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WAR DEPARTMENT

TECHNICAL MANUAL

ORDNANCE MAINTENANCE
QUADRANT SIGHTS, M1917, M1917A1, M1918, AND M1918A1

August 14, 1941

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QUADRANT SIGHTS, M1917, M1917A1, M1918, AND M1918A1

Prepared under direction of the
Chief of Ordnance

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SECTION I

GENERAL

1. Purpose.—This manual is published primarily for the information and guidance of ordnance maintenance personnel.

2. Scope.—This manual supplements the Technical Manuals which are prepared for the using arm. It contains general descriptive matter and detailed instructions for the maintenance and repair of the instruments by ordnance personnel. Figures included in the manual show the placement and method of fastening of each of the component parts of the sight.

3. References.—The appendix includes all Standard Nomenclature Lists and other publications pertaining to the quadrant sight.

SECTION II

DESCRIPTION AND OPERATION

4. Application.—*a.* The quadrant sight is the sighting element for laying certain guns and howitzers in elevation and angle of site. It is used with a panoramic telescope to provide the means for sighting on an aiming point or target. Quadrant sights, M1917, M1917A1, M1918, and M1918A1 are designed to receive either the panoramic telescope M2A1 (mils, 0–6400) or the panoramic telescope M6 (mils, 0–3200). The former panoramic telescope is for coast artillery use, and the latter is for field artillery.

b. These quadrant sights are arranged for use with 155-mm gun matériel, 155-mm howitzer matériel, and 240-mm howitzer matériel. Three combinations of the quadrant sight are therefore provided, the components of the sight in the different combinations being the same except that the mounting bracket and means of attaching are

different for the respective uses. For identification and description of the mounting brackets see paragraph 11.

c. The quadrant sight, M1918, and quadrant sight, M1918A1, differ in the construction of the angle of site level assemblies. The two models are otherwise entirely similar. The difference in construction does not affect the operation of the sight. The M1918A1 is the standard for manufacture.

d. The quadrant sights, M1917 and M1917A1, are no longer manufactured. Drawings are not available. The description and operation portions herein which apply to the quadrant sight, M1918, are generally applicable to the quadrant sights, M1917 and M1917A1.

5. General description.—*a.* The principal parts of the quadrant sight are the cross leveling mechanism, angle of site mechanism, elevation mechanism, sight body, sight shank, and mounting bracket. Assembled views of the quadrant sights, M1918A1 and M1918, are shown in figures 1 and 2. Sectioned views pertaining to these figures are shown in figures 3 and 4.

b. A 14-inch panoramic telescope extension (fig. 13) is supplied with the quadrant sight. The telescope extension is used to raise the panoramic telescope to a sufficient height to enable the gunner to sight over the shield or other part of the carriage which might otherwise obscure the vision. It must be removed from the quadrant sight when the piece is fired or when traveling.

c. The quadrant sight has three sighting elements, each operated by means of a worm gear; the sight quadrant is cross-leveled by means of a cross leveling worm QF6A (sec. A–A–A–A, fig. 3); the angle of site is introduced through the angle of site worm, QF11D (sec. A–B, fig. 6); and elevation is introduced by means of the worm QF9G (sec. C–C, fig. 3).

6. Cross leveling mechanism.—*a.* Rotation of the cross leveling worm, QF6A (sec. A–A–A–A, fig. 3), causes tilting of the sight body, QF7A (secs. F–F and G–G–G, figs. 2 and 4), which movement is indicated by the bubble of the cross level. The clamping screw, QF6D, clamps the sight body to prevent disturbance of the cross level position during firing. When the cross level bubble is centered the sight shank is in the true vertical plane.

b. The special headless stop screw, QF17P (fig. 4), fits in a slot in the portion of the body which houses the torsion spring, QF6L. The ends of the slot come in contact with the stop screw limiting the rotation of the sight body. The slot is shown in figure 7.

7. Angle of site level assembly.—The two different types of angle of site level assemblies used in these sights have the same function and operate in a similar manner. The angle of site level assembly shown in figure 5 is used in the quadrant sight, M1918A1. The corresponding level assembly shown in figure 6 is used in the quadrant sight, M1918. In each case, the level is riveted to the sight shank, QF10A, just above the integral gear segment. (See fig. 8.)

8. Angle of site mechanism.—*a.* The angle of site and elevation mechanisms introduce and add together their respective elements of data. The angle of site level (figs. 5 and 6) is used to establish a horizontal datum line for laying the howitzer in elevation. The angle of site and the angle of elevation are taken from this horizontal datum line established by centering the angle of site bubble, and are introduced by placing the respective elements of data on the angle of site scales and the elevation scales.

b. The angle of site scale is graduated into 100-mil spaces, numbered from 0 to 6, and the angle of site micrometer is graduated into 1-mil spaces numbered from 0 to 100. The angle of site setting is the sum of the values indicated on the scale and micrometer. The 300-mil setting is the "normal" setting corresponding to zero angle of site.

9. Elevation mechanism.—*a.* The elevation scale, QF14E (sec. G–G–G, fig. 4), is graduated in mils and contains two rows of graduations. The outer row reads elevation from 0 to 800 mils (0° to 45°); the inner row forms a continuation of the outer row and reads from 800 to 1160 mils (45° to 65°). Rapid movement in elevation is accomplished by rotating and holding the throwout lever, QF9E (sec. C–C, fig. 3), so that the sight shank can be raised or lowered with the hand.

b. The gear segment integral with the lower portion of the sight shank is driven by the pinion which is cut in the hub of the elevating worm gear wheel, QF14G (fig. 4). To reduce backlash, a second pinion, QF14D (figs. 4 and 9), is provided which fits inside the hub and also meshes with the shank segment. Spring, QF14C, presses the pinion outward, and the spirally cut shaft engages the pinion, tending to rotate it and keep the driving and driven teeth firmly in mesh. Also, the spring-actuated plunger, QF8A, bears on the sight shank and eliminates lateral shake.

10. Body.—*a.* The forward portion of the body, QF7A (figs. 4 and 7), fits into the cylindrical part of the quadrant sight bracket and is held in place longitudinally by four lugs. The special head-

less screw, QF17P, under the special flat head screw, QF17M, engages a slot in the body, thus limiting the cross leveling motion of the body in either direction. The torsion spring, QF6L, takes up backlash between the cross leveling worm, QF6A, and the worm teeth in the body.

b. The rear portion of the body, QF7A, contains the sight shank, QF10A (figs. 1 and 8), and elevating mechanism.

11. Quadrant sight bracket.—*a.* The quadrant sight shown in figures 1 and 2 is the quadrant sight for 155-mm howitzer. The bracket, QF3C, is attached to the howitzer carriage by the bolt, QF3B, and taper pin, BFCX2C.

b. The quadrant sight for 155-mm gun (fig. 11) is assembled with a bracket which requires three flat head screws for attaching to the gun carriage. The bracket is identified by the flat mounting surface, the three countersunk holes, and the dowel pin hole.

c. The quadrant sight for 240-mm howitzer (fig. 12) is assembled with a bracket which has a shank and mounting feet for attaching to the elevating arm bearing cap of the howitzer carriage and an arm extension which fits onto the auxiliary trunnion of the howitzer carriage.

12. Operation.—Detailed instructions for the operation of the quadrant sight and its associated sighting equipment are contained in the Technical Manuals pertaining to the respective gun and howitzer matériel. The operations described below show only the basic operations pertaining to the quadrant sight.

a. To place sight in operation.—(1) Mount the panoramic telescope in the T-slot of the sight shank. Clamp by means of the ratchet, pressing on the detent alongside to release the ratchet. Uncover the level vials.

(2) Use the telescope extension when vision is obscured by the shield or other carriage part. The accuracy of the sight is reduced when using the extension, and hence its use should be limited when possible. Remove the extension from the quadrant sight when firing the piece and when traveling.

b. Direct fire.—(1) Rotate the cross leveling worm until the cross level bubble is midway between the graduations on the vial, then lock by means of the cross level clamping screw. (The cross leveling worm must not be operated until the clamping screw has been released.)

(2) Set the elevating knob of the panoramic telescope to the "normal" or zero elevation position. Set the azimuth scale to zero and apply the required deflection correction.

(3) Rotate the elevating knob of the quadrant sight until the elevation in mils corresponding to the target range is indicated on the elevation scale. Use the throwout lever for rapid setting when necessary to accomplish large movements of the elevation scale.

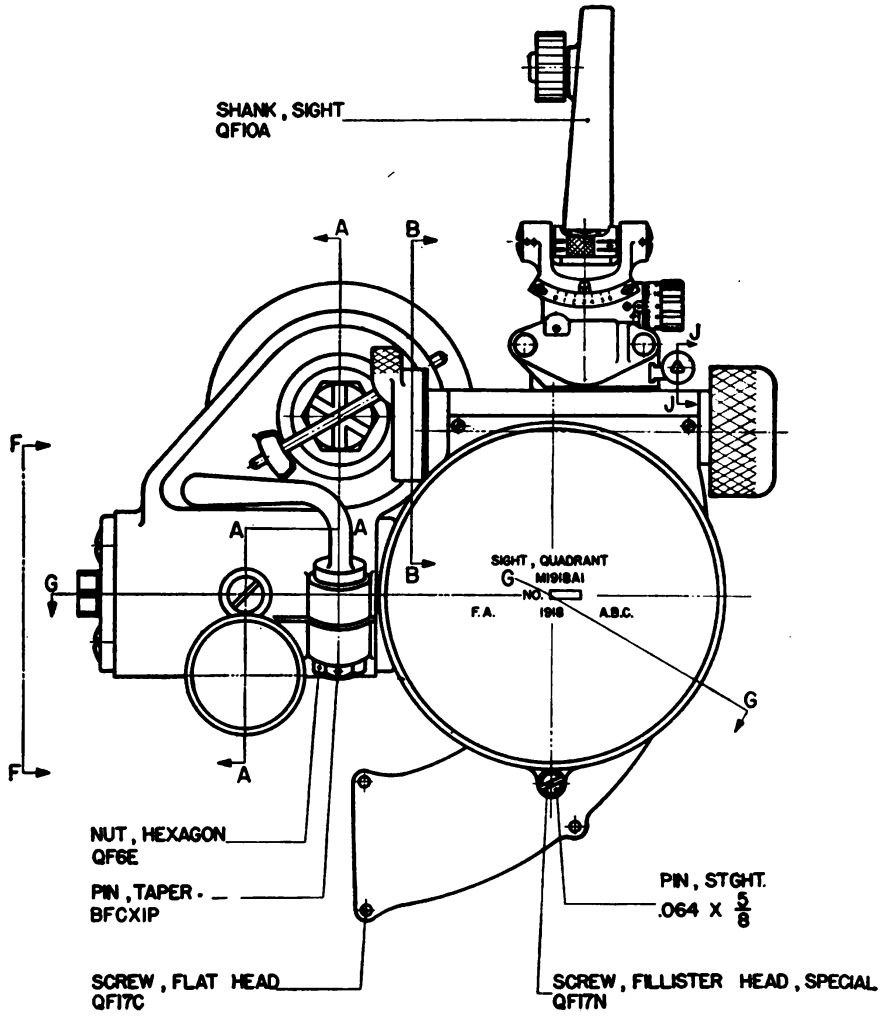

FIGURE 1.—Quadrant sight, M1918A1—assembled views.

(4) Elevate and traverse the carriage until the reticle cross lines of the panoramic telescope fall on the target.

c. Indirect fire.—(1) Rotate the cross leveling worm until the cross level bubble is midway between the graduations on the vial, then lock by means of the cross level clamping screw. (The cross leveling worm must not be operated until the clamping screw has been released.)

(2) Set the angle of site scale and micrometer of the quadrant sight to the desired setting corresponding to the angle of site to the target.

(3) Rotate the elevating knob of the quadrant sight until the elevation in mils corresponding to the target range is indicated on the elevation scale. Use the throwout lever for rapid setting when necessary to accomplish large movements of the elevation scale.

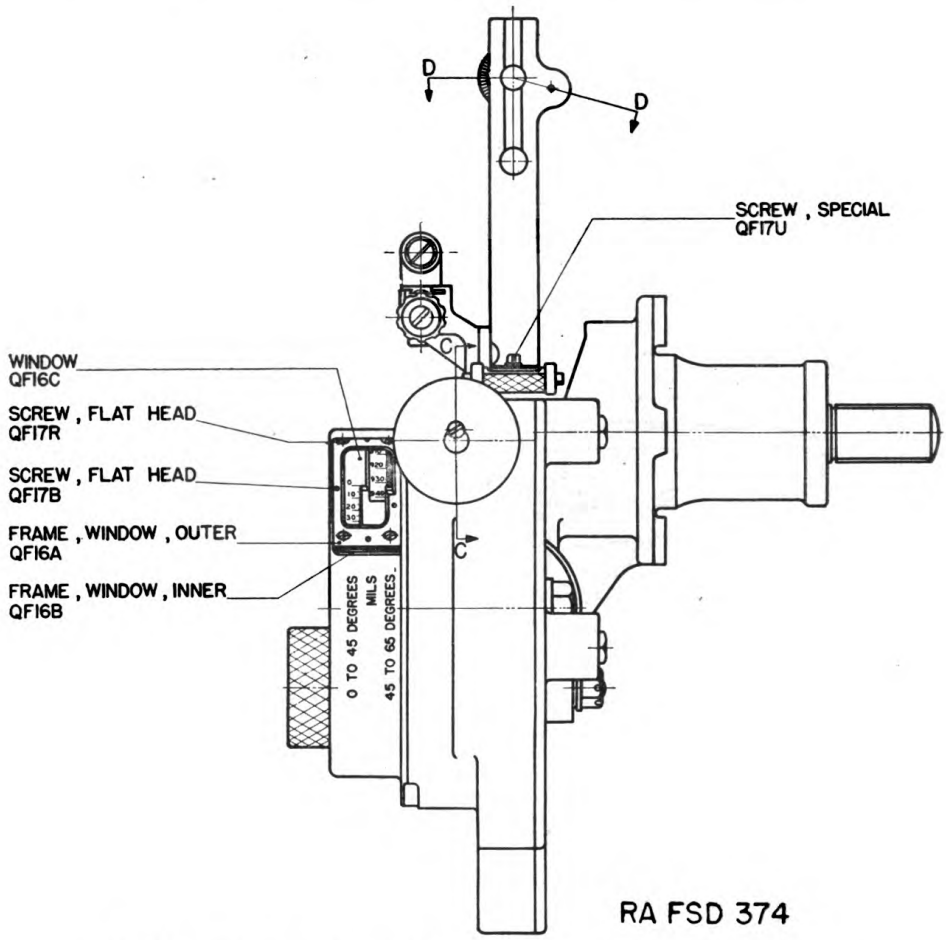

FIGURE 1.—Quadrant sight, M1918A1—assembled views—Continued.

(4) Set the azimuth scale of the panoramic telescope to indicate the firing angle and apply the required deflection correction.

(5) Elevate or depress the carriage until the angle of site level bubble is centered, and traverse the carriage until the vertical cross line of the panoramic telescope falls on the aiming point. Keep the aiming point in the field of view by operating the elevating knob of the panoramic telescope.

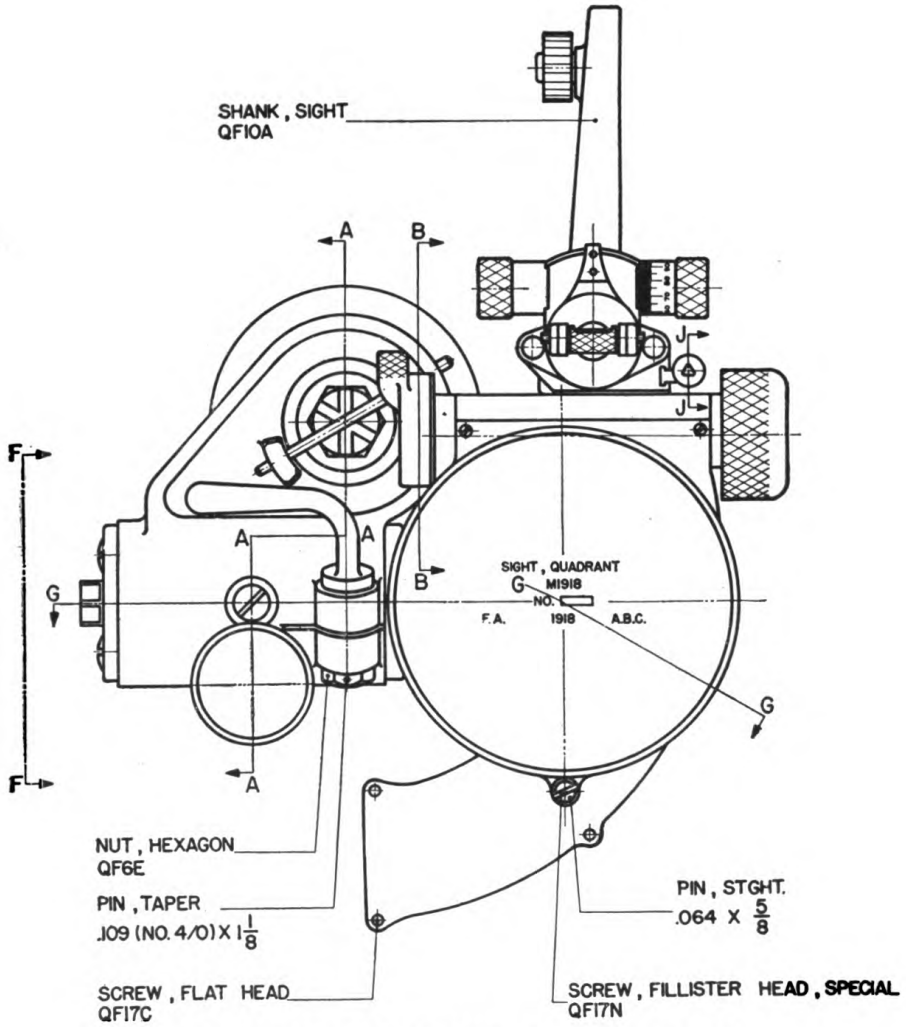

FIGURE 2.—Quadrant sight, M1918—assembled views.

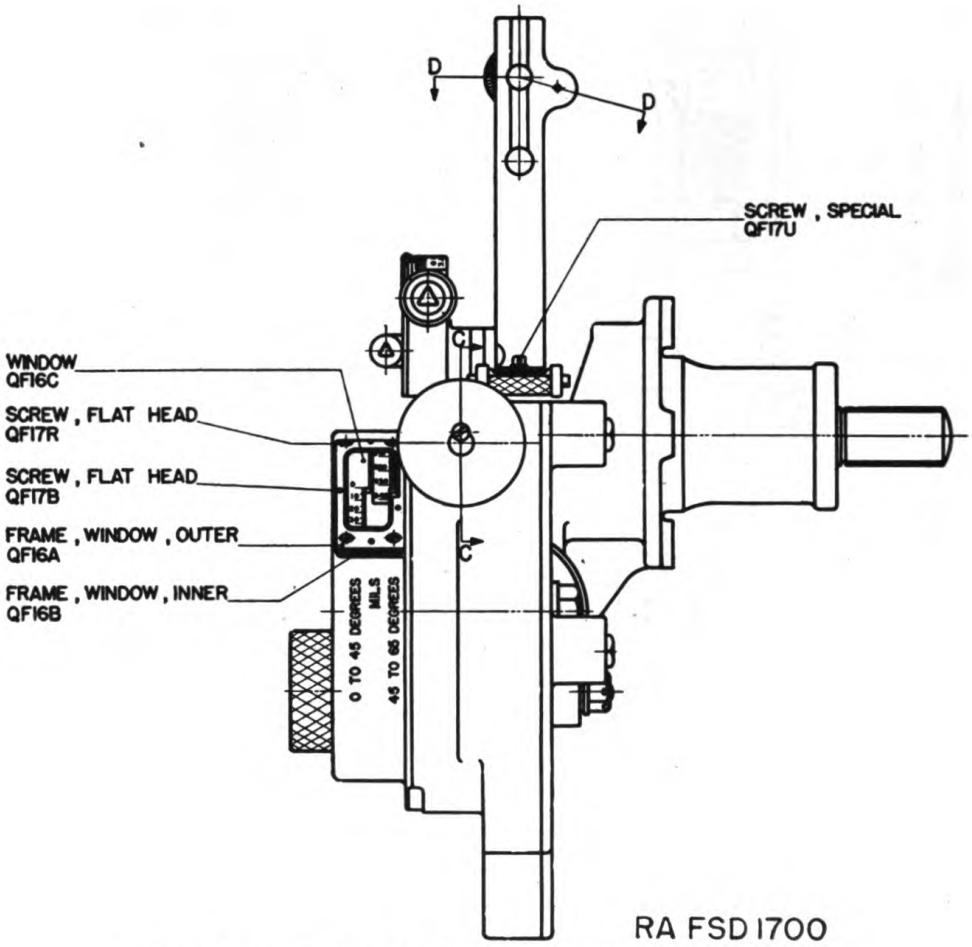

FIGURE 2.—Quadrant sight, M1918—assembled views—Continued.

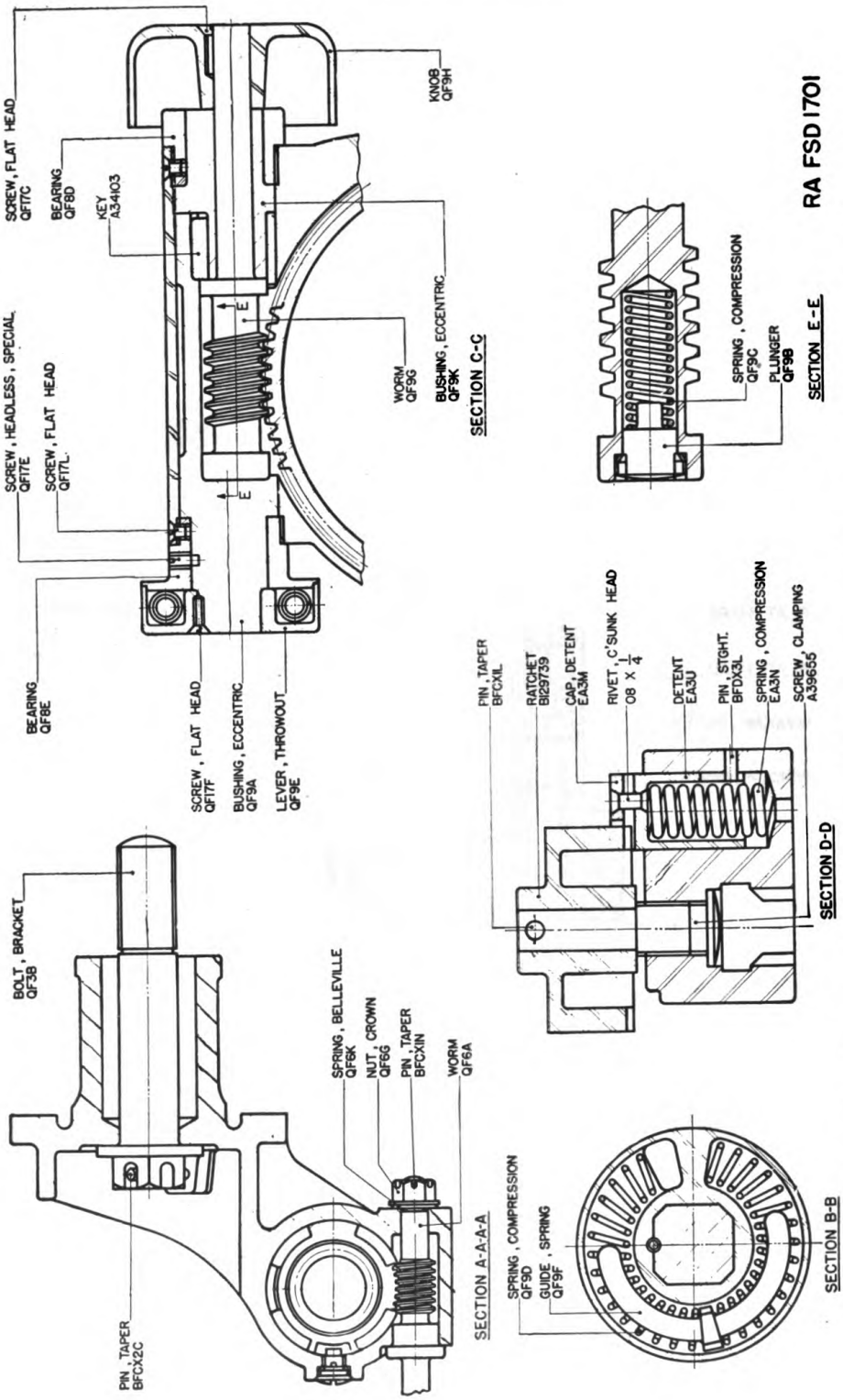

FIGURE 3.—Quadrant sight, M1918A1 and M1918—sectioned views pertaining to figures 1 and 2.

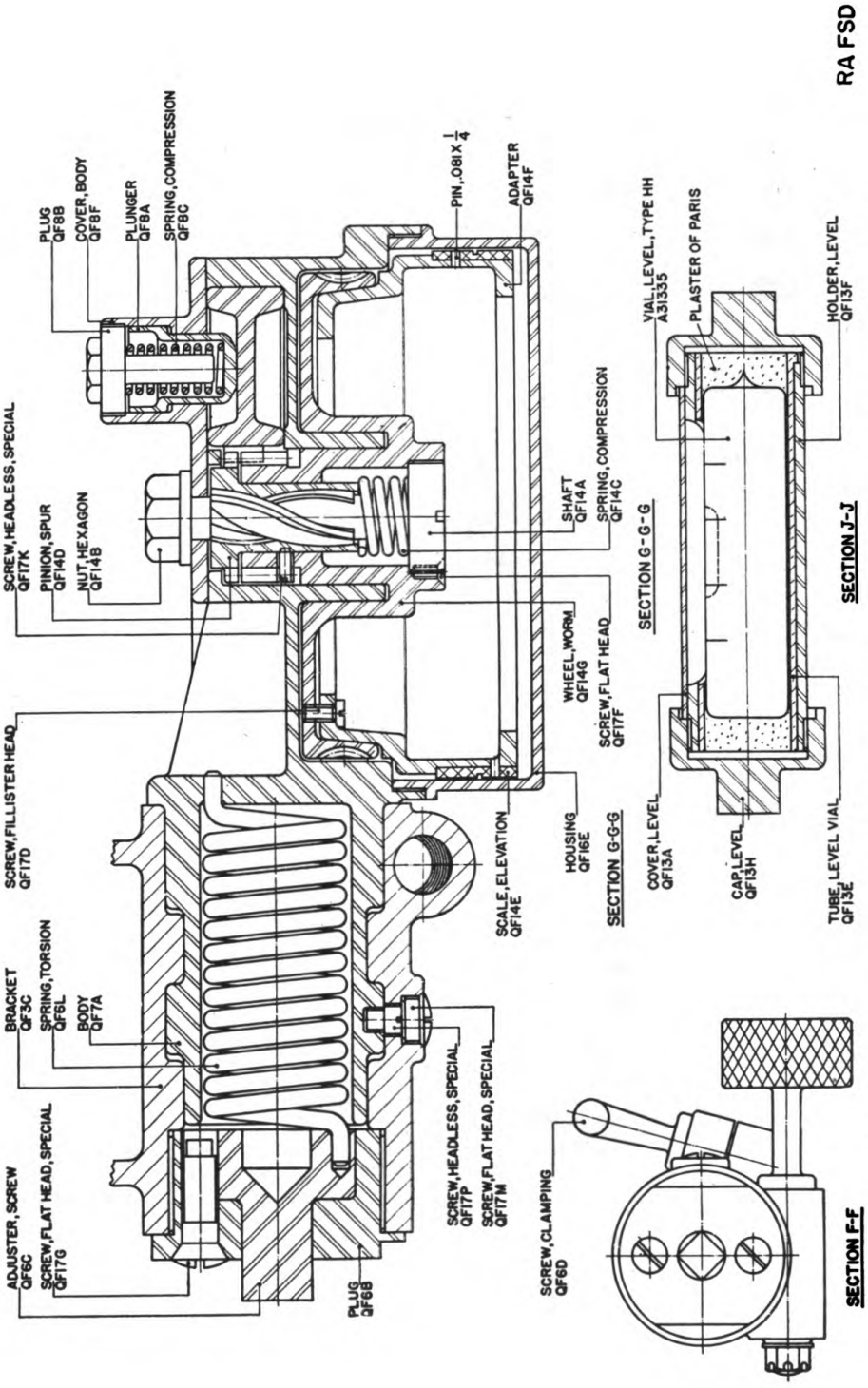

FIGURE 4.—Quadrant sight, M1918A1 and M1918—sectioned views pertaining to figures 1 and 2.

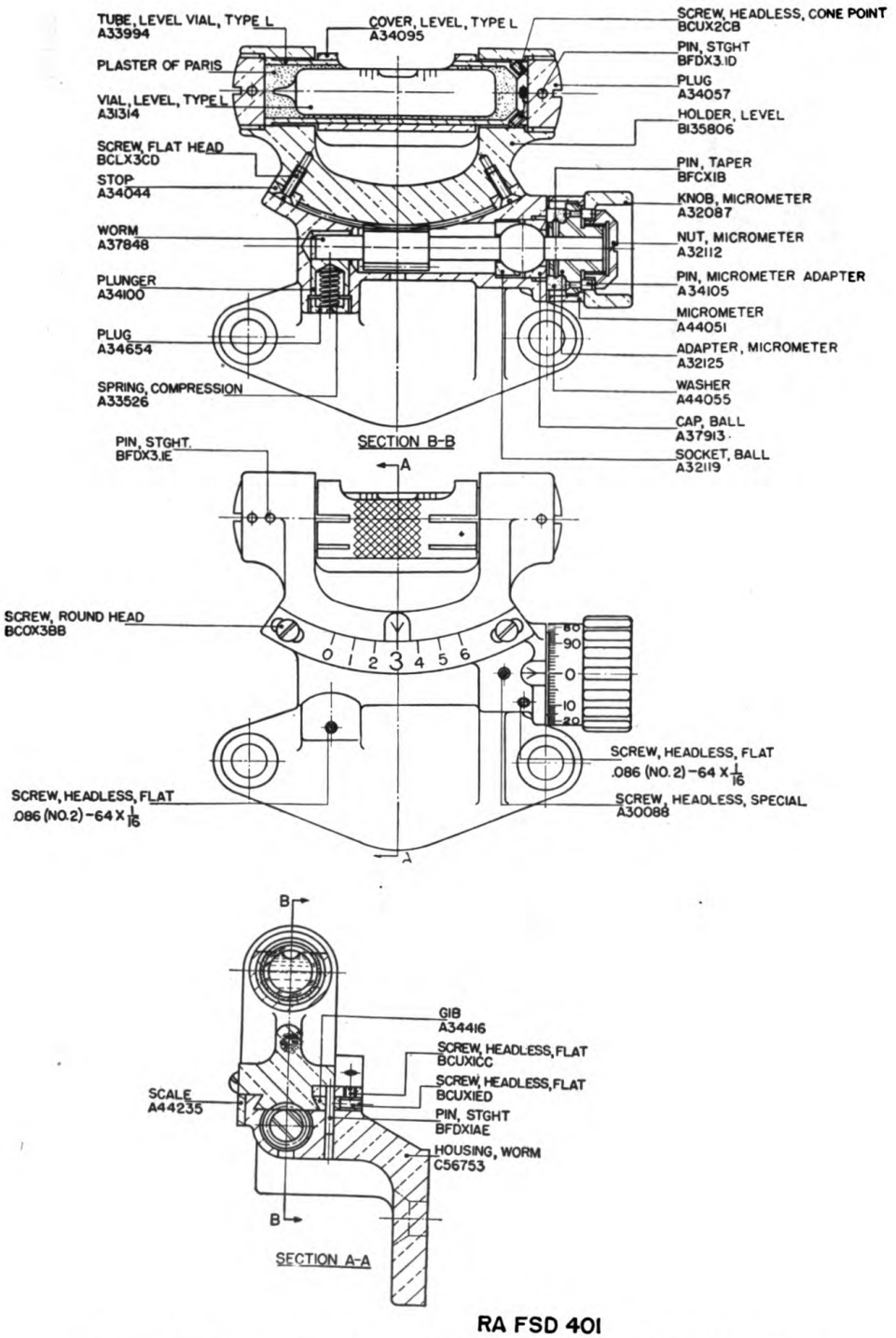

FIGURE 5.—Level, angle of site, assembly, for quadrant sight, M1918A1.

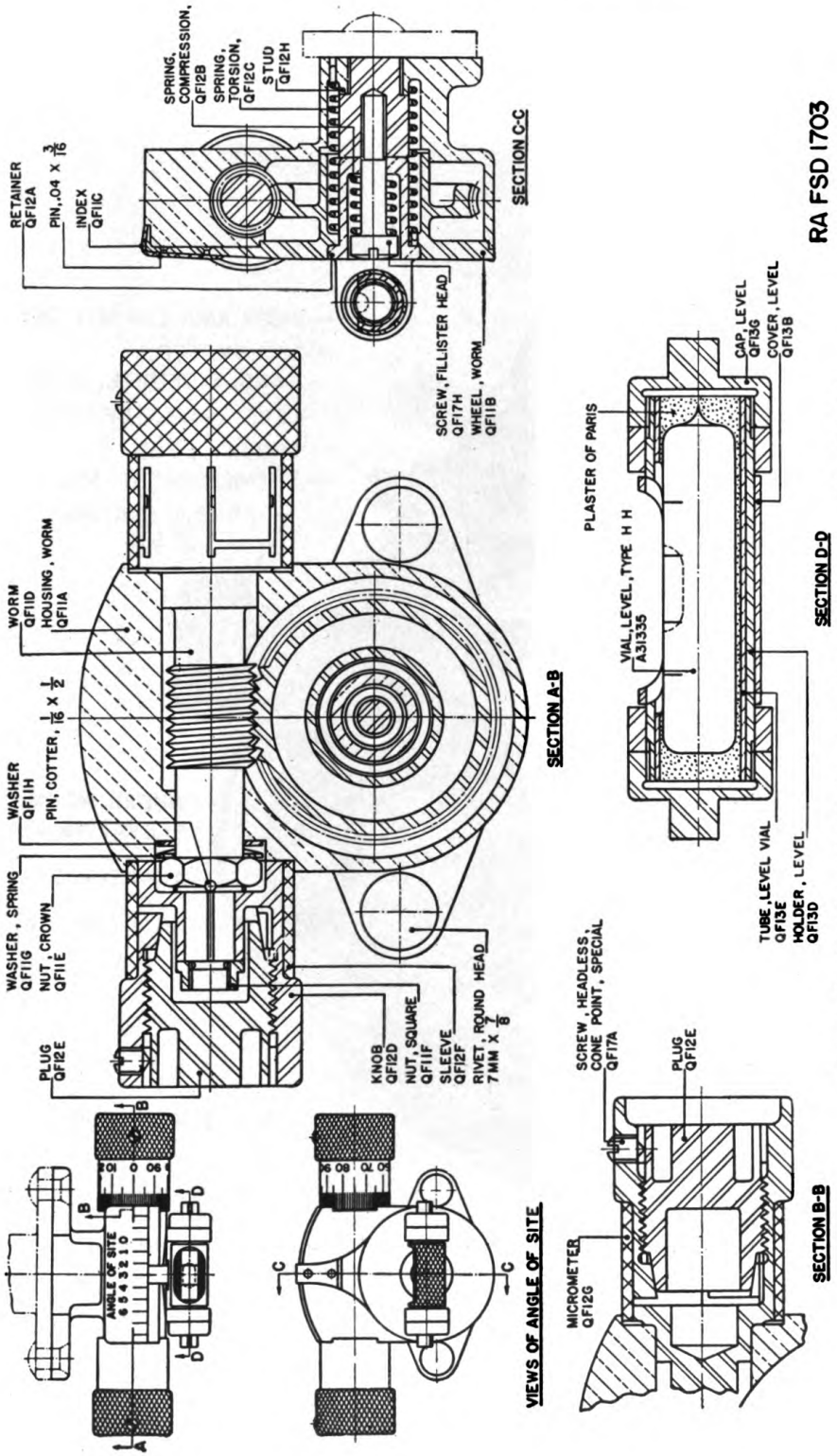

FIGURE 6.—Level, angle of site, assembly, for quadrant sight, M1918.

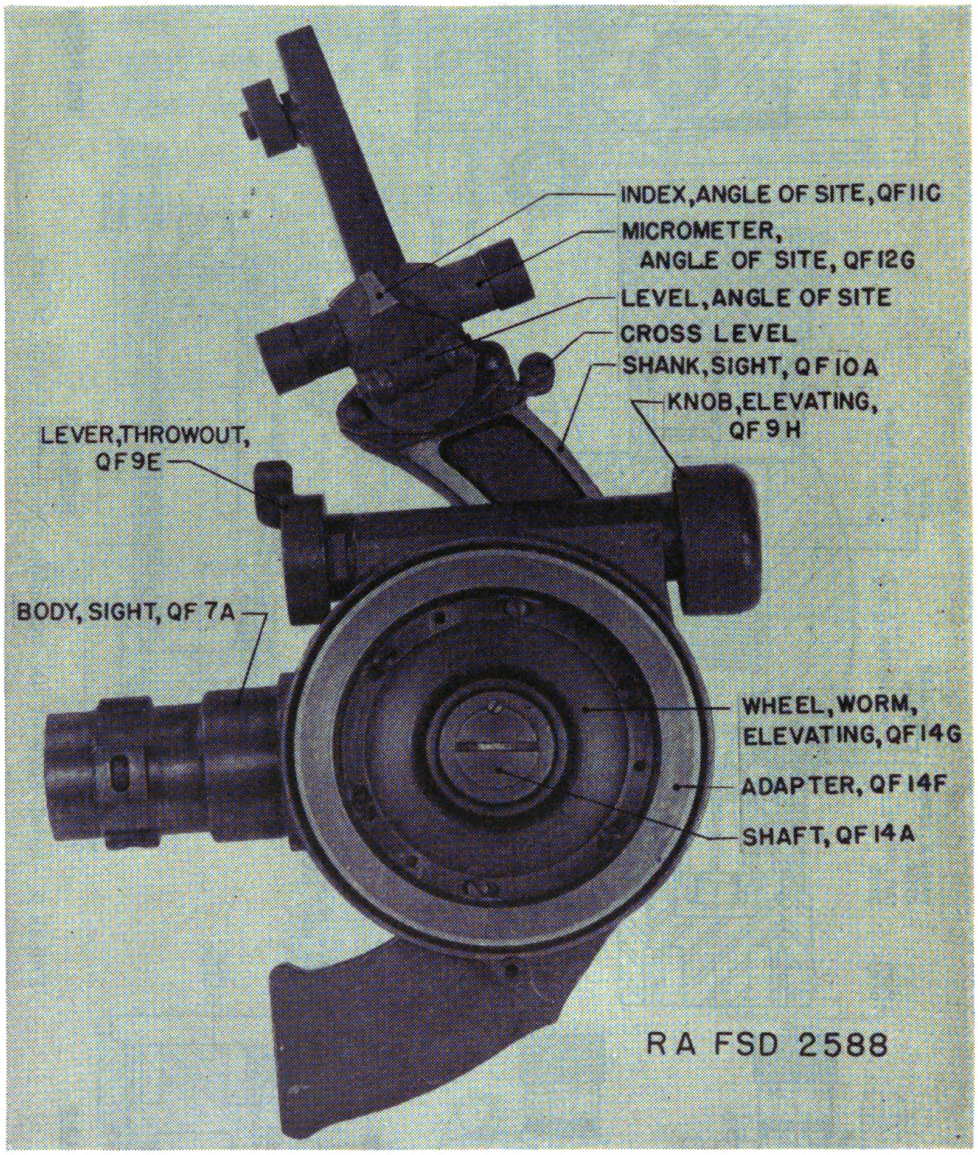

FIGURE 7.—Quadrant sight, M1918, with elevation scale housing, bracket, and cross leveling mechanism removed.

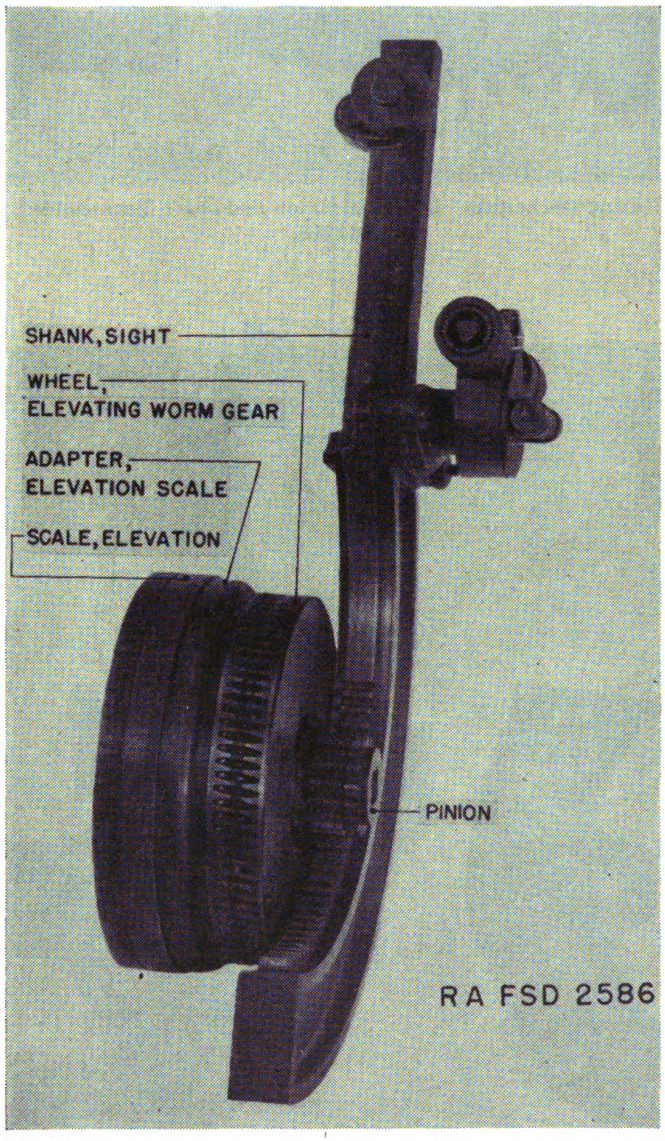

FIGURE 8.—Sight shank and elevating gear with adapter and scale assembled, quadrant sight, M1918.

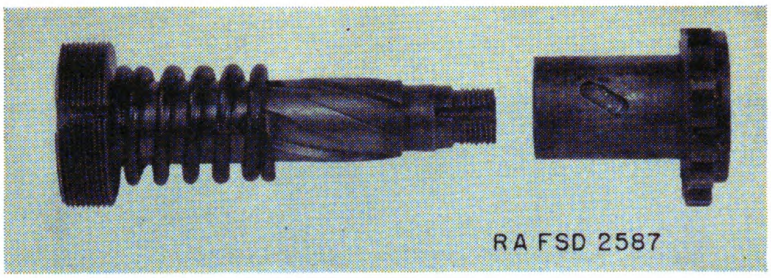

FIGURE 9.—Elevating mechanism—backlash pinion and shaft disassembled, quadrant sight, M1918.

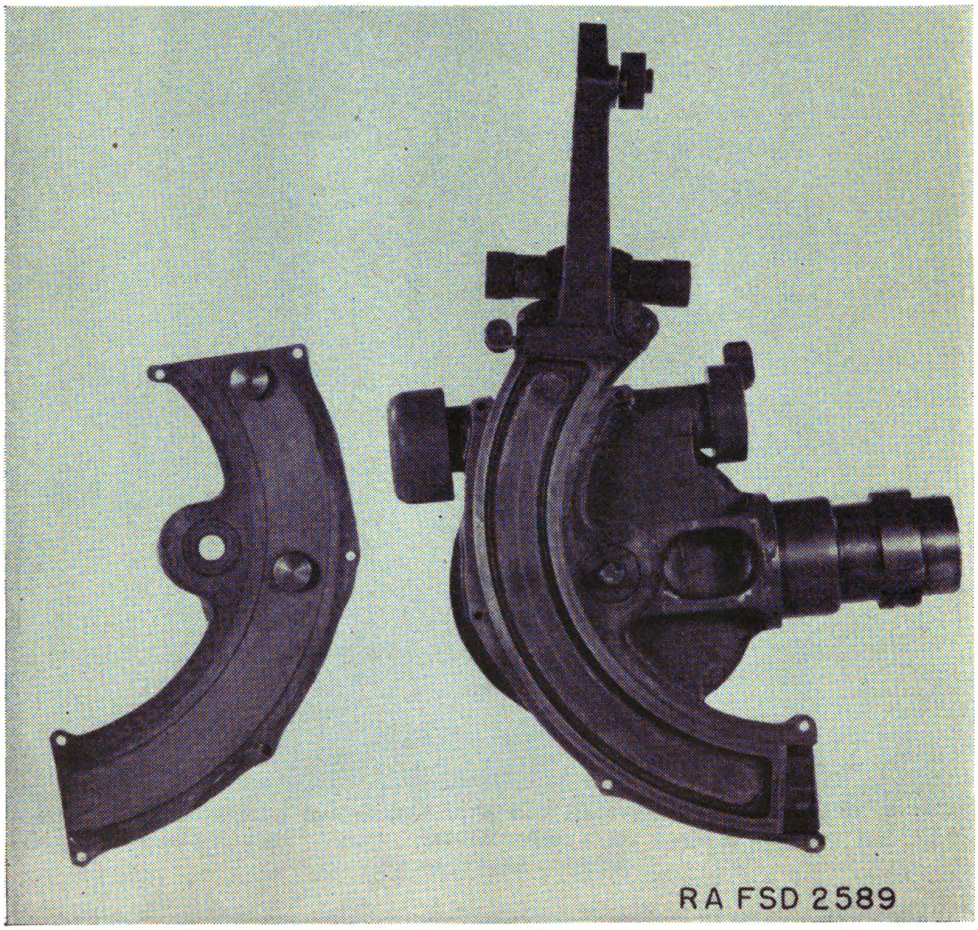

FIGURE 10.—Quadrant sight, M1918, with cross leveling mechanism and bracket removed, showing body cover.

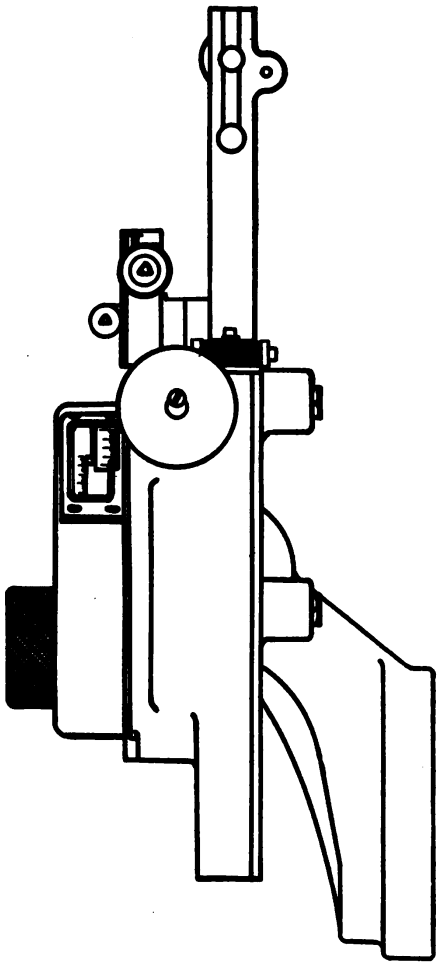

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FIGURE 11.—Quadrant sight, M1918, for 155-mm gun.

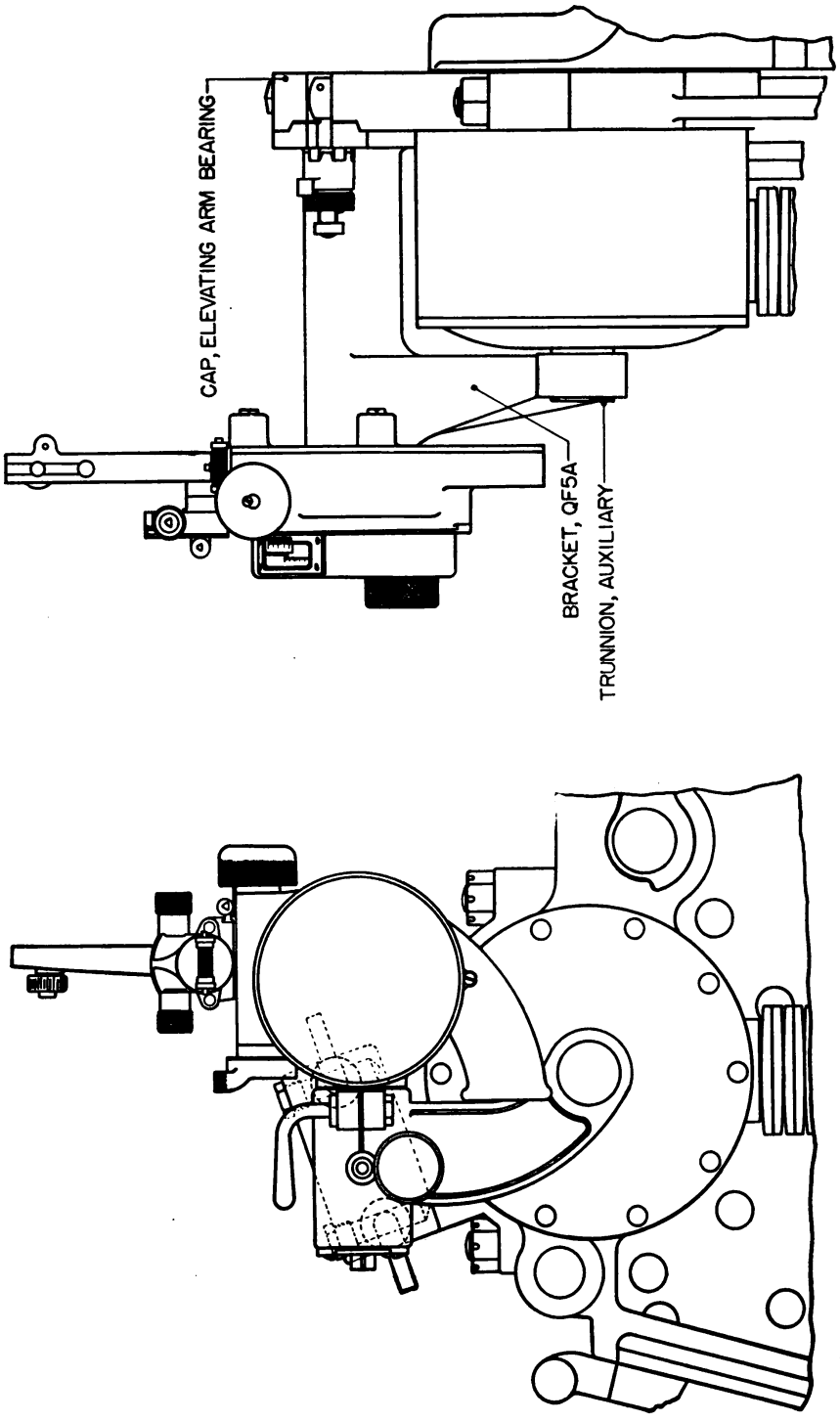

FIGURE 12.—Quadrant sight, M1918, for 240-mm howitzer.

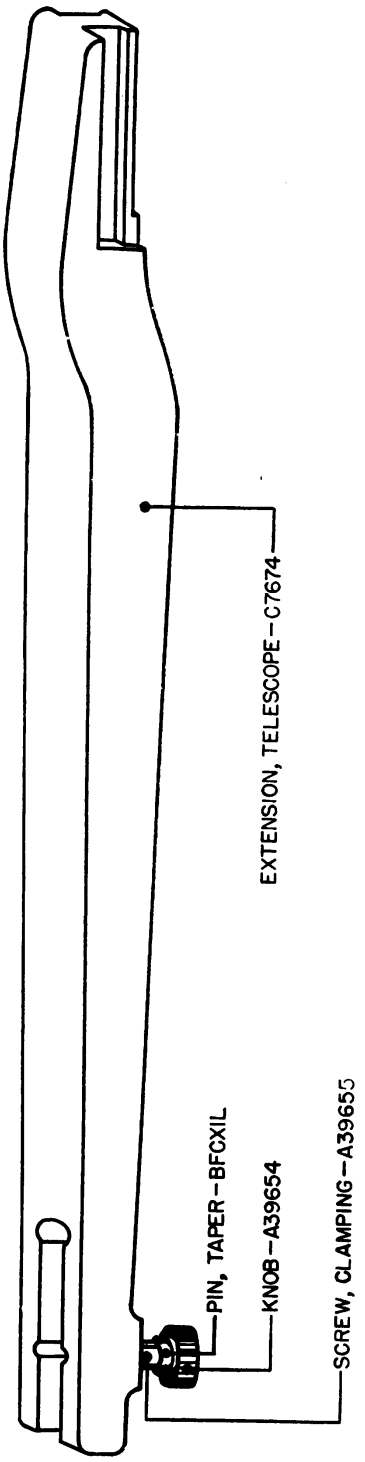

FIGURE 13.—Extension, panoramic telescope, 14-inch.

SECTION III

ASSEMBLING QUADRANT SIGHT TO GUN OR HOWITZER

13. Method.—*a. Description.*—(1) *155-mm howitzer.*—Clean the mating surfaces of the quadrant sight bracket and trunnion. Coat the surfaces with Royco 6A grease. Seat the bracket into the trunnion and engage the four tenons in the slots on the trunnion face, keeping the sight in proper alinement with the bore of the howitzer. Fasten securely with bracket bolt, QF3B, using the wrench provided, and lock the bracket bolt by driving taper pin, BFCX2C, through lugs and bolt head.

(2) *155-mm gun.*—Clean the mating surfaces of the quadrant sight bracket and trunnion face and coat the surfaces with Royco 6A grease. Position the bracket on the trunnion face by means of the dowel pin and dowel pin hole. Fasten securely with the three special flat head screws provided and stake the screws in position with a center punch.

(3) *240-mm howitzer.*—Clean the mating surfaces of the quadrant sight bracket, auxiliary trunnion, and elevating arm bearing cap. Coat the surfaces with Royco 6A grease. Carefully fit the bracket arm over the auxiliary trunnion, then fasten the upper portion of the bracket to the elevating arm bearing cap. To operate the fastening screws, back off the check nuts, permitting the handle to be disengaged from the teeth of the clamping nuts, and tighten the clamping nuts by engaging the teeth in successive positions. Tighten the check nuts.

b. Care.—In the assembling operations described above, extreme care must be taken that the locating surfaces are not burred or dented or otherwise marred. The operations are best performed by two men, one man holding the sight and the other man guiding the sight into position. Burred or dented surfaces, if found, must be carefully smoothed before attempting to mount the sight.

SECTION IV

INSPECTION

14. Guide.—Inspection is for the purpose of determining the condition of the sight, whether repairs or adjustments are required, and the remedies necessary to insure that the sight is in serviceable con-

dition and will function properly as intended. The table below will serve as a general guide for inspection:

Parts to be inspected	*Points to be observed*
a. Exposed mechanical parts.	*a.* Observe general appearance, smoothness of operation of knobs, throwout lever, cross leveling worm, etc., and any bent or missing parts.
b. Level vials.	*b.* See that the angle of site and cross level vials are not broken and that they are secure in their housings.
c. Sight shank.	*c.* Operate the ratchet and detent to see that they function properly and that the detent is not unduly worn. Place the panoramic telescope in position. It should fit easily into place and should have no perceptible shake when secured by means of the ratchet.
d. Alinement of elevation scale and angle of site level.	*d.* Level the gun or howitzer on which the sight is mounted, cross level the sight, and set the elevation scale to zero. Center the angle of site level bubble by means of the angle of site knob. The angle of site index line should then coincide with the "3" graduation of the angle of site scale. Failure to coincide may be due to improper mounting of the sight, elevation scale out of adjustment, or angle of site level out of alinement.

SECTION V

MAINTENANCE AND REPAIR

15. Tools.—*a. Optical repair kit for field artillery.*—An optical repair kit containing the necessary tools, fixtures, oils, etc., for use with these sights is furnished to ordnance maintenance companies. Every item in the kit is designated by a number equivalent to the compartment number in the kit tool chest. A complete list of the items comprising the kit is contained in a blue print which is fastened in the cover of the chest.

b. Socket wrench for quadrant sight.—A triangular opening, double head socket wrench is provided as an accessory to the quadrant sight. The head with the 6.3-mm triangular opening fits the angle of site level vial caps, QF13G, and cross level caps, QF13H. The head with the 9.3-mm triangular opening fits the plugs, QF12E, of the angle of site worm, QF11D.

c. Socket wrench for quadrant sight bracket bolt.—A 32.3-mm hexagonal head socket wrench is provided with the quadrant sight for 155-mm howitzer. This wrench fits the head of the bolt, QF3B, and is used when mounting the sight on the howitzer.

d. Improvised tools.—An improvised strap wrench or clamp will be required for removing the quadrant sight elevation scale housing. The clamp consists of two semicircular strap-iron jaws having the ends bent outward and drilled to receive fastening bolts. It should be used with a leather strap interposed between the housing surface and the clamp jaws. The strap wrench consists of a heavy leather strap a few inches longer than the circumference of the housing, the ends of which are brought together and screwed to the end of a wooden handle. The strap end of the handle is wedged so as to tighten the strap when pressure is applied.

16. Disassembly and assembly.—*a. Quadrant sight bracket and cross leveling worm mechanism.*—(1) Tighten the clamping screw, QF6D. Drive out taper pin, BFCX1N, and unscrew crown nut, QF6G, from end of cross leveling worm, QF6A. Remove Belleville spring, QF6K, from end of worm. Turn the worm outward until free.

(2) Remove the two special flat head screws, QF17G, while holding the screw adjuster, QF6C, with a wrench to prevent sudden release of the torsion spring, QF6L. When the screws have been removed, ease off on the wrench until the spring is fully released. Remove the special flat head screw, QF17M, in the side of the bracket and remove the special headless screw, QF17P, underneath. Loosen the clamping screw, QF6D. Turn the bracket one-quarter turn and pull it free from the sight body, QF7A.

(3) The handle of the clamping screw, QF6D, is bent after assembling. Hence, the screw cannot be removed without cutting or straightening the handle.

(4) When reassembling the quadrant sight bracket and cross leveling worm, proceed in the reverse order of disassembly. If difficulty is experienced in replacing the torsion spring, QF6L, temporarily unscrew the bracket plug, QF6B, to expose the end of the spring. Replace the cross leveling worm before tightening the adjuster,

QF6C, and tighten the crown nut on the end of the worm until the Belleville spring is partially compressed. Tighten the adjuster to eliminate backlash in the worm mechanism and secure with the two special flathead screws.

b. Sight shank and elevating mechanism.—(1) Unscrew the two plugs, QF8B, from the body cover, QF8F, and remove the compression springs, QF8C, and plungers, QF8A, underneath. Remove the special flathead screw, QF17F, which secures hexagon nut, QF14B, to shaft, QF14A, and remove the hexagon nut. Remove the six special flathead screws, QF17C, which secure the body cover, QF8F, and remove the body cover. Mark mating teeth of the sight shank, QF10A, and spur pinion, QF14D, for identification when reassembling. Press the spur pinion inward to relieve the spring pressure on the sight shank, remove the sight shank, and release the pressure on the spur pinion.

(2) Remove the 0.064 by 5/8 locking pin in the special fillister head screw, QF17N, which secures the elevation scale housing, QF16E, and remove the screw. Unscrew the housing, using the improvised clamp or strap wrench described in paragraph 15*c*. Operate the throwout lever to disengage the elevating worm and pull out the elevating worm gear and the parts assembled thereto as a unit. Do not loosen or remove the six fillister head screws, QF17D, which secure the adapter, QF14F, as this will necessitate readjustment of the elevation scale.

(3) Remove the flathead screw, QF17C, which secures the worm knob, QF9H, and remove the worm knob. Remove the flathead screw, QF17L, which secures the elevating worm bearing QF8D, and unscrew the bearing. Withdraw the worm, QF9G, and remove therefrom the key, A34103, plunger, QF9B, and compression spring, QF9C.

(4) Remove the flathead screw, QF17F, which secures the throwout lever, QF9E, to eccentric bushing, QF9A, and remove the throwout lever with its compression spring, QF9D, and spring guide, QF9F. Remove the special headless screw, QF17E, in the elevating worm bushing bearing, QF8E, and draw the eccentric bushing out rearward through the worm opening.

(5) When reassembling, proceed in the reverse order of disassembly, except that if necessary to adjust the elevation scale, the elevation scale housing is replaced last. In replacing the elevating worm bearing, QF8D, tighten the bearing until the worm plunger, QF9B, is in engagement, but so that the end of the worm does not rub against the eccentric bushing, QF9A. Lubricate close fitting moving parts with oil. Lubricate the worm and worm gear with grease special low temperature (Royco 6 A).

c. Angle of site level assembly.—(1) *Quadrant sight, M1918A1.*—(*a*) To disassemble the angle of site worm mechanism, loosen the flat headless screw securing the worm plunger plug, A34654, unscrew the plug and remove the plunger, A34100, and compression spring, A33526. Remove the micrometer nut, A32112, micrometer knob, A32087, and micrometer, A44051. Remove the felt washer, A44055, opening it at the cut portion. Drive out the taper pin, BFCX1B, which secures the micrometer adapter, A32125, and remove the adapter. Loosen the headless screws which secure the ball socket and ball cap. Unscrew the ball cap, A37913. Remove the worm, A37848. Remove the level holder, B135806, by sliding it out of the dovetail slot.

(*b*) Reassemble in the reverse order of disassembly. Tighten the ball cap to provide a snug fit on the ball so that there is neither end play nor excessive friction.

(*c*) To replace the level vial, A31314, remove the straight pins, BFDX3.1D, which secure the level vial holder plugs, A34057, and unscrew the plugs. Loosen the four cone point headless screws, BCUX2CB, in the end of the level vial tube, A33994, and push the tube out through the end of the level holder. Remove the broken parts and old packing. Fit the new vial into the tube with the graduations centered in the tube opening and the top surfaces flush. If necessary, pack with paper or cotton in the bottom of the tube so that the vial will fit snugly. Do not pack too tightly as this may cause the level vial to crack under extreme temperature variations. Fill the tube with calcined gypsum (plaster of paris). Allow the plaster to set before reassembly.

(2) *Quadrant sight, M1918.*—(*a*) To disassemble the angle of site worm mechanism, loosen the special cone point headless screw, QF17A, which secures the forward plug, QF12E, and unscrew the plug. Remove the square nut, QF11F, releasing the knob, QF12D, and sleeve, QF12F. Remove the cotter pin from the crown nut, QF11E, and remove the crown nut. Remove the two washers, QF11G and QF11H. Remove the worm while holding the level to prevent sudden release of the torsion spring, QF12C. Unscrew the forward level cap, QF13G, and push the level vial holder out of its mounting. Remove the fillister head screw, QF17H, which is exposed after removing the level vial tube, and remove the compression spring, QF12B, and retainer, QF12A. Lift out the worm gear (wheel, QF11B).

(*b*) Reassemble in the reverse order of disassembly. In replacing the retainer, QF12A, allow a small amount of play (about 0.5 mm) between the retainer and the retainer stud, QF12H.

(*c*) To replace the level vial, A31335, unscrew the level caps, QF13G, and remove the level vial tube, QF13E, by pushing it out through the rear of the level holder, QF13D. Remove the broken parts and old packing. Wrap ends of new level vial with paper to suit tube and locate in level vial tube with white paper backing and calcined gypsum (plaster of paris) setting. When reassembling the parts, seat the locating lugs of the level vial tube and level holder in their respective slots before replacing the level caps.

17. Adjustments.—*a.* The quadrant sight is verified by bore sighting when mounted on the gun or howitzer with which it is to be used. The adjustments incident to bore sighting are performed by the using arm and are described in the respective Technical Manuals pertaining to the gun or howitzer matériel. These adjustments can be properly performed when the elevation scale and angle of site level are in correct alinement (par. 8*b*). The alinement is established when the sight is initially assembled, and realinement will seldom be required under normal conditions.

b. The elevation scale is secured by six fillister head screws, QF17D, which pass through slotted holes in the elevation scale adapter, QF14F. This arrangement permits the scale to be turned through a limited angle when the screws are released. The screws are accessible only when the elevation scale housing is removed. The correct adjustment is that in which the scale reads zero when the sight shank is vertical and when the bore of the gun or howitzer is level.

c. The angle of site scale of the quadrant sight, M1918A1, is adjustable by means of the round head screws, BCOX3BB, and the slotted holes in the ends of the scale. The angle of site level vial is adjustable by means of the headless cone point screws, BCUX2CB, in the rear edge of the level vial tube, A33994. The correct adjustment is that in which the level bubble is centered when the angle of site scale reads exactly 3 and when the sight shank is vertical. There is no corresponding adjustment in the quadrant sight, M1918, but the condition for alinement is the same.

Section VI

CARE AND PRESERVATION

18. Procedure.—*a.* When the quadrant sight is not in use, the level vial covers should be kept closed to protect the level vials, and the leveling worm clamping screw should be kept tightened to remove the strain from the cross leveling worm.

b. The sight should be dried as soon as practicable after use in inclement weather. The cover should not be placed on the sight until the sight has been dried.

c. The T-slot for the panoramic telescope should be kept coated with a thin film of oil, engine, SAE 10 or SAE 30.

d. The sight is lubricated internally when assembled. No external oilholes are provided. Close fitting bearings are lubricated with oil, lubricating, for aircraft instruments and machine guns. Worm and gear mechanisms are lubricated with Royco 6A grease.

e. Excess lubricants that seep from the mechanisms should be wiped off to prevent collection of dust and grit.

Section VII

ACCESSORIES

19. Extension, panoramic telescope, 14-inch.—*a. Inspection.*—Inspect the mounting lug and slot for smoothness. Operate the clamping screw. Verify the trueness of the extension by using a panoramic telescope and sighting on a point at least 500 yards distant with the panoramic telescope in the sight shank and in the extension on the sight shank. With the telescope in either mounting, the line of sight should be essentially the same.

b. Care and preservation.—Avoid denting or burring of the mounting lug and slot. Keep the surfaces lightly coated with oil, lubricating, for aircraft instruments and machine guns, or grease (Royco 6A).

APPENDIX

LIST OF REFERENCES

1. Field Manuals.

Service of the piece, 155-mm howitzer, M1918A1, truck-drawn ..... FM 6–80.
Service of the piece, 155-mm gun, M1918 ..... FM 6–85.
Service of the piece, 240-mm howitzer, M1918 ..... FM 6–95.

2. Standard Nomenclature Lists.

Howitzer and carriage, 155-mm, M1918 ..... SNL C–3.
Howitzer and carriage, 155-mm, M1917, M1917A1, and M1917A2 ..... SNL C–17.
Howitzer and carriage, 155-mm, M1918A1 ..... SNL C–28.
Kit, repair, optical, for field artillery ..... SNL F–21.
Material, cleaning and preserving, and tools and equipment used therewith ..... SNL K–1.
Matériel, howitzer, 240-mm, M1918 ..... SNL D–4.
Matériel, gun, 155-mm, M1918 ..... SNL D–11.
Sight, quadrant, M1918 and M1918A1 ..... SNL F–24.
Current Standard Nomenclature Lists are as tabulated here. An up-to-date list of SNL's is maintained as the "Ordnance Publications for Supply Index" ..... OPSI.

3. Technical Manuals.

Cleaning and preserving materials ..... (now published as TR 1395–A).
Field artillery fire-control instruments ..... TM 6–220.
Ordnance maintenance procedure—matériel inspection and repair ..... TM 9–1100.
155-mm howitzer matériel, M1917, M1918, and modifications ..... TM 9–330.
155-mm gun matériel, M1917, M1918, and modifications ..... TM 9–345.
240-mm howitzer matériel ..... TM 9–340.

4. Ordnance Field Service Bulletins.

Lubrication of fire-control instruments_____OFSB 6–F–1.
Maintenance of matériel in hands of troops____OFSB 4–1.

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BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

E. S. ADAMS,
Major General,
The Adjutant General.

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