



Figure 4-100. Bandaging a fractured jaw.

age sling, holding the arm slightly higher than the elbow.

(2) Binding the arm to the chest wall with triangular bandages.

(3) Supporting the arm with a figure-of-eight improvised with two belts (fig. 4-99).

*h. Fractured Jaw.* Support the jaw with a cravat bandage (fig. 4-100), but do not obstruct the breathing. Place a wad of gauze between the teeth in back of the jaw to keep the jaws apart to maintain an air passage and to permit free drainage from the mouth.

#### 4-67. Burns

There are three kinds of burns: thermal, sunburn, and chemical burns. Burns are also classified according to the degree (depth) of the burn. A.

first degree burn reddens the skin. A second degree burn blisters the skin. A third degree burn is a deep burn where the underlying skin growth cells are destroyed.

*a. First Aid for Thermal Burns.* Victims of burns require treatment for shock, relief from pain, and prevention from contamination. Shock is the major hazard. It is usually serious when the burn involves 10 percent or more of the body surface, and sometimes less in especially deep third degree burns. The exclusion of air from the burn by the application of a thick dressing relieves pain and, if the dressing is sterile, prevents further contamination. At least four layers of dressing should be applied, then covered with clean, tightly woven material to exclude air. Hands must be thoroughly cleaned for this procedure. If the burn is extensive, involving the trunk or a large part of an extremity, wrap a clean sheet or large

towel around the part. Then cover the victim according to the weather and transport him to where he can obtain medical aid.

**b. Sunburn and Chemical Burns.** An intensive sunburn requires a sterile dressing, especially if blistered. Chemical burns must be washed with a large quantity of water, then dressed with sterile dressing according to the seriousness of the injury. Severe chemical burns and sunburns require medical attention in proportion to the seriousness of the burn.

#### 4-68. Heat Stroke

Occasionally hot weather causes heat stroke where the victim experiences a dry skin, rapid pulse, and a headache. This may develop into dizziness, nausea, and ultimately unconsciousness. The victim's temperature may rise to 106° F. (41° C.) and sometimes as high as 109° F. (41.7° C.). The afflicted person must be brought under cover, then unclothed and cooled by sponging the body with alcohol or lukewarm water. The patient requires immediate medical care.

### Section VIII. CONTROL, EXTINGUISHMENT, AND OVERHAUL

#### 4-69. Introduction

Hose, ladder, and pumper operations; alarm reception and response; sizeup, ventilation, salvage, rescue, and first aid have been discussed so far. It has been stated that an ideal situation would involve nearly all of these procedures being carried out almost instantly and simultaneously. Personnel rescue is the primary concern of any fire-protection organization. When rescue is accomplished, the secondary concern is fire control, extinguishment, and the related procedures essential to the preservation of property.

#### 4-70. Locating the Fire

Structural fires generally fall into two categories, the interior fire and the exterior fire. Both the interior and the exterior fires involve the same basic materials but under greatly variable conditions, quantities, and proportions.

**a. Structural Interior Fire.** The source of the structural interior fire lies inside the building. This fire may still be in an early stage of incipency after burning for several hours, and because of its confinement and lack of oxygen, or even lack of time, it has not yet burned through the exterior walls or roof of the building. This situation normally involves great quantities of smoke, ventilation problems, and backdraft possibilities along with the difficulty of finding the actual fire. Cases of suffocation involving both fire-protection personnel and occupants of the building must be anticipated. This type of fire normally does not involve exposure to other buildings unless the roof or walls suddenly collapse. Building collapse admits oxygen to the fire and expands it thus endangering nearby buildings by heat radiation. This condition is normally caused by delay in

gaining control of the fire after arrival, extensive enkindling before arrival, or widespread smoldering before sudden ventilation. The structural interior fire must be located, controlled, and extinguished from inside the building.

(1) Usually, before a fire can be controlled or extinguished, it must be located within the structure with some degree of certainty. A fire in the basement may appear to be in the attic or top floor, from which smoke is coming. Frequently, smoke from one building may entirely envelop an adjacent building, owing to wind conditions. The practice of standing in the middle of the street and directing hose streams through windows, regardless of where the fire may be inside the building, is now largely confined to the movie version of fire suppression.

(2) A hose line should not normally be opened inside a building until the fire is seen, unless a fog curtain is necessary to enable firemen to reach the seat of the fire. It is common for an incandescent lamp to appear as a fire in a smoky room. This deceptive condition also may be encountered when approaching an outside window or some other transparency which reflects sunlight or artificial light.

**b. Structural Exterior Fire.** A structural exterior fire may ignite within the building and burn through the roof or outside walls so that the fire in the building is ventilated by the burnt-out opening, and the flames are visible before arrival. The exterior fire may also be started first on the outside of the building by carelessly discarded cigarettes, flying embers falling on rooftops or on dry vegetation near the building, or by other causes. Exterior fires demand procedures to prevent the fire from spreading to nearby exposed buildings.

#### 4-71. Closing in on the Fire

After a fire is located, the next step is to confine it to its point of origin.

a. Its spread may be controlled by covering internal exposures with hose streams and shutting communicating doors and windows. External exposures will be covered by other firefighting units, if required. The greatest exposure is usually to the leeward of the fire. Although this may be the most difficult approach to make, owing to the wind's carrying the heat and smoke in the direction of the firefighters, it offers the greatest possibility for making a fire stop and preventing the fire from intensifying and spreading.

b. Fires cannot be **successfully** combated by paying undue attention to comfort. However, if it is obvious that the fire is not likely to spread beyond a certain point, such as an unpierced brick **firewall** or exterior wall, or that it is entirely within one room or building, needless physical punishment can be avoided by making the approach from the windward side.

c. The fire should be attacked from as many sides as possible. Good ladder work and proper ventilation are of invaluable assistance when locating, confining, and closing in on the fire. One precaution is worth repeating: where there is danger of back draft (superheated gases which have not ignited owing to lack of oxygen), be certain that the hose lines are in position and charged before "opening up". This condition is usually present in a tightly closed room or building. It is recognized by heavy smoke oozing out of cracks around doors or from beneath eaves.

d. Closing in consists merely of moving in on the fire as rapidly as conditions permit. Hose lines should not be advanced so rapidly, however, that the fire will be allowed to rekindle and gain headway in those areas where only initial extinguishment has taken place.

e. This is especially true when class B (flammable liquids) materials are involved and extinguishing agents such as CO<sub>2</sub> or dry chemical are being used. It is most important to remember that when these agents are used, they should be backed-up with a water fog line or possibly even a foam line. This precaution safeguards against a sudden **reignition** (flashback), which is so typical of class B materials, unless light water is used. Firefighters have been seriously burned because they failed to observe this precaution when combating a fire. In

one case, for example, fire had involved a paint room, and **laquer** thinner was blazing on the floor. Firefighters using carbon dioxide extinguishers to clear a path to the leaking supply tank had to make a dash for safety, in which two were burned quite badly, when the thinner suddenly reignited behind them.

f. Moreover, firefighters should be cautious against stepping into open shafts in the dark or advancing too far on weakened floor supports. Where caution may be necessary, the firefighter should "feel his way with his feet" or even crawl on his hands and knees. If large cracks appear in masonry walls, which may happen when a stream played upon them causes contraction on one side while leaving the other side expanded, collapse may be imminent, and preparation for withdrawing personnel and equipment must be made quickly.

g. When advancing against radiated heat, the helmet should be turned around so that the broad part shields the face. This part provides considerable protection although it will not provide safety in the actual presence of flame. Rotating men at the nozzle, with the men backing up the line from rear to front, will enable each man to rest or cool off when the exposure to heat causes discomfort. The nozzleman is normally the only person **subjected to any great degree of heat because, the men behind him get considerable protection from even a single person between them and the fire. If it becomes necessary to retreat from an advanced position rapidly, as, for example, when the water supply fails, causing hose lines to go limp, and the smoke is so dense that a means of escape is not readily visible, remember that following the hose line backward is certain to lead to the outside and safety.**

h. **The most suitable extinguishing agent for the type of fire encountered should be used in an amount that will most quickly put out the fire and a minimum of damage from its use.**

i. **Basic factors which must be considered in the extinguishment of a fire are the type of material involved, the quantity of the material, and the details of its arrangement. The ideal situation consists of opening a door of the building and extinguishing the fire from the outside, where the air is cool and plentiful and there is little danger of physical abuse. Usually it is not that easy. Often the firefighters must go inside and move with impeded speed, in increased temperature,**

with limited vision, and perhaps with an almost depleted supply of oxygen.

*j.* Standpipe systems within the building should be used whenever practical to save time and prevent damage. They are practical when the fire is too large to be held in check with a first aid extinguisher but has not spread so much as to require the volume of water supplied by a large line.

#### 4-72. Overhaul

The overhaul operation involves a complete and detailed check of the structure or structures involved and of all material therein. This check is to insure the complete absence of abnormal heat and the extinguishment of every spark, so there is definite assurance against re-ignition.

*a.* Perhaps the most embarrassing occurrence in the career of the fire chief and his crew is to receive an alarm directing the return of men and equipment to the scene of a fire which was recently "extinguished." A second fire is frequently more difficult to control than the original fire.

*b.* Before overhauling is started, the first step is to survey the building for structural damage to determine that collapse is not imminent. (**Incidentally**, water-soaked stock, such as cotton materials, increases the floor load tremendously.) When necessary, the gas and electricity should be shut off as a further precaution. However, the most important aspect of the work is to make certain that the fire is fully extinguished.

*c.* The building should be checked for concealed spaces where the fire may continue to burn unnoticed. These spaces are between floor joints, ceiling beams, false or hanging ceilings, walls and partitions, inside cornices, inside window door casings, light and air shafts, pipe or wire recesses, chutes, and dumbwaiter shafts. They may be checked by sliding a hand over the surfaces. If they feel warm or appear blackened or if there is any doubt of the situation, the suspected area must be opened up and investigated. The inspection holes should be square openings and near the studs in order to avoid unnecessary damage and to simplify the repair job. Then the adjacent areas should be checked thoroughly, including attics, basements, walls, and adjoining occupancies for possible spread.

*d.* To make sure the fire will not rekindle, glowing textiles, such as mattresses and clothing, should be submerged in water. Smoldering bales

of paper, rags, kapok, and similar material should be removed to the outside and broken open in order to extinguish the deep-seated fire in the center. Recent developments in the use of wetting agents or surface-active agents added to water in about a **2-percent** concentration indicate the future possibility of more quickly and effectively extinguishing fires in those materials not penetrable by plain water. Such agents would make it unnecessary to tear the objects apart and submerge each fragment in water. Surface fires involving lumber are extinguished quickly, but because of the normal resistance of charcoal to water, it is possible that heat and sparks may remain active for some time beneath the surface. Under such conditions, a water solution containing a wetting agent may be effectively used to save time, damage, and energy.

*e.* Oil-soaked metal filings, lampblack, or other **finely** divided substances should be examined with care because they are possible sources of **re-ignition**. Cylinders, **carboys**, and other vessels containing gases and chemicals should be segregated to avoid their mingling and a resultant explosion.

*f.* Burned materials should be handled carefully. Clothing or other objects which may contain articles of value should not be thrown out of **windows**. If it is necessary to dump debris from upper floors, a firefighter should be posted below to warn others of the danger. Particular caution should be taken when handling poisonous or corrosive substances. Rubbish carriers, consisting of old salvage covers cut into 5 by **5-foot** (162 by **152-centimeter**) sections with handles on the corners, provide a convenient means of removing fallen plaster and debris. Burned materials should be segregated from the unburned objects, and undamaged goods placed where they will not be subject to damage during overhaul.

*g.* Precautions should be taken to guard against subsequent injuries. Holes which may have been burned or cut in the floor should be covered or blocked off and approaches to damaged stairways or elevator shafts should be obstructed. Walls or chimneys which have been weakened seriously and which endanger pedestrians should be pulled down.

*h.* If it becomes necessary to respond to another alarm or return to quarters, and there is a possibility that the fire might rekindle, a firefighter should be left on watch at the scene with a line charged for instant use,

## Section IX. INVESTIGATION AND RETURN TO SERVICE

### 4-73. Introduction

The investigation of a fire, which is the last thing concluded before return to quarters, primarily **includes** the preservation of evidence, especially of arson. The preservation of evidence in many cases overlaps into the overhaul operations and even into control and extinguishment.

### 4-74. Initial Investigation

If the circumstances upon arrival give rise to a suspicion of arson, fire investigators should be called.

a. Photographs should be taken before any **disturbance** of the environment beyond that which was caused by extinguishment. When **circumstances** point to arson, suspicious **devices—such** as gasoline cans, cotton trails, film trails, candles, oil-soaked rags, cleaning fluid containers, matches, and cigarettes—should be labeled. The label's should indicate the finder and where and when the suspicious items were found. Notes should be taken immediately on the following: recollections as to persons present on arrival; existence of two or more separate fires simultaneously ; color and aroma of smoke ; color of flame and from where it was issuing. A record should also be made as to whether doors were locked from the inside or outside; condition of contents and whether disarranged or removed ; nature of the burning material; direction of wind; humidity, temperature, and general weather conditions ; direction of spread; obstruction extent of windows in the room where the fire was believed to have been started; whether a passerby may have seen the **arsonist** making arrangements inside ; and any other relevant facts.

b. Notes and sketches made at the scene while the facts are fresh may be used to reconstruct minute details which may be come significant as the entire picture takes form. The facts may be requested during a board of inquiry or **investigation** proceedings, or even in court, if an arsonist is caught and later brought to trial.

c. If the investigating officers have not arrived before the firefighters must return to the station, military policy should be posted to preserve the evidence. They should be instructed to disclose no opinion about the fire, its origin, or any facts which may have been **discovered** as to its cause, except to proper authorities.

d. If the fire has involved a building in which are stored classified documents or equipment such as reels of film, models, drawings, files, or similar items, the officer in charge of the fire should **request** that an adequate guard be posted over the area where the items have been gathered until they can be removed to a more secure location. Since **firefighters** are not authorized to **examine** classified materials, the men should be cautioned to be extremely conscientious and attentive when **handling** such items or when sorting them from the debris and to set them aside in the designated location promptly. This point is stressed because there have been examples of carelessness and of unnecessary loss or destruction. Instances are also known in which firefighters have taken time out after the fire was extinguished to unroll reels of confidential film to see if they contained anything interesting. These firefighters were of course **censured** and even investigated according to the **degree** of importance of the material involved.

e. Before returning to the station, the chief in charge should obtain all the facts necessary to write up the required fire report. This report includes type of alarm ; location of fire ; building number; description, origin, cause, and confinement of the fire ; damage ; agents used ; time required ; number of personnel ; mileage traveled.; weather ; remarks ; and other necessary data.

### 4-75. Determining the Origin of the Fire

When the fire has been serious, that is, when there has been loss of life or extensive property damage, assistance in investigation may be obtained from the fire marshal or other authorized representatives of higher headquarters so that an impartial viewpoint may be expressed at any later board of inquiry or board of investigation proceedings.

a. In such cases, the investigating authority will attempt to collect much more detailed information than would be required ordinarily. This investigation might include such matters as reasons for possible delay in alarm, for extensive spread of fire, for heavy lose, and for the inability of **occupants** to escape. It might also consider the **fire-fighting** methods employed, the adequacy of the watter supply, and whether recommendation had been previously made to correct deficiencies which may have caused the fire, delayed the alarm, or impeded extinguishing operations. For the **aver-**

age response, however, the regular fire report form is enough to record the necessary information. The questions on this form that may be difficult to answer accurately are origin of fire, cause, and estimate of damage.

**b.** When there are no eyewitnesses, the exactness with which the point of origin of a fire may be determined will depend, in most cases, on the extent of the fire. When several buildings have been destroyed, it may be possible only to designate one of them as the place of origin. The same may be true when a number of rooms have been gutted by fire. On the other hand, if the fire has been confined largely to one room, it may be relatively easy to determine the point of origin; this may be indicated by defective wiring, a wastebasket, a stove, or any one of the many other sources.

**c.** In a great many cases however, the **exact** point of origin is often difficult to determine. The tendency is to pronounce the first plausible spot as the probable location at which the fire **started**.

**d.** For example, after a fire which involved a large one-story frame woodworking shop, the following facts were disclosed by the debris. Paint cans had been burned out with no trace of rag ashes. Nearby, behind a door, was a partially burned pile of shavings, sweepings, and remains of a broom. Nonmetallic sheath wiring was badly burned and holes were burned through the metal conduit, but the fuse box and fuses were intact. There was heavy charring around air vents through the roof. One outside wall was burned completely through. Outside this opening and against the building were the partially burned remains of a pile of heavy lumber which had been involved in fire, and near the edge of the pile were the burned remains of what might have been a broom handle.

**e.** Where did the fire start? Judging from this information, it would be impossible to say. While deep charring of the wood beams around the ceiling vents might indicate that the heat was very intense at that point, it is only **what** should be expected, since these vents provided a natural flue to draw off the heat and fire. The presence of paint cans does not necessarily indicate the location of the origin. Even if these cans were empty at the outbreak of the fire, the residue would have burned out during the course of the fire. The absence of rag ash does not rule out the possibility of spontaneous ignition, for linseed oil may have been present on newspaper or other materials, or

all of the ashes may have been washed away by hose streams.

**f.** In regard to electrical difficulties, the intense heat of the fire could have burned off the insulation of the nonmetallic sheath cable along the ceiling. The arcing of wires, which had become bare as a result of the heat, would account for the burned hole in the metal **conduit**. The absence of bridged fuses or overcapacity fuses would not rule out the possibility of electrical difficulties, for fire can start from frayed wires or overheated motors without blowing fuses. In addition, the electric glue pots, along with other heating devices, were checked for possible overheating, but these had apparently been shut off before the fire started.

**g.** Investigation disclosed that no one had been in the building since noon the day before. Thus, the possibility of a carelessly disposed of cigarette being thrown into the rubbish pile or elsewhere was rejected. Close inspection of the burned surfaces of the outer wall disclosed that the fire had started outside the building under the woodpile. The remain's of the wooden handle found in the pile showed it to be of a type similar to those on mops found on a nearby outside rack, all bearing evidence of having been used for mopping a vegetable oil. It was apparent that an oil soaked mop had been left on the ground the previous day, with the wood piled on top of it against the frame building. A statement by workmen eventually verified this conclusion. There had been enough time for spontaneous heating and the resultant outbreak by the next day. Therefore, it **was** not **difficult** to guess the cause of the fire, after the possible sources were found, considered, and eliminated with proper **reasoning** and due consideration.

**h.** Thus, it can be seen that determining the point of origin may be very helpful in determining the cause, if not directly, then indirectly, by eliminating other possible causes. Although certain indications point to the greatest concentration of heat, which may be useful in **locating** the point of **origin**, these indications are not always infallible. The prevailing drafts during a fire have a great deal to do with the way the fire spreads and the manner in which heat is concentrated. In addition, some materials are more highly resistant than others and show less evidence of heat conditions than lighter and more flammable substances. An example of differing resistance is glass and iron. Glass that has become molten and fused indicates that the temperature had reached the **vicin-**

ity of 1,700°F. (927°C.); ordinarily unprotected iron supports will warp at slightly over half that temperature.

*i.* Moreover, it must be kept in mind that the cause of the fire and the point of outbreak may not always be in the same location. This may occur for example when gasoline vapors are carried by drafts to an open flame or to the arc of a knife switch a considerable distance away. It could also happen where combustible materials at one end of a duct are ignited as a result of an overheated furnace at the other end.

*j.* The recurrence of several fires in the same location or the presence of two or more simultaneous fires in different areas of the same building should be viewed with suspicion. There is a possibility of deliberate planning, and a more careful investigation is warranted.

#### **4-76. Determining the Cause of the Fire**

After having determined as far as practicable the point of the fire's *origin*, the next *step* is to determine its cause.

*a.* It is well, in ascertaining its cause, to consider first the most common causes of fire, such as carelessly discarded cigarettes, overheated or defective stoves or flues, faulty electrical appliances, and slag or sparks from welding and cutting operations. If these are eliminated beyond a reasonable doubt as a possible source of the fire, a thorough interrogation of all persons potentially connected with the fire may *throw* additional light on the subject. Such personnel would include those who ordinarily occupy the building, those who were present at the time of or immediately before the discovery of the fire, and those who last left the building at quitting time or who later went through or near it. Such extensive *investigations* are only required for large fires or those involving a loss of life. They will usually be conducted by specially appointed *officers* or boards, with the assistance of the fire marshal and appointed *aides*.

*b.* Although it is true that approximately 70 percent of the total fire damage results from only about 10 percent of all fires, it does not follow that smaller fires should not receive careful study. Small fires can teach about fire protection measures. If any gain is to be made in preventing similar occurrences, it is of the utmost importance to determine the source of the fire and the particular manner in which it started. Hence, when fill-

ing out a fire report, it is not enough merely to list "rubbish," "grass," or "flammable liquids" as the cause of fire. These items are simply examples of combustible *materials* which are not uncommon in the vicinity of many buildings. The *cause*, in a strict sense, is the agency which brings the combustible materials up to their ignition points. For example, the "point of origin" might be "rubbish can in northeast corner of hanger No. 301," "dry grass on west side of building No. 731," or "bucket of gasoline near the center of the floor in garage building No. 43." The *cause* of the above fires may have been a cigarette carelessly discarded into the rubbish, sparks from an unprotected incinerator landing in the grass, or the spark from a broken light bulb in an unguarded extension cord socket in the vicinity of the gasoline vapors from the bucket. This type of fire analysis makes possible a decision about whether new fires can best be prevented by regulating the sources of ignition, the handling of combustibles, or both. If it is impractical to eliminate the former, stricter controls can be placed upon the handling and disposal of highly combustible materials. In the foregoing illustrations, it so happens that both the causes and the points of origin are the proper subjects of regulation or prohibition.

#### **4-77. Estimate of loss**

Accurate appraisals of monetary losses resulting from fires are often difficult to make.

*a.* When the loss is negligible, it will be found advisable to obtain the assistance of the post engineer, who is qualified to estimate the cost of any necessary repairs. Note that the typical fire report calls not only for an estimate of loss in dollars but also for a brief description of the extent of physical damage. The fire chief should make such a description, but the decision regarding replacement or bracing of weakened construction such as joists and walls should be made by the post engineer. Photographs are of great help in establishing the extent of structural damage and in preserving evidence.

*b.* Partial losses of Army structures are estimated by the installation personnel charged with construction responsibility. Total structural loss of an Army building is the value of the structure as reported on the most recent inventory of the real property report (AR 405-45) prior to the fire (AR 385-12).

been built when construction costs were either higher or lower than at the time of estimate. It is best to make an estimate on the basis of the present cost of restoration to the original conditions. Loss estimates should **be** made by personnel charged with construction responsibility. Total structural loss is the value of the structure when built plus improvements.

**c.** Before an estimate can be made of the loss to contents, an inventory of everything remaining after the fire is extinguished must be taken and **compared** with a previous inventory of the contents. Since the loss includes damage from smoke, heat, and water, as well as that sustained by actual contact with the flames, it can be accurately appraised only after the salvage value, if any, has been determined. This is a task for the supplying **service**.

**d.** Vehicle and aircraft losses will be **determined** by replacement in kind for partial losses and recorded inventory value less salvage for total losses.

**e.** When preparing his preliminary report, the fire chief is not expected to go into great detail in his loss estimate. He should be guided by **the** figures given him by proper authorities, if these figures are available. These figures may be challenged only if a considerable discrepancy is noted. For example the itemized loss sheet may indicate that much more property was destroyed in the building than it was known to have contained, or it may indicate the destruction of important objects which fire personnel know the building did not contain (**by** reason of their having made an inspection just before the fire and an investigation of the debris afterward). These facts should be called to the attention of the proper authorities so that the mistake can be corrected or other appropriate action taken.

#### 4-78. Final Action at Scene of the Fire

In the case of large fires, it is well that the ranking fire protection officer in charge should obtain all the information possible before leaving the scene in order to prepare a coherent story of the fire and the way it was extinguished.

**a.** Considerable time may be involved in taking the names of witnesses, jotting down significant statements, directing the taking of photographs, and drawing sketches of the building, location of apparatus, hose lines, and other pertinent facts. Those companies not needed for salvage and over-

haul work should be directed to "pick up" and return to the station.

**b.** Before leaving the scene of the fire, fire protection supervisors should make a **double** check to assure that no tools or equipment are missing from the fire apparatus. When equipment, such as salvage covers placed over holes in the roof, has been temporarily lent to the occupant, a receipt should **be** obtained and instructions given for its return.

**c.** Even though the fire station is relatively close by, some precautions should be taken in case another fire occurs before the apparatus gets completely back into service. When almost the entire hose supply has been use& it is frequently advisable to reload the hose in the bed of the firetruck so as to be in readiness for instant use in case another fire occurs before the hose can be changed. All wet or dirty hose must be replaced. Where only a few sections of hose have been used, they may be rolled up and stacked on the rear running board, since there would most probably still be enough hose in the bed to **combat** another fire successfully.

**d.** When a crew is returning from a fire, the necessity for getting back into service quickly does not constitute an emergency. Therefore, sirens should not be used and all traffic rules should be observed.

#### 4-79. Return to Quarters

**ct.** Upon return to quarters, the crew chief in charge should report to alarm headquarters, either that his company is back in service, or that it will be out of service temporarily while the hose is being changed. If the latter is the case, he should again notify headquarters when the company is back in service.

**b.** While the fire chief or crew chief is completing the required fire reports and making entries of the run in the daily log or journal, the members of the company should make an immediate check of the fire apparatus. Tires should be washed to facilitate an inspection for cuts, nails, and other damage. Fuel, oil, and water in the radiator and booster tank should be replenished if required. All equipment and appliances should be checked for presence and condition.

**c.** After clean dry hose is replaced in the apparatus bed, wet or dirty hose should be thoroughly washed and placed on the rack to dry. Hose should

be rolled as soon as it is dry in order to avoid deterioration from the heat of the sun.

*d.* Wet salvage covers should be washed, inspected for cuts or **tears**, and hung to dry. Ladders should be inspected for damage, and all tools and **appliances** which have become dirty or wet should be cleaned and dried. Metal surfaces which might rust should be lightly wiped with oil. The entire apparatus should be washed, if necessary, to remove caked mud, dirt, and carbon.

*e.* When all necessary work which follows a fire has been carried out, it is advisable to congregate all the men in the study room and review the method of attack from start to finish. Each company crew chief can explain the operation in which his crew was engaged, illustrating the placement of men and equipment on a blackboard. The purpose of such a verbal postmortem is not to criticize or embarrass anyone but to take full advantage of any lessons learned while fighting the fire, and to determine whether operations might be **improved** at any future fire of a similar nature.

*f.* If obvious mistakes were made at the fire, the persons in error should readily admit making

them. If the chief in charge is assured that a repetition of the same error will not occur, no particular issue need be made of it, especially if the error is a minor one. Serious mistakes, however, should not be passed over lightly merely because the department as a whole was praised. Most of the time, the general public believes that the fire department has done an excellent job, and perhaps that is usually true, but firefighters normally are aware of their own mistakes even when the uninitiated layman is not.

*g.* When a private reprimand is necessary to cover individual cases, it should be carried out promptly after return from the fire and before the general discussion is held. When improvement is a matter of general performance of duty, the post-mortem session should be followed by drills and more drills until every man is functioning as an efficient **part** of the team. On the other hand, if **praise** is due a man or a company for a good job or an exceptional piece of work at the fire, appropriate words of recommendation should be given during the discussion in the presence of the entire group.