



The A-R-P

Air Raid Precautions

BULLETIN

PUBLISHED BY THE OFFICE OF CIVIL AIR RAID PRECAUTIONS

OTTAWA, DECEMBER 1942

New Incendiaries Change A.R.P. Methods

Enemy Use of Explosive Fire Bombs Make New Instructions Necessary

According to the latest reports from Britain, the enemy is now making extensive use of several new types of incendiary bombs that are far more dangerous to deal with than any used in the past.

Some of these contain powerful explosive charges which detonate on impact, while others are equipped with delayed action fuses so that they do not explode until some time after they fall. Some are of the ordinary magnesium type; others are filled with live phosphorus or a phosphorus-oil composition. These explosive incendiaries have no great demolishing power, but, like fragmentation bombs, they are designed to kill or wound.

These new types of fire bombs not only create new and greater hazards, making the work of those who may be called upon to fight them more difficult, but necessitate radical changes in the general tactics of defence against incendiary raids. Even more important, these bombs compel radical changes in the actual methods of dealing with all incendiaries, and the discarding of some previously effective methods now become dangerous because of the explosive menace.

New Enemy Tactics

In an attempt to defeat well organized civilian defence and start a large number of major fires as quickly as possible, the enemy is not only using explosive bombs in conjunction with the ordinary type of incendiary but is employing new methods of attack. When conditions make it practicable, enemy raiders may fly at low altitudes and drop explosive and ordinary fire bombs in relatively large clusters. Or, if forced to attack from high altitudes, they drop containers, each filled with from 10 to 120 fire bombs, which burst at a low height or upon striking some object, and release their contents.

In both cases, a large number of bombs fall within a small area and instead of one or two bombs penetrating a building, five or ten or even more may fall within a single room. This makes the task of dealing with them much more difficult and, if some of the bombs happen to be of the explosive type, the situation is definitely dangerous.

New Types of Incendiaries

Of the new German incendiaries, one type is being used more extensively than any of the others. This is a high explosive modification of the small magnesium fire bomb. Actually it is an ordinary "kilo" magnesium bomb with a powerful charge of high explosive in an extension fitted to the nose. A wire, running the length of the bomb, holds the two parts together until impact when, usually, they break away and fall a short distance apart. The impact causes the fuse in the incendiary to light the thermite contents immediately and this, in turn, ignites the magnesium casing. At the same time it ignites a delayed action fuse in the explosive extension which usually **does not detonate until from one to seven minutes after, and therein lies its greatest danger.** The overall length of this bomb is about 21 inches and its weight is about five pounds—double that of the ordinary incendiary—which gives it much greater penetrative power.

Other types of explosive magnesium incendiaries used by the enemy carry the explosive charge in the casing or in the tail. These generally explode within the first two minutes.

Phosphorus and phosphorus-oil bombs are easier to recognize by the clouds of acrid smoke they give out and while these bombs are poor incendiaries, the fine particles of molten phosphorus are extremely dangerous. Water will put them out immediately, but every particle must be kept wet until placed where they can burn

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Eight Pointers On Incendiary Control

1. Bombs falling where they will do no harm should be left to burn themselves out. Keep away from them. If you have to pass one in the open do so on the run, giving it a wide berth and making use of any cover available.
2. Bombs falling where they may start a fire must be attacked promptly and resolutely but from behind the best cover available.
3. Use a stream of water on all types of burning incendiary bombs. Don't try to use sand-mats or other short range methods. If you haven't a stirrup pump or garden hose and you have to act alone, throw water from behind cover in the direction of the bomb, using a small container filled from a bucket. Then, after seven minutes or when the bomb has exploded, enter the room and extinguish any remaining fire.
4. Concentrate on the fire first; then on the bomb.
5. If possible, attack a burning bomb in a room through a doorway from behind a wall or from the outside through a window, using the exterior wall of the building as a shield.
6. Search all floors for bombs. The new incendiaries have greater penetrative powers than the ordinary magnesium fire bomb and may go through to the ground floor.
7. Bombs lodging in the roof usually will be of the non-explosive type unless the roof is exceptionally strong. The new incendiaries usually penetrate the roof and one or two storeys.
8. Do not touch, move or otherwise attempt to deal with an unignited bomb. Some bombs contain a composition which will ignite spontaneously when wetted and allowed to dry. Others contain an explosive charge, to which is connected a delicate detonating fuse that will cause it to explode when touched.

Report unignited bombs immediately to the nearest Air Raid Warden or policeman.

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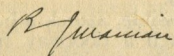
Men of Goodwill . . .

In a few days the Christmas Star will shine again on a troubled world. Countries have been blasted, homes have been wrecked and war has taken the lives of thousands of helpless women and children whose only crime was the love of Peace and Freedom. Another war-torn Christmas faces the people of Britain, but a Christmas that will be enjoyed, no matter how few their gifts, by hundreds of thousands of tiny tots who owe their lives to the tireless efforts of modern "Minute Men," the A.R.P. workers.

Ever since the outbreak of War, A.R.P. workers—these men and women of Goodwill—have given freely of their time and talent to study and practise Air Raid Precautions so that others might live. Their labours were not lost.

We in Canada have much to be thankful for this Christmastide, but we do not know what the New Year has in store for us. Our own "men and women of Goodwill" are rapidly winning the gratitude of the rest of our civilian population. Your generous work for the protection of others is recognized now, although its importance was not fully realized at first.

Continue the splendid work you are doing, strive for maximum efficiency and may Christmas be good to you and yours!



Director of Civil Air Raid Precautions

In This Issue

Much new information of a valuable nature has reached this Office since the last issue of THE BULLETIN, and in order to make it available immediately to all ARP personnel the current issue of THE BULLETIN contains four additional pages.

A.R.P. units all over the country are sending in helpful suggestions several of which appear elsewhere on this page. We hope they will be as useful to our readers as were others reported in previous issues of THE BULLETIN. We also wish to thank those who have contributed material for publication and to all ARP workers and their families the editorial staff sends its Christmas Greetings.

Useful Suggestions From The Field

New Device for Gas Mask

Keeps it in Position

A device to prevent slipping of the Civilian Respirator on the face when performing such vigorous work as operating a stirrup pump which was suggested by a Head Fire Guard, has been recommended for adoption by any users likely to have to perform work of this kind during a gas attack. It consists of a length of wide tape or 2" bandage, which is tied around the canister above the swage and knotted with a reef knot on the underside, leaving two loose ends which are passed round the neck and tied when the respirator is put on. A loop of tape may also be fitted through the slot at the bottom of the head-harness buckle and if the tape which goes round the neck is passed through this before tying, additional security is obtained.

Emergency Gas Mask

Easily Made at Home

The description of a simple protector to be used in limited situations where gas warfare is imminent, has been forwarded to Hon. R. J. Manion, Director of Civil Air Raid Precautions.

The article is made from two 12-inch squares of sheeting or similar material, and ordinary baking soda.

The soda is sprinkled $\frac{1}{4}$ inch thick between the cloths. These are then sewn at the edges and roughly quilted to prevent the soda from shifting, or spilling. When needed, the whole is wetted and held firmly over the eyes, nose and mouth.

The Chemical Warfare Branch states that the device would be useful, on account of its alkalinity against acid gases. It offers good protection against chlorine, some against hydrogen cyanide and a little protection against low concentrations of phosgene.

It is not equivalent to the charcoal of respirators since it is not very effective against mustard gas vapour or the various tear or nose gases.

It is, however, easily made at home and hence the suggestion. Dr. Manion states "So long as these points are remembered, the whole idea is very well worthy of consideration, but it should not be advised unless at the same time its limitations are mentioned."

Home-made Nozzles

Windsor's Fire Chief DeFields is never at a loss for spare nozzles for the ARP pumpers. He makes them himself. Using a cap for a $1\frac{1}{2}$ " pipe, he drills a hole in the end and inserts a $\frac{1}{2}$ " pipe about 9" long. In this way the Windsor ARP group have several spare nozzles of various sizes which cost next to nothing. Chief DeFields says the whole nozzle can be made for less than fifty cents. A sketch is shown in this issue on page 7.

Use of Phosphorescent

Materials Disapproved

Expert advice has been received which disapproves of the use of phosphorescent materials at the present time for such purposes as signs, stickers, armbands, etc.

The experts have pointed out that phosphorescent materials lose their brightness after a few minutes of exposure to light and become similar to ordinary white paint under starlight. Also, many such materials deteriorate rapidly in sun and rain so that their outdoor use is limited. In addition, these materials are critically needed for other purposes.

War Gasoline Affects

Operation of Pumps

Some municipalities have experienced difficulties with the operation of the motor on the pumps due to the ingredients of the present-day supply of gasoline.

A substance in the gasoline apparently forms a varnish-like compound which affects the valves, carburetor, etc. The longer the pump is left without operation, the greater is the effect.

This is not a defect in the apparatus since cars are affected in the same manner.

We have secured the following information for distribution:—

- (1) Use only the highest grade gasoline in the pumps.
- (2) Mix one ounce of Penetrol to each gallon.
- (3) Turn the motor over for a short time frequently.

The manufacturer points out that in order to ensure a more efficient operation of the pumps, particularly in practices, that they be allowed to warm up to 160°-180° before the load is put on them.

These precautions will not entirely eliminate the troubles, but will reduce them a good deal.

Carriers From Tin Cans

An excellent carrier for your respirator has been devised by Mr. S. Wickham, a New Westminster warden, and we pass it on to you.

Obtain two tomato cans, four inches in diameter by four and a half inches in height. Crimp the open end of one to a depth of about one inch so that the open end of the other can fit over it snugly. Line the one to be used as the bottom can with cardboard to prevent the canister from rattling and chipping. Two eyelets, similar to those on a fishing rod, are then soldered to the sides of each can, opposite to each other. The eyelets on the top can are set horizontally, but those on the bottom one are set vertically. A leather thong or piece of stout cord is then threaded so that it passed through the top eyelets, down to the bottom ones and thence around the bottom can. A sufficient amount of cord is provided so that it will be possible to sling the carrier around the shoulders.

The whole equipment is then enamelled black and lettered with "A.R.P." and provides you with a neat, weatherproof, non-collapsible respirator carrier. It's cheap and practical. You can make it yourself easily.

Canadian Newsman Tells of Damage Done by Lone Bomb

**J. R. H. Sutherland, Editor,
New Glasgow, N.S.,
"Evening News" in Raid:**

Somewhere In England: A.R.P. work is no joke in Canada. Having seen the need of it in Britain and the marvellous efficiency which has been built up, as well as the terrific destructive power of even a small bomb, I am sure now that Canadian A.R.P. must have an A-1 priority.

The bombing which enabled us to get first-hand information on this sort of thing in Britain occurred just after The Canadian Press party had left a south coast town to go inland and see one of our armored brigades at work—about fifteen minutes after we had finished lunch.

It was only a small raid—as small as a raid could well be—just one plane with one bomb and machine guns. That was quite enough to illustrate his point and give us a lesson in what air raids mean.

Wardens later told us Jerry came over in a fast Messerschmitt, flying low, dropping his bomb and gunning some household gas tanks. His guns got three out of four tanks and the bomb dropped about six feet in front of a nine-storey block of apartments, killing and injuring a number of people including a young Canadian.

As we were returned to the town, in peacetime a noted beach resort, in the evening after curfew, we could not examine the damage until next morning, a Sunday.

(The curfew incidentally is observed by all—pubs close at ten and everyone must be home at 10.30).

By the time we got on the scene where the bomb did the damage some three hundred workmen were busy. More than a hundred were knocking out what glass was left in the window frames of the apartment house, and the rest were cleaning up the debris.

We were amused to note a few old-timers busily engaged in sweeping up the lawn and like true greenhorns, we put their efforts down to British thoroughness and love of growing things. But it turned out to be something entirely different.

It seems the suction of a bomb blast pulls out all sorts of things and already the old-timers had found two rings, a silver cigarette case and a couple of jewel boxes.

Local A.R.P. officials, on hearing who we were, courteously took us inside the roped-off area to see what a small 250-pound bomb does. And having seen it, I have a great deal more appreciation of what our two-ton ones must be doing to Germany.

Outside the building was the crater, not very deep, and a scar on the lawn where the bomb had struck first and then bounced. Not a pane of glass was left in the front of the modern structure and pock-marks all over it showed the force of the blast.

But it was inside that we saw the real effect. The marvel to me was that all the tenants were not killed.

Pieces of glass the size of a thumbnail covered floors, doors with their hinges and other metal fixtures blown loose were lying on the floors, furniture was scattered around helter-skelter, and here and there we noted blood on the walls and carpets.

The plaster was cracked and gashed in the most fantastic pattern; gouged where flying chairs had struck it and sometimes punched through. Even the rooms at the back were smashed up. The force of the blast had lifted the entire structure.

Fantastic too it was to see wardrobes and desks with their ends blown out and stuffed chairs ripped open like corn in a popper.

It was terrific, and since our hotel also faced the Channel, we were not displeased that our schedule called us to leave that afternoon. Considering the German habit of sending over a lone "Hurry" bomber which unloads and scoots for home to be followed in a few hours, or the next day, by another.

The A.R.P. here functions smoothly and efficiently. The chief warden was caught at a game of golf, which he dropped and rushed to the scene, while his deputies sent out a call for workmen. These were rounded up within a 25-mile radius and brought in on lorries.

The first task was that given the casualty section. They entered all flats looking for bodies and the injured. They told us this was a difficult job because often occupants of a bombed building are found under mattresses and debris.

The injured were given treatment and sent to hospital. This raid had a score of thirty-six casualties, of which only twelve were seriously enough hurt to be kept in hospital. Among them was the Canadian lad of whose death we were informed before we left the town.

This youngster, by the way, had just arrived there the day of the bombing. Included in his effects was an unopened parcel from his mother. Perhaps nothing struck us so forcefully or intimately as this.

In the A.R.P. line of action, while the rescue squad is at work, another section starts evacuating those left homeless finding shelter for them and giving monetary aid to those who need it.

The repair gang then went to work, cleaning up and trying to make the place water-tight to preserve it from further damage by the weather.

Working silently and rather grimly for the most part, they accomplished wonders before our eyes. But they are always handicapped now by a lack of materials—glass, for instance, is extremely hard to get.

Most of these workers, we were told, would have to leave the job on Monday and return to their regular employment.

Outside the area of operations was a mobile canteen, this one from South Africa. You see them with heartening frequency all over England. Anyone in Canada who has given money to the Queen's Fund can be assured it was well spent especially when it went to purchase a mobile canteen.

A.R.P. Wardens On 24-Hour Duty In Blackout Areas

In spite of the threat of bombardment by German submarines, a threat which has been increased by recent German reverses, there are still many people in blackout areas who do not realize the danger to which they expose themselves and others when they fail to conform with blackout regulations.

Air Raid Precautions are essentially a co-operative effort built on public spiritedness, goodwill and neighbourliness rather than on State legislation. It should not be necessary to resort to the courts of law in order to persuade free people to protect themselves, their neighbours and their native land from enemy treachery.

Wardens and all A.R.P. personnel in designated areas where continual blackout is in force should consider themselves on 24-hour duty, taking advantage of every opportunity to educate their fellow citizens in the importance of the blackout regulations and take turns in patrolling their districts to make sure that no unauthorized illumination is visible. This is a serious business, not to be taken lightly.

The German Government has had no victories to boast of during the last two months and may reasonably be expected to attempt anything that might have the appearance of a master coup in the eyes of the German people. A raid on this country, greatly exaggerated by German propagandists for home consumption, is a distinct possibility.

Priorities and Sirens

The difficulty experienced by the A.R.P. office at Ottawa in obtaining siren supplies is well explained in an item published in an Associated Press despatch from Washington, December 2nd.

In this despatch it was pointed out that "materials used in telephone installations and operations are critically scarce"—they emphasized the expression "critically scarce" and went on to say that more telephone equipment is needed in no-man's-land than for peace time necessities and they urged a much restricted use of the telephone by everybody in civilian life.

It is for the above reason that the obtaining of siren equipment and telephone accessories by the Federal A.R.P. Office is almost impossible.

We watched this one with wonder on our faces as the staff of women carried out their duties with smiles and speed. Demolition workers and A.R.P. men came down for their cups of tea and a few biscuits, and then refreshed went back to their jobs.

Most of us in the press party had hoped that if England has to endure air raids, that we'd be in one. Few of us have the same wisdom now after seeing just what one little bomb does. An all of us are strong for A.R.P. preparatory work—especially the first aid, fire-fighting and repair.

Duties of Post Wardens and Senior Wardens

*Based on a Series of Lectures given by
J. A. Clou, A.R.P. Controller, Burnaby, B.C.*

The first leader of a sub-unit, or Post, made up of well-trained Wardens is the POST WARDEN.

He is a combined Sergeant-Major and Company Quartermaster, and a very capable man is required to fill this important rank. The Post Warden must be informed of all reports sent to Control Centre by his wardens. When direct contact with Control Centre cannot be made by the wardens they will report to the Post Warden who will then become the connecting link between them and Divisional or District Control. Added to this he has many other important duties which may be briefly catalogued as follows:

To prepare a Post Map and to lay his area out into Beats.

To recruit Beats up to strength and to prepare Patrol Schedules (as most Wardens have to carry out their normal work by day. These shifts should be arranged so that a man is not deprived of his rest more than is essential).

To arrange, with his District Warden, for the instruction of his Post by WEEKLY meetings, and taking such steps as are necessary for promoting the efficiency of his Post in an emergency.

To build up and maintain his runner service and to see that these, if juniors, co-operate in training.

To keep all records, distribute supplies and see that supplies are returned (including registration cards) from any Warden leaving the Service.

To see that his Wardens are co-operating with householders in taking the necessary protective measures to enable them to look after themselves as much as possible in an emergency. (Inspection of homes, fitting of Respirators, etc.).

To advise his District Warden of all changes of membership, reporting on individual efficiency or slackness.

To keep a Post Log (an ordinary exercise book is sufficient) recording all attendance at Post meetings, detailing all activities of the Post and all items of information regarding Blackouts, incidents, etc.

The District Warden besides his administrative duties and the superintending of Warden training, should be well versed in the duties and functions of an Incident Officer. He must have a complete and thorough knowledge of his District, all Wardens' Posts, First Aid Posts, places of special danger, shelters, etc. He will keep all records of equipment issued to his Posts and will keep the Divisional Warden fully informed of the condition, strength and state of training of the District.

The Division Warden is the man who is responsible for the organization of the Division, and its smooth functioning in an emergency. In many areas owing to the need for de-centralization, he will be a self-contained unit, having certain equipment and services UNDER HIS CONTROL, only calling on Main Control if the situation is getting out of hand.

Whilst it is desirable that the District Warden should be responsible for the Training and efficiency of his District, the DIVISION WARDEN should not forego the function of guidance and

control, but exercise a general supervision which, without curbing initiative and taking the form of interference, should insure that the training is progressing upon uniform and approved lines.

The Chief Warden:—The function of this officer must be regarded in the same light as the Head of a Department, having the same control and responsibility as the Heads of the other Services (i.e.; Controller of Fire Services, the Controller of Police Services, etc.) **He is the link between the A.R.P. Officer and the Warden Service;** all matters of training, policy and co-ordination come under his sphere of authority.

Thus it will be seen that every man has his place, his responsibilities and his own particular duty to perform in the Air Raid Precautions Scheme.

Let us picture the opening of an imaginary incident to further illustrate this.

One night the Air Raid Siren starts up on a five-minute steady note. It is a Precautionary Blackout. All Wardens go on duty until the Beat is blacked out. The Warden then consults his Patrol Schedule and, if on duty at that particular time, then he takes over the whole Beat, the other two or three Wardens returning home, holding themselves in readiness. Patrolling then continues according to schedule. (See Fig. A, page 7.)

At 2000 hours the wailing note of the Imminent Danger signal sounds. Patrolling still continues according to schedule, but the Wardens Post is manned. The runner on duty reports there, also any reserve wardens who may be in the area. The equipment, stirrup pumps, etc., is checked to see it is in working order. Report forms and pencil are placed in readiness by the telephone, the log book entered up with the names of the men on duty, etc. Pails are placed by the stirrup pumps in readiness to be snatched up at a second's notice.

The Deputy Post Warden has covered the beats and reports to the Post Warden that the Wardens are on their scheduled patrols. The District Warden is then notified to that effect.

Suppose gun fire is heard: enemy planes are overhead. Wardens on Patrol take cover and await development. Bombs are heard falling. There are three sharp detonations in quick succession. It is obvious that damage has occurred on or near Beat No. 4. All Wardens turn out and patrol their portion of the Beat rapidly. A house has been hit and there is a possibility of fire and casualties. The wardens now follow the routine as set out in the diagram on page 7.

The first Warden on the scene (or discovering Warden) becomes No. 1. He blows his whistle to attract attention of his colleagues who are still searching. The next Warden to arrive becomes No. 2. No. 1 Warden quickly surveys the damage with the help of his colleague. Here, quick clear thinking is imperative. Has fire started, is it worth reporting, is it one that the occupant could extinguish with his garden hose or Stirrup Pump. No. 1 sizes up the situation and writes his report. No. 2 rushes to the nearest phone, if it is out of commission he proceeds in the direction of the Post but a few

(Continued on page 7)

Recommendations for Driving in Blackouts

1. Wait Till You Can See in the Dark:

After stepping from a lighted area into a blackout and before driving, wait until you can see details (steps, door, windows) of a building across the street. Do not strike a match. If you use a flashlight, be sure it complies with blackout requirements, that the lens is shaded, and point it only downward. If it is unusually difficult for any driver to see in the dark, do not attempt to drive your car in blackout.

2. Keep View Ahead Clear:

If your windshield can be opened, you will see considerably better if you open it regardless of weather. Otherwise keep your shield spotlessly clean both inside and out.

3. Drive Very Slowly:

Never go faster than 15 miles per hour in a blackout area. Always slow down at intersection.

4. Keep Your Mind on Driving:

Be prepared for an emergency stop at any time. Keep well over on your side of the road; do not cross the centre line. Never follow another car closely. Overtaking and passing is much more hazardous than usual.

5. Use Special Care at Street Crossings and Turns:

At intersections, the sides of cars on the cross street are almost invisible. At turns, your blackout vehicle lighting equipment will not light the path ahead at all well. You can increase the visibility of the side of your car by painting side walls of your tires white, by reflectorized material or, if not available, a white stripe (of adhesive tape, paint, etc.) on the edge of the running board and on the fenders. The front and rear bumpers may also be similarly made white.

6. Make Extra Allowances For Errors of Others Drivers or Pedestrians:

They may have special difficulties, such as poor night vision.

7. Never Block the Road:

Never leave a car on the street except parked on the left-hand side and close to the curb. Leave extra space near fire hydrants and park at least 25 feet from corners. On a rural road always park a car off the road.

8. Stay Sober:

Night driving, even under normal peace-time conditions, is on the average more hazardous than day driving, and during blackout conditions the dangers of night driving are considerably further increased. For that reason, those who have experienced difficulty in driving at night with normal road illumination should not undertake to operate a motor vehicle during blackout. When driving at night in a blackout, drive very slowly and make 15 miles per hour your maximum speed. Drivers should recognize the well-known fact that ability to "see in the dark" varies widely with individuals and that, unless a driver possesses this characteristic to a relatively high degree, it would be better for him to refrain from night driving.

Director of Civil A.R.P. Sees Menace of Raids

All Should Be Prepared

Ottawa: Hon. R. J. Manion, Director of Civil Air Raid Precautions, said in a recent nation-wide radio address he will be very much surprised if some Canadian cities—inland as well as on the coast—are not attacked from the air before the war ends and that less than half the cities of Canada have proper fire-fighting equipment to meet even normal peacetime needs.

Says Duty Neglected: The peacetime "duty" of bringing fire-fighting apparatus up to normal needs had been too much neglected by municipal authorities from coast to coast.

"I am informed less than half our cities have the proper fire-fighting equipment for normal peacetime requirement," said Dr. Manion.

"In times such as the present that is almost a crime against our national life."

During wartime, all citizens—men and women—who were not physically fit to join the fighting forces should realize it was their duty to offer their services as auxiliary firemen, fire watchers, air raid wardens, or first aid or helpers, "so that they may feel certain that they have done their duty toward maintaining for our children, and for those who follow after, the freedom of our country."

Fire Damage Greatest: The greatest damage suffered by London during German raids had been due to fire destruction. Protection against this destruction had not been fully prepared at the beginning of the war.

Canada could prepare to meet the fire danger brought about by enemy air raids by an elaboration and extension of peacetime fire-fighting and fire prevention plans. Peace methods included the provision of up-to-date electrical fixtures; the cleaning out of potential fire hazards like cluttered-up attics, sheds or pantries; avoidance of carelessness by smokers, particularly "that hazard to life and property that accompanied smoking in bed," and in general the carrying out of precautions recommended in education campaigns.

"Had London, when attacked in 1940, not hurriedly prepared for future attempts by the enemy to burn down that city, and had not the citizens of London courageously and almost unanimously volunteered to serve in the many capacities, some of which I have mentioned, that noble city might well have been burned to the ground with, perhaps, the collapse of the nation itself."

Could Raid Canada: "And while we are much less liable to that type of attack than is Britain, being, fortunately for us, so much further from the enemy airdromes, at the same time I shall be very much surprised if some of our cities, not only on the coast but inland, do not suffer some air attacks during the war."

In half an hour certain German cities had as many as 100,000 incendiary bombs dropped on them by British airmen. It would be unlikely Canadian cities would have as many incendiaries dropped in one attack. But Canadians should remember the temporary wooden type of structure in many cities, especially along the coasts, and recognize that one-tenth as many incendiaries, followed by high explosives, might do immeasurable damage, particularly if the people in attacked cities were not trained and willing to do their duty in preventing destruction.

Fire-Marshall Scott's Report on A.R.P. Preparedness Across Canada

Province of British Columbia

Shows Unusual Determination

High praise was voiced by W. J. Scott, Fire Marshal of Ontario, for British Columbia's enthusiasm and initiative in organizing for A.R.P. Mr. Scott is touring Canada at present on behalf of Hon. R. J. Manion, Director of Civil Air Raid Precautions and is making a special inspection of fire apparatus and organization.

He points out that the west coast citizens are wholeheartedly behind the cause of civilian defence and have supplemented the equipment supplied by the Federal Department with extra articles at their own expense. Pictures taken by Mr. Scott show that many of the small fire fighting units are completely equipped, even to the point of setting up fire stations of their own by converting disused buildings and renovating them completely. Here are some of the highlights of Mr. Scott's report on the activities in British Columbia.

(1) Almost universally the citizens have purchased equipment such as old trucks and cars, ladders, hose carriers, fire extinguishers, pails and numerous minor accessories. One place has even constructed a small fire hall complete with a hose tower. A tangible result of these, fire insurance rates from \$2.00 per \$100.00 to 80 cents per \$100.00. Needless, to say these people are very proud of their locally manufactured equipment.

(2) In some places High School students have been trained to supplement the A.R.P. personnel, particularly during daytime when the adults are engaged at their own business.

(3) One city has constructed an underground concrete control centre. This city has also used carrier pigeons to send messages to outlying districts.

(4) All extra expenses in connection with local developments were raised by the people themselves after receipt of the equipment from the Federal Air Raid Precautions Department.

Some general observations were included in Mr. Scott's report which he considers would be of general interest to civilian defence authorities in other parts of Canada, as well as British Columbia.

(1) Provinces ought to be encouraged to have a Director of Fire Services. In some provinces it

appears that full provision for this office has not been made.

(2) Each province should conduct a comprehensive survey of all the regular municipal fire apparatus, equipment and personnel now available for A.R.P. municipalities. This survey ought to include the deficiencies of these municipalities in their ordinary fire protection distinct from the probability of loss due to enemy attack.

(3) A survey should be made of the total A.R.P. fire-fighting needs of each municipality on the basis that the municipalities concerned have done their part towards bringing their brigades up to a reasonable peacetime standard.

(4) Adequate arrangements should be made to correlate the various fire brigades and the auxiliary fire services to provide an area fire defence. This would mean that municipal boundaries would have to be disregarded somewhat in order to protect the points of greatest danger.

(5) Municipalities should look to their emergency water supplies and pumping stations. Alternative messenger services for the fire services should be provided for in case of interruption of telephone communications. Detailed maps of the municipalities showing the location of fire apparatus, hydrants, etc., should be available.

(6) Since prevention is the best means of combating fires, an adequate system of roof spotters should be organized everywhere.

(7) The use of full-time A.R.P. controllers for each city will result in well co-ordinated municipal services.

As we go to press Mr. Scott has reported only on the Province of British Columbia, but in his travels up to that time, he drew particular attention to the enthusiasm and initiative shown by the officials in the various municipalities and reports on other Provinces will be featured in subsequent issues of THE BULLETIN.

P I C T U R E S O N P A G E S I X

Field Notes, Here and There

Nova Scotia: A.R.P. workers assisted in canvassing for the Salvation Army War funds with success. The committees in Armdale and Spryfield have been conducting salvage campaigns and have secured funds for local A.R.P. needs.

At Florence, members of the fire-fighting unit were instrumental in saving a residence from fire. This was the first time this unit functioned in actual fire-fighting, and it was entirely successful.

Ontario: In Toronto two A.R.P. wardens saved the lives of five women who were overcome with gas in their apartment. One of the workers was a woman. Artificial respiration was applied until the arrival of a police pulmotor.

Eighteen A.R.P. workers at Billings Bridge assisted at the scene of a train wreck recently. First Aid Posts went into action, auxiliary police took charge of traffic, and wardens rescued injured trainmen.

Two suggestions were made by local authorities. First, that armbands should be carried on at all times. The effect is very apparent. Second, that A.R.P. workers in cases like this, should report to the civilian police before assuming duties.

At Welland the medical organization performed smoothly and efficiently in their first emergency call, according to Dr. W. K. Colbeck, M.O.H., after the casualties had been cared for as a result of the building collapse disaster in that city recently. Several men were killed and hospitals were overflowing, not only were the First Aid group busy, but also the rescue squads, auxiliary police and firemen.

In fact, the work was so well done that Mayor T. Harry Lewis stated, "It only goes to prove the necessity of organized A.R.P. in this community."

New Brunswick: "The A.R.P. equipment in New Brunswick has already been more than paid for due to the extinguishing of fires which might have resulted in serious losses," claimed H. M. Armstrong, acting A.R.P. officer of that Province.

Mr. Armstrong, to substantiate his claim, cited two instances where stirrup pumps alone were used to fight fires on two bridges. From Dalhousie, comes the story of assistance given to fight a large forest fire. All other forestry equipment was in use elsewhere so the local A.R.P. equipment was called out. After twenty-seven hours, the fire was finally extinguished. Not only was a serious forestry loss averted, but if uncontrolled, the flames might have swept through a small village nearby.

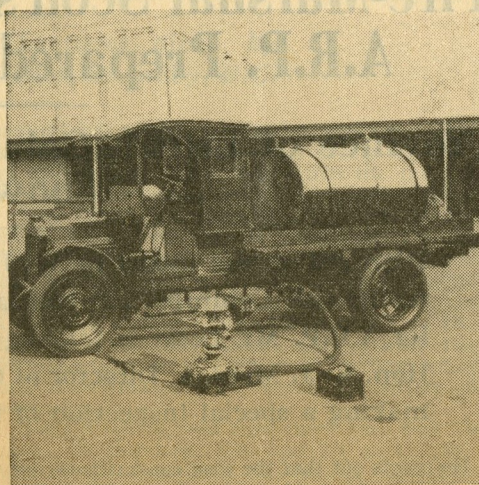
At Chatham, the town water supply became depleted due to drought. The A.R.P. pumper was utilized to keep the reservoir filled from an artesian well until rainfall rectified the situation. The pump was used for eighteen hours each day for 52 days and performed wonderfully well.

The New Brunswick organization seems justified in its claims and these few illustrations seem to prove the value of auxiliary units, trained to act in any emergency. They testify also to the excellence of the equipment being supplied by the Federal Department.

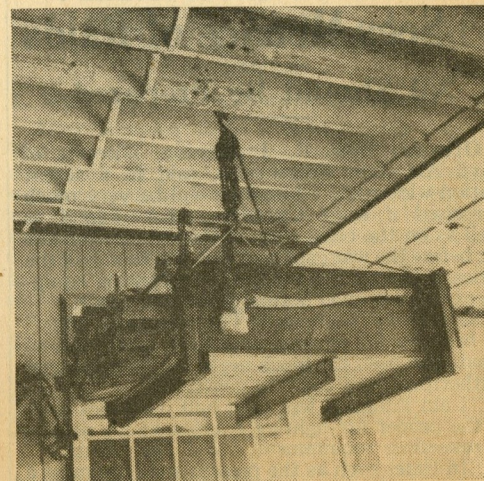
Prince Edward Island: The performance of Charlottetown A.R.P. workers and their equipment was highly praised by Provincial authorities as a result of achievements during a recent forest fire near Tignish.

A pumper was rushed to the scene where it was found that due to low tide, sixty feet of suction hose had to be laid in order to reach water. Two lines were laid, one about one mile long and the other about half a mile long. The total length of hose was seven thousand feet. Forty minutes after receipt of the alarm, water was delivered at the fire and four hours later, it was extinguished.

Resourceful A.R.P. Workers Show How



Old fire truck converted by Victoria Fire Department to carry a 600-gallon water tank and a 50 g.p.m. A.R.P. pumper.



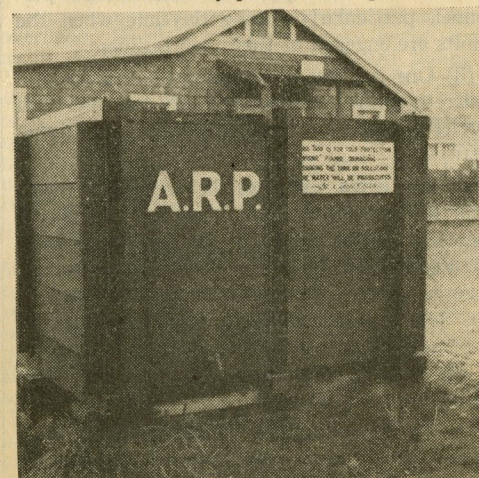
Special hose body designed by Victoria Auxiliary Firemen for use on a commercial truck. The device is suspended by rope and pulley ready for lowering on truck.



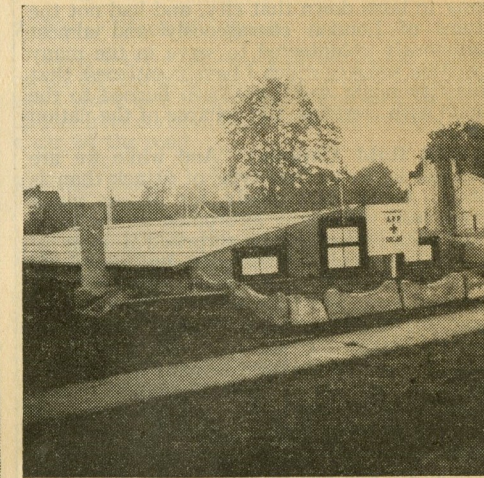
A.R.P. fire hall at Brechia District, Nanaimo, B.C., built by Auxiliary Firemen. Cost: \$356. Funds raised by public subscription.



A.R.P. fire truck and hose reel at Brechia District, Nanaimo, B.C., also built by Auxiliary Firemen. Total cost: \$48.00.



One of the many wooden water storage tanks erected in Saanich Township, B.C.—Capacity 600 gallons. Total cost: \$44.00.



Underground concrete A.R.P. Control Centre at Nanaimo, B.C., built on donated land with donated materials and all voluntary labour.

(Photos taken by Fire-Marshall W. J. Scott)

Duties of Past Wardens and Senior Wardens

(Continued from page 4)

blocks away tries another phone. If still "out," he gets to the Post as rapidly as possible.

On arriving at the Post, he shouts "Air Raid Damage." All talk immediately ceases. The report is 'phoned through immediately to Control Centre. No. 2 and a reserve Warden return to the scene of the incident with the Post stirrup pump and pails. The Post Warden notifies the District Warden, or his deputy, who proceeds to the incident to take charge as Incident Officer.

In the meantime No. 1, and any other colleagues who arrive, effect Light Rescue. The fire is perhaps increasing in the house that was hit, other houses nearby were shattered by bomb blast and are also catching fire. No. 1 details other Wardens or Auxiliary Police to look for casualties in them, people perhaps stunned and unconscious. They must be carried out of danger up wind away from fire and smoke. By this time the Incident Officer should have arrived to take charge. No. 1 tells him what has already been reported and gives him any other details he has discovered by further reconnaissance. No. 2 still acts as messenger unless the Incident Officer has brought a runner with him.

This simple team drill requires practicing until all Wardens are well acquainted with the method of procedure. From the very first every Warden has a definite job to do and is so concerned with doing it quickly, that he has no time to act in an indecisive manner. Quick decisions will have to be made. The Warden will have to use a lot of common sense, but he must act on the basis that his duty is to save life on his Beat as a whole and not endanger the lives of others by giving too much assistance to any individual.

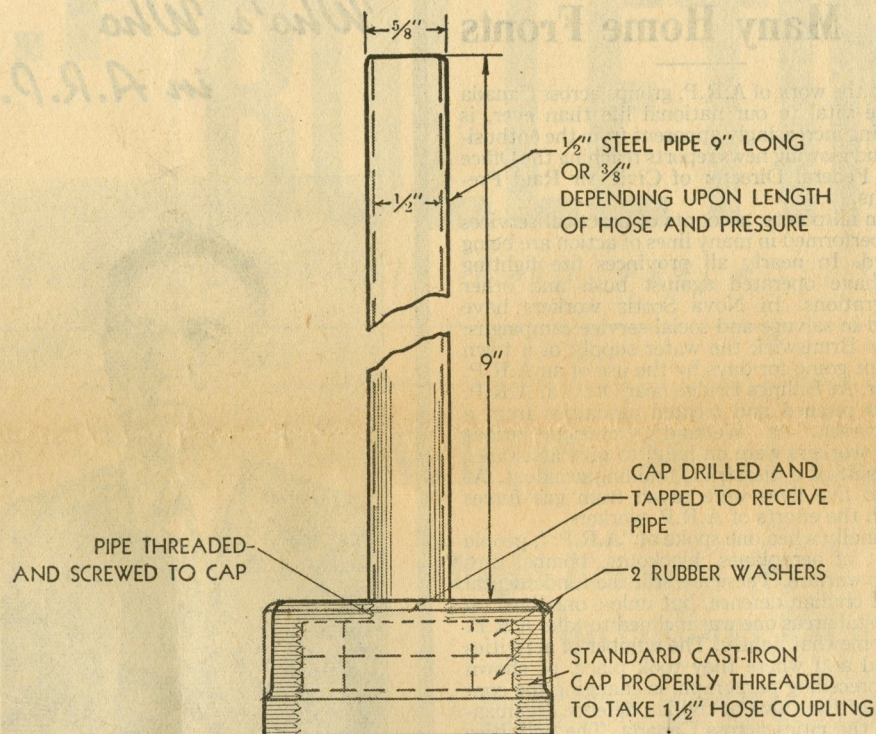
Above all, he must act calmly and reassure people by his own personal example.

FIG. A

A.R.P. SOUTH BURNABY DIVISION WARDENS' SERVICE

PATROL SCHEDULE			POST		DATE	
SHIFT NUMBER	TIME	BEAT No. 1	BEAT No. 2	BEAT No. 3	BEAT No. 4	
1	1800/2000	Smith	.....	.....	.....
2	2000/2200	Brown	.....	.....	.....
3	2200/2400	Jones	.....	.....	.....
4	2400/0200	Smith	.....	.....	.....
5	0200/0400	Brown	.....	.....	.....
6	0400/0600	Jones	.....	.....	.....
OFFICER		NAME		ADDRESS		PHONE
Post Warden		E. Phillips		30 Orange Street		0142
ALTERNATIVE REPORTING CENTRES						
Deputy Post Warden		F. Wilson		42 Purple Street		1638
Deputy District Warden		A. McKay		64 Purple Street		1270
District Warden		P. O'Brien		97 Green Street		1496
PERSONNEL						
W. Smith		72 Orange Street				1431
G. Brown		89 Red Avenue				1729
H. Jones		46 Blue Rd.				0436

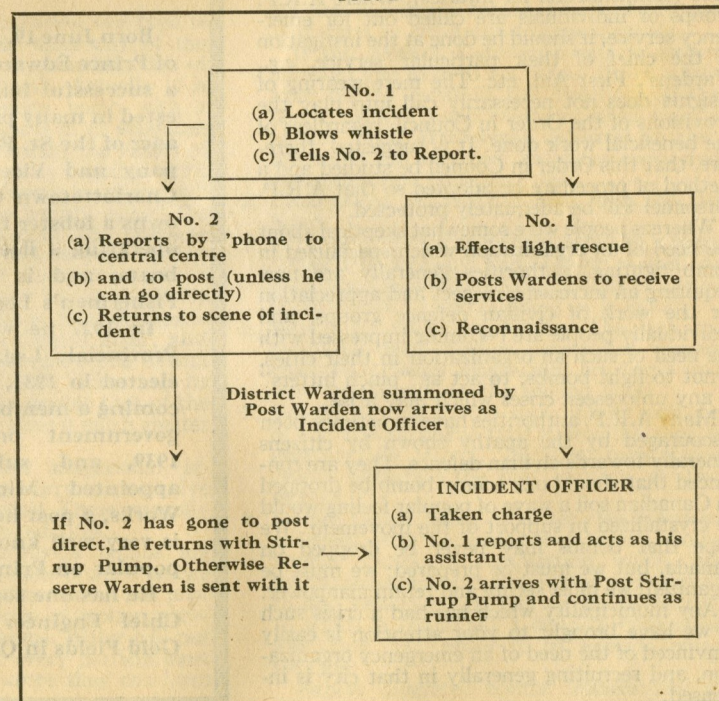
Wardens: Bring this schedule and your map to all meetings for entry of changes and additions.



AUXILIARY NOZZLE

FOR 1 1/2" HOSE OF AUXILIARY FIRE PUMP

FIG. B



A.R.P. Units Serving Many Home Fronts

That the work of A.R.P. groups across Canada is more vital to our national life than ever, is becoming increasingly apparent from the enthusiastic and glowing news reports reaching the Office of the Federal Director of Civil Air Raid Precautions.

From all points, accounts of practical services being performed in many lines of action are being received. In nearly all provinces fire fighting units have operated against bush and other conflagrations. In Nova Scotia workers have assisted in salvage and social service campaigns. In New Brunswick the water supply of a town was kept going for days by the use of an A.R.P. pumper. At Billings Bridge near Ottawa, A.R.P. workers rescued and treated casualties from a train wreck. At Welland, Ontario, various A.R.P. workers were on hand to give assistance as a result of a disastrous building accident. At Toronto five lives were saved from gas fumes through the efforts of A.R.P. workers.

Originally when one spoke of "A.R.P.", people thought of aeroplanes, blackouts, bombs, fires and gas warfare. These are still the fundamental basis of civilian defence, but unless one lived on the coastal areas one was inclined to take A.R.P. work somewhat lightly. The number of activities reported and where they took place, as shown in the preceding paragraph, is changing the conception of the value of civilian defence organization in the cities across Canada. The activities listed above are not exactly "in line of duty" but have afforded excellent practice for the groups concerned, and have made a very important contribution to the welfare of the communities concerned.

It may be well to inject, at this point, a note of advice regarding the procedure to be followed in order to conform to the provisions of P.C. 8110 (compensation for injuries). Where A.R.P. groups or individuals are called out for emergency service, it should be done at the instigation of the chief of their particular service, e.g., Wardens, First Aid, etc. The mere wearing of insignia does not necessarily call into play the provisions of the Order in Council, regardless of the beneficial work done. It is suggested, therefore, that this Order in Council be studied and a method of procedure be adopted so that A.R.P. personnel will be adequately protected.

Whereas people were somewhat skeptical about the need of an organization which specialized in bomb fighting, authorities generally are now acquiring an increasing respect and appreciation for the work of civilian defence groups, and individually people are becoming impressed with the need of such an organization in their cities, if not to fight bombs, to act as "pinch hitters" in any unforeseen crises which may arise.

Many A.R.P. authorities have sometimes been discouraged by the apathy shown by citizens generally towards civilian defence. They are convinced that should one enemy bomb be dropped on Canadian soil a wave of popular feeling would be crystallized in support of the movement. We hope that bombs may never be dropped on Canada, but we must be prepared; we must be organized; we must secure and retain manpower.

Any municipality which has had a crisis such as we have brought to your attention is easily convinced of the need of an emergency organization, and recruiting generally in that city is increased.

Who's Who in A.R.P.



HON. HARRY H. COX,
Minister of Public Works and
Chairman Civilian Defence
Committee for Prince
Edward Island

Born June 19, 1875, the Chairman of Prince Edward Island's C.D.C. is a successful business man, interested in many projects. He is manager of the St. Peter's Starch Company and Vice-President of the Charlottetown Can Company. He owns a lobster factory at Naufrage operating a fleet of thirty fishing boats, and is Chairman of the Fishermen's Loan Board.

In 1927 he was elected to the Provincial Legislature and re-elected in 1931, 1935 and 1939 becoming a member of the Campbell government on September 16, 1939, and subsequently being appointed Minister of Public Works, a post he now occupies. He is very well known and extremely popular on Prince Edward Island.

He has one son, Herbert H. Cox, Chief Engineer of the Malartic Gold Fields in Quebec.

New Incendiaries

(Continued from page 1)

without causing damage. Phosphorus burns violently when dry and, wet or dry, **must never be touched with the bare hands.**

New Bombs Require New Methods of Attack

Many of the fire bombs that may be dropped by enemy raiders will be of the old kind, but on the other hand, **any bomb dropped may be of the explosive type.** Therefore, **all bombs must now be treated as if they are of the explosive type.**

Adequate Cover is Vital to Safety

The explosive extension of the new German incendiary bomb described on page 1 is, in reality, a small high explosive anti-personnel or fragmentation bomb. When it explodes, the steel casing breaks into countless small pieces which are propelled at exceedingly high velocity in all directions and are capable of killing or seriously wounding at a distance of 100 feet or more. These fragments will penetrate an ordinary lath and plaster wall, a wooden fence or door and most pieces of furniture which, therefore, **do not offer full protection.**

Complete protection from the blast of these new bombs is provided by a solid brick, concrete, or stone wall 4½ inches thick, while reasonably good protection is afforded by similar walls 3 inches thick.

When fighting a fire bomb make the utmost use of the best available cover and be sure that the cover you choose affords protection from any other fire bombs that may have fallen nearby.

A Stream of Water is the Best Weapon

A stream or jet of water is the **best weapon against all types of fire bombs** and is the only means by which both a burning bomb and any fires set by it can be attacked with equal effectiveness. It is also the only form in which water can be applied to a burning bomb from a relatively safe distance.

Properly used, a stream or jet of water from a stirrup pump or garden hose will control a burning incendiary in less than a minute and, often, in only a few seconds—using less than two gallons of water.

Do Not Approach Burning Fire Bombs

Short-range methods previously recommended, that involve approaching the bomb closely in the open, should **never** be attempted. To try to deal with a burning bomb by placing a sand-bag, sand-mat or loose sand on it will expose you unduly to danger not only from the bomb you are fighting—if it happens to be an explosive one—but from other explosive bombs that may have fallen nearby.

Do not approach or expose yourself to a burning bomb during the first seven minutes. After that it is reasonably safe to deal with it at close quarters in the normal way.

Anxious to Help Others

If your unit has originated some device or method to insure greater protection for your community, remember that others may be able to profit by your ingenuity. Write to THE BULLETIN about it.