

CABLE CAR

DESCRIPTION, USE, AND MAINTENANCE

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1. GENERAL

1.01 This section outlines the description, use, and maintenance of the cable car.

1.02 This section is reissued to:

- Include information previously covered in Section 627-250-200 which is canceled.
- Introduce a new nylon strap that replaces the leather strap.
- New method of attaching straps.
- New procedure for passing span clamps.

Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

2. DESCRIPTION

2.01 The Cable Car consists of a metal frame suspended from two trolley-type wheels, and equipped with safety straps and a suspended wooden seat which is adjustable in height (Fig. 1).

2.02 The car wheels (one plain and one equipped with a friction brake) are rubber treated

aluminum or malleable iron. The newer aluminum wheels are interchangeable with the corresponding malleable iron wheels.

2.03 The brake wheel is faced with braking material, and a plunger operated plate is mounted on the adjacent face of the wheel housing. The brake is operated through a brake lever to which a short length of rope may be attached for convenience. A wing nut adjustment is also provided for applying a steady drag on the brake or for holding the car in a stationary position.

3. PRECAUTIONS

3.01 Observe the following precautions:

- (a) Do not ride 2.2M strand.
- (b) Do not ride spans attached to buildings, regardless of the size of the suspension strand.
- (c) Before riding, test the strand and poles as covered in Section 627-295-500.
- (d) Observe the span for power wires before placing cable car or riding. **Avoid contact with the power wires.**
- (e) Ensure that the snap hooks are not opened or disconnected when the car is passing through trees.
- (f) Do not rest cable car on the safety straps as the car may accidentally depress the keepers of the snap hook.
- (g) Except as covered in 6.09, the handline should be coiled and stored to avoid being entangled with stationary or moving objects on the ground.

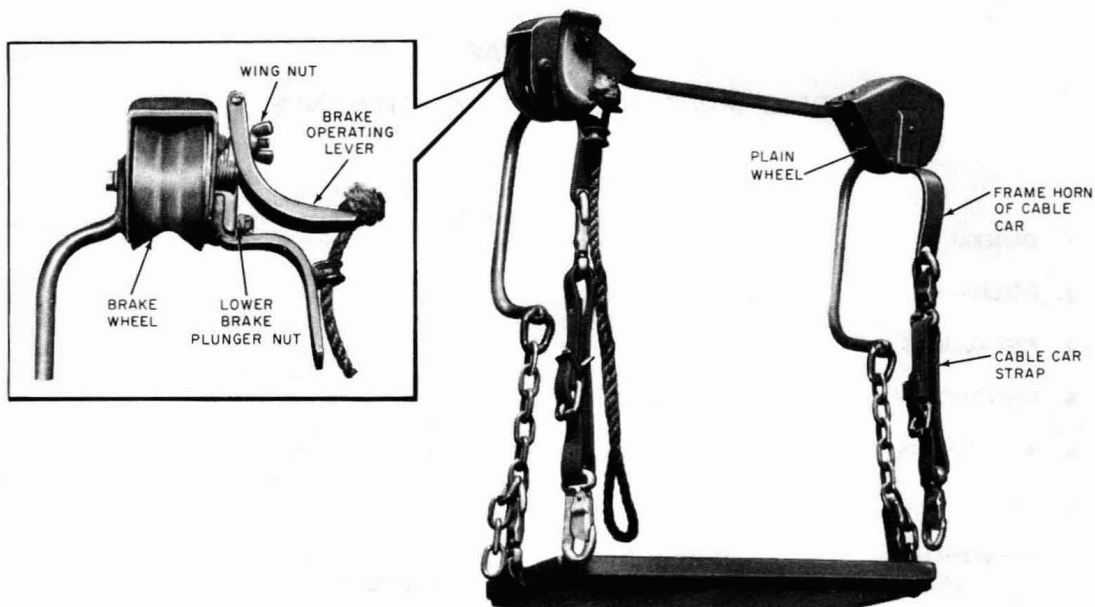


Fig. 1—Cable Car Straps on Cable Car Frame Horn

4. INSPECTION

4.01 Before use, inspect the car for any weaknesses that might have developed as a result of wear, excessive corrosion, or damage.

4.02 Examine particularly the following:

- (a) All brazed, welded, and riveted joints for cracks and looseness
- (b) The tubular frame members for any cracks, dents, or deformations weakening these members
- (c) The chain links and eyes and the holes in the frame horns for excessive wear
- (d) The flat steel strap on the seat for cracks at the bends, dents, or other damage
- (e) The wood seat for splits, decay, and missing or loose screws

(f) The snaphooks on the seat and straps for weak depressing springs which do not close hooks properly

(g) The wheels for excessive wear of the rubber tread and binding or play on the spindles

(h) The brake for proper adjustment, freedom of operation and excessive play, and the brake linings, for damage or excessive wear

(i) The cable car straps, in accordance with the inspection procedures, for climber straps and pads.

4.03 If any of the unsafe conditions above exist, or if in any other respect the condition of the car indicates any doubt as to its safety, the worn or damaged parts should be replaced or the car should be returned for repair in accordance with local instructions.

4.04 Supervisors shall inspect the car periodically.

5. ADJUSTMENTS

5.01 The height of the cable seat with respect to the strand is adjustable. When placing rings, temporary supports, etc, it is usually desirable to have the seat high enough to permit passing an arm over the strand. For other work, such as inspecting cable, it is usually advantageous to ride in a low position to facilitate inspecting all sides of the cable.

5.02 The lengths of the cable car straps are adjustable to suit the size of the rider and the nature of the work to be performed. One strap should be snapped to each frame horn of the cable car before leaving the ground (Fig. 1).

5.03 The length of the safety strap should be adjusted to allow proper movement in getting into and leaving the car.

5.04 These adjustments should be based on experience and should normally be made before the workman leaves the ground.

6. USE

ENTERING CAR—OVER-THE-HEAD METHOD

6.01 Follow the precautions, inspections, and adjustments outlined in Parts 3, 4, and 5.

6.02 Assume a position on the pole with strand attachment approximately waist high. Place the safety strap around the pole beneath the strand. Pass the car seat behind the head with the tubular frame in front of the craftsman (Fig. 2). Move around the pole and place the rollers of the car on the strand and set the brake. Position the car seat under the upper portion of the legs and climb down the pole into the seat. Place the cable car straps around the outside of the cable car frame and the cable. Then attach them to the Dee rings of the body belt (Fig. 3). Unfasten the safety strap and attach both snap hooks to one Dee ring of the body belt as shown in Fig. 5.



Fig. 2—Passing Cable Car Seat Behind Head



Fig. 3—Attaching Cable Car Straps to Dee Ring

ENTERING CAR—PASSING SEAT BEHIND LEGS

- 6.03 Follow the precautions, inspections, and adjustments outlined in Parts 3, 4, and 5.
- 6.04 Assume a position on the pole with the strand attachment approximately waist high.

Place the safety strap around the pole. Move around the pole and place the car on the strand with the tubular frame on the near side of the craftsman and set the brake. Unsnap one side of the seat from the chain, pass the seat behind the upper portion of the legs, and refasten the chain (Fig. 4). Attach the cable car straps and safety straps as outlined in 6.02. (Fig. 5)



Fig. 4—Refastening Chain on Cable Car Seat

ENTERING CAR WITH OBSTRUCTION ON POLE

6.05 To enter the cable car where a guard arm is on the pole, place the car on the strand as close to the pole as practical and set the brake. Assume a position on the pole with the knees at the height of the car seat. Unfasten the safety strap from around the pole and place it around the strand and cable. Pass the leg which is nearer the car through the car (Fig. 6) and sit in the seat straddle fashion.

Caution: Move to the far end of the seat and guide the other leg through the car with the free hand to avoid injury from the gaff (Fig. 7).

Attach the cable car straps and safety straps as outlined in 6.02.

ENTERING CAR FROM LADDER

6.06 To enter the cable car from a ladder, secure the ladder to the strand as prescribed in Section 081-740-105. Do not wear climbers when climbing a ladder. Enter the cable car as described in 6.05.

PASSING A POLE

6.07 When it is necessary to pass a pole, as in changing from one span to another, place the safety strap around the pole and disconnect the cable car straps. Climb up the pole to take the weight off the seat, lift the car off the strand (Fig. 8), move around the pole, and place the car on the strand on the opposite side of the pole (Fig. 9). Attach the cable car straps and safety strap as outlined in 6.02.

PASSING A SPAN CLAMP

6.08 When encountering older types of clamps, ride spans with span clamps on the opposite side of the drop. Bring the cable car close to the span clamp and unfasten the cable car strap from the frame horn nearest to the drop. Pass the drop wire under the frame horn and roll the first wheel of the car over the clamp. Replace the cable car strap. Roll the second wheel up to the clamp and unfasten the other cable car strap. Pass the drop wire under the other frame horn and roll the second wheel over the span clamp. Replace the cable car strap. For newer type span clamps, ride out to the existing clamp and set brakes on cable car. Place another clamp on the strand on the other side of the cable car, then move drop wire on to it. Then remove existing clamp to permit the cable car to pass. Replace existing clamp and return drop wire to its original position.

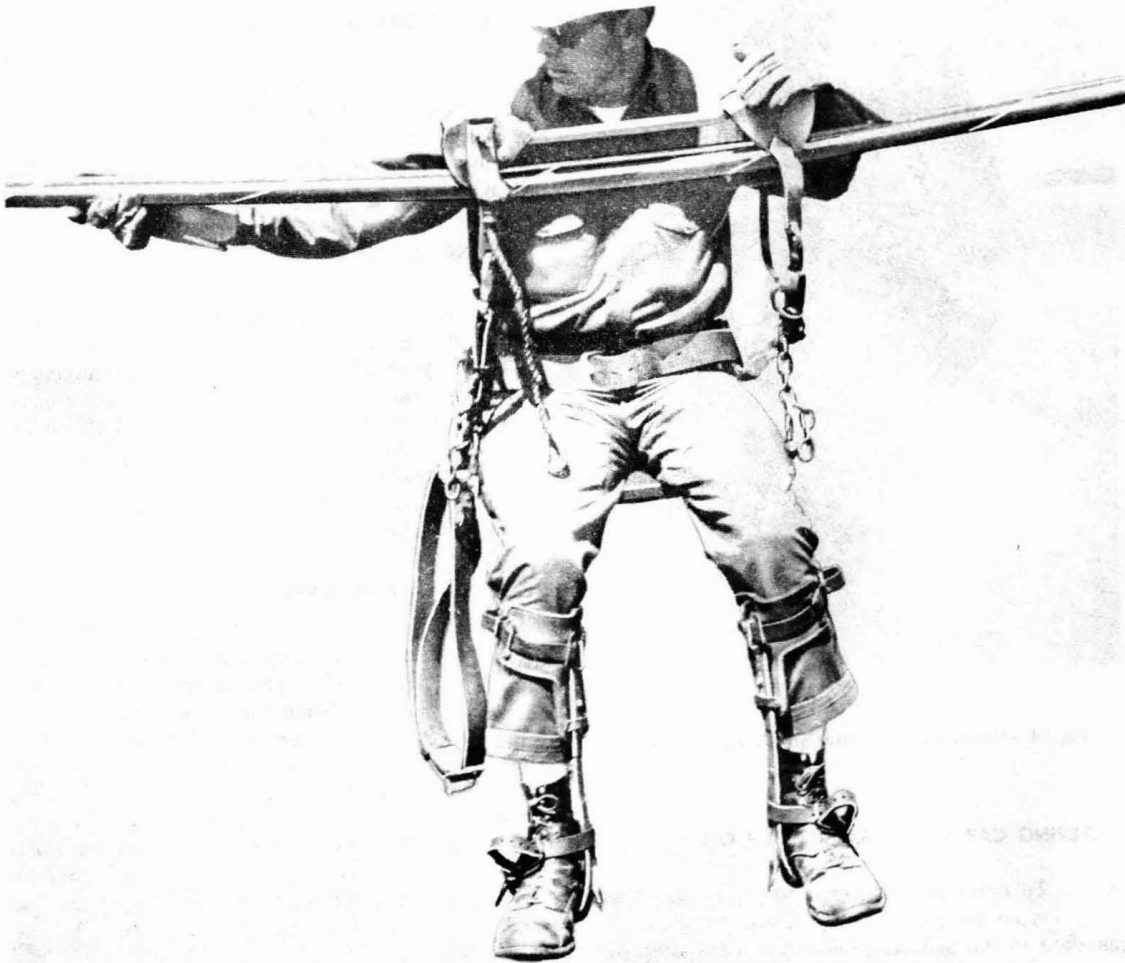


Fig. 5—Rider Secured in Cable Car

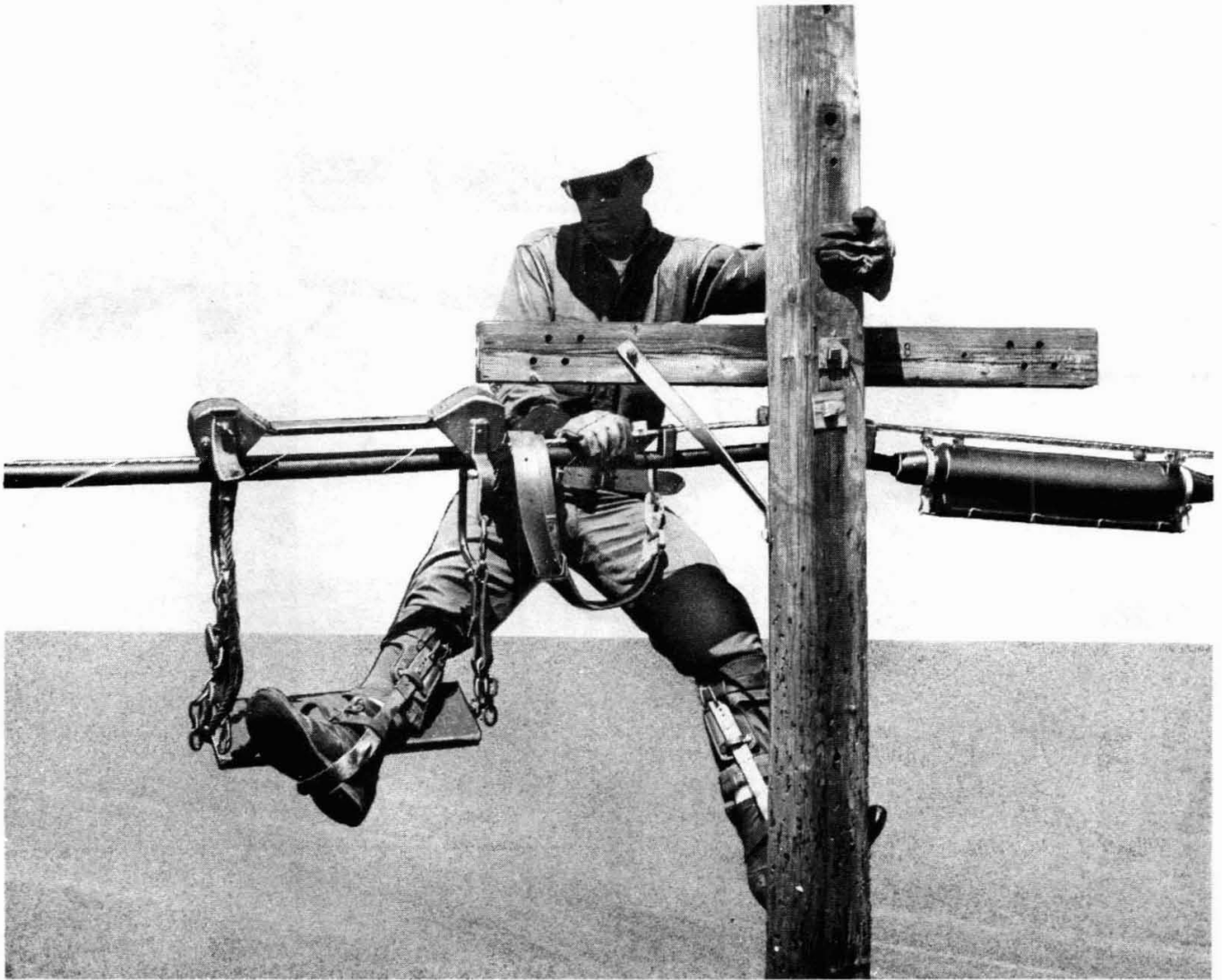


Fig. 6—Climbing Into Cable Car Placed Where Guard Arm is on Pole



Fig. 7—Final Positioning in Cable Car Seat

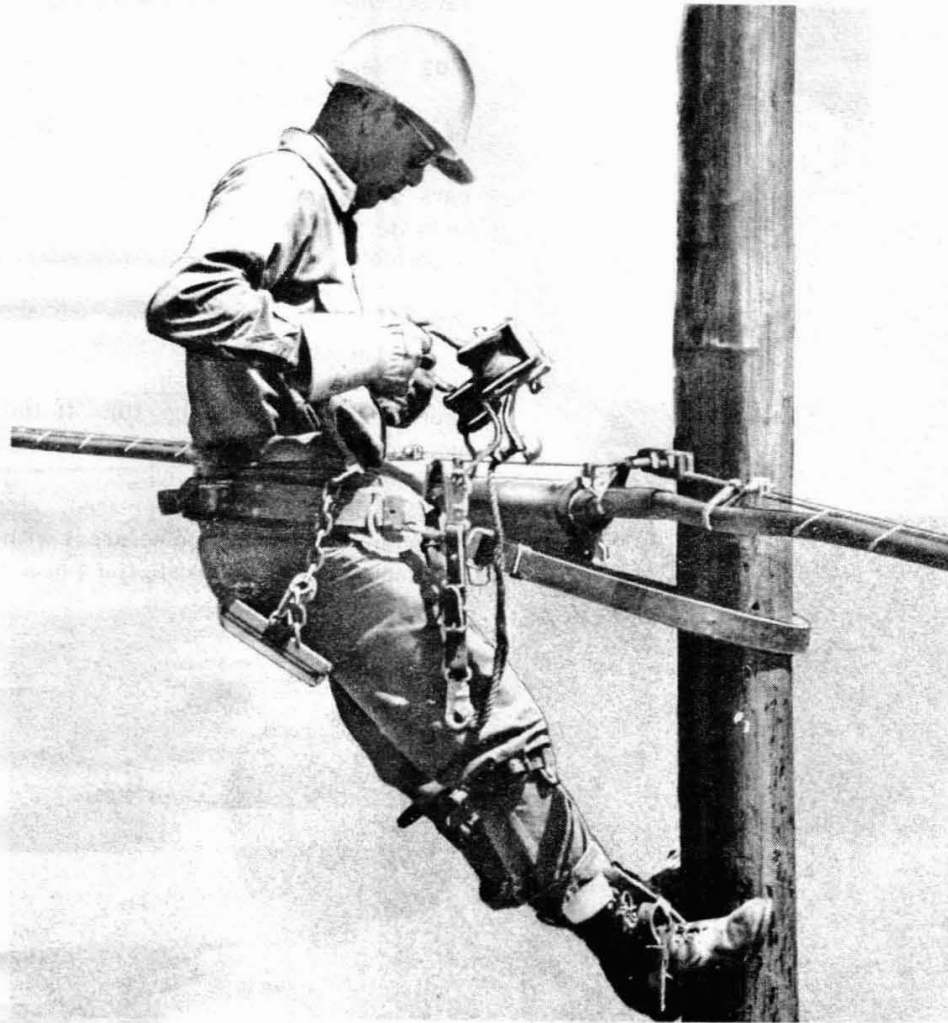


Fig. 8—Passing a Pole

RIDING STEEP GRADES

Exercise caution for the following procedure.

6.09 In riding spans on grades it is usually easier to ride down hill. When using the cable car on grades, the cable car brake, actuated by pulling down the brake lever, can be used to retard the rolling movement of the car. When steep grades are encountered where it is difficult or impracticable to safely control movement of the car, have another man control it from the ground by means of a handline. One end of the line should be securely tied to the tubular frame member on the up-grade

end of the car and the other end held by the man on the ground.

6.10 If there is any possibility of a vehicle or person running into the line, as when working on a span across a thoroughfare, pass a line from the car through a small sheave block securely attached to the up-grade pole at about the same height as the strand, then to the man standing at the base of the pole. Do not allow the line to sag excessively.

6.11 On very steep grades use a sheave block as described in 6.10 and have the line



Fig. 9—Placing Car on Strand

snubbed around the pole. Have the man on the ground tie the line securely to the pole if at any time it is necessary for him to release it.

7. MAINTENANCE

LUBRICATION

7.01 An oil hole is provided in the hub of each wheel for lubricating the wheel bearings occasionally. All of the commonly used automobile engine oils are satisfactory for this purpose, but heavier oils will have less tendency to run out.

REPLACEMENTS AND REPAIRS

7.02 Seat assemblies and frame assemblies are interchangeable. If repairs or replacements of parts are necessary, the defective assembly should be returned for repairs. Defective cable cars or assemblies should be properly tagged to indicate the defect before being returned to the storeroom.

7.03 To replace the plain wheel, remove the capscrew and lockwasher and slide the wheel out of the wheel housing. Remove the spindle from the old wheel (Fig. 10). If the spindle is in good condition and free from excessive play when inserted in the new wheel it may be reused; otherwise it should be replaced. Insert the new wheel in the housing and secure it with the capscrew and lockwasher. Lubricate the wheel bearing before use.

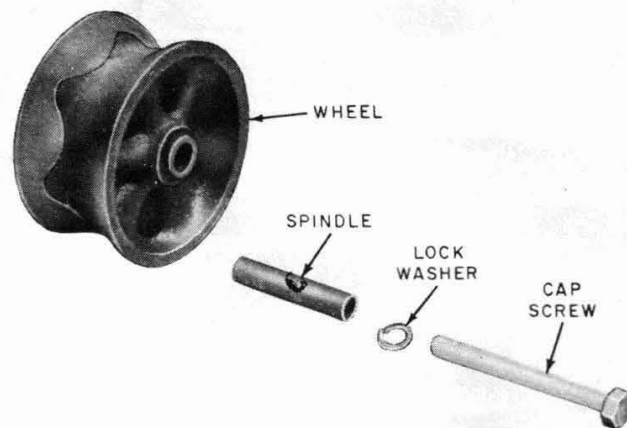


Fig. 10—Plain Wheel

7.04 To replace the brake wheel, release the brake by unscrewing the brake adjustment wing nut to the end of its travel and replace the wheel as in 7.03 with the brake facing on the side toward the brake plate.

7.05 To replace the brake facing, remove the brake wheel as in 7.04. Remove the brake facing retainer by prying out the bent end with a screwdriver. Lift out the old brake facing (Fig. 11). When installing the new brake facing, insert the lip on the steel plate between the stops on the

wheel. Replace the brake facing retainer and install the wheel in the car.

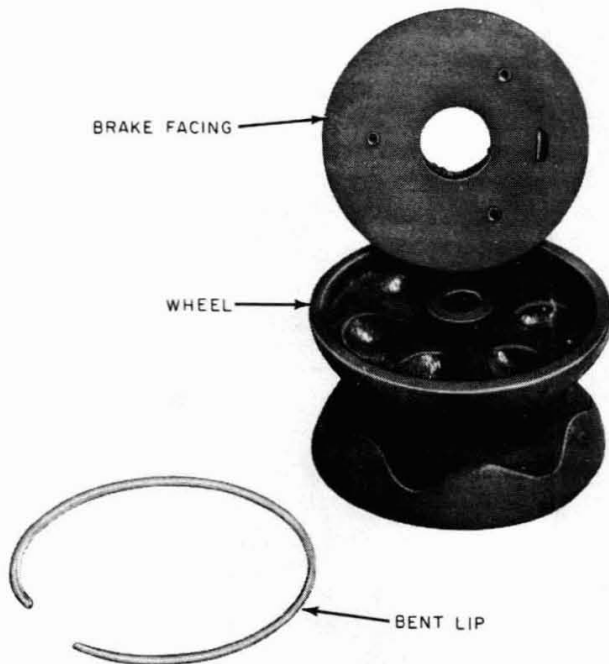


Fig. 11—Brake Wheel

7.06 To check the adjustment of the cable car brake unscrew the brake adjustment wing nut to the end of its travel. The steel brake disc should be retracted against the inside of the wheel housing. Screw the wing nut two full turns from its outer limit of travel. The brake plate should start to advance toward the wheel within these two turns.

7.07 To adjust the brake

- (a) If the steel brake disc does not retract against the wheel housing, unscrew the brake adjustment wing nut to the end of its travel and then remove the cotter pin and unscrew the lower nut holding the brake plunger until the steel brake disc just touches the housing. Replace the cotter pin. If the disc does not retract fully, the brake springs may be weak or broken or the mechanism binding and the car should be marked defective and turned in for repair.
- (b) If the brake disc does not start to advance toward the wheel during the first two full turns of the brake adjustment wing nut, turn the wing nut in two full turns from its outer limit of travel, then remove the cotter pin and screw in the lower brake plunger nut until the brake disc starts to move toward the wheel. Replace the cotter pin.