SECTION 081-730-101
Issue 5, November 1981
Reprinted July 1984**

CLIMBERS

DESCRIPTION AND USE

CONTENTS

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 This section is being reissued to add the new H climber and the D gaff guard. Revision arrows are used to emphasize the more significant changes.

1.03 When existing D, E, and F climbers with foot straps attached to a solid ring are returned for reconditioning, the solid ring will be replaced with a split steel ring.

1.04 ***Under no circumstances should a file or any other tool be used to reshape or sharpen a climber gaff.*** Part 7 describes the use of a hone for climber gaff maintenance.

2. PRECAUTIONS

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

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

(b) Use climbers adjusted to correct size. (See Part 4.)

(c) Do not bend leg irons. If discomfort exists, use cushion-type pads.

(d) ***Never wear climbers on work where they are not required*** as when walking between poles, when working on the ground, on a ladder, or an aerial lift, on a stepped pole where the work can be performed safely from the steps, in trees, or while traveling in a motor vehicle or any other type of conveyance.

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

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(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.

3. DESCRIPTION

F CLIMBER—AT-8530

3.01 The F climber is an adjustable length climber that consists of a leg iron, an adjustable sleeve, fasteners, and gaff guards. The parts of an F climber are shown in Fig. 1.

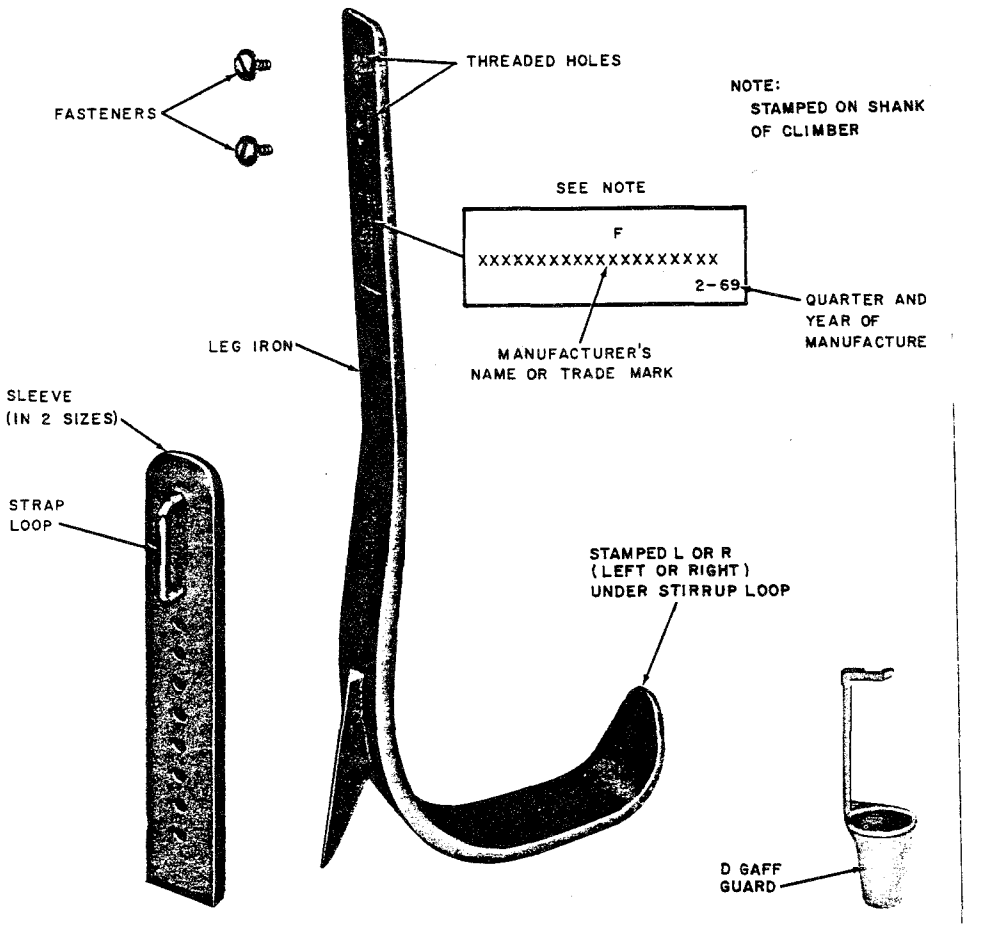

Fig. 1—Parts for F Climber

3.02 The F climber is basically identical in construction to the D or E climber. The foot strap assembly which secures the stirrup of the climber to the arch of the shoe is equipped with a removable split steel ring and is not an integral part of the climber.

3.03 Gaffs of F climbers are fully machine shaped and sharpened. The climber shank is tapped and threaded for adjusting and securing the sleeve at any desired position. The adjustable sleeves are interchangeable. The gaff is designed so it can be machine sharpened without any filing to reshape the outer rounded surfaces or the ridge of the gaff. ***Do not use a file on these surfaces at any time.*** This would disturb the original design of gaff so that it cannot be machine sharpened satisfactorily.

3.04 Climbers must be ordered by component parts. Climber sleeves and leg irons are ordered separately; however, each pair is furnished with fasteners. The leg irons are provided with gaff guards. Fasteners may be ordered separately. Pads, leg straps, and foot strap assemblies or components must be ordered separately. Factory resharpened climbers are returned with gaff guards installed.

3.05 F climbers have offset stirrups; therefore, they are made for the left or right foot and are marked "L" or "R" just below the ring loop at the end of the stirrup. Some older climbers may not have been marked. Climbers can be identified as left or right by holding the climber with the gaff toward you and pointing up and noting the direction the stirrup is offset. If the offset is to the right as shown in Fig. 2, it is a right climber; conversely, if the offset is to the left, it is a left climber.

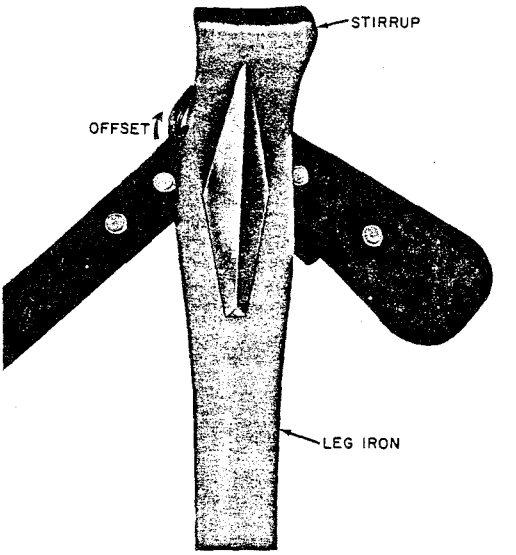

Fig. 2—Stirrup Offset "Right"

H CLIMBERS—AT-8530

3.06 The H climber is identical to the F climber except the leg iron is 1-1/4 inches shorter in length (Fig. 3). The stirrup on the climber is smaller in width and depth to accommodate smaller size work boots. The H climber uses the same adjustable sleeves, foot straps with split rings, and other standard parts used with the F climbers.

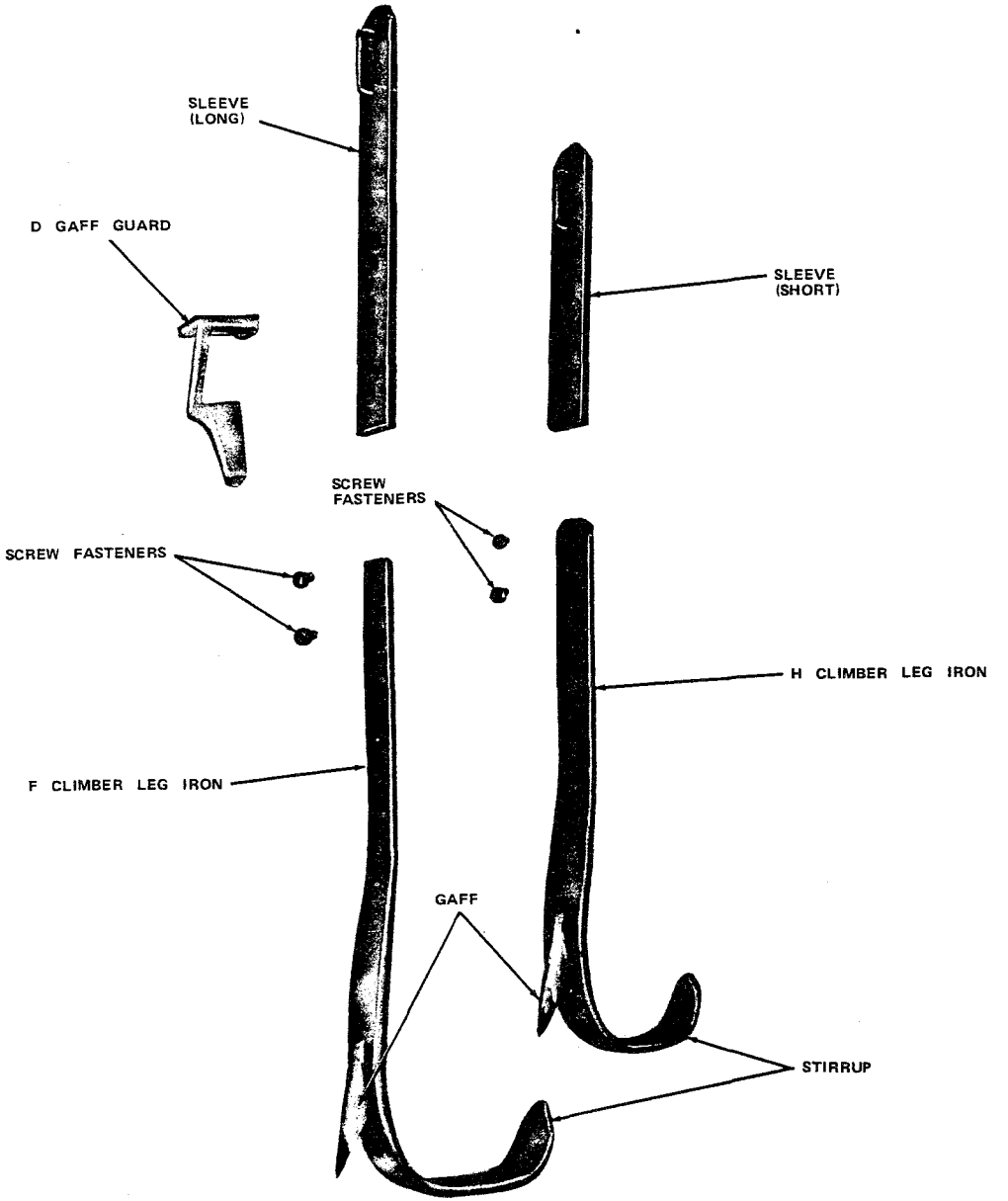

Fig. 3—H Climber

D AND E CLIMBERS

3.07 The superseded D and E climbers are basically identical to the F climber except that on these climbers the C and D foot straps have been rated Mfr Disc. These foot straps have been replaced by the E climber foot strap.

SLEEVES

3.08 The sleeves used on adjustable climbers are designed to fit snugly over the shank of the leg irons and to be securely locked in the desired position by machine screws. The sleeves are available in two lengths and can be adjusted in increments of 1/4 inch. Figure 4 illustrates the sleeves, the lengths available, and the adjustment range of each sleeve.

3.09 ▶The sleeves are attached to the climbers with two hexagon head machine screws. On the short adjustments for the short and long sleeves, only one machine screw is used. For these lengths, the wedging of the sleeve and leg iron provides a sufficiently tight fit on the lower part of the sleeve. Insert the machine screws through the holes in the sleeves from the strap loop side and secure in the threaded holes of the leg irons.◀ The heads of the machine screws are slotted for tightening with a screwdriver. The fasteners are equipped with spring steel lockwashers.

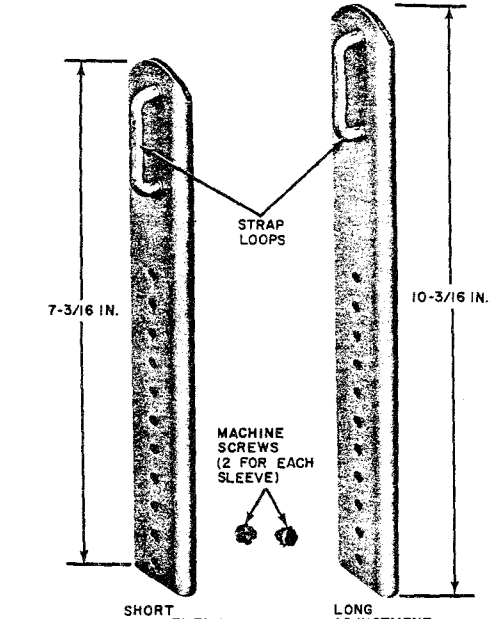

Fig. 4—▶Sleeves for Adjustable Climbers◀

PADS

3.10 Pads are used with climbers to protect the shins and calf of the leg against irritation by rubbing when the climbers are strapped to the legs. Plain leather, felt lined, and cushioned pads are available as shown in Fig. 5. Cushion pads are coded B climber pads (angle) and C climber pads (straight). The plain and felt lined pads are generally used when wearing boots that cover the calf of the leg. The wrap-around design of the B climber pads furnishes additional protection at the shins. Occasionally the top edge of a new pad may initially dig into the leg in use. This can be overcome by dulling the top edge by rubbing with a rounded metal tool.

STRAPS

3.11 The E climber foot straps are attached to the climber so the buckle assembly will be across the foot instep when fastened. Figure 6 shows the foot strap on the climber.

3.12 The B climber strap (Fig. 7) consists of a 22- or 26-inch strap with a buckle permanently attached. The B climber strap is used to hold the pad on the leg iron and to fasten both to the leg of the employee when the climber is worn.

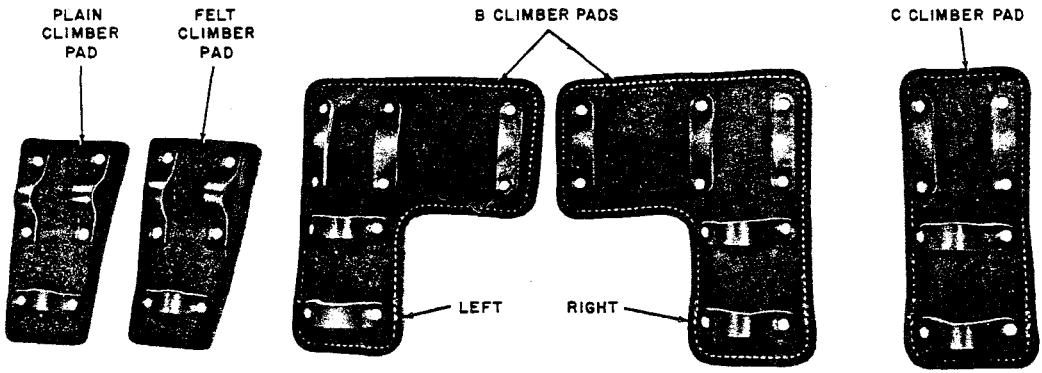

Fig. 5—Pads

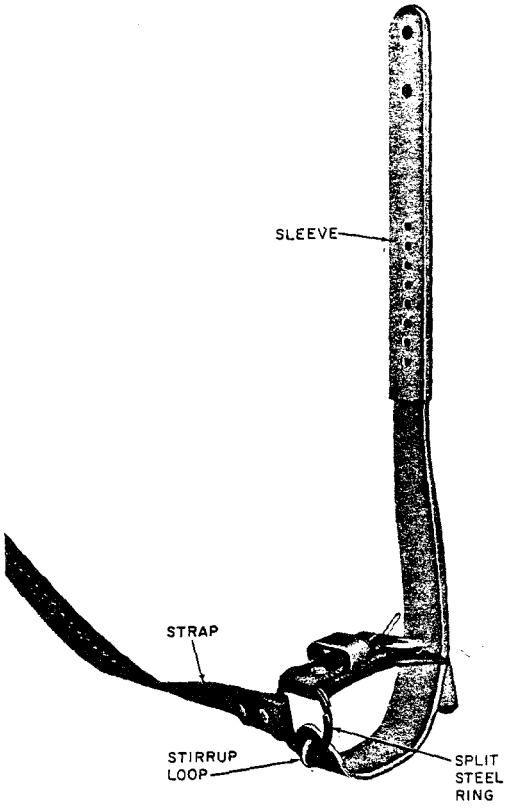

Fig. 6—Foot Straps Attached to Climbers

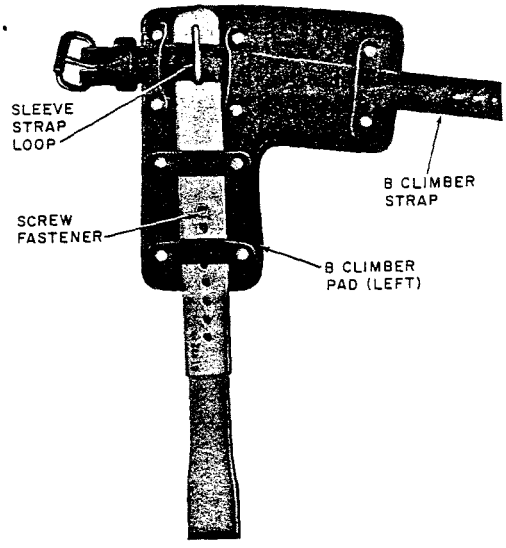

Fig. 7—B Climber Strap and Pad Installed on Climber

GAFF GUARDS

3.13 Gaff guards are used to protect gaffs and employees when climbers are not being used. They also protect other tools from damage that are stored in the vicinity of climbers. Figure 8 shows the gaff guard installed.

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 as shown in Fig. 9 and subtract 1/2 inch from this length. Select the climber sleeve that covers this range (paragraph 3.08, Fig. 4). When ready to assemble the climber for use, proceed as follows:

(1) Place the split steel ring of the E climber foot strap on the climber stirrup loop and then place the foot strap and buckle assembly on the split ring.

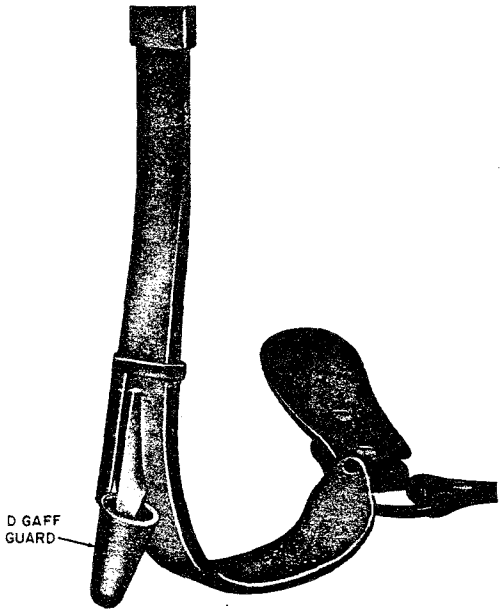

Fig. 8—C Gaff Guard Installed

(2) Place the B climber strap and pad on the sleeve as shown in Fig. 6. The strap should be placed so the tongue will point toward the back of the leg when buckled.

(3) Place the sleeve on the shank of the climber, step on the stirrup and buckle the foot strap so the stirrup is held firmly against the arch of the shoe. Adjust the sleeve to a position that is most comfortable.

(4) Place one of the slotted hexagon head machine screws through the hole in the sleeve that is aligned with the threaded holes in the climber and tighten the screw to hold the sleeve in place.

Fig. 9—Measuring for Climber Length

(5) Strap the climber to the leg as shown in Fig. 10 to see if it feels comfortable. Climbers should be adjusted to the maximum length which is most comfortable.

(6) If the climber feels comfortable, remove the climber and add the second screw (see paragraph 3.09) and tighten both screws to hold the sleeves securely. If uncomfortable, move the screws up or down one hole on the sleeves as required to find the most comfortable position.

(7) Repeat the procedure for the other climber.

5. INSPECTION OF CLIMBERS

5.01 Each employee shall assume the responsibility for determining that their climbers, sleeves, pads, straps, gaffs, and gaff guards are in good condition. Upon receipt of the climbers and at least once each day before they are used, the employee shall inspect the climbers and associated items in accordance with paragraph 5.03 to detect any flaw that may have developed. In addition, the first time the climbers are used each week, they shall pass the pole cutout test described in Part 6. If at any time during use the employee thinks the condition of the climbers may have changed, the climbers shall be reinspected and ***if there is any question that the gaffs are not in good condition, check them with the pole cutout test.*** Climbers which do not pass this test, even after honing, are considered defective and must not be used. They should be replaced in accordance with local procedures.

5.02 The supervisor shall make an inspection of the climbers at intervals of not more than 3 months.

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

(a) Fractured gaff or hairline crack, particularly on the inner surface (bottom) of the gaff and the cutting edges

(b) Loose gaff

(c) Broken or loose stirrup ring loop

(d) Fractured leg iron or start of fracture, particularly on the leg side of the shank at the top of the taper below the sleeve and the gaff attachment area

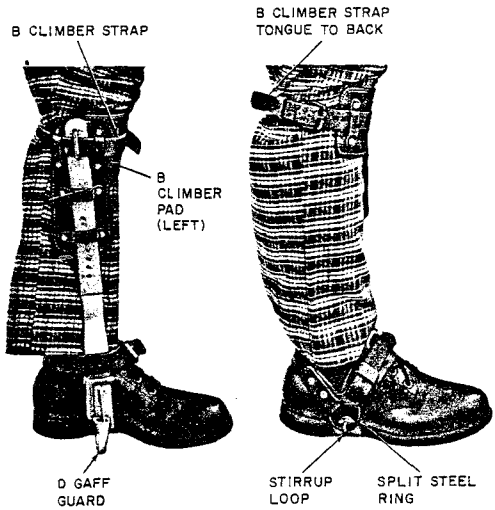

Fig. 10—Climber Strapped to Leg

(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) Straps worn through one layer of fabric or with cuts or enlarged buckle holes that would affect the strength

(j) Broken, severely rusted, or otherwise defective strap buckle or split steel ring

(k) Fractured sleeve or start of fracture

(l) Broken or loose sleeve strap loop

(m) Broken or loose rivets on straps or pads

(n) Broken or torn loop on strap or pad

(o) Plastic missing from gaff guard

(p) Loose sleeve fastener.

5.04 If any of the conditions, paragraph 5.03(a) to (h) inclusive, are found, or if the condition of the climber is such that there is good cause to doubt its safety, it shall not be used but shall be exchanged for climbers in good condition. If any of the conditions (i) to (o) are found, the item should be replaced. If condition (p) is found, the setscrew should be tightened or replaced, or the sleeve replaced.

5.05 Figure 11 illustrates the surfaces, ridge, and point of a properly shaped gaff. ***The ridge of the gaff is straight.*** Note that the point of the gaff is rounded to meet the ridge.

5.06 Figures 12 and 13 show two of the principal causes of climber cutout due to unsatisfactory gaff conditions. A dull point or dull cutting edges results in insufficient gaff penetration as shown in Fig. 12 causing the resultant cutout. If the straight ridge of the gaff is altered as indicated in Fig. 13, a prying action is produced that will cause climber cutout. Under no circumstances should any part of the gaff be altered by filing. Proper field maintenance of factory shaped gaffs is described in Part 7.

6. TESTING CLIMBER GAFFS

6.01 Climber gaffs shall be tested when received and thereafter any time there is any doubt as to their sharpness and the first time they are used each 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 is free of cuts and knots.

(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.

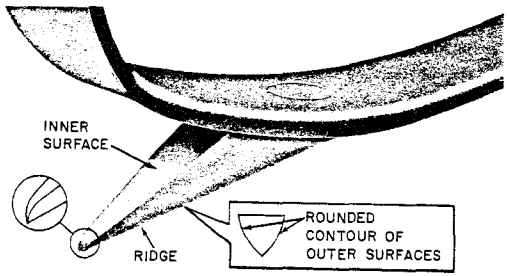

Fig. 11—Gaff Profile and Point

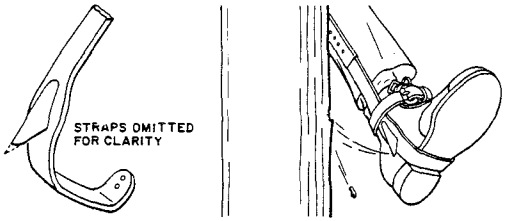

Fig. 12—Dull Gaff

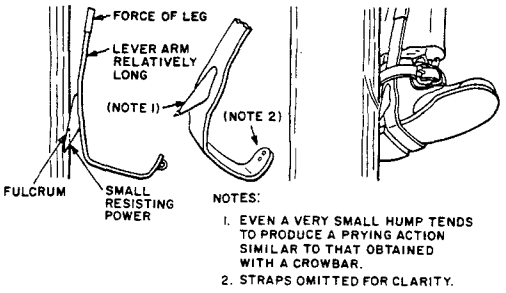

Fig. 13—Gaff Ridge and Point Altered

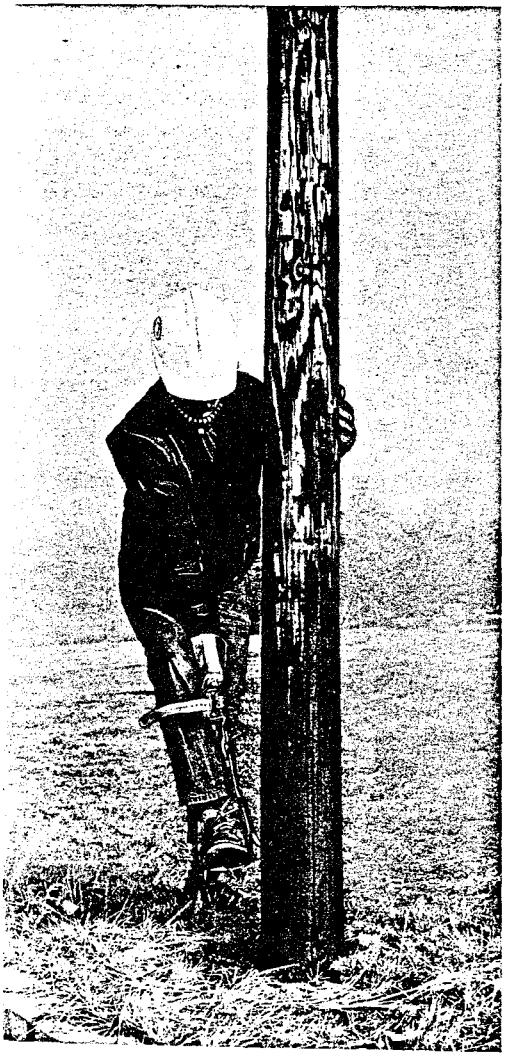

Fig. 14—Jabbing Gaff in Pole

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. 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 convenient tool for measuring the length of a cut is the gaff guard. The clasp portion of the gaff guard is 2 inches long and can readily be used as a measuring device. 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. If climbers still do not pass the pole cutout test, they are defective and should be replaced.

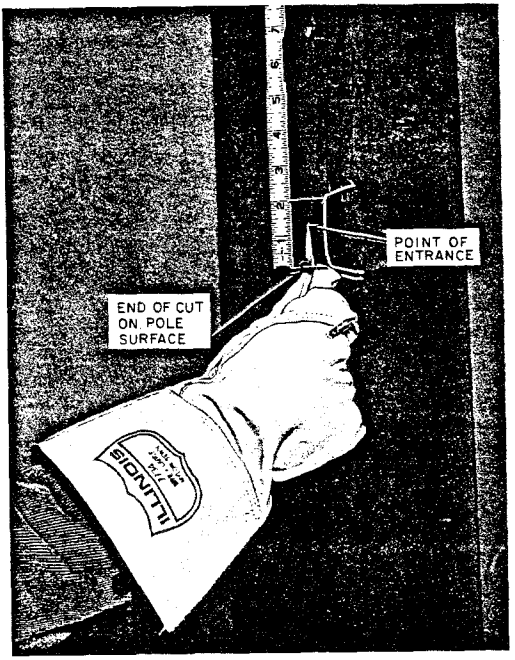

Fig. 16—Measuring Gaff Cut

7. FIELD MAINTENANCE

CLIMBER GAFFS

7.01 During normal use of climbers the edges along 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.

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 Fig. 18 and 19.

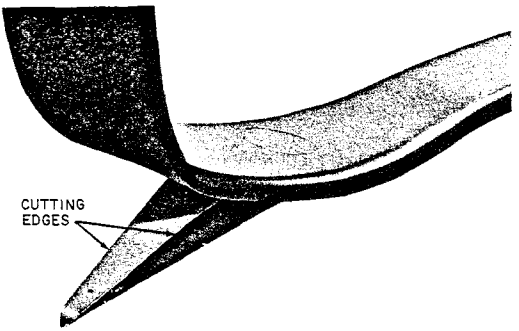

Fig. 17—Gaff Cutting Edges

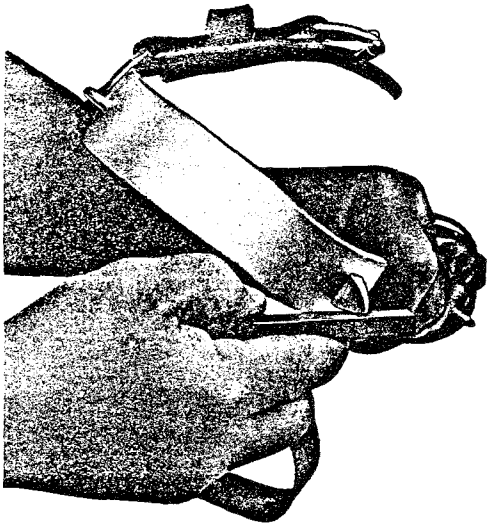

Fig. 18—Removing Burrs From Top Cutting Edge

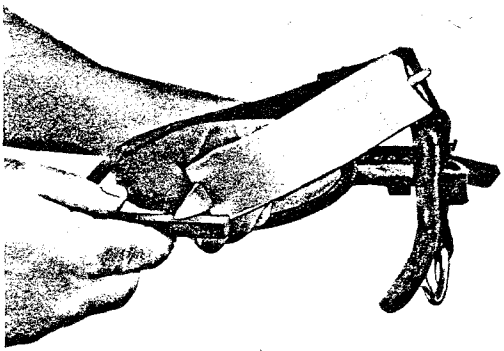

Fig. 19—Removing Burrs From Bottom Cutting Edge

7.04 Hone the inner surface of the gaff by starting the stroke near the leg iron and continue over the rounded curve of the 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.***

7.05 Discard the honing stone when its surface becomes covered with grooves due to use. A badly worn hone or one with grooves will round off the gaff cutting edges, thus causing climbers to fail the pole cutout test. The life of the hone can be extended by switching ends and sides.

7.06 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 shown in Fig. 21. This prevents scoring the leg iron which may weaken it.

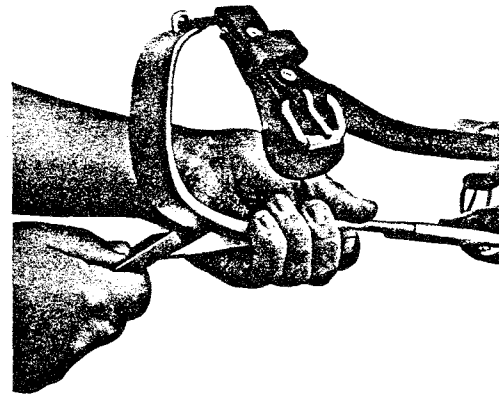

Fig. 20—Honing Inner Surface

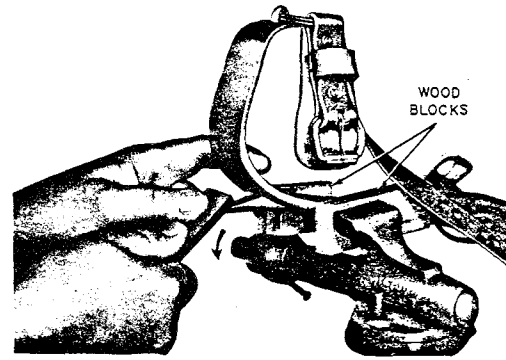

Fig. 21—Using Vise for Honing Gaff

7.07 When climbers require sharpening and the desired sharpness to pass the cutout test cannot be obtained by honing (paragraphs 7.02 through 7.05), the employee should exchange them for a pair of factory sharpened climbers. Remove the E climber foot strap (paragraph 3.11), the B climber straps (paragraph 3.12), pads, and sleeves and equip the climbers to be returned with gaff guards. Permanently attached foot straps should remain on the returned climbers. The solid ring will then be replaced with a split ring. Tape or otherwise tie them together. Figure 22 illustrates a climber that has been machine sharpened a number of times to the ***minimum length that shall be used.***

PADS

7.08 Pads should be maintained clean and pliable for maximum comfort. Maintain this condition by using saddle soap or neats-foot oil about every 3 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 6 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 neats-foot 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.

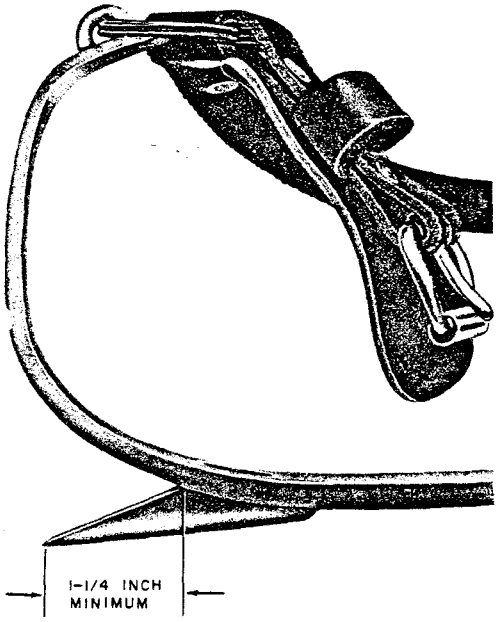

Fig. 22—Gaff Sharpened to Minimum Length