed mills and feed stores	6	10,000	8,838
Office and office buildings	36	3,724	4,596
Packing plants and stock yards	4	2,370	300
Pool halls	7	4,035	3,594
Printing plants	10	5,171	12,341
Produce houses	8	1,926	2,717
Pump and engine houses	6	870	2,720
Restaurants, cafes and lunch rooms	60	12,907	17,620
Schools	27	105,290	12,482
Sheds—coal and wood	101	10,031	4,801
Machine sheds	33	20,192	25,580
Shops—Barber	10	1,720	614
Blacksmith	7	360	1,058
Carpenter and work shops	6	1,321	1,390
Hair dressing	2	25	85
Plumbing and heating	1	50	0
Shoe repair	4	756	380
Tailor shop	3	110	120
Smoke houses	5	133	220
Stores	191	228,588	376,365
Theatres	11	12,593	3,806
Trailer houses	11	1,660	1,374
Warehouses and storage	102	50,373	67,933
Miscellaneous	128	86,876	82,932
	5,409	\$2,929,947	\$1,815,962
			2,929,947
			\$4,745,909

TABLE NO. III

Cause	No. Fires	Loss
Adjoining	190	\$ 157,676
Ashes and coal against wood	64	9,647
Auto backfire	77	2,761
Auto wreck	10	5,510
Broken gas line—alcohol on motor	49	1,774
Blow and oil torches	58	114,669
Bonfires, grass fires	308	66,337
Brooder lamps and stoves	51	8,727
Candle, lamp and lantern carelessness	43	27,344
Children with matches	87	9,802
Cleaning clothing, rugs and floors with gasoline	5	2,275
Clothing and bedding too near stoves and stovepipes	22	2,967
Compressed gas	1	2,000
Curtains blowing into flames	12	466
Defective auto wiring	194	47,401
Defective electric wiring	241	336,545
Defective electric appliances	11	1,950
Defective fireplace	17	3,374
Defective flues	253	272,049
Defective and overheated stoves and furnaces	156	212,367
Defective oil burners	20	26,441
Defective oil and gasoline stoves	188	101,106
Defective and overheated pipes to stoves and furnaces	83	39,449
Dust in hot air registers	9	4,543
Electric iron—current left on	12	754
Films	6	3,193
Fireworks	1	10
Friction	7	9,133
Fumigation	4	796
Gas leak	4	5,436

TABLE NO. 3—Continued

Cause	No. Fires	Loss
Gasoline and kerosene carelessness.....	54	36,055
Gasoline and volatile oil explosion.....	14	12,530
Grease, paint, tar, wax and food boiling over.....	29	6,619
Incendiary.....	43	27,907
Lightning—not roddeed.....	103	137,097
Roddeed.....	12	139,264
Lightning running in on radio wires.....	4	148
Match carelessness.....	80	21,951
Rubbish piled against furnaces and flues.....	26	7,843
Short circuit—electric motors, refrigerators, etc.....	77	32,538
Smoker's carelessness.....	423	172,203
Smoking meat.....	6	1,598
Sparks from engines and locomotives.....	37	22,841
Sparks from chimney.....	1,222	410,449
Sparks from stoves and furnaces.....	39	22,851
Spontaneous combustion—Coal dust.....	15	13,646
Hay, straw and grain.....	88	207,272
Rags and rubbish.....	109	95,835
Shavings and sawdust.....	3	85
Static electricity.....	5	3,985
Thawing water pipes.....	9	17,636
Unknown.....	762	1,809,377
Using gasoline and kerosene to start fires.....	10	8,292
Miscellaneous.....	56	61,385
	5,409	\$4,745,909

CONCLUSION

This Department thanks all state officials, county and city officers and all organizations for their cooperation in the protection of life and property. We also wish to express our appreciation to property owners and tenants for their courtesy and cooperation in carrying out recommendations and requests for the elimination of fire hazards.

The record for 1939 shows an increase in the number of deaths by fire, the number of fires and the property loss by fire. Therefore, there is urgent need for you and me to make FIRE PREVENTION and FIRE PROTECTION our business, working together for the preservation of life and property.

We are counting on your help in the fight against "UN-FRIENDLY" fires in Iowa.

Respectfully submitted,
 JOHN W. STROHM, *State Fire Marshal*,
 STATE FIRE MARSHAL'S DIVISION,
 DEPARTMENT OF PUBLIC SAFETY.

