

CLIMBERS

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1. GENERAL

1.01 This section describes climbers and associated items such as pads, straps and gaff guards. Information on the care and maintenance of these items is included.

1.02 Information formerly contained in Sections 081-720-300, 081-730-010, 081-730-100, 081-730-300 and 081-730-600 is also included and these sections are canceled.

1.03 A new method of testing the effectiveness of climber gaffs is included. The pole cut-out test replaces both the plane test and the cut-out test. This method is more critical of the proper shape and sharpness of the gaff. It also simulates actual climbing conditions and is more convenient since it can be made just prior to climbing a pole.

2. DESCRIPTION

CLIMBERS

2.01 Adjustable climbers have replaced fixed length climbers. The first adjustable climber was known as the C Climber. This was

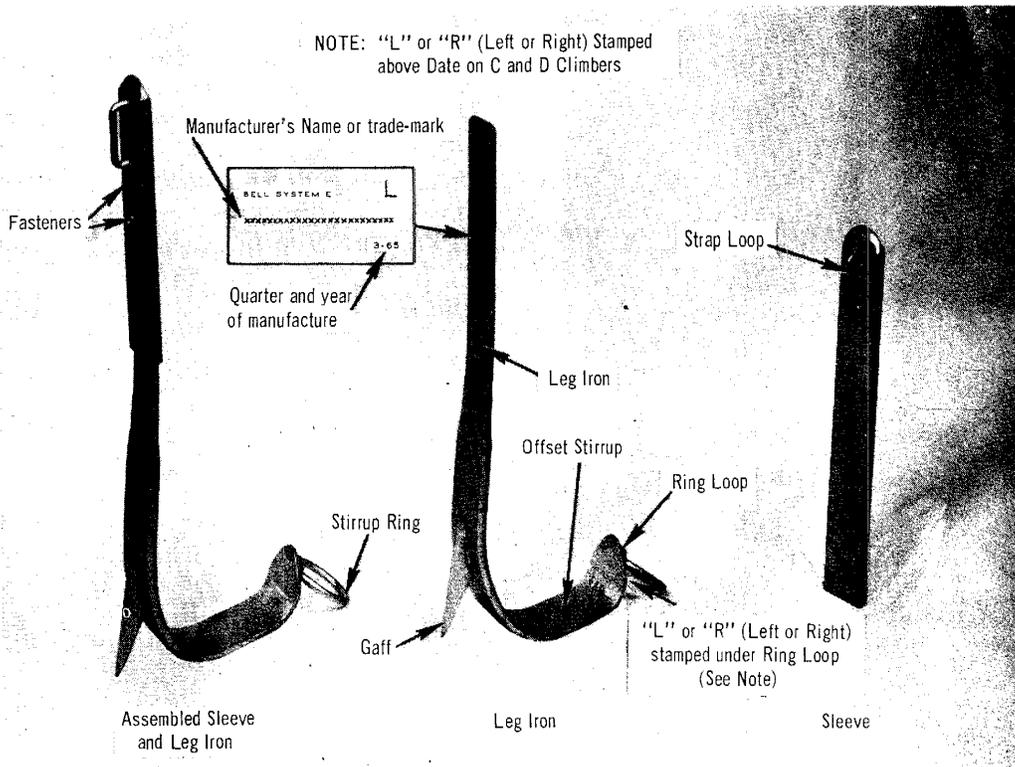


Fig. 1 - E Climber

superseded by the D Climber in which the stirrup was widened 1/4 inch to give more room for overshoes and the gaff raised 1/8 inch for better ground clearance when stepping off a pole. The E Climber, Fig. 1, which supersedes the D

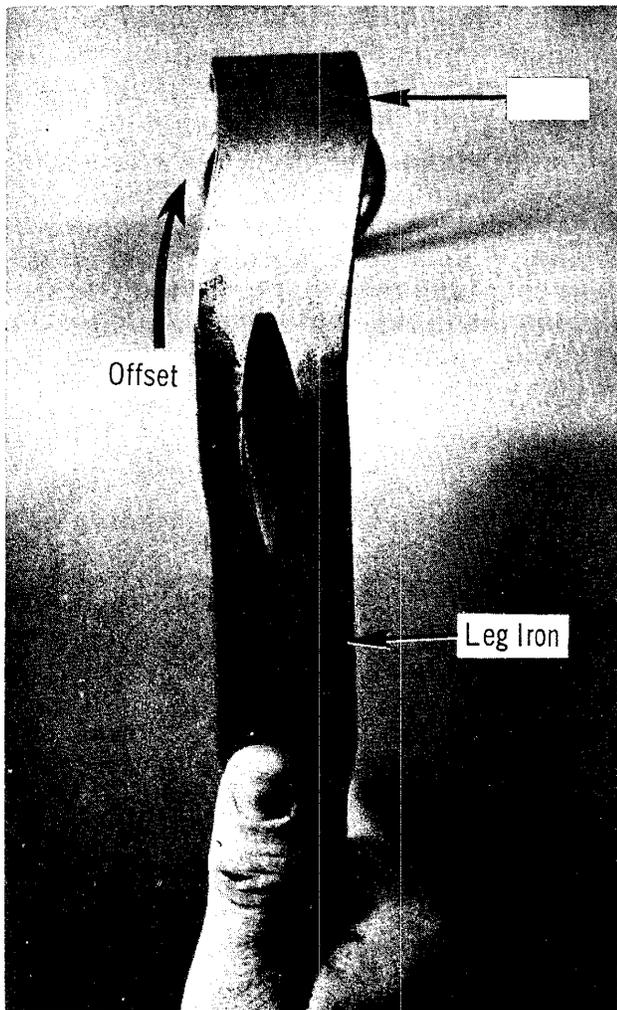


Fig. 2 — Stirrup Offset "Right"

Climber is changed to use two set screws instead of one set screw and a rivet for attaching the sleeve to the leg iron. This will allow the craftsman to remove the sleeves, pads and straps for reuse when returning climbers to be sharpened. As C and D Climbers are returned for sharpening, the rivet holes in the leg irons will be tapped so that two set screws can be used to attach the sleeves. A fully machine shaped and sharpened gaff is used on the E Climber. No filing is required at time of manufacture or when resharpened. The gaff has been designed so that it can be machine sharpened without any filing to reshape the outer rounded surfaces shown in Figs. 10 and 11. **Do not use a file on these surfaces at any time.** This will disturb the design of the gaff so that it can not be machine sharpened satisfactorily. Climbers may be ordered with or without sleeves. Sleeves including Fasteners or Fasteners only can be ordered separately. Pads and straps must be ordered separately. Gaff guards may also be ordered separately, however, all new and resharpened climbers are packaged with gaff guards installed.

2.02 Adjustable climbers have offset stirrups, therefore, they are made for the right and left foot and are marked "R" or "L" on the appropriate climber as indicated in Fig. 1. These climbers can be identified as right or left by remembering that the offset of the stirrup is toward the front of foot. Another method is to hold the climber with gaff toward you and pointing up, then noting which direction the stirrup is offset. If the offset is to right, it is a right climber as in Fig. 2; if the offset is to left, it is a left climber.

SLEEVES

2.03 Sleeves used with adjustable climbers can be adjusted in increments of 1/4 inch. They are available in two lengths. The longer sleeve used with the C and D Climbers has been

superseded by one that can be adjusted to 21-1/2 inches. Fig. 3 illustrates these sleeves and the range of adjustments. Sleeves are attached to climbers by two set screws known as Fasteners except on the shorter sleeves from 14-3/4 to

15-1/2 inches and on the longer sleeves from 17-3/4 to 18-1/2 inches. On these adjustments, only one set screw is used for attachment. For these lengths, the wedging of the sleeve and leg iron provides a sufficiently tight fit of these parts.

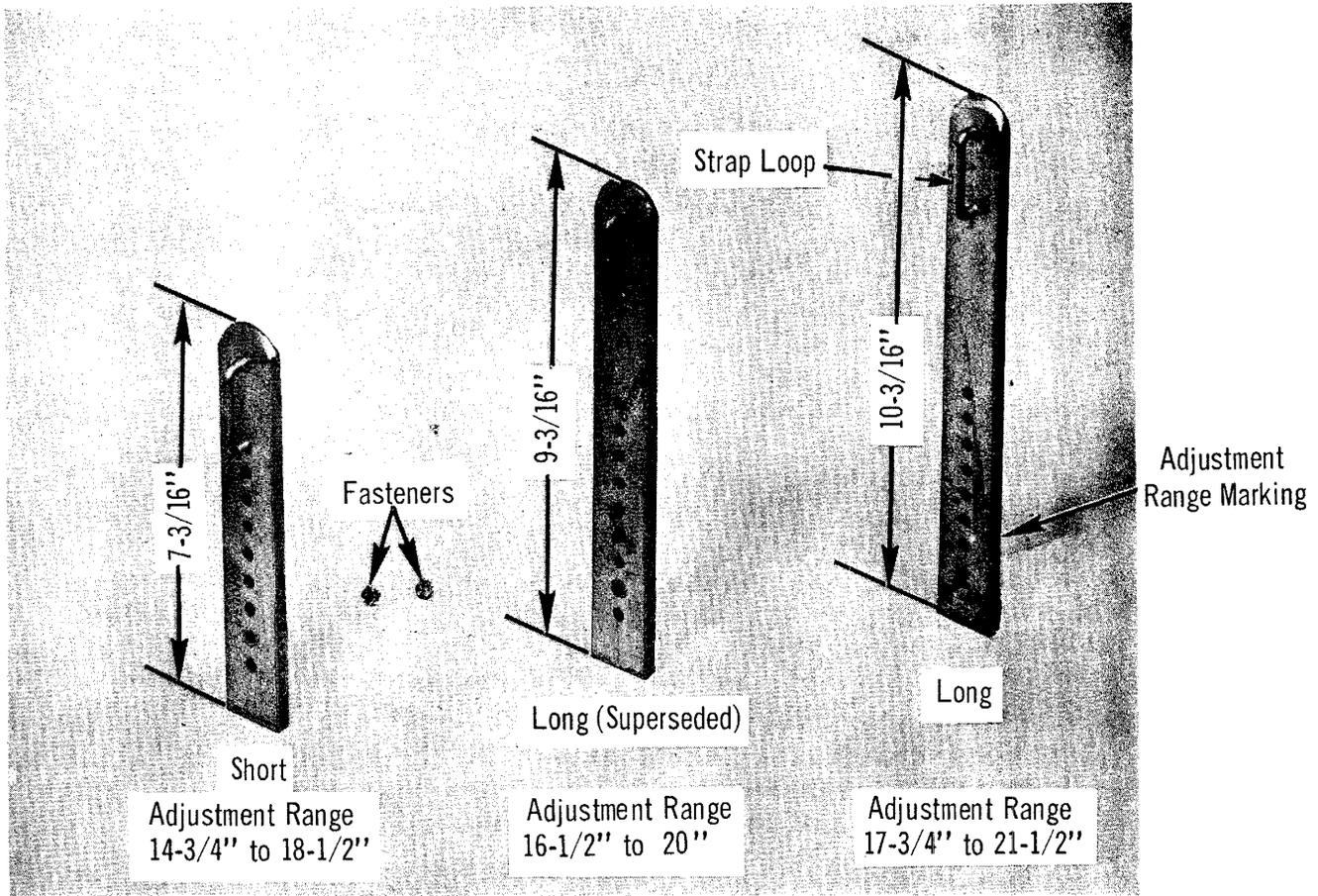


Fig. 3 – Sleeves for Adjustable Climbers

PADS

2.04 Plain, felt lined and cushion pads, Fig. 4, are available for use with climbers. Cushion pads are coded B Climber Pads (angle) and C Climber Pads (straight). Plain and felt lined

pads are generally used when wearing boots that cover the calf of the leg. Cushion pads give added comfort, especially at the calf of the leg. B Climber Pads also furnish additional padding at the shins.

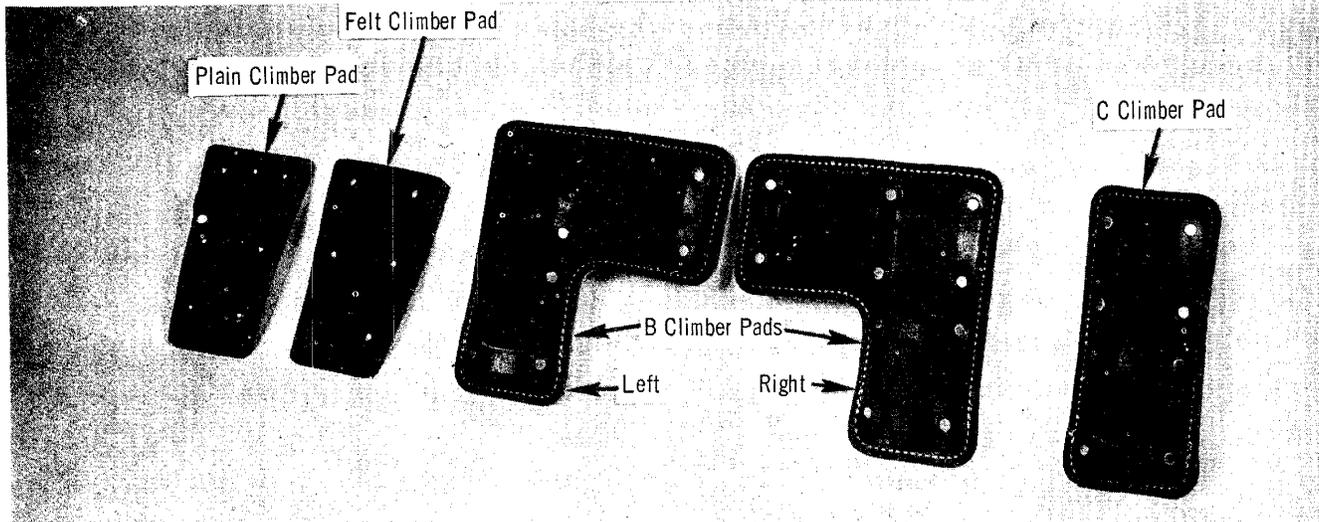


Fig. 4 – Pads

STRAPS

2.05 C Climber Foot Straps, Fig. 5, are used on the stirrup rings of adjustable climbers to fasten the climber to the foot. A C Climber Foot Strap consisting of a tongue and buckle that can be clipped to the climber stirrup ring is placed on the climber so that the buckle will be across the foot instep when fastened.

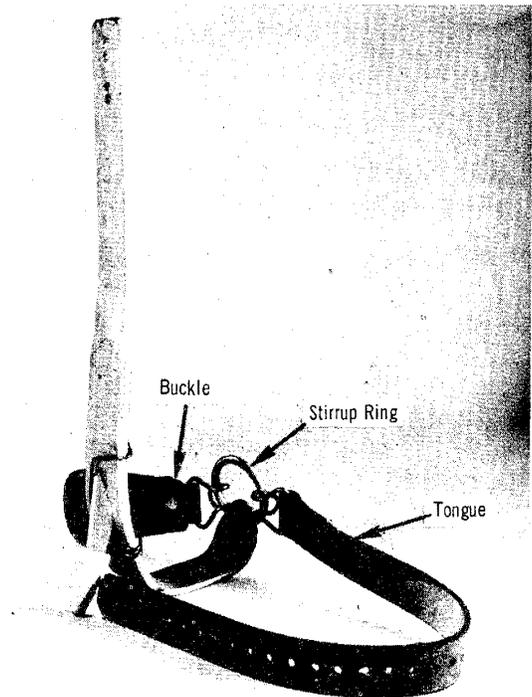


Fig. 5 – C Climber Foot Strap Installed on Right Climber

2.06 The 22- or 26-inch B Climber Strap, Fig. 6, is used to hold the pad on the leg iron and to fasten both to a craftsman's leg when the climber is worn.

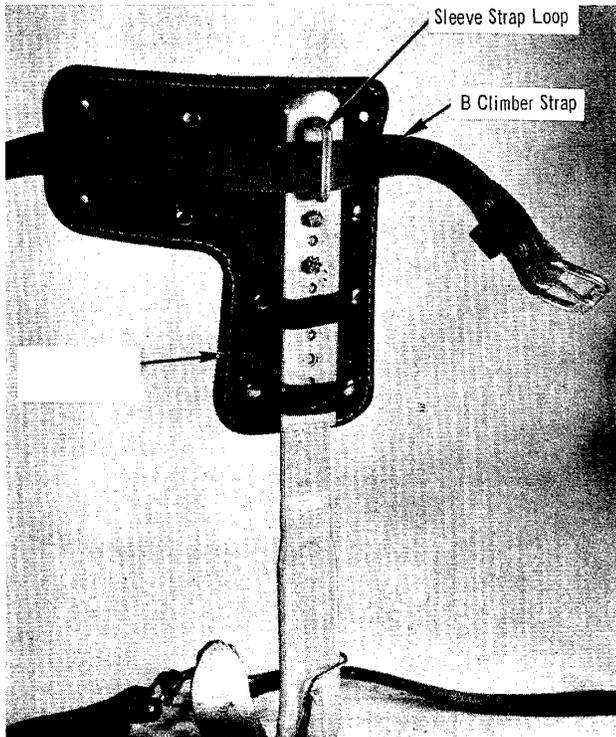


Fig. 6—B Climber Pad (Right) Installed

GAFF GUARDS

2.07 Gaff guards are used to protect gaffs and workmen when climbers are not being used. They also protect other tools from damage that are stored in vicinity of climbers. Fig. 7 illustrates a gaff guard installed.

3. PRECAUTIONS

3.01 Observe the following precautions when storing, transporting, and using climbers:

- (a) Equip climbers with gaff guards, when not in use. Gaff guards protect craftsmen as well as the gaff tips and cutting edges when climbers are carried by craftsmen or are stored in tool boxes or other storage spaces. They also prevent damage to safety straps and

body belts when stored in the same compartments with climbers.

- (b) Use climbers adjusted to correct size, Part 4.
- (c) Do not bend leg irons. If discomfort exists, use cushion type pads.

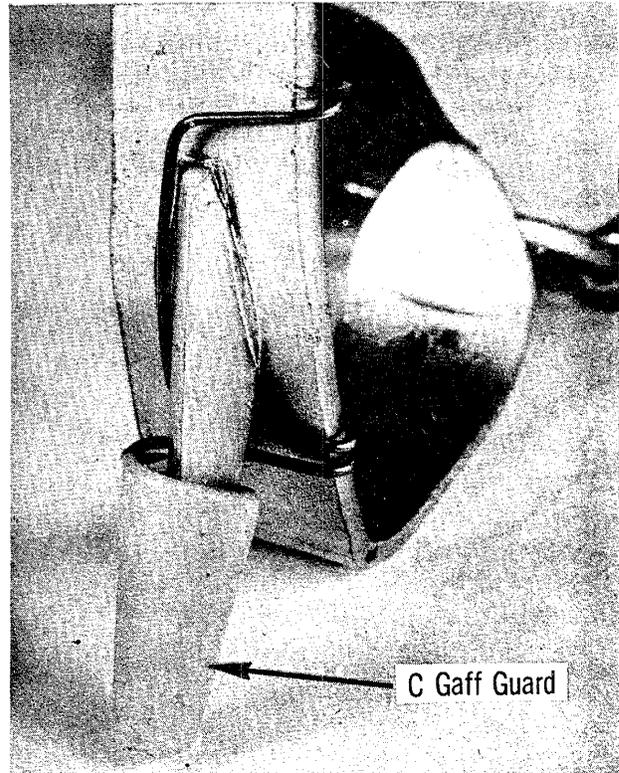


Fig. 7—C Gaff Guard Installed

(d) NEVER WEAR CLIMBERS ON WORK WHERE THEY ARE NOT REQUIRED as, for example, when walking between poles, when working on ground, a ladder, a stepped pole where the work can be performed safely from the steps, or while traveling in a motor vehicle or any other type of conveyance.

(e) When climbing past another employee who has his safety strap in place around the pole, special care should be taken to avoid gaffing the other employee, his safety strap or other equipment.

(f) When climbing past attachments on poles, care should be taken to avoid dragging climbers or foot against these attachments.

- (g) Do not use the gaff as a pry.
- (h) When climbing, avoid placing the gaff in or near a crack, knot, nail, or tack, etc.
- (i) Inspect climbers in accordance with Part 5.

4. FITTING AND ASSEMBLING CLIMBERS

4.01 Determine the correct sleeve to use by measuring the distance from the lower edge of the projecting kneebone to the underside of the shoe at the arch, Fig. 8, and subtract 1/2 inch. Select the sleeve (see 2.03), that covers this range. When ready to assemble the climber for use, first place the C Foot Straps as indicated in 2.05.



Fig. 8 – Measuring for Climber Length

Next, place a B Climber Strap and pad on sleeve as shown in Fig. 6. Place the strap so the tongue will point toward back of leg when buckled. Place sleeve on climber, step on stirrup and adjust sleeve to position that is most comfortable. Place one of the set screws to hold the sleeve in

place and put climber on to see if it feels comfortable; if so remove climber and add second set screw to hold sleeve in place (see 2.03). The same procedure can be used for the other climber.

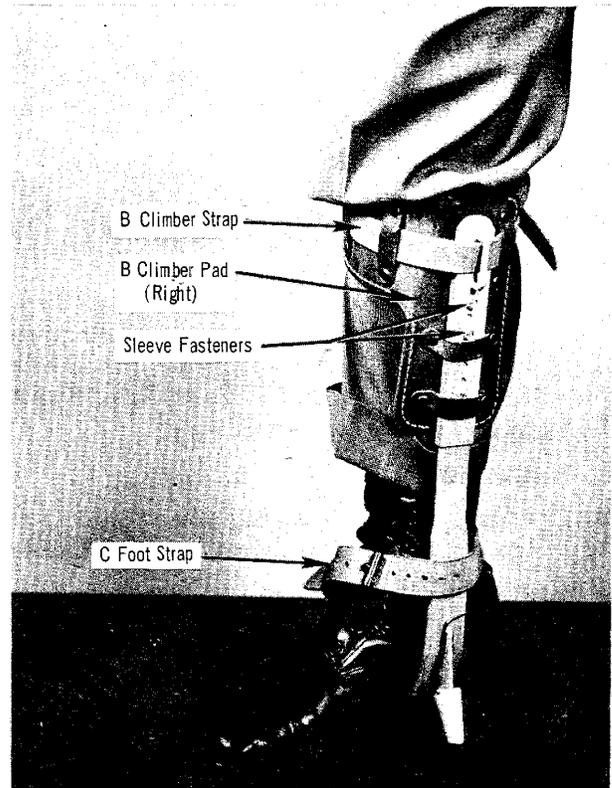
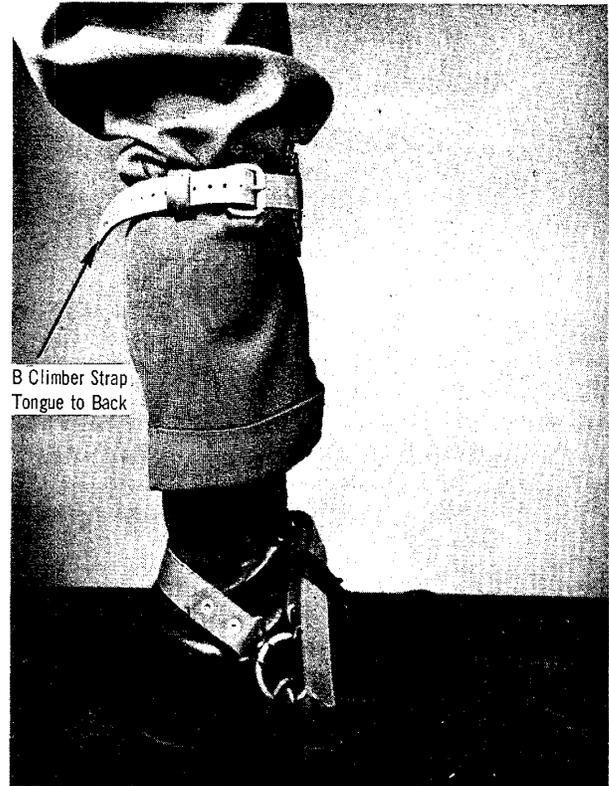


Fig. 9 – Right Climber on Leg

Climbers should be adjusted to the maximum length which is comfortable. Fig. 9 illustrates assembled climber strapped to leg.

5. INSPECTION OF CLIMBERS

5.01 Each employee shall assume the responsibility for determining that his climbers, sleeves, pads, straps and gaff guards are in good condition and shall inspect the gaffs to detect nicks or dulled cutting edges daily, or more often, if he has any reason to think they are not in good condition such as after accidentally hitting a nail or tack while climbing a pole. If there is any question that the gaffs are in good condition, check them with the pole cutout test, see Part 6. Furthermore, upon receipt of the climbers and at least once a week thereafter, he shall inspect the climbers and associated items in accordance with 5.03 to detect any flaw that may have developed. In addition, climbers shall pass the pole cutout test.

5.02 The employee's supervisor shall make an inspection of the climbers at intervals of not more than three months.

5.03 The important conditions to look for when inspecting climbers are as follows:

- (a) Fractured gaff or hairline crack.
- (b) Loose gaff.
- (c) Broken stirrup ring or broken or loose ring loop.
- (d) Fractured leg iron or start of fracture.
- (e) Nicks and depression in gaff due to impact with a hard object.
- (f) Ridge of gaff not straight.
- (g) Dull gaff beyond restoration by means of honing.
- (h) Broken or distorted gaff point.
- (i) Fractured sleeve or start of fracture.
- (j) Broken or loose sleeve strap loop.
- (k) Straps worn through one layer of fabric or with cuts or enlarged buckle holes that would affect the strength.
- (l) Broken or otherwise defective strap buckle.

- (m) Broken or otherwise defective clip on foot strap.
- (n) Broken or loose rivets on straps or pads.
- (o) Broken or torn loop on strap or pad.
- (p) Plastic missing from gaff guard.
- (q) Loose screw or rivet on sleeve.

5.04 If any of the conditions, 5.03 (a) to (h) inclusive, are found, or if the condition of the climbers is such that there is good cause to doubt their safety, they shall not be used but shall be exchanged for a pair in good condition. If any of the conditions (i) to (p) inclusive are found, the item shall be replaced. If condition (q) is found, the screw or rivet shall be tightened or replaced.

5.05 The following illustrate the surfaces and ridge of a properly-shaped gaff. The ridge is straight.

- (a) Profile of gaff at point.

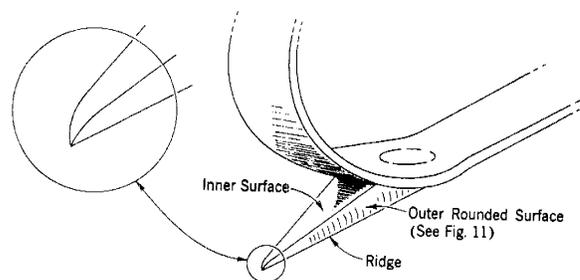


Fig. 10 — Gaff Profile and Point

- (b) Rounded contour of outer surfaces.

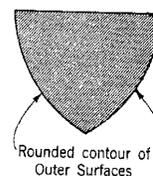


Fig. 11 — Outer Surfaces

5.06 The following illustrations show two principal causes of climber cutouts due to unsatisfactory gaff conditions.

- (a) Insufficient penetration resulting from a dull gaff.

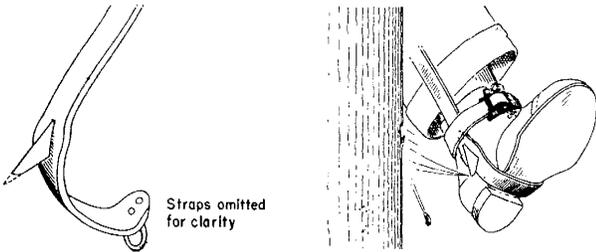


Fig. 12 -- Dull Gaff

- (b) Ineffective penetration due to ridge not being straight.

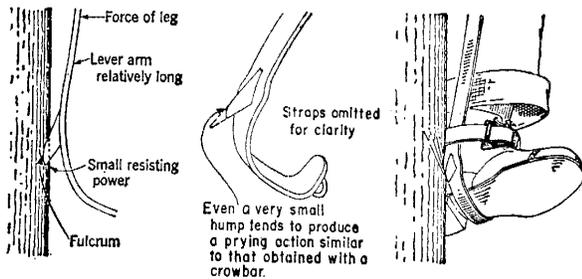


Fig. 13 -- Ridge Not Straight

6. TESTING CLIMBER GAFFS

6.01 Climber gaffs shall be tested when received and thereafter anytime there is any doubt as to their sharpness but at least once a week. They shall be tested by making the pole cutout test as follows:

1. Place the climber on the leg and fasten the foot strap in the usual manner. Do not fasten the leg strap.
2. Remove the gaff guard and put on your gloves. Place your hand between your leg and the climber pad, palm facing the pole. Place the other hand around the pole to balance yourself. With your leg at about a 30 degree angle, the normal climbing

angle, aim the gaff toward the center of the pole about one foot above the ground line. Lightly jab the gaff in the pole, so that it penetrates the wood about 1/4 inch see Fig. 14. Do this at a location where the pole surface is free of cuts.



Fig. 14 -- Jabbing Gaff in Pole

3. Keeping just enough pressure on the stirrup to keep the gaff in the pole, but not so much as to cause the gaff to penetrate any deeper, push the climber and your hand toward the pole by moving your knee until the strap loop of sleeve is against the pole as shown in Fig. 15.



Fig. 15 – Climber Holding

4. Making certain the strap loop is held against the pole with pressure from your leg, *gradually* exert full pressure straight down on the stirrup without raising your other foot off the ground, so as to maintain balance if the gaff does not hold.
5. A gaff, which is correctly shaped and is sharp, will cut into the pole and hold in a distance of 2 inches or less. Measure the cut from point the gaff enters the pole to bottom of cut at surface of pole as indicated in Fig. 16.

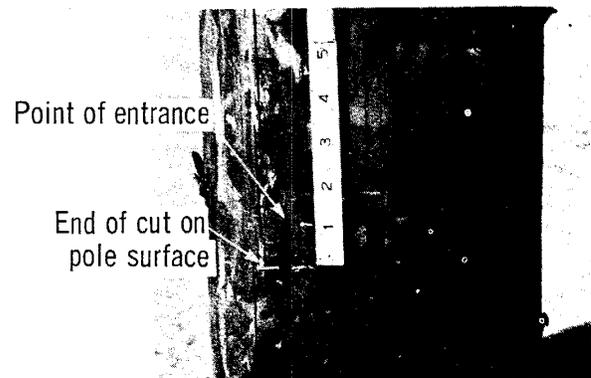


Fig. 16 – Measuring Gaff Cut

A gaff that is correctly shaped but dull or burred will cut in and hold but the length of the cut will be more than 2 inches. A gaff, which is very dull or deformed in some way, will cut out of the pole or plow through the wood for a distance greater than 2 inches. ***Do not use climbers that cut out or plow through the wood for a distance greater than 2 inches.*** If the climber gaff is dull, sharpen with a hone, as described in Part 7 and repeat cutout test.

7. FIELD MAINTENANCE

CLIMBER GAFFS

7.01 During normal use of climbers the edges along the inner surface (cutting edges), Fig. 17, may become dull. The honing stone should be used to maintain sharp edges. Remember that even a dull gaff can cut your finger so hone carefully.

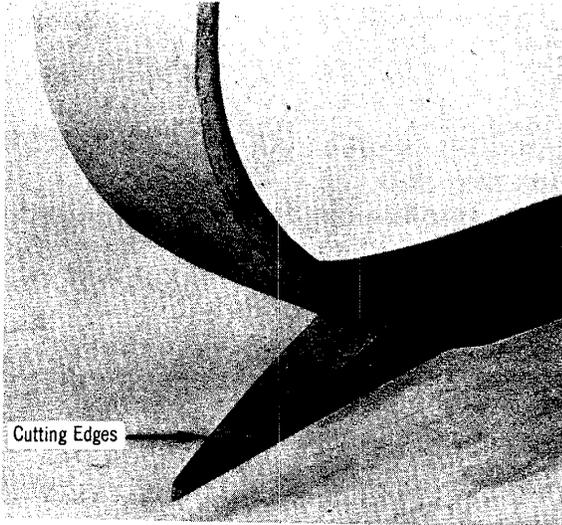


Fig. 17 — Gaff Cutting Edges

7.02 In honing, use a standard honing stone. Keep the stone well oiled with light machine oil while honing to prevent clogging the stone.

7.03 First, if there are any small burrs along the cutting edges, remove them by holding the hone against the side of the gaff and *carefully following the edge around to the tip* as indicated in Figs. 18 and 19.

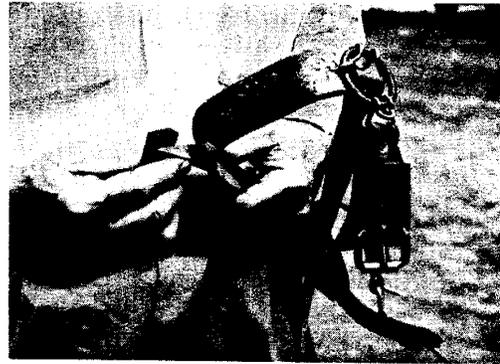


Fig. 18 — Removing Burrs from Top Cutting Edge



Fig. 19 — Removing Burrs from Bottom Cutting Edge

7.04 Hone the inner surface of the gaff by starting the stroke near the leg iron and continue over rounded curve of tip as indicated in Fig. 20. Stop the honing stroke before the stone slides off the end of the gaff to prevent dulling the tip. About 20 to 25 strokes of the honing stone should be enough. *Do not attempt to reshape the tip of the gaff.*

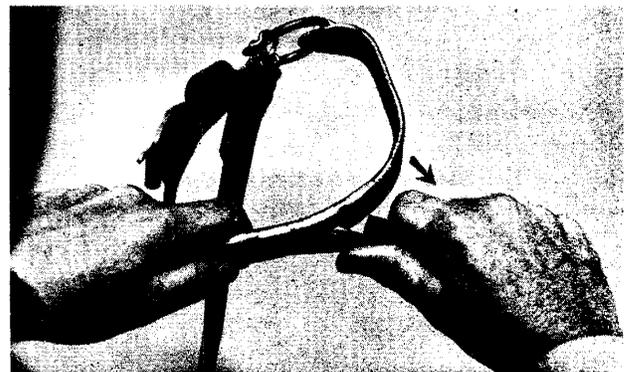


Fig. 20 — Honing Inner Surface

7.05 When using a vise to hold a climber, always protect the leg iron by placing wood blocks between the vise jaws and the leg irons as indicated in Fig. 21. This prevents scoring the leg iron which may weaken it.

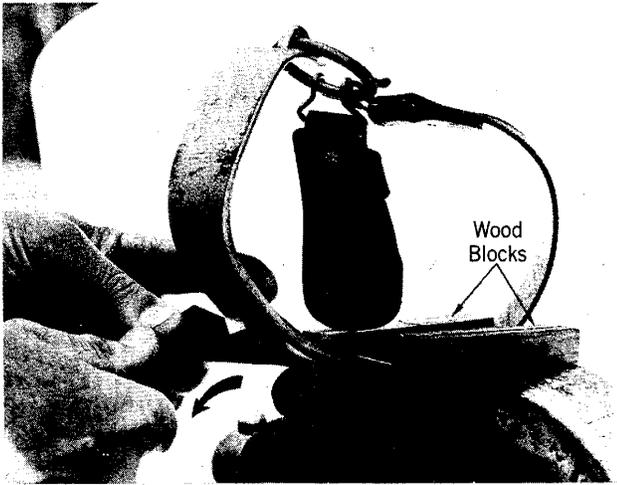


Fig. 21 – Honing Using Vise

PADS

7.06 Pads should be maintained clean and pliable for maximum comfort. Maintain this condition by using saddle soap or neatsfoot oil about every three months as follows:

- (a) Clean with a damp sponge using a neutral hand soap.
- (b) With sponge and clean water, work up a lather using a good grade of saddle soap. Work lather well into pad and put in shade to dry. When lather is almost dry, rub the leather vigorously with a soft cloth.

(c) About every six months instead of dressing with saddle soap as in (b), clean as in (a), then while leather is still damp apply about 1/2 teaspoon of neatsfoot oil on the loop side of the pad, apply oil gradually with hands using long light strokes to work into leather. After oiling, allow pads to dry overnight then rub vigorously with a soft cloth to remove excess oil.

8. RETURNING CLIMBERS FOR MACHINE SHARPENING

8.01 When climber gaffs need sharpening and the desired sharpness cannot be obtained by honing as described in Part 7, the craftsman shall exchange them for a pair in good condition. Remove the straps and pads, also the sleeves unless they are riveted, for reuse on good climbers. Equip the climbers to be returned with gaff guards and tape or otherwise tie them together. Fig. 22 illustrates a gaff that has been machine sharpened a number of times, to the minimum length that shall be used.

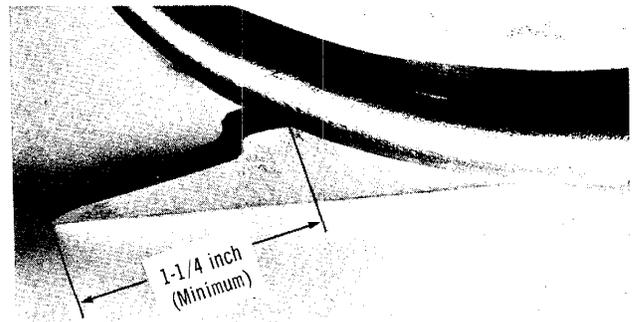


Fig. 22 – Gaff Sharpened to Minimum Length