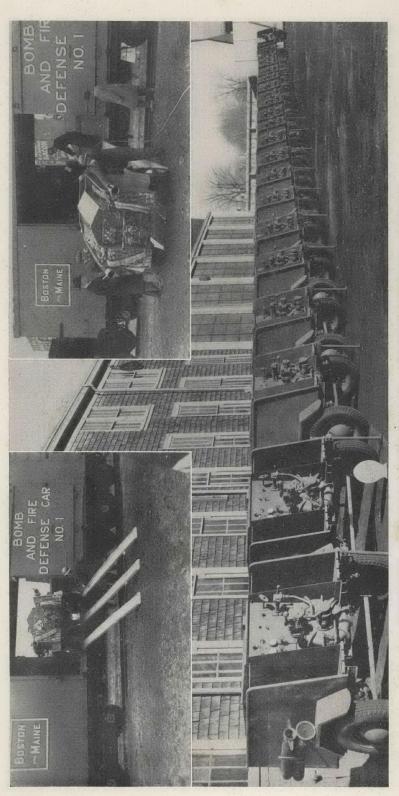
NINETEENTH ANNUAL CONVENTION REPORT

# NEW ENGLAND ASSOCIATION OF FIRE CHIEFS



1941



MAXIM MOTOR COMPANY, MIDDLEBORO, MASS.

"MANUFACTURERS OF ALL TYPES OF FIRE DEFENSE EQUIPMENT."

### Will MASTER LIGHTS

### Protect You Tonight?

The fire you may have to fight tonight will probably be covered by insurance. How about you? Will you have insurance — MASTER-LIGHT insurance — the kind that prevents accidents to you?

#### MORE SAFETY GOING TO THE FIRE



WIG-WAG REDHEAD

At the left is the New 05 MASTER LIGHT Wig-Wag Redhead. When you're speeding to that fire tonight, your safety demands that you have this powerful warning signal on your car. For 500 feet ahead of you, the Wig-Wag sweeps a red beam back and forth across the street. Every driver in your vicinity knows you're coming — for the distinctive red beam shows where you are! You'll get to night fires quicker, more safely, more quietly, when your Wig-Wag Redhead clears your way!

#### MORE SAFETY AT THE FIRE

You must have a portable searchlight you can trust — a light that smoke or steam won't baffle — a light that lets you SEE! MASTER-LIGHT WS, pictured here, gives you the high-powered, penetrating, convenient light you need for safety. Your WS shoots an intense beam of 250,000 candle power, with a range of one mile. Perfect balance — you point it in any direction with just a flick of your wrist. Best of all, your WS weighs only 12 pounds complete — you can carry it anywhere easily and swiftly! Your WS helps you find the fire while it is still small and easily controlled.



#### WRITE NOW FOR FREE FOLDER

THE POWERFUL LIGHTS YOU NEED FOR SAFETY—CHIEF, THAT'S WHAT WE MEAN BY "MASTER-LIGHT INSURANCE!" MASTER-LIGHTS WILL GIVE YOU EXTRA PROTECTION FOR MANY YEARS TO COME. LET US TELL YOU MORE ABOUT THEM. WRITE NOW FOR OUR ILLUSTRATED MASTER-LIGHT FOLDER FOR FIRE CHIEFS.

Any MASTER-LIGHT will be sent you for 30 days free trial

CARPENTER MFG. CO. 179 Sidney St., Cambridge, Mass.

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## Nineteenth Annual Convention OF THE

## New England Association of Fire Chiefs



**BOSTON, MASSACHUSETTS** 

AUGUST 18-23, 1941

## PLACES AND DATES OF PAST CONVENTIONS

مَ**لِ**َهَ

- No. 1 BRIDGEPORT, Conn., June 20-21-22, 1923 PRES. CHIEF JOHN P. DOYLE, Wellesley, Mass.
- No. 2 BOSTON, Mass., June 24-25-26, 1924 PRES. JOHN C. MORAN, Hartford, Conn.
- No. 3 PITTSFIELD, Mass., June 23-24-25, 1925 PRES. PATRICK J. HURLEY, Holyoke, Mass.
- No. 4 MANCHESTER, N. H., June 22-23-24, 1926 PRES. DANIEL E. JOHNSON, Bridgeport, Conn.
- No. 5 PORTLAND, Maine, June 21-22-23, 1927 PRES. CHARLES H. FRENCH, Manchester, N. H.
- No. 6 BURLINGTON, Vermont, June 26-27-28-29, 1928 PRES. WILLIAM C. SHEPARD, Pittsfield, Mass.
- No. 7 NEW HAVEN, Conn., June 25-26-27, 1929
  PRES. OLIVER T. SANBORN, Portland, Maine
- No. 8 RUTLAND, Vermont, June 24-25-26-27, 1930
  PRES. LAWRENCE E. REIF, New Haven, Conn.
- No. 9 BOSTON, Mass., June 23-24-25-26, 1931 PRES. SELDEN R. ALLEN, Brookline, Mass.
- No. 10 NEWPORT, R. I., June 21-22-23-24, 1932 PRES. JOSEPH LAWTON, Newport, R. I.
- No. 11 LEWISTON, Maine, June 20-21-22, 1933
  PRES. ALFRED H. KOLTONSKI, Rutland, Vt.
- No. 12 BURLINGTON, Vermont, June 26-27-28-29, 1934 PRES. DANIEL B. TIERNEY, Arlington, Mass.
- No. 13 NEW BEDFORD, Mass., June 25-26-27, 1935 PRES. JOHN S. PACHL, New Haven, Conn.
- No. 14 HARTFORD, Conn., June 23-24-25, 1936 PRES. DAVID H. DECOURCY, Winchester, Mass.
- No. 15 THE BALSAMS, Dixville Notch, N. H., June 22-23-24, 1937 PRES. CARL D. STOCKWELL, Burlington, Vt.
- No. 16 BURLINGTON, Vt., June 21-22-23, 1938 PRES. JOSEPH W. RANDLETTE, Richmond, Me.
- No. 17 PROVIDENCE, R. I., June 20-21-22, 1939
  PRES. THOMAS F. BURNS, Bridgeport, Conn.
- No. 18 THE BALSAMS, Dixville Notch, N. H., June 25-26-27, 1940 Pres. Samuel J. Pope, Boston, Mass.
- No. 19 BOSTON, Mass., Aug. 18-23, 1941 Pres. Thomas H. Cotter, Providence, R. I.

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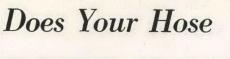
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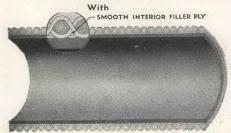
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## 19th ANNUAL CONVENTION NEW ENGLAND ASSOCIATION OF FIRE CHIEFS BOSTON, MASSACHUSETTS AUGUST 18-23, 1941

(First Vice-President William C. Mahoney, of Peabody, Mass., presiding)

VICE-PRES. MAHONEY: Gentlemen, we will come to order. We are now about to open the Nineteenth Annual Convention of the New England Association of Fire Chiefs. It is with much regret that I announce today that our Honorable President, Chief Cotter of Providence, owing to illness is unable to be here and that is the reason for my presiding at this meeting. I don't know just what message he had to deliver to you men today after his year as chief executive of this organization, but perhaps the text of what he might offer to you will be enjoyed later on in the report of the Secretary-Treasurer.

As the first part of the opening program I am going to call on our Chaplain,

Rev. Father Collins for the Invocation.

#### INVOCATION

#### REVEREND MICHAEL F. COLLINS

#### Chaplain

O God, our Heavenly Father, thou knowest that today the New England Fire Chiefs Association is in assemblage at annual conference. We ask you today, O Lord, to bless this gathering. We ask you, in fact, for two-fold blessings. The one that you will bless and take close to your divine heart those of our members who have answered their last alarm. We ask you to let perpetual light shine upon them. Secondly, we ask you to bless us who have gathered here for these meetings. Thou knowest, O Lord, far better than we the serious and grave problems which confront our country today. We ask you during these days of conference to enlighten our minds and illuminate our intellect, that when this convention is over we may be better able to go forth to serve our communities and to serve thee, O Lord. Amen.

VICE-PRES. MAHONEY: The first speaker on our program this afternoon was to be the Honorable Maurice J. Tobin, Mayor of the City of Boston. Commissioner Reilly informs me he has been detained owing to pressure of business but

he expects him to be in here before our meeting is over.

In introducing the speakers this afternoon, I am not going to say much about them. I am not going to attempt to sell the speaker to the meeting. I am going to have the speaker sell himself to the meeting, and it is with great pleasure I introduce now William Arthur Reilly, Fire Commissioner of the City of Boston.

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#### **ADDRESS**

#### By WILLIAM REILLY, Fire Commissioner City of Boston

Mr. Chairman, Reverend Father, Distinguished Guests, Ladies and Gentlemen: First of all I want to express the appreciation of the City of Boston and the Boston Fire Department in particular to you and to your officers for having partaken with us in this firemen's week in Boston. We appreciate very much the fact that you have changed your program to meet the situation that confronts us in endeavoring to entertain the International Association of Fire Chiefs. We know it entailed a sacrifice on your part but we appreciate your generosity in attending the convention and sacrificing your own program to some extent that we might be more adequate hosts to the International Association whose meeting opens tomorrow morning. We appreciate that particularly because we are able to have the benefit of your assistance in entertaining the visiting firemen from other parts of the country. You will be able to escort them to the various functions and exhibits and extend the hospitality characteristic with this portion of the country.

This is the time for memorium and history of those who have gone before us, to the memory of those departed during the past year. That thought is always a sober one but a most appropriate one because as we meet here in a social and business meeting, utilizing the opportunity for regulation and business to carry out our desires at the present time, it is sometimes fitting to look back a period of one year or two years or three years and see that the faces which were then with us are not here today. Men just as interested in this Association and our objectives as we are and men who had the same ambitions and hopes and ideals we have here today! And so it points out to us that at best our course is short here and we are not going to live forever, we must achieve our objectives within a reasonable length of time and we must not delay too long in what we want to do for the interests of fire service or those in the fire service. That thought is one that pervades the memorial services; and although it is a sad thought, it is a tribute to your organization that they have set aside this time in memory of those who have gone before us and those who perhaps were with us last year.

Passing from that, let us look at the present activities. You know the program from the published bulletin. You are all welcome to all of the functions; you are all invited to assist in entertaining not only your fellow firemen from New England but those who may be here from greater distances. We have a great objective in this program of bringing closer together the fire departments and the officials of the fire departments of the various parts of the country and get the conflicting views that may be existing today about the state of the fire service, so that the state of the fire service under war conditions or peace conditions may be settled to a degree so that uniformly throughout the country we may aim for the same things and set about getting them in the best way for all concerned.

We have an impressive array of speakers, leading off tomorrow morning with Mayor LaGuardia of New York, who just wired within twenty-four hours he has cancelled other engagements and is coming here to give a message to the fire service. From then on there will be features that we think will be profitable for those attending the business meetings. We hope because of this year and the importance of our objectives that all men will attend the business sessions, because every one is important and every one dovetails into the objectives as set forth by the International Association of Fire Chiefs.

So I conclude by saying that Boston welcomes you, the New England Associa-

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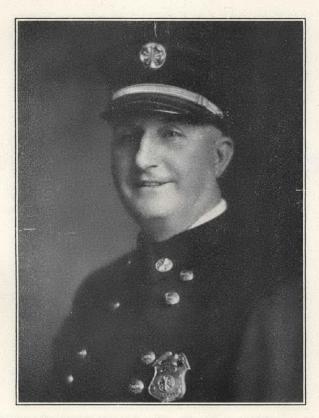
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tion, and Boston asks you as brothers to join with us in playing the part of hosts to the rest of the Fire Chiefs of the country so we may consider this convention was well worth your generosity and the efforts of those who have up to the present time conducted the arrangements and prepared for what is ahead of us in the next few days. Thank you very much. (Applause)

VICE-PRES. MAHONEY: The next speaker on the program is one that I believe needs no introduction to you men, Chief Pope of the Boston Fire Department.

#### **ADDRESS**

By Chief Samuel J. Pope, Boston, Mass.

Mr. Chairman, Reverend Father, Mr. Commissioner, Invited Guests, Past Presidents, of which I happen to be a member, Ladies and Gentlemen: I was about to say that it is a pleasure to welcome you to the International convention. When I say that, I mean I hope it will be a pleasure for you because I can truly say that it has been a very hard job for both the Commissioner and myself. However, as the Commissioner has said, we are deeply appreciative for the sacrifices that our own New England Association has made in order to give us the opportunity and privilege to welcome this International and hold this International convention here in Boston.

I do think it is definitely one of the biggest conventions that the International has ever had. I do think that it will prove to be the most important, and I do believe that we will take away with us a great deal that will benefit our communities. There is no time that is quite as perilous as the present. New England is one of the points that would be very vulnerable in case of trouble, and we New Englanders should not depend entirely on our own resources but we should also receive and consider the best talents to be obtained throughout the country.

The importance of this meeting is significant due to the fact that the chairman of the Defense of this country, Mayor LaGuardia, has seen fit to take time out in order to come and address our Fire Chiefs.

I know that the New England Association has made a great financial sacrifice in order to give us this privilege but I do know that whatever that financial sacrifice has been that they will benefit in the end, because after all we must not treat all benefits by dollars and cents, because I think that the knowledge we will receive, particularly at this time, will amply pay for whatever financial losses we have incurred.

I can honestly say that there has been no convention that I have enjoyed quite as much as our own New England and all we have to do is reflect a little and think of the glorious times we had at our various meetings, particularly up in the beautiful Balsams, and there are a great many more of those conventions we will all have the opportunity to attend. The probability is that never again will I as Fire Chief have the benefit of welcoming the International to a convention here, but I do hope to be with you for a great many years to come at our own New England convention.

When I made the bid to bring the International from San Francisco we lost that by four votes, and at that time when I gave the talk from the floor putting in our application, it was not an application from Boston but was an application from New England. I repeated that again at Spokane when we were successful in getting the convention. I do not now invite you to assist me in making this convention a success but I practically command you to do it. I sincerely know you will cooperate as you always have and let all these men from the South and West and Southwest part of the country go back with a better thought and better appreciation of the hospitality of New England. (Applause)



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VICE-PRES. MAHONEY: Gentlemen, before going on to the next number on the program, we have on the platform with us this afternoon a man who is President of the International Association of Fire Chiefs, and I feel I would be remiss in my duties as presiding officer of this meeting if I did not call on Chief W. Hendrix Palmer.

#### REMARKS

#### BY PRESIDENT W. HENDRIX PALMER

Of the International Association of Fire Chiefs

Mr. President, Distinguished Guests, Ladies and Gentlemen: Just as I started to come up here, Sam Pope whispered to me and said, "Don't talk too long." It reminded me of the time I had a convention in Charlotte and I invited the president of the Chamber of Commerce to give the address of welcome. I met him on the street and he said, "What do you want me to say?" and I said, "Get up and say, 'Fellows, we are glad you are here,' and sit down." So he did, and he said it was the first time he ever had anybody write his speech for him. He got up and said, "We are glad you are here." So Sam wrote my speech for me.

I want to say I am glad to be here and I know the members of the International when they leave here will be glad they have come. It was my pleasure to be here last January to a directors' meeting, and if you treat the fellows who are here for this convention half as good as you did me then, they are going to be tickled to death they came. I thank you. (Applause)

VICE-PRES. MAHONEY: Gentlemen, the next on our program this afternoon is the Roll Call of Deceased Members since our last convention and reading of the resolutions by the Secretary.

#### ROLL CALL OF DECEASED MEMBERS

#### SECRETARY JOHN W. O'HEARN

THOMAS M. NARY, Capt., Roslindale, Massachusetts; admitted to membership, November 14, 1939; died, July 24, 1940.

Peter E. Walsh, Ex-Chief, Boston, Massachusetts; admitted to membership, June 12, 1922; died, August 1, 1940.

Frank J. Shannon, Chief, Stonington, Connecticut; admitted to membership, October 17, 1932; died, August 26, 1940.

DANIEL F. YOUNG, Chief, Cranston, Rhode Island; admitted to membership, November 6, 1922; died, August 29, 1940.

William J. Reilly, Capt., Cambridge, Massachusetts; admitted to membership, August 17, 1939; died, September 4, 1940.

FRED M. DAVID, Ex-Chief, Damariascotta, Maine; admitted to membership, June 22, 1926; died, September 24, 1940.

Lucius R. Mansfield, Ex-Chief, Rehoboth, Massachusetts; admitted to membership, May 19, 1924; died, October 8, 1940.

THOMAS F. BURNS, Chief, Bridgeport, Connecticut; admitted to membership, August 1, 1929; died, October 9, 1940.

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HENRY J. HARRIGAN, Chief, Dedham, Massachusetts; admitted to membership, January 9, 1929; died, October 19, 1940.

MORGAN B. FARRELL, Chief, Bristol, Connecticut; admitted to membership, May 22, 1935; died, October 19, 1940.

JOHN W: WHITNEY, Belmont, Massachusetts; admitted to membership, August 14, 1936; died, January 3, 1941.

TERRY A. NEWHALL, Swampscott, Massachusetts; admitted to membership, June 23, 1925; died, January 9, 1941.

GEORGE A. MCKENZIE, Asst. Chief, Westerly, Rhode Island; admitted to membership, June 21, 1938; died, January 21, 1941.

J. F. DAMON, Ex-Chief, Milford, Massachusetts; admitted to membership, June 20, 1928; died, March 7, 1941.

CHARLES A. REYNOLDS, Chief, Willimantic, Connecticut; admitted to membership, June 24, 1930; died, June 14, 1941.

Secretary O'Hearn: Mr. President, in connection with these deaths I offer the following Resolution that will be placed upon the records of our convention. I might add that the Resolution is a Resolution covering a group, as suggested by our Chaplain, Father Collins.

#### . RESOLUTIONS

WHEREAS: Our Divine Lord, who alone has the power over life and death, has in His Infinite Wisdom called from our midst during the past year members of this organization, and—

WHEREAS: These members, to the best of their ability, led lives according to the dictates of their consciences, of loyalty to their family and loved ones and of service to their community and its inhabitants, and—

WHEREAS: We who remain to carry on their work and to follow in their footsteps have had the privilege of knowing them, associating with them and admiring them—

BE IT RESOLVED: That we, the members of the New England Fire Chiefs Association, have suffered a severe loss in their passing, as have the communities they served so well, and—

BE IT RESOLVED: That their memory will always remain fresh in our minds, their virtues will always serve as an example to us and their deeds will always inspire us until we, like them, will be called to answer to our God.

VICE-PRES. MAHONEY: The next order of business is the report of the Secretary-Treasurer. The Secretary will read his report.

September 18, 1940

The first meeting of the directors for 1940-41 was held on the above date at the Parker House, Boston, Mass.

This was the regular meeting day of the Massachusetts Fire Chief's Club whom we joined at dinner, after which our meeting was called by President Cotter at 3:30 P.M. with the following, in addition to the President in attendance; Vice Presidents,

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PETROLEUM HEAT & POWER CO. 419 BOYLSTON ST., BOSTON, MASS. Phone Com'th 3400 Mahoney, Lawton; Directors, Sanborn, French, Koltonski, Keena, Dooling; Press Representative Vincent C. Stanley; Sergeant-at-Arms Happny; Past Presidents, Allen, Tierney, Pope; Commissioner Reilly and the Secretary.

The Secretary reported the following deaths since the convention:
Ex-Chief Peter E. Walsh, Boston, August 24, 1940.
Captain Thomas M. Nary, Boston, July 24, 1940.
Chief Frank J. Shannon, Stonington, Conn., August 26, 1940.
Chief Daniel F. Young, Cranston, R. I., August 29, 1940.
Captain William J. Reilly, Cambridge, Mass., September 4, 1940.

The Secretary reported proceedings of meeting of the directors held June 24th in the Game Room of the Balsams at which Ex-Chief Ralph Scott appeared and spoke to us, at his request, in the interest of the International Association urging cooperation, and advised us of some of the difficulties existing throughout the country where the fire service was being weakened by reduction of manual force and failure to maintain or provide adequate equipment.

President Pope, on motion of the Secretary, appointed Chief Tierney and Chief Sanborn on committee to include President Pope to advise with and give all possible assistance to Chief Scott, to bring before our convention a resolution condemning reduction of manual force and apparatus and recommending the necessity of bringing the fire department up to its maximum strength in both personnel, equipment and communication systems. (See page 220, 1940 report.)

The matter of dues, or increase in same because of International Convention action was discussed at length by the directors for preparation of discussion in open session. It was the opinion of the directors that we must continue to support the International Association, that dues should remain as now for New England Association member at \$3.00 annually and with additional \$3.00 annually to cover International dues; but to have membership optional for International as we have many call chiefs and associate members upon whom it would be a hardship to have to be compelled to pay dues in both Associations.

All agreed that this was the best solution of the dues situation and on motion of Chief Tierney it was voted to report that way to the convenion and that Chiefs, Sanborn, Tierney, and Allen would lead the discussion with support of other directors.

Following reading of records of the Balsams meeting, the meeting continued with discussions of the approaching International Convention. It appeared that we were not in a position to do much until after International Directors meeting to be held in Boston in January 1941.

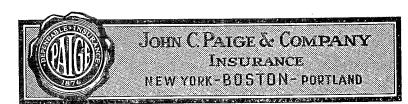
Since our director to International has been elected to the office of Secretary-Treasurer, on motion of the Secretary, Chief Selden R. Allen of Brookline, Mass., was elected to fill the vacancy.

On motion of Chief Koltonski it was voted that we hold our 1941 convention jointly with International with at least one full day for New England business.

On motion of Chief Koltonski it was voted that unless it be necessary for the directors to meet in the near future, that our next meeting be held with International officers when they meet in Boston.

On motion of Chief Sanborn it was voted that our directors offer our services to Commissioner Reilly for anything we can do in connection with the International convention.

Voted that the Secretary be authorized to procure Massachusetts Civil Service



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JOHN W. O'HEARN, Secretary.

January 28, 1941

The second meeting of Directors and Officers of the Association was held on above date at the Parker House, Boston, Mass.

The meeting was called to order at 2:45 P.M. with the following in attendance: Pres. Cotter presiding; Vice Pres. Mahoney and Lawton, State Vice-Pres. and Directors Sanborn, French, Koltonski, Dooling, Cote, Keena, Chiefs Allen, Tierney and the Secretary.

The minutes of the previous meeting were read and accepted. The Secretary reported the following deaths since our meeting of Sept. 18th:

Fred M. David, Ex-Chief Fire Dept., Groton, Conn., died Sept. 24, 1940. Lucius R. Mansfield, Ex-Chief Fire Dept. Rehoboth, Mass., died Oct. 8, 1940. Thomas F. Burns, Chief Fire Dept. Bridgeport, Conn., died Oct. 9, 1940. Henry J. Harrigan, Chief Fire Dept. Dedham, Mass., died Oct. 19, 1940. Morgan B. Farrell, Chief Fire Dept. Bristol, Conn., died Oct. 19, 1940. John W. Whitney, Belmont, Mass., died January 3, 1941. Terry A. Newhall, Swampscott, Mass., died January 9, 1941. George A. McKenzie, Westerly, R. I., died January 21, 1941.

Here a general discussion opened regarding the Convention, the method of conducting it and our part in the Convention. It appeared that unless we were fully paid up in membership with International Association that we would lose our representation therein (Page 194 Top and Sect. 7—By-Laws).

Chief Sanborn moved, but it was not seconded, that dues of ALL ACTIVE New England members that have not been paid up to International to date be taken care of by the New England Association. This brought considerable discussion, as the Secretary was unable at the moment to tell the amount of money involved (also the reading of International Report Page 194 says: "including all members").

On motion of Chief Koltonski it was voted that the Auditing Committee meet with the Secretary at his office in Watertown and go over the books with him to ascertain how much money was involved in order to carry out the purpose set forth by Chief Sanborn. A discussion followed here as to our place in the Convention (which we voted a joint one) as to exhibits, since we would dispense with any this year.

Voted: we recommend to the International Officers who were in session in the next room that we divide exhibits, costs and receipts fifty-fifty, and that we recommend to them that Chief Tierney be Chairman of Exhibits.

The Secretary was instructed to request a joint meeting, our Directors with International, which was carried out.

This meeting produced a little surprise, as it appeared that dates had been set for August 19, 20, 21 and 22, leaving only Monday the 18th for our Association. Chief Tierney had already been appointed Chairman of Exhibits and when our suggestion of a fifty-fifty split on exhibits was introduced we were advised that this could not be, and Chief Steinkellner quoted at length from International Constitution

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—in fact he said there could be no joint Convention, that their Association held their Convention regardless, and pointed out what had taken place on two like occasions, Portland, Oregon and San Diego. This was also subscribed to by Jay Stevens.

At this point a Committee from each Association was appointed to consider question of division of exhibit receipts or charge by our Association for use of our equipment. Committee of New England Chiefs as follows: Chiefs Koltonski, Lawton, Sanborn, French; from International: Chiefs Allen, Tierney and Ray Tiller; and after consideration it was decided that we would drop any thought of division of receipts or charging for our material. This appeared to be a climax to surprising events of the meeting, and our meeting dissolved without further action.

In the evening of the 28th at the Parker House, our Association through its Officers tendered a reception to the International Officers, 66 persons sat down including our guests other than above. A very fine evening was enjoyed. President Cotter opened the meeting, then Chief Tierney as Toastmaster carried on. We had the services of station WBZ, and John B. Fisher broadcast the story of the Great Boston Fire. President Palmer, Commissioner Reilly also were heard over the air. All present agreed to a fine evening and most enjoyable dinner.

On Wednesday the 29th all joined with Massachusetts Fire Chiefs' Club at dinner at the Parker House.

On Wednesday the 12th of February, President Cotter and Chief Cote visited the Secretary at his office in Watertown, went over the books and discussed Association problems at length—and decided best to call a meeting of the Directors for February 19th at the Parker House, as it was deemed advisable that all States should be represented in any action taken regarding dues or the Convention.

JOHN W. O'HEARN, Secretary.

February 19, 1941.

The third meeting of the Directors was held above date at the Parker House, Boston, Mass., at 4 P.M. after Massachusetts Fire Chiefs' Club meeting with the following in attendance: Pres. Cotter, Vice Pres. Mahoney and Lawton, Directors, Sanborn, French, Koltonski, Dooling, Cote, and Keena, Mr. Stanley, Chiefs Allen, Tierney and Pope.

Minutes of previous meeting read and approved. A lengthy discussion followed regarding dues and our standing with International Association as a result of increase in dues.

It appeared that in order to hold our membership or representative, all active members would have to be paid in full, and that the cards already issued for "paid for 1940" at the rate of \$1.00 was an error, as cards should not have been sent out from Chief Mulcahey that way.

On motion of Chief Mahoney it was voted that the question of dues with International be left to settle by Chief Tierney and the Secretary and to apply to active members only as it appeared that they were the only ones International Association was interested in.

Chief Tierney stated that he believed the International would accept \$2.50 from the Association for all unpaid members, and suggested we pay that amount for all unpaid members.

On motion of Chief Sanborn it was voted we open our day at the Convention

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Voted, registration on the main floor of Mechanics Building if possible.

Voted, The secretary be authorized to purchase 300 New England buttons at Oprice submitted by Braxmar at 18c each.

Meeting adjourned 5:40 P.M.

P.S.—On Mar. 3, 1941, the Treasurer forwarded a check to Chief Tierney in the amount of \$642.50 to cover above dues.

JOHN W. O'HEARN,

Secretary.

#### TREASURER'S REPORT 1941

Following the custom of past years, your Secretary-Treasurer has prepared a brief summary covering membership and financial status since our last Convention to the closing of the books, June 15, 1941.

The Treasurer's books will show in detail all receipts and expenditures, as testified to by the Auditing Committee, but are not published as part of our Annual Report and are available to any member who may want further information than what is reported here.

On June 15, 1940, the total membership was 963. Since that time we have admitted to membership 117 new members. We have lost by death 15 members and 114 have been dropped for non-payment of dues or resigned.

The total membership on June 15, 1941 was 951, of which 455 are active and 496 are associate members, classified as follows:—

Maine	59	Ohio	6
New Hampshire	48	Indiana	1
Vermont	28	Colorado	1
Massachusetts	516	Toronto	1
Rhode Island	62	Quebec	1
Connecticut	126	Florida	2
New York	28	Louisiana	2
New Jersey	26	Michigan	1
- Ollino Ji valla	. 3	Wisconsin	1
Washington	2	Halifax	1
Maryland	1	Ontario	1

The Insurance Brokers' section, organized during the past two years, has 34 members.

On June 15, 1940, the cash balance was \$9,620.71. On June 15, 1941 the cash balance was \$8,006.35. \$1,108.74 of this amount is deposited in the Union Market National Bank checking account, Watertown, Mass., and \$1,837.77 is deposited in the Watertown Savings Bank, and the balance \$5,059.84 is deposited in the Watertown Co-operative Bank.

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Chief John W. O'Hearn, 99 Main St., Watertown, Mass.

Dear Sir:

At your request we are pleased to submit the following statement regarding the holdings of the New England Association of Fire Chief's accounts in this bank, as they will be on June 15, 1941.

The Association holds a matured share certificate for ten shares, No. 1972, value \$2,000, and a paid-up share certificate for ten shares, No. 05570, value \$2,000. The dividends on these certificates total \$100.00 and were disposed of as follows: \$96.00 was credited to your monthly savings account No. 29198 and the balance of \$4.00 was mailed to you in the form of checks. On the savings account No. 29198, the Association holds eight shares in Series 119. The value of these eight shares as of the above mentioned date was \$1,059.84.

The foregoing figures show that the value of the Association's accounts was \$5,059.84 on June 15, 1941. Our last report to you showed the Association's total deposit to be \$4,934.56 as of June 15, 1940.

Very truly yours,

signed: C. H. PARKER,

Asst. Treas.

It is noticeable that our Associate membership exceeds the Active by 41; the loss of membership over last year, even though small is noticeable because it is the first year in which the Association has failed to show a gain.

One hundred fourteen (114) members were dropped during the year, and from information your Secretary has, this was due in a great measure to increase in International dues. We have but 81 paid members to International at the closing of the books. Forty-nine (49) of these are Associate members, and the balance of thirty-two (32) are active members, indicating a lack of interest principally among the active membership.

During the past year we paid a total of \$1,475.50 to International Association for dues, including all active members paid in full to December 31, 1940; of this the Association was reimbursed a total of \$121.00 from 49 members, showing a loss to the Association of \$521.50 for this item alone.

This year we will not gain any receipts from exhibits, as all will go to the Inter-

We were fortunate during the year to be in a position to render financial assistance to the families of firemen who were lost in the Brockton Fire as well as other worthy cases among our members.

In all, your officers extended the fullest co-operation for the Association, and I assure you your many acts of kindness were appreciated. I thank the members for their assistance, and trust our efforts in the future will continue to be for the best interests of the Fire Service.

JOHN W. O'HEARN,

Secretary-Treasurer.



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VICE-PRES. MAHONEY: I would call on the Auditors for verification of the report of the Secretary-Treasurer.

CHIEF SANBORN, Chairman of the Auditing Committee: The Auditing Committee went over the books and found accounts in order.

VICE-PRES. MAHONEY: Gentlemen, you have heard the report of the Secretary-Treasurer as audited. What is your desire with that report?

MR. CHAPMAN: I move the report be accepted. (Motion seconded and carried.)

VICE-PRES. MAHONEY: The next order of business is correspondence and new business. Any correspondence, Mr. Secretary?

SECRETARY O'HEARN: We have no correspondence except invitations to the next annual convention.

VICE-PRES. MAHONEY: Any member here any new business to offer. In the form of a motion or resolution.

CHIEF SCANLON, Lynn, Mass.: Under the heading of new business I have a matter which I believe I should call to the attention of this convention, particularly the Massachusetts members. I believe whatever should interest the fire chiefs should also interest the firemen. I mean now all branches below chief. We have in Massachusetts a bill that has been pushed around a bit known as the Seventy Hour Bill. First of all, I must tell you this bill is in no way a mandatory bill. This is a setup in place of the two platoon system. Many departments receive that system through one way or the other; some through the city council, others by votes of the people. About ten cities and towns in Massachusetts are now under this Seventy Hour Bill, so called. In substance it merely means the elimination of the long day, or 24 hours of continuous duty. When six o'clock comes around, one-sixth of your department may go home. The cities and towns that received the seventy hour by vote of the city council or selectmen were allowed to continue under this system, but the other cities that received it from a vote of the people, through an opinion of the Massachusetts Supreme Court, must return it to the people to change from the now working system. So that last year this Legislature now in session, upon a resolution drawn up by the Massachusetts State Firemen's Association and endorsed by the Massachusetts Permanent Firemen's Association, representing about ninety-five per cent of the firemen in Massachusetts, which, by the way, includes chiefs and privates, had this bill passed through both branches of the Legislature, and, incidentally, both branches of the Legislature overwhelmingly passed the bill. When it got to the Governor's office for signature, the Governor chose to veto the bill, giving us as an excuse that the present emergency was so extreme that he believed it was an inopportune time to shorten the working hours of the firmen and by the same token he believed the hours of the firemen should be lengthened instead of shortened. I believe the trend of the times calls for shorter hours and better working conditions for all men in the fire service regardless of rank. So then the Firemen's committee had the bill sent back to the Legislature in the same form that it originally was when the Governor vetoed it. An attempt is now being made to pass the bill over the Governor's veto. Let me repeat for the chiefs who are not particularly interested in reducing the man power of their departments that there is nothing mandatory in the bill. The bill does not become a law until your local city government approves it. I believe it is a subject that should be taken up here and I also know that time is the essence of the meeting this afternoon. My reason for bringing it up is that I have talked this afternoon with many of the chiefs from Massachusetts and they seem to share my opinion that it should be brought out on the floor, and personally

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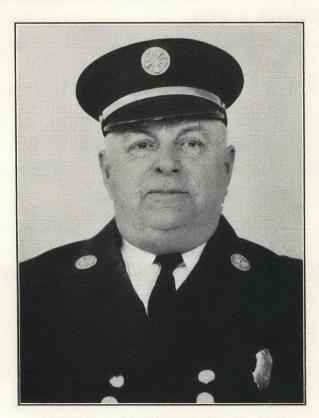
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I should like to see this convention endorse it. I believe that every Massachusetts Chief by now is familiar with the bill. I would like to hear from some of the other chiefs on this matter.

VICE-PRES. MAHONEY: Any other member wish to make any remarks?

CHIEF EVANS, EVERETT, MASS.: Mr. Chairman, there is no question in my mind that the time has come when the New England Fire Chiefs Association should do something to help the ten thousand firemen in the Commonwealth of Massachusetts. There isn't any question at all that this bill is for the best interests of the fire service, whether you be a fire chief or a man in the ranks. There isn't any question at all that it absolutely builds up the morale of any department that has that system in operation. I say that because I know in my department where it has been in operation four years the morale has taken a trend for the best interests of the City of Everett and I believe that this Association should do something to help, as I said before, the ten thousand firemen in this Commonwealth. So I am going to offer a resolution that the New England Association of Fire Chiefs endorse the Seventy Hour Bill and a copy of the action of this body be sent to each Senator in the Commonwealth of Massachusetts.

CHIEF SLAMAN, WELLESLEY, MASS.: I second the motion.

VICE-PRES. MAHONEY: The motion has been made and seconded that this organization go on record in favor of the Seventy Hour Bill for firemen in Massachusetts and a copy of that resolution be sent to each member of the Senate of Massachusetts. I will ask Chief Evans if he would broaden that out and say the New England Association of Fire Chiefs go on record as favoring seventy hours for all firemen.

CHIEF EVANS: That is all right. I think you ought to add also the Governor.

CHIEF CZINE, Wallingford, Conn.: Don't you think that is out of order?

VICE-PRES. MAHONEY: He is asking for endorsement of a bill that will regulate the hours of labor of firemen in New England.

CHIEF CZINE: I thought he said Massachusetts.

VICE-PRES. MAHONEY: That is what he was talking about but the motion is that this organization go on record as favoring seventy-hour service for firemen throughout New England and I see nothing wrong with it.

CHIEF CZINE: I think it is for the Massachusetts Firemen's Association to battle it out.

VICE-PRES. MAHONEY: I don't want to battle this from the platform. I should presume from the sponsors the reason for this is that it may not only assist the men of Massachusetts but may assist the men in other New England states and I see no harm from it, and I should rule that the motion is entirely legitimate as long as it covers New England.

CHIEF McKENZIE, Barrington, R. I.: Will it be out of order to suggest that a copy of that resolution be sent to all the state governments in New England?

VICE-PRES. MAHONEY: I think it would be a good idea.

CHIEF EVANS: Do I understand you want a copy sent to all members of the government?

CHIEF McKENZIE: Yes, I think so. The Governor of each state, the President of the Senate and the Speaker of the House.

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CHIEF EVANS: That is all right to include in my motion.

VICE-PRES. MAHONEY: You would accept that as an amendment?

CHIEF EVANS: Yes.

VICE-PRES. MAHONEY: Any further remarks?

(The motion was carried.)

VICE-PRES. MAHONEY: Any further resolutions or new business? Any other new business to come before the convention?

SECRETARY O'HEARN: Mr. President, since our last convention this book I hold has been printed and distributed among the members as the records of the proceedings of that convention, and since then I have here the records of the Directors' meetings which are quite lengthy; there are four pages. They always are printed in the report and usually the time is not taken up by reading them here. If there is no objection, Mr. President, I move you, sir, this report be accepted as the proceedings of the last convention together with these records of what has taken place since the last meeting and all be embodied in the report of this meeting.

(Motion seconded and carried.)

VICE-PRES. MAHONEY: Any further new business, resolutions or correspondence? If not, your next order of business is the annual election of officers for the ensuing term. You are called to elect a president, two vice-presidents, secretary-treasurer, six state vice-presidents, sergeant-at-arms, director to the International Association, press representative, official photographer and chaplain.

CHIEF CROWLEY, International Shoe Co., Manchester, N. H.: I would like to find out how it was the organization here authorized the payment of dues for the Chiefs here of the New England Association, who authorized dues to the International Association for Chiefs of the New England Association. I think I received a bill of \$2.50 for membership in the International Association.

VICE-PRES. MAHONEY: It is optional whether you belong to the International or not. You have your own choice whether you belong or not.

CHIEF CROWLEY: I am a member of the New England and in the same way affiliated with the International, and then I received a bill from the New England for my membership in the International which I did not join myself.

VICE-PRES. MAHONEY: You were a member of the International at some time and the change of By-Laws effective January 1, 1941, raised the bill from one dollar per year to three for an individual member.

CHIEF CROWLEY: Who paid the difference?

VICE-PRES. MAHONEY: Nobody paid the difference for me because I paid it myself and it was so with a good many, but with the convention coming into Boston and to straighten the thing out so every member of the New England Association could participate in it, New England paid the difference for that year for one year only. From now on it is optional whether you belong or not. We have served our notice and I don't think we are as an organization a member of the International as a whole. It will be individual membership.

CHIEF ROOT, Springfield, Mass.: Mr. President, there has been some question about this due business and the Secretary has stated about the lack of interest of active members of this Association. It seems to me that when dues are doubled

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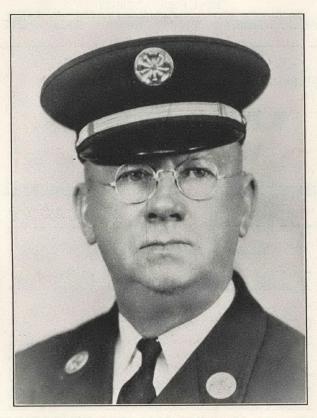


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from three to six dollars there is liable to be a lack of interest somewhere. I should like very much to dope out some way of restoring this interest of the active members in the New England and also give them an opportunity for belonging to both associations, perhaps for a five dollar note per year. There is a lot of difference between five and six dollars. It is only one hundred cents, but I think we in New England talked on both points for the New England Association and for the International Association to have our dues more or less equalized for perhaps what we are getting out of it and, therefore, to bring it before the convention, if I understand correctly, perhaps it can't be here, my idea is to present to the Association a motion so everyone can belong to both for a year and perhaps adopt it or throw it out the window. Therefore, Mr. President, I move you an amendment to the Constitution and by Laws with regard to dues; Article IV now says the annual dues shall be three dollars. I move the annual dues of this Association be reduced to two dollars. And the By-Laws, Section 1, I move the same change be made, reduce the dues of this Association from three dollars to two. I believe it will re-create a large interest among the active fire chiefs of New England.

VICE-PRES. MAHONEY: Will you give that resolution to the Secretary, Chief Root? Will you see that the Secretary gets a copy of that resolution you have there?

Any further resolutions? We will go back onto the next order of business, which is the election of officers. A motion to proceed with the election of officers will be in order.

CHIEF ROOT: I made that as a motion of a change in the Constitution and By-Laws.

VICE-PRES. MAHONEY: That will have to be acted on at the next convention. That is why I want you to give that resolution to the Secretary.

CHIEF ROOT: You said it is a resolution. It is a motion.

VICE-PRES. MAHONEY: I don't think any motion on the matter is required. Any member at any time in this convention or any time previous can present to the Secretary or body a proposed amendment. Yours is a proposed amendment, to be acted on at the next meeting. If you will give the Secretary a copy just as you have it written, he will have it all set for your next convention.

SECRETARY O'HEARN: Mr. President, I think there is just one other thing the members should know. Probably there is nobody any closer to the members or who knows what their feelings are better than I do. I spent a barrel of your money last year trying to collect this money and trying to make International members out of every member. I sent out questionnaires; and it is my opinion from the response, both verbal and written, that the great majority, whether the dues are one dollar or two dollars or three dollars, have no interest in the International Association. That is the answer. A reduction of dues won't bring them in. I am not opposed to a change in the By-Laws if it will help us. You men know that. That is only my opinion. That is the result of the questionnaire. Some of you may have the blue sheet I sent out and I finally said, "Are you interested? Let me know." There are hundreds, it isn't just a few, who said, "We have no interest in the International." Wouldn't my report today indicate that? Thirty-two chiefs and ex-chiefs; that is our active membership. Fire Commissioners are not active in the International. One man spoke about paying the International dues up, what right did we have? We only had this one right, to square ourselves on the books for 1940 in the International or lose our representative. That is the reason we spent that money last year. That was the Director's action in doing that, believing that our members

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would stand back of them. I paid my three and the fellow who paid only \$2.50 paid his portion of the year. We got \$121 out of 643 members, showing they care but little about the International. You might just as well know that.

VICE-PRES. MAHONEY: Gentlemen, at this time Commissioner Reilly desires to retire from the meeting as he has a rehearsal of the program for tomorrow morning. He has a busy session before him, so I hope you will excuse him. (Applause.)

Now a motion to proceed with the election of officers is in order.

MR. CHAPMAN: I move we proceed with the election of officers. (Motion seconded and carried.)

VICE-PRES. MAHONEY: Does the convention desire a committee to consort and prepare ballots or shall we proceed with nominations?

CHIEF KELLEY, Danvers, Mass.: I move we have the nominations and elections conducted from the floor as we have in former years.

(Motion seconded and carried.)

VICE-PRES. MAHONEY: The first officer is President of the organization for the coming year.

CHIEF KELLEY: I place in nomination the name of Chief William C. Mahoney of Peabody, Massachusetts, as President for the coming year.

MR. CHAPMAN: I second the nomination.

VICE-PRES. MAHONEY: I would like to have Chief Lawton put the motion.

SECOND VICE-PRES. LAWTON: You have heard the nomination made and seconded of Chief Mahoney as President for the coming year.

MEMBER: I make a motion that the nominations be closed. (Motion seconded.)

SECOND VICE-PRES. LAWTON: Any remarks on the motion? (Motion carried.)

MR. CHAPMAN: I move that the Secretary cast one ballot for Chief Mahoney for President.

(Motion seconded and carried.)

SECOND VICE-PRES. LAWTON: The Secretary has cast one ballot for William C. Mahoney as President and I declare him elected. (Applause.)

PRESIDENT MAHONEY: Gentlemen, I might take a minute or two of your time now before we proceed to thank you for the honor you have conferred upon me, and I sincerely hope for the coming year my endeavors and my labors in your behalf and for the success of the organization will be rewarded, that at the end of one year no man here will regret he has elevated me to this high, honorable position as President of a body of men covering the entire New England States. Again I am going to thank you, and I hope, as I said before, one year from now we will bring back results. (Applause.)

The next office is that of First Vice-President. At the present time Chief Michael Lawton of Middletown, Connecticut, is Second Vice-President. The Chair awaits nomination for First Vice-President.

CHIEF HAPPNY, Concord, N. H.: I move that Second Vice-President Michael W. Lawton be nominated for First Vice-President.

(Nomination seconded.)

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MEMBER: I move the nominations be closed and the Secretary cast one ballot for Chief Lawton for First Vice-President.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty as instructed by the convention and I declare elected to the office of First Vice President Chief Michael W. Lawton of Middletown, Connecticut. (Applause.)

FIRST VICE-PRES. LAWTON: Ladies and gentlemen, I am a man of few words. Thank you.

PRESIDENT MAHONEY: The next office is that of Second Vice-President. Nominations are in order.

CHIEF SANBORN, Portland, Me.: I want to place in nomination the name of a man who has worked hard for the organization for a number of years. He is at present our Sergeant at Arms, and it gives me great pleasure to nominate Chief Happny as Second Vice-President.

PRESIDENT MAHONEY: You have heard the nomination of Chief Happny for Second Vice-President. Any further nominations?

CHIEF HERMAN: I move the nominations be closed and the Secretary cast one ballot for Chief Happny for Second Vice-President.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty as instructed and I declare William T. Happny of Concord, New Hampshire, elected as Second Vice-President of this organization. (Applause.)

The next office is that of Secretary-Treasurer. Do I hear nominations for Secretary-Treasurer?

CHIEF PACHL, New Haven, Conn.: I nominate John W. O'Hearn for Secretary-Treasurer.

MEMBER: I move the nominations be closed.

(Motion seconded and carried.)

MEMBER: I move that the First Vice-President cast one ballot for Chief O'Hearn for Secretary-Treasurer.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The First Vice-President has performed his duty and I declare Chief John W. O'Hearn of Watertown elected as Secretary-Treasurer for the ensuing year. (Applause.)

SECRETARY-TREASURER O'HEARN: Without saying other than thank you, I will do that and let it go on. I will have something to say later when you fix the Treasurer's salary. You know I get paid for doing this work.

PRESIDENT MAHONEY: The next office is Board of Directors and State Vice-Presidents. The Board of Directors is constituted by your State Vice-Presidents, and I will call for nominations by states. State of Maine.

CHIEF HERMAN, Westbrook, Me.: Mr. President, I take great pleasure in nominating Chief Oliver T. Sanborn of Portland. He has held it a great number of years, and as far as I know, there are no objections from the people of the State of Maine to it.

(Nomination seconded and carried.)

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(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty and I declare Chief Oliver T. Sanborn of Portland elected as State Vice-President for Maine. The next state will be New Hampshire.

CHIEF HAPPNY, Concord, N. H.: Mr. President, I would like to place the name of Chief Charles H. French of Manchester for State Vice-President.

PRESIDENT MAHONEY: Any further nominations? If not, I will declare the nominations closed and a motion to elect will be in order.

MEMBER: I will make that motion.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty and I declare Chief Charles H. French of Manchester elected as State Vice-President for New Hampshire.

State of Vermont. Has the Vermont delegation a candidate to offer?

CHIEF DOOLING, Malden, Mass.: I will nominate Chief Koltonski.

PRESIDENT MAHONEY: Any further nominations? If not, a motion to elect Chief Koltonski will be in order.

MEMBER: I so move.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty as prescribed and I declare Chief Alfred H. Koltonski of Rutland elected as State Vice-President for Vermont.

Massachusetts.

CHIEF SALSMAN, Saugus, Mass.: At this time I would like to nominate Chief Joseph E. Scanlon of Lynn.

PRESIDENT MAHONEY: Any further nominations?

MEMBER: I move the nominations be closed.

(Motion seconded and carried.)

PRESIDENT MAHONEY: A motion to elect is in order.

MEMBER: I make a motion that the Secretary cast one ballot for Chief Scanlon. (Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty and I declare Chief Joseph E. Scanlon of Lynn elected as Vice-President for Massachusetts. Rhode Island.

CHIEF SAVAGE, Valley Falls, R. I.: I nominate Chief A. J. Cote of Woonsocket.

PRESIDENT MAHONEY: You have heard the nomination of Chief Cote of Woonsocket.

MEMBER: I move the nominations be closed and the Secretary cast one ballot for Chief Cote for State Vice-President.

(Motion seconded and carried.)

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PRESIDENT MAHONEY: The Secretary has cast one ballot for Chief A. J. Cote of Woonsocket and I declare him elected as State Vice-President for Rhode Island.

Now we have Connecticut. Do I hear nominations from the State of Connecticut?

CHIEF KEENA, Hartford, Conn.: I would like to place in nomination the name of Chief Stuart M. Potter of Greenwich, Connecticut.

PRESIDENT MAHONEY: You have heard the nomination of Chief Potter.

MEMBER: I move the nominations be closed and the Secretary cast one ballot for Chief Potter for State Vice-President.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty and I declare Chief Stuart M. Potter of Greenwich elected as State Vice-President for Connecticut.

That completes your Board of Directors. The next officer is Sergeant-at-Arms, and there is a vacancy owing to the elevation of Chief William T. Happny.

CHIEF McCARTHY: I wish to nominate Chief Michael J. Shea of Fitchburg, Massachusetts.

MEMBER: I move the nominations be closed and the Secretary cast one ballot for Chief Shea.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty and I declare Chief Michael J. Shea elected as Sergeant-at-Arms for the ensuing year.

Representative to the International Association, or would we be out of that?

SECRETARY O'HEARN: No, we are not. It is best to be prepared.

MEMBER: I nominate Chief Selden R. Allen.

SECRETARY O'HEARN: I say that advisedly because there may be something in the International this year that will hold our representative in the International no matter how many members we have. Is that so, Chief Steinkellner?

CHIEF STEINKELLNER: There is a possibility.

SECRETARY O'HEARN: I think it would be safe to elect him even though he never serves.

PRESIDENT MAHONEY: Any further nominations? Chief Allen has been nominated.

MEMBER: I move the nominations be closed and the Secretary cast one ballot for Chief Allen as representative to the International.

(Motion seconded and carried.)

PRESIDENT MAHONEY: The Secretary has performed his duty and I declare Chief Selden R. Allen elected as Representative to the International Association.

Press Representative I believe is appointive. Harry Belknap, Press Representative, and Vincent C. Stanley as his assistant, and I will declare them appointed for the incoming year.

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Chaplains. Rev. Michael F. Collins of Marblehead, Massachusetts, and Rev. H. Chester Hoyt, Fairview, Holyoke, Massachusetts. They are appointive, and I will renew the appointment of Father Collins and the appointment of Mr. Chester Hoyt of Holyoke, Massachusetts.

(Applause from the audience as Mayor Maurice J. Tobin of the City of Boston entered the hall and was escorted to the platform.)

PRESIDENT MAHONEY. Gentlemen, the selection of the place of the next convention. I don't know if there are any invitations here yet or not. If there are some, does this convention as it sits desire to settle the place of the next convention or do you want to turn it over to the Board of Directors to take the best offer they can get.

MEMBER: I so move.

PRESIDENT MAHONEY: It is moved and —

CHIEF KOLTONSKI, Rutland, Vt.: I have an invitation from Rutland and I would like to have it read.

PRESIDENT MAHONEY: If you want to act on them here, it is all right.

Gentlemen, we will just get away from the usual procedure for a moment or two. In the past few moments His Honor Maurice J. Tobin, Mayor of the City of Boston, who was first on the program but who was unavoidably detained, has just appeared on the platform. He found it quite difficult to even get away this afternoon to give us a few moments. Without any further introduction I am going to call on His Honor, Mayor Maurice J. Tobin, Mayor of the City of Boston. (Applause.)

#### **ADDRESS**

#### By Honorable Maurice J. Tobin Mayor of the City of Boston

Mr. President, Reverend Father, Fire Chiefs of the New England Communities: As Mayor of Boston I am delighted in behalf of its citizens to welcome you to this city. I want to thank you very much in their name in honoring Boston by your presence and I hope you will all have a very good time while you are in the City of Boston. I do think you have a wonderful program as arranged in cooperation with the officers of both the New England and International, and we do want you to leave with the feeling that you couldn't have chosen a better city. I am going to get around from time to time to see you, and if there is any way we can be of help to you, just call on us. It is a pleasure to have seen you and I am going to have the opportunity during the week to join with you more than once. Thank you. (Applause.)

PRESIDENT MAHONEY: We will get back again to that portion of the business we were on. That is the place of the next convention. Chief O'Hearn has some invitations there. I will ask him to read them.

SECRETARY O'HEARN: I have the annual invitation from the Poland Spring House, Poland Spring, Maine. The Poland Spring House invites us to go there for the 1942 convention and I believe we are all familiar with what they have at Poland Spring.

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Want proof that you're still young? The next time you hear the clanging bells of the fire engines, notice how your feet itch to follow them. In New York City, as in Boston, Lynn, Worcester and in many places throughout New England, groups of business and professional men feel this urge so strongly that they have organized a

club to give it full play.

The Bell Club of New York City is located at 119 West 33rd Street, right next to the fire-house of Hook and Ladder Company Number 24. The Club is steeped in the atmosphere of the fire-house, the only atmosphere in which a true "Buff" ever feels completely happy. The name "Buff," incidentally, is an old one. It originated when the volunteer firemen of old New York wore buffalo-skin coats to the fires. As they rushed to a call, the crowds would shout "Here come the Buffs." In New England they are better known as "Sparks." Later on when the city had acquired a professional fire department, the firemen gave the nickname to the small boys who professional fire department, the firemen gave the nickname to the small boys who followed the fires. The youngsters ran errands, brought dry clothes to the scene of the blaze, and made themselves generally useful to their heroes. As a result, the firemen gave "Buff" badges to their proteges so that they could pass the fire lines.

As the kids grew up and became doctors, lawyers, bankers and business men, they kept their badges—and their habit of chasing fire engines. Today, many of them are members of the Bell Club. It's never too late, too cold or too wet for them

to follow up a fire, with coffee and moral support for the fighters.

The above picture shows GORDON MULLINS, a NEW ENGLAND member, and an enthusiastic "Buff" and member of the Bell Club, displaying part of his home collection of trophies and models from fire-houses all over the country. The Club is completely fitted out like a real fire-house, even to a dummy pole. At the watch desk, where members take turns twenty-four hours a day, alarms are recorded and traced as they come in on the City's fire department telegraph system. The club has a waiting list as long as your arm!

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#### POLAND SPRING HOUSE Poland Spring, Maine

July 1, 1941.

Mr. John W. O'Hearn, Secretary New England Association of Fire Chiefs 99 Main Street Watertown, Massachusetts

Dear Mr. O'Hearn:

We would like to invite again the New England Association of Fire Chiefs to hold their 1942 meeting at the Poland Spring House. There are 18 or 20 associations which hold conventions with us annually during our season which extends from the latter part of May until October 15.

We are qualified to accommodate groups numbering from 10 to 700 on this 5000 acre estate. Our resort, as you undoubtedly know, has been nationally famous for 140 years, and has numerous advantages over a majority of resorts throughout the country.

If your association is in a position at this time to consider an invitation, we should like very much to invite you or any one of your interested officials to visit us and see at first hand what we have to offer a group such as yours. If you find that our facilities meet with your approval, we will be very glad to present to you for your consideration one of our leather bound convention proposals whose 32 pages of information and views embody all the pertinent features of this resort.

You will find that our geographical location will contribute toward a record attendance as transportation facilities are excellent. Many national conventions held here have reported the largest attendance in their history.

Our rates are very moderate, probably more so than in any other resort in the country, considering the cuisine, service, and various recreational and sport activities for which we make no charge.

We would greatly appreciate your consideration.

Very cordially yours,

HIRAM RICKER AND SONS

(Signed) EDWIN H. HOBBS Assistant General Manager.

SECRETARY O'HEARN: I have one from the Convention Bureau of the Springfield Chamber of Commerce and the Secretary of the Convention Bureau says:

Chief John W. O'Hearn 99 Main Street Watertown, Massachusetts

My dear Chief:

I am writing briefly at this time because I know you are up to your neck in plans for the convention of the International Association of Fire Chiefs and I simply want to remind you that Springfield, Massachusetts, offers probably the best facilities in Western New England for a convention of the New England Association of Fire Chiefs in 1942.

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Will you have this suggestion in mind and talk with Chief Herbert C. Root when you see him in Boston? We will cooperate with you in every practicable way.

Sincerely,

(Signed) ADRIAN L. POTTER, Secretary Convention and Visitors' Bureau.

In this envelope I have quite a little literature describing the beauties of Rutland, Vermont, where we have been to a convention, and the Chief of the Fire Department is the inviting factor there, backing up the Chamber of Commerce invitation, and the Chief of the Fire Department at Rutland, who is our member, is here and he can speak for himself.

#### RUTLAND CHAMBER OF COMMERCE Rutland, Vermont

August 8, 1941.

Chief John W. O'Hearn Secretary and Treasurer N. E. Ass'n of Fire Chiefs Watertown, Mass.

Dear Mr. O'Hearn:

It is with pleasure we extend an invitation to the New England Association of Fire Chiefs inviting them to hold their 1942 Convention in the City of Rutland.

The Rutland Chamber of Commerce, its Officers and Directors, Staff and Members will be ready to assist you with your plans before and during the time of your Convention.

You no doubt are well aware of the surrounding country during the month of June, which will add to the pleasure of a trip to scenic Vermont.

Our Hotels, Inns and Tourist Homes offer excellent accommodations.

Under separate cover we are mailing you today folders on Rutland and vicinity.

Hoping that your Board of Directors and the Committee will choose Rutland for 1942,

Very sincerely yours,

(Signed) JAMES H. LUCAS, Executive Manager.

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"How you live depends on where you live"

I also have two telegrams, one an invitation to meet in Providence and the other from the New Ocean House at Swampscott.

John W. O'Hearn Secretary New England Association of Fire Chiefs Hotel Statler Boston, Mass.

Please extend our most cordial invitation to meet in Providence in 1942. No group can be more welcome at the Biltmore than New England Association of Fire Chiefs.

DUANE WALLICK, Manager,

The Providence Biltmore.

New England Association of Fire Chiefs Statler Hotel Boston, Mass.

The New Ocean House at Swampscott, Massachusetts, sends greetings to the New England Association of Fire Chiefs and best wishes for a successful meeting.

CLEMENT KENNEDY, President.

CHIEF ALLEN, Brookline, Mass.: Mr. President, in view of the fact that the only bona fide invitation we have from a chief is from the Chief of Rutland, Vermont, and due to the fact that it is not experimental to go there, we know their brand of hospitality and facilities, I move we accept this magnanimous offer of Rutland, or invitation, if you will, and that our next annual convention be held in that city.

(Motion seconded and voted unanimously.)

PRESIDENT MAHONEY: Any further remarks? (Motion carried.)

PRESIDENT MAHONEY: Just one more thing and I will let you go. The Secretary has just informed me that if we don't settle a salary for him he will have to work for nothing next year and we don't want him to do that.

CHIEF ALLEN: I have been spoken to in regard to this matter by the Secretary, so at his request I am recommending, or moving, rather, that the salary of the Secretary be the same for the ensuing year as in the past. I am doing that at the very urgent request of the present Secretary.

(Motion seconded.)

SECRETARY O'HEARN: I said I should say something and I am serious. This is the third time I have tried to prevent having my salary increased. I want it reduced this time.

Most of you don't know we paid \$100 a man for every man lost in the Brockton fire. We paid \$1300 into that fund, and much credit is due the Mayor and the Fire Chief there. We did our share, and if we didn't have that money we wouldn't be so liberal; and I tell you men if we didn't take \$1300 out of the treasury we would have a fine job getting the money here and there. The only way to have a treasury is

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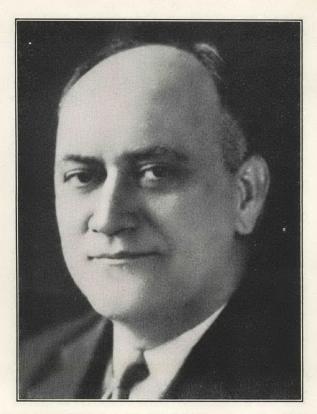
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through membership and enthusiasm. We raise the money through advertising in the Red Book and the exhibits. This year we don't get a dollar. If we had the exhibits this year, the treasury in June would show about one thousand dollars more than it did. We don't want to go back. We want to go ahead. We want to progress.

I am glad Joe Scanlon brought up about the hours of labor. We had that in our town and we had the pleasure of using the seventy hours for one year and six months until the Supreme Court said we had to go back to 2 platoons. I think it was grand to get the resolution through here. I think these are times when men should have less hours of work. I think that is the worst thing we have to overcome, the lazy hours they have at the fire station. Get them out and get them in the open. There isn't any other class of labor working like the firemen. We are not asking it for ourselves. The Chiefs haven't asked for a thing. It backs up the firemen of all New England.

There is a lot of detail and we are doing a lot of good work, a lot of missionary work in New England. There are members here on the floor who have had the benefit of what we have been able to do by having a reasonably good fund when the time arrived and we were able to be there.

MEMBER: Question.

PRESIDENT MAHONEY: I don't want to call the question. If there is anyone wants to say anything, I don't feel as though I ought to cut him off.

CHIEF HERMAN: Was that motion seconded?

PRESIDENT MAHONEY: Yes.

CHIEF McKENZIE: I want to ask if he will not accept it and pay it from his income tax.

PRESIDENT MAHONEY: The motion has been made and seconded that the salary of the Secretary be the same for the ensuing year as in the past.

(Motion carried.)

SECRETARY O'HEARN: I thank you. I am not getting anywhere myself.

PRESIDENT MAHONEY: Gentlemen, that closes the business of the convention and tomorrow morning the International Association convenes, and the first order of business there will be the Memorial Exercises at the Hotel Statler. I want to see every man who possibly can be present there. There is going to be a fine Memorial Exercise and they are going to have a fine convention for the next four days. There is an exhibit hall downstairs. I haven't seen much of it myself so far. I intend to see everything there before I leave and I hope you will do the same. Give the exhibitors that encouragement and let them all see you have been down and looked over what they have to offer.

If there is no further business, a motion to adjourn will be in order.

MEMBER: I move we adjourn. (Motion seconded and carried.)

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#### CIVILIAN DEFENSE

By Mayor Fiorello LaGuardia

Director of National Civilian Defense

An address delivered at the Sixty-ninth Annual Conference of the International Association of Fire Chiefs held at Boston, August 19-20-21-22, 1941, through the courtesy of International Association of Fire Chiefs. Chief Daniel B. Tierney, Secretary, Arlington, Mass.

MAYOR FIORELLO LaGUARDIA: Mr. President, Mayor Tobin, and Fellow Fire Fighters: I think you are very fortunate that I am not speaking in my capacity as the Mayor of the City of New York, because if I were, I'd begin to brag and show off about the efficiency and perfection of my Fire Department and you'd all be bored to death.

I did avail myself of your kind invitation to speak to you as the Director of Civilian Defense, because, as Mayor Tobin said, fire fighting has become such an important factor in the defense of any country today.

I will eliminate all preliminaries, because you are all so well informed. I need not tell you, nor review for you the history of the present conflict and its relation to our own country—what is more, we have nothing to do with that. We are all just soldiers, taking our part in the great Defense Army. Whatever our opinion may be of the foreign policy of our country; or whatever our views or those of our community may be in that respect, has nothing to do with our responsibility. It is our job as officials of the city government, and your job as officials of Fire Departments—and every fire fighter, to be prepared to meet any contingency that might arise out of any situation:—and I am sure that you will agree with me when I say that the very people who sneer and jeer at all this preparation and say that it isn't necessary will be the first to holler if you are not there to put out the fire when it's lit by an incendiary bomb and it will be too late to explain then that training and additional personnel were needed.

I don't know how much time we will have to prepare. I don't think anybody else knows either, at this moment, but I do know that however much time we will have, it will not be sufficient to prepare for that high degree of efficiency that you and I would want.

Why have the Fire Departments become so important now?

In the first place, the entire technique of warfare has changed and there is no such thing any longer as an isolated zone of war and the rights of noncombatants—men, women, and children not in uniform nor in the armed forces—no longer exist. There were certain rights of noncombatants in undefended cities and other isolated zones under the International Law of Nations up to this war. All that has now been changed. War today is a conflict between warring nations as to their respective capacities for production:—the industrial production capacity of each combatant nation; which of the two groups can produce sufficient quantities of the materials,

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HAROLD A. KNAPP, President RALPH H. WESTGATE, Secretary ALVAN F. WORTHINGTON, Assistant Secretary the equipment, machinery and implements of modern warfare to get control of the air, to get control of the sea or for the supremacy of the equipment of war.

Every city has become the legitimate target of attack and every industrial center, a desirable center of destruction by the opposing forces, and that means that the civilian population, heretofore protected, is constantly exposed to attack and the casualties among the civilian population up to the last conflict on the Eastern Front has been as great if not greater than the casualties of the fighting forces; and that being so a new branch of the Defense Forces is now necessary.

The old time Army had the foot soldiers; then the horse. Later, along came the Navy; then a long, long time later came the Air Forces, and now we have this fourth branch:—the Civilian Defense Forces. We can only protect; we can't fight back. We have no means to fight back, and furthermore, that is not our job. We only come into action when the enemy forces break through our outposts; break through our air defense and ground defense. Then we come into action to extend the greatest amount of protection that is humanly possible to our neighbor, our families and our properties.

During the last World War, aviation was practically in its infancy. We went out on observation in the beginning, then later, the planes were armed and then the art of bombing was learned, but it was very primitive and very tame in comparison to what we have today. When we bombed, we went out at about one hundred miles, or one hundred and ten miles an hour. We carried, maybe eight hundred bombs; one half incendiary bombs. Now all that has been developed to a most frightening and horrible degree of efficiency. Bombing planes carry tons of bombs, travel at five hundred miles an hour, at very high altitudes and have bomb sights with uncanny and deadly precision. Instead of dropping a few incendiary bombs which created no extraordinary problems to the cities attacked, now they drop thousands of bombs—small incendiary bombs.

The Board of Fire Officials which we had in London reported as many as five hundred and thirty fires breaking out at the same time in the city of London and because of the spread and the necessity of immediate attack on these fires, we find it necessary, based upon the actual experiences of the warring countries, that we must enlarge our fire fighting personnel and greatly increase our fire fighting equipment.

Incendiary bombs are very attractive to the attacking forces. First, because of the possibility of spread; and second, if properly placed, they form the lead, or the target for following successive waves upon waves of attacking planes to drop their high explosives, shrapnel and land mines.

I need not tell experienced men—men seasoned in the art of handling disasters—such as you are, that what I am saying is not intended to be alarming or frightening in any way. We are accustomed to all sort of emergencies. We must face it very coolly and deliberately.

I do not expect, and this is based upon the opinion of the Military and Naval experts, that if Britain holds out and our outposts serve the purpose for which they are intended and our air force is put to the prepared program, that we would have long sustained and continued air attacks, such as the English cities of Suffolk, where they have had hundreds of planes coming in wave after wave, lasting for hours. There seems to be no disagreement though,that if our country does become involved, that we will have many short, surprise and sudden attacks. There is a real military justification in this strategy—whether we approve of it or not—the demoralizing effect on the civilian population; its detracting from the plans of operation for defense; the demands for more local protective measures, thereby taking from the nor-

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mally anticipated production of the defensive and offensive weapons, and, of course, if we are attacked upon both sides, our troubles increase in proportion.

Now I have stated, it is not our responsibility to plan a remedy. We have city officials for this. Mayor Tobin and I have to do this job. You fellows have to put out fires and we are expected to do our job; so the President of the United States established the Office of Civilian Defense and its purpose is to coordinate all civilian defense efforts throughout the country.

It is an unusual opportunity to be able to talk to so many men having the responsibility of fire protection and fire fighting throughout the country at one time. Our first hope and my first formal request on you is to seek to bring about uniformity in the training of your auxiliary forces, as well as uniformity of standard equipment; and uniformity in the technique of the attack on fires caused by war conditions.

Through your organization and through your personal relations you have the opportunity of exchanging views, as well as giving the Regional Director, the State Councillors and the National Officers of Civilian Defense the benefit of your suggestions from time to time.

The President has divided the country into nine regional sectors conterminous with the Army Corps Headquarters. The regional headquarters of New England is Boston and New York. Then there is Baltimore, Atlanta, San Antonio, San Francisco, Columbus, and Chicago. I have appointed a Director for each of these regions. The reason for that is that we must have interstate communications and in many instances, the conditions overlap and we can coordinate all of these activities through the agencies of the Federal Government. There will be sent to you from time to time, through proper channels, manuals, books of instruction and papers on this subject and it is requested that you conform with these as far as possible, fitting them to your particular local conditions.

Now I suppose in many of your communities you have gone through what some of us have, and that is that committees are formed and they have a meeting and they pass resolutions, and they give a statement to the press and then they have registration. Well, as long as I live, I don't want to see another registration. You accumulate thousands and thousands of cards and after you get them you don't know what to do with them. So we've passed that stage now and what we need and what we must have are enrollments—enlistments in your auxiliary forces. Men who are ready to report for duty and men who are willing to respond to the call of duty any time of the day or night. So you can cut all of the preliminaries and get right to the point of enlistment and the commencement of training.

According to the experience we have gained from the English cities it is estimated that you will need about five times the normal amount of your equipment and I'll say about five times the number of your professional members in your Fire Department for auxiliary forces. I think we can reduce that in this country, because of different equipment, better water supplies and, perhaps, better technique of fire fighting, to about three times your normal force, but I would not advise going lower than about three times. You need at least three times and these men have to be trained to fight fires and to man the equipment which you will have. When I talk about the auxiliary fire force, I am not referring to the "spot fire fighters" or the "fire watchers." In many instances, the Fire Departments should train the "spot" fire fighters and the fire watchers who will be assigned to the Air Raid Warden squads and who will be stationed at strategic places; on house tops and roofs and on intersecting streets, as high up as possible, and on streets, alleys, industrial plants, hospitals and so on. Their job is to watch for these incendiary bombs and attack them on the spot. The technique of that has been developed to a high state of efficiency; so much





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Providence, R. I., 630 Broadway

Bridgeport, Conn. 3240 Fairfield Ave. Waterbury, Conn. 1144 So. Main St. Springfield, Mass. 18 Osborne Terrace so that the English authorities believe that they have the fire hazard well under control. We have a wealth of information, literature and references to take on that spot fire fighting and fire watching and we will see to it that you are well supplied.

The men trained by you or the police belong to the Air Raid Warden Service and any report comes through that service. You move out when any particular locality is beyond control or when a building really takes fire.

As to the equipment, you will need, likewise, about three times to five times your present normal equipment and that depends upon the layout, the spread and the type of buildings in your community.

Now you and I know that there isn't a city in the country that has sufficient supplementary equipment and there are very few cities, if any—not mine, I am sure—that have the cash ready to buy this equipment. If we did have the money it would take about one year to one year and one-half to get it.

Now we are taking an inventory as to what is required to combat fires on the coastal sections—the Atlantic and Pacific coasts. Take New York as far in as Schenectady and Pennsylvania as far in as Pittsburgh to protect that coastal region and then going inland as the second consignment or deliveries of this fire equipment arrive and we expect to have that completed in a very short time. Perhaps many of you already have had your questionnaires.

Then I plan to go before Congress and ask for your appropriation so that the equipment may be allocated where it is needed. In the meantime, you will have to call upon your own resources and ingenuity as to what makeshift you will devise. There should be no delay in the training of your auxiliary fire forces.

Now various types of auxiliary supplementary equipment have been suggested. Again we can draw upon the actual experience of Europe and the types of equipment that they are now so successfully using. Your emergency or supplementary equipment naturally is stripped of all ornament and is boiled down to the bare essentials of the pump. The two hundred fifty gallons, or the five hundred, or the seven hundred fifty gallons capacity pump, according to the needs of your community.

We have had some very improved designs in this type of equipment and one which is now attracting a great deal of attention is attached to the shaft of any ordinary truck, in front of the radiator, but they doubt whether this can hold out because our automobiles are built to carry most of the load in back. However, we are now working on one and it is attached to your shaft so that after reaching your destination the same motor will turn that pump that runs your truck.

Remember, men, this is going to be an emergency order and we must get all your suggestions and approval before the contract is awarded. Now we have a great many steps to take before we come to that point. I must first get the authorization of Congress; after that the Law must be enacted; Congress must appropriate the funds; after we have the money, we have to go out and order the equipment. Once the order is placed, I know we will get a great many ideas. It will be too late then. We are going to use, in this instance, real Teutonic methods of efficiency—at least we can learn something there—and once the order has been placed, we will just have to take what has been ordered. So any ideas on design of this auxiliary equipment should come in fast, through your Mayors or through your Counties, as you may operate; through either of the Fire Divisions in your State, or through your State Councillors, by any channel you choose, but get them in anyhow, and get them in quick. I am not much of a stickler for form, red-tape, or proper procedure. Neither are you. If you have to break through a door, you don't go to the court to get a writ of entrance; you go right to it, and that is what we must do in this instance.

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There is another phase of your part of the work which is somewhat different than the Air Raid Warden's. As I studied this, it is my belief—although local conditions may differ—that you should have one of your regular, professional, permanent officers in command of each auxiliary company, and, if your force will permit, some of your regular force in your auxiliary company. To do this you may have to take some of your auxiliary men into your regular force. Do it. I believe the results will justify it.

Fire fighting is quite different than just warning traffic off the streets; getting people off the streets into proper shelters in time of danger and seeing that all lights are out in a blackout. It requires a great deal of training and a great deal more knowledge than mere fighting. Therefore, we are planning in our city to have an auxiliary commander of a regular, professional fire fighter, and, where possible, to have one or two regulars in each company.

In the Air Raid Wardens, of course we are including and enrolling women. Again the experience overseas has indicated that women make very good wardens. Their ability to comfort and care for those in distress, physical or mental; their patience; their custom of sticking to their work—all tend to make excellent Air Raid Wardens. They have displayed a great courage—because it does require a great deal of courage to remain out in the open to perform public services for the Post when others are going for shelter.

In your divisions; in your departments, you require men who are attracted by the service and who are willing to face the hazards of fire fighting and who are willing to learn. You know, once you get a man up to three fires, you've got him then. They naturally become enthusiastic after that; but—you've got to get them to those three fires. They've got to eat smoke first. No man is a good fireman until he has passed out once anyway—but don't go too far on that. He might pass out once too often.

So that is the one request I want to make. I ask you to adjust yourselves to this uniformity of training.

The other is: Remember, an incendiary bomb cannot recognize a city line. It may drop in your city or it may drop in your neighboring city, so you must prepare. Plan to have different gauge of hoses and how many necessary couplings so that you can interchange from one town to another; one city to another; one state to another. And all of these plans must take into consideration the possibility of moving your forces, of receiving forces from neighboring towns. It very often happens that your city will be very badly hit, while the neighboring cities are not touched; or you may have to go out to help your neighboring cities. Zones ought to be prepared so you can arrange for central control and get the additional help that may be necessary. All these towns or cities, or counties differences must disappear.

You are very much concerned on traffic control and you must see to it that whoever has the responsibility of traffic movement keeps in very close touch with you. Headquarters must be kept informed as to the movements of the Repair Squads; the conditions of the utilities; the water mains, the gas conduits, the power cables so that you know exactly the complete picture as you move out and there must be complete traffic control at all times. Not only within cities, but between cities.

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You have the right of way to the necessary connection with the Repair Squads in order to see that you have water supplies or to cut off a break in the gas mains.

You must also see to it that all of the Air Raid Wardens are properly instructed within their own Warden's Posts or Warden's Zones and require very close cooperation with your forces.

Now my last request to your Organization is that when you adjourn this convention you provide that you may re-convene on the call of your President if it should be necessary that we meet again when we are facing any immediate danger, and also, if your Organization will provide the National Office of Civilian Defense with a list of Fire Chiefs within each Corps Area, so that, if we have to go into a huddle, we can call you together very quickly; cut a great deal of red-tape and save a great deal of time. You men are accustomed to moving rapidly—mobility. Rapid movement and quick action are your assets, so it is not necessary to talk about that when we are talking to seasoned fire fighters, such as you men are.

I want you to know that the response throughout the country has been very encouraging. Many Departments simply say:— "Tell us what to do and we are ready to go." In many instances the Fire Departments have forged ahead and already have started the training of auxiliary forces. All of this is most encouraging.

Every time I am called upon to make a report or to state the progress made, I am in a position to say that with our existing Fire Departments we have a great start in the Defense program; that the intelligence, experience and enthusiasm of our Fire Officials have promised a great deal in getting this necessary auxiliary force in hand and the fire fighters throughout the country in good fighting trim in a very short time. I only hope that we will get the equipment for you and get it to you in time to use for training in the event of an emergency.

I want to express through my office of Civilian Defense my appreciation, admiration and respect for the Fire Forces throughout the country. You know and I know that the American fireman has always come up to expectations; always met any emergency and—God forbid—but if our country should be attacked, the American fireman will do his job and do it well.

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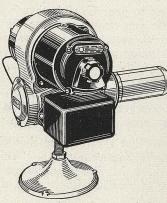
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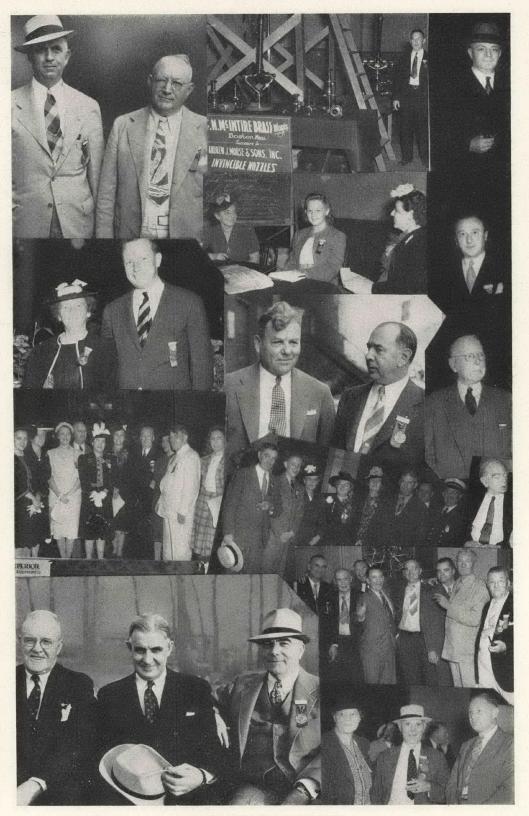
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# INCENDIARY BOMBS AND THEIR CONTROL

By Major H. R. Brayton

Chemical Warfare School, Edgewood Arsenal, Maryland

An address delivered at the Sixty-ninth Annual Conference of the International Association of Fire Chiefs held at Boston, August 19-20-21-22, 1941, through the courtesy of International Association of Fire Chiefs. Chief Daniel B. Tierney, Secretary, Arlington, Mass.

MAJOR H. R. BRAYTON (CHEMICAL WARFARE SCHOOL, EDGE-WOOD ARSENAL, MARYLAND): Mr. President, Members of the International Association of Fire Chiefs; Ladies and Gentlemen: I can't express to you how much pleasure it gave me to receive Army Orders to report for duty in the City of Boston for the purpose of attending this meeting.

Those of you who have been associated with me for a few weeks more or less down here at the Arsenal or been with me for the meeting we have been holding every year in our part of the country for many years know of my great interest in fire department activity and one of the disappointments of my invitation from the Army to come and be with my Uncle Sam for a while was the feeling that: "Now that is going to end my association with Fire Department activity!"

How happy I am that it is just the contrary. To be connected with Edgewood's Civilian Defense program is apparently even a greater opportunity to meet firemen from all over the United States and I am going to get a world of pleasure out of extending to you, representing the United States Army Chemical Warfare School, these greetings and best wishes. (Applause.)

As you may know, we are now conducting our third civilian class at Edgewood. They are running constantly. On Sunday a new class came in. There seems to be no rest for the wicked.

We are just going to keep pouring it on the Office of Civilian Defense. Our first efforts are to be throughout the entire area of our seacoast, progressing inland. I don't see how we can fail. You once start rolling a snow ball and see what happens. You give a group of firemen the loose snow of this assignment and let them begin rolling and see what happens. This movement has developed a pretty good activity.

The point I know every one of you is going to be answering is this—this is especially true of Chiefs: "Just where does this civilian defense picture begin and end?" Chiefs are asking the question; fire departments are asking the question: "Are fire departments going to fight incendiaries?" or "Are fire departments going to be organized to go out in case of gas attacks and do decontamination work?" "Are fire departments going to handle unexploded, delayed action bombs?"—I do not think that is the proper place for the fire department. There should be a department to take over that particular job. I believe your big job is to carry on right

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where you are in the saving of life and property in your community, but in case of the emergency your duties will be enlarged to such an extent that you are going to wonder when you will ever get a chance to rest, because if we ever get into it, besides the old job the one job that is going to be put on every fire department in the United States is the one to carry out training with the civilians in your community.

Now I think the part has various angles. You can give incendiary training by broadcasting thousands and thousands of small bombs. You individuals are too poor to experiment with large bombs; you are too valuable to spend your time fooling with a little two-pound bomb. I can show it to you this afternoon and handling this after it has been exploded is just the simple play of your solid streams; your pressure streams; your vapor streams; your fog nozzles. Any fire department can knock down one of those bombs in a second; what we are concerned with is the thousands of bombs dropping indiscriminately; stopping those fires before they have a chance to develop is going to be a civilian job, so that your big job—the job which is cut for you is to instruct your civilian population to handle those bombs, knowing that your civilian population will not have heavy fog nozzles, you are going to have to instruct them in the use of small pumps and other materials whereby they can prevent the spread of fire. Your big job is training. Your big job is working with the civilians and handling these bombs by such simple methods as they can follow.

I want you to bear in mind in working with incendiaries that this is not the type of work you men are going to be doing in the event of an attack. Your job is in instructing the civilian population and the men under your guidance and direction in the art of handling these bombs. Incendiary fires are too small to justify calling in the fire department, and it is only when an old-fashioned fire results from incendiaries that you will be called in on the job.

You men, who have been fortunate enough to receive specialized training, are too valuable in the civilian defense program as fire defense specialists to spend your time actually fighting fires. Somebody has to tell the other man how to do that. Questions like these will confront you: "Are we going to handle duds?" "Are we going to handle delayed time bombs?" The answer is you men are going to be the guiding lights for those who will handle the small incendiary fires. I am not going to try to tell you how to fight fires. You men are already well trained in fire fighting, and for that reason, I am not going to make any effort to tell you what to use and how to use it. I am, however, going to give you the benefit of the experiences of other men in incendiary attacks.

Now, in talking about incendiaries, I think we should keep in mind, every Chief in this room, take the attitude that the first thing he should consider is the enemy's viewpoint;—God knows we hope we don't have such a thing as an attack, but every Chief should have in mind what the enemy is thinking about. Don't kid yourself that they don't inspect and size up your community. Figure out for yourself what particular targets you have in your community which might be a source of enemy attack.

It is the same old story that no doubt you have all heard about the village idiot. When a horse got lost somewhere in the neighborhood, everybody in town started looking all over the country for the horse, but nobody could find it. Finally several hours later the village idiot walked in leading the horse. Somebody asked him, "How did you find the horse, John?" "Well," he said, "I just sat down on a log and I just thought if I was a horse, where would I go and I went there, and there he was."

So it is with us, we must figure out what the other fellow is going to be thinking about. With that in mind, let's consider some of the suitable targets around you.

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First of all, your target must have some tactical value; or it must be of morale value. I'll illustrate that this way: Suppose it were possible for a plane to fly over New York, Boston, Washington or some of our seaboard cities seeking a target; suppose for morale purposes that what I mean by morale or tactical value, we take military stores—places where stores for military use were kept. Do you see the enemy's viewpoint in seeking those places out?

A target must have value.

Two: a target should be within striking distance of the weapon used to disperse the incendiaries. Some of you men back in '17 and '18, when you used to use these old hand grenades; you remember how far you could get with one? You couldn't get very far and somebody thought of sticking the butt of a rifle in the ground and using it as a dispenser. This sent it a little bit farther and from this developed the rifle grenades with one of those white phosphorus bombs. There are definite ranges for that too. Later we had our artillery weapons firing incendiaries such as white phosphorus again. All that has changed since the days of the World War and today the most effective means of dispensing incendiaries is by plane, which necessitates computing the range of a plane. At the present time, it looks as if the sky is the limit. Planes load up with one or one thousand larger bombs and fly and unload their crates and fly back home—perhaps.

Three: Another point which we must consider is that the targets themselves must be combustible. In other words, it would be very foolish for an enemy to drop bombs on an open field. They would not start any fires. It would not be of any value to drop a number of these small magnesium bombs on concrete roofs, either. There would be no combustion.

Considerations of that sort are out of the question. Confine your speculations to what you have in your city that would be a suitable target for the enemy and which might burn.

Four: The incendiary itself must be easily ignited.

There are a number of incendiaries which will ignite very readily. Back in the World War days we used white phosphorus which ignites spontaneously, so we don't have to worry about a firing mixture for that. Thermit can be set off very readily with a firing charge. Our magnesium unit can be ignited fairly easy. The oil incendiary is the most difficult to ignite. You know you have to have a special firing mixture in case of the oil bomb—and that probably is one which we should consider if the enemy runs out of magnesium. The oil bomb will do a splendid job of starting a fire and spreading it. When you once get combustion of oil you will have a more elaborate fire than you would have from the magnesium, but the big problem is to get it ignited. The problem is to have enough of a highly volatile liquid in the oil, so that it will have a low flash point and will catch fire and burn readily. Some of these bombs were examined abroad and found to contain nothing but crank case oil. The reason they did not ignite was because there was not enough of the low flash point liquid in them to ignite the body of heavier oil; and there's where your magnesium has been much more effective. So many dud oil bombs did not ignite because of the lack of proper firing mixture.

Five: The bomb should burn, be hot enough to set fire.

Six: The incendiary should burn a long enough period so that we can be certain the material with which it comes in contact is set on fire.

Seven: The incendiary, to be effective, should be difficult to extinguish.

Eight: The incendiary should be light enough so that it can be broadcast whole-

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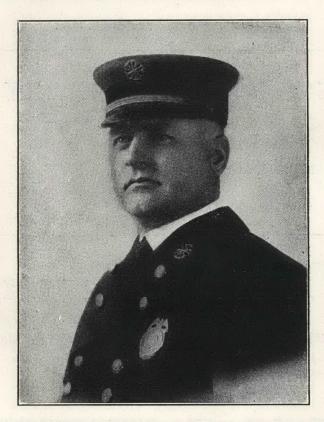
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sale, starting numerous fires. It is more effective to use a large number of small bombs rather than one large one.

Nine: The incendiary should be cheap enough to permit its use in large quantities, and it should be easily procured.

What incendiary comes closest to meeting these requirements?

With these things in mind, let us proceed with the types of incendiaries, their requirements, and what incendiaries we are likely to experience.

Concerning point number five: An incendiary should burn with high intensity. On the last page of your incendiary pamphlet you will find tables showing total amount of heat given out; also figures on the intensity of the flame that you get during the burning. Don't confuse these two terms. Oil, for example, produces practically twice as much total heat as magnesium, surprising as it may seem; at the same time, your magnesium has a higher burning temperature. We are principally interested in getting a high intensity to start and carry on the fire so it will give off a considerable quantity of heat for a long time.

In considering the value of incendiaries, your substances must be light enough to be carried by planes. Your magnesium bomb is four and one-half times lighter than your thermit bomb. That means, then, that a plane which could carry a thousand magnesium bombs could carry less than one-fourth as many thermit bombs. If lightness is a factor to be considered then your oil bomb is better still because it is two and one-half times lighter than your magnesium, but there is the problem of igniting it. Then there is that problem—that question of shape and container.

In considering those factors—sizing them all up we have found that your magnesium bomb is the most effective agent which we have. It is the small bomb—it is the little fellows which you can handle so easily with the equipment which you have, but which get away from you if you don't get action.

Now don't let me confuse you. Take a two hundred and fifty pound oil bomb, consider the difference in weight with your two or two and one half pound. If it breaks through your roof it won't lodge up there in your attic. Dropping from five thousand feet, it is going to have sufficient penetrating power to come down to the lower part of the house and you are going to have a real fire on your hands in short order.

Now I am not going to take much time here today describing these. They are in F. P. A. and all kinds of publications, so I'll just show you what we are using as training units and show you what we have.

(Displaying a bomb.) In the German type of bomb, which you have seen and read about, you will notice that the fuse is armed. Arrangement is made whereby about ten to twenty of these are carried in a case. I don't know exactly what system is used to pull the pin; however, it is the same idea as our hand grenade in which we pulled the pin and then threw it. Probably there is a device which pulls ten or twenty of the pins simultaneously, and then the bombs are all dumped. Notice the tail which is used to guide it slightly and notice that the ignition is near the tail.

As a result of this shape, however, you are going to have very poor ballistics. It is not going to travel in any definite, regular course. You can't aim it at a target. All you can do is scatter them out and hope that a good percentage will hit inflammable materials and get results.

The important thing about this bomb is that the entire bomb burns. There is no waste except for the tail which being of steel and iron will not burn. This is

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an efficient type of incendiary, because there is very little waste. I saw one of these bombs recently that had been dropped during the latter part of April on England. It happened to alight on a coal barge on the river and had apparently buried itself in the coal. It was quite an interesting sight. The outside surface of the bomb was completely covered with coke. It had coked the coal and had burned down only about half way. Personally, I don't think the coke put out the fire. But I do think that probably there was an imperfect filling in the bomb. Occasionally we do find one that does not fire.

Incidentally, the first one of those that we looked at had a 1937 date on it. The one I saw in Baltimore recently had a 1940 or 1941 date on it. Apparently the Germans are satisfied with the streamlining and the effects they are getting from that particular model of bomb.

Now here is the length of the unit we are using for training. (Displays another bomb—smaller.) Notice it is the same diameter. Notice the comparison in length; six inches against nine inches. So, in timing the burning of these units, you should figure you will get two-thirds of the time out of this as you do out of the regular bomb. The six inch length is for conservative purposes.

The other type which we have here (displays another kind of bomb) is the English type. Notice this piece of iron on the nose. The purpose of this iron is to give it weight. There are no fins on it. There is a safety pin which is pulled in the same manner as the hand grenade. The case is made of magnesium, similar to the German bomb.

The English type bomb is hexagonal and is slightly heavier than the German bomb. In firing I believe it is a common practice for them to nest several of them together. They can put seven or eight in a bundle, fit them together in a case, and drop them in bunches. The scattering effect or the spread of these bombs in falling is due entirely to the wind and the way they happen to fall out of the case. There is no means of guiding or directing the bomb.

Regarding the means of firing this bomb, we'll take this as an illustration. (Display bomb.) Here's one of our cases that we will use out in the field. This is magnesium metal, the same thing that you have been reading about as "electron" metal. The diameter is about two inches, the open core is about one inch, and the thickness of the wall is about one-half inch. This is all magnesium. We put a plug in the lower end—and remember this: There had been some changes made in about one bomb out of every fifty the Germans were loading. Instead of putting in a solid plug they were putting in explosives, so it burned down, resulting in a fairly strong explosion.

For filling this bomb, the Germans have been using various mixtures. The one which is probably the oldest type is thermit, with a starting or firing mixture added to it. Thermit is iron oxide and aluminum. Here is a sample of thermit in this little bottle. You can see that it looks very much like pieces of iron.

It is extremely difficult to set fire to thermit. It takes a temperature of approximately two thousand degrees to set it off. The firing mixture we use which is F. F. (First Fire)—gives a sufficient flash to set fire to this material here (indicating on blackboard)—I don't want to get the American load and the German load mixed up. The German load with thermit makes use of a firing mixture the same as we do.

A training load which we are using is barium nitrate. Some have used barium peroxide and have obtained the same results. Barium nitrate furnishes the oxygen just like the iron oxide furnishes the oxygen in thermit. Flake aluminum and grain

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aluminum—notice it is not aluminum powder. If we used aluminum powder, the action would be so violent that it would blow the shell to pieces. So, instead of using the powdered aluminum which would cause an explosion, we use the flake or grain. Just a little bit of sulphur is in there, probably to carry on the burning after it once gets started. Sulphur burns fairly readily. I don't know the function of castor oil unless it is a binder. This mixture is called M-8.

In loading the bomb, we load it with pressed pellets—just press them in the correct size and diameter and press them down with about five hundred to one thousand pounds pressure with this M-8. Then up near the top place a small charge of "First Fire." This "First Fire" has black powder, and that black powder flash is sufficient to set fire to the M-8.

In order to clarify any doubts you may have about the term F-8, we can say this: F-8 is the symbol which we use to designate our standard filling in its entirety. F-8 is the charge of M-8, which is from the bottom up to the firing pin, or the percussion cap, plus the little bit of F. F. ("First Fire") or starting mixture as you men call it. The entire thing is  $F_2$ 8.

What is the purpose of F-8? It is not to cause fires because there is not enough of it to do any good. If there were, we would use something like thermit, a big ten or twenty-pound can. It is not used to injure personnel, although it does to an extent (it will shoot out three or four feet). The real purpose of F-8 is to raise the temperature of magnesium to a point where it will melt and being to burn. The burning temperature of magnesium shell is about twenty-three hundred degrees Fahrenheit. We have to get the magnesium burning thoroughly. So that is the function of this filling.

In considering a magnesium fire—and I am going to talk about it first—let's look into the situation as though you were inspecting a new plant that was located in your city, and we had certain hazards we had to check up on.

There are certain hazards in connection with magnesium just like a new plant. After you have found out what the hazards are, let us formulate our own plan for handling the particular situation. We are going to pass out the information accordingly. I think we are safe in assuming that the method Great Britain is using to handle incendiary fires is not necessarily the only way. That is the way they have found to be most successful in their situation. There may be conditions here or we may have variations in these bombs which will necessitate some changes. So let us utilize our common sense, take advantage of English experience, but attempt to improve upon their methods.

Let us consider the various means of extinguishment that we might try on a magnesium fire. First, consider a solid stream of water. Let's see who happens when we shoot some water on some hot magnesium.

I think most of you know that water to  $H_2O$ , so I think most of you also know what happens. In burning magnesium, the magnesium grabs the oxygen from the air and forms magnesium oxide. In other words, a magnesium bomb must have oxygen. It is possible to cut off the supply of oxygen and thereby extingush the fire.

When magnesium comes in contact with water, remember this action takes place:  $(Mg + H_2O = MgO - H_2)$ —the magnesium is going to take oxygen out of the water in addition to getting it out of the air and is going to form the same magnesium oxide. The hydrogen which is produced is going to be loose—and you know how hydrogen, when mixed with air, explodes. Let's assume that we are shooting a solid stream of water on a pile of magnesium; we are putting it on fast and that

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water is going to penetrate down through to the bottom of the burning magnesium. You can see what is going to happen, the water is going to be converted into steam—steam suddenly raised to a temperature of six hundred or seven hundred degrees. This will cause that pile of magnesium to explode, throwing burning magnesium in all directions.

On the other hand, if we are using the water in the form of a fine spray, mist or fog—the finer the spray, the better off you are. That only hits the outside—only those places on the surface. There is no penetration of water into the bomb, therefore there is no confined steam. The action is taking place from the outside only, and we are causing action to continue. Incidentally, notice what is happening there. Magnesium is picking oxygen out of the air; that's the one source of burning; magnesium is picking oxygen out of water; that's another source of burning. The ordinary bomb would burn from ten to twenty minutes, depending on the surface on which it is burning. If it is burning on a sheet of iron, it will burn as long as twenty minutes. If it is burning on wooden or combustible material out of which it can extract moisture, vapors and fumes, it may burn out in ten minutes. But whatever time it takes, let's remember that when you put water on the burning metal it cuts down the burning time and by doubling the amount of oxygen which the magnesium has available will, therefore, speed up the action.

One of the best methods of handling the incendiary is the fine spray. Be sure you ventilate, so that the gas is kept moving—high explosives closed in form a great deal of gas; apply your fog or fine spray, but don't get on a heavy enough stream to cause confined steam to form in the bomb. To emphasize this from the housewives' standpoint: Don't go to the kitchen sink and throw water on the bomb, you are going to have hospitalization if she does. Tell her that she has got to use a fine stream of water. For the source of that fine stream of water, she can use an attachable tip or nozzle which is easily attached to any garden hose and regulates it slow enough so that it is fairly safe to work with.

To work with the soda-acid extinguishers, you must regulate that tip so that you stand back far enough from the bomb. If we apply acid-soda to a magnesium fire, we have the same effect as a solid stream of water, because the only function of the acid and soda in that type of extinguisher is to force the water out. You have two and one-half gallons of water spraying on the fire, and you are going to have a violent reaction.

We are going to have to make use of the idea of these extinguishing agents. The British, of course, are using their stirrup pumps and we are going to show you how to use them this afternoon.

That question is coming from the housewife: "Shall we do like the British?"—and we have got to have the answer. If we don't, she is going to visit your fire department and question you. Show her the proper kind of a tip to use on those hose and I don't see any reason why you can't go ahead and use them with common sense and good judgment.

Now I think you are going to be faced with another situation when they ask: "What about covering this thing up with sand or earth or something like that?"

While sand and earth are pretty available around here, let's remember that sand and dirt will not put out the fire—water speeds up your burning. Sand is about the cheapest and most valuable material we have, but with your sand or your dirt you merely cut off the oxygen. It is merely a smothering agent. It may have been subjected to rain and consequently contain moisture. If moisture is present you are liable to get some action. When you have cut off your oxygen, the bomb may



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get more oxygen from the sand and instead of burning for ten or twenty minutes it might burn for thirty minutes and the big problem is what is happening down there under the sand and under the bomb? The bomb is still burning at thirty-three hundred degrees and maybe it will burn through the floor and come down into the room below, so as early as possible get a shovel under that bomb—put some sand in a bucket and put the bomb in on it and cover it with more sand—or scoop it up, but get it out of the house. There is one of the advantages of using a spray on the magnesium. That water is penetrating your wood under the bomb and the wood is soaked—it is wet and as a result of that you are not going to have much trouble covering the bomb and the floor both at the same time.

As far as the use of sand is concerned you will have this effect also. Sand is silica, and silica at the high temperature of burning magnesium will react chemically. Understand, I don't mean to advise against the use of sand. If a sufficient amount is put on the bomb you will be able to smother it. Of course, sand is porous and your covering must be fairly heavy.

What about foam extinguishers? Foam is a material which is aluminum sulphate, or plain alum and soda with some sort of a binder. The binder is usually tobacco juice or licorice extract. The alum and soda, when dissolved in water, will react on each other and produce carbon dioxide. The bubbles of carbon dioxide are coated with the binder which forms an impervious layer on the surface. Incidentally, when this binder which is an organic material is heated, it will char a little bit so you will have an added effect there.

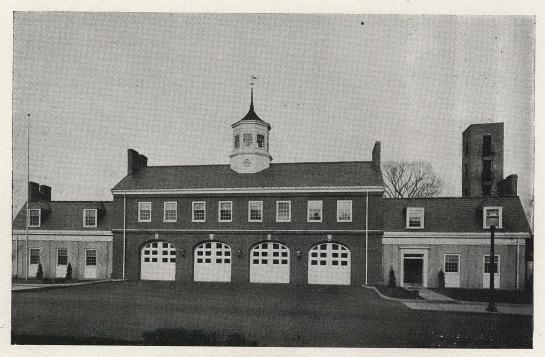
But what is going to be the effect of foam? You have to discharge it with water. Water is necessary to discharge foam. What does water do on magnesium? That should answer the question.

That brings us to the next type of extinguisher, the carbon dioxide extinguisher. Assume we are working with carbon dioxide. Carbon dioxide looks something like this (CO<sub>2</sub>). Notice there is oxygen present. What have we learned about magnesium? It has a tendency to grab oxygen wherever it can get it. Let's see what happens. The magnesium is hot and is going to take part of the oxygen (CO + MgO) or carbon monoxide. Would it be possible to use a carbon dioxide extinguisher in a closed, tight place if you had a burning magnesium fire? No, of course not. And if that were iron or a hot metal of any sort, it might have a tendency to rob the carbon dioxide of some of its oxygen and form CO.

Now supposing that conditions are just right, we will use twice as much magnesium. The result will be C plus magnesium oxide. In other words, there is a possibility of two different products whenever a carbon dioxide extinguisher is discharged on burning magnesium. You might have carbon or you might have carbon monoxide. This will be shown by some black smoke and particles floating out into the air.

Let us consider the effect of a carbon tetrachloride extinguisher. Carbon tetrachloride vaporizes very readily. You do not get much cooling effect from carbon tetrachloride. Water would produce a greater cooling effect—more damage, of course. But we are not depending on the cooling effect of carbon tetrachloride. What we are depending on is the blanketing effect. Remember, there is twenty-one per cent of oxygen in the air; cut that down below sixteen per cent and your fire will go out. If we vaporize carbon tetrachloride, that puts a higher percentage of carbon tetrachloride vapor in the air, and as a result we have a lowering of the oxygen concentration and subsequently the fire should go out. There is one thing I want you to watch in the use of this extinguisher. The same thing is true of carbon dioxide or any gas which does not support life. Remember that carbon tetrachloride vapor

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is a half-sister of chloroform, and you know what chloroform vapor does in a tight place—it puts you to sleep. Carbon tetrachloride will probably do the same thing.

So much for that. Now, what would be the effect if we were to cover burning magnesium with asbestos flakes? Asbestos is a mineral which in its natural state has water tied up in it chemically. When the temperature of asbestos is raised high enough, water is exuded causing a violent action. Therefore, I wouldn't depend on asbestos entirely as a means of smothering the fire.

What about talc? Talc does not have the moisture in it that asbestos has, and it does a fairly good job. I think the British have been using it to a great extent. You notice brown spots begin to form on talc when you put it on hot metal. The problem here is the availability of talc.

What about iron borings? If iron borings are clean and free from combustible material such as oil and so forth, the iron borings placed over the magnesium fire will smother it. In this process, let's remember that when iron is heated it uses oxygen and forms iron oxide. Iron oxide plus aluminum is thermit. Iron oxide plus magnesium would give the same effect. So if we have any quantity of iron oxide form on the surface of those iron borings, we might expect a thermit effect from the magnesium there. This is not true thermit, but it would produce a similar action.

There are also on the market today some commercial dry powder extinguishers. We are going to try some of them out this afternoon. You have probably been hearing and reading about the Pyrene G-1 powder. The composition of that is secret. I don't know what is in it, but it is very satisfactory. Whereas any of these others, you put on the bomb and you open it up later to find the bomb still burning underneath.

Well, now, just one thought there in connection with that powder: Are you going to be able to sell householders the idea of keeping a store of that powder and keep it up in the attic space? It's a dandy thing. Anybody can handle a bomb with it.

Now a question arises. Shall we fight the burning bomb or shall we fight the fire? That is a problem of fire fighting, of course, but I am passing it on with respect to the householder. This is a case where you must train your civilian population to use judgment. I think the rule should always be this: Never let your fire get out of control. Be sure and control your fire. Shall we apply spray or shall we apply dried powder to the fire? Once again that is a question of judgment. If the bomb were to fall near curtains or clothes, or other inflammable material and we apply a spray on it, a flare of flame will shoot up. You are liable to spread the fire. Perhaps it would be wiser under such conditions to use an application of dry powder. If you were out in the middle of the floor where all you wanted to do was prevent the fire from going through the floor you would use powder or spray, whichever happened to be more available. But remember this: The big problem arises after your bomb has burned out. There has been a temperature of thirty-three hundred degrees; the magnesium has melted and is going to run down below, so be sure you make a thorough clean-up job afterwards.

The next question arising is this: What are we going to use to apply spray? Are we going to demand that the industry furnish us with stirrup pumps? This problem will bear thought. There are several firms in this country manufacturing stirrup pumps. Shall we demand of industry that they produce some special equipment, or can we use the equipment we have available in ordinary type extinguishers or containers?

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fashioned stunt of placing the thumb over the end of the garden hoseline? See whether you can get a fine enough spray from the end of a garden hose to safely handle that situation. The same thing, of course, would apply with some pump cans. Perhaps your acid-soda extinguisher may be throttled down. Use the pump can and the spray tip nozzle.

Another question. What about safety in personnel in handling this type of bomb? We have mentioned that there is a possibility of maybe one out of fifty of the magnesium bombs being loaded with explosives. That is one case in which we should use extreme caution. Those bombs usually explode in about two minutes' time. That may not be a hard and fast rule. It is just a question as to whether lightning is going to strike or not. We have a problem there that we must solve ourselves. We may hit forty-nine of them and not have any trouble. It may be that there will not be a single one of that fifty that has an explosive in it. Is it safe to ignore that bomb and take a chance on not getting out? Should we use some sort of protective device like an asbestos blanket or shield of some sort to approach that fire?

As to the number of fires you get from any one attack, I refer you to information which you have found published in Fire Engineering. You found it published in your N. F. P. A. Quarterly and also in Fire Defense, so it is nothing new.

The point that we should remember is that magnesium bombs are used for the purpose of starting a large number of fires. If eighty to eighty-five are started for every one thousand bombs dropped, the problem confronting you is obvious. In other words, it is up to the householder and the civilian to be trained in knowing how to handle those fires.

Another point: What targets are most suitable for the small magnesium bomb? We can say safely that any target which has a more or less inflammable or flimsy roof is a suitable type of target for the small bomb, because as you will remember they do not have much penetrating power. Residential areas would probably suffer from this type of bomb. It is conceivable that there are some industrial areas which do not have concrete roofs. Magnesium bombs might do some damage in areas like that. Remember that the bomb will ignite in the attic and do its job in that upper space.

There are two or three other types of incendiaries. One type of bomb which is doing a good job whenever it functions is the oil bomb. The oil-filled bomb, filled for example with a cubic foot of oil, is about two and one-half times lighter than a cubic foot of magnesium. It is very light. That necessitates a large quantity of oil to produce a sufficient intensity or total heat to start a good fire, In other words, if we were to make an oil bomb the size of a two-pound bomb, and we were to use a metal case and put the oil in it to fill that bomb, we probably would not have much over a pint of oil. A pint of oil will not start a very serious fire and any householder could handle a small pint of oil dropping in if she worked fast. She could throw a blanket over it and smother it, or spray it with water. The real effect of oil bombs is obtained by use of large ones, and when you get to the point of using large incendiaries, you limit the number that can be carried. You can see what you are up against in this incendiary battle. It is not the individual bomb that gives trouble, it is the broadcast distribution of a great number. A large number of these bombs have been duds. I have seen some figures on this and about one out of every twelve does start a fire. It is a problem to get them started, but when they do work they start a good fire.

I want to say just a word of caution about an oil fire. I think you have all been trained to know that if you shoot a solid stream of water, the oil, being lighter than

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water, is going to float, causing the oil to spread the fire. One of the greatest developments that the fire service has seen in the last few years has been the vapor nozzle or fog nozzle. I have seen these nozzles operated on large pits of burning oil, and it has been most effective.

The vapor stream must be handled carefully. As this oil burns, flame rises. You have an area right in here of your oil vapor, your gasoline vapor. This is not burning right directly above the oil. If you can operate with that vapor or fognozzled stream, and just wipe the surface off, keep your blanket and wipe the fog across from one side to the other to avoid a flare-back, then you have done two things: First, you have cooled down the vapor which is causing the fire; second, you have concentrated a large amount of this fog or vapor into steam and you have diluted the oxygen above the burning oil, resulting in both a blanketing effect and a cooling effect. Incidentally, whenever water changes into steam there is a cooling effect. So you have two factors which are helping to put out the oil fire.

Summarizing some of the disadvantages of oil bombs, one is that unless we use a light, volatile oil we shall have difficulty in igniting it. So we have to add gasoline or naphtha or some inflammable material to our heavy oil. In liquid form, if that oil drops any distance and our bomb bursts, there will be a scattering effect, and the chances are that scattering or spreading may take place before we have a chance to ignite the material.

Another disadvantage of oil is that it is fairly easily extinguished.

Now for some of the advantages of oil: One, and probably the most important one, is the fact that it is cheap and abundant. Second, it has a higher heat of combustion than magnesium once it gets started. Third, oil has a tendency to saturate a target and the burning can penetrate the material.

There is a variation in these oil bombs that I want to mention. It is possible to add some material to gasoline and solidify it. For every one thousand grams of gasoline we would use approximately fifty grams of stearic acid and about seven and one-fourth grams of lye, which is dissolved in about one hundred and twenty-five cubic centimeters of alcohol. We dissolve stearic acid, lye, and alcohol together and pour it into the oil and when it mixes with the oil the oil will jell and produce a solid material. It still has gasoline in it and it will still burn. The advantage of solid oil is this: When we get a burst we have chunks of oil rather than drops of oil spreading out and scattering, and the bigger the chunk the better the opportunity of getting intensity of heat at a particular point and setting fire to the material.

One other variation to our use of oil is to add to this solid oil some shavings or pieces of metallic sodium. It takes fire and ignites immediately upon contact with water, generating hydrogen sufficient to form an explosive mixture. Incidentally, if you mix this material use caution in adding sodium because you may not have an oil which is free from water; you may not have an alcohol which is free from water, and you may get an evolution of hydrogen right in your hands. So be cautious in trying to make up the sodium type of oil bomb. When you put water on that type of bomb you have re-ignition of the oil.

That brings us to one other type of incendiary—white phosphorus. That is an incendiary that has not been used much up to the present and I doubt if it will be used. However, let's take this situation: One of the officers in the Army was ordered to the Philippine Islands for duty. He asked me: "What sort of incendiary bomb would be used where they have a lot of thatched roofs?" That is just where white phosphorus bombs would be used to good advantage because when phosphorus is used in a bomb, on impact hundreds of little tiny pieces of phosphorus are thrown in every

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direction and you can see what that would do among a lot of thatched roofs.

The melting point of white phosphorus is low—about one hundred and eleven degrees Fahrenheit—and it ignites at about one hundred and thirteen degrees or two degrees higher than its melting point. Furthermore, it ignites spontaneously.

White phosphorus is an incendiary agent third in importance. It is primarily a smoke producer. If we were to light a four or five pound piece of phosphorus and let it burn, it would spatter and sputter and throw off an intense white smoke that is one of its primary uses to produce a smoke screen and there is one thing I would like to suggest that when you see that intense white smoke by which you can identify white phosphorus, don't hit that melted phosphorus with a solid stream of water. It will just scatter it just about like oil and may give a bad burn. A phosphorus burn is a dangerous burn and I suggest if you get one to use a solution of copper sulphurate, about a three to four per cent solution—just take a common blue stone and drop it into some water and when it is good and blue, that is strong enough—keep the burned surface sponged off with this solution. Secondly, white phosphorus is a casualty agent used to produce burns. Thirdly, it is used as an incendiary. It has a very low burning temperature. It would be used most probably on thatched roofs, dry leaves, and similar material which catch fire and burn easily. Phosphorus is the one incendiary which can be put out very readily with water. Spray water on it and the phosphorus goes out. However, as soon as the water drains away the phosphorus may take fire and re-ignite, thus causing another problem.

I am not going to take any more of your time now. If any of you have any questions, I will be glad to answer them.

PRESIDENT PALMER: It is now three o'clock. Do any of you have any questions to put to Major Brayton?

MEMBER: What about a two-pound thermit bomb involving a gasoline tank?

MAJOR BRAYTON: That thermit in there is going to keep on burning until after your thermit burns out. A twenty-five pound thermit bomb under gasoline or oil will burn until it is burned out.

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By Stephen C. Garrity
State Fire Marshal, Commonwealth of Massachusetts
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#### INTRODUCTORY

The defense of America depends upon the unity of its people.

Certain functions and duties, delegated by law to members of the various state and municipal fire-fighting agencies and the law enforcement bodies of the local, State and Federal governments will be carried out with creditable efficiency and dispatch; but the first line of defense, the protection of homes and industries, will be in the hands of the general public.

The job will be too big for any one group or organization to undertake alone. The wholehearted support and cooperation of every able-bodied citizen will be required to safeguard America in the event this able-bodied citizen will be required to safeguard America in the event this nation becomes involved in war.

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Alertness is the order of the day.

If an organized government, employing well-trained professional saboteurs, strikes at the defense industries of the United States, public awareness of the dangers involved will guard our industries more than anything else.

A skilled agent of an enemy force would not use home-made equipment or hap-hazard devices. His plans would be carefully laid and all actions predicated upon a calculated, scientific system of operation.

It is of utmost importance that war industries employ regular watchmen to guard their plants. Upon these employees will depend the safety of the industry and of all its workers. Alert, sober and conscientious men who are physically fit should be employed for that tedious task. Even wide-awake watchmen, with the full realization of the responsibilities with which they are entrusted, must be under constant strict supervision.

Regular systems of communication should be established between the plant guard and an established central headquarters, so that an alarm may be given in the event

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a guard fails to report at a specified time. Emergency alarms should also be devised to permit a watchman to signal the entire plant personnel in case of danger.

Plant fire departments should be organized in all large manufacturing companies, and in many smaller industries, to cope with ordinary fires to be trained to handle more serious emergencies in case of war. Regular instructions should be given these private fire departments by a competent member of the local fire department, and every assistance rendered to promote the efficiency of company organizations.

The primary function of a plant fire department is to extinguish a fire in its incipient state, and, if the blaze is of such proportion that it cannot be dealt with, they should be taught to control the fire, until the local municipal fire fighting force arrives at the scene. Their efforts may well prevent a fire of minor consequences from becoming a holocaust.

Instruct plant firemen to notify local firemen immediately in every case of fire, upon discovery.

The effects of incendiary bombs will not be a matter of immediate discussion, since the use of that type of weapon depends a great deal upon the future events and circumstances. Fire bombs will be discussed in a subsequent section of this brochure.

The first consideration of every fire department in the nation should be the training of additional men, and the second should be devising ways and means of getting adequate equipment to handle war-scale operations.

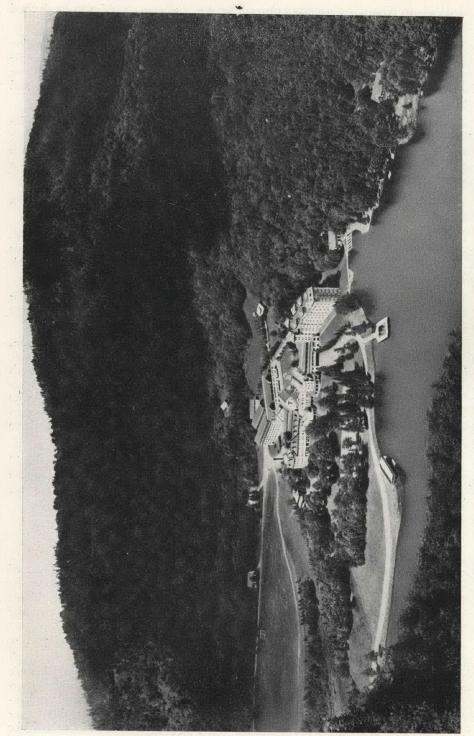
The present strength of the New York City Fire Department, which is comparable in size and population to London, is 10,390 firemen. The present war-time strength of the London Fire Brigade is 25,000 men, and several thousand other volunteers are being trained at this moment to replace members of the regular personnel who are lost as the result of casualties. The most recent report states that 3,000 London firemen have been killed or disabled during the present strife. Losses alone have exceeded the full peace-time strength of the Fire Brigade.

Consideration of ways and means for purchasing additional equipment should be a matter of discussion in every municipality. It is a delicate problem, because no civic government is anxious to purchase new equipment if there will never be any use for it. Events of today indicate, however, that such equipment may be required.

#### SABOTAGE AGENTS

There are two types of saboteurs. One is the skilled agent in the hire of an enemy government, and the other is an irrational alien or citizen who, because of views contrary to those of the government against which he operates, feels that he must take punitive measures against members of the government, prominent citizens who have opposite viewpoints, or racial groups whom he blames for all the dire events of the day.

The irrational saboteur ordinarily uses home-made equipment. Where he will place his infernal machine is beyond prediction. The lethal power of the bomb which he manufactures is also unpredictable. The detection of such persons depends largely upon public cooperation. Local police and fire departments should encourage citizens of their communities to report their suspicions or knowledge concerning any person who might be considered dangerous because of the psychosis or sympathetic feeling toward an enemy nation. All investigations of complaints should be of discreet and confidential nature.



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The professional agents for sabotage will direct their efforts at war industries, that is, companies engaged in the manufacture of munitions and other essential defense materials for the United States, Great Britain or her allies. In the event of war, their activities will be extended to the various public utilities; communications systems; transportation agencies; gas and electric light companies, especially central power plants; and other vital industries, including particularly the transportation centers used for carrying materials of war.

#### **PREVENTION**

As a matter of precaution, periodic check-ups of all fire fighting equipment should be made by both local fire departments and the private company-organized fire fighters. In this way, any damage to hose, extinguishers or sprinkler systems will be readily discovered.

Occasional tests should be made of fluids in extinguishers and sprinklers to prevent any substitution of the extinguishing fluid used in the appliances. Dangerous inflammable fluids could, and have been, substituted to spread an incendiary fire.

Routine inspections of hydrants, hose and extinguishers should be made daily. Paint, flammable materials, gas mains, power plants and electrical switches should be under constant scrutiny to prevent sabotage.

All lines of communication should be checked hourly to determine if they are in good mechanical order. Consideration should be given to any failure of regular power supply which would disrupt communication lines. Isolated plants should install an auxiliary signal system for the notification of local police and fire departments.

#### SUGGESTIONS FOR HANDLING BOMBS AND SUSPICIOUS PACKAGES

- 1. Do not attempt to dismantle a bomb or suspicious package.
- 2. If an explosion is not imminent, carry package to an open field.
- 3. Do not pull out a fuse.
- 4. Do not cut or untie string, twine or wires around suspicious packages.
- 5. Cut wires leading to bomb or fuse one at a time only.
- 6. Do not attempt to unfasten caps.
- 7. In an emergency, cut fuse only at the neck of the bomb.
- 8. Clear area in vicinity of explosive for a distance of at least 300 feet.
- 9. Halt all vehicular traffic in affected area. Establish detours if necessary.
- 10. Call the fire department immediately.
- 11. Notify a bomb expert at once.
- 12. Use every possible precaution.

#### DISCUSSION OF BOMBS

There are two types of bombs—manual and mechanical. A mechanical bomb is ignited by a fuse, which is set off by a blasting machine, dry-cell batteries or other electrical devices used to transmit a spark to the fuse. These bombs are designed to afford the person who planted the explosive sufficient time to escape from the danger area. Some are constructed with great skill, while others are contraptions fashioned by demented persons or unskilled workmen. Both types of bombs are extremely dangerous.

A manual bomb is constructed so that the person who receives or finds the con-

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trivance will attempt to determine what is inside the package. When the receiver cuts the twine, string or wire around the package or otherwise attempts to open it, the explosive mechanism is put into motion and detonation follows.

Another variance of the manual bomb is a cigar box, or a similar contraption, that is fastened with nails or a hasp, and, when the fastenings are pried loose, the explosive within the container is discharged. Hinges on a box may also be attached to a detonating device within a box, which causes an explosion when the box is opened.

The most common type of explosive available for purchase in the open market is that used in pyrotechnics or fireworks. That type of explosive is, ordinarily, not capable of causing extensive destruction; nevertheless, it can cause considerable local damage to the walls, ceiling, floor, furnishings and interior of a structure. It will also kill or maim a person standing in the immediate vicinity of the explosion.

However, a criminal or saboteur may purchase other chemicals that have a powerfully destructive force. Unskilled persons have been known to construct homemade contrivances which have been exploded with resultant death and havoc. Some such infernal machines have been built with amazing ingenuity.

Materials used in the construction of home-made bombs include dynamite; black powder; chlorate and sulphur mixture; nitroglycerine; chlorate and aluminum mixture and many others.

These chemical ingredients may be packed in tin cans, bottles, paper wrapping, or a cardboard box. The glass-bottle type is used to inflict serious bodily harm, while the paper-covered explosive is ordinarily designed for purposes of intimidation. In most cases the maker uses a blasting cap at the end of the fuse.

A detonating cap in itself is capable of causing crippling injury or death. A blasting cap will explode with the slightest friction; therefore, do not pull the fuse away from the cap or vice versa. The cap is a metallic attachment for wires. It appears to be harmlessly small. But do not examine it too closely and pick or probe it with a knife or pencil. It is highly dangerous.

Bombs found attached to automobiles can be rendered harmless by cutting connecting wires, one at a time, from the car.

Pipe bombs, which are sealed with metallic caps, should not be tampered with. If they contain dynamite or nitro-glycerine, some of the explosive ingredients may be lodged in the cap threads. An explosion may be caused by the friction developed in unscrewing the cap.

Time bombs, which are fashioned to detonate when the hands of a clock or watch reach a certain hour, are seldom used by experienced sabotage agents or criminals. The ticking of the clock directs suspicion toward the package containing the bomb, and, ordinarily, it would be discovered by post office employees or other persons in transit.

Contraptions of that type can be effectively handled by immersing them in heavy oil to stop the clock mechanism. Oil will not render a blasting cap harmless, however.

If it is believed that a time bomb is ready to explode, clear the building of all occupants and post guards a safe distance from the area to detour traffic away from the danger zone. A constant guard should be kept for 12 hours. If an explosion



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has not occurred, and the hour hand of the clock has made a complete circuit of the dial, it is probably safe to pick up the infernal machine.

Contrivances of the time-clock variety can be destroyed if they are lying out-doors (at least 300 feet from any dwelling, office building or factory) by firing a rifle shot into the package from behind a well-protected barricade, located about 150 yards from the bomb.

Nitroglycerine can be made harmless by adding an equal volume, or more, of ethyl or methyl alcohol.

Frequently bombs are constructed to be detonated by means of a train, or Bickford, fuse, which burns at the rate of 45 seconds per foot. The tiny flame eventually reaches a blasting cap attached to the fuse and imbedded in the explosive. If such a contrivance is found, the safest procedure is to evacuate everyone from the building or vicinity and let the bomb explode.

The only method of preventing such a bomb from exploding is to cut the fuse at the neck of the bomb. However, the fuse consists of black powder which is completely surrounded by an insulating covering, and, when the powder burns, there is no visible indication to show how much of the fuse has burned.

Do not pull the fuse out of the bomb. It may be attached to a blasting cap which will explode with the slightest friction.

A general impression exists that a bomb is rendered harmless the moment it is placed in water. That is a fallacy. Many acid bombs are constructed in such a way that a terriffic explosion will ensue the moment water is added to the chemical components of the device.

All commercial dynamite sold today is, to some degree, water resistant.

After an explosion has occurred, every effort should be made to preserve all evidence at the scene. The evidence lies hidden in the debris and the scattered remnants near the scene. Therefore, it is vitally important to keep all persons from trespassing within the area where the explosion occurs.

Note registration numbers of automobiles in close proximity to the scene, in case a blasting machine has been hidden in an automobile or the ignition system of a motor vehicle has been used to discharge the explosive. Wires may indicate the direction of the source of the blasting apparatus.

Beware of Bomb Fever. Certain persons will soon believe that every unexpected package contains a bomb. Emergency calls will be received by police and fire departments every hour of the day and night from anxious and unwilling possessors of mysterious packages. Many of these will be the result of cruel, practical jokes. But, even if you open a thousand packages and find them all duds, do not treat a single package lightly.

Do not open a suspicious package according to normal procedure. The safest method is to cut a hole in an exposed side of the package and examine the interior before making any further effort to find out what it contains. If it appears dangerous, take it to an open field and call a bomb expert. Meanwhile, establish a danger zone.

As an example of legislation dealing with the possession or use of such infernal machines, or of the illegal possession or use of ingredients entering into the manufacture of same, attention is directed to the provisions of Section 50, Chapter 148 of the General Laws of the Commonwealth of Massachusetts (Tercentenary Edition), as follows:

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"Upon complaint made to a court or justice authorized to issue warrants in criminal cases, that the complainant has probable cause to suspect and does suspect that gunpowder, dynamite or any other explosives, crude petroleum or any of its products, or explosive or inflammable fluids are kept or are to be found in any place contrary to this chapter, or regulations made hereunder, such court or justice may issue a search warrant in conformity with chapter two hundred and seventy-six, so far as applicable, commanding the officer to whom the warrant is directed to enter any shop, building, manufactory, vehicle or vessel specified in the warrant, and there make diligent search for the articles specified in the warrant, and make returns of his doings forthwith to the court or justice having jurisdiction thereof. Such warrants may be directed to an inspector or to the head of the fire department."

Another important statute dealing with possessing bombs is Section 102A, Chap-

ter 266 of the same statutes:

"Whoever, other than a police or other law enforcement officer acting in the discharge of his official duties, has in his possession or under his control an infernal machine or a similar instrument, contrivance or device shall be punished by imprisonment in the state prison for not more than ten years or in jail for not more than two and one half years, or by a fine of not more than one thousand dollars, or by both such fine and imprisonment, and the said machine, instrument, contrivance or device shall be forfeited to the commonwealth. The term "infernal machine," as used in this section, shall include any device for endangering life or doing unusual damage to property, or both, by explosion, whether or not contrived to explode automatically and whether or not disguised so as to appear harmless. Notice of the seizure of any such machine, instrument, contrivance or device shall be sent forthwith to the commissioner of public safety and the article seized shall be subject to his order."

Handling or examining bombs and suspicious packages is a job for an expert who has had considerable experience with high explosives. Two New York City bomb experts were killed and a third critically injured while examining a bomb at the World's Fair. Not because they lacked knowledge or experience, but solely because their diagnosis as to the type of bomb was not perfect.

There is no margin of error for the bomb expert.

If conditions require it, competent experts are available to give a thorough and complete course on the subject of handling bombs to representatives of the police and fire departments.

#### HOME PREPARATIONS

One of the first precautions advised for the protection of homes from incendiary bombs is to make all parts of the house readily accessible. An incendiary bomb is capable of penetrating the roof of an ordinary house. If the attic or air space is floored over, in most instances the bomb will come to rest on that floor. If the attic space is unfurnished, the bomb will penetrate the plaster and laths and continue on through until it strikes flooring of sufficient strength to repel the force of the missile.

As soon as the bomb comes to rest, the householder must commence to operate. It will be the responsibility of the householder to make every effort to prevent the fire from spreading and to extinguish both the fire and the incendiary as quickly as possible.

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dark recess or an inaccessible air space, immediate renovations are advised to provide entrances in obstructing walls. All area below the roof should be boarded over, leaving no exposed rafters.

The attic floor space should be covered with a layer of two to two and a half inches of sand, ashes or other similar fire resistive material. Caution should be exercized to prevent placing too heavy a load on the flooring and causing it to collapse. Sand is particularly heavy. When it is used, tests should be made to determine if the flooring is capable of withstanding its weight.

Corrugated iron or sheet iron is not recommended as a protective covering for attics. The metal is apt to become red-hot and start a fire beneath the covering. In addition such material tends to render attic spaces inaccessible.

Houses with flat roofs may be protected by a covering of sand or other fire resistive material over the outside of roofs, if the structure is strong enough to handle the additional weight.

Attic space will have to be eliminated as a storage room in the event of air raids. Furniture, trunks, bric-a-brac, and so forth, provide additional quick fuel for incendiary bombs, would hinder the movements of the fire fighters and may be the means of preventing the fire from being brought under control.

#### RECOMMENDED HOME EQUIPMENT

Appliances and other equipment recommended for householder use include:

- 1. Two or three buckets of water distributed in various parts of the building. At least ten (10) gallons of water is considered necessary to control a single bomb.
- 2. An emergency supply of water should be kept in tubs, barrels or other large containers, to replenish the various buckets in case of failure or disruption of the municipal water supply.
- 3. A water pump can or stirrup pump. This type of double-action pump can be employed over an area of ten to fifteen feet, according to the length of hose attached. Pumps should be equipped with nozzles that can provide both a fine spray and a solid stream.
- 4. A garden hose with an eight to ten-foot wooden pole attached to the nozzle end to enable the operator to direct the stream or spray without getting too close to the bomb. A similar extension pole should be used with any pump can or stirrup pump.
  - 5. A long-handled shovel.
  - 6. Heavy leather gloves.
  - 7. A fire axe.
- 8. A galvanized pail or bucket, or a special metal receptacle to be used for removing the bombs. The bottom of such containers should be covered with three or four inches of dry sand.
  - 9. An adequate supply of lanterns or flashlights.
- 10. At least one hundred pounds of sand, ashes or other similar fire-resistant material.

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#### **INCENDIARY BOMBS**

Prior to the current European war, incendiarism was used for setting fire to buildings, crops, food, ammunition supplies, or other combustible material of military importance. Today, incendiary bombs are used for large scale destruction of supplies, transportation lines and munitions. Another purpose of this bomb is to affect public morale.

During an air attack, high explosive and incendiary bombs are often used at the same time. When high explosive bombs are dropped in thickly settled sections of a municipality, fires are frequently started. But, ordinarily, once the explosive has been detonated, the fire which may result does not present any special problem. In the case of a fire bomb attack, however, the incendiary materials are immediately ignited and burn for a period of one to twenty minutes, or even longer, depending on the size and composition of the bomb.

Frequently, incendiaries cannot be extinguished by usual methods of fire fighting. The procedure followed to extinguish an incendiary bomb differs, according to the particular kind of bomb encountered. The most commonly used incendiary bomb is made of magnesium alloy. The construction of this bomb is such that an explosion occurs if an attempt was made to extinguish it with a direct stream of water. On the other hand, a phosphorus bomb requires a liberal dosage of water. The two distinct methods of extinguishing a phosphorus bomb and a magnesium bomb indicate the importance of having knowledge of the various types in order that the safest method may be employed.

Public cooperation will be required, as never before, in the event of aerial bombing. A modern aeroplane can carry 2,000 or more small incendiary bombs. Any one of these bombs is capable of penetrating the roof of a house, if dropped from a great height. There is proof of the destructive power of incendiaries in every photograph of the havoc wrought in both Great Britain and Germany. A single aeroplane is capable of causing as many as 100 fires during a single raid if the bombs were dropped in clusters of 20.

If the United States becomes involved in war, it will be necessary to instruct every able-bodied citizen in the technique of combating incendiary bombs. It will probably be the responsibility of the members of the various fire departments to instruct the public. Public cooperation will be required because of the destruction of systems of communication, and the difficulties with which the firemen would be faced in responding to an alarm during or after an air attack. Streets will be blocked by wrecked buildings and these debris cluttered thoroughfares will frequently delay the arrival of fire apparatus.

#### TYPES OF INCENDIARY BOMBS

Military experts have classified incendiaries into two categories—intensive and scatter types. The intensive type material burns as a unit. It is devised to set up an intense heat, capable of great havoc. The scatter type bomb flies into fragments upon explosion, and countless small fires break out simultaneously.

The intensive incendiaries sometimes consist of thermite, an ingredient which reacts chemically to form a mass of molten iron, contained in a thin metallic casing. When ignited, it is capable of causing great destruction, burning through metals, fabric, or any other type of construction. Another type of incendiary bomb is made of magnesium alloy, and contains an igniting mixture of aluminum powder, barium nitrate and sulphur. The alloy container is ignited by a small charge of the ignition

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mixture and burns at a very high temperature. The magnesium type is a most common type of aerial incendiary.

The most effective and generally used scatter type incendiary material is white phosphorus. The phosphorus burns spontaneously when exposed to aid. It is capable of starting fires in dry grass, shrubs, or woods. However, phosphorus will not set fire to heavy planks or heavy wooden construction. It can easily ignite a shingle roof, however.

Another scatter type bomb is made of solid oil, to which has been added metallic sodium, potassium or sodium hydride. The purpose of the latter ingredients is to rekindle the fire whenever water comes in contact with the oil.

#### EXTINGUISHING INCENDIARY BOMB FIRES

A fire in a dwelling caused by an incendiary bomb is handled like any common fire. It is only in dealing with the bomb, which caused the blaze that special precaution must be used.

In many instances, occupants of the house can handle the bomb situation by using simple methods and low cost equipment which will come into common use in the event of war.

Every householder should have a trained team of two fire fighters. One person must operate the pump while the other directs the spray or stream of the hose. Prompt action is the most important requirement for domestic fire fighters. A third person, to replenish the water supply is advisable.

The person directing the spray at the bomb should not approach too closely. Thermite used in an Electron (magnesium alloy) bomb burns violently for a minute at a temperature of 4500 degrees (F). Particles of molten iron formed by the burning thermite may be forced out of the vent holes and scattered in all directions for a distance up to 500 feet. After the magnesium shell is ignited, it burns for 10 or 15 minutes at a temperature of 2370 degrees. This intense heat will consume anything within an area of a few feet of the bomb.

When water is sprayed on an incendiary, the burning time is cut from 10 to 15 minutes to two or three minutes. However, due to the chemical reaction involved in hastening the process of burning, too much water will cause a violent explosion That is why a gentle spray of water is recommended.

A common garden hose would be excellent for that purpose, if the supply of water could be depended upon. There is always a danger that a high explosive bomb might hit the power house or water main and disrupt the supply.

The first problem with which the householder is confronted is whether to extinguish the bomb first or the fire. If the fire has gained headway, it is necessary to combat that danger first. Otherwise, the bomb should be dealt with first. A third consideration is whether the bomb will burn through its resting place.

The best position from which to fight a fire or a bomb is lying on the floor. Exposure is minimized and the danger of smoke inhalation is greatly reduced. There should be no exertion in order to control breathing and thereby prevent the possibility of smoke inhalation.

Experience has proven that water is the best extinguishing agent of bombs being manufactured and used at this time. Fire extinguishers that have a water base such as a soda-acid or foamite type, have been found effective, but not entirely satisfactory.

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Carbon dioxide and carbon tetrachloride extinguishers have not been effective in combating incendiaries. It has been found that the volume of water contained in most extinguishers is insufficient to deal with a bomb and the resultant fire. Five to six gallons of water is required. It would be necessary to have several extinguishers on hand to do the work of easily available inexpensive home made equipment. Certain chemical extinguishers are satisfactory for the purpose for which they are designed, but are not suitable for combating incendiaries.

#### USE OF SAND AND OTHER FIRE RESISTIVE MATERIALS

Sand and other materials that will resist fire, such as ashes, finely sifted earth and blast furnace slag, are sometimes used to smother incendiary bombs. None of these materials are capable of extinguishing an incendiary. The fire-resistive material will serve to reduce the volume of heat and permit removal of the bomb.

If sand or similar material is used to cover an incendiary and left alone, it will soon burn through the flooring and start a new blaze on the floor below.

Once the intensive heat has been brought under control, the sand-covered incendiary should be picked up with a long-handled shovel, or a specially designed scooped, and dropped into a metal-receptacle. The bottom of the receptacle should be covered with a three-inch layer of sand; otherwise it will burn through the metal bottom.

#### SCATTER TYPE BOMBS

Bombs made of phosphorus are difficult to combat, because every bit of the burning material is dangerous. Dry phosphorus will readily ignite on exposure to air. A solution of copper sulphate is an excellent extinguishing agent. When it is sprayed or thrown upon the burning phosphorus it not only scatters the burning material, but causes a chemical reaction which forms a thin coating of metallic copper over the phosphorus, thus excluding the contact with the air. When the particles have cooled and solidified, they must be taken outside and disposed of by burning, since even a slight scratch in the metallic coating is sufficient to permit re-ignition.

Extreme caution should be exercized when dealing with phosphorus for it can cause a very severe, painful burn. It is also important to remember that phosphorus will ignite whenever it is exposed to air. Phosphorus must be entirely consumed, by burning, before it can be considered harmless. This can be carried out by placing the phosphorus on the bare ground and burning it. It must be guarded every minute during this procedure to prevent someone from stepping on it or picking it up.

#### OIL BOMBS

This type of bomb is designed to be used strategically, with a considerable degree of accuracy, against definite targets of military importance. Oil bombs would not be released at dwelling but there is no guarantee of the accuracy of these bombs, and there is always a possibility that they might land in a residential section.

The oil type incendiaries burn with a terrific heat, and the resultant fire presents a serious problem. Excepting when pools of oil are formed in such quantities that the fire would be spread by the application of water, it appears that water or approved fire extinguishers may be used.

#### SODIUM OR POTASSIUM HYDRIDE BOMBS

Sometimes metallic sodium or alkali hydride is used in an oil bomb to cause an explosion when it comes in contact with water. The best method in dealing with

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the bomb is to smother it with sand or a special mixture of sand, dolomite and salt. Occasionally, it is necessary to allow this bomb to burn itself out, but extreme caution must be used to keep water away from the bomb and only wet down the area around it.

#### MULTIPLE EFFECT BOMBS

This type of bomb is designed for use against large buildings. However, they may be encountered any place during an air raid. It is a large bomb, weighing twenty-five pounds or more, and consists of a large number of separate units loaded into a single container. The units are ejected from the container, which is blown to pieces by an explosive charge after it strikes its objective.

The units may be of either the magnesium alloy type or the phosphorus type or both. Each such units must be dealt with separately, according to the prescribed method for handling various types of incendiaries.

#### DUDS AND APPARENT DUDS

It is extremely dangerous for an average citizen to attempt to do anything with a dud or a delayed action bomb. It is best to plainly mark the location of the explosive with red flags and await the arrival of an expert. The flags should be placed at least twenty-five yards from the bomb.

Citizens must be taught to notify all persons in the immediate vicinity of the possible danger when they discover a dud. If it can be determined beyond all doubt that it is an incendiary bomb, it may be removed. If it is of the high explosive type, extreme caution must be taken. It is very important to describe the size of the bomb to the police or firemen, when one is discovered, so that they may have some ideas as to the type of bomb. A high explosive bomb seldom weighs less than thirty pounds.

#### USE OF GAS MASKS

Gas masks provided for protection against war gases should not be used in fighting fire. Gas masks for war purposes are not designed for protection against carbon monoxide. Special masks have been designed for fighting fire and only that type should be used. However, that type of mask does not supply oxygen, and the air in an enclosed space of a building may be deficient in oxygen.

#### CONCLUSION

A year-round campaign of fire prevention must be carried on every day. A pile of rubbish, discarded building materials, or any other inflammables may well be the means of starting a conflagration. One person's carelessness in disposing of rubbish may well be the means of a hundred persons perishing in a fire.

Badly kept attic spaces and trash filled cellars are a potential menace to the safety of an entire neighborhood.

During this period of emergency, it is advisable for all fire chiefs to continue their fire prevention campaigns by making regular tours of inspection of homes, office buildings and industrial plants.

The location of explosives and highly inflammable, dangerous materials should be a matter of record in every fire department for the protection of the personnel of the department. It is important that every man be advised of these danger spots in case of fire.

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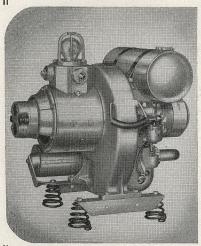
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#### SOLVING THE CHURCH FIRE PROBLEM

#### By CHIEF NICHOLAS A. PHELAN

Pittsburgh, Pennsylvania

An address delivered at the Sixty-ninth Annual Conference of the International Association of Fire Chiefs held at Boston, August 19-20-21-22, 1941. Through courtesy of International Association of Fire Chiefs, Chief Daniel B. Tierney, Sec'y, Arlington, Mass.

In the city of Pittsburgh there are 626 churches. A church for every 1,136 people. These figures from a statistical viewpoint, I believe, represent the number of churches throughout the United States.

These churches are of various sizes, types of construction and architecture. Twenty-nine of these churches have been built since 1926. This gives some idea of the ages of these buildings in which people gather to worship.

Religious revivals are often conducted in large tents and present an extreme hazard due to a large amount of shavings or sawdust used to cover the floor, also the great number of chairs used, in the event that it becomes necessary to evacuate the tent in a hurry. I have in mind such an incident. A crank threw gasoline on the outside of the tent at such a revival and ignited it. Had it not been for the action of a few cool heads there would have been a tragedy.

The average church is a high one-story building; the smaller ones are of frame construction; others usually have brick or other form of masonry enclosing walls, and usually a slate roof on wooden sheathing supported on timber trusses. There is generally a steeple, an organ loft and much open attic space. On the interior the floor above the cellar is wood and wood is also the material of the wainscoting. A wooden balcony is not uncommon, and frequently a wooden choir loft. Pews and other seats are also of wood. It is therefore plain that in any building construction and height such as the average church, a fire, unless controlled at an early stage, will spread rapidly to involve the entire interior. Cost is often a large factor in the design and construction of a church, but much of the use of combustible material is brought about by a desire to follow a general architectural style:

The features which in the case of church fires promote fire spread also serve to make fire fighting difficult. The church under fire conditions usually becomes such a sea of fire, smoke and hot gases that the firemen cannot enter even with gas masks. For this reason fire fighting operations are from the street, or at door entrances.

Another factor which renders inside fire fighting dangerous is the probability of roof collapse. If the fire gets a fair start the heated gases quickly accumulate under the roof. Here they continue to accumulate until a draught of air brought about by a window breaking in, or from some other source, supplies the oxygen needed for combustion. If the roof supports happen to be unprotected steel they quickly buckle under the intense heat and permit the collapse of the roof into the church interior. Usually this collapse also causes wall failures. The construction detail of the roof at the eaves, i.e., where it attaches to side walls or a part of the side walls with it. This therefore means that when a church fire gains headway it usually causes a total loss.

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The greatest number of church fires originate in the heating plant. There are several reasons for this. In the past it was fairly common to heat churches by means of hot air systems. The poor maintenance of this type of system brought into activity the fundamental weaknesses of hot air systems in general and of this type in particular. Very frequently the system is so small as to require it to be forced, with attendant increased wear and deterioration of the system as a whole, in addition to the overheating of ducts and registers in close proximity to or in contact with combustible materials. Another source of trouble has been and still is the practice of entrusting the system to incompetent persons to operate.

The heating plants are usually located in the cellar or basement and as a rule are not cut off either horizontally or vertically from the rest of the church. Thus any fire occurring in the boiler room quickly passes to the other portions of the cellar and by way of the heating ducts to the floor above. In almost every instance the coal bin is of wood construction and built very close to the furnace.

Next in importance is the defective chimney as a fire cause. This is a construction feature and prevails as a hazard in the upper portions of the church. The trouble with the chimney may be due to its inadequacy for the system to which it is attached. Forcing any kind of a heating system will eventually bring to light any defect in the construction of the chimney. Or the chimney may have floor beams built into it, or again, its weakness may lie in the aggregate of the mortar used in its construction, i.e., a mortar with too much sand and not enough cement.

Defective electric wiring is another principal fire cause in the church fire. This is mainly due to alterations and additions made subsequent to original installation. This is a difficult matter to control in the church, because of its frequent use for entertainments and affairs for which special lighting is required. Temporary extensions for this purpose turn out to be permanent and soon the church contains numerous violations of the code, ranging from general misuse of flexible cord for line wire to overfusing.

That lighting is an outstanding cause of church fires is undoubtedly due to the usual steeples and towers so commonly a feature of church construction. These act as discharge points for any accumulation of static and if there is no easy path along which the electricity can find its way to ground, trouble is more or less certain to occur depending in part upon the character of construction, nature of soil and type of surrounding buildings.

#### **PREVENTION**

Neither cost nor beauty should be considered for some of the structural features such as roof supports, flooring, extremely high steeples, excessive use of woodword and the elimination of enclosed spaces. All hot air ducts to have dampers controlled with fusible links. Floors above the furnace to be protected by incombustible material. The boiler should be housed in a room enclosed by at least one hour fire resistive partitions and with a standard fire door at the opening to the remainder of the basement. Steam or hot water heating is preferable to hot air. If oil is burned, the burner should be of approved type: if it is there will be means for automatically shutting off the supply of oil in case of flame extinguishment at the burner or abnormal supply of oil at that point.

The only safeguard for the chimney hazard is a suitable building code requirement with rigid enforcement. Failure to properly clean the chimney at suitable intervals is also a source of fire danger.

Periodical inspections will disclose the tampering with the electric wiring, such as temporary extensions, broken or damaged wires and particularly overloading of circuits.

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All churches should be thoroughly equipped with a complete system of lightning rod protection and this is especially true if the church happens to be located in an area where the ground is rocky, sandy or clay with permanent moisture several feet beneath the surface.

Good housekeeping throughout, is essential, particularly removing excessive dust from the attic.

#### THE CHIEF CAUSES OF CHURCH FIRES

Heating plants
Defective chimneys
Defective wiring

Lightning Exposure

Spontaneous ignition of bituminous coal Spontaneous ignition of oil mops and rags.

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Incendiarism

And the damage to churches by fires from all causes during the last ten years was \$53,000,000.

#### FIRE PROTECTION AND DETECTION

Statistics of church fires show that the greater number of fires had their origin in the basement. It is reasonable then to believe that a supervised system of automatic sprinklers should be installed in the basement.

The automatic sprinkler system if installed in the attic or organ loft would present problems such as: freezing during cold weather and the accidental knocking off of a sprinkler head would cause much damage before the water could be shut off.

A study of church fires indicat esone outstanding fact, and that is the importance of early discovery of the fire. This is particularly true in the older churches. It is an old axiom among firemen that "The first five minutes at a fire are worth the next five hours." For fire records prove that nearly every large-loss fire reaches its destructive proportions because of belated discovery or delay in sending the alarm. Therefore I am of the opinion that church buildings can be given a high degree of protection through the installation of an automatic fire alarm system, such as that known as the Aero Automatic Fire Alarm System. It is a fundamental law of physics that air expands when heated, the Aero Automatic Fire Alarm employs this principle to detect fire. Its operation results from the rate of temperature rise rather than the attainment of a dangerously high temperature—with such a system installed in the attic of churches, or organ lofts, or better still throughout the church. With an annunciator placed for the convenience of the firemen, the danger of fire reaching large proportions in any building so equipped, is reduced to a minimum.

#### METHODS USED IN FIGHTING THE CHURCH FIRE

I have many old churches that are extreme fire hazards and in which I have had many fires. I pass on to you my experience for what it is worth. I always use that old hard and fast rule, "Cover all exposures immediately." If the fire is in the basement it is good practice to have charged lines cover the balcony and loft, also ventilate at these points. Have a deluge set inside the door ready for use in case the fire extends to the loft and cannot be handled by the men with the hand line. The high pressure stream from the deluge set will rip off the plaster ceiling and extinguish the fire in the attics in a few minutes and will prevent an explosion of the large accumulation of dust that is prevalent in these attics. It is also good practice to have a turret wagon in position in the event that the fire reaches the steeple. As to the fire in the basement, with all exposures covered the fire can be controlled by the use of cellar pipes until it is possible to reach the basement with hand lines. I have used these methods with success.

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#### PROTECTING THE INDUSTRIAL PLANT AGAINST FIRE AND SABOTAGE

#### By E. P. Coffey,

Chief, Technical Laboratory, Federal Bureau of Investigation, Washington, D. C. An address delivered at the Sixty-ninth Annual Conference of the International Association of Fire Chiefs held at Boston, August 19-20-21-22, 1941. Through courtesy of International Association of Fire Chiefs, Chief Daniel B. Tierney, Sec'y, Arlington, Mass.

It gives me real pleasure to have the privilege of attending this international gathering of fire chiefs.

Mr. J. Edgar Hoover asked me before I left Washington to convey to you his personal greetings and best wishes for a successful convention here in Boston.

The police and fire services have always been closely allied in the matter of protection, and the interest of the FBI in both of these services has always been a constant one

At this particular time, however, the FBI has a very special problem in common with the fire services of the nation and that is: the problem of the protection of defense industries against enemy sabotage.

In the fall of 1939, when the present emergency fire began to develop, the President of the United States issued an order that all matters of espionage, sabotage and subversive activities be cleared through and coordinated by the FBI. Shortly thereafter the heads of the War and Navy Departments requested Mr. Hoover to undertake a survey, from the protection standpoint, of all the manufacturing plants all over the country engaged in defense work.

Thus was created a great new task for the FBI. It became necessary to increase the investigation staff of the Bureau threefold. Specialists were trained in plant inspection—hundreds of additional fingerprint experts were added to the staff; the crime laboratary doubled in size and the clerical forces of the Bureau, greatly increased. This new program has now been under way for nearly two years, and I am happy to report to you that, in the matter of defense preparedness, the FBI has long ago passed the paper planning stage and is ready for full emergency basis operation.

The investigation and suppression of espionage and sabotage is definitely a national problem requiring organized centralization in Washington. Any attempt to deal with such a crime on a strictly local basis without notifying the FBI, before instituting local investigation and prosecution, is distinctly a mistake. These crimes against the security of our nation, when directed by an unfriendly foreign government, are certain to be viciously well organized and widespread in their ramifications over the entire country.

Usually a large plot of this sort is discovered and uncovered in all its nation-wide detail as a result of a single act of espionage or sabotage reported locally. If this single act were prosecuted locally without notification to the FBI, it would result in a warning to the conspirators to run to cover and change their tactics of attack. Obviously, this would mean that only a few small-fry agents of the enemy would be caught and then only after they had accomplished their local damage.

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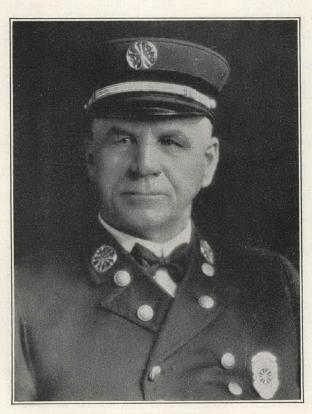
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A good example of more complete results following nationwide Federal investigative activities, well coordinated with local effort, is seen in the recent spy case broken in New York, when thirty-three foreign enemy agents were arrested in one series of coordinated raids.

Mr. Hoover has developed a highly geared organization for this special kind of work. In Washington over one hundred and fifty specialists review and supervise the investigative activities of special agents of the FBI working all through the country. Each of these specialists has made an exhaustive study of a particular type of criminal activity. Thus they are able to immediately recognize the work of a particular gang of saboteurs through their "modus operandi," even though the acts of destruction occur in widely separated parts of the country. They keep a close ear to the ground in an effort to keep abreast at all times of the strength of the enemy's subversive organizations and the extent of their operations. This is possible only through the maintenance of vast central records and by the coordination of detailed investigative activity in every part of the country.

The fingerprint files of the identification division of the Bureau have increased by the addition of the fingerprints of millions of persons in the last two years. Nowhere in the world is there such a vast registry of personal identity.

In its crime detection laboratory at Washington, the Bureau receives the physical evidence collected by its investigating agents at the sceen of sabotage attempts. This evidence is scientifically analyzed and frequently compared with similar evidence found at the scene of some other outrage. Thus it is often possible in the laboratory to assert that two different acts of sabotage or similar crimes are actually connected and probably committed by the same gang. Fragments of bombs or infernal machines are studied, identified and catalogued. Specimens of abrasive and lubricant deteriorating agents used to injure vital machinery are identified and indexed. Nearly sixty experts are engaged in these scientific activities alone, and, they alone, build up an invaluable experience in dealing with the handwork of the crafty saboteur.

The Training Division of the FBI has, likewise, been streamlined to meet the current defens eneeds. Nearly two thousand new special agents were prepared for their highly complicated investigative tasks. And—just as important—hundreds of the nation's police chiefs and administrators have attended the FBI National Police Academy and received instruction in the ways of detecting and combating the saboteur.

In the Field, nearly two thousand defense manufacturing plants have already been surveyed by agents of the FBI and their recommendations for safety and protection have been submitted to the Army and Navy authorities and to the plant owners.

These surveys are conducted in the plant, not only in regard to safety and standard measures to be used to guard against accident and such damage, but also against the possibility of sabotage and different acts meant to destroy vital machinery, among which may have been some that already had some defect. But the FBI cannot and does not expect to solve the problems of national espionage and sabotage alone. It can't do it with the 'limited ptrsonnel at its command. Thousands of police or organizations all over the country have geared their departments into a close working arrangement with the FBI in these matters. Special FBI squads are often set up to work exclusively with the special agents of the FBI. Quarterly police conferences in every district of the nation are held. Defense matters of common interest are discussed and plans for local joint operation are worked out in the greatest of detail. The police of the nation have rallied splendidly to the standards of defense. As a result, espionage and outbreaks of sabotage have been held to an absolute minimum.

Of like importance is the part of the Fire Service of the nation in these counter sabotage plans. You have, of course, your own great problems of defense against

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aircraft incendiary attacks, such as was discussed here by Constable Scott this morning, but just as real, if not more real, is the danger of great fire damage from sabotage attacks. Military experts are not agreed that enemy European nations could undertake wholesale bombings of the cities of this country at the present time, at least, not until they have established domination over there, but they are all agreed that a definite, immediate threat exists from the enemy from the standpoint of internal sabotage by under-cover enemy agents, and that it constitutes a very practical menace to our defense and our security.

The threat of bombing is present and should be provided for in our factories that are working under the pledge of "All-out Aid to Britain" and is a very practical menace to our defense production supplies. It is the responsibility of the Fire Service to adequately prepare to meet this threat from the fire hazard standpoint. It is their duty to put their equipment in first class shape and to have on hand and ready to use a sufficient amount of the most modern apparatus to proptrly cope with the largest and most difficult fire conceivable in their district. Just think of some of those fires in London that you saw here on the screen this morning. Personnel must be trained in the latest methods of meeting the complicated fire threats of modern industry. Plans should be perfected now for large reserve staffs, trained and ready for the call of extraordinary local catastrophe.

All this is still not enough. The Fire Service must protect their own equipment and facilities against sabotage. Their own apparatus against the attack of saboteur. We must always remember that effective disabling of the fire fightig forces of a community by a saboteur, then leaves the area wide open for his subsequent devastation by fire. When such an attack is made, you firemen all have your own system of counter-attack, but all of our systems are open to such a sabotage attack. We can combat it by providing adequate protection and safeguards and by frequently checking and inspecting and testing our apparatus; our signal and communication facilities; our sources of water supply and our extinguishing agents.

It is your responsibility to consider whether accelerated defense industrial activity has created new congested districts in your service jurisdiction which may not be properly protected. Likewise, the storage of huge supplies of petroleum products; of explosives and like supplies of war now present new problems for your study. We cannot continue on the pattern of yesterday. We must join, if not lead, the new tempo of preparedness.

In protecting the industrial plants in your area against sabotage by fire, it will be necessary for you to make regular and thorough inspections. You have made these inspections and surveys of industrial plants before, and you have done them well, from the standpoint of fire hazards and fires arising from accident. To these inspection regulations you must add another—or even make the existing regulations over, if necessary, to protect those industrial plants from deliberate destruction by sabotage. You have to give new consideration now to the protection of that plant. How can the plant be attacked from without the plant? How can it be reached by the saboteur working from the outside of the plant? Is the plant adequately protected by suitable fences? Are there suitable means of entrance and exit? Are the fences around the plant found adequately lighted, so that the saboteur cannot get in through the fences?

In connection with this question of lighting, on a survey that the FBI were making in an industrial plant, they found a very fine fence. It had cost a lot of money—a fine fence does cost a lot of money. The fence stretched all around the plant area, but there was no lighting system. Subsequently, during the inspection, a hobo was found on one of the floors where he had built himself a little shelter among the supplies. He had taken up that residence about a month and a half before where he slept all day and every night crossed the fence to go into town and came back over

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the fence in the morning. He was harmless and held no malicious intention. But—how easy it would have been for one who had had malicious intentions to have made his way in through the fence in the same way.

Consider, also, how fires could have started in nearby hazards outside of the plant areas. Fires in the storage of petroleum stored nearby. Consider whether the petroleum is stored on a ground elevation, so that it might be ignited and flow down and around the buildings of the defense plant and set them all on fire in that manner.

There is another method wherein the saboteur may attack from the outside and that is in the shipping in of combustible material. He may ship it in a box of clothes; he may send it in a load of coal; an infernal machine may be sent in disguised as a radio.

The shipping room should be isolated from other vital parts of a plant, so that if explosives or other incendiary materials are shipped successfully into the plant, they will do the least amount of damage to the rest of the plant. In the shipping room, consideration should be given also to the use of other types of carriers or methods for shipping in material. Material not recognized on order should be regarded most suspiciously and not accepted or opened until it is explained and the consignors are known.

Plants must give a great deal of consideration to the attacks from within also and the insidious attacks by disloyal employees, who may be placed on the payroll for the expressed purpose of sabotage. It is possible for one disloyal employee to bring about the destruction of an entire plant in a very short time. They may carry incendiary pencils, which are really small delayed action bombs, and drop them where they will later start a fire; or carry concealed on their person, a large amount of fire spreading material, which they will later spread about; or bring in an infernal machine, may be brought in camouflaged as a lunch box or a bundle of clothing.

There are two ways to attack that problem and one of the best is to investigate the personnel of the plant. That is not the job of the Fire Service. It is the job of the plant personnel manager and, possibly, the local police officials. However, it is the job of the Fire Services to see whether such precaution has been taken against the activity of such disloyal employees, and that the officials of the plant are fully aware of the possible dangers which arise in permitting the personnel to carry things in or out of the plant.

One of the unusual situations which came to light in another plant survey in which the FBI was interested, was where no inspection of the personnel was made at the gates, either going out or coming in. It did not occur to the Plant Management to take any special action to organize such an inspection. What did happen was: certain of the plant officials wanted to impress upon the public the increase in its operations, and arranged to have pictures taken of the workers as they poured out of the exits at night in order to show the activity of the plant. The photographer was a good showman, and in order to get a good picture, he asked that the watchman hold the gates closed for one minute so that there would be sure to be a good mob heading for gates at one time. The rumor spread like wildfire that there was going to be a special inspection and the employees were all excited. Finally the gates were opened and the employees were allowed to go. Fifteen hundred dollars worth of tools were picked up by the watch service after the employees had gone out of those gates. (Laughter.)

Saboteurs are going to take advantage of all of the well-known causes of accidental fires. They like to make a fire look like a perfectly accidental one. This gives them cover for their work and they can continue working in the same plant; so the mere fact that the fire looks like an accident is no assurance that it was, and it should be thoroughly investigated before it is tagged: "accidental."

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And don't forget, either, that the saboteur is going to take advantage of methods of extinguishing the fire. They know whether it will be handled skillfully or hap-hazardly. In their method of training they are given precise information as to how to proceed in the plant before the fire is even started. Some of their tactics will include vicious attacks on the water system, the hydrant crippled; the hose cut, or the threads of the couplings injured; or pour acid into the hose where it would do a great deal of damage. Likewise, they will attack the extinguishers. They will change the contents so that instead of it containing an extinguishing agent, it becomes a spreader of fire. Finally, they will choke off or shut off the important water mains—they will do anything to divert the sources of water supplies. They will disable and render unusable the alarm system or the intercommunications system of the fire service. Remember all outward signs of these destructive acts are hidden. On the surface the equipment will appear to be in good order. To combat these attacks, minute inspection and regularly established testing seem to be the only answer; the only protection against the insidious activity of the saboteur.

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There's something about being a fireman which holds a tremendous appeal, and not many boys grow up without cherishing at some time or other a longing to be one of the fearless crew who dash to fires on the fire truck, man the hoses and tell everyone else to stand back. Even to the ones who do become firemen and learn that along with the excitement there is hard work, with dull hours as well as dangerous ones, there is still thrill in fire-fighting.

Rutland's progressive fire chief, Alfred H. Koltonski ("Jake" to his friends), was one of the boys with even more than average interest in fire fighting. His family lived near the fire-station, and he began to hang around about as soon as he could waddle, was "kicked out more times than any other kid in town," and joined the force promptly upon his graduation from Rutland High school. That was in 1912, when the equipment was horse-drawn, and he recalls that he drove the last pair of horses the department had, in 1919. He has seen the department grow from 10 to 20 permanent men, developing into a highly efficient force with the most modern of equipment. Since he has been chief, Rutland's fire losses have become the smallest in the state, lower than in 1912, although there are more than six times as many alarms. The Chief says it's the department, but no department is more efficient than the man at the head of it, and he is known all over New England for that quality.

He had the right slant from the beginning. Interested in tinkering with mechanical and electrical gadgets, on his own hook he took an I. C. S. course in mechanical and electrical engineering, and spent several of his vacations in the factories which make alarm machinery, learning all he possibly could about it. When the World War broke out, he enlisted in the navy, and not only went through the school for navigation and engineering, but instructed one of the classes himself. Stationed at the U. S. Experimental station, he worked with Edison professors on experiments with anti-submarine devices, and his job was setting up the devices on boats, for experimental purposes. As chief electrician in the navy he had thrilling experiences and "picked up a lot of mechanical information." He recalls his first submarine dive as a never-to-be-forgotten thrill, making his first plane flight pretty tame. "Blue sky looks pretty good when the sub comes up," he ramarks.

Returning to Rutland, he became chief of the department in 1924, at the age of 28, and immediately set about building up the department to the highest point of efficiency. His thorough inspection system interested the N. E. Insurance Exchange, and their secret inspection in 1930 resulted in a big reduction in Rutland's first insurance rates, and a rating for the city as "the cleanest in New England." It's his business, he says, to keep fire losses down, and "If they don't start, you don't have losses." His instruction courses cover every phase of fire-fighting, and he is proud that his men passed the 20-hour course highest in the state to become teachers of firemanship accredited by the department of education. Not only does he do a great deal of speaking and instructing in Vermont, but his men teach a 20-hour course in smaller towns in the county, and carry on a continuous campaign in schools, etc., on fire prevention.

He organized an auxiliary fire service as part of the defense program; 36 men enrolled have been learning general fire-fighting, and a department member just returned from a chemical warfare school is to instruct them in handling bombs and incendiaries. People still do not realize the seriousness of the situation, declares the Chief, but he contends that if people are trained for any emergency they are all set if anything happens, and no harm done if it doesn't.

His department has trained most of the volunteer department in the county, and he has high praise for the work of volunteers. His own men work long hours, have plenty of work and study, work together admirably under his discipline. His own hours are long, too, but he does keep up his work of the past 15 years as a Boy Scout Commissioner. He has been president of the New England Association of Fire Chiefs, on the board of directors for 13 years, and a frequent delegate to national fire chief meetings. He is always on the watch for ideas to improve his department, but is sensible on the economy side, never having two pieces of equipment where one will function efficiently, doubling up on jobs where convenient.

Chief Koltonski is a man of genuine modesty and likable personality, widely popular and respected, and he has made Rutland's fire department something to be proud of. He's sorry he can't tell about many exciting fires—Rutland just doesn't have them, and he's glad to hear that complaint. Fires are fought before they occur, on the classroom blackboard, and it's careful inspection which keeps more from occurring. Though he guesses the law of averages will give Rutland a good big fire sometime in spite of everything, we'd say that with Koltonski as chief, Rutland might just as well look for other excitement.

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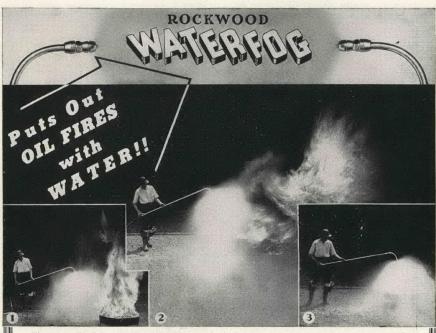
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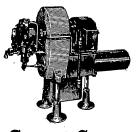
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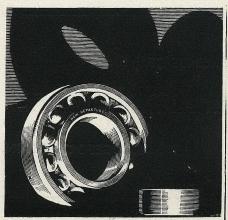
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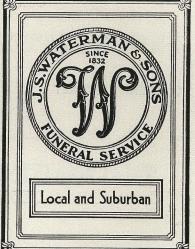




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FURGANG, LEONARD, West Roxbury, Mass., May 5, 1932. FULLER, CHARLES H., Chief, Pawtucket, R. I., May 15, 1932. GARDINER, WARREN B., Chief, Saylesville, R. I., July 11, 1932. FOX, JOHN C., Fire Commissioner, Rutland, Vt., July 23, 1932. DOLAN, JOSEPH A., Deputy Chief, Boston, Mass., August 25, 1932. GREEN, WILLIAM C., Chief, Concord, N. H., October 27, 1932. O'CONNOR, THOMAS, Battalion Chief, Washington, D. C., November 20, 1932. ESTERBROOK, WILLARD W., Fire Commissioner, Brookline, Mass., December 3, 1932. RICH, SEWELL M., Ex-Chief, Somerville, Mass., December 9, 1932. SPALDING, HOWARD C., Augusta, Me., January 27, 1933. CRIBBY, JOSEPH A., Ex-Chief, Somerville, Mass., February 17, 1933. WARD, THOMAS G., Chief, Shelton, Conn., March 9, 1933. LaCROIX, CHARLES, Ex-Chief, Millis, Mass., March 17, 1933. McPHEE, MICHAEL, Ex-Chief, Lawrence, Mass., April 25, 1933. KING HERBERT E., Ex-Chief, Mansfield, Mass., May 15, 1933. HOAGLAND, IRA G., Nat. Auto. Sprink. Assoc., New York City, August 5, 1933. WHEELER, A. D., Gamewell Co., Newton Upper Falls, Mass., August 17, 1933. KIMBALL, HOWARD C., Ex-Chief, Salem, Mass., August 27, 1933. SULLIVAN JOHN E., Ex-Chief, Plymouth, Mass., December 16, 1933. KOEN, JAMES S., Chief, Salem, Mass., December 21, 1933. PERSONS, VANEY P., Chief, Montpelier, Vt., February 6, 1934. COMBER, EDWARD, Ex-Chief, Narragansett Pier, R. I., March 7, 1934. AHERN, WILLIAM A., Fire Marshal, Brantford, Conn., April 28, 1934. FISKE, HOWARD, Ex-Chief, Framingham, Mass., May 30, 1934. PARTENHEMER, PHILIP, Ex-Chief, Greenfield, Mass., July 9, 1934. AMBROSE, GEORGE C., Boston, Mass., July 18, 1934. BARRY, W. A., Eureka Fire Hose Co., Boston, August 13, 1934. HEITMAN, HENRY H., Chief, Waterbury, Conn., September 19, 1934. MONTMENY, ARTHUR, Ex-Chief, Chicopee, Mass., October 1, 1934. MANY, ROBERT, Fabric Fire Hose Co., Boston, Mass., October 13, 1934. KEANE, JOHN W., Ex-Deputy Chief, Marlboro, Mass., December 11, 1934. MOORE, EDWIN D., Bennington, Vt., March 25, 1935. TORREY, ARCHIE W., Chief, North Scituate, Mass., April 2, 1935. HAYES. JOHN H., Ex-Chief, Bristol, Conn., June 13, 1935. McLAUGHLIN, DANIEL F., Ex-Chief, East Providence, R. I., June 22, 1935. JOY, MELLEN R., Chief, Saugus, Mass., July 31, 1935. MAXIM, CARLTON W., Ex-Chief, Middleboro, Mass., August 27, 1935. STANTON HOWARD L., Ex-Chief, Norwich, Conn., August 30, 1935. MASON, W. S., Chief, Bangor, Me., November 12, 1935. TITUS, WILLIAM E., Ex-Chief, Pawtucket, R. I., February 26, 1936. MILLER, DEAN H., Chief, Ashland, Mass., April 25, 1936. WEDGER WALTER L., Belmont, Mass., June 2, 1936. PATT, IRVING F., Ex-Chief, Central Falls, R. I., June 17, 1936. WOODWARD, A. P., Ex-Chief, Danielson, Conn., June 27, 1936. KELLEY, JOSEPH B., Pawtucket, R. I., July 1, 1936. LUBY, JOHN J., Chief, Wallingford, Conn., July 12, 1936. FERNBERGER, HERMAN W., Philadelphia, Pa., July 18, 1936. HARRISON, FRANK R., Chief, Onset, Mass., August 4, 1936. MAINZER, ROBERT H., Hon. Dept. Chief, New York, August 6, 1936. PALMER, JOHN A., Chief, Torrington, Conn., December 7, 1936. HILL, CHAS. E., Chief, Cape Elizabeth, Maine, December 28, 1936. McGRATH, PATRICK J., Ex-Chief, Meridan, Conn., Died January 8, 1937. SCANNELL, DR. JOSEPH W., Fire Comm., Lewiston, Me., January 16, 1937. NEARY, JOHN H., Chief, Natick, Mass., January 18, 1937. CASEY, JAMES M., Ex-Chief, Cambridge, Mass., January 25, 1937. SEARS, C. E., Chief Engineer, Claremont, N. H., May 5, 1937. WHITING, HOMER B., Ex-Chief, Hampton Beach, N. H., May 26, 1937. HOADLEY, G. W., Ex-Chief, Naugatuck, Conn., June 9, 1937.

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DUGAN, ARTHUR W., Chief, Vergennes, Vt., July 5, 1937. HUBBARD, ISAAC M., Chief, Greenwich, Conn., August 15, 1937. HAINES, FRANKLIN W., 57 Gardner St., Peabody, Mass., August 28, 1937. LYNCH, THOMAS J., Chief, Waterbury, Conn., October 1, 1937. MIGUEL, MANUEL S., Chief, Manchester, Mass., October 3, 1937. PICKETT, E. W. S., Ex-Chief, Fairfield, Conn., November 1, 1937. KNOWLES, C. H., Ex-Chief, So. Hamilton, Mass., November 11, 1937. DALLAGHER, JAMES M., District Chief, Fall River, Mass., December 11, 1937. SCULLY, JOHN J., American Fire Equipment Co., Boston, Mass., December 29, 1937. WARE, LEWIS A., Chief, Hanover, N. H., February 2, 1938. WHITE, FRANK M., Chief, Guilford, Conn., June 4, 1938. RUSSELL, WM. G., Captain, Waterbury, Conn., June 29, 1938. HURLEY, ROBERT T., Hartford, Conn., August 30, 1938. HANMER, H. F., Ex-Chief, Wethersfield, Conn., September 9, 1938. STEVENS, HENRY J., Chief, Nantasket Beach, Mass., September 13, 1938. PERCEY, M. S., Chief, No. Bennington, Vt., October 15, 1938. ADAMS, JOHN T., Ex-Chief, Marblehead, Mass., December 19, 1938. ATKINS, W. H. H., Chief, Marblehead, Mass., December 20, 1938. SHERWOOD, WM. D., Ex-Chief, Southport, Conn., December 27, 1938. HUDSON, DAVID M., Chief, Chelsea. January 2, 1939. KINSELLA, ALFRED, Captain, Belmont, Mass., January 23, 1939. WARE, LEWIS A., Chief, Hanover, N. H., February 2, 1939. EATON, FRANK L., Deputy Fire Marshal, Waterbury, Vt., February 27, 1939. QUINLAN, ROBERT T., Ex-Chief, Needham, Mass., March 20, 1939. SHANNON, WALTER E., Chief, Wakefield, R. I., April 00, 1939. WAITE, IRVING C., Chief, Bedford, Mass., July 16, 1939. SULLIVAN, JEREMIAH F., Ex-Chief, Fall River, Mass., August 8, 1939. SHEPARD, W. C., Ex-Chief, Pittsfield, Mass., September 2, 1939. HOWLAND, J. LESTER, Chief, Hyannis, Mass., November 3, 1939. CARTY, WM. E., Ex-Chief, Burlington, Vt., November 22, 1939. MARTIN, FRANK F., Ex-Chief, Cohasset, Mass., November 29, 1939. MORRIS, F. J., Ex-Chief, Lawrence, Mass., December 3, 1939. OLSON, ALBERT T., McNeil and Olsen Co., Walpole, Mass., December 6, 1939. FLYNN, DANIEL W., Ex-Chief, Great Barrington, Mass., December 9, 1939. McGLAUFLIN, FLOYD E., Chief, Presque Isle, Maine, January 28, 1940. GALVIN, MILTON, Chief, Naugatuck, Conn., February 21, 1940. CRITTENDON, RUFUS A., Chief, Haverhill, Mass., February 24, 1940. BRODY, GEORGE F., Marlboro, Mass., March 8, 1940. DAGGETT, W. H., Ex-Chief, Springfield, Mass., May 18, 1940. CHASE, EDWARD E., Ex-Chief, Lynn, Mass., May 30, 1940. WALSH, PETER E., Ex-Chief, Boston, Mass., August 24, 1940. NARY, THOS. M., Captain, Roslindale, Mass., July 24, 1940. SHANNON, FRANK J., Chief, Stonington, Conn., August 26, 1940. YOUNG, DANIEL F., Chief, Cranston, R. I., August 29, 1940. REILLY, WILLIAM J., Capt., Cambridge, Mass., September 4, 1940. DAVID, FRED M., Ex-Chief, Damariscotta, Me., September 24, 1940. BURNS, THOMAS F., Chief, Bridgeport, Conn., October 9, 1940. HARRIGAN, HENRY J., Chief, Dedham, Mass., October 19, 1940. FARRELL, MORGAN B., Chief, Bristol, Conn., October 19, 1940. MANSFIELD, LUCIUS R., Ex-Chief, Rehoboth, Mass., October 8, 1940. WHITNEY, JOHN W., Belmont, Mass., January 3, 1941. NEWHALL, TERRY A., Swampscott, Mass., January 9, 1941. McKENZIE, GEORGE A., Asst. Chief, Westerly, R. I., January 21, 1941. DAMON, J. F., Ex-Chief, Milford, Mass., March 7, 1941. REYNOLDS, CHARLES A., Chief, Willimantic, Conn., June 14, 1941. NEIDNER, ALBERT L., Malden, Mass., July 28, 1941. LEWIS, W. B., Chief, Wiscassett, Maine, August 24, 1941. MAURER, ROBERT L., Chief, Westport, Conn., September 20, 1941. DONOVAN, LAWRENCE, Quincy, Mass., December 4, 1941. SMITH, GEO. W., Ex-Chief, Wakefield, R. I., December 7, 1941.

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\*Bradish, F. L., Chief, Eastport.

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Brown, Walter H., Chief, 15 Iredale St., Bridgton.

\*Butler, James H., Chief, Berwick. Carll, Willis G., Asst. Chief, Gorham.

\*Clifford, Wm. H., 3rd, Chief, Cape Elizabeth.

Constantine, Herbert P., Chief, Bangor.

\*Corliss, Harold L., Bath Iron Works Corp., Bath. Cronin, P. J., Retired Callman Engineer, Lewiston.

\*Denison, Clifford D., Chief, Harrison.

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Eldridge, John F., Chief, Kennebunkport.

Fiel, Fred W., Chief, North Berwick.

Finch, Ralph B., 90 Ocean Ave., Portland.

\*Flynn, Joseph A. P., Chief Supervisor, Ins. Dept., Augusta

Frates, Richard, Chief, 12 North St., Bath.

\*Fullerton, Cecil L., Chief, Bath Iron Works Corp., Bath.

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Gould, Richard K., 192 Middle St., Portland.

\*Herman, S. A., Chief, S. D. Warren Co., Westbrook.

Hutchinson, Edward J., Chief Engineer, Boothbay Harbor.

Jose, Horace S., Chief, No. 4 Simonton St., So. Portland.

Lang, Harold D., Box 548, Portland, Me.

Leighton, Deane E., Asst. Chief, Freeport.

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Liscomb, John I., 1 Woodbury St., South Portland.

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Lovejoy, C. W., State Fire Marshal, and Ins. Comm. State of Me., Augusta.

McCosker, Joseph P., Ex-Chief, 8 Webster Ave., Bangor.

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Miller, Edward F., 2nd Asst. Engineer, Bath. \*Morse, Scott, Ex-Chief, Bath, 15 Andrews Ave.

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Nutter, Robert, Chief, Pleasant Hill Fire Co., Scarsboro.

\*Payson, Allen F., Chief, Camden.

Peters, Edward L., Chief, Orono. Putney, P. N., York Beach.

Ramsdell, Edgar E., Reserve Deputy Chief, 569 Main St., Lewiston.

Randlette, J. W., Chief, Richmond. \*Reny, Edward A., Chief, Westbrook.

Ricker, Eugene T., Chief, Saco.

Robinson, Wallace W., M.D., Amer. Standard Tourniquet Co., Portland.

Russell, Van E., Chief, 16 Fulton St., Rockland.

Rutledge, Charles B., Fire Apparatus and Equipment, 95 Smith St., So. Portland.

\*Sanborn, Oliver T., Chief, Portland. \*Scott, Thomas H., Chief, Alfred.

Small, G. K., 25 Melville St., Augusta. \*Smith, Guy F., Chief, Houlton, Maine.

Smith, Walter B., Chief, Freeport.

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\*Tinker, George L., Chief, New Portland. \*Turner, Stanley G., Chief Springvale.

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#### **NEW HAMPSHIRE**

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Clark, John N., Chief, Harrisville.

\*Cogan, George T., Chief, Fire Dept., Portsmouth.

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Crowley, Roger, Chief, International Shoe Co., Manchester.

\*Cushing, Gordon G., Chief, Rochester.

Dill, Frank A., Maxim Motor Company, 72 Granite St., Manchester. \*Dodge, Fred M., District Chief, Concord, Pres., N. H. Fire Chiefs Club.

Dolley, Herbert A., Chief, Tilton.

Doudera, Capt. Frank, Fire Commissioner, Dixville Notch.

Duval, Alfred, Fire Commissioner, Manchester. \*Ely, Wm. B., Chief Auxiliary Fire Dept., Pittsfield.

Fox, P. A., Chief, Raymond.

\*French, Charles H., Chief, Manchester.

\*Gunn, Theodore W., Eng. Board of N. H. Underwriters, Concord.

\*Happny, William T., Chief, Concord.

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Hecker, Fred H., Fire Commissioner, Manchester.

Hight, Gerald H., Chief, Weare. Hildreth, Albert F., Ex-Chief, Hollis.

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Mansfield, L. P., Chief, Wolfboro. \*Molloy, Anthony J., Chief, Nashua. Monahan, H. J., Ex-Chief, Berlin.

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Nott, Carlton H., Chief, 22A School St., Hanover. \*Palmer, Allen L., Chief, 24 Sullivan St., Claremont.

Post, A. H., Chief, Spofford.

Riley, E. B., Chief, Keene.

Robinson, Chester, Chief, Suncook.

Robinson, George E., Samuel Eastman Co., Concord. Rumrill, Eugene C., Chief, Hillsboro.

\*Sargent, Fred M., Chief, Sunapee. Spring, Arthur W., Chief, Laconia.

Stevens, Geo. B., Chief, Kingston.

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#### VERMONT

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Hannah, Charles A., Chief, No. Springfield.

Heney, John C., Chief, Barre.

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Hurlbut, Charles H., Chief, Richford.

\*Hutchinson, Fred A., Chief, White River Junction.

Keery, Thomas D., Chief, St. Albans.

\*Kelley, Donald J., Deputy Chief, Burlington.

Kingsbury, Harold H., Chief, Norwich.

Kinney, F. J., Chief, Orleans.

\*Koltonski, Alfred H., Chief, Rutland.

Larow, Kenneth, Deputy Chief, Enosburg Falls.

Latshaw, Marvin, Chief, Alburgh Fire Dept.

Lavery, C. Newton, Chief, Burlington.

Lawson, Sidney F., Chief, Montpelier.

LeBouf, Howard J., Vergennes.

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Parmenter, F. C., Ex-Chief, Chester.

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Cook, Alton L., Chief, Georgetown. Copeland, Frank H., Chief, Raynham.

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Taft, Henry R., Ex-Chief, Norwich, Conn. Dougherty, Thomas F., Ex-Asst. Chief, New York. Estes, Reuben E., Ex-Chief, Lewiston, Me., Cranford, N. J. Cushman, Frank, Chief, Indust. Educational Service, Wash., D. C. Bogardus, George W., So. Norwalk, Conn., St. Petersburg, Fla. Bogan, Robert A., Chief, Baton Rouge, La. Evans, John, Chief, New Orleans, La. Mottesheard, R. E., Dearborn, Mich. Steinkellner, Peter, Chief, Millwaukee, Wis.

#### INSURANCE BROKERS SECTION

Anderson, Arthur J., OBrion, Russell Co., 108 Water St., Boston, Mass. Boit, Dalton & Church, 89 Broad St., Boston, Mass. Brown, Lucy C., Delafield & Brown Co., Lenox, Mass. Bagg, William E., Insurance Broker, Pittsfield, Mass. Cairns, Robert T., Spec. Agt. Prov. Wash. Ins. Co., Boston, Mass. Cherry, Martin C., New Hampshire Fire Ins. Co., 89 Broad St., Boston, Mass. Clark, Robert M., G. H. Aldrich & Sons, 30 Main St., Keene, N. H. Crane, Norman B., Adjuster, 44 Kilby St., Boston, Mass. Dalton, William J., Adjuster, 141 Milk St., Boston, Mass. Downs, Edgar T., Adjuster, 41 Pearl St., Boston, Mass. Edgerly, Ferdinand B., Edgerly Ins. Agency, 839 Elm St., Manchester, N. H. Erskine, Kenneth H., Mgr. Liverpool & London & Globe Ins., Boston, Mass. Everett, Douglas W., Ins. Broker, Concord, N. H. Field, Eddy & Bulkley, 1200 Main St., Springfield, Mass. G. Allen Putnam Agency, Manchester, N. H. Haller, Julius, OBrion, Russell Co., 2 Coulton Park, Needham, Mass. Hamilton, H. J., State Agent, 390 Main St., Worcester, Mass. Hinckley, Ralph G., N. E. Mgr. Amer. Ins. Co. of Newark, Boston. Hurst, Carl E., State Agent, Conn. Fire Ins. Co., Boston, Mass. Jordan, Wm. T., Ins., 23 Alden Rd., Watertown, Mass. Keany, Walter, American Ins. Co., 61 Batterymarch St., Boston. Luitich, Alfred W., Staff Adjuster Fire Assoc. of Phil., Boston, Mass. Marsh, Eynn P., Spec. Agt. Home Insurance Co., Boston, Mass. McLean, C. Garfield, Adjuster, Pres. McLean Reports, Ins. Surveys, 101 Milk St., Boston, Mass. McWalter, John J., 34 Main St., Concord, Mass. New Hampshire Fire Ins. Co., Manchester, N. H. Pape, George R., Mgr., Nat'l Liberty Ins., 100 Milk St., Boston. Phillips, H. Vincent, Adjuster, 200 Franklin St., Boston, Mass. Ramsay, Merrill F., 41 Pearl St., Boston, Mass. Ray, Maynard C., Burlington, Vt. Rogers, Fred K., Adjuster, 10 Post Office Sq., Boston, Mass. Sherman, Emmanuel, Ins. Agent & Broker, 19 Milk St., Boston. Slee, Charles A., Agency Inc., Insurance Broker, Marblehead, Mass. Smith, Carlton D., Spec. Agt Amer. Eagle Fire Ins. Co., Boston, Mass. Stalliday, Clarence J., Spec. Agt., Amer. Ins. Co., Newark, Boston, Mass. Thomas, Clyde S., 7 Rock St., Middleboro, Mass. Tourison, Edward G., Adjuster, 141 Milk St., Boston, Mass.

<sup>\*</sup> Star before name denotes membership in International Association of Fire Chiefs.

#### TOTAL MEMBERS, NOVEMBER, 1941

MAINE	61
NEW HAMPSHIRE	53
VERMONT	33
MASSACHUSETTS	572
RHODE ISLAND	. 66
CONNECTICUT	133
NEW YORK	29
NEW JERSEY	29
PENNSYLVANIA	3
OHIO	5
WASHINGTON, D. C	3
MARYLAND	1
INDIANA	1
COLORADO	1
LOUISIANA	2
FLORIDA	1
MICHIGAN	1
WISCONSIN	1
CALIFORNIA	1
CANADA	5
HONOLULU	1
TOTAL	1,002

# RESOLUTIONS ADOPTED AT THE BOSTON CONFERENCE INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

Two resolutions relating to defense were adopted at the recent Boston Conference of the International Association of Fire Chiefs. The first, offered by Chief W. J. Cawker, of Topeka, Kansas, recommended that the Government make it a Federal offense to tamper with fire alarm equipment and fire apparatus during the present emergency.

The other resolution, offered by Chief S. R. Allen, of Brookline, Massachusetts,

was as follows:

"WHEREAS, a national emergency is facing us, bringing with it the threat of fire and sabotage from enemy action and enemy agents,

"WHEREAS, to prepare for the threatened danger, auxiliary defense organizations are being formed throughout the country,

"WHEREAS, civil defense in times of modern warfare has proven to be largely fire defense,

"WHEREAS, the training of auxiliary organizations for civil defense is largely a matter of training them in fire fighting operations,

"THEREFORE, BE IT RESOLVED: that this Association go on record as recommending that where an auxiliary civil defense organization is being formed, that the local fire chief be designated to head up the auxiliary fire force.

"BE IT FURTHER RESOLVED: that a copy of this resolution be sent to the National Defense Council, the various state defense councils and to mayors in cities in localities where the auxiliary fire forces are indicated as being necessary."

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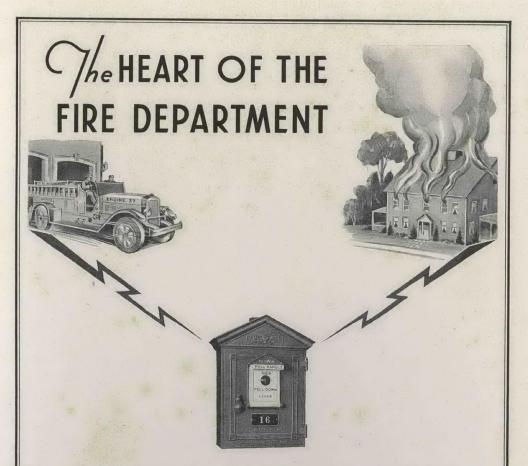
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