

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G83.620.3**  
**Issue 2, May, 1958**  
**AT&T Co Standard**

**EXTENSION LADDERS**  
**RAISING AND LOWERING LADDERS**

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**1. GENERAL**

1.01 This section covers the methods of raising and lowering extension ladders. It has been revised to include an improved method for a **single** workman to use in raising and lowering an extension ladder.

1.02 Raise and lower extension ladder at or near the point where it is to be used. The top and bottom sections should always be telescoped together before moving from one location to another. The following methods of raising extension ladders to an upright position and lowering them again for transport have been found satisfactory from the standpoints of convenience and safety.

**2. RAISING AND LOWERING EXTENSION LADDERS WITH HANDLINE**

2.01 The following is a one-man method of raising a 24- or 28-foot ladder to suspension strand. It may also be used where **two** workmen are available for raising longer ladders to the strand. This method of handling ladders keeps the ladder under control at all times. It provides for a temporary lashing to the strand before climbing.

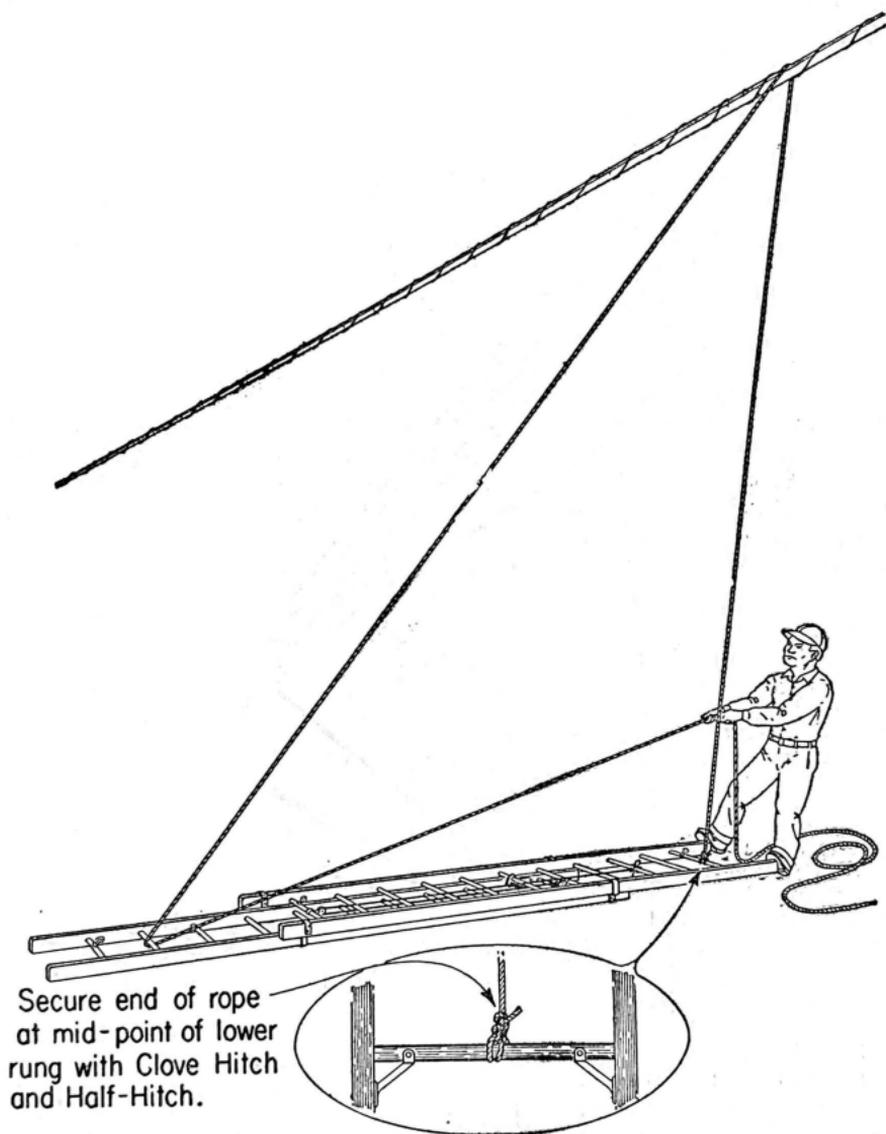
2.02 Where ground conditions allow, place the ladder at right angles to the suspension strand with the base of the ladder directly under the location of the work. Ladders of 24- or 28-foot length can be extended to within several feet of the vertical height of the strand before raising the ladder. Ladders of greater length should be extended only two rungs. Secure the two sections by tying the ladder rope around the bottom rung of the top section and the adjacent rung of the bottom section with a clove hitch.

2.03 Where ground conditions do not permit placing the ladder as outlined above, for example, where the end of the ladder would interfere with traffic on a road or street, the ladder can be moved back as required. It can also be placed parallel to the suspension strand with the base directly under the work location. In any of these positions, extend the ladder only two rungs if insufficient room is available.

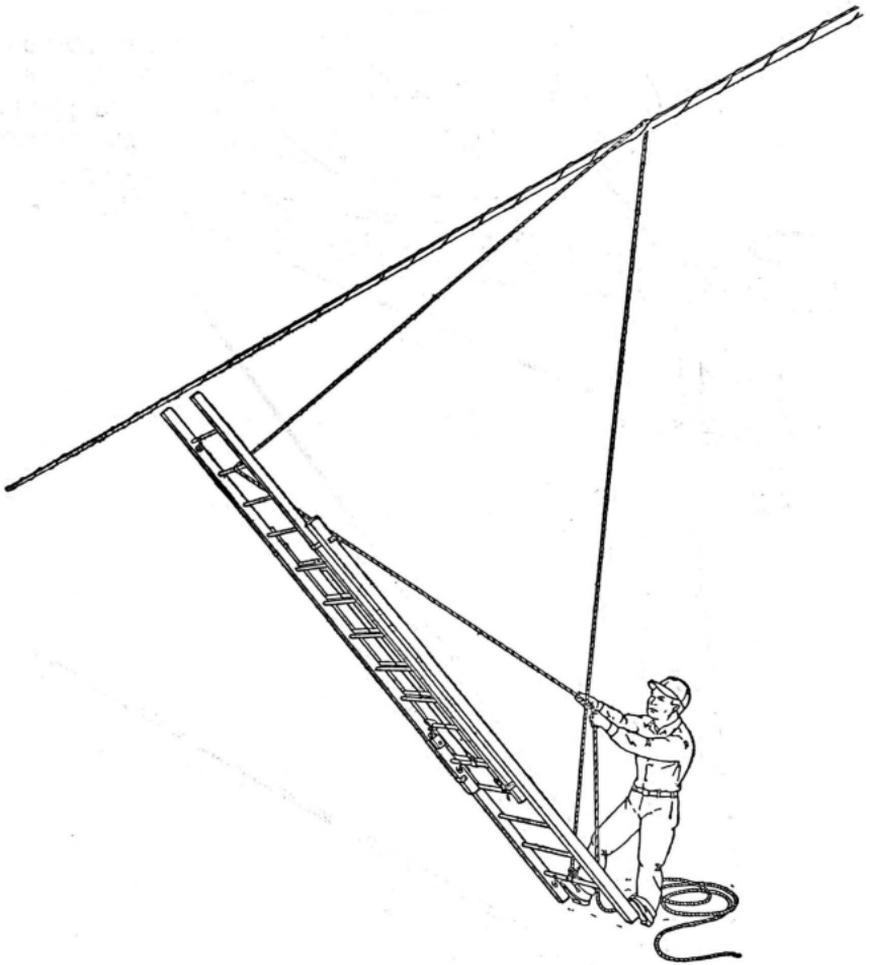
2.04 Throw a handline (3/8" or larger) over the strand at the location where the ladder will be placed, preferably at a spot where it will not become involved with tree branches, power wires, etc. In doing this, care should be exercised to prevent the free end of the handline from interfering with passing vehicles.

2.05 **Tie the near end of the handline to the bottom rung of the ladder, using a clove hitch and two half hitches, or a block becket bend, (see Section G85.800.3). Take the other end to the top of the ladder, after checking the handline where it loops over the strand to see that it does not crossover itself, pass it around the second rung and then out on top of the ladder.**

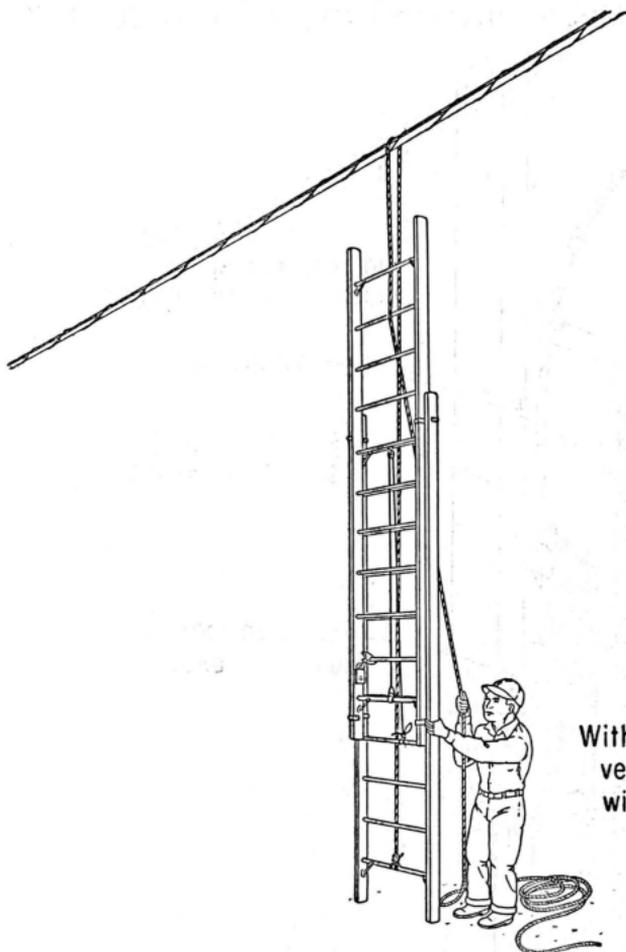
2.06 Carry the free end of the handline to the base of the ladder and place the feet in position at each side rail to block movement of the ladder base to the rear, as shown.



2.07 Pull in the handline hand over hand. As the ladder rises off the ground keep the feet in position to block any movement of the base of the ladder to the rear.



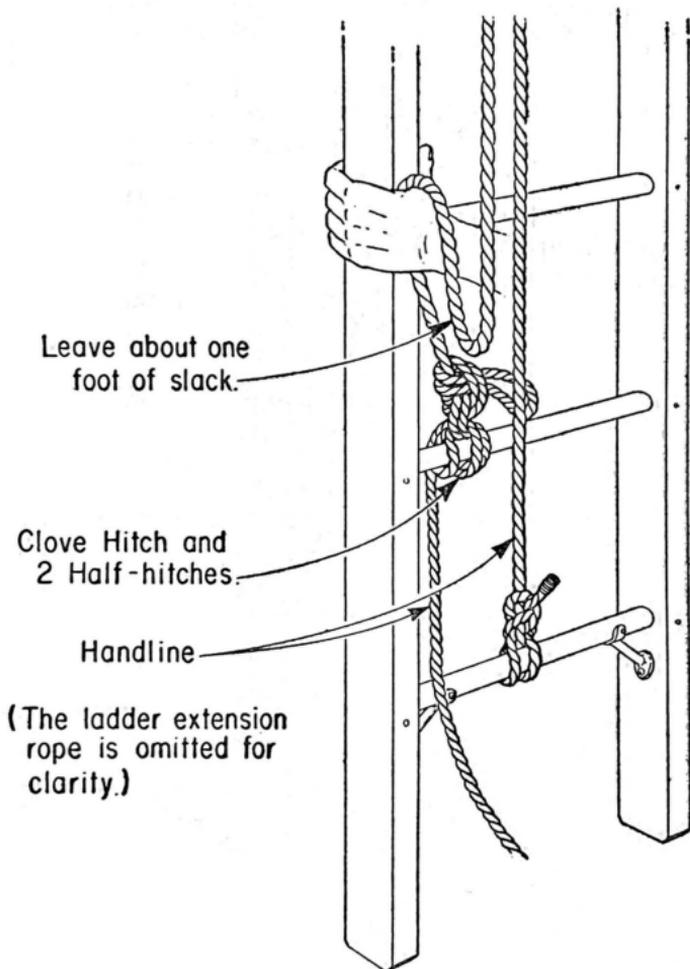
2.08 Continue pulling the free end of the handline until the ladder is in vertical position under the strand.



With ladder raised near vertical, hold rope with one hand.

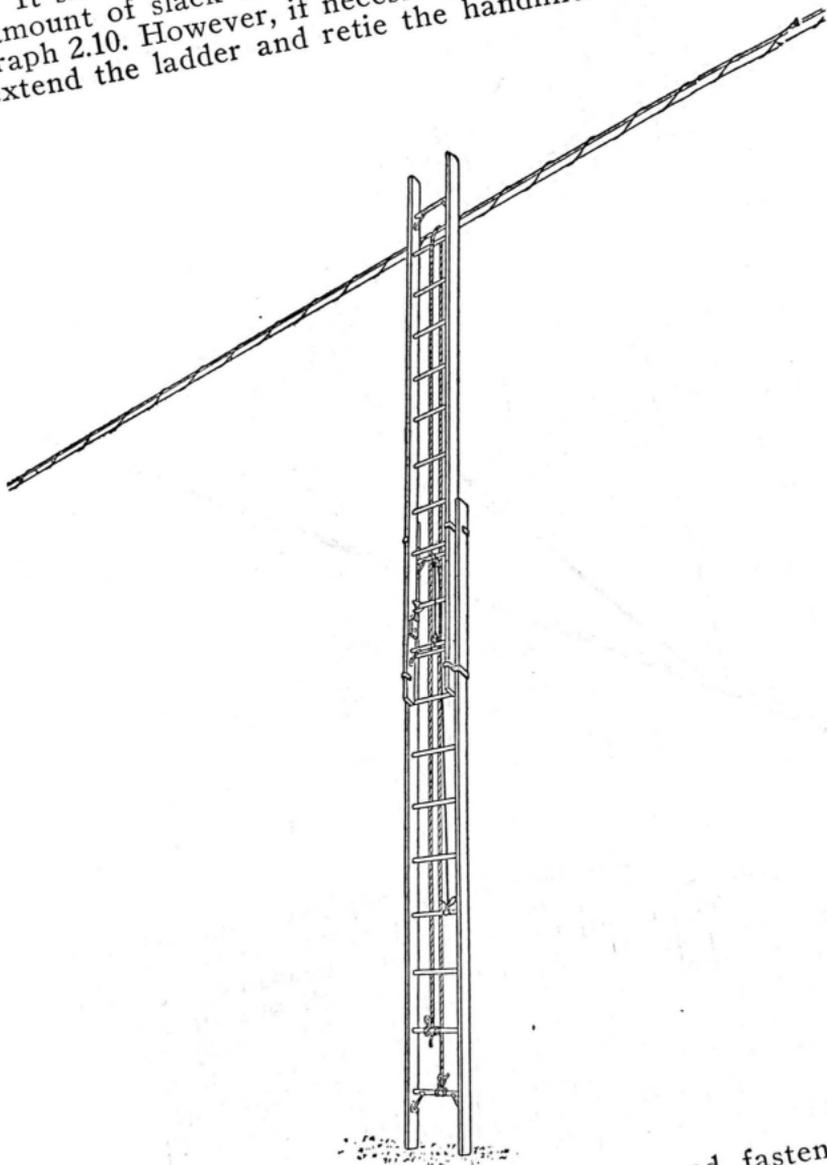
2.09 If as in the first part of Paragraph 2.03, the ladder base was not placed under the strand, the base should now be moved directly under the strand before proceeding. To do this, tie the free portion of the handline to a ladder rung with a clove hitch and two half hitches and move the base of the ladder to the position under the strand. Untie the free end of the handline and pull on the handline until the ladder is vertical as shown in Paragraph 2.08.

2.10 With the ladder vertically under the strand, hold the ladder in this position with one hand on the side rail, allow about one foot of slack in the free end of the handline and hold this slack with the hand on the side rail. Then tie the rope around the second rung with a clove hitch and two half hitches as shown. If desired, the rope may be doubled or the tie may be made around two rungs to avoid excess rope laying on the ground. The ladder is secured to the strand and cannot fall as long as the handline is tied to the ladder.



2.11 Untie the ladder extension rope, **take care not to untie the handline.** Pull on the ladder extension rope and extend the ladder until the top section is above the strand, preferably with the second rung level with the strand, and engage the ladder locks.

2 Move the foot of the ladder out to its working position. It should not be necessary to extend the ladder if the amount of slack was left in the handline as described in paragraph 2.10. However, if necessary to do so, untie the handline, extend the ladder and retie the handline.



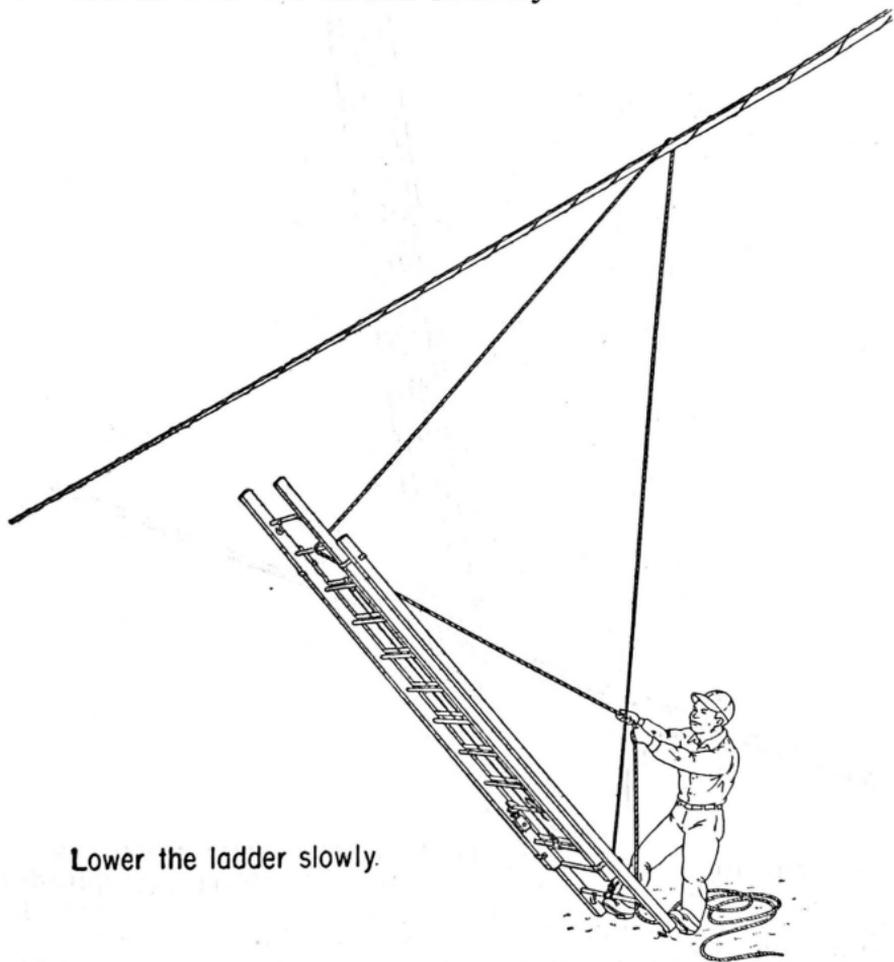
2.13 If a ladder platform is to be used, fasten the B Ladder Support to the strand as covered in Section G86.2

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2.14 If the B Ladder Support is not used to secure the top of the ladder to the strand by lashing the ladder to the strand and cable as described in Section G83.620.2, Paragraph 3.04.

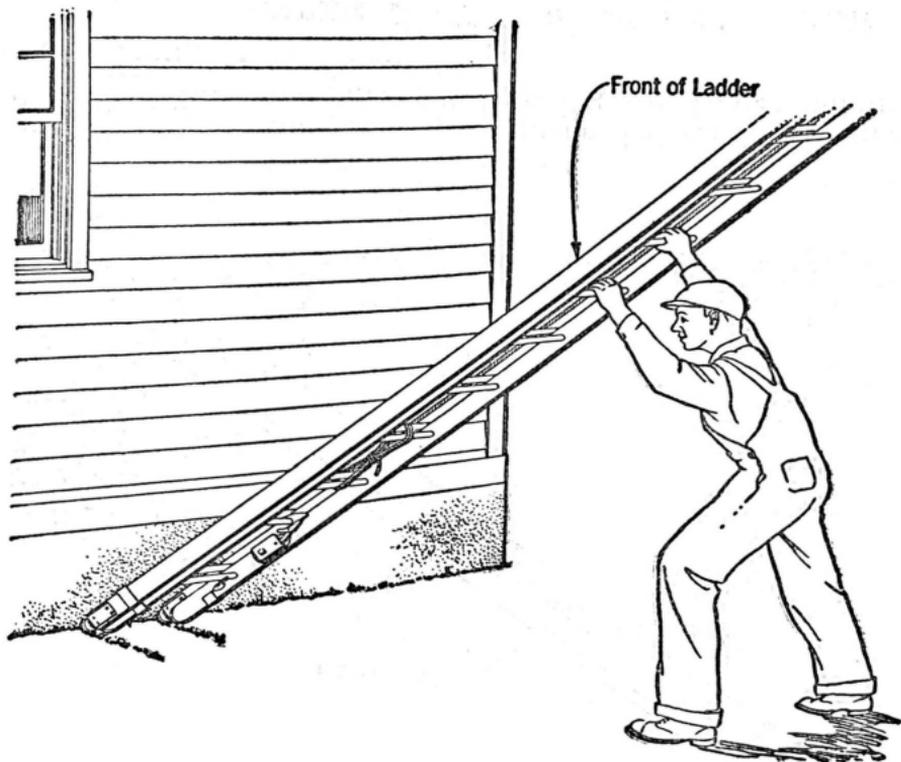
2.15 When the ladder is to be lowered, the procedure is reversed. Move the foot of the ladder back under the strand. Leaving the handline over the strand tied to the ladder at both ends, untie the ladder extension rope. Lower the top section until two rungs above the bottom section and secure the ladder locks. Then untie the handline and lower the ladder gently to the ground by paying the handline out slowly, as shown. To prevent the top end of the ladder from swinging out into the street, move the foot of the ladder back while holding the handline over the strand securely.



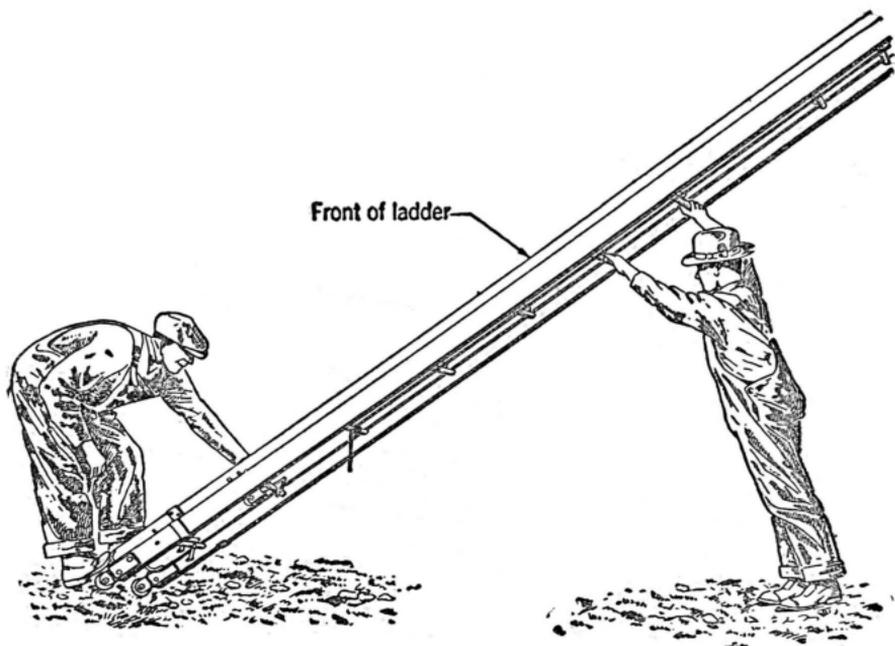
Lower the ladder slowly.

### 3. RAISING AND LOWERING EXTENSION LADDERS

(a) A 20-, 24- or 28-foot extension ladder may be raised or lowered by one man in the following manner **provided that the foot of the ladder is supported at the base of a wall, by a dirt bank, pole, or other secure object.**



(b) In general, a 32-, 36- or 40-foot extension ladder should be raised with the foot of the ladder supported securely by one man while a second man walks the ladder up to a vertical position as shown in the following sketch. As an alternative, if the foot of the ladder can be supported against the base of a wall, one man alone can raise the ladder in a similar manner.

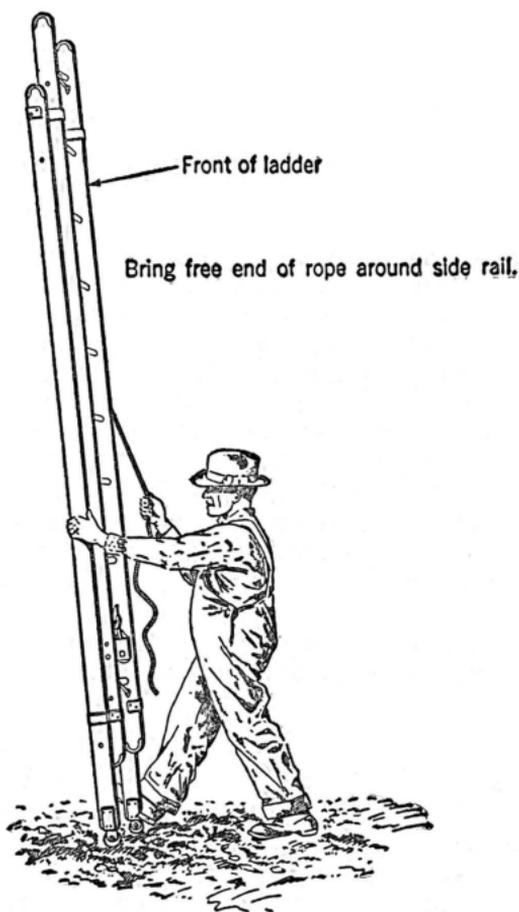


3.02 In raising and lowering extension ladders it is imperative that the workman handling the ladder obtain a secure footing at all times.

#### 4. HANDLING UPPER SECTIONS OF EXTENSION LADDERS

4.01 The following methods have been found satisfactory for extending and lowering the upper section of the 20-, 24- and 28-foot extension ladders.

4.02 Method A for **extending** upper section of 20-, 24- and 28-foot extension ladders.



- (1) After the ladder has been raised to an upright balanced position, the workman should take a position in **front** of the ladder, with one of his feet against the foot of the ladder as shown to prevent it from kicking out and the other foot in a bracing position to the rear. Then he unties the ladder extension rope. The free end of the rope should be brought around the side rail as shown. The employee's foot at the base of the ladder reduces the possibility of the ladder slipping. The method shown is for a right-handed man. A left-handed man would place his left foot against the base of the ladder and bring the rope around the left side rail.

(2) The rope should be pulled so as to raise the top section two or three rungs with each pull and the locks should be engaged with each pull. Care should be exercised to prevent injury to the hand holding the side rail. It will be noted that when the rope is pulled around the side rail, rather than directly down the middle, the top of the ladder is balanced and there is not the same tendency to pull the ladder over too far to an unstable position.

4.03 After the upper section has been raised to the desired height, lock it in place. To do this, stop raising upper section as soon as end of lock hooks are just above rung to be engaged. Lower upper section until inside curve of hooks rests directly on rung. Make sure that both locks are thus engaged. Allow top of ladder to move slowly toward support. After ladder is in place, **tie the rope securely to one of the rungs of the bottom section with a clove hitch and two half hitches.** (See section on manila rope.)

4.04 Method A for **lowering** upper section of 20-, 24- and 28-foot extension ladder.

(1) Untie rope.

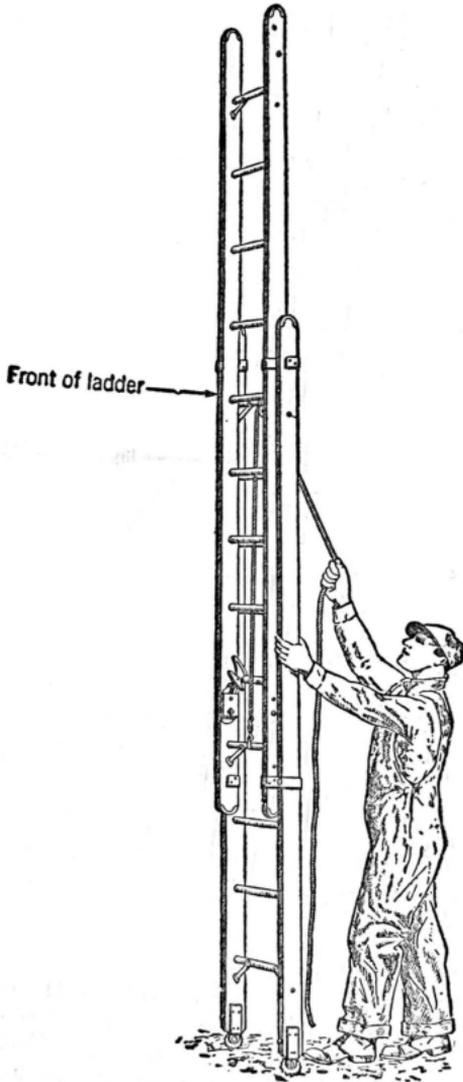
(2) Bring free end of rope around side rail and secure a satisfactory footing at the base as shown in the illustration above.

(3) Block the ladder at the base with one foot, then grasp the side rails and pull the top of ladder back or away from the support until it is in an upright balanced position.

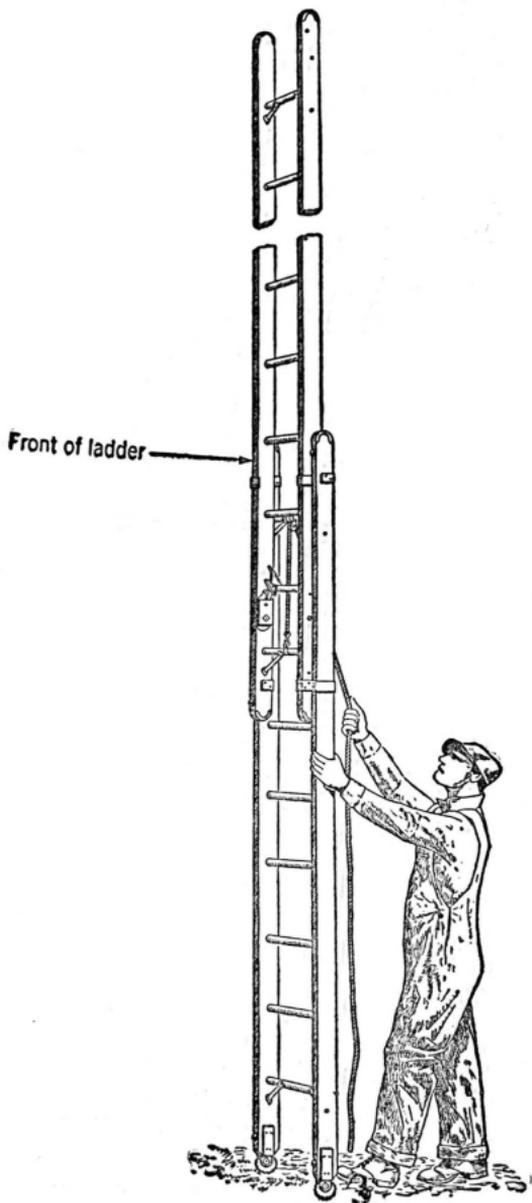
(4) Holding onto a side rail with one hand, raise the upper section about 6 inches by means of the ladder rope in order to release the ladder lock, then allow the upper section to descend slowly by applying the necessary drag on the rope. The drag on the rope should hold the ladder in the balanced position. **Care shall be exercised to prevent injury to hand holding side rail. When lowering the top section, check its downward movement with the ladder rope so that the side rails do not strike the ground or pavement sharply.**

4.05 Method B for **extending** upper section of the 20-, 24- and 28-foot extension ladders.

- (1) After ladder has been raised to an upright balanced position on a firm footing, employee shall take a position **behind** the ladder, balancing it with the one hand and in position to operate the rope with the other hand as shown in the following illustration.



(2) Pull rope so as to raise the top section two or three rungs, engaging locks after each pull. Care should be taken to prevent the lower guide iron from striking the hand holding the side rail.



- (3) Lock in place as described in Method A, Paragraph 4.03.
- 4.06 Method B for **lowering** upper section of the 20-, 24- and 28-foot extension ladders.
- (1) Pull ladder back or away from the support until it is in an upright balanced position as described in Method A.
  - (2) From a position in back of the ladder, as shown in the preceding illustration, raise the top section sufficiently to disengage the locks.
  - (3) Lower the top section carefully, engaging the locks each time a new hold is taken on the rope. **Take care to avoid letting guide iron strike hand on rail. Do not let the top section strike the ground or pavement sharply.**
- 4.07 Method for **extending and lowering** upper section of 32-, 36- and 40-foot extension ladders.
- (1) The lower section should be held at the side rails on the opposite side by another workman during the raising and lowering of the upper section. **Care shall be exercised to prevent the ladder guide irons from striking and injuring the hands of the workman holding the side rails.**

(2) The workman holding the ladder shall keep his feet and legs clear of the side rails and bottom rung of the upper section while it is being lowered. When lowering the top section, check its downward movement with the ladder rope so that the side rails do not strike the ground or pavement sharply.

