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LEVELING IN MASSACHUSETTS RHODE ISLAND, AND CONNECTICUT

By

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LEVELING IN MASSACHUSETTS, RHODE ISLAND, AND CONNECTICUT

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GENERAL STATEMENT

This publication contains the descriptions and elevations of all bench marks, in the States of Massachusetts, Rhode Island, and Connecticut, the elevations of which have been determined by first-order leveling executed by the Coast and Geodetic Survey. In addition, there are included the descriptions and elevations of a number of bench marks, the elevations of which were determined by first- and second-order leveling run by the Columbia University Summer School of Surveying.

Approximately 750 miles of first- and second-order leveling have been run within the limits of these three States, as follows:

Massachusetts.....	<i>Miles</i> 340
Rhode Island.....	70
Connecticut.....	340

The several lines are listed below together with the years in which the field work was done.

Line 1, Dover Plains, N.Y., to East Morris, Conn. (part).....	1916
Line 2, Yonkers, N.Y., to Westerly, R.I. (part).....	1922
Line 3, New Haven, Conn., to Springfield, Mass.....	1923
Line 4, New Britain to East Morris, Conn.....	1923
Line 5, Hartford, Conn., to Auburn, R.I.....	1923
Line 6, Westerly, R.I., to Boston, Mass.....	1923
Line 7, Portland, Maine, to Boston, Mass. (part).....	1923
Line 8, Boston, Mass., and vicinity (parts of several lines).....	1923 and 1927
Line 9, Springfield to Boston, Mass.....	1927
Line 10, Chicopee, Mass., to Bellows Falls, Vt. (part).....	1927
Line 11, Morris Station, via Torrington, to Thomaston, Conn.....	1925 to 1932
Line 12, Camp Columbia to Bantam, Conn.....	1932
Line 13, Morris Station, via Mount Tom, to Bantam, Conn.....	1932
Line 14, Springfield, Mass., to Troy, N.Y. (part).....	1933

Lines 1, 11, 12, and 13 were run by the Columbia University Summer School of Surveying.

A short paragraph, descriptive of each line, will be found at the beginning of the list of descriptions and elevations of the bench marks along the line.

HISTORY OF LEVELING IN MASSACHUSETTS, RHODE ISLAND, AND CONNECTICUT

Apparently the first attempt to place elevations in Massachusetts, Rhode Island, and Connecticut on a mean-sea-level datum by means of spirit leveling of high precision was made by the Massachusetts Topographic Commission in 1893. C. H. Van Orden, an officer of the Coast and Geodetic Survey, was engaged to extend a line of precise levels from Boston westward across Massachusetts into New York to a connection with the precise leveling which had been previously run along the east side of the Hudson River by the Coast and Geodetic Survey.

The results of this leveling were published in the "Report of the Commissioners of the Topographical Survey—1894." The report includes a detailed statement concerning instrumental equipment and field methods used on that line.

The next project, involving leveling of high precision, was undertaken by the Columbia University Summer School of Surveying. A line of precise levels was run during the summer of 1916 from Dover Plains, N.Y., to East Morris, Conn. The field work was done with equipment and methods almost identical with those in use by the Coast and Geodetic Survey at that time. The leveling was started from a bench mark in Dover Plains, N.Y., the elevation of which had been determined by means of wye leveling run by the United States Geological Survey, and served to place elevations in the western part of Connecticut on a mean-sea-level datum, but did not complete an all-precise-leveling connection between western Connecticut and mean sea level at New York.

Further precise leveling in these States was not undertaken until 1922 when the Coast and Geodetic Survey extended a line of precise levels from Yonkers, N.Y., to Westerly, R.I. In 1923 several additional lines of precise levels were run by the Coast and Geodetic Survey in Massachusetts, Rhode Island, and Connecticut, and, in addition, a line was run in New York from Poughkeepsie to Dover Plains. This line together with the above-mentioned lines in southern

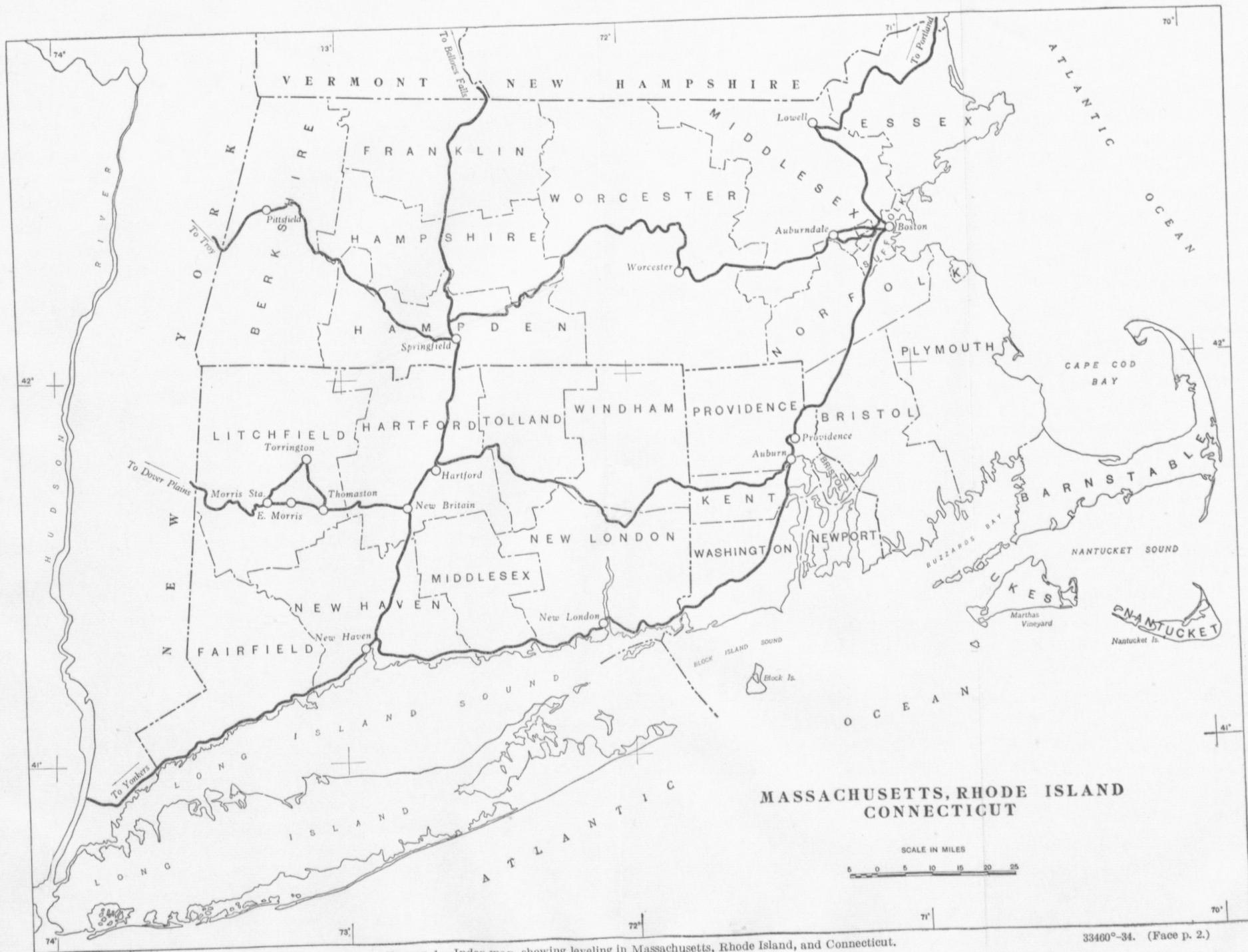


FIGURE 1.—Index map, showing leveling in Massachusetts, Rhode Island, and Connecticut.

New England completed the connection of the leveling by the Columbia University Summer School of Surveying to the first-order level net and enabled that leveling to be included in the general net of first-order leveling. Elevations in southern New England were also at this time connected with the determined planes of mean sea level at both New York and Boston.

Again in 1927 the Coast and Geodetic Survey undertook additional first-order leveling, some of which was run within the limits of the three States covered by this publication. Finally, in 1933 the Van Orden line from Springfield to Albany was rerun by this Bureau.

The first-order leveling proposed for Massachusetts, Rhode Island, and Connecticut has been completed with the exception of a line out to the tip of Cape Cod. This line is being run by the Department of Public Works of the State of Massachusetts. That organization has already completed a number of other lines of precise levels in Massachusetts. The details of the lines run by the Massachusetts Department of Public Works have not yet been made available to the Coast and Geodetic Survey, and for that reason the descriptions and elevations of the bench marks established cannot be included in this publication.

INSTRUMENTS AND FIELD METHODS

The first-order leveling by the Coast and Geodetic Survey in Massachusetts, Rhode Island, and Connecticut was all run with instrumental equipment either exactly like, or very similar to, that described in Coast and Geodetic Survey Special Publication No. 129, *Geodetic Level and Rod*. The field work was done in accordance with instructions and specifications given in Coast and Geodetic Survey Special Publication No. 140, *Manual of First-order Leveling*.

The first-order leveling by the Columbia University Summer School of Surveying was run with equipment and field methods similar to those in use by the Coast and Geodetic Survey, except that on the first-order line from Camp Columbia to Bantam, Conn., rods graduated in yards instead of meters were used. On the second-order line from Morris Station, via Mount Tom, to Bantam, Conn., the leveling was run with instrumental equipment and with field methods similar to those used on the first-order leveling except that only a single running was made. The portion from bench mark 38 to the summit of Mount Tom, being a spur line, was double run.

COMPUTATIONS AND ADJUSTMENTS

The office computation of the leveling done by this Bureau in Massachusetts, Rhode Island, and Connecticut was carried out in accordance with the instructions given in Special Publication No. 140, *Manual of First-order Leveling*. Rod and temperature corrections were applied to the observed differences and, in cases where it was necessary, the level corrections and the corrections for index errors of the rods were also applied. These corrections, with modern leveling equipment, especially with well graduated invar rods, are exceedingly small and usually are of small moment except in mountainous country where large differences in elevation are encountered.

The computations and corrections for the Coast and Geodetic Survey leveling were carried to four decimal places in meters until the final elevations were derived, when they were rounded off to the nearest millimeter for publication. The elevations in feet were

determined by converting the metric elevation, using the factor, 1 meter = 3.2808333 feet.

The leveling by the Columbia University Summer School of Surveying, comprising lines 11, 12, and 13 in this publication, will be found to have elevations given only in feet. The corresponding metric elevation may be found by using the conversion factor, 1 foot = 0.3048006 meter.

At the time of the 1912 adjustment of the precise level net in the United States, the only precise leveling in New England which could be included in the adjustment was the Van Orden line from Boston, Mass., to Albany, N.Y. This line was included in the adjustment, but the details of the line as then adjusted were never published by the Coast and Geodetic Survey.

In 1928, in order to furnish consistent elevations throughout the New England area to engineers and others who would have need of the data, the New England preliminary adjustment was made, and the descriptions of bench marks, with the elevations based on that adjustment, were issued in the form of ditto copies of the manuscript lists.

THE 1929 GENERAL ADJUSTMENT

By 1929 so much additional leveling had been run throughout the United States that a new general adjustment was needed. It was believed that the net would be considerably strengthened by the introduction of the first-order leveling of Canada. Upon request, the Geodetic Survey of Canada kindly placed at the disposal of this Bureau the results of some 20,000 miles of first-order leveling in the Dominion of Canada. This leveling, combined with about 40,000 miles of leveling in the United States, was all adjusted in a single least-squares adjustment in which mean sea level was held at zero, as observed at 26 tidal stations (21 in the United States and 5 in Canada). The elevations resulting from the general adjustment are the best elevations obtainable from the data available at the time of the adjustment. All of the leveling included in this publication, with the exception of lines 11 to 14, inclusive, were included in the 1929 General Adjustment, and the elevations given in this publication are the direct result of fitting the various lines to the elevations of the junction bench marks as determined by that adjustment. Lines 11 to 14, inclusive, are published with elevations which have been brought into agreement with the 1929 General Adjustment by fitting the lines in between the adjusted elevations of the bench marks on which the lines originate and terminate.

ORTHOMETRIC CORRECTION

Owing to the fact that the earth is an oblate spheroid, level surfaces at different elevations are not parallel but tend to converge slightly toward the poles of the earth. This necessitates the application of an orthometric correction to the observed differences of elevation in order that the resulting elevations of the bench marks may represent their true heights above the sea-level surface. The orthometric correction and the methods used in computing it are discussed in detail in Special Publication No. 140, Manual of First-order Leveling.

The orthometric correction reaches a maximum on north-and-south lines run at high elevations, and it is zero on east-and-west lines. The orthometric correction has been applied to the leveling included

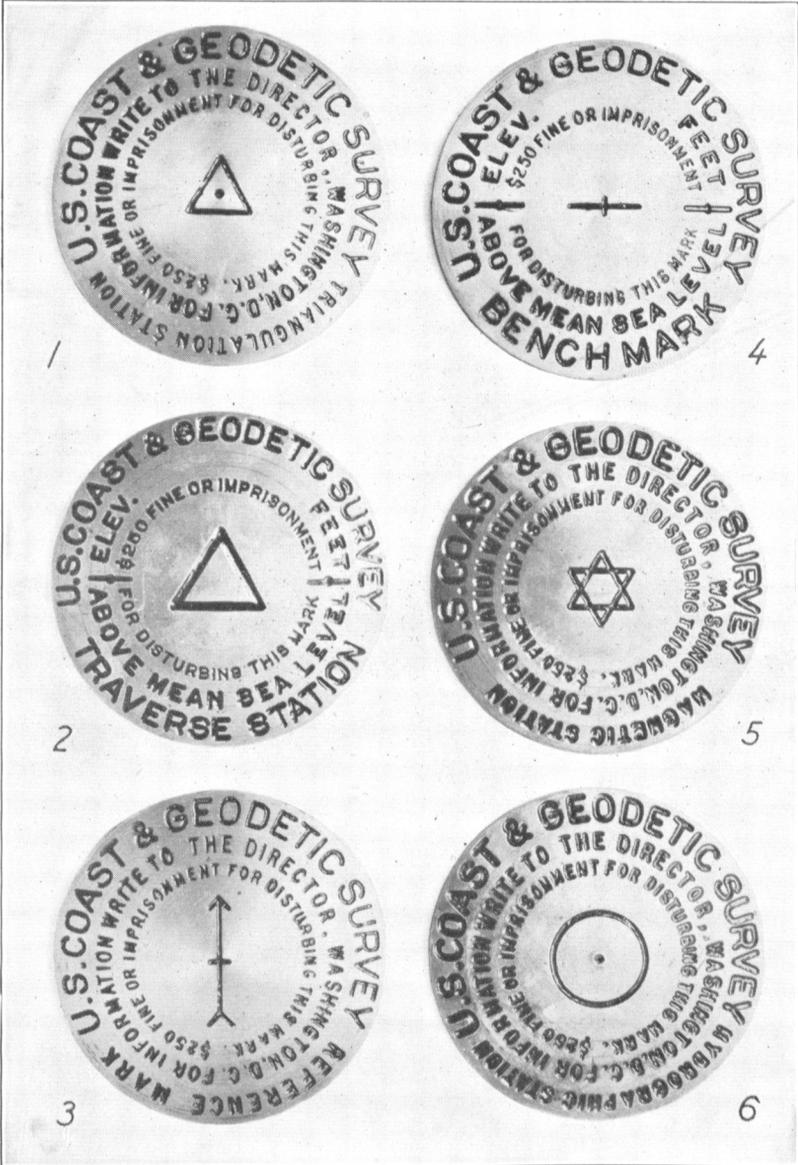


FIGURE 2.—STANDARD MARKS OF THE U.S. COAST AND GEODETIC SURVEY.

- 1. Triangulation station mark.
- 2. Traverse station mark.
- 3. Reference mark.

- 4. Bench mark.
- 5. Magnetic station mark.
- 6. Hydrographic station mark.

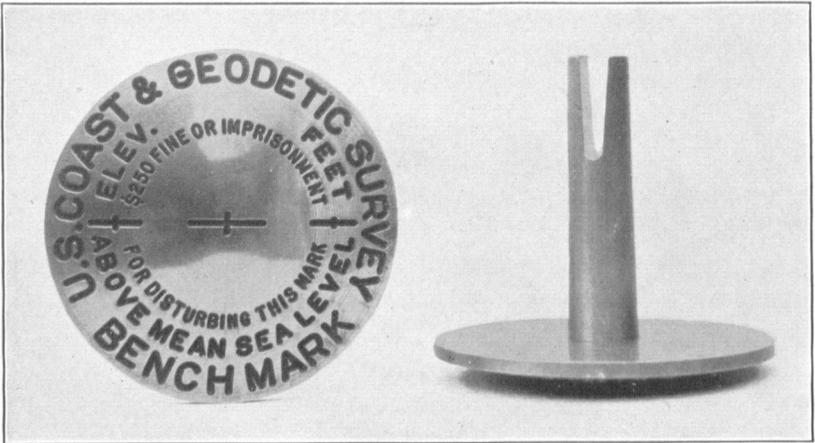


FIGURE 3.—STANDARD BENCH MARK DISK, SHOWING SHANK BY WHICH IT IS FASTENED IN PLACE.

in this publication. In order that persons using this publication may form an idea as to the order of size of the orthometric correction the following example is cited:

The difference in elevation between two bench marks at about the latitude of Worcester, Mass., in such locations that their geographic latitudes would differ by two minutes and the average elevation of the line of levels connecting them would be 500 feet, would require an orthometric correction of 0.0015 foot. This correction varies directly with the average elevation and with the difference in latitude between the marks and depends slightly upon the latitude. Tables for use in computing the orthometric correction are given in Special Publication No. 140.

BENCH MARKS

The standard bench-mark disk now used by the Coast and Geodetic Survey is shown in Figures 2 and 3. These disks are set in existing structures, in concrete posts cast in place for the special purpose, and in outcrops of rock where such outcrops are available. The concrete posts extend deep enough below the surface of the ground to be reasonably free from disturbance by frost action. They usually project a few inches above the ground to aid in their recovery.

In this publication will be found the descriptions and elevations for many points not marked with the standard disks of this Bureau. The United States Geological Survey established many of the bench marks which are included in this publication and a standard disk, somewhat similar to that used by the United States Coast and Geodetic Survey, forms the standard type of mark used by that Bureau. The Corps of Engineers, United States Army, established many of the bench marks which were tied in by this Bureau on the line from Yonkers, N.Y., to Westerly, R.I., and although standard disks were not used for these marks, the character of each mark is given in the description. The Columbia University Summer School of Surveying used for many of its bench marks a standard disk somewhat similar to the ones used by this Bureau, except that the disk is $1\frac{1}{2}$ inches in diameter and has cast around the rim of the disk, the legend "CAMP COLUMBIA MORRIS CT." and in the center of the disk, surrounding a small triangle, the legend "SURVEY STA. NO." Wherever the Columbia University Summer School of Surveying has not used these standard disks in establishing bench marks the character of each individual mark is given with the description.

In starting new leveling, difficulty is sometimes encountered by field parties in connecting with bench marks which are disks set vertically in walls or which are small chiseled squares with the elevations referred to the bottoms of the holes. The wall bench marks present no difficulty if the levelman uses a tape instead of a rod in taking the sight on the bench mark. If the mark is high on the wall a tape can be allowed to hang down from the mark, giving a "minus backsight" or a "plus foresight."

In connecting with the bottom of a chiseled square which is too small to admit the foot of an ordinary level rod, a small block can be put in the hole. The rod is held on it for the backsight and the same block is carried forward and placed on the first turning point while the foresight is being taken. Then, if the block is removed from the first turning point before the next backsight is taken, the elevation

carried forward will be the same as if the rod had been held directly on the bottom of the square. A $\frac{3}{4}$ -inch length of $\frac{1}{2}$ - or $\frac{5}{8}$ -inch dowel stick, or a similar piece of metal rod, makes an excellent block for use in small chiseled squares.

COOPERATION IN THE PRESERVATION OF BENCH MARKS

A bench mark is useful only as long as it is recoverable. When changes occur, as they often do, in the surrounding natural and cultural features with relation to which the mark is described, it becomes increasingly difficult to find the mark by means of the published description. Engineers and others who have occasion to visit any bench marks established by this Bureau or other Government organizations will be doing a public service if they will report the condition of the marks and make suggestions as to needed changes in the descriptions.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 685
Ed. Oct., 1929

R

REPORT ON CONDITION OF BENCH MARK

Designation of mark..... *F 14*..... State..... *Texas*..... County..... *Mitchell*
Mark searched for or recovered by—(Name)..... *Robert Muldrow*.....
Date..... *June 14, 1929*..... (Occupation)..... *Engineer*.....
(Address)..... *Mims Bldg., Abilene, Tex.*.....
Present condition of the mark..... *Good*.....
Letters or numbers found stamped on (not cast in) the mark..... *None*.....

Use the following space for reporting upon the thoroughness of the search in case mark was not recovered, or for suggesting needed changes in the published description, if the mark was recovered

This mark in good condition and has not been disturbed. The railroad station mentioned in the description has been moved one and one-half miles east.

U. S. GOVERNMENT PRINTING OFFICE 11-2927

Signed..... *Robert Muldrow*.....

FIGURE 4.—Facsimile of Form 685, Report on Condition of Bench Mark

Form 685, Report on Condition of Bench Mark (see fig. 4) is a 5-by 8-inch card with blanks to be filled in regarding the condition of a mark. Copies of this form will be furnished on request to anyone who may have occasion to visit any of these marks. Envelopes addressed to the Director, United States Coast and Geodetic Survey, Washington, D.C., and requiring no postage, will also be furnished for returning these reports.

The Coast and Geodetic Survey proposes to issue from time to time, probably in the form of mimeographed sheets, supplements to this publication and to other State leveling publications, in which will be given such changes in description as may be reported to this office by engineers and others who have visited any of the marks and found the descriptions to be in need of revision. Persons or organizations who have copies of this publication and who wish to receive the supplements as they are issued should write to the Director, United States Coast and Geodetic Survey, Washington, D.C., stating the title and number of the publication for which supplements are desired.

DESCRIPTIONS AND ELEVATIONS OF BENCH MARKS

LINE 1, DOVER PLAINS, N.Y., TO EAST MORRIS, CONN. (PART)

[First-order leveling by the Columbia University Summer School of Surveying]

This line enters Connecticut in the vicinity of Macedonia, Conn., and follows highways to Kent, the New York, New Haven & Hartford Railroad to South Kent, highways through Upper Merryall and New Preston to New Preston Station, the New York, New Haven & Hartford Railroad through Romford to Morris Station, and highways through Lakeside, Morris, and East Morris to Morris Dam. The field work was done during the summer of 1916 by a field party from the Columbia University Summer School of Surveying.

K.—About $\frac{1}{4}$ mile west of **Kent**, Litchfield County, at the highway bridge over Housatonic River, on the midstream pier, on the top stone on the north end of the pier. A Camp Columbia standard disk. (113.652 meters or 372.873 feet.)

I.—At **South Kent**, Litchfield County, about 500 feet north of the station, on the Pittsfield division of the New York, New Haven & Hartford Railroad, in the east end of a concrete culvert. A Camp Columbia standard disk. (120.582 meters or 395.609 feet.)

NOTE.—Bench mark I will probably be destroyed by the erection of the new station.

J.—At **South Kent**, Litchfield County, about 500 feet north of the station, on the Pittsfield division of the New York, New Haven & Hartford Railroad, on the west end of a concrete culvert. A Camp Columbia standard disk. (120.844 meters or 396.469 feet.)

NOTE.—Bench mark J will probably be destroyed by the erection of the new station.

H.—About $\frac{1}{2}$ mile northeast of **Upper Merryall**, Litchfield County, about 1,000 feet west of the crossroads where the intersecting roads go north to Lake Waramaug, east to New Preston, and west to South Kent, 500 feet east of a schoolhouse, and 200 feet east of a house owned by Walter Squires, on the south side of the main road through Upper Merryall, in an outcrop of granite. A Camp Columbia standard disk. (207.110 meters or 679.493 feet.)

G.—About 1.0 mile north of **New Preston**, Litchfield County, on the highway running along the shore of Lake Waramaug, about $\frac{1}{2}$ mile north of the southeast point of the lake, in a shelf of a rock cliff, and about 2 feet higher than the road. A Camp Columbia standard disk. (213.661 meters or 700.986 feet.)

F.—About 1.0 mile east of **New Preston**, Litchfield County, on the Litchfield-New Preston highway, about 500 feet west of the westernmost of two crossroads whose intersecting roads go east to Litchfield, west to New Preston, and south to New Preston Station, and about 200 feet east of a two-story stone house owned by W. H. Murphy, on the south side of the road, in a culvert. A Camp Columbia standard disk. (206.708 meters or 678.174 feet.)

E.—About $\frac{1}{2}$ mile north of **New Preston Station**, Litchfield County, at the steel highway bridge over Bantam River, on the east end of the north abutment. A Camp Columbia standard disk. (157.661 meters or 517.259 feet.)

P.L.—About $\frac{3}{4}$ mile north of **New Preston Station**, Litchfield County, on the Litchfield branch of the New York, New Haven & Hartford Railroad, on the east bank of Bantam River, east of the track, in a rock cut, and about 2 feet higher than the track. A knob cut in the rock with the letters P.L. and an arrow pointing to the mark. (159.374 meters or 522.880 feet.)

D.—At **Romford**, Litchfield County, on the Litchfield branch of the New York, New Haven & Hartford Railroad, about 200 feet north of the station, at a highway bridge over Bantam River, in the downstream end of the abutment nearest the station. A Camp Columbia standard disk. (196.255 meters or 643.880 feet.)

C.—At **Morris Station**, Litchfield County, on the Litchfield branch of the New York, New Haven & Hartford Railroad, about 100 feet south of the station, in the downstream end of the north abutment of a small timber bridge. A Camp Columbia standard disk. (217.896 meters or 714.880 feet.)

NOTE.—In 1932 it was reported that the disk marking this bench mark had been broken off, leaving the stem exposed. The top of the remaining portion of the stem is well within one eighth inch of the original elevation of the disk.

For additional bench marks in the vicinity of Morris Station, Conn., see pages 46, 47, and 50.

B.—About $1\frac{1}{2}$ miles east of **Morris Station**, Litchfield County, about midway between Morris Station and Morris, and west of **Lakeside**, in the west end of the concrete dam at Jones' pond. A Camp Columbia standard disk. (271.456 meters or 890.602 feet.)

A.—About $1\frac{1}{4}$ miles west of **Morris**, Litchfield County, at Camp Columbia of the Columbia University Summer School of Surveying, about 40 feet south of the office building, in a rock outcrop. A Camp Columbia standard disk. (320.630 meters or 1,051.934 feet.)

N.—At **Morris**, Litchfield County, at a triangle formed by roads between Morris and East Morris, in front of the house owned by J. B. Root, in a rock outcrop. A Camp Columbia standard disk. (334.675 meters or 1,098.013 feet.)

6.—At **East Morris**, Litchfield County, about 900 feet west of East Morris Corners, at the foot of the stone wall along the road to Morris, in a very large boulder half embedded in the ground. A Camp Columbia standard disk. (292.603 meters or 959.982 feet.)

7.—About $\frac{1}{2}$ mile southeast of **East Morris**, Litchfield County, about 100 feet east of a house owned by L. D. Leonard, and 10 feet north of the north edge of the road which runs southeast from East Morris, in a rock outcrop. A Camp Columbia standard disk. (277.349 meters or 909.936 feet.)

NOTE.—It was reported in 1923 that bench mark 7 had been destroyed.

8.—About $1\frac{1}{2}$ miles east of **East Morris**, Litchfield County, and about 400 feet along the State road to Thomaston from the intersection of the roads to Thomaston and to Watertown, at the east end of the lawn next to the barn belonging to the house owned by George Balch, in an outcrop of conglomerate rock. A Camp Columbia standard disk. (248.716 meters or 815.996 feet.)

O.—About $2\frac{1}{2}$ miles east of **East Morris**, Litchfield County, in the top of the **Morris Dam** of the Waterbury Waterworks, at the west end of the spillway. A Camp Columbia standard disk. (200.424 meters or 657.558 feet.)

Z 7 (C. & G. S.).—See page 24.

LINE 2, YONKERS, N. Y., TO WESTERLY, R. I. (PART)

[First-order leveling]

This line enters Connecticut in the vicinity of Greenwich and follows the New York, New Haven & Hartford Railroad through Stamford, Bridgeport, New Haven, and New London, Conn., to Westerly, R. I. The field work was done, during the fall of 1922, by H. P. Odessey, junior hydrographic and geodetic engineer.

A 1=U.S.E.B.M. 173 (U.S.E.).—At **Greenwich**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 500 feet east of the station, about 160 feet east of bridge 16.28, about 160 feet northeast of the entrance to Bruce Memorial Park, about 11 feet east of power transmission line tower 282, and 8 feet south of the south rail, on top of the southwest corner of a retaining wall. The letters "U.S.B.M." and an arrow pointing to the mark were chiseled in the same stone in which the bench mark is located. The top of a knob. (10.948 meters or 35.919 feet.)

Tidal 6.—At **Greenwich**, Fairfield County, in a rock ledge east of and across the road from the Indian Harbor Yacht Club, 8 feet east of the highest point of the ledge, and about 28 feet from the southeast end of the ledge. A standard disk, stamped "B.M. 6 13.91." (4.233 meters or 13.888 feet.)

B 1.—At **Greenwich**, Fairfield County, at the corner of Greenwich Avenue and Havermeier Place, in the south face of the town hall, at the southeast corner, 14 inches from the east side, and 15 inches above the ground. A standard disk, stamped "B 1 70.99." (21.631 meters or 70.968 feet.)

C 1.—At **Greenwich**, Fairfield County, on the New York, New Haven & Hartford Railroad, in the first rock cut east of the station, about 650 feet east of the station, about 330 feet east of bridge 16.28 over Greenwich Avenue, about 110 feet east of power transmission line tower 283, about 11 feet south of the south rail, and 1 foot lower than the track, in a rock ledge. A standard disk. (10.415 meters or 34.170 feet.)

NOTE.—It is reported that bench mark C 1 has been displaced and reset in the original hole, but not stamped.

D 1.—About 0.4 mile west of the station at **Coscob**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 80 feet east of bridge 17.36

at Meade's Lane, about 80 feet south of the south rail, and about 100 feet west of power transmission line tower 302. A standard disk, set in the top of a concrete post. (9.207 meters or 30.207 feet.)

NOTE.—It is reported that bench mark D 1 is located in a new coal and building-material yard, and may be covered by coal.

E 1.—At **Riverside**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 250 feet west of the station, about 65 feet west of bridge 18.32 at Riverside Avenue, about 13 feet east of power transmission line tower 318, about 13 feet south of the south rail, and 3 feet higher than the track, in a rock ledge. A standard disk, stamped "E 1 42.46." (12.935 meters or 42.438 feet.)

F 1.—At **Stamford**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 0.25 mile west of the station, about 130 feet northeast of power transmission line tower 362, about 130 feet north of the north rail, and about 2.5 feet above the ground, in a rock ledge. A standard disk. (11.980 meters or 39.304 feet.)

NOTE.—Reported, Feb. 15, 1932, that the disk for bench mark F 1 had been removed some time before.

G 1.—At **Stamford**, Fairfield County, at the post office, at the corner of Atlantic and Federal Streets, at the southwest corner of the small areaway at the south entrance, 5 inches from the east face of the building, and 5 inches from the north side of the granite wall which encloses the areaway. A standard disk, stamped "G 1 24.01." (7.310 meters or 23.983 feet.)

H 1 (City of Stamford).—At **Stamford**, Fairfield County, at the post office, at the corner of Atlantic and Federal Streets, at the south entrance, at the southeast corner of the bottom step. A chiseled square. (7.399 meters or 24.275 feet.)

J 1.—At **Stamford**, Fairfield County, at the corner of Main and Atlantic Streets, at the town hall, in the granite wall along the south end of the main entrance, 3 inches from the south end of the wall, and 9 inches from the east face of the building. A chiseled cross. (6.274 meters or 20.584 feet.)

K 1.—At **Stamford**, Fairfield County, at 303 Main Street, at the northeast corner of the building, 10 inches from the north face of the building, and 2 feet above the ground, in the second course of stone above the sidewalk. In 1932 this building was occupied by Clark, Childs & Co. A standard disk, stamped "19.15." (5.828 meters or 19.121 feet.)

L 1.—At **Stamford**, Fairfield County, about $\frac{3}{8}$ mile east of the station, on the New York, New Haven & Hartford Railroad, at bridge 22.22 at the Boston Post Road crossing, about 50 feet west of power transmission line tower 388, and about 5 feet south of the south rail, in the top course of stone of the east abutment. A standard disk, stamped "L 1 33.62." (10.237 meters or 33.586 feet.)

M 1 = U.S.E.B.M. 167 (U.S.E.).—About $\frac{1}{2}$ mile west of **Glenbrook**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 110 feet east of power transmission line tower 397, at bridge 22.77 at Sealey's crossing, about 8 feet south of the south rail, in the southeast corner of the west parapet wall of the bridge. A knob cut in the stone. (12.810 meters or 42.027 feet.)

N 1.—About $\frac{3}{4}$ mile east of **Glenbrook**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 460 feet west of bridge 24.03, about 125 feet east of power transmission line tower 429, about 40 feet north of the north rail, and 3 feet higher than the track, in a rock ledge. A standard disk, stamped "N 1 71.25." (21.708 meters or 71.220 feet.)

O 1 = U.S.E.B.M. 166 (U.S.E.).—At **Noroton**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 250 feet east of the station, about 120 feet east of power transmission line tower 441, at overhead bridge 24.62, about 6 feet south of the south rail, on the northwest corner of the second step from the bottom of the wing wall abutment. A knob cut in the stone. (25.326 meters or 83.090 feet.)

P 1.—At **Darien**, Fairfield County, on the New York, New Haven & Hartford Railroad, about $\frac{3}{8}$ mile west of the station, about 130 feet east of power transmission line tower 455, about 8 feet north of the north rail, and 1 foot higher than the track, in a rock ledge. A standard disk. (21.730 meters or 71.293 feet.)

NOTE.—In 1932 it was reported that bench mark P 1 had been removed from the ledge.

Q 1 = U.S.E.B.M. 165 (U.S.E.).—At **Darien**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 250 feet east of the station, and about 130 feet west of the power transmission line tower 464, at bridge 25.86 over the Boston Post Road, about 13 feet south of the south rail, in the southeast corner of the east parapet wall. A knob cut in the stone. (18.233 meters or 59.819 feet.)

R 1.—At Darien, Fairfield County, on the New York, New Haven & Hartford Railroad, about 250 feet east of the station, and about 80 feet west of power transmission line tower 464, at bridge 25.86 over the Boston Post Road, about 12 feet north of the north rail, on the northwest corner of the east parapet wall. A standard disk, stamped "R 1 60.01." (18.281 meters or 59.977 feet.)

S 1 = U.S.E.B.M. 163 (U.S.E.).—At Rowayton, Fairfield County, on the New York, New Haven & Hartford Railroad, about 330 feet west of the station, about 115 feet west of power transmission line tower 486, at bridge 27.17, about 16 feet south of the south rail, on the southeast corner of the west parapet wall. A knob cut in the stone. (15.629 meters or 51.276 feet.)

T 1 (N. Y., N. H. & H. R.R.).—About 1.2 miles west of the station at South Norwalk, Fairfield County, on the New York, New Haven & Hartford Railroad, about 130 feet west of bridge 27.78 at the Roton Hill Road crossing, about 50 feet northeast of power transmission line tower 497, and 8 feet north of the south rail, on the top of a granite post 6 inches square and projecting about 1 foot above the ground. A chiseled cross. (20.127 meters or 66.033 feet.)

U 1.—At South Norwalk, Fairfield County, on the New York, New Haven & Hartford Railroad, about $\frac{1}{4}$ mile west of the station, about 100 feet east of bridge 28.84 at Lowe Street, about 50 feet west of power transmission line tower 516, and about 7 feet south of the south rail, in a rock ledge. A standard disk, stamped "U 1 38.28." (11.656 meters or 38.241 feet.)

V 1 = U.S.E.B.M. 162 (U.S.E.).—At South Norwalk, Fairfield County, on the New York, New Haven & Hartford Railroad, about 650 feet west of the station, about 25 feet east of power transmission line tower 517, at bridge 28.99, about 7 feet south of the south rail, on the northeast corner of the southwest parapet wall. A knob cut in the stone. (10.828 meters or 35.525 feet.)

W 1.—At South Norwalk, Fairfield County, at the city hall, in the water table at the southwest corner of the building, 8 inches from the east side of the building, and 5 inches above the sidewalk. A standard disk, stamped "W 1 22.10." (6.723 meters or 22.057 feet.)

Tidal 3.—At South Norwalk, Fairfield County, at the concrete highway drawbridge over Norwalk River, on the south side of the bridge, 15.9 feet west of the west end of the draw, and 9.2 feet from the outer edge of the curb, in the sidewalk, in an angle in the parapet wall. A standard disk, stamped "B.M. 3 17.06." (5.187 meters or 17.018 feet.)

X 1 (City of South Norwalk).—At South Norwalk, Fairfield County, at the concrete highway drawbridge over Norwalk River, on the south side of the bridge, about 215 feet east of the east end of the draw, and 18 inches south of the outer edge of the curb, flush with the concrete sidewalk. A brass plug, stamped "U.S.H.L." (4.852 meters or 15.919 feet.)

NOTE.—Bench mark X 1 was evidently established by the city of South Norwalk.

Y 1.—About $\frac{1}{2}$ mile east of East Norwalk, Fairfield County, on the New York, New Haven & Hartford Railroad, about 1,000 feet east of an overhead crossing, about 140 feet west of power transmission line tower 553, and about 7 feet south of the south rail, about level with the track, in a rock ledge. A standard disk, stamped "Y 1 54.53." (16.608 meters or 54.488 feet.)

Z 1 = U.S.E.B.M. 158 (U.S.E.).—At Saugatuck, Fairfield County, on the New York, New Haven & Hartford Railroad, about 330 feet east of the station, at bridge 32.36 over Saugatuck River, about 8 feet east of the power transmission line tower nearest the west end of the bridge, and about 8 feet south of the south rail, on the northwest corner of the retaining wall at the west end of the bridge. A knob cut in the stone. (8.224 meters or 26.982 feet.)

A 2.—About $\frac{3}{4}$ mile east of the station at Westport, Fairfield County, on the New York, New Haven & Hartford Railroad, about 460 feet west of overhead highway crossing 33.15, about 33 feet southwest of power transmission line tower 591, and about 36 feet south of the south rail, about level with the track, in a rock ledge. A standard disk, stamped "A 2 30.98." (9.429 meters or 30.935 feet.)

B 2 = U.S.E.B.M. 157 (U.S.E.).—About $\frac{3}{4}$ mile east of the station at Westport, Fairfield County, on the New York, New Haven & Hartford Railroad, at overhead highway crossing 33.15, about 90 feet east of power transmission line tower 592, and about 7 feet north of the north rail, on the southwest corner of the bottom step of the northwest wing wall of the bridge. A knob cut in the stone. (9.627 meters or 31.585 feet.)

C 2.—About $\frac{3}{4}$ mile west of the station at Greens Farms, Fairfield County, on the New York, New Haven & Hartford Railroad, about 65 feet east of power transmission line tower 616, about 25 feet west of the west end of the south

abutment of the bridge at an overhead highway crossing, about 10 feet south of the south rail, and about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "C 2 22.95." (6.981 meters or 22.903 feet.)

D 2=U.S.E.B.M. 156 (U.S.E.).—At **Greens Farms**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 100 feet west of the station, at bridge 35.22 over a highway, about 25 feet south of the south rail, on the southwest corner of the top step of the southwest wing wall of the west abutment. A chiseled square. (8.637 meters or 28.337 feet.)

E 2=U.S.E.B.M. 155 (U.S.E.).—At **Southport**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 260 feet west of the station, and about 80 feet west of power transmission line tower 657, at bridge 36.89 over a highway, about 16 feet south of the south rail, on the southwest corner of the fifth step from the bottom of the southeast wing wall. A knob cut in the stone. (5.484 meters or 17.992 feet.)

F 2.—At **Southport**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 650 feet east of the station, and about 115 feet west of power transmission line tower 662, at bridge 37.14 over the Boston Post Road, about 7½ feet south of the south rail, in the south parapet of the east abutment. A standard disk, stamped "F 2 23.46." (7.136 meters or 23.412 feet.)

G 2=U.S.E.B.M. 153 (U.S.E.).—About ½ mile east of the station at **Southport**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 125 feet east of power transmission line tower 671, at bridge 37.71 over Mill River, about 7 feet south of the south rail, on the southwest corner of the west parapet of the bridge. A knob cut in the stone. (5.950 meters or 19.521 feet.)

H 2.—At **Fairfield**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 260 feet west of the station, about 130 feet northeast of power transmission line tower 686, about 100 feet north of the north rail, and about 3 feet higher than the track, in a rock ledge. A standard disk, stamped "H 2 21.89." (6.655 meters or 21.834 feet.)

J 2=U.S.E.B.M. 152 (U.S.E.).—About ½ mile east of the station at **Fairfield**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 150 feet east of power transmission line tower 697, at bridge 39.17 over a highway, about 8 feet south of the south rail, on the southeast corner of the east parapet of the bridge. A knob cut in the stone. (6.047 meters or 19.839 feet.)

K 2.—At **Bridgeport**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 100 feet west of the center of Fairfield Avenue, about 65 feet northeast of power transmission line tower 737, and about 50 feet north of the north rail. A standard disk, stamped "K 2 16.71" and set in the top of a concrete post. (5.075 meters or 16.650 feet.)

L 2 (U.S.G.S.).—At **Bridgeport**, Fairfield County, at **City of Bridgeport Sewage Disposal Plant No. 1**, in the concrete foundation of the pumping station, on the south side of the building, and about 20 feet west of the east face of the building. A United States Geological Survey standard disk, stamped "L 2 11.11." (3.368 meters or 11.050 feet.)

NOTE.—Bench mark L 2 also serves as a bench mark for the city of Bridgeport.

M 2.—At **Bridgeport**, Fairfield County, on the north side of Linwood Avenue between Wood and Laurel Avenues, at the junior high-school building, about 26 feet east of the west side of the building, about 3 feet west of the west entrance, and 2.5 feet above the sidewalk, in the water table. A standard disk, stamped "M 2 28.33." (8.617 meters or 28.271 feet.)

N 2 (U.S.G.S.).—At **Bridgeport**, Fairfield County, at the corner of Wayne Street and Fairview Avenue, at the Wayne Street entrance to the Madison School, in the south side of the third step. A United States Geological Survey standard disk, stamped "N 2 135.56." (41.302 meters or 135.505 feet.)

NOTE.—Bench mark N 2 also serves as a bench mark for the city of Bridgeport.

O 2=U.S.E.B.M. 150 (U.S.E.).—At **Bridgeport**, Fairfield County, at the railroad bridge over Fairfield Avenue, just west of the junction of Fairfield Avenue and State Street, about 10 feet west of the west rail of the trolley line on Fairfield Avenue, and about 2½ feet above the pavement, on the northeast corner of the west low pier of the railroad bridge. A knob cut in the stone. (2.973 meters or 9.754 feet.)

P 2 (City of Bridgeport).—At **Bridgeport**, Fairfield County, at the southeast corner of the intersection of North and Madison Avenues, at 1179 North Avenue, at the base of the iron column which supports the northwest corner of the brick building, on the top of the northwest corner of the iron shoe-plate. A point on the iron. (12.945 meters or 42.470 feet.)

Q 2.—At **Bridgeport**, Fairfield County, at the southwest corner of the intersection of Madison and Washington Avenues, at the Welfare Building of the Department of Health and Charities of the city of Bridgeport, at the northeast corner of the building, about 7 feet north of the main entrance, and 4 inches above the sidewalk, in the granite water table. A standard disk, stamped "Q 2 25.25." (7.677 meters or 25.187 feet.)

Tidal 13.—At **Bridgeport**, Fairfield County, at the post office, in the wall of the building, north of the southernmost of two entrances on the Broad Street side of the building, about 50 feet from the northwest corner of the building, and 6 inches above the sidewalk. A standard disk, stamped "B.M. 13 18.37." (5.579 meters or 18.304 feet.)

R 2=U.S.E.B.M. 14 (City of Bridgeport).—At **Bridgeport**, Fairfield County, at the city hall, at the State Street entrance, on the southeast corner of the bottom stone step. A point on the stone. (5.196 meters or 17.047 feet.)

NOTE.—Bench mark R 2 is the initial bench mark established by the city of Bridgeport.

Tidal 12.—At **Bridgeport**, Fairfield County, about 130 feet east of Pembroke Avenue, at 447 Stratford Avenue, in the foundation of the Ford Garage, on the south side of the building, 1 foot from the west side, and 6 inches above the sidewalk. A standard disk, stamped "B.M. 12 15.39." (4.670 meters or 15.321 feet.)

S 2.—At **Bridgeport**, Fairfield County, at the city hall, at the main entrance on State Street, and in the east end of the third step, and about 6 inches from the building. A standard disk, stamped "S 2 18.40." (5.589 meters or 18.337 feet.)

T 2.—At **Bridgeport**, Fairfield County, at the southeast corner of the intersection of State and Main Streets, at the First National Bank Building, at the northeast corner of the building, about 7 feet east of the Main Street side, and about 1½ feet above the sidewalk, in the granite foundation. A standard disk, stamped "T 2 16.84." (5.112 meters or 16.772 feet.)

U 2=U.S.E.B.M. A 40 (U.S.E.).—At **Bridgeport**, Fairfield County, at the Yellow Mill Bridge, about 160 feet east of the east end of the draw span, and about 20 feet north of the north curb of the street, at the east abutment, on the northwest corner of the parapet. A knob cut in the stone. (3.891 meters or 12.766 feet.)

V 2 (U.S.G.S.).—At **Bridgeport**, Fairfield County, at the McKinley School, at the southernmost entrance on Hollister Avenue, about 40 feet north of the south end of the building, and 3 inches above the ground, in the south end of the bottom step. A United States Geological Survey standard disk, stamped "V 2 20.49." (6.224 meters or 20.420 feet.)

W 2.—At **Stratford**, Fairfield County, on the New York, New Haven & Hartford Railroad, about ¾ mile east of the freight yards, about 22 feet east of power transmission line tower 824, and about 6 feet north of the north rail, about level with the track, in a rock ledge. A standard disk, stamped "W 2 22.37." (6.796 meters or 22.297 feet.)

X 2=U.S.E.B.M. 145 (U.S.E.).—At **Stratford**, Fairfield County, on the New York, New Haven & Hartford Railroad, 0.2 mile west of the station, at bridge 46.81, 10 feet north of the north rail, on the northwest corner of the east parapet. A knob cut in the stone. (8.610 meters or 28.248 feet.)

Y 2.—At **Stratford**, Fairfield County, on the New York, New Haven & Hartford Railroad, about 350 feet west of the station, about 150 feet east of power transmission line tower 840, at bridge 47.10 over Main Street, about 6 feet south of the south rail, in the southwest corner of the west parapet. A standard disk, stamped "Y 2 24.63." (7.485 meters or 24.557 feet.)

Z 2=U.S.E.B.M. 143 (U.S.E.).—At **Stratford**, Fairfield County, on the New York, New Haven & Hartford Railroad, about ¼ mile west of the station at **Devon**, about 100 feet east of power transmission line tower 862, at the bridge over Housatonic River, 10 feet south of the south rail, in the south end of the south parapet of the west abutment. A brass plug. (9.242 meters or 30.321 feet.)

A 3.—At **Devon**, New Haven County, on the New York, New Haven & Hartford Railroad, about 300 feet west of the station, about 100 feet west of the junction of the main line and the Waterbury division, about 100 feet east of the bridge over Housatonic River, about 40 feet north of the north rail, and about 2 feet higher than the track, in a rock ledge. A standard disk, stamped "A 3 32.95." (10.020 meters or 32.874 feet.)

B 3.—About ¼ mile east of **Devon**, New Haven County, on the New York, New Haven & Hartford Railroad, in the first rock cut east of **Devon**, about 125 feet east of power transmission line tower 875, about 9 feet north of the north rail, and

about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "B 3 52.38." (15.943 meters or 52.306 feet.)

C 3=U.S.E.B.M. 142 (U.S.E.).—About 0.6 mile west of **Milford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 110 feet west of power transmission line tower 895, at bridge 50.48 at the overhead highway crossing known as Baldwin's crossing, about 5 feet south of the south rail, and about 2 feet higher than the track, on the northeast corner of the bottom step of the southeast wing wall. A knob cut in the stone. (18.576 meters or 60.945 feet.)

D 3.—At **Milford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 400 feet east of the station, 10 feet east of power transmission line tower 913, at bridge 51.51 over River Street, about 4 feet south of the south rail, in the south parapet of the west abutment. A standard disk, stamped "D 3 37.39." (11.372 meters or 37.310 feet.)

E 3.—At **Milford**, New Haven County, on River Street, due east of the **Milford High School**, at the southeast corner of the municipal building, 10 inches from the south edge of the building, and 10 inches above the elevated walk around the building, in the corner stone. A standard disk, stamped "E 3 28.71." (8.727 meters or 28.632 feet.)

F 3=U.S.E.B.M. 140 (U.S.E.).—At **Milford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 800 feet east of the station, about 150 feet from power transmission line tower 914, at bridge 51.61 over Wepawaug River, 5 feet south of the south rail, in the southeast corner of the west parapet. A brass plug marked "U.S.B.M." (11.073 meters or 36.329 feet.)

NOTE.—Bench mark **F 3** also serves as a bench mark for the town of **Milford**.

G 3=U.S.E.B.M. 139 (U.S.E.).—About 1 mile east of **Milford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 50 feet east of power transmission line tower 933, at bridge 52.65 over Indian River, about 6 feet north of the north rail, on the northeast corner of the east parapet. A knob cut in the stone. (5.832 meters or 19.134 feet.)

H 3.—About 1 mile west of **Woodmont**, New Haven County, on the New York, New Haven & Hartford Railroad, about 120 feet east of power transmission line tower 949, about 6 feet north of the north rail, and about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "H 3 41.45." (12.608 meters or 41.365 feet.)

J 3=U.S.E.B.M. 138 (U.S.E.).—About $\frac{3}{4}$ mile west of **Woodmont**, New Haven County, on the New York, New Haven & Hartford Railroad, about 110 feet from power transmission line tower 958, at bridge 54.08 at Bud's crossing, 5 feet south of the south rail and about 3 feet higher than the track, on the northeast corner of the bottom step of the south abutment. A knob cut in the stone. (15.326 meters or 50.282 feet.)

K 3.—About $\frac{1}{2}$ mile northeast of **Woodmont**, New Haven County, on the New York, New Haven & Hartford Railroad, 125 feet northeast of power transmission line tower 980, about 10 feet west of the west rail, and about 2 feet higher than the track, in a rock ledge. A standard disk, stamped "K 3 59.33." (18.059 meters or 59.249 feet.)

L 3=U.S.E.B.M. 137 (U.S.E.).—About 1.5 miles northeast of **Woodmont**, New Haven County, on the New York, New Haven & Hartford Railroad, at bridge 56.16 over a highway, about 8 inches lower than the track, on the northwest corner of the north parapet. A knob cut in the stone. (23.172 meters or 76.023 feet.)

M 3=U.S.E.B.M. 136 (U.S.E.).—About $\frac{3}{4}$ mile west of the station at **West Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, about 125 feet west of power transmission line tower 1022, at bridge 57.72 over a highway, about 5 feet north of the north rail, on the northeast corner of the east parapet. A knob cut in the stone. (16.051 meters or 52.661 feet.)

N 3.—About $\frac{3}{8}$ mile west of the station at **West Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, in the center of the first rock cut west of the station, about 100 feet west of power transmission line tower 1025, and about 10 feet north of the north rail, about level with the track, in a rock ledge. A standard disk, stamped "N 3 46.73." (14.216 meters or 46.640 feet.)

O 3.—About 200 feet west of the station at **West Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, about 50 feet west of power transmission line tower 1031, at bridge 58.34 over Campbell Avenue, about 8 feet south of the south rail, in the southeast corner of the east parapet. A standard disk, stamped "O 3 36.60." (11.130 meters or 36.516 feet.)

P 3=U.S.E.B.M. 135 (U.S.E.).—At **West Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, about 500 feet east of the station, and about 75 feet west of power transmission line tower 1034, at bridge 58.43 over Washington Avenue, about 9 feet north of the north rail, on the northwest corner of the east parapet. A knob cut in the stone. (9.769 meters or 32.050 feet.)

Q 3.—At **New Haven**, New Haven County, at the New York, New Haven & Hartford Railroad station, at Union Avenue and South Orange Street, on the west side of the building, 3 feet north of the south end, and 2 feet above the sidewalk. A standard disk, stamped "Q 3 16.35." (4.957 meters or 16.263 feet.)

R 3 (City of New Haven).—At **New Haven**, New Haven County, on the northwest side of Union Avenue opposite the New York, New Haven & Hartford Railroad station, at the southwest corner of the intersection of Union Avenue and Portsea Street, 20 feet west of the west rail of the trolley line on Union Avenue, and 4 feet south of steel power transmission line pole 60, at the sewer catch basin, on the northeast corner of the granite capstone. A point on the stone. (3.785 meters or 12.418 feet.)

S 3 (City of New Haven).—At **New Haven**, New Haven County, at the southeast corner of the intersection of South Orange Street and Columbus Avenue, about 50 feet west of the Hotel Garde, and about 500 feet north of the railroad station, at a sewer catch basin, on the northeast corner of the granite capstone. A point on the stone. (3.047 meters or 9.997 feet.)

T 3.—At **New Haven**, New Haven County, at the post office, at the corner of Church and Court Streets, at the northwest corner of the building, about 10 feet west of the west entrance on the Court Street side, and about 1 foot above the ground, in the foundation. A standard disk, stamped "T 3 25.05." (7.606 meters or 24.954 feet.)

U 3.—At **New Haven**, New Haven County at the city hall, about 80 feet south of the north side of the building, about 18 inches north of the southernmost of two entrances on Church Street, and about 2 feet above the ground, in the granite foundation. A standard disk, stamped "U 3 28.20." (8.568 meters or 28.110 feet.)

V 3.—At **New Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, about 200 feet northeast of the station at **Cedar Hill**, about 500 feet west of the point at which the Hartford division, the air line division and the shore line division diverge, about 100 feet west of the center of James Street, and about 60 feet north of the north rail. A standard disk, stamped "V 3 27.95" and set in the top of a concrete post. (8.490 meters or 27.854 feet.)

W 3.—At **New Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, about 625 feet north of the north entrance to a small tunnel at the end of the long horseshoe curve just east of the station at **Cedar Hill**, about 50 feet south of the semaphore nearest the entrance to the tunnel, and about 6 feet west of the west rail, about level with the track, in a rock ledge. A standard disk. (11.960 meters or 39.239 feet.)

NOTE.—The tunnel referred to above is reported to be a bridge over a street, and is $\frac{1}{4}$ mile south of the actual tunnel.

For additional bench marks in the vicinity of New Haven, Conn., see page 20.

X 3.—At **East Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, about $\frac{1}{4}$ mile east of the station, about 15 feet west of bridge 6.45, about 10 feet north of the north rail, and about $1\frac{1}{2}$ feet higher than the track, in a rock ledge. A standard disk, stamped "X 3 32.45." (9.863 meters or 32.359 feet.)

Y 3.—Destroyed. (10.720 meters or 35.171 feet.)

Z 3.—At **Branford**, New Haven County, on the New York, New Haven & Hartford Railroad, about $\frac{1}{2}$ mile west of the station, about $\frac{1}{4}$ mile east of bridge 8.35, at the beginning of the second rock cut east of the bridge, about 8 feet north of the north rail, and about 2 feet higher than the track, in a rock ledge. A standard disk, stamped "Z 3 29.63." (9.003 meters or 29.537 feet.)

A 4=U.S.E.B.M. 124 (U.S.E.).—About $1\frac{1}{2}$ miles east of **Branford**, New Haven County, on the New York, New Haven & Hartford Railroad, at a wooden truss highway bridge over the tracks, at the northeast corner of the south stone pier, about 5 feet south of the south rail, and about 2 feet higher than the track. A knob cut in the stone. (13.203 meters or 43.317 feet.)

B 4.—About 2.2 miles east of **Branford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 325 feet west of the station at **Pine Orchard**, about 50 feet northwest of bridge 11.34, and about 35 feet north of the

north rail, about level with the track, in a rock ledge. A standard disk, stamped "B 4 37.48." (11.398 meters or 37.395 feet.)

C 4.—About 4 miles west of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about $\frac{3}{8}$ mile east of the station at **Stony Creek**, in the center of the second rock cut east of the station, about 10 feet north of the north rail, and about 3 feet higher than the track, in a rock ledge. A standard disk, stamped "C 4 33.94." (10.319 meters or 33.855 feet.)

D 4=**U.S.E.B.M. 122 (U.S.E.)**.—About 3.6 miles west of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about $\frac{3}{4}$ mile east of the station at **Stony Creek**, at bridge 13.17, about 7 feet south of the south rail, and about 1 foot lower than the track, on the southeast corner of the east parapet. A knob cut in the stone. (5.442 meters or 17.854 feet.)

E 4=**U.S.E.B.M. 120 (U.S.E.)**.—About 2.9 miles west of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 200 feet west of the station at **Leetes Island**, at bridge 13.93, about 5 feet north of the north rail, and about $\frac{1}{2}$ foot lower than the track, on the northeast corner of the west parapet. A knob cut in the stone. (8.977 meters or 29.452 feet.)

F 4.—About 2.9 miles west of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 150 feet west of the station at **Leetes Island**, 20 feet north of the north rail, and about 3.5 feet higher than the track, in a rock ledge. A standard disk, stamped "F 4 34.88." (10.606 meters or 34.797 feet.)

G 4=**U.S.E.B.M. 119 (U.S.E.)**.—About 1.3 miles west of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 150 feet east of the station at **Sachem Head**, at bridge 15.55, about 7 feet south of the south rail, and about 1 foot lower than the track, on the southeast corner of the west parapet. A knob cut in the stone. (5.259 meters or 17.254 feet.)

H 4.—About 0.9 mile west of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 650 feet east of a highway bridge over the tracks, about 625 feet east of a trolley bridge over the tracks, about 10 feet south of the south rail, and about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "H 4 14.40" (4.363 meters or 14.314 feet.)

J 4.—At **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, about $\frac{3}{4}$ mile east of the station, about 125 feet southwest of a double semaphore, about 100 feet south of the south rail of the main line, and about 2 feet lower than the track, in a rock ledge. A standard disk, stamped "J 4 6.40." (1.927 meters or 6.322 feet.)

K 4=**U.S.E.B.M. 117 (U.S.E.)**.—About $\frac{3}{4}$ mile east of **Guilford**, New Haven County, on the New York, New Haven & Hartford Railroad, at the northernmost of two semaphores, 17 feet north of the north rail of the main track, about level with the track, 38 feet west of a concrete whistle post, on the northwest corner of the foundation. The top of a bolt. (3.215 meters or 10.548 feet.)

L 4.—Destroyed. (6.279 meters or 20.600 feet.)

L 4 (RESET).—At **East River**, New Haven County, on the New York, New Haven & Hartford Railroad, about 300 feet east of the station, at bridge 18.94, at the west abutment, on the south end of the bridge seat. A standard disk, stamped "L 4 1926." (17.620 feet.)

M 4.—About $\frac{3}{4}$ mile east of **East River**, New Haven County, on the New York, New Haven & Hartford Railroad, about $\frac{1}{4}$ mile west of bridge 19.58 at an overhead highway crossing, about 125 feet west of the first semaphore west of this bridge, about 6 feet north of the north rail, and about 2 feet higher than the track, in a rock ledge. A standard disk, stamped "M 4 29.19." (8.870 meters or 29.101 feet.)

N 4=**U.S.E.B.M. 114 (U.S.E.)**.—About $\frac{3}{4}$ mile east of **East River**, New Haven County, on the New York, New Haven & Hartford Railroad, at bridge 19.58 at an overhead highway crossing, about 5 feet north of the north rail, and about 3 feet higher than the track, on the southeast corner of the northeast wing wall abutment. A knob cut in the stone. (8.371 meters or 27.464 feet.)

O 4.—About 1 mile west of **Madison**, New Haven County, on the New York, New Haven & Hartford Railroad, about 0.3 mile east of bridge 19.58 at an overhead crossing, about 10 feet north of the north rail, and 20 feet south of the fence around the State Game Farm, about level with the track, in a rock ledge. A standard disk, stamped "O 4 23.01." (6.989 meters or 22.930 feet.)

P 4=**U.S.E.B.M. 113 (U.S.E.)**.—At **Madison**, New Haven County, on the New York, New Haven & Hartford Railroad, about 300 feet west of the station, at bridge 20.84 at an overhead highway crossing, about 5 feet south of the south

rail, and about 2 feet higher than the track, on the northeast corner of the southeast wing wall abutment. A knob cut in the stone. (8.188 meters or 26.863 feet.)

Q 4=U.S.E.B.M. 112 (U.S.E.).—About $\frac{3}{4}$ mile east of **Madison**, New Haven County, on the New York, New Haven & Hartford Railroad, at bridge 21.71 over a highway, about 15 feet north of the north rail, and about 1 foot lower than the track, on the northeast corner of the west parapet. A knob cut in the stone. (7.928 meters or 26.010 feet.)

R 4.—About 1.6 miles east of **Madison**, New Haven County, on the New York, New Haven & Hartford Railroad, about 350 feet west of bridge 22.59 over Hammonasset River, about 18 feet north of the north rail, and about 1 $\frac{1}{2}$ feet higher than the track, in a rock ledge. A standard disk, stamped "R 4 30.84." (9.373 meters or 30.751 feet.)

S 4=U.S.E.B.M. 111 (U.S.E.).—About 1.7 miles east of **Madison**, New Haven County, on the New York, New Haven & Hartford Railroad, at bridge 22.59 over Hammonasset River, about 6 feet north of the north rail, and about 1 foot lower than the track, in the northwest corner of the west parapet. A knob cut in the stone. (7.700 meters or 25.262 feet.)

T 4=U.S.E.B.M. 110 (U.S.E.).—At **Clinton**, Middlesex County, on the New York, New Haven & Hartford Railroad, about $\frac{1}{4}$ mile west of the station, at bridge 24.36 over a highway, about 5 feet north of the north rail, and about 1 foot lower than the track, on the northeast corner of the northwest parapet. A knob cut in the stone. (7.222 meters or 23.694 feet.)

U 4.—At **Clinton**, Middlesex County, on the New York, New Haven & Hartford Railroad, about 200 feet east of the station, at bridge 24.65 over a highway, about 12 feet south of the south rail, and about 6 inches higher than the track, in the south end of the west parapet. A standard disk, stamped "U 4 25.57." (7.768 meters or 25.486 feet.)

V 4=U.S.E.B.M. 109 (U.S.E.).—At **Clinton**, Middlesex County, on the New York, New Haven & Hartford Railroad, about 1,000 feet east of the station, and about 150 feet southwest of the southwest corner of a cemetery, at bridge 24.80 over Indian River, about 2 $\frac{1}{2}$ feet south of the south rail, about level with the track, on the northwest corner of the west parapet. A knob cut in the stone. (6.695 meters or 21.965 feet.)

W 4.—About $\frac{3}{8}$ mile west of **Grove Beach**, Middlesex County, on the New York, New Haven & Hartford Railroad, about 100 feet west of a private-road crossing, about 25 feet north of the north rail, and about 1 $\frac{1}{2}$ feet higher than the track, in a rock ledge. A standard disk, stamped "W 4 11.86." (3.588 meters or 11.772 feet.)

X 4=U.S.E.B.M. 107 (U.S.E.).—At **Grove Beach**, Middlesex County, on the New York, New Haven & Hartford Railroad, at the southwest corner of the station, on the top of the concrete walk, about 2 inches from the corner of the building. A chiseled square. (4.233 meters or 13.888 feet.)

Y 4.—At **Westbrook**, Middlesex County, on the New York, New Haven & Hartford Railroad, about 300 feet east of the station, near bridge 29.12 over a highway, about 8 feet east of the north abutment, about 5 feet north of the north rail, and about $\frac{1}{2}$ foot higher than the track, in a rock ledge. A standard disk, stamped "Y 4 28.38." (8.626 meters or 28.300 feet.)

Z 4.—About 1.6 miles east of **Westbrook**, Middlesex County, on the New York, New Haven & Hartford Railroad, about 100 feet west of bridge 30.61 at an overhead crossing, about 25 feet north of the north rail, and about 4 feet higher than the track, in a rock ledge. A standard disk, stamped "Z 4 28.87." (8.776 meters or 28.793 feet.)

A 5=U.S.E.B.M. 104 (U.S.E.).—About 1.6 miles east of **Westbrook**, Middlesex County, on the New York, New Haven & Hartford Railroad, at bridge 30.61 at an overhead crossing, about 4 feet south of the south rail, and about 4 feet higher than the track, in the northeast corner of the bottom step of the southeast wing wall. A knob cut in the stone. (8.168 meters or 26.798 feet.)

B 5=U.S.E.B.M. 103 (U.S.E.).—About 1.5 miles west of **Saybrook Junction**, Middlesex County, on the New York, New Haven & Hartford Railroad, at bridge 31.38 at an overhead crossing, about 4 feet north of the north rail, and about 2 feet higher than the track, on the southwest corner of the bottom step of the northwest wing wall. A knob cut in the stone. (5.562 meters or 18.248 feet.)

C 5=U.S.E.B.M. 102 (U.S.E.).—About $\frac{3}{4}$ mile west of **Saybrook Junction**, Middlesex County, on the New York, New Haven & Hartford Railroad, at bridge 32.24 over Oyster River, about 4.5 feet south of the south rail, and about 10 inches

lower than the track, on the southeast corner of the east parapet. The highest part of the corner. (4.779 meters or 15.679 feet.)

NOTE.—Bench mark C 5 is an unmarked point and it is possible that the elevation given does not apply to exactly the same point as was used as U. S. Engineers bench mark 102.

D 5=U.S.E.B.M. 101 (U.S.E.).—At **Saybrook Junction**, Middlesex County, on the New York, New Haven & Hartford Railroad, opposite the station, about 21 feet north of the north rail of the shore division, and about 100 feet south of the center of the tracks of the Valley Brook Railroad, on the foundation of what was formerly an octagonal water-tank house. The top of the east corner of the foundation. (7.302 meters or 23.957 feet.)

NOTE.—It was reported in 1922 that the south half of the above foundation had been removed, and that the remainder would probably be removed in the near future.

E 5.—At Saybrook Junction, Middlesex County, on the New York, New Haven & Hartford Railroad, about 35 feet east of the station, opposite the water tank, and about 8 feet south of the south rail of the shore division, about level with the track, in the stone supporting the iron top of a small sewer catch basin. A standard disk, stamped "E 5 22.57." (6.856 meters or 22.493 feet.)

NOTE.—It was reported in 1930 that bench mark E 5 was covered by about 2 feet of crushed stone.

F 5.—At Saybrook Junction, Middlesex County, on the New York, New Haven & Hartford Railroad, about $\frac{3}{8}$ mile east of the station, about 400 feet west of a bridge carrying a trolley line over the tracks, about 38 feet northeast of a whistle post, about 28 feet north of the north rail of the main line, and about 1.5 feet higher than the track, in a rock ledge. A standard disk, stamped "F 5 21.17." (6.428 meters or 21.089 feet.)

G 5.—About 1.5 miles east of Saybrook Junction, Middlesex County, on the New York, New Haven & Hartford Railroad, at bridge 34.65 over Connecticut River, about 3 feet south of the south rail, and about 1 foot lower than the track, in the west parapet. A standard disk, stamped "G 5 26.65." (8.098 meters or 26.568 feet.)

H 5=U.S.E.B.M. 100=C.S.E. 28.—In Middlesex County, about 1.3 miles west of **Lyme**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 34.65 over Connecticut River, about 15 feet south of the south rail, and about 1 foot lower than the track, on the southwest corner of the top step of the southeast wing wall. An unmarked point on the stone. (8.244 meters or 27.047 feet.)

J 5.—At Lyme, New London County, on the New York, New Haven & Hartford Railroad, about 600 feet east of the station at **Lyme & Black Hall**, about 300 feet east of signal tower 105, about 225 feet east of a bridge over a highway, about 35 feet north of a semaphore, about 30 feet north of the north rail, and about 1.5 feet higher than the track, in a rock ledge. A standard disk, stamped "J 5 23.73." (7.210 meters or 23.655 feet.)

K 5=U.S.E.B.M. 99 (U.S.E.).—At **Lyme**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 36.27 at an overhead highway crossing, about 3 feet south of the south rail, and about 2 feet higher than the track, on the northeast corner of the bottom step of the east wing wall of the south abutment. A knob cut in the stone. (10.191 meters or 33.435 feet.)

L 5.—About $\frac{1}{4}$ mile west of Sound View, New London County, on the New York, New Haven & Hartford Railroad, about 170 feet west of a private-road crossing, and about 30 feet north of the north rail, about level with the track, in a rock ledge. A standard disk, stamped "L 5 30.97." (9.417 meters or 30.896 feet.)

M 5.—About $\frac{3}{4}$ mile east of Sound View, New London County, on the New York, New Haven & Hartford Railroad, near bridge 39.29 at a highway crossing just east of Sound View, about 28 feet west of the west end of the northwest wing wall, about 8 feet north of the north rail, and about 2.5 feet higher than the track, in a rock ledge. A standard disk, stamped "M 5 42.26." (12.856 meters or 42.178 feet.)

N 5.—At South Lyme, New London County, on the New York, New Haven & Hartford Railroad, about 70 feet west of the west end of the wooden platform at the station, about 8 feet north of the north rail, and about 2 feet higher than the track, in a rock ledge. A standard disk, stamped "N 5 31.95." (9.714 meters or 31.870 feet.)

O 5=U.S.E.B.M. 97 (U.S.E.).—About $\frac{3}{4}$ mile east of **South Lyme**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 40.58 over a highway, about 6 feet north of the north rail, and about 3 feet lower than

the track, on the northwest corner of the east bridge seat. A chiseled square. (5.339 meters or 17.516 feet.)

P 5=U.S.E.B.M. 96 (U.S.E.).—About 1.0 mile west of **Crescent Beach**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 42.06 over Pataguanset River, about 6 feet north of the north rail, and about 1 foot lower than the track, on the northwest corner of the concrete parapet of the west abutment. A chiseled square. (3.114 meters or 10.217 feet.)

Q 5.—About $\frac{1}{2}$ mile west of **Crescent Beach**, New London County, on the New York, New Haven & Hartford Railroad, about 300 feet west of the beginning of the first rock ledge west of **Crescent Beach**, about 7 feet south of the south rail, and about $\frac{1}{2}$ foot lower than the track, in a rock ledge. A standard disk, stamped "Q 5 19.96." (6.061 meters or 19.885 feet.)

R 5=U.S.E.B.M. 95 (U.S.E.).—Destroyed. (4.469 meters or 14.662 feet.)

S 5.—At **Millstone**, New London County, on the New York, New Haven & Hartford Railroad, about 300 feet west of the station, and about 20 feet north of the north rail, about level with the track, in a rock ledge. A standard disk, stamped "S 5 32.95." (10.020 meters or 32.874 feet.)

T 5=U.S.E.B.M. 94 (U.S.E.).—About 1.0 mile west of **Waterford**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 46.68 over Jordon Cove, about 6 feet north of the north rail, and about 1 foot lower than the track, in the northeast corner of the northwest concrete parapet. A chiseled square. (4.892 meters or 16.050 feet.)

U 5.—At **Waterford**, New London County, on the New York, New Haven & Hartford Railroad, about 325 feet west of the station, about 6 feet northwest of the end of a stone wall extending west from the station, about 12 feet north of the north rail, and about 3 feet higher than the track, in a rock ledge. A standard disk, stamped "U 5 45.39." (13.812 meters or 45.315 feet.)

B 6=U.S.E.B.M. 93 (U.S.E.).—At **Waterford**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 47.64 over a highway just east of the station, about 110 feet east of signal tower 110, about 125 feet east of the station, about 6 feet south of the south rail, and about 2 feet lower than the track, on the southeast corner of the first step down from the top of the south wing wall of the east abutment of the bridge. A knob cut in the stone. (11.834 meters or 38.825 feet.)

V 5 (City of New London).—At **New London**, New London County, on Maple Avenue, 153 feet west of the center of Pequot Avenue, and about 75 feet east of the tracks of the New York, New Haven & Hartford Railroad, on the iron ring around the iron manhole cover. The slight lip or lateral extension on the ring around the cover. (7.719 meters or 25.325 feet.)

W 5.—At **New London**, New London County, on the New York, New Haven & Hartford Railroad, about 225 feet southwest of bridge 49.87, about 50 feet west of the northwest corner of the J. N. Lapointe Co. building, about 400 feet north of the center of Maple Avenue, about 8 feet west of the west rail, and about 1.5 feet higher than the track, in a rock ledge. A standard disk, stamped "W 5 26.18." (7.956 meters or 26.102 feet.)

X 5.—At **New London**, New London County, on the New York, New Haven & Hartford Railroad, $\frac{1}{2}$ mile south of the bridge over Shaw Cove, at bridge 49.96 over Walback Street, in the top of the east side of the south pier. A standard disk, stamped "X 5 1922." (5.982 meters or 19.626 feet.)

Tidal 7.—At **New London**, New London County, at the customhouse on Bank Street, about 8 feet west of the northwest corner of the building, flush with the sidewalk in a stone which forms part of the side wall. A standard disk, stamped "B.M. 7 19.05." (5.782 meters or 18.970 feet.)

Y 5.—At **New London**, New London County, at the city hall, at the corner of State and Union Streets, at the State Street entrance, in the west end of the second step from the bottom. A standard disk, stamped "Y 5 32.65." (9.929 meters or 32.575 feet.)

Z 5.—At **New London**, New London County, at the post office, at the corner of State and Union Streets, in the northeast corner of the building, about 1 foot west of the east edge of the building, and 1 foot above the ground. A standard disk, stamped "Z 5 34.63." (10.531 meters or 34.550 feet.)

Tidal 8.—At **New London**, New London County, at the *Soldiers and Sailors* monument, on State Street, just west of the Union Station, on the east side of the monument, 6 inches north of the top step, and 3 feet higher than the ground, in the west end of the stone banister. A standard disk, stamped "B.M. 8 18.34." (5.567 meters or 18.264 feet.)

A 6=U.S.E. New London railroad station (U.S.E.).—At **New London**, New London County, at the Union Station, about 70 feet north of the south face of the

building, on the north end of the top step and the adjoining brick work of the main entrance on the west side, and about 3 feet above the ground. The top of the step. (3.402 meters or 11.161 feet.)

C 6 (City of New London).—At **New London**, New London County, at the intersection of State Street and Railroad Avenue, about 10 feet northeast of a steel column supporting the second story of the Winthrop Hotel, and about 45 feet southwest of the southwest corner of the Union Station, on the top of the iron ring around a manhole cover. A small lateral extension of the ring. (2.476 meters or 8.123 feet.)

D 6.—At **New London**, New London County, about 200 feet west of the intersection of the Central Vermont Railroad and the New York, New Haven & Hartford Railroad, about 400 feet east of bridge 0.55 at the crossing of the Boston Post Road, about 15 feet south of the south rail of the New York, New Haven & Hartford Railroad, about 50 feet north of the center of the Boston Post Road, and about 1½ feet higher than the ground, in a rock ledge. A standard disk, stamped "D 6 29.76." (9.048 meters or 29.685 feet.)

E 6.—At **Groton**, New London County, about 100 feet west of the New York, New Haven & Hartford Railroad station, at bridge 1.13, about 7 feet south of the south rail, and about ½ foot higher than the track, in the south end of the east abutment of the bridge. A standard disk, stamped "E 6 41.84." (12.729 meters or 41.762 feet.)

F 6.—At **Groton**, New London County, on the New York, New Haven & Hartford Railroad, at the junction of the Worcester and Boston divisions, about 600 feet northeast of the station, about 125 feet east of a semaphore, about 35 feet east of the east rail of the Worcester division, and about 3 feet higher than the track, in a rock ledge. A standard disk, stamped "F 6 44.02." (13.395 meters or 43.947 feet.)

G 6.—About 1¾ miles east of **Groton**, New London County, on the New York, New Haven & Hartford Railroad, about ¼ mile west of bridge 3.41 at a crossing of the Boston Post Road, in the first rock ledge west of the bridge, about 30 feet north of the north rail, and about 3 feet higher than the track. A standard disk, stamped "G 6 46.28." (14.082 meters or 46.201 feet.)

H 6.—About 2.1 miles east of **Groton**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 3.41 over the Boston Post Road, about 15 feet south of the south rail, and about 1 foot lower than the track, in the south parapet of the west abutment. A standard disk, stamped "H 6 33.75." (10.265 meters or 33.678 feet.)

J 6.—At **Poquonock Bridge**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 4.46 over a highway, about 125 feet southeast of the station at **Midway**, about 30 feet south of the south rail of the main track, and about 1 foot lower than the track, in the south end of the west parapet of the bridge. A standard disk, stamped "J 6 15.85." (4.809 meters or 15.778 feet.)

K 6.—At **Noank**, New London County, on the New York, New Haven & Hartford Railroad, about 150 feet west of a bridge carrying a trolley line over the railroad at a point just west of the station, about 8 feet south of the south rail, and about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "K 6 19.50." (5.923 meters or 19.432 feet.)

L 6.—At **Mystic**, New London County, on the New York, New Haven & Hartford Railroad, about 250 feet northwest of milepost NL 10, in the first rock cut east of the station at **Mystic**, about 10 feet south of the south rail, about level with the track, in a rock ledge. A standard disk, stamped "L 6 16.07." (4.876 meters or 15.997 feet.)

M 6.—About 2.0 miles west of **Stonington**, New London County, on the New York, New Haven & Hartford Railroad, about 600 feet east of bridge 10.73 over a stream, about 100 feet south of a private-road crossing, about 6 feet west of the west rail, and about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "M 6 8.50." (2.568 meters or 8.425 feet.)

N 6.—At **Stonington**, New London County, on the New York, New Haven & Hartford Railroad, about 500 feet east of the station, about 30 feet east of a section toolhouse, about 30 feet south of the south rail of the main track, and about 1 foot higher than the track, in a rock ledge. A standard disk, stamped "N 6 7.43." (2.242 meters or 7.356 feet.)

O 6.—About 2.0 miles east of **Stonington**, New London County, on the New York, New Haven & Hartford Railroad, about 160 feet northeast of milepost NL 15, about ½ mile east of bridge 14.77 at an overhead crossing, about 6 feet north of the north rail, and 1 foot higher than the track, in a rock ledge. A standard disk, stamped "O 6 13.06." (3.959 meters or 12.989 feet.)

P 6.—At **Pawcatuck**, New London County, on the New York, New Haven & Hartford Railroad, at the first rock ledge west of bridge 18.11 at the crossing of the Boston Post Road, about 300 feet southwest of a road crossing, about 20 feet north of the north rail, and about 2½ feet higher than the track, in the rock ledge. A standard disk. (9.917 meters or 32.536 feet.)

NOTE.—It was reported in 1924 that bench mark P 6 could not be located, and that there is no bridge 18.11.

Q 6.—At **Pawcatuck**, New London County, on the New York, New Haven & Hartford Railroad, at bridge 18.12 over the Boston Post Road, about 7 feet west of the west rail, and about 2 feet lower than the track, in the southwest corner of the southwest parapet. A standard disk, stamped "Q 6 30.29." (9.210 meters or 30.216 feet.)

The line enters Rhode Island.

A 1.—At **Westerly**, Washington County, about 400 feet west of the station, south of a gas tank, at railroad bridge 18.31 over Pawcatuck River, in the north parapet wall of the east abutment, 9 feet north of the north rail, and about 1 foot lower than the track. A standard disk. (10.517 meters or 34.505 feet.)

For additional bench marks in Westerly, R.I., see page 28.

LINE 3, NEW HAVEN, CONN., TO SPRINGFIELD, MASS.

[First-order leveling]

This line follows the New York, New Haven & Hartford Railroad from New Haven, Conn., through Wallingford, Meriden, New Britain, and Hartford, Conn., to Springfield, Mass. The field work was done during the spring of 1923 by E. B. Roberts, aid.

V 3.—See page 14.

R 6.—Destroyed. (2.334 meters or 7.657 feet.)

S 6.—About ½ mile south of **North Haven**, New Haven County, on the New York, New Haven & Hartford Railroad, opposite the junction of the main line and the transfer track to the Cedar Hill yards, 30 feet west of the west rail, about 6 feet west of a fence corner, and 3 feet south of the lane leading from the highway to the track. A standard disk, stamped "S 6 15.29" and set in the top of a concrete post. (4.629 meters or 15.187 feet.)

T 6.—Destroyed. (14.124 meters or 46.338 feet.)

U 6.—About 0.8 mile south of **Wallingford**, New Haven County, on the New York, New Haven & Hartford Railroad, about 365 feet south of bridge 11.79 at an overhead crossing, about 6 feet south of the fourth pole south of the bridge, 20 feet west of the west rail, and 12 feet north of the fence corner. A standard disk, stamped "U 6 79.70" and set in the top of a concrete post. (24.259 meters or 79.590 feet.)

V 6 (U.S.G.S.).—At **Wallingford**, New Haven County, at the corner of Cherry and Quinnipiac Streets, between the flange of the central column and the door of the Wallace Fire Station, in a granite slab. A United States Geological Survey standard disk, stamped "V 6 70.26." (21.383 meters or 70.154 feet.)

W 6 (U.S.G.S.).—At **Wallingford**, New Haven County, at the corner of Center and South Main Streets, on the north granite slab at the west entrance to the post office. A United States Geological Survey standard disk, stamped "W 6 147.64." (44.967 meters or 147.529 feet.)

X 6 (U.S.G.S.).—At **Wallingford**, New Haven County, on North Main Street, in a park south of the cemetery, 35 feet south of the G.A.R. monument, in the stone base supporting a cannon. A United States Geological Survey standard disk, stamped "X 5 207.62." (63.250 meters or 207.513 feet.)

Y 6.—About 0.34 mile south of **Yalesville**, New Haven County, on the New York, New Haven & Hartford Railroad, 100 feet north of signal tower H 15.7, on the west side of bridge 13.66 over the Wallingford-Meriden highway, in the center stone. A standard disk, stamped "Y 6 89.23." (27.160 meters or 89.107 feet.)

Z 6.—About 1.2 miles south of **Meriden**, New Haven County, on the New York, New Haven & Hartford Railroad, under bridge 17.41, 10 feet east of the east rail, and 3 feet above the track, in the face of a rock ledge. A standard disk, stamped "Z 6 143.03" and set vertically. (43.560 meters or 142.913 feet.)

NOTE.—It was reported in 1930 that bench mark Z 6 had been removed from the drill hole in which it was set.

A 7 (U.S.G.S.).—At **Meriden**, New Haven County, at the rear or **King Street** entrance to the **Meriden Hospital**, in the northwest corner of the small porch at the entrance. A United States Geological Survey standard disk, stamped "A 7 147.38." (44.886 meters or 147.263 feet.)

NOTE.—It was reported in 1931 that an iron railing had been built around two sides of the porch so that a rod cannot be held on bench mark A 7.

B 7 (U.S.G.S.).—At **Meriden**, New Haven County, at the corner of **East Main** and **Liberty Streets**, at the main entrance to the city hall, in a marble slab at the north end of the steps. A United States Geological Survey standard disk, stamped "B 7 187.20." (57.024 meters or 187.086 feet.)

C 7 (U.S.G.S.).—At **Meriden**, New Haven County, at the corner of **Colony** and **Brooks Streets**, at the northwest corner of the post office, on the **Colony Street** side, 4 feet above the sidewalk. A United States Geological Survey standard disk, stamped "C 7 144.07" and set vertically. (43.875 meters or 143.947 feet.)

D 7.—About 2.5 miles north of **Meriden**, New Haven County, on the **New York, New Haven & Hartford Railroad**, at bridge 21.12, in the west abutment, 5 feet west of the west rail, and 3 feet above the ground, in the face of a sandstone block. A standard disk, stamped "D 7 169.03" and set vertically. (51.482 meters or 168.904 feet.)

E 7.—About 3.0 miles south of **Berlin**, **Hartford County**, on the **New York, New Haven & Hartford Railroad**, 180 feet south of bridge 22.87, 132 feet north of a windmill, and 42 feet west of the west rail. A standard disk, stamped "E 7 137.33" and set in the top of a concrete post. (41.819 meters or 137.201 feet.)

F 7.—Destroyed. (16.299 meters or 53.474 feet.)

F 7 (RESET).—At **Berlin**, **Hartford County**, on the **New York, New Haven & Hartford Railroad**, about 400 feet south of the station, southeast of the under-grade crossing of **Farmington Avenue**, 28.8 feet east of the center of the east rail, and 17.7 feet south of the center-line joint of the pavement, in the top of the west concrete head wall of a catch basin. A standard disk, stamped "F 7 RESET 1933." (15.876 meters or 52.086 feet.)

H 7 (U.S.G.S.).—At **New Britain**, **Hartford County**, at the intersection of **Bassett** and **South Main Streets**, at the west side of the main entrance to the **Senior High School**, in a sandstone block, about 2 feet above the ground. A United States Geological Survey standard disk, stamped "H 7 177.85" and set vertically. (54.168 meters or 177.716 feet.)

J 7 (U.S.G.S.).—At **New Britain**, **Hartford County**, in **Central Park**, at the **Soldiers monument**, in a granite doorstep at the north entrance. A United States Geological Survey standard disk, stamped "J 7 179.14." (54.560 meters or 179.002 feet.)

For additional bench marks in the vicinity of **New Britain, Conn.**, see page 23.

G 7 (U.S.G.S.).—At **New Britain**, **Hartford County**, at the corner of **Stanley** and **Wells Streets**, on the west face of the **Stanley School**, in the concrete coping near the southwest corner. A United States Geological Survey standard disk, stamped "G 7 161.95." (49.317 meters or 161.801 feet.)

B 8.—About 0.2 mile south of **Newington**, **Hartford County**, on the **New York, New Haven & Hartford Railroad**, near the third crossing south of the station, 8 rails south of signal tower H 31.44, about 33 feet north of section house 82, and 40 feet east of the east rail. A standard disk, stamped "B 8 64.77" and set in the top of a concrete post. (19.697 meters or 64.623 feet.)

D 8 (U.S.G.S.).—At **Elmwood**, **Hartford County**, at the **James Talcott School** on **Quaker Lane South**, about 150 yards north of **New Britain Avenue**, in the stone foundation, at the southeast corner of the building. A United States Geological Survey standard disk, stamped "D 8 90.97." (27.682 meters or 90.820 feet.)

E 8 (U.S.G.S.).—At **West Hartford**, **Hartford County**, at the corner of **Farmington Avenue** and **North Main Street**, in the west side of the entrance to the town hall, 18 inches above the doorstep. A United States Geological Survey standard disk, stamped "E 8 136.15" and set vertically. (41.453 meters or 136.000 feet.)

V 8 (U.S.G.S.).—About 1.6 miles north of **West Hartford**, **Hartford County**, on **North Main Street**, $\frac{1}{2}$ mile north of **Albany Avenue**, 216 feet north of the entrance to **North School**, and 20 feet west of the roadside and a concrete culvert.

A United States Geological Survey standard disk, stamped "V 8 164.18" and set in the top of a granite post. (49.994 meters or 164.022 feet.)

C 8.—At **Hartford**, Hartford County, on the New York, New Haven & Hartford Railroad, opposite Hartford Water Department Supply Yard No. 2, 102 feet northeast of a grade crossing, and 36 feet east of the east rail, in the concrete wall of the Connecticut Electric Steel Company, near the west end of the building, 18 inches above the ground. A standard disk, stamped "C 8 70.32" and set vertically. (21.385 meters or 70.161 feet.)

F 8.—At **Hartford**, Hartford County, on the New York, New Haven & Hartford Railroad, 60 feet west of the station, in Bushnell Park, 15 feet south of the south rail, 10 feet west of Asylum Street, 6 feet south of a high stone retaining wall, and 30 feet lower than the track. A standard disk, stamped "F 8 36.98" and set in the top of a concrete post. (11.222 meters or 36.818 feet.)

For additional bench marks in the vicinity of Hartford, Conn., see page 25.

Tidal 5.—At **Hartford**, Hartford County, at the post office, on the north or State Street side, in the third granite step of the stairway leading down to the basement. A standard disk, stamped "B.M. 5 52.34." (15.905 meters or 52.182 feet.)

G 8.—About 0.4 mile south of **Wilson**, Hartford County, on the New York, New Haven & Hartford Railroad, 21 rails south of signal H 39.6, in culvert 39.40, 5 feet east of the east rail, and 3 feet lower than the track. A standard disk, stamped "G 8 27.99." (8.480 meters or 27.821 feet.)

H 8.—About 0.8 mile south of **Windsor**, Hartford County, on the New York, New Haven & Hartford Railroad, on the road leading to Loomis' School one block east of Windsor Avenue, 20 feet east of the east rail, and 6 feet north of a cattle guard, in line with a row of poles. A standard disk, stamped "H 8 35.85" and set in the top of a concrete post. (10.872 meters or 35.669 feet.)

K 8.—At **Windsor**, Hartford County, at the southwest corner of Broad Street and Bloomfield Road, at the southeast corner of the Masonic Temple, about 2 feet above the ground, in the east red sandstone wall. A standard disk, stamped "K 8 56.70" and set vertically. (17.226 meters or 56.516 feet.)

J 8.—About 1.1 miles north of **Windsor**, Hartford County, on the New York, New Haven & Hartford Railroad, 21 rails north of signal H 43.9, in the north concrete support of bridge 43.99, 6 feet east of the east rail. A standard disk, stamped "J 8 42.33." (12.845 meters or 42.142 feet.)

L 8.—About 1.0 mile north of **Haydens**, Hartford County, about 1,000 feet south of the State highway bridge over the New York, New Haven & Hartford Railroad, at a private-road crossing, 108 feet north of bridge 46.66 which formerly carried a trolley line over the railroad, 27 feet east of the east rail, 7 feet from a fence, and 9 feet from the road. A standard disk, stamped "L 8 39.21" and set in the top of a concrete post. (11.892 meters or 39.016 feet.)

M 8.—At **Windsor Locks**, Hartford County, at a highway bridge over Connecticut River, 75 yards east of the New York, New Haven & Hartford Railroad track, in the concrete abutment at the southwest end of the bridge, 4 feet south of the bridge railing. A standard disk, stamped "M 8 37.60." (11.400 meters or 37.401 feet.)

N 8.—About 0.27 mile west of **Warehouse Point**, Hartford County, on the New York, New Haven & Hartford Railroad, 11 rails east of signal H 49.6, at the southwest end of bridge 49.73 over Connecticut River, 10 feet south of the south rail, in the stone abutment. A standard disk, stamped "N 8 61.79." (18.771 meters or 61.585 feet.)

O 8.—At **Warehouse Point**, Hartford County, on the New York, New Haven & Hartford Railroad, 7 rails west of the station, in the northeast abutment of bridge 49.73 over Connecticut River, 10 feet north of the north rail, and 4 feet east of the bridge railing. A standard disk, stamped "O 8 61.70." (18.745 meters or 61.499 feet.)

P 8.—About 0.65 mile south of **Enfield Bridge**, Hartford County, on the New York, New Haven & Hartford Railroad, northeast of a road crossing, 30½ rails south of culvert 51.65, 28½ rails south of section post 87, 24 feet east of the east rail, and 6 feet north of a crossing sign. A standard disk, stamped "P 8 59.36" and set in the top of a concrete post. (18.030 meters or 59.153 feet.)

Q 8.—At **Thompsonville**, Hartford County, on the New York, New Haven & Hartford Railroad, at bridge 53.98 over Main Street, on the south abutment, in the west end of the third course of stone from the top, 12 feet west of the west rail. A standard disk, stamped "Q 8 74.62." (22.678 meters or 74.403 feet.)

S 8.—At **Thompsonville**, Hartford County, on the New York, New Haven & Hartford Railroad, about 400 feet south of the station, 99 feet south of culvert 53.94, 114 feet east of the east rail, and 21 feet north of Asnuntuck Street. A standard disk, stamped "S 8 76.07" and set in the top of a concrete post. (23.121 meters or 75.856 feet.)

R 8.—About 1.4 miles north of **Thompsonville**, Hartford County, on the New York, New Haven & Hartford Railroad, 20 feet south of Mannings Road, and 60 feet east of the east rail, in line with the first row of trees east of the track, and midway between the first and second trees south of the road. A standard disk set in the top of a concrete post. (19.385 meters or 63.599 feet.)

The line enters Massachusetts.

A.—About 4.8 miles south of **Springfield**, Hampden County, on the New York, New Haven & Hartford Railroad, at **Long Meadow** station, 204 feet east of the east rail, and 4 feet south of a fence, in the top of the south end of a highway culvert. A standard disk, stamped "A 1923." (16.911 meters or 55.482 feet.)

B.—About 1.9 miles south of **Springfield**, Hampden County, on the New York, New Haven & Hartford Railroad, 75 feet north of bridge 60.07 (South End Street), 105 feet east of the east rail, and 7 feet north of a fire plug. A standard disk, stamped "B 1923" and set in the top of a concrete post. (18.243 meters or 59.852 feet.)

D.—At **Springfield**, Hampden County, in the foundation of the east municipal building, in the east side of the stairway structure, 2 feet from the south wall, and 1 foot above the sidewalk. A standard disk, set vertically. (21.147 meters or 69.380 feet.)

City B.M. (City Engineer).—At **Springfield**, Hampden County, on the north side of State Street, one block west of Main Street, at the southwest corner of the Court Square Building, on the iron base of a column. A file mark. (20.782 meters or 68.182 feet.)

C.P.I. (Van Orden).—At **Springfield**, Hampden County, on the Main Street bridge west of the station, in the highest point of the west end of the sandstone parapet wall north of the track. A drill hole. (25.932 meters or 85.079 feet.)

C.—At **Springfield**, Hampden County, one block west of the Union Station, over the arch spanning Main Street, in the top of the sandstone parapet wall north of the track, 3 feet west of a portion of the parapet wall several feet higher than the mark. A standard disk. (26.042 meters or 85.439 feet.)

B.M. 63 (Van Orden).—At **Springfield**, Hampden County, at the St. James Avenue bridge, at the east end of the north abutment, on the southeast corner of the second bottom stone. A drill hole, marked "B." (59.819 meters or 196.256 feet.)

For additional bench marks in the vicinity of Springfield, Mass, see pages 38 and 51.

LINE 4, NEW BRITAIN TO EAST MORRIS, CONN.

[First-order leveling]

This line follows the New York, New Haven & Hartford Railroad from New Britain through Plainville and Bristol to Terryville, and highways through Plymouth and Thomaston to East Morris, Conn. The field work was done, during the spring of 1923, by E. B. Roberts, aid.

J 7 (U.S.G.S.).—See page 21.

K 7.—About 1.4 miles west of **New Britain**, Hartford County, on the New York, New Haven & Hartford Railroad, about 2 rails west of overhead crossing 42.13 at Corbin Avenue, $5\frac{1}{2}$ rails east of signal 857, 5 feet north of the north rail, and 3 feet above the ground, in a rock ledge. A standard disk. (70.233 meters or 230.423 feet.)

L 7.—About 1.8 miles east of **Plainville**, Hartford County, on the New York, New Haven & Hartford Railroad, 300 feet west of a whistle post, on the southeast corner of bridge 43.64, in a granite block. A standard disk. (59.926 meters or 196.607 feet.)

M 7.—At **Plainville**, Hartford County, on the New York, New Haven & Hartford Railroad, about 35 yards west of the station, in the northeast abutment of bridge 45, in a sandstone block in the second tier. A standard disk. (56.455 meters or 185.219 feet.)

N 7.—About 0.4 mile west of **Plainville**, Hartford County, on the New York, New Haven & Hartford Railroad, 180 feet west of the yard limits, 130 feet east of overhead bridge 45.84 at Washington Street, and 12 feet south of the south rail, in a rock outcrop. A standard disk. (59.673 meters or 195.777 feet.)

A 8.—At **Forestville**, Hartford County, at the Sessions Clock Factory, 70 feet east of the main office entrance, in the fourth granite window ledge from the west end of the south wall. A standard disk. (61.337 meters or 201.236 feet.)

O 7.—About 0.8 mile east of **Bristol**, Hartford County, on the New York, New Haven & Hartford Railroad, opposite and east of four large tanks belonging to the Bristol & Plainville Tramway Company, 60 feet south of bridge 48.56 at Blakeslee Street, and 45 feet west of the west rail, in a large granite outcrop. A standard disk. (83.941 meters or 275.396 feet.)

P 7 (U.S.G.S.).—At **Bristol**, Hartford County, at the Bristol High School, between South Street and The Boulevard, at the east or main entrance to the school, on the north concrete slab. A U.S. Geological Survey standard disk. (90.507 meters or 296.938 feet.)

Q 7 (U.S.G.S.).—At **Bristol**, Hartford County, at the intersection of Queen and Maple Streets, at Federal Hill School (district 1), at the southwest corner of the building, in the west wall, 25 feet from an entrance, and 5 feet above the ground. A U.S. Geological Survey standard disk. (141.481 meters or 464.176 feet.)

R 7 (U.S.G.S.).—At **Bristol**, Hartford County, at the North Side School, at the corner of Terryville Avenue and West Street, in a slab at the west of the main entrance. A U.S. Geological Survey standard disk. (113.002 meters or 370.741 feet.)

S 7.—In Hartford County, about $1\frac{1}{4}$ miles east of **Terryville**, Litchfield County, on the New York, New Haven & Hartford Railroad, 560 feet west of section post 64, in the top of a granite boulder about 4 feet in diameter and 4 feet high. A standard disk. (151.194 meters or 496.042 feet.)

T 7.—At **Terryville**, Litchfield County, on the New York, New Haven & Hartford Railroad, about 460 feet east of the station, 50 feet north of the center of a highway, 140 feet north of the north rail, and 20 feet west of a large granite outcrop by the roadside, in a rock ledge. A standard disk. (167.647 meters or 550.022 feet.)

U 7.—About 1.2 miles east of **Plymouth**, Litchfield County, at the intersection of the Terryville-Plymouth highway and a crossroad, 50 feet north of the highway and 30 feet west of the crossroad, across the intersection from a house belonging to Dick Fotte, in a rock ledge. A standard disk. (230.960 meters or 757.741 feet.)

V 7.—At **Plymouth**, Litchfield County, about 0.2 mile east of the Plymouth-Thomaston township sign on the Plymouth-Thomaston highway, opposite the first road leading from the highway to the eastward of the township sign, 15 feet north of the highway, in a granite ledge. A standard disk. (190.875 meters or 626.229 feet.)

W 7.—At **Thomaston**, Litchfield County, at the corner of Main and Clay Streets, in the front of the Clay Street face of the post office, 20 feet toward Main Street from the entrance, and 2 feet above the sidewalk. A standard disk, stamped "W 7 1923" and set vertically. (119.632 meters or 392.493 feet.)

For additional bench marks in the vicinity of Thomaston, Conn., see page 49.

X 7.—Destroyed. (115.282 meters or 378.221 feet.)

Y 7.—About 2.6 miles west of **Thomaston**, Litchfield County, on the Thomaston-Morris road, 0.3 mile east of a road corner and an old mill, at the bottom and west end of a hill, opposite the end of a guard rail between the road and a ravine, on the west side of the road, in a granite ledge. A standard disk. (130.331 meters or 427.594 feet.)

Z 7.—About 4.8 miles west of **Thomaston**, Litchfield County, on the Thomaston-Morris road, opposite the east end of the bridge across the center of the lower Waterbury reservoir, 5 feet east of the road, in a granite ledge. A standard disk. (175.255 meters or 574.982 feet.)

O.—See page 8.

LINE 5, HARTFORD, CONN., TO AUBURN, R.I.

[First-order leveling]

This line follows the New York, New Haven & Hartford Railroad from Hartford, Conn., through Manchester, Andover, Willimantic, and Plainfield, Conn., and Coventry and Centerville, R.I., to Auburn, R.I. The field work was done, during the summer of 1923, by E. B. Roberts, aid.

F 8.—See page 22.

W 8.—Destroyed. (9.662 meters or 31.699 feet.)

T 8.—At **East Hartford**, Hartford County, on the New York, New Haven & Hartford Railroad, 294 feet east of the station, at the bridge over Main Street, in the top of the south end of the west abutment, and 29 feet south of the south rail. A standard disk, stamped "T 8 45.33." (13.769 meters or 45.174 feet.)

U 8.—About 2.0 miles east of **East Hartford**, Hartford County, on the New York, New Haven & Hartford Railroad, 170 feet west of overhead bridge 26.48, 46 feet south of the south rail, 22 feet north of a fence, and 15 feet east of an abandoned road. A standard disk, stamped "U 8 99.14" and set in the top of a concrete post. (30.170 meters or 98.983 feet.)

X 8.—At **Buckland**, Hartford County, on the New York, New Haven & Hartford Railroad, 12¼ rails west of the station, and 8¾ rails east of signal E 10.49, in the northeast abutment of an overhead highway bridge, 10 feet north of the north rail. A standard disk, stamped "X 8 151.01." (45.982 meters or 150.859 feet.)

Y 8.—At **Manchester**, Hartford County, on the New York, New Haven & Hartford Railroad, 120 feet south of the station, 87 feet south of the south rail, 10 feet southeast of the southeast rail of a branch line to Manchester Center, 25 feet west of the southwest corner of a house, and 7 feet east of a pole. A standard disk, stamped "Y 8 178.61" and set in the top of a concrete post. (54.394 meters or 178.458 feet.)

Z 8.—At **Manchester**, Hartford County, at the Manchester Fire Station on Main Street, one block south of the railroad station, opposite the building occupied by the Evening Herald, 10 feet from the northeast corner of the building, in the foundation of the north wall. A standard disk, stamped "Z 8 177.84." (54.162 meters or 177.696 feet.)

A 9.—At **Talcottville**, Tolland County, on the New York, New Haven & Hartford Railroad, 14 rails west of the freight station, and 18 feet west of the west siding switch, in the top of the north end of a small concrete culvert, 12 feet north of the north rail. A standard disk, stamped "A 9 259.32." (78.996 meters or 259.173 feet.)

B 9.—About 2.0 miles east of **Vernon**, Tolland County, on the New York, New Haven & Hartford Railroad, about ¾ mile west of milepost B 103, on a long, sharp curve, in the second important rock cut east of Vernon, about 8 feet north of the north rail, and 2 feet higher than the track, in a projecting point of rock. A standard disk, stamped "B 9 422.07." (128.603 meters or 421.925 feet.)

C 9.—About ¼ mile west of the station at **Bolton**, Tolland County, on the New York, New Haven & Hartford Railroad, 19 rails west of the station, 3¼ rails east of post 31, 14 feet south of the south rail, and 3½ feet higher than the track, in the wall of a rock cut. A standard disk, stamped "C 9 575.00." (175.218 meters or 574.861 feet.)

D 9.—At **Bolton**, Tolland County, on the New York, New Haven & Hartford Railroad, 17 rails east of the station, 1½ rails west of the center of bridge 14.83, under the bridge, in the rock wall of the cut, 9 feet south of the south rail, and 3 feet higher than the track. A standard disk, stamped "D 9 583.02." (177.663 meters or 582.883 feet.)

E 9.—About 3.0 miles west of **Andover**, Tolland County, on the New York, New Haven & Hartford Railroad, 27 rails east of a crossing, 19 rails east of milepost B 98 N 131, 8½ rails west of a section house, and 9 feet south of the south rail, on a shelf in the rock wall of a cut. A standard disk, stamped "E 9 484.85." (147.740 meters or 484.710 feet.)

F 9.—At **Andover**, Tolland County, on the New York, New Haven & Hartford Railroad, 5 rails west of section house 9.05, 14 rails west of the station, and 15 feet south of the south rail, in a rock ledge in the bank. A standard disk, stamped "F 9 350.72." (106.858 meters or 350.583 feet.)

G 9.—About 2.7 miles east of **Andover**, Tolland County, on the New York, New Haven & Hartford Railroad, 2½ rails east of the crossing with two banjo

signals on the road to South Coventry, 9 feet south of the south rail, and 3 feet higher than the track, in a ledge of rock. A standard disk, stamped "G 9 305.30." (93.015 meters or 305.167 feet.)

R 9.—In Tolland County, about 4.1 miles west of **Willimantic**, Windham County, on the New York, New Haven & Hartford Railroad, 7 rails west of a semaphore, at bridge 4.10, on the northeast corner of the footing of the southeast pier. A standard disk, stamped "R 9 264.01." (80.433 meters or 263.887 feet.)

H 9.—About $2\frac{1}{4}$ miles east of **Hop River**, Tolland County, on the New York, New Haven & Hartford Railroad, 13 rails east of culvert 3.43, 10 rails east of a private-road crossing, and 8 feet north of the north rail, in a rock ledge. A standard disk, stamped "H 9 266.60." (81.222 meters or 266.476 feet.)

S 9.—In Tolland County, about 2.16 miles west of **Willimantic**, Windham County, on the New York, New Haven & Hartford Railroad, 8 rails east of milepost B 88 N 141, at bridge 2.16, in the southwest pier, 5 feet south of the south rail, and 1 foot higher than the track. A standard disk, stamped "S 9 247.60." (75.432 meters or 247.480 feet.)

J 9.—At **Willimantic**, Windham County, in the freight yards along the New York, New Haven & Hartford Railroad, directly across the tracks from Winter Street, 10 feet south of the south rail of the freight tracks, in a rock ledge. A standard disk, stamped "J 9 245." (74.639 meters or 244.878 feet.)

M 9 (U.S.G.S.).—At **Willimantic**, Windham County, at the corner of High and Main Streets, on the east side of the Windham County Courthouse, at the entrance to the police station, on the second step on the south side. A United States Geological Survey standard disk, stamped "M 9 265.64." (80.930 meters or 265.518 feet.)

N 9 (U.S.G.S.).—At **Willimantic**, Windham County, at the northeast corner of Church and Main Streets, in the front or south side of the Boston Store, at the southeast corner of the building, in a window ledge. A United States Geological Survey standard disk, stamped "N 9 244.93." (74.619 meters or 244.813 feet.)

O 9 (U.S.G.S.).—At **Willimantic**, Windham County, at the corner of Main and Union Streets, in the north face of the brick building of the American Thread Company, at the west end of the doorstep at the east end of the building. A United States Geological Survey standard disk, stamped "O 9 192.14." (58.527 meters or 192.017 feet.)

K 9.—About $1\frac{1}{4}$ miles east of **Willimantic**, Windham County, on the New York, New Haven & Hartford Railroad, 29 rails north of bridge 27 over Shetucket River, $21\frac{1}{2}$ rails south of bridge 56.70 over a highway, $11\frac{1}{2}$ rails south of station sign "Camp", and 35 feet east of the east rail, in a rock ledge. A standard disk, stamped "K 9 173.83." (52.948 meters or 173.714 feet.)

L 9.—Destroyed. (46.217 meters or 151.630 feet.)

P 9.—About 0.4 mile west of **Scotland**, Windham County, on the New York, New Haven & Hartford Railroad, $\frac{1}{2}$ mile east of milepost P 52 W 6, opposite a large rock cut on the opposite side of a road, 28 feet north of the north rail, and 3 feet from a fence by the roadside, in a rock ledge lying between the railroad and the highway. A standard disk, stamped "P 9 121.61." (37.032 meters or 121.496 feet.)

Q 9.—About 1.1 miles west of **Baltic**, New London County, on the New York, New Haven & Hartford Railroad, 3 rails east of milepost P 49 W 9, and 16 feet south of the south rail, in a rock ledge. A standard disk, stamped "Q 9 134.87." (41.074 meters or 134.757 feet.)

T 9.—At **Baltic**, New London County, on the New York, New Haven & Hartford Railroad, 24 rails east of the station, opposite the concrete storehouse of the Baltic Mills, 8 feet north of the north rail, and 4 feet higher than the track, in a rock ledge. A standard disk, stamped "T 9 140.25." (42.716 meters or 140.144 feet.)

W 9.—At **Baltic**, New London County, at the dam controlling the water supply for the Baltic Mills, about 300 yards southeast of the New York, New Haven & Hartford Railroad station, in the top of the dam, near the northeast end of the layout of the floodgate mechanism. A standard disk, stamped "W 9 108.58." (33.062 meters or 108.471 feet.)

U 9.—At **Versailles**, New London County, on the New York, New Haven & Hartford Railroad, $\frac{1}{2}$ mile east of the station, and 110 yards east of milepost P 45 W 13, at the bridge over the Jewett City-Occum highway, at the south end of the west abutment, in the fourth course from the top. A standard disk, stamped "U 9 157.27." (47.904 meters or 157.165 feet.)

V 9.—At **Lisbon**, New London County, on the New York, New Haven & Hartford Railroad, 4 rails east of the station, $7\frac{1}{2}$ rails east of bridge 42.37, 18 feet north of the north rail, and 2 feet higher than the track, in a rock ledge. A standard disk, stamped "V 9 205.39." (62.574 meters or 205.295 feet.)

X 9.—About 0.4 mile west of **Canterbury**, Windham County, on the New York, New Haven & Hartford Railroad, 8 rails east of milepost P 40 W 18, near an abandoned crossing, 25 feet south of the south rail, in a rock ledge. A standard disk, stamped "X 9 129.46." (39.428 meters or 129.357 feet.)

Y 9.—About 1.4 miles west of **Packerville**, Windham County, on the New York, New Haven & Hartford Railroad, at overhead highway bridge 38.57, in the southwest corner of the northwest pier. A standard disk, stamped "Y 9 125.27." (38.152 meters or 125.170 feet.)

Z 9.—At **Plainfield**, Windham County, on Railroad Avenue, one block south of the New York, New Haven & Hartford Railroad station, 42 feet south of the south rail, in the north face of a high retaining wall, 37 feet from the west end of the wall, and 18 inches above the ground. A standard disk, stamped "Z 9 165.37" and set vertically. (50.376 meters or 165.275 feet.)

A 10.—At **Plainfield**, Windham County, southwest of the crossing of Railroad Avenue and the New York, New Haven & Hartford Railroad, one block south of the station, 48 feet west of the west rail, 36 feet west of the crossing watchman's shanty, and 4 feet east of the retaining wall. A standard disk, stamped "A 10 165.23" and set in the top of a concrete post. (50.332 meters or 165.131 feet.)

B 10.—About ½ mile west of **Moosup**, Windham County, on the New York, New Haven & Hartford Railroad, 12 rails east of a highway crossing, at the second pier from the west end of the bridge over Moosup River, in the top of the north end of the pier. A standard disk, stamped "B 10 225.81." (68.798 meters or 225.715 feet.)

C 10.—At **Moosup**, Windham County, on the New York, New Haven & Hartford Railroad, 13 feet northwest of the highway bridge over Moosup River, in the granite footing course of the Floyd Cranska Co. mill, about 2 feet from the southeast end of the northeast end wall of the main mill building. A standard disk, stamped "C 10 237.26" and set vertically. (72.290 meters or 237.171 feet.)

D 10.—About ¼ mile east of **Moosup**, Windham County, on the New York, New Haven & Hartford Railroad, 6 rails west of milepost W 26 P 32, 9 feet north of the north rail, and 2 feet higher than the track, in a rock ledge. A standard disk, stamped "D 10 243.73." (74.262 meters or 243.641 feet.)

E 10.—About ¼ mile west of **Sterling**, Windham County, on the New York, New Haven & Hartford Railroad, just west of the yard at Sterling, at bridge 29.24, 4 feet east of the east rail, in the top of the north end of the east abutment. A standard disk, stamped "E 10 300.57." (91.586 meters or 300.478 feet.)

F 10.—At **Oneco**, Windham County, on the New York, New Haven & Hartford Railroad, about ½ mile east of the station, southwest of a highway crossing, 4½ rails east of milepost P 27 W 31, and 28 feet south of the south rail. A standard disk, stamped "F 10 371.12" and set in the top of a concrete post. (113.091 meters or 371.033 feet.)

The line enters Rhode Island.

B 1.—About ¼ mile west of **Greene**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, 33 rails west of the station, 6¼ rails east of a white stock fence across the right of way, 3¼ rails west of the most westerly switch at the west end of the yards, and 22 feet north of the north rail, in line with a row of poles, in a rock outcrop. A standard disk. (130.196 meters or 427.151 feet.)

C 1.—About ½ mile east of **Summit**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, 7 rails east of a road crossing, 2 rails west of the east end of the first cut east of the station, 12 feet north of the north rail, and 3 feet higher than the track, in a rock ledge. A standard disk. (143.644 meters or 471.272 feet.)

D 1.—About ½ mile west of **Coventry**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, 53½ rails west of the station, 31½ rails west of bridge 11, 6½ rails west of a whistle post, 42 feet south of the south rail, and 18 inches from a fence line, in a rock ledge. A standard disk. (95.592 meters or 313.621 feet.)

E 1.—About 1¼ miles west of **Washington**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, 11½ rails west of the crossing to the property of the Quidnick Reservoir Company, 3½ rails east of milepost P 16 W 42, 9 feet north of the north rail, and 3 feet higher than the track, in a rock ledge. A standard disk. (78.452 meters or 257.388 feet.)

F 1.—At **Washington**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, $11\frac{1}{2}$ rails west of the station, 4 rails west of a whistle post, and 147 feet south of the south rail, in the top of the largest granite boulder in a field. A standard disk. (71.483 meters or 234.524 feet.)

G 1.—At **Centerville**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, $9\frac{1}{2}$ rails east of the station, $8\frac{1}{2}$ rails west of bridge 11.9, 9 feet north of the north rail, and 2 feet higher than the track, in a rock ledge. A standard disk. (48.918 meters or 160.492 feet.)

H 1.—At **Arctic**, Kent County, on the Hartford-Providence line of the New York, New Haven & Hartford Railroad, 15 rails northeast of the station, 10 rails northeast of a highway crossing, 15 feet east of the east rail, and 5 feet higher than the track, in the top of a large boulder. A standard disk. (39.474 meters or 129.508 feet.)

J 1.—At **East Natick**, Kent County, on the Hope-Auburn line of the New York, New Haven & Hartford Railroad, 30 rails east of a highway crossing, 26 rails east of the abandoned station at East Natick, and 50 feet south of the south rail, in the top of a large, jagged rock outcrop in a field. A standard disk. (14.686 meters or 48.182 feet.)

K 1.—About $\frac{1}{4}$ mile east of **Howard**, Providence County, on the Hope-Auburn line of the New York, New Haven & Hartford Railroad, opposite the Rhode Island State Prison, 9 rails north of a small freight house, 24 feet west of the west rail, and 3 feet east of a fence, in a rock ledge. A standard disk. (23.114 meters or 75.833 feet.)

For bench marks in the vicinity of Auburn, R.I., see page 30.

LINE 6, WESTERLY, R.I., TO BOSTON, MASS.

[First-order leveling]

This line follows the New York, New Haven & Hartford Railroad from Westerly, R.I., through West Kingston, East Greenwich, and Providence, R.I., and Mansfield, Mass., to Boston, Mass. The field work was done, during the summer and fall of 1923, by E. B. Roberts, junior hydrographic and geodetic engineer.

A 1.—See page 20.

Tidal 2.—At **Westerly**, Washington County, on the east bank of Pawcatuck River, a short distance southwest of the intersection of Margin and Main Streets, and 6 feet east of the south end of the sea wall. A standard disk. (1.281 meters or 4.203 feet.)

Tidal 1.—At **Westerly**, Washington County, on the east bank of Pawcatuck River, a short distance southwest of the intersection of Margin and Main Streets, at the foot of the steps leading down from Margin Street, 15 feet back from the sea wall, in a flagstone walk. A standard disk. (1.419 meters or 4.656 feet.)

Tidal 3.—At **Westerly**, Washington County, on the east bank of Pawcatuck River, in a section of the sea wall opposite the north wing of the Cottrell shops, about 500 feet north of the angle in the sea wall at the intersection of Main and Margin Streets. A standard disk. (1.505 meters or 4.938 feet.)

O 1.—About 2.8 miles northeast of **Westerly**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, $20\frac{1}{2}$ rails southwest of milepost P 41 - NL 21, and 12 feet northwest of the northwest rail, in the top of a large boulder. A standard disk. (11.265 meters or 36.959 feet.)

P 1.—About 0.7 mile west of **Bradford**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 9 rails west of a masonry foundation, 8 rails west of a signal, and 9 feet south of the south rail, in the southeast wall of a rock cut. A standard disk. (17.243 meters or 56.571 feet.)

Q 1.—About 1.6 miles southwest of **Wood River Junction**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 13 rails east of bridge 25.37 at Hiscox Crossing, 8 feet east of the east rail, and 4 feet higher than the track, in the east wall of a long rock cut. A standard disk. (19.368 meters or 63.543 feet.)

R 1.—About 1.2 miles east of **Wood River Junction**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, $35\frac{1}{4}$ rails east of milepost P 34 - NL 28, $6\frac{1}{4}$ rails east of two very large boulders south of the track, 8 feet northwest of the northwest rail, and 3 feet higher than the track, in a rock outcrop. A standard disk. (25.232 meters or 82.782 feet.)

N 1.—At **Kenyons**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 18 rails northeast of the station, 6 rails southwest of a signal, 5 rails northeast of bridge 31.00 at Kenyon Road, 7 feet south of the south rail, and 3.5 feet above the ground, in the southeast wall of a rock cut. A standard disk. (30.338 meters or 99.534 feet.)

S 1.—About 1 mile west of **West Kingston**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 16½ rails east of milepost P 28 - NL 34, 3 rails east of a small road crossing, 1½ rails east of a signal, and 104 feet southeast of the southeast rail, in a rock outcrop by the side of a little-used private road. A standard disk. (33.994 meters or 111.529 feet.)

Z 1.—At **West Kingston**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 30 feet south of the station, 105 feet southeast of the southeast rail, and 3 feet southwest of a fence, in a large concrete block from which a 4-inch pipe projects vertically a distance of about 3 feet. A standard disk. (34.254 meters or 112.382 feet.)

T 1.—About ¼ miles north of **Kingston**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 18¾ rails north of milepost P 26 - NL 36, at bridge 36.33, in the top of the fourth stone from the north end of the west coping wall, and 9 feet west of the west rail. A standard disk. (35.712 meters or 117.165 feet.)

U 1.—At **Slocums**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, due west of the station, 351 feet west of the crossing at Slocum, 72 feet east of a small red house, and 36 feet south of the roadside, in a flat granite boulder. A standard disk. (38.322 meters or 125.728 feet.)

V 1.—About 0.5 mile south of **Wickford Junction**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 1 rail south of milepost P 20 - NL 42, 9½ rails south of the first crossing south of Wickford Junction, and 79 yards east of the east rail, in the top of a saddle-shaped boulder. A standard disk. (31.148 meters or 102.191 feet.)

W 1.—At **Davisville**, Washington County, on the Shore Line of the New York, New Haven & Hartford Railroad, 13 rails south of milepost P 17 - NL 45, 16 rails south of a crossing at an interlocking switch tower, and 81 feet east of the east rail, in the top of a boulder in a field. A standard disk. (15.731 meters or 51.611 feet.)

X 1.—About 1 mile south of **East Greenwich**, Kent County, on the Shore Line of the New York, New Haven & Hartford Railroad, at bridge 47.96 over the highway between East Greenwich and Mount View, in the top of the east end of the north abutment, 8 feet east of the east rail. A standard disk. (9.973 meters or 32.720 feet.)

Y 1.—At **East Greenwich**, Kent County, on the Shore Line of the New York, New Haven & Hartford Railroad, at the station, 16 feet west of the London Street crossing watchman's shanty, 28 feet west of the west rail, and 3 feet south of the fence on London Street, in a flower bed on the station grounds. A concrete post with disk in top. (9.350 meters or 30.676 feet.)

Tidal 5.—At **East Greenwich**, Kent County, northeast of the intersection of the New York, New Haven & Hartford Railroad and Division Street, on the east face of the Starch Manufacturing building of the Wm. Farrington Estate, 5 feet from the southeast corner of the building, and 6 feet below the window ledge. A standard disk. (8.171 meters or 26.808 feet.)

Tidal 4.—At **East Greenwich**, Kent County, at the foot of Division Street, 249 feet north of the Club House, on the boundary stone marking the line between East Greenwich and Warwick Townships, on the southwest corner of the top of the stone. The stone is 8 inches square and projects about 33 inches above the ground. A point on the stone. (2.184 meters or 7.165 feet.)

J 2.—At **Apponaug**, Kent County, on the Shore Line of the New York, New Haven & Hartford Railroad, 6½ rails north of the station, at bridge 51.72 over the highway, in the west end of the south abutment, 6 feet west of the west rail. A standard disk. (7.309 meters or 23.980 feet.)

A 2.—At **Greenwood**, Kent County, on the Shore Line of the New York, New Haven & Hartford Railroad, 2½ rails south of the station, 6¼ rails south of the Pontiac Road bridge, 60 feet east of the east rail, and 2 feet south of a fence. A concrete post with disk in top. (14.612 meters or 47.940 feet.)

B 2.—At **Lincoln Park**, Kent County, on the Shore Line of the New York, New Haven & Hartford Railroad, 8¼ rails north of the station, at bridge 54.77, on top of the east end of the north abutment, 7 feet east of the east rail. A standard disk. (16.156 meters or 53.005 feet.)

For additional bench marks in the vicinity of Auburn, R. I., see page 28.

L 1.—At **Auburn**, Providence County, on the Shore Line of the New York, New Haven & Hartford Railroad, in the station grounds, at the right of the entrance to the grounds, 156 feet west of the west rail, 117 feet from the station, and 7 feet from the fence along Station Street, in line with a row of trees. A concrete post with disk in top. (16.782 meters or 55.059 feet.)

M 1.—At **Auburn**, Providence County, on the Shore Line of the New York, New Haven & Hartford Railroad, at the Park Street bridge over the tracks, near the center of the east abutment, about 3 feet above the track. A standard disk. (15.318 meters or 50.256 feet.)

C 2.—At **Providence**, Providence County, on the Shore Line of the New York, New Haven & Hartford Railroad, 18 feet north of the Dike Street Station, and 33.6 feet west of the west rail of the main track, in the corner of the fence around the railroad property. A concrete post with disk in top. (8.907 meters or 29.222 feet.)

D 2.—At **Providence**, Providence County, in the front face of the station, 75 feet east of the main entrance to trains, and about 2.5 feet above the ground. A standard disk. (7.404 meters or 24.291 feet.)

E 2.—At **Providence**, Providence County, at the post office, in the west face of the building, just north of the main steps, about 3.5 feet above the ground, in the top of the balustrade along the sidewalk. A standard disk. (4.692 meters or 15.394 feet.)

B.M. 420 (City of Providence).—At **Providence**, Providence County, on the north side of Waterman Street, 81.70 feet east of Prospect Street, on a building formerly known as the Library of Brown University, on the southeast corner of the top of the south granite buttress at the east steps of the entrance. A point on the masonry. (40.352 meters or 132.388 feet.)

F 2.—About 2 miles north of **Providence**, Providence County, on the Shore Line of the New York, New Haven & Hartford Railroad, 8 poles south of bridge 2.00, and 15 feet west of a fence between the street and the railroad. A concrete post with disk in top. (13.392 meters or 43.937 feet.)

G 2.—At **Pawtucket**, Providence County, on the Shore Line of the New York, New Haven & Hartford Railroad, $9\frac{1}{2}$ rails south of the south end of the station platform, 12 feet east of the east rail, and 3 feet above the ground, in a rock ledge. A standard disk. (22.308 meters or 73.189 feet.)

K 2.—About 0.5 mile north of **Pawtucket**, Providence County, on the Shore Line of the New York, New Haven & Hartford Railroad, 16 rails south of culvert 38.60, 8 rails north of interlocking switch tower 156, at the junction of the Worcester and Boston Branches, 13 feet west of the west rail, and 3.5 feet above the ground, in the side of a rock cut. A standard disk. (21.550 meters or 70.702 feet.)

H 2.—In Providence County, about $\frac{1}{4}$ mile south of **Hebronville**, Bristol County, Mass., on the Shore Line of the New York, New Haven & Hartford Railroad, $\frac{1}{4}$ mile northeast of the Cottage Street Bridge, 300 yards southwest of milepost B 36, and 18 feet east of the east rail, on the southeast end of a culvert. A standard disk. (25.876 meters or 84.895 feet.)

The line enters Massachusetts.

U 2.—At **Hebronville**, Bristol County, in front of the Hebronville Fire Hall, 25 feet north of the north wall, 18 feet east of the east wall, and 2 inches below the sidewalk. A standard disk, stamped "U 2 1923" and set in the top of a concrete post. (31.877 meters or 104.583 feet.)

E.—At **Dodgeville**, Bristol County, on the Shore Line of the New York, New Haven & Hartford Railroad, 657 feet northeast of the east corner of the north-west abutment of bridge 33.87, 13.4 feet southwest of a section house, 12.6 feet northwest of the northwest rail, and 4.5 feet above the ground, in a large boulder. A standard disk, stamped "E 1923." (34.535 meters or 113.304 feet.)

T 2.—At **Dodgeville**, Bristol County, in front of the Dodgeville Public School, 43 feet southwest of the main gate to the school, 4.1 feet southeast of the curb, and 3 inches below the sidewalk. A standard disk, stamped "T 2 1923" and set in the top of a concrete post. (36.849 meters or 120.895 feet.)

V 2.—At **Attleboro**, Bristol County, at the northeast corner of the intersection of Turner and Washington Streets, 8 feet from Turner Street, and 4 inches from the curb line, flush with the sidewalk. A standard disk, set in the top of a concrete post. (29.350 meters or 96.292 feet.)

NOTE.—It was reported in 1932 that bench mark V 2 had been destroyed.

F.—At **Attleboro**, Bristol County, on the Shore Line of the New York, New Haven & Hartford Railroad, 9 rails south of bridge 31.96 and the south end of the station platform, and 24 feet northwest of the northwest rail, in a rock outcrop. A standard disk, stamped "F 1923." (39.680 meters or 130.183 feet.)

G.—At **Attleboro**, Bristol County, on the Shore Line of the New York, New Haven & Hartford Railroad, at bridge 31.71 over Park Street, 12 feet southwest of the northeast end of the bridge, and 10.8 feet southeast of the southeast rail, in the top of the southeast coping. A standard disk, stamped "G 1923." (43.670 meters or 143.274 feet.)

L.—At **Attleboro**, Bristol County, at the northwest corner of Pleasant and Lindsey Streets, 6 feet from Pleasant Street, 3 feet from Lindsey Street, and 2 inches lower than the sidewalk. A standard disk, stamped "L 1923" and set in the top of a concrete post. (39.103 meters or 128.290 feet.)

S 2.—At **Attleboro**, Bristol County, in the northeast corner of the city hall site, 2 feet southeast of the public library property line, 4 feet from the sidewalk, and 3 inches above the ground. A standard disk, stamped "S 2 1923" and set in the top of a concrete post. (40.686 meters or 133.484 feet.)

H.—About 1.0 mile south of **West Mansfield**, Bristol County, on the Shore Line of the New York, New Haven & Hartford Railroad, 24 poles southwest of bridge 28.60 at Gilbert Street, 27.3 feet southeast of the southeast rail, and 4 feet southeast of a railroad fence, in a flat boulder. A standard disk, stamped "H 1923." (44.062 meters or 144.560 feet.)

J.—About 0.5 mile north of **West Mansfield**, Bristol County, on the Shore Line of the New York, New Haven & Hartford Railroad, at culvert 27.12, 12.5 feet southwest of the northeast end of the southeast head wall, and 6.5 feet southeast of the southeast rail. A standard disk, stamped "J 1923." (43.963 meters or 144.235 feet.)

Q.—At **Mansfield**, Bristol County, 19¼ feet south of West Street, 36 feet west of Union Street, 16 feet west of the east wall and 2.8 feet north of the north wall of the town hall, flush with the ground. A standard disk, stamped "Q 1923" and set in the top of a concrete post. (46.134 meters or 151.358 feet.)

K.—At **Mansfield**, Bristol County, on the Shore Line of the New York, New Haven & Hartford Railroad, 54 feet southwest of the crossing at the station, at culvert 24.95, 21 feet northwest of the northwest rail, on the northwest end of the southwest abutment. A standard disk, stamped "K 1923." (50.719 meters or 166.401 feet.)

M.—About 0.2 mile north of **East Foxboro**, Norfolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 40 rails northeast of the crossing at the station, 19 rails northeast of milepost 22, 170 feet west of the west rail, and 8 feet southeast of a boulder, in a rock ledge. A standard disk, stamped "M 1923." (68.297 meters or 224.071 feet.)

N.—About ¼ mile north of **Sharon Heights**, Norfolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, at the first overhead highway bridge north of the station, at the south end of the wall of the west abutment, 5 feet west of the west rail, and 2 feet above the ground. A standard disk, stamped "N 1923." (78.879 meters or 258.789 feet.)

O.—About 1.0 mile north of **Sharon**, Norfolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 20½ rails east of milepost B 17, 8½ rails east of bridge 25 or 17.47, and 8 feet south of the south rail, in a rock ledge. A standard disk, stamped "O 1923." (58.322 meters or 191.345 feet.)

P.—About ¼ mile north of **Canton Junction**, Norfolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 4¼ rails north of bridge 14.76 at Chapman Street, 8 feet east of the east rail, and 1.5 feet above the ground, in the side of a rock cut. A standard disk, stamped "P 1923." (28.753 meters or 94.334 feet.)

R.—Near **Dedham Road**, Norfolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 10 rails north of milepost B 12, 13½ rails north of the station, at bridge 12.77 over Neponset River, on the east end of the south abutment, 9 feet east of the east rail. A standard disk, stamped "R 1923." (14.757 meters or 48.415 feet.)

S.—At **Readville**, Suffolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 10 rails northeast of the northeast end of the station, and 152.7 feet southeast of the southeast rail, near the ornamental shrubbery beds at the station. A standard disk, stamped "S 1923" and set in the top of a concrete post. (17.580 meters or 57.677 feet.)

T.—At **Hyde Park**, Suffolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 7½ rails north of the station, 4 rails north of Hyde

Park bridge 8.35, 13 feet west of the west rail, and 2 feet above the ground, in a retaining wall. A standard disk, stamped "T 1923." (15.328 meters or 50.289 feet.)

U.—See page 37.

LINE 7, PORTLAND, MAINE, TO BOSTON, MASS. (PART)

(First-order leveling)

The line enters Massachusetts in the vicinity of Salisbury and follows the Boston & Maine Railroad through Newburyport, Bradford, Lowell, and Winchester to Boston, Mass. The field work was done, during the late summer and early fall of 1923, by E. B. Roberts, junior hydrographic and geodetic engineer.

Y.—At **Salisbury**, Essex County, on the Eastern Division of the Boston & Maine Railroad, $\frac{1}{8}$ mile south of the station, at bridge 52, in the west abutment, 15 feet north of the south end of the abutment, and 7 feet west of the west rail. A standard disk, stamped "Y 1923." (4.308 meters or 14.134 feet.)

A 1.—At **Salisbury**, Essex County, on the Eastern Division of the Boston & Maine Railroad, about 1.0 mile south of the station, 223 feet south of milepost B 38 P 70, and 51.5 feet east of the east rail, west of station 49+0 of the Salisbury South State Highway, in a rock outcrop. A standard disk, stamped "A 1 1923." (6.087 meters or 19.970 feet.)

B 1.—At **Newburyport**, Essex County, on the Eastern Division of the Boston & Maine Railroad, at the bridge which begins at the northeast end of the station platform, in the top of the northwest end of the southwest abutment, 10.5 feet northwest of the northwest rail. A standard disk, stamped "B 1 1923." (10.411 meters or 34.157 feet.)

F 1.—At **Newburyport**, Essex County, in the Police Court Building on Green Street, in the southwest wall, near the west corner, 30 inches above the ground. A standard disk, stamped "F 1 1923" and set vertically. (8.118 meters or 26.634 feet.)

Z.—About 3.0 miles west of **Newburyport**, Essex County, on the Georgetown-Newburyport line of the Boston & Maine Railroad, 2 rails west of culvert 168-O, $1\frac{1}{2}$ rails west of a private-road crossing, in a pasture, 57 feet south of the south rail, and 3 feet above the ground, in a rock outcrop. A standard disk, stamped "Z 1923." (13.287 meters or 43.592 feet.)

C 1.—At **Byfield**, Essex County, on the Georgetown-Newburyport line of the Boston & Maine Railroad, 23 $\frac{1}{2}$ rails east of the station, 12 rails east of the easternmost crossing at Byfield, 11 feet north of the north rail, and 3.5 feet higher than the track, in the top of a large boulder. A standard disk, stamped "C 1 1923." (20.018 meters or 65.676 feet.)

D 1.—About $\frac{3}{8}$ mile east of **Georgetown**, Essex County, on the Georgetown-Newburyport line of the Boston & Maine Railroad, 8 poles east of the east end of the yard at Georgetown, at culvert 166, in the top of the south end of the west abutment, 12 feet south of the south rail. A standard disk, stamped "D 1 1923." (22.646 meters or 74.298 feet.)

E 1.—At **Groveland**, Essex County, on the Georgetown-Bradford line of the Boston & Maine Railroad, about 2.0 miles southeast of the station, 548 feet southwest of the center of the road at Kings Crossing, and 18 feet south of the south rail, in the top of a large boulder. A standard disk, stamped "E 1 1923." (29.302 meters or 96.135 feet.)

G 1.—At **Island Park**, Essex County, on the Georgetown-Bradford line of the Boston & Maine Railroad, 12 rails south of the station, 21 feet west of a circular brick-walled pit, and 12 feet east of the east rail, in the north end of the stone at the north end of an old building foundation. A standard disk, stamped "G 1 1923." (6.633 meters or 21.762 feet.)

107 (U.S.E.).—About $\frac{1}{8}$ mile east of **Bradford**, Essex County, on the Georgetown-Bradford line of the Boston & Maine Railroad, about 300 yards west of the bridge over Merrimac River, about 3 feet north of the north rail, and 6 inches above the ground. A brass rod projecting 2 inches from a 6-inch square granite post, stamped "U S E 107" on top. (7.967 meters or 26.138 feet.)

H 1.—At **Bradford**, Essex County, on the Western Division of the Boston & Maine Railroad, $5\frac{1}{2}$ rails east of the east end of the station platform, 1 rail west of bridge A 34 over Elm Street, and 20 feet west of the west rail, in the top of a boulder. A standard disk, stamped "H 1 1923." (11.557 meters or 37.917 feet.)

N 1.—Destroyed. (15.378 meters or 50.453 feet.)

J 1.—About $\frac{1}{2}$ mile west of **Ward Hill**, Essex County, on the Western Division of the Boston & Maine Railroad, $13\frac{1}{2}$ rails east of signal D 301, 8.5 feet east of the east rail, and 2 feet above ground, in solid rock in the side of a cut. A standard disk, stamped "J 1 1923." (16.991 meters or 55.745 feet.)

K 1.—About $\frac{1}{4}$ mile west of **North Andover**, Essex County, at the Merrimack Street bridge over Shawsheen River, in the top of the south end of the west abutment. A standard disk, stamped "K 1 1923." (10.753 meters or 35.279 feet.)

L 1.—Destroyed. (18.622 meters or 61.096 feet.)

M 1.—At **West Andover**, Essex County, on the abandoned Lawrence-Lowell line of the Boston & Maine Railroad, $4\frac{1}{4}$ rails south of bridge 300 which is the second bridge south of the station, and 12 feet east of the east rail, in the face of a boulder. A standard disk, stamped "M 1 1923" and set vertically. (46.809 meters or 153.573 feet.)

NOTE.—The bridge has been removed and the cut filled in, but the west abutment has been left standing. Bench mark M 1 can be located from the abutment.

O 1.—About $\frac{1}{4}$ mile south of **Haggetts**, Essex County, on the abandoned Lawrence-Lowell line of the Boston & Maine Railroad, $14\frac{1}{2}$ rails south of Flint's Crossing which is the second crossing south of the station, and 6 feet west of the west rail, in the rock wall of a cut. A standard disk, stamped "O 1 1923" and set vertically. (37.300 meters or 122.375 feet.)

P 1.—Destroyed. (30.978 meters or 101.634 feet.)

Q 1.—At **Wamesit**, Middlesex County, on the Lowell-Lowell Junction line of the Boston & Maine Railroad, directly opposite the station building, southeast of the main highway crossing at Wamesit, 21 feet south of the south rail, and 3 feet east of a fence, in a rock outcrop. A standard disk, stamped "Q 1 1923." (41.695 meters or 136.794 feet.)

R 1.—About $\frac{3}{4}$ mile south of **Lowell**, Middlesex County, on the Southern Division of the Boston & Maine Railroad, at the bridge over Gorham Street, just north of the station at **Bleachery**, in the top of the west end of the north abutment of the bridge, 4 feet west of the west rail. A standard disk, stamped "R 1 1923." (34.511 meters or 113.225 feet.)

T 1.—At **Lowell**, Middlesex County, on the southern division of the Boston & Maine Railroad, in a retaining wall located west of the track and opposite the station, 27 feet south of the north end of the wall, and 6 inches above the ground. A standard disk, stamped "T 1 1923" and set vertically. (30.536 meters or 100.184 feet.)

City B.M. (City of Lowell).—At **Lowell**, Middlesex County, at the railroad station, on the north side, in the east doorway. The outer west corner of the step. (31.112 meters or 102.073 feet.)

L. & C.C. B.M. (Locks & Canals Corporation).—At **Lowell**, Middlesex County, north of the railroad station, at the bridge over the canal, on the south abutment of the bridge. A copper bolt. (27.482 meters or 90.164 feet.)

U 1.—At **South Lowell**, Middlesex County, on the southern division of the Boston & Maine Railroad, $9\frac{1}{4}$ rails north of the north end of the station, 11 feet east of the east rail of the spur track, and 2 feet above the ground, in a rock ledge. A standard disk, stamped "U 1 1923." (36.795 meters or 120.718 feet.)

S 1.—At **North Billerica**, Middlesex County, on the southern division of the Boston & Maine Railroad, 12 rails north of the station, and 44 feet east of the east rail, halfway between two trees, in the fence line, in the top of a boulder. A standard disk, stamped "S 1 1923." (38.708 meters or 126.994 feet.)

V 1.—At **East Billerica**, Middlesex County, on the southern division of the Boston & Maine Railroad, 4 rails north of the station, at bridge 19.25, in the face of the west abutment, 8 feet west of the west rail, and 4 inches above the ground. A standard disk, stamped "V 1 1923" and set vertically. (33.588 meters or 110.197 feet.)

NOTE.—It was reported in 1932 that the wing wall in which bench mark V 1 is set, is of dry rubble and may have settled.

W 1.—About $\frac{3}{4}$ mile north of **Silver Lake**, Middlesex County, on the southern division of the Boston & Maine Railroad, $14\frac{1}{2}$ rails south of bridge 17.04, 2 rails south of milepost B 17 C 57, and 25 feet east of the east rail, in a boulder. A standard disk, stamped "W 1 1923." (32.209 meters or 105.672 feet.)

Y 1.—At **Wilmington**, Middlesex County, on the southern division of the Boston & Maine Railroad, at bridge 15.18 south of the station, in the west abutment, in the top of the end stone in the second tier at the south end. A standard disk, stamped "Y 1 1923." (29.160 meters or 95.669 feet.)

X 1.—Destroyed. (25.312 meters or 83.044 feet.)

Z 1.—About $3\frac{1}{2}$ miles south of **Wilmington**, Middlesex County, at **Woburn**, on the southern division of the Boston & Maine Railroad, 1 rail south of the station at Mishawun, at bridge 11.65, in the top of the north end of the east pier, 4 feet east of the east rail. A standard disk, stamped "Z 1 1923." (18.173 meters or 59.623 feet.)

NOTE.—Bench mark Z 1 is reported to have been moved at the time of rebuilding the bridge. The present elevation, based on leveling by the Massachusetts Department of Public Works in November 1932, is 59.730 feet.

A 2.—See below.

LINE 8, BOSTON, MASS., AND VICINITY (PARTS OF SEVERAL LINES)

[First-order leveling]

Line 8, so-called, is not really a single line but a collection of parts of lines 6, 7, and 9 and is treated in this manner so as to keep the large number of bench marks in the metropolitan area of Boston, Mass., together in one part of this publication. It includes bench marks in Winchester, Cambridge, Charlestown, Boston, Auburndale, Brookline, and South Boston. The field work was done at the times and by the engineers noted in the introductory paragraphs of lines 6, 7, and 9.

Z 1.—See above.

A 2.—About 1.0 mile north of **Winchester**, Middlesex County, on the southern division of the Boston & Maine Railroad, $32\frac{1}{2}$ rails north of the station at **Winchester Highlands**, $16\frac{1}{2}$ rails south of signal 93, 147 feet west of the west rail, and slightly above the track level, in the side of a large boulder. A standard disk, stamped "A 2 1923" and set vertically. (11.728 meters or 38.478 feet.)

B 2.—At **Winchester**, Middlesex County, in the north wall of the town hall, west of the west entrance, and 3 feet above the ground. A standard disk, stamped "B 2 1923" and set vertically. (9.103 meters or 29.865 feet.)

C 2.—At **Medford**, Middlesex County, on the southern division of the Boston & Maine Railroad, 17 rails south of bridge 20, 5 rails north of signal 4.7, in the rear of the house at 56 Orchard Street, 36 feet east of the east rail, in the top of a boulder. A standard disk, stamped "C 2 1923." (8.523 meters or 27.963 feet.)

NOTE.—It was reported in 1933 that bench mark C 2 has been slightly disfigured by light hammer blow on the disk.

"A" (B. & M. R.R.).—At **North Somerville**, Middlesex County, on the Boston & Maine Railroad, at the overhead bridge south of the station, near the north end of the east abutment. A point on the masonry. (11.078 meters or 36.345 feet.)

"B" (B. & M. R.R.).—Destroyed. (10.812 meters or 35.472 feet.)

D 2.—Destroyed. (10.030 meters or 32.907 feet.)

E 2.—At **East Cambridge**, Middlesex County, about 200 yards north of the station, at the bridge carrying the southern division of the Boston & Maine Railroad over the Fitchburg division, at the east end of the north abutment, 4 feet east of the east rail, in the top of a footing, about 2 feet higher than the level of the tracks of the Fitchburg division. A standard disk. (2.793 meters or 9.163 feet.)

NOTE.—Bench mark E 2 has been covered by a box that runs along the entire footing to hold the cables for the signal system.

Spur line to Charlestown.

F 2.—At **Charlestown**, Suffolk County, at the Prison Point Bridge, at the fourth pier from the Charlestown end, in the center of the face of the west side of the pier. A standard disk, stamped "F 2 1923" and set vertically. (3.528 meters or 11.575 feet.)

City B.M. (City of Boston).—Destroyed. (5.529 meters or 18.140 feet.)

Tidal 2 (Navy Yard B.M. 1).—At **Charlestown**, Suffolk County, in the Charlestown Navy Yard, on the west side and near the head of the drydock, directly over the foot of the long steps, on the top of the stone facing at a point indicated by an arrow cut in the side of the stone. A chiseled square. (2.882 meters or 9.455 feet.)

Tidal 1.—At **Charlestown**, Suffolk County, in the Charlestown Navy Yard, at the southwest corner of the entrance to the drydock, outside the floating gate,

and directly over the inlaid bronze scale. A chiseled square. (2.993 meters or 9.820 feet.)

NOTE.—As part of the edge of the coping of the above drydock was chipped off, the nearest point of the outer edge was used, 1 or 2 inches from the center of the scale.

Tidal 3.—At Charlestown, Suffolk County, in the Charlestown Navy Yard, at the head of Dry Dock 2, in a granite block. A standard disk. (2.730 meters or 8.957 feet.)

8 (U.S.N.).—At Charlestown, Suffolk County, in the Charlestown Navy Yard, at the head of Dry Dock 2, in the top of the masonry, and directly over Tidal 3. A chiseled square. (2.891 meters or 9.485 feet.)

10 (U.S.N.).—Destroyed. (4.056 meters or 13.307 feet.)

18 (U.S.N.).—Destroyed. (3.336 meters or 10.945 feet.)

19 (U.S.N.).—At Charlestown, Suffolk County, in the Charlestown Navy Yard, at the corner of Fifth Avenue and Sixteenth Street, on the northeast corner of building 77, in the top of the lower course of masonry. A chiseled square. (3.956 meters or 12.979 feet.)

End of spur line.

M.I.T. (Massachusetts Institute of Technology).—At Cambridge, Middlesex County, at the Massachusetts Institute of Technology, in the corridor of the basement of building 3, 9.5 feet west of the mail-room door, under an iron plate in the floor, in the concrete cap on a pile driven in the ground. A brass plug. (1.586 meters or 5.203 feet.)

M.I.T. Special (Massachusetts Institute of Technology).—At Cambridge, Middlesex County, at the Massachusetts Institute of Technology, about 197 feet east and 18 feet south of the southwest corner of the building, in the surface of the concrete filling an 8-inch pipe which extends down to bed rock. A metal plug. (2.911 meters or 9.551 feet.)

City B.M. (City of Cambridge).—At Cambridge, Middlesex County, at Harvard Bridge which carries Massachusetts Avenue over Charles River, at the west end of the top of the north abutment, at the street level, 2 feet from the railing of the bridge. A brass plug. (4.558 meters or 14.954 feet.)

G 2.—At Boston, Suffolk County, at the Cottage Farm Bridge carrying Commonwealth Avenue over the Boston & Albany Railroad, at the east end of the center pier, in the east face, 2.5 feet above the ground. A standard disk, stamped "G 2 1923" and set vertically. (3.353 meters or 11.001 feet.)

Newton Highlands circuit.

Cottage Farm (Van Orden).—At Boston, Suffolk County, at the Cottage Farm Bridge which carries Commonwealth Avenue over the Boston & Albany Railroad, on the east end of the foundation of the north abutment. A chiseled square. (3.071 meters or 10.075 feet.)

Cottage Farm (B. & A. R.R.).—At Boston, Suffolk County, at the Cottage Farm Bridge which carries Commonwealth Avenue over the Boston & Albany Railroad, at the south abutment, on the northwest corner of the lower coping stone of the west wing. A chiseled square. (3.809 meters or 12.497 feet.)

Cottage Farm (City of Boston).—At Boston, Suffolk County, at the Cottage Farm Bridge which carries Commonwealth Avenue over the Boston & Albany Railroad, at the west end of the south abutment, in line with the north curb of Commonwealth Avenue. A chiseled square. (8.474 meters or 27.802 feet.)

Allston (B. & A. R.R.).—At Allston, Suffolk County, on the main line of the Boston & Albany Railroad, at the west door to the waiting room of the station, in the northwest corner of the doorsill. A chiseled mark. (8.141 meters or 26.709 feet.)

K 2.—At Boston, Suffolk County, on the main line of the Boston & Albany Railroad, 39½ rails west of the station at Faneuil, 13¾ rails west of milepost B 6, and 55 yards south of the south rail, in the top of a large boulder. A standard disk, stamped "K 2 1923." (10.148 meters or 33.294 feet.)

Newton (B. & A. R.R.).—At Newton, Middlesex County, on the main line of the Boston & Albany Railroad, at the station, in the northeast corner of the sill of the basement door. A chiseled square. (10.210 meters or 33.497 feet.)

L 2.—At Newtonville, Middlesex County, on the main line of the Boston & Albany Railroad, 6 rails west of the station, in the face of the north abutment of bridge 8.20, 16.5 feet from the east end, 10 feet north of the north rail, and ½ foot higher than the track. A standard disk, stamped "L 2 1923" and set vertically. (13.762 meters or 45.151 feet.)

8.57 (B. & A. R.R.).—At **Newtonville**, Middlesex County, on the main line of the Boston & Albany Railroad, at mileage 8.57, on the south abutment of bridge 8.57, in the corner of the east stone of the first course of masonry. A chiseled mark. (14.719 meters or 48.291 feet.)

Auburndale (B. & A. R.R.).—At **Auburndale**, Middlesex County, on the main line of the Boston & Albany Railroad, at the door to the baggage room of the station, in the northwest corner of the sill. A chiseled mark. (20.364 meters or 66.811 feet.)

M 2.—About 1.0 mile west of **Auburndale**, Middlesex County, on the main line of the Boston & Albany Railroad, at the foot subway under the tracks at **Riverside** station, 15 feet southwest of signal bridge 10.87, and 9 feet northwest of the northwest rail, in the top of the coping at the northwest end of the subway. A standard disk, stamped "M 2 1923." (21.656 meters or 71.050 feet.)

Z 4.—See page 44.

N 2.—At **Woodland**, Middlesex County, on the Highland Circuit of the Boston & Albany Railroad, 31 rails south of the south end of the Woodland station, 14 rails south of the south end of bridge N.H. 9, and 33 feet east of the east rail, in the top of a large boulder on the hillside. A standard disk, stamped "N 2 1923." (32.235 meters or 105.758 feet.)

NOTE.—In October 1932 it was reported that bench mark N 2 had been tampered with, but that it is probably correct within a hundredth of a foot.

O 2.—At **Newton Center**, Middlesex County, on the Highland Circuit of the Boston & Albany Railroad, 8 rails east of the east end of the station, in the west end of the north abutment of bridge N.H. 5.62, 9 feet north of the north rail. A standard disk, stamped "O 2 1923." (43.466 meters or 142.605 feet.)

P 2.—In Suffolk County, about 0.5 mile east of **Chestnut Hill**, Middlesex County, on the Highland Circuit of the Boston & Albany Railroad, $2\frac{1}{4}$ rails west of the west end of bridge N.H. 3.71, $2\frac{1}{4}$ rails east of milepost B 6, and 8 feet north of the north rail, in the rock wall of a cut, 8 inches lower than the track. A standard disk, stamped "P 2 1923." (42.236 meters or 138.569 feet.)

Q 2.—At **Brookline**, Norfolk County, on the Highland Circuit of the Boston & Albany Railroad, 11 rails west of the west end of the station, at bridge N.H. 1.56, 5 feet south of the south rail, in the center of the south abutment, 3 feet higher than the ground. A standard disk, stamped "Q 2 1923." (5.408 meters or 17.743 feet.)

St. Mary Street (Van Orden).—At **Boston**, Suffolk County, on the main line of the Boston & Albany Railroad, at St. Mary Street bridge 2.86, in the top of the second stone at the east end of the north abutment. A chiseled cross. (3.568 meters or 11.706 feet.)

2.39 (B. & A. R.R.).—At **Boston**, Suffolk County, on the main line of the Boston & Albany Railroad, just east of bridge 16 at mileage 2.41, at a signal bridge, in the northwest corner of the southwest pier. A chiseled mark. (3.480 meters or 11.417 feet.)

NOTE.—It was reported in 1932 that the Boston & Albany Railroad bench mark 2.39 could not be found. Investigations were that the signal bridge had been raised, including the piers.

Huntington Avenue (B. & A. R.R.).—At **Boston**, Suffolk County, on the main line of the Boston & Albany Railroad, at the Huntington Avenue station, at the baggage room door, on the northwest corner of the lower stone step. A chiseled square. (1.377 meters or 4.518 feet.)

H 2.—At **Boston**, Suffolk County, at Columbus Avenue bridge 1.12 over the New York, New Haven & Hartford Railroad and the Boston & Albany Railroad, in the footing at the southeast end of the pier between the railroads. A standard disk, stamped "H 2 1923." (0.417 meter or 1.368 feet.)

0.61 (B. & A. R.R.).—At **Boston**, Suffolk County, on the main line of the Boston & Albany Railroad, at railroad bridge 0.61 under Harrison Avenue, in the northeast corner of the central pier. A chiseled square. (0.469 meter or 1.539 feet.)

0.40 (N.Y., N.H. & H.R.R.).—At **Boston**, Suffolk County, on the Providence Division of the New York, New Haven & Hartford Railroad, south of the track, on the northwest corner of the end cap stone of a retaining wall. A chiseled square. (3.694 meters or 12.119 feet.)

NOTE.—Bench mark 0.40 also serves as a bench mark for the Boston & Albany Railroad.

J 2.—At **Boston**, Suffolk County, $43\frac{1}{2}$ yards south of the south steel post of a canopy between tracks 21 and 22 of South Station, $29\frac{1}{2}$ yards east of the south steel post of the canopy between tracks 17 and 18, and 21 yards north of signal bridge 5, in the top of the stone coping at the south end of an iron railing, 4.5

feet east of easterly approach track. A standard disk, stamped "J 2 1923." (5.884 meters or 19.304 feet.)

83 South Street (City of Boston).—At Boston, Suffolk County, at 83 South Street, on the left outer corner (facing the building) of the lower iron step. A point on the step. (3.897 meters or 12.785 feet.)

W.B.B.M. (Weather Bureau).—Destroyed. (4.446 meters or 14.587 feet.)

Tidal 6.—At South Boston, Suffolk County, at the shore end of Commonwealth Pier 5, in the sill of the fifth window on the north side of the pier. A standard disk, stamped "B.M. 6 1921." (4.055 meters or 15.141 feet.)

Tidal 7.—At South Boston, Suffolk County, on the side of the heating plant opposite Commonwealth Pier 5, in the upper surface of the water table. A standard disk, stamped "B.M. 7 1922." (4.005 meters or 13.304 feet.)

Tidal 8.—At South Boston, Suffolk County, in the stone retaining wall opposite the stairway leading down from Summer Street to C Street, on the ledge just above the first landing, 5.5 feet below the top of the wall. A standard disk, stamped "B.M. 8 1922." (7.564 meters or 24.816 feet.)

481 Summer Street (City of Boston).—At South Boston, Suffolk County, at 481 Summer Street, on the outer right-hand corner (facing the building) of the stone doorstep. A point on the step. (6.559 meters or 21.519 feet.)

Dry Dock (U.S.N.).—At South Boston, Suffolk County, at the Navy Dry Dock, in the south wall, inside a 4-inch iron pipe with a cover marked "Bench Mark Do not Disturb." The brass cap on a 2-inch iron rod extending down to bedrock through the concrete backing of the wall. (3.132 meters or 10.276 feet.)

Tidal 9.—At South Boston, Suffolk County, on the building at 416 West Broadway occupied by the P. F. Carey Furniture Company, on the F Street side, 51.5 feet from the front of the building, in the water table. A standard disk, stamped "B.M. 9 1922." (14.472 meters or 47.480 feet.)

Tidal 10.—At South Boston, Suffolk County, on the building at 423 West Broadway occupied by F. W. Woolworth & Co., on the F Street side, 45.6 feet from the front of the building, in the water table, 2 inches above the sidewalk. A standard disk, stamped "B.M. 10 1922." (13.617 meters or 44.675 feet.)

481 West Broadway (City of Boston).—Destroyed. (18.029 meters or 59.150 feet.)

82 G Street (City of Boston).—Destroyed. (31.756 meters or 104.186 feet.)

Tidal 12.—At South Boston, Suffolk County, at South Boston High School, at the north entrance, in the top of the second step, to the right of the doorway on entering the building. A standard disk, stamped "B.M. 12 1922." (34.010 meters or 111.581 feet.)

Tidal 11.—At South Boston, Suffolk County, at Dorchester Heights, at the entrance to the Washington Monument, at the north end of the fifth marble step, inside the iron gate, back of the north gatepost. A standard disk, stamped "B.M. 11 1922." (43.856 meters or 143.884 feet.)

R 2.—At Roxbury, Suffolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, at bridge 2.80 over Tremont Street, in the west end of the south abutment, 12 feet west of the west rail, and 4 feet west of the south end of an iron fence. A standard disk, stamped "R 2 1923." (11.496 meters or 37.716 feet.)

X.—At Forest Hills, Suffolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 2½ rails north of the station, 25.5 feet west of the west rail, 16 feet north of the south end of an iron railing around a stairway, and 3.5 feet west of the railing. A standard disk, stamped "X 1923" and set in the top of a concrete post. (16.674 meters or 54.705 feet.)

W.—At Forest Hills, Suffolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, 4 rails south of the south end of the station platform, at the bridge over Asticou Road, in the top of the west end of the south abutment. A standard disk, stamped "W 1923." (16.601 meters or 54.465 feet.)

V.—At Mount Hope, Suffolk County, on the Shore Line of the New York, New Haven & Hartford Railroad, northwest of the outbound station, 15 fence posts north of the steps, 25 fence posts south of the north end of a retaining wall bordering Florence Street, 119 feet west of the west rail, and 2 feet above the ground, in the face of the wall. A standard disk, stamped "V 1923" and set vertically. (13.295 meters or 43.619 feet.)

U.—At Hyde Park, Suffolk County, at the Hyde Park Municipal Building, at the northwest or Central Avenue entrance, on the south side of the steps, 3 feet above the ground. A standard disk, stamped "U 1923." (23.404 meters or 76.785 feet.)

T.—See page 31.

LINE 9, SPRINGFIELD TO BOSTON, MASS.

[First-order leveling]

This line follows the Chicopee branch of the Boston & Maine Railroad to Chicopee Falls; across country to Indian Orchard; the Athol branch of the Boston & Albany Railroad to Bondsville; the Central Massachusetts division of the Boston & Maine Railroad to Oakdale; the Boston & Maine Railroad to Worcester; and the main line of the Boston & Albany Railroad to Boston, Mass. The field work was done during the spring of 1927 by Charles A. Schanck, aid.

For bench marks in the vicinity of Springfield, Mass., see pages 23 and 51.

W 2.—At **Brightwood**, Hampden County, about 111 feet north of the Boston & Maine Railroad station platform, about 65 feet south of the center line of Wason Avenue, 11.8 feet west of the most westerly rail, and 1.4 feet west of the west edge of a brick walk leading from Wason Avenue to the station. A standard disk, set in the top of a concrete post. (18.773 meters or 61.591 feet.)

T.B.M. 4.—At **Chicopee**, Hampden County, about 100 yards south of the railroad station, at the southeast corner of the base of semaphore 32. The top of an iron bolt. (24.790 meters or 81.332 feet.)

X 2.—At **Chicopee**, Hampden County, one block north of the post office, one block northwest of the city hall, in the north wall of a brick building formerly used as a railroad station for Chicopee Center, 2 feet east of the west wall, 1 foot above the ground, and 14.2 feet south of the south rail. A standard disk. (28.210 meters or 92.552 feet.)

A 5.—See page 44.

Y 2.—At **Chicopee Falls**, Hampden County, near the intersection of Main and Middle Streets, about 20 feet north of the north curb of Main Street, 50 feet east of the extended center line of Middle Street, 10 feet east and 2 feet south of the southwest corner of the Chicopee Falls freight and express station, and 2 feet west of the west wall of a wing on the south side of the building. A standard disk, set in the top of a concrete post. (32.922 meters or 108.012 feet.)

Z 2 (Reset).—Destroyed. (135.855 feet.)

A 3.—Destroyed. (50.950 meters or 167.158 feet.)

W 3.—At **Indian Orchard**, Hampden County, 1 rail east of milepost 4 on the Athol Branch of the Boston & Albany Railroad, in the foundation of the south wall of the main office of the Indian Orchard Company, 11.6 feet north of the north rail, 18 feet east of the southwest corner of the building, and 1 foot above the ground. A standard disk. (51.186 meters or 167.933 feet.)

B 3.—Destroyed. (74.643 meters or 244.891 feet.)

V 3.—At **Ludlow**, Hampden County, near the intersection of Hubbard and East Streets, in the north end of the concrete footing of a steel tower carrying an electric power-transmission line, 32.8 feet south of the southernmost rail of the Boston & Albany Railroad, 23 feet northwest of the near curb of East Street, and 5.8 feet south of the south right-of-way fence. A standard disk. (74.946 meters or 245.885 feet.)

C 3.—Destroyed. (71.831 meters or 235.666 feet.)

U 3.—About $\frac{1}{4}$ mile north of **North Wilbraham**, Hampden County, 4 rails west of a road crossing at mileage 8.27 on the Athol Branch of the Boston & Albany Railroad, 29.5 feet east of the northeast corner of **Collins** station, on the right-of-way, and 13.9 feet south of the south rail. A standard disk, set in the top of a concrete post. (70.832 meters or 232.388 feet.)

D 3.—About 2 miles north-northeast of **North Wilbraham**, Hampden County at **Red Bridge** station on the Athol Branch of the Boston & Albany Railroad, and 175 feet east of a road crossing at mileage 10.19, in the north end of the west abutment of a red highway bridge across the Chicopee River. A standard disk. (74.666 meters or 244.967 feet.)

R.R.B.M. (B. & A. R.R.).—About $2\frac{1}{4}$ miles north-northeast of **North Wilbraham**, Hampden County, at mileage 10.32 on the Athol Branch of the Boston & Albany Railroad, in the northwest corner of the parapet wall of a large masonry culvert. A chiseled square. (75.861 meters or 248.887 feet.)

E 3.—Destroyed. (85.722 meters or 281.240 feet.)

F 3.—Destroyed. (102.128 meters or 335.065 feet.)

T 3.—At **Three Rivers**, Hampden County, about 300 feet south of the road crossing at mileage 13.25 of the Athol branch of the Boston & Albany Railroad, and about 400 feet north and 100 feet west of the post office, in the east end of the

north abutment of the stone bridge across Chicopee River at Bridge Street. A standard disk. (96.111 meters or 315.324 feet.)

G 3.—Destroyed. (100.963 meters or 331.243 feet.)

T.B.M. 23 (B. & A. R.R.).—About 1.5 miles north of **Three Rivers**, Hampden County, just north of the Central Vermont Railway crossing, at mileage 14.86 on the Athol branch of the Boston & Albany Railroad, just south of a new semaphore controlling the Boston & Albany trains, on the southeast corner of a concrete block that was at one time a foundation for a semaphore. A chiseled square. (100.417 meters or 329.451 feet.)

H 3.—At **Bondsville**, Hampden County, about 300 yards south of the Boston & Albany Railroad station, about 100 yards west of Main Street, about 170 feet north and east of State Street, at the power dam, in the granite wall on the west side of Swift River, just south of a 2-foot step in the wall, and 23 feet south of the west end of the dam. A standard disk. (104.426 meters or 342.604 feet.)

J 3.—About 0.5 mile east of **Bondsville**, Hampden County, on the Central Massachusetts division of the Boston & Maine Railroad, in the east end of the north abutment of a railroad bridge over a highway. A standard disk. (136.110 meters or 446.554 feet.)

K 3.—Destroyed. (136.768 meters or 448.713 feet.)

L 3.—About 3.0 miles southwest by west of **Ware**, Hampshire County, at a place locally known as "Gibbs Crossing" on the Ware River Branch of the Boston & Albany Railroad, about 60 yards south of the Boston & Maine Railroad, in the east end of the south wall of a railroad bridge across the highways. A standard disk. (123.385 meters or 404.806 feet.)

M 3.—At **Ware**, Hampshire County, about 100 feet east of the Ware station on the Central Massachusetts division of the Boston & Maine Railroad, on the right-of-way, 16.7 feet north of northernmost rail, 31 feet east of the west end of a wooden fence, and 2 feet south of the fence. A standard disk, set in the top of a concrete post. (146.495 meters or 480.626 feet.)

N 3.—About 2.0 miles north of **Ware**, Hampshire County, at the southwest corner of a road crossing on the Boston & Maine Railroad, about 150 yards west of an iron highway bridge across Ware River, on the right-of-way, 34.5 feet west of the west rail, about 20 feet south of the center of the road, about 3 feet east of the west right-of-way fence, and 2 feet south of a board fence. A standard disk, set in the top of a concrete post. (146.810 meters or 481.659 feet.)

P 3.—At **Gilbertville**, Worcester County, 11 rails east of the east end of the Boston & Maine Railroad station, 35 feet southeast of the center of a concrete highway, and 5 feet north of the north rail, in the east end of the north head wall of a concrete culvert. A standard disk. (167.141 meters or 548.362 feet.)

Q 3.—About 2.0 miles northeast of **Gilbertville**, Worcester County, about 0.5 mile northeast of the Boston & Albany Railroad crossing on the Boston & Maine Railroad, on the right-of-way, about 100 feet east of **Creamery** station of the Boston & Albany Railroad, 11.5 feet east of the east rail, 28 feet south of the center of a road, and 2.5 feet south of a board fence. A standard disk, set in the top of a concrete post. (179.834 meters or 590.005 feet.)

R 3.—About 4.0 miles northeast of **Gilbertville**, Worcester County, about 110 feet north of the site of the **New Braintree** station of the Boston & Maine Railroad, on the right-of-way, at a road crossing, 29 feet west of the west rail, 12 feet south of the center of the road, and 2 feet south of a board fence. A standard disk, set in the top of a concrete post. (175.556 meters or 575.970 feet.)

S 3.—About 6.0 miles northeast of **Gilbertville**, Worcester County, about $\frac{1}{4}$ mile north of **Wheelwright** station of the Boston & Maine Railroad, 34 $\frac{1}{2}$ rails north of milepost B 65 N 39, about 110 feet south of a concrete culvert, on the right-of-way, 35 feet east of the east rail, and 3.5 feet west of the east fence. A standard disk, set in the top of a concrete post. (179.600 meters or 589.238 feet.)

T.B.M. 46.—Destroyed. (181.744 meters or 596.272 feet.)

M.W.S. 1 (Metropolitan District Water Supply Commission).—About 0.5 mile west of **Barre Plains**, Worcester County, 2 rails west of the west end of bridge 23.57 on the Ware Branch of the Boston & Albany Railroad, on the right-of-way, 30 feet north of the north rail, near shaft 9. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{1}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (179.644 meters or 589.382 feet.)

X 3.—About $1\frac{1}{4}$ miles east of **Barre Plains**, Worcester County, 8 rails east of Barre station on the Boston & Maine Railroad, on the right-of-way, 17.4 feet north of the north rail, 2.8 feet south of the south wall, and 2.5 feet west of the east wall of the Barre freight depot. A standard disk, set in the top of a concrete post. (200.508 meters or 657.833 feet.)

M.W.S. 2 (Metropolitan District Water Supply Commission).—About 1.0 mile southwest of **Coldbrook Springs**, Worcester County, on the right-of-way of the Boston & Maine Railroad, 8 rails east of a culvert on the Boston & Albany Railroad, near shaft 8, and 23 feet south of the south rail of the Boston & Maine Railroad track. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (214.339 meters or 703.211 feet.)

M.W.S. 3 (Metropolitan District Water Supply Commission).—About $\frac{1}{4}$ mile south of **Coldbrook Springs**, Worcester County, at Coldbrook station on the Boston & Maine Railroad, 59.5 feet south of the southwest corner of the station, and 29 feet east of the center of a road crossing, on the right-of-way, 27 feet south of the south rail. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (222.771 meters or 730.875 feet.)

M.W.S. 4 (Metropolitan District Water Supply Commission).—About 1.5 miles southeast of **Coldbrook Springs**, Worcester County, 38 rails east of the Barre-Worcester highway crossing of the Boston & Maine Railroad, and about 98 feet west of a whistle post, on the right of way, 15.5 feet north of the north rail. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a block of concrete about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (235.517 meters or 772.692 feet.)

Y 3.—About 3.0 miles southeast of **Coldbrook Springs**, Worcester County, $\frac{7}{2}$ rails east of milepost N 46 B 58 of the Boston & Maine Railroad, on the right-of-way, 27 feet east of pole 8683, and 26 feet south of the south rail. A standard disk, set in the top of a concrete post. (246.564 meters or 808.935 feet.)

M.W.S. 5 (Metropolitan District Water Supply Commission).—About 1.5 miles west of **Rutland**, Worcester County, 16 rails west of the Boston & Maine Railroad bridge 182, at the Channoch Hill road crossing, on the right-of-way, 24 feet south of the south rail. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a block of concrete about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (283.995 meters or 931.740 feet.)

T.B.M. 55.—About 1.0 mile west of **Rutland**, Worcester County, about midway between the stations at Rutland and West Rutland on the Boston & Maine Railroad, about 200 yards east of a long, deep rock cut, on the northeast corner of the south wall of a concrete culvert. A chiseled square. (291.049 meters or 954.883 feet.)

T.B.M. 56.—About $\frac{1}{4}$ mile west of **Rutland**, Worcester County, about 300 yards west of the Rutland station of the Boston & Maine Railroad, at the west end of the south guard rail of bridge 180 over Miles Street. The top of a bolt. (302.384 meters or 992.071 feet.)

M.W.S. 6 (Metropolitan District Water Supply Commission).—About 1.0 mile north of **Rutland**, Worcester County, at the siding for shaft 5 of the Metropolitan District Water Supply tunnel, on the right of way of the Boston & Maine Railroad, 32 feet south of the south rail, and 22 feet west of pole 8869. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (312.395 meters or 1,024.916 feet.)

T.B.M. 58.—About 2.0 miles northeast of **Rutland**, Worcester County, about midway between Summit Siding and Muschopauge station on the Boston & Maine Railroad, 15 feet east of milepost B 52 N 52, in the northeast corner of the north wall of a concrete culvert. A chiseled square. (311.797 meters or 1,022.954 feet.)

Z 3.—About 2.5 miles northeast of **Rutland**, Worcester County, at Muschopauge station of the Boston & Maine Railroad, 100 feet east of the center of a road crossing, just west of an old track trestle, 36 feet south of the southeast corner of the station, on the right of way, 15 feet south of the south rail. A standard disk, set in the top of a concrete post. (300.436 meters or 985.680 feet.)

M.W.S. 7 (Metropolitan District Water Supply Commission).—About 2.0 miles northwest of **Jefferson**, Worcester County, about 800 feet west of the site of shaft 4 of the Metropolitan District Water Supply tunnel, on the right of way of the Boston & Maine Railroad, and on the right-of-way of the power transmission line following the line of the tunnel, 23.5 feet east of the east rail of the track, and 20 feet north of the line of poles of the power line. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (280.920 meters or 921.652 feet.)

NOTE.—It was reported in 1932 that the casing of bench mark M.W.S. 7 was loose and that the mark was in poor condition.

A 4.—About 0.5 mile north of **Jefferson**, Worcester County, at the Jefferson station of the Central Massachusetts Branch of the Boston & Maine Railroad, 43.4 feet west of the west end of the station, on the right-of-way, 19.7 feet south of the south rail, and 0.3 foot below the ground. A standard disk, stamped "A 4 1927" and set in the top of a concrete post. (242.169 meters or 794.516 feet.)

M.W.S. 8 (Metropolitan District Water Supply Commission).—About 2.0 miles northeast of **Jefferson**, Worcester County, $8\frac{1}{2}$ rails east of milepost B 47 N 57 of the Boston & Maine Railroad, near shaft 3 of the Metropolitan District Water Supply tunnel, on the right-of-way, 63 feet north of pole 9154, and 23 feet north of the north rail. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of the $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a block of concrete about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (223.614 meters or 733.640 feet.)

B 4.—About 2.0 miles east of **Jefferson**, Worcester County, about 1,000 feet east of the overhead crossing of a paved highway, at bridge 45.37 of the Boston & Maine Railroad which carries the track over a gravel road, in the southwest corner of the west parapet wall. A standard disk, stamped "B 4 1927." (188.275 meters or 617.699 feet.)

M.W.S. 9 (Metropolitan District Water Supply Commission).—About 2.0 miles west of **Oakdale**, Worcester County, near shaft 2 of the Metropolitan District Water Supply tunnel, on the right-of-way of the Boston & Maine Railroad, 18 feet north of the north rail, and 13 feet south of pole 88 of the power transmission line following the tunnel. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the bottom of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (158.844 meters or 521.141 feet.)

M.W.S. 10 (Metropolitan District Water Supply Commission).—About $\frac{1}{4}$ mile west of **Oakdale**, Worcester County, near shaft 1 of the Metropolitan District Water Supply tunnel, on the right-of-way of the Boston & Maine Railroad, 35 rails west of a highway bridge over the railroad at **Oakdale**, west of a large sand pit, northeast of a circular dam, and 42.5 feet north of the north rail of the track. A standard bench mark of the Metropolitan District Water Supply Commission. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (126.540 meters or 415.157 feet.)

M.W.W. 72 (Metropolitan Water Works).—About $\frac{1}{4}$ mile west of **Oakdale**, Worcester County, about 1,000 feet south of the circular dam, and about 600 feet west of the Worcester-Oakdale highway, in an open field, about 100 feet west of Holden Street. A standard bench mark of the Metropolitan Water Works. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (119.356 meters or 391.587 feet.)

M.W.W. 67 (Metropolitan Water Works).—At **Boylston Common**, Worcester County, on the west shore of the Wachusett Reservoir, about 1,000 feet southeast

of the railroad station, 100 feet south of an abandoned road (formerly Worcester Street), and 40 feet from the nearest shore of the reservoir. A standard bench mark of the Metropolitan Water Works. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a block of concrete about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 3-inch iron pipe which is spread at the bottom and capped at the top. (122.020 meters or 400.327 feet.)

M.W.W. 70 (Metropolitan Water Works).—About 0.5 mile north of **Boylston Common**, Worcester County, near West Boylston, on the northeast shore of Wachusett Reservoir, about 1,000 feet northwest of an abandoned stone Baptist Church, on the high water line of the reservoir. A standard bench mark of the Metropolitan Water Works. The point on which the rod is held is the upper end of a $\frac{3}{4}$ -inch iron rod, the lower end of which is imbedded in a concrete block about 1.5 feet square and set 6 feet below the ground. The rod comes to the surface inside a 4-inch iron pipe which is spread at the bottom and capped at the top. (118.976 meters or 390.340 feet.)

C 4.—About 1.0 mile south of **Boylston Common**, Worcester County, at the southwest corner of a State highway crossing of the Boston & Maine Railroad, 3 rails south of semaphore 78, 49 feet south of the center of the highway, and 11.7 feet west of the west rail, on the right-of-way. A standard disk, stamped "C 4 1927" and set in the top of a concrete post. (149.895 meters or 491.781 feet.)

T.B.M. 75 (B. & M. R. R.)—About $2\frac{1}{4}$ miles south of **Boylston Common**, Worcester County, on the southeast corner of the east head wall of concrete culvert 10 E of the Boston & Maine Railroad. A chiseled square. (169.166 meters or 555.005 feet.)

D 4.—About 3.0 miles north of **Summit**, Worcester County, 4 rails north of milepost W 6 P 141 of the Boston & Maine Railroad, 7 rails south of the center of a road crossing, on the right-of-way, 32 feet east of the east rail, and 5 feet west of the east right-of-way fence. A standard disk, stamped "D 4 1927" and set in the top of a concrete post. (172.768 meters or 566.823 feet.)

E 4.—About 1.5 miles north of **Summit**, Worcester County, 15 rails east of a concrete arch bridge carrying West Boylston Street over the Boston & Maine Railroad at a point where the railroad is in a curved rock cut, 5 rails west of the crossing of Burncoat Street, and 190.7 feet west of semaphore 48, on the right-of-way, 13 feet north of the north rail. A standard disk, stamped "E 4 1927" and set in the top of a concrete post. (188.452 meters or 618.280 feet.)

T.B.M. 77.—Destroyed. (177.164 meters or 581.246 feet.)

F 4.—At **Summit**, Worcester County, 3 rails south of milepost W 6 P 144 of the Boston & Maine Railroad, and 2 rails north of the center of West Boylston Street, on the right-of-way, 9 feet west of the west rail. A standard disk, stamped "F 4 1927" and set in the top of a concrete post. (168.817 meters or 553.860 feet.)

City B.M. (City of Worcester).—At **Worcester**, Worcester County, about 200 feet south of the Lincoln Square Station, on the Salisbury Building, 97.4 feet west of the west rail of the Boston & Maine Railroad, and 20.7 feet east of the west corner of the building, at the west end of the lower doorstep of entrance 14. A chiseled cross. (145.659 meters or 477.883 feet.)

G 4.—At **Worcester**, Worcester County, about 0.5 mile north of the Union Station on the Boston & Maine Railroad, 3 rails south of the center of Thomas Street, on the east side of a brick building by the Holyoke Machine Co., 2 feet south of the south side of the fifth window south of the northeast corner, and about 2.5 feet above the ground. A standard disk, stamped "G 4 1927." (142.691 meters or 468.145 feet.)

City B.M. 2 (City of Worcester).—At **Worcester**, Worcester County, about 100 yards northeast of the new Union Station, on the north end of the stone doorsill of the old Union Station at Washington Square. A copper bolt. (144.782 meters or 475.006 feet.)

H 4.—At **Worcester**, Worcester County, about 1.0 mile east of the Union Station, at the Boston & Albany Railroad bridge 43.31 over Putnam Lane, just east of a large, red, railroad coal house, in the west end of the north concrete parapet wall of the bridge. A standard disk, stamped "H 4 1927." (150.166 meters or 492.670 feet.)

J 4.—About 3.0 miles east of **Worcester**, Worcester County, 5 rails north of semaphore 41.31 on the Boston & Albany Railroad, on the right-of-way, 12 feet south of pole 41.17, and 23 feet east of the east rail, in line with the row of poles.

A standard disk, stamped "J 4 1927" and set in the top of a concrete post. (138.731 meters or 455.153 feet.)

T.B.M. 85 (B. & A. R.R.).—About 4.0 miles east of Worcester, Worcester County, at the point of compound curvature of the curve west of Millbury Junction on the Boston & Albany Railroad, between the tracks, 1 rail north of semaphore 40.11. A cross filed in the top of a rail bound. (127.580 meters or 418.569 feet.)

K 4.—About 1.3 miles west of Grafton, Worcester County, 55 feet west of the west end of the Boston & Albany Railroad station at Millbury Junction, on the right-of-way, 20.5 feet south of the south rail, in line with the row of poles. A standard disk, stamped "K 4 1927" and set in the top of a concrete post. (119.-328 meters or 391.495 feet.)

Van Orden (Massachusetts State Survey).—At North Grafton, Worcester County, on the north wall of the North Grafton station of the Boston & Albany Railroad, between the office window and the east door, and about 5 feet above the ground. This mark is a horizontal line on a copper plate, inscribed "Mass. State Survey 1893, 375.1 feet above mean sea level" and is one of the copper plates which were set by the State from the Van Orden levels, and its elevation was probably not determined by Van Orden at the time the "Van Orden Line" was run. (114.393 meters or 375.304 feet.)

L 4.—At North Grafton, Worcester County, about 2 rails east of the North Grafton station of the Boston & Albany Railroad, on the right-of-way, 54 feet north of the north rail, and 3 feet south of a corner in the right-of-way fence. A standard disk, stamped "L 4 1927" and set in the top of a concrete post. (112.497 meters or 369.084 feet.)

M 4.—About 1.5 miles east of North Grafton, Worcester County, at Boston & Albany Railroad bridge 36.18 which is a highway bridge over the railroad, 5 feet east of the west edge of the north abutment, and about 8 feet north of the north rail. A standard disk, stamped "M 4 1927." (115.992 meters or 380.550 feet.)

N 4.—About 2.8 miles west of Westboro, Worcester County, in the west end of the north parapet wall of Boston & Albany Railroad bridge 34.73. A standard disk, stamped "N 4 1927." (101.742 meters or 333.799 feet.)

T.B.M. 91 (Van Orden).—About 1.5 miles west of Westboro, Worcester County, at Boston & Albany Railroad bridge 33.61, 2 feet from the east end of the south abutment, in the granite foundation stone. A drill hole. (96.777 meters or 317.509 feet.)

P 4.—At Westboro, Worcester County, in the north wall of the Boston & Albany Railroad station, between the east entrance and the east end of the building, about 1.5 feet above the platform. A standard disk, stamped "P 4 1927." (90.681 meters or 297.509 feet.)

Q 4.—About 2.0 miles east of Westboro, Worcester County, 19½ rails west of milepost B 30 on the Boston & Albany Railroad, in the east end of the north head wall of a stone culvert, 16.9 feet north of the north rail. A standard disk, stamped "Q 4 1927." (85.062 meters or 279.074 feet.)

R 4.—At Southville, Worcester County, 110 feet west of the west end of the Southville station of the Boston & Albany Railroad, on the right-of-way, 27.1 feet north of the north rail of the westbound track. A standard disk, stamped "R 4 1927" and set in the top of a concrete post. (80.410 meters or 263.812 feet.)

S 4.—In Worcester County, about 2.0 miles west of Ashland, Middlesex County, 8½ rails east of Boston & Albany Railroad bridge 26.08, on the right-of-way, 81 feet west of milepost B 26, 46.7 feet north of the north rail, and 2 feet east and 10 feet south of a corner of the right-of-way fence. A standard disk, stamped "S 4 1927" and set in the top of a concrete post. (66.071 meters or 216.768 feet.)

T.B.M. 99.—About ¼ mile east of Cordaville, Worcester County, on Boston & Albany Railroad bridge 25.25, in the second course of stone at the northwest corner of the west end of the south abutment. A drill hole. (62.631 meters or 205.482 feet.)

T 4.—At Ashland, Middlesex County, 152 feet north of the station of the Boston & Albany Railroad, and 53 feet south of the center of Front Street, on the railroad right-of-way. A standard disk, stamped "T 4 1927" and set in the top of a concrete post. (57.362 meters or 188.195 feet.)

T.B.M. 104 (Van Orden).—About 0.5 mile west of Framingham, Middlesex County, on Boston & Albany Railroad bridge 21.84, in the northeast corner of the second course of the south abutment. A drill hole. (52.296 meters or 171.574 feet.)

U 4.—At Framingham, Middlesex County, about 12 rails east of the east end of the Boston & Albany Railroad station, on the right-of-way, 14 feet south of semaphore 18, 19.2 feet south of the south rail, and 1.5 feet east and 2 feet north of a corner of the right-of-way fence. A standard disk, stamped "U 4 1927" and set in the top of a concrete post. (50.186 meters or 164.652 feet.)

T.B.M. 105 (B. & A. R.R.).—Destroyed. (48.714 meters or 159.823 feet.)

V 4.—Near Framingham, Middlesex County, about 1.0 mile east of the Boston & Albany Railroad station, on the right-of-way, 220 feet south of the sewer station, 42.7 feet north of the north rail, and 30.5 feet east of a gate leading through the right-of-way fence to the sewer station. A standard disk, stamped "V 4 1927" and set in the top of a concrete post. (47.384 meters or 155.459 feet.)

W 4.—About 2.0 miles west of Natick, Middlesex County, 13 rails west of Boston & Albany Railroad bridge 19.40, on the right-of-way, 19 feet south of the south rail of the south track. A standard disk, set in the top of a concrete post. (47.281 meters or 155.121 feet.)

NOTE—It was reported in 1932 that bench mark W 4 had been covered by the dirt thrown from a ditch that had been dug along the railroad.

X 4.—At Natick, Middlesex County, 2 rails east of Boston & Albany Railroad bridge 17.67, 30 feet west of the west end of the railroad station, 18.5 feet south of the south rail of the south track, and 4.4 feet south of the south edge of a concrete walk which extends along the north side of the station, in a small plot of grass west of the station. A standard disk, stamped "X 4 1927" and set in the top of a concrete post. (48.922 meters or 160.505 feet.)

T.B.M. 110 (B. & A. R.R.).—About 1.0 mile east of Natick, Middlesex County, at mileage 16.70 on the Boston & Albany Railroad, in the west end of a retaining wall south of the track, 65 feet west of a stone bound. A chiseled square. (55.873 meters or 183.310 feet.)

T.B.M. 111 (B. & A. R.R.).—About 1.5 miles east of Natick, Middlesex County, at Boston & Albany Railroad bridge 16.07, in the southeast corner of the bridge seat on the east abutment. A chiseled square. (48.975 meters or 160.679 feet.)

T.B.M. 113 (Van Orden).—At Wellesley, Middlesex County, on Boston & Albany Railroad bridge 14.81, in the corner of the west stone of the north abutment. A drill hole. (42.785 meters or 140.370 feet.)

Y 4.—At Wellesley, Middlesex County, 120 feet west of the west end of the Wellesley station of the Boston & Albany Railroad, and 6 rails east of bridge 14.81, at the west end of a concrete platform, 14.8 feet south of the south rail. A standard disk, stamped "Y 4 1927" and set in the top of a concrete post. (42.815 meters or 140.469 feet.)

T.B.M. 115 (B. & A. R.R.).—Destroyed. (42.555 meters or 139.616 feet.)

Z 4.—At Wellesley Farms, Middlesex County, 18 feet west of the west end of the Wellesley Farms station of the Boston & Albany Railroad, on the right-of-way, 14 feet south of the south rail, and south of the asphalt walk on the north side of the station. A standard disk, stamped "Z 4 1927" and set in the top of a concrete post. (35.897 meters or 117.772 feet.)

M 2.—See page 36.

LINE 10, CHICOPEE, MASS., TO BELLOWS FALLS, VT. (PART)

[First-order leveling]

This line follows the Boston & Maine Railroad from Chicopee, through Holyoke, Northampton and Greenfield, Mass., toward Bellows Falls, Vt. The field work was done, during the summer of 1927, by John Bowie, Jr., junior hydrographic and geodetic engineer.

T.B.M. 4.—See page 38.

A 5.—About 1 mile north of Chicopee, Hampden County, about 100 yards south of a highway bridge over the Boston & Maine Railroad, 38 feet north of the center of a dirt-road crossing, and 27.5 feet west of the west rail. A concrete post with disk in top. (17.567 meters or 57.634 feet.)

B 5.—At Holyoke, Hampden County, about 0.1 mile south of the Riverside station of the Boston & Maine Railroad, on the east side of the north abutment of the bridge over Connecticut River, and 3.5 feet east of the east rail. A standard disk. (24.311 meters or 79.760 feet.)

C 5.—At Holyoke, Hampden County, in the southeast corner of the post office, 3 feet above the ground. A standard disk. (28.676 meters or 94.081 feet.)

City Hall (City of Holyoke).—At **Holyoke**, Hampden County, on the northeast corner of the foundation of the city hall. A horizontal line cut in the granite. (46.480 meters or 152.493 feet.)

D 5.—At **Holyoke**, Hampden County, at the northwest corner of the intersection of High and Dwight Streets, in the southeast corner of the Holyoke National Bank building, about 3 feet above the sidewalk. A standard disk. (46.915 meters or 153.920 feet.)

T.B.M. 6.—About $\frac{3}{4}$ mile north of **Holyoke**, Hampden County, on the Boston & Maine Railroad, at semaphore 99, on the northwest corner of the concrete base. No mark. (34.992 meters or 114.803 feet.)

E 5.—About 4.5 miles north of **Holyoke**, Hampden County, about 0.4 mile south of the **Smiths Ferry** station of the Boston & Maine Railroad, about 50 feet north of a large elm tree, and 13.5 feet west of the west rail. A concrete post with disk in top. (35.992 meters or 118.084 feet.)

T.B.M. 10.—About 5 miles north of **Holyoke**, Hampden County, on the Boston & Maine Railroad, at semaphore 135, on the southwest corner of the concrete base. No mark. (37.634 meters or 123.471 feet.)

T.B.M. 11.—About 5.5 miles north of **Holyoke**, Hampden County, at **Wayside Beach**, on the Boston & Maine Railroad, on the northwest corner of the concrete base of warning signal 85. No mark. (37.873 meters or 124.255 feet.)

T.B.M. 12.—About 4 miles south of **Northampton**, Hampshire County, on the Boston & Maine Railroad, at semaphore 143, on the northwest corner of the concrete base. No mark. (36.621 meters or 120.147 feet.)

F 5.—About 3 miles south of **Northampton**, Hampshire County, about 0.5 mile north of a railroad bridge about 0.3 mile north of **Mount Tom** station on the Boston & Maine Railroad, 12.5 feet south of the center of a road, and 14.7 feet east of the east rail. A concrete post with disk in top. (36.799 meters or 120.731 feet.)

G 5.—At **Northampton**, Hampshire County, at the Boston & Maine Railroad bridge over Holyoke Street, on the west end of the south abutment, 7.6 feet west of the west rail. A standard disk. (40.934 meters or 134.298 feet.)

H 5.—At **Northampton**, Hampshire County, in front of the post office, in the northeast corner of a large granite slab supporting pillars. A standard disk. (40.557 meters or 133.061 feet.)

J 5.—At **Northampton**, Hampshire County, at the southeast corner of the Hotel Northampton, 3 feet above the sidewalk. A standard disk. (40.801 meters or 133.861 feet.)

T.B.M. 18.—About $1\frac{1}{4}$ miles north of **Northampton**, Hampshire County, at Boston & Maine Railroad semaphore 189, on the southwest corner of the concrete base. No mark. (46.783 meters or 153.487 feet.)

T.B.M. 19.—About 2.5 miles north of **Northampton**, Hampshire County, at Boston & Maine Railroad semaphore 195, on the southwest corner of the concrete base. No mark. (51.209 meters or 168.008 feet.)

K 5.—About 3 miles north of **Northampton**, Hampshire County, opposite **Laurel Park** station of the Boston & Maine Railroad, 100 yards north of a railroad bridge, and 13.5 feet east of the east rail. A concrete post with disk in top. (48.912 meters or 160.472 feet.)

L 5.—Destroyed. (44.360 meters or 145.538 feet.)

M 5.—At **North Hatfield**, Hampshire County, about 250 feet south of the North Hatfield station on the Boston & Maine Railroad, 19 feet north of the center of Bradstreet Road, and 19.5 feet west of the west rail. A concrete post with disk in top. (51.781 meters or 169.885 feet.)

N 5.—At **Whately**, Franklin County, about 70 feet south of the Whately station on the Boston & Maine Railroad, 28.5 feet south of the center of the East Whately Road, and 17.4 feet west of the west rail. A concrete post with disk in top. (56.058 meters or 183.917 feet.)

Q 5.—About 1 mile north of **South Deerfield**, Franklin County, at Boston & Maine overhead highway bridge 29.51, on the south end of the wing wall of the west abutment, 10.9 feet west of the west rail, and 3 feet above the ditch. A standard disk. (67.614 meters or 221.830 feet.)

T.B.M. 29.—About 2 miles north of **South Deerfield**, Franklin County, on the Boston & Maine Railroad, at semaphore 305, on the southwest corner of the concrete base. No mark. (71.603 meters or 234.918 feet.)

T.B.M. 31.—About 0.5 mile south of **Deerfield**, Franklin County, on the Boston & Maine Railroad, at semaphore 321, on the southwest corner of the concrete base. No mark. (70.936 meters or 232.729 feet.)

R 5.—At **Deerfield**, Franklin County, about 150 feet north of the Deerfield station of the Boston & Maine Railroad, and 20.6 feet west of the west rail. A concrete post with disk in top. (66.061 meters or 216.735 feet.)

S 5.—About 1 mile south of **Greenfield**, Franklin County, at the Boston & Maine Railroad bridge over a state highway and the Deerfield River, on the west end of the south abutment, 7.8 feet west of the west rail. A standard disk. (57.669 meters or 189.202 feet.)

T.B.M. 34.—About $\frac{1}{4}$ mile south of **Greenfield**, Franklin County, on the Boston & Maine Railroad, at semaphore 357, on the southwest corner of the concrete base. A chiseled point. (60.281 meters or 197.772 feet.)

T.B.M. 35.—About 0.5 mile north of **Greenfield**, Franklin County, on the Boston & Maine Railroad, at semaphore 366, on the northeast corner of the concrete base. A chiseled point. (65.976 meters or 216.456 feet.)

T 5.—About 1 mile north of **Greenfield**, Franklin County, at Silver Road crossing of the Boston & Maine Railroad, 35.9 feet south of the center of the road, and 9.6 feet west of the west rail. A concrete post with disk in top. (75.995 meters or 249.327 feet.)

T.B.M. 37.—About 2.5 miles north of **Greenfield**, Franklin County, on the Boston & Maine Railroad, at semaphore 387, on the southwest corner of the concrete base. A chiseled point. (82.859 meters or 271.847 feet.)

T.B.M. 39.—About 3.5 miles south of **Bernardston**, Franklin County, on the Boston & Maine Railroad, at semaphore 399, on the southwest corner of the concrete base. A chiseled point. (94.971 meters or 311.584 feet.)

U 5.—About 3 miles south of **Bernardston**, Franklin County, 362 feet north of Boston & Maine Railroad overhead bridge 40.38, 212 feet north of semaphore 404, and 13.9 feet west of the west rail. A concrete post with disk in top. (99.727 meters or 327.188 feet.)

T.B.M. 40.—About 2 miles south of **Bernardston**, Franklin County, on the Boston & Maine Railroad, at semaphore 415, on the southwest corner of the concrete base. A chiseled point. (109.280 meters or 358.529 feet.)

V 5.—At **Bernardston**, Franklin County, at Boston & Maine Railroad arch bridge over Falls River, between the ties on the north end of the bridge, 1.0 foot west of the west rail. A standard disk. (107.766 meters or 353.562 feet.)

T.B.M. 41.—About $\frac{1}{4}$ mile north of **Bernardston**, Franklin County, on the Boston & Maine Railroad, at semaphore 434, on the northeast corner of the concrete base. A chiseled point. (114.877 meters or 376.892 feet.)

T.B.M. 43.—About 1 mile south of **Mount Hermon**, Franklin County, at Boston & Maine Railroad bridge 45.05, at a highway crossing, in the northeast corner of the west pier. A chiseled point. (117.750 meters or 386.318 feet.)

W 5.—At **Mount Hermon**, Franklin County, 570 feet south of the Boston & Maine Railroad station, opposite a coal dump on a side track, 13.5 feet west of the west rail. A concrete post with disk in top. (112.169 meters or 368.008 feet.)

T.B.M. 46.—About $1\frac{1}{4}$ miles south of **East Northfield**, Franklin County, on the Boston & Maine Railroad, at semaphore 479, on the northwest corner of the concrete base. A chiseled point. (94.360 meters or 309.579 feet.)

X 5.—At **East Northfield**, Franklin County, about 350 feet north of the Boston & Maine Railroad station, 37.1 feet southeast of a granite monument on the Massachusetts-Vermont boundary, and 35.6 feet east of the east rail. A concrete post with disk in top. (80.051 meters or 262.634 feet.)

The line continues into Vermont.

LINE 11. MORRIS STATION. VIA TORRINGTON. TO THOMASTON. CONN.

[First-order leveling by the Columbia University Summer School of Surveying]

This line follows the Litchfield Branch of the New York, New Haven & Hartford Railroad, from Morris Station to Litchfield, highways to Torrington, and the New York, New Haven & Hartford Railroad to Thomaston. The field work was done, during the summers of 1925 and 1927 to 1932, by field parties from the Columbia University Summer School of Surveying.

For additional bench marks in the vicinity of Morris Station, Conn., see pages 7, 8, and 50.

9.—About 1 mile north of **Morris Station**, Litchfield County, on the Litchfield Branch of the New York, New Haven & Hartford Railroad, at the end of the third curve north of the station, in the top of the east end wall of a concrete culvert under the track. A Camp Columbia standard disk, stamped "B.M. 9." (731.897 feet.)

10.—About 1.5 miles north of **Morris Station**, Litchfield County, on the Litchfield Branch of the New York, New Haven & Hartford Railroad, 63 feet toward Bantam from the first road crossing north of Morris, and 19 feet to the right (facing toward Bantam) of the center line of the track, in the top of a boulder. A Camp Columbia standard disk, stamped "B.M. 10." (755.580 feet.)

11.—About 2.2 miles north of **Morris Station**, Litchfield County, on the Litchfield Branch of the New York, New Haven & Hartford Railroad, about 25 yards toward Bantam from the first road crossing below the sharp curve and deep rock cut just below Bantam, to the left of the track (facing toward Bantam) on the right-of-way, in the top of a boulder. A Camp Columbia standard disk, stamped "B.M. 11." (806.902 feet.)

12.—At **Bantam**, Litchfield County, about 100 yards northwest of the New York, New Haven & Hartford Railroad station, on the top of and at the south end of the west truss of a steel highway bridge. The top or highest point of the most southerly one of the east row of rivet heads. (895.427 feet.)

43.—See page 50.

13.—At **Bantam**, Litchfield County, at the northwest corner of the brick foundation of the New York, New Haven & Hartford Railroad station. The upper surface of the top brick, at a point marked by a shallow drill hole. (895.637 feet.)

14.—At **Bantam**, Litchfield County, about $\frac{1}{4}$ mile northwest of the New York, New Haven & Hartford Railroad station, at the southwest corner of the T-road intersection. The highest point of a rough circular knob cut in the upper surface of the stone curbing at the base of a stone post bearing an almost illegible inscription. (918.730 feet.)

15.—At **Bantam**, Litchfield County, at the building of the Bantam Ball Bearing Co., in the water table just to the right of the office entrance. A Camp Columbia standard disk, stamped "15." (895.629 feet.)

16. At **Lake Station**, Litchfield County, on the Litchfield branch of the New York, New Haven & Hartford Railroad, in the top of the concrete curbing around the track scale platform. A Camp Columbia standard disk, stamped "16." (904.190 feet.)

16 A.—About 2 miles south of **Litchfield**, Litchfield County, on the Litchfield branch of the New York, New Haven & Hartford Railroad, at the west end of the "long tangent" between Bantam and Litchfield, north of the track where it curves southward from the west end of the tangent, east of the concrete highway, on the top of a large boulder used as an anchor for a pole guy. A chiseled square. (911.687 feet.)

17. About 1 mile south of **Litchfield**, Litchfield County, on the Litchfield branch of the New York, New Haven & Hartford Railroad, near the east end of the "long tangent" between Bantam and Litchfield, north of the track, at the east end of a small timber span bridge over a small stream, in the top of the northeast wing wall of a small concrete abutment. A Camp Columbia standard disk, stamped "17." (899.917 feet.)

18. At **Litchfield**, Litchfield County, southeast of the railroad station at the end of the Litchfield branch of the New York, New Haven & Hartford Railroad, southeast of the southeast corner of the platform scales at the station, across a wide ditch from the scales, in the top of the south end of a large boulder lying imbedded in a small slope. A Camp Columbia standard disk, stamped "18." (957.633 feet.)

NOTE.—When recovered in 1928, bench mark 18 was badly battered but still solidly fastened in the rock.

19.—At **Litchfield**, Litchfield County, at the Litchfield Bank on North Street, at the south end of the porch, between the south column and the front wall of the building, in the granite floor of the porch. A Camp Columbia standard disk, stamped "19." (1,094.401 feet.)

19 A.—At **Litchfield**, Litchfield County, in the plaza northeast of the town hall, at the east end of the park system in the village, on top of the large iron cannon mounted on a stone base. A point marked by an "8" stamped in the top of the small projection on the top of the cannon. (1,091.582 feet.)

1085 (U.S.G.S.).—At the town hall in **Litchfield**, Litchfield County, at the entrance to the building, in the masonry floor of the small portico surrounding the front door of the building. A United States Geological Survey standard disk, stamped "1085." (1,084.502 feet.)

20.—About $\frac{1}{4}$ mile northeast of **Litchfield**, Litchfield County, on the Litchfield-Torrington highway, at the first bridge north of Litchfield, on the top of the

west end of the south abutment, in a projection at the west end of the bridge seat. A Camp Columbia standard disk, stamped "20." (958.263 feet.)

21.—About 1.6 miles northeast of **Litchfield**, Litchfield County, on the Litchfield-Torrington highway, a few hundred feet south of a barn which sets high above the highway behind a stone retaining wall, across the road from a pole marked "SNET Co 177", about 19 feet west of the center line of the concrete highway, and a few yards north of a maple tree, in the top of a large boulder. A Camp Columbia standard disk, stamped "21." (1,143.411 feet.)

22.—About 2.6 miles north of **Litchfield**, Litchfield County, on the Litchfield-Torrington highway, about 75 feet east of the highway, and about 150 feet north of the south edge of a pasture, in the top of a boulder about 4 by 7 feet in plan and about 1½ feet higher than the ground. A Camp Columbia standard disk, stamped "22." (1,043.630 feet.)

23.—About 3.3 miles northeast of **Litchfield**, Litchfield County, on the Litchfield-Torrington highway, about ¼ mile south of the point where the power transmission line crosses the highway, about 6 posts northeast of the southwest end of the white guard rail, and about 20 feet east of the east edge of the highway, in the top of a boulder about 5 by 8 feet in plan and projecting about 1½ feet above the ground. A Camp Columbia standard disk, stamped "23." (866.154 feet.)

24.—About 4¼ miles northeast of **Litchfield**, Litchfield County, on the Litchfield-Torrington highway, at the north end of a sharp curve in the highway, east of the road, north of a small bridge leading to a house across the stream, in the top of a large, light-gray boulder. A Camp Columbia standard disk, stamped "24." (814.655 feet.)

25.—At the south edge of **Torrington**, Litchfield County, on the Litchfield-Torrington highway, opposite the T-road leading to the cemetery, in the top of the parapet wall at the southwest corner of the bridge over the stream which crosses the highway just north of the turn to the cemetery. A Camp Columbia standard disk, stamped "25." (651.260 feet.)

NOTE.—It was reported that on or about June 6, 1930, the concrete slab in which bench mark 25 was set had been displaced about 30 degrees in orientation from its original position. About 4 days later the slab had been replaced, apparently very close to its original position. The bench mark is now doubtful as a first-order mark, but is still good for topographic control, as it is probably well within ½ inch of its original elevation.

26.—At **Torrington**, Litchfield County, just south of the Litchfield Street crossing of the New York, New Haven & Hartford Railroad, at the warehouse of the Pickett Grocery Co., at the entrance to the office, in the south end of the concrete doorstep. A Camp Columbia standard disk, stamped "26." (582.093 feet.)

27.—At **Torrington**, Litchfield County, at the New York, New Haven & Hartford Railroad station, north of the south door in the west side of the waiting room, close to the south end of the projection of the ticket office, about ½ foot from the west wall of the station, in the concrete platform. A Camp Columbia standard disk, stamped "27." (594.519 feet.)

A (A.B.Co.).—At **Torrington**, Litchfield County, at the plant of the American Brass Co., at the north end of the sill at the door of the employment office. The top of a brass plug which projects slightly above the surface of the sill. (576.016 feet.)

B (A.B.Co.).—At **Torrington**, Litchfield County, at the plant of the American Brass Co., in the water table at the corner of the building just to the left as one crosses the bridge from the employment office to the main body of the plant. The top of a brass plug set flush with the surface of the water table. (575.894 feet.)

571 (U.S.G.S.).—At **Torrington**, Litchfield County, in the steps of the city hall. A United States Geological Survey standard disk, stamped "571." (570.637 feet.)

28.—About 2 miles south along the New York, New Haven & Hartford Railroad from the station at **Torrington**, Litchfield County, 13 rails south of the crossing of an electric power transmission line, 8 rails north of the grade crossing of a secondary road, and 6 yards east of the center line of the track, in the middle of the top of the east head wall of a stone culvert under the track. A Camp Columbia standard disk, stamped "28." (523.812 feet.)

29.—At **East Litchfield**, Litchfield County, on the New York, New Haven & Hartford Railroad, at the overhead crossing of the "East Litchfield Road," in the top of the low portion of the south end of the west abutment. A Camp Columbia standard disk, stamped "29." (510.213 feet.)

510 (U.S.G.S.).—About ¼ mile northeast of **East Litchfield**, Litchfield County, at the road forks to the west, in the north bridge seat of a steel girder highway

bridge over the river, on the east side of the road, about 3 feet below the grade of the road. A United States Geological Survey standard disk, stamped "510 196 W 1923." (509.365 feet.)

30.—About 1 mile south along the New York, New Haven & Hartford Railroad from **East Litchfield**, Litchfield County, about 38 rails north of bridge 42.52, about 23 rails south of a point opposite a large, light-colored boulder in the middle of the Naugatuck River, about 17½ rails south around a sharp curve from a triangular concrete post marked "40 42," about 9 yards west of the track, and about 9 yards south of a large striped outcrop of rock in the top of a striped gray boulder. A Camp Columbia standard disk, stamped "30." (497.225 feet.)

31.—At **Campville**, Litchfield County, between the village and the railroad station, at the west end of the road bridge where the road crosses the stream and swings sharply south toward a grade crossing, about 10 yards south of the bridge, and about 6 feet lower than the bridge floor, in line with a row of four poles to the southwest, in a large outcrop of rock on the west bank of the Naugatuck River. A Camp Columbia standard disk, stamped "31." (454.577 feet.)

468 (U.S.G.S.).—At **Campville**, Litchfield County, about 1,000 feet northwest of the road forks to the southwest over the bridge, and 30 feet northeast of the road, in an isolated outcrop of a ledge in a low field. A United States Geological Survey standard disk, stamped "468 195 W 1923." (467.779 feet.)

32.—About 1½ miles south along the New York, New Haven & Hartford Railroad from **Campville**, Litchfield County, in the foundation of the south abutment of the large concrete and steel highway bridge over the railroad and the Naugatuck River, in the middle of an exposed portion of the foundation, at a drain under the track, about 4 inches from the face of the abutment. A Camp Columbia standard disk, stamped "32." (434.550 feet.)

33.—About 2.0 miles north along the New York, New Haven & Hartford Railroad from the station at **Thomaston**, Litchfield County, at "Two-mile Bridge", 3 rails south of the south end of railroad bridge 46.58, 1½ rails south of a grade crossing, and 16½ feet west of the west rail. A Camp Columbia standard disk, set in the top of a concrete post. (406.506 feet.)

34.—About 1 mile north along the New York, New Haven & Hartford Railroad from the station at **Thomaston**, Litchfield County, almost opposite a rail rack, 30.7 feet west of the west rail, in the north one of a group of large gray boulders. A Camp Columbia standard disk. (398.832 feet.)

35.—At **Thomaston**, Litchfield County, at the New York, New Haven & Hartford Railroad station, at the north door on the east side of the station, 0.1 foot from the east edge of the stone sill, and 0.5 foot from the extreme north end of the sill. An unmarked point on the sill. (377.572 feet.)

W 7 (C. & G. S.).—See page 24.

LINE 12. CAMP COLUMBIA TO BANTAM, CONN.

[First-order leveling by the Columbia University Summer School of Surveying]

This line follows roads from Camp Columbia north along the west side of Bantam Lake to Bantam. The field work was done, during the summer of 1932, by a field party from the Columbia University Summer School of Surveying.

A.—See page 8.

1.—About 3 miles south of **Bantam**, Litchfield County, about 0.2 mile south of the south end of **Bantam Lake**, east of the road leading to Camp Columbia, south of the road from Lakeside to Morris, between the road and the stone wall on the south side of the Lakeside-Morris road, in the top of a flat boulder flush with the ground, and usually in summer well hidden in tall grass. A Camp Columbia standard disk. (945.032 feet.)

40.—About 2.0 miles south of **Bantam**, Litchfield County, at the east edge of the highway leading along the west shore of the lake, about 190 yards north of the center line of the road leading over the causeway to Deer Island, 6 yards east of the center line of the highway, and 12 yards north of the north face of a small shingled garage, in the top of a light-colored boulder or outcrop of rock in the edge of a lawn. A Camp Columbia standard disk, stamped "40." (906.428 feet.)

41.—About 1.7 miles south of **Bantam**, Litchfield County, in the northeast corner of a field on the west side of the highway leading south from Bantam, south of a yellow house on the west side of the road, 8 yards west of the fence along the highway, and 4 yards south of the fence at the north edge of the field,

in the top of a boulder, the exposed portion of which is about 4 feet long and 2 feet wide. A Camp Columbia standard disk, stamped "41." (913.507 feet.)

T.L.—About 1.0 mile south of **Bantam**, Litchfield County, at the intersection of the highway south from Bantam with the boundary line between the townships of Litchfield and Morris, 7 yards west of the center line of the highway, and 1½ yards from a 2-foot elm. The top of a granite post at the point marked by a small drill hole. (930.697 feet.)

42.—About 0.7 mile south of **Bantam**, Litchfield County, about 450 yards north of the road leading east from the highway to Dempsey's boat house, about 7 yards east of the center line of the highway, opposite a bog located west of the highway, about on range with the south edge of a wood lot on a hill to the eastward, in the top of the most southerly and least conspicuous of a group of ten scattered boulders located on the east side of the highway. A Camp Columbia standard disk, stamped "42." (931.558 feet.)

12.—See page 47.

43.—At **Bantam**, Litchfield County, about 19 rails west along the Litchfield branch of the New York, New Haven & Hartford Railroad from the road crossing just west of the station, in a cut, north of the track, about 3½ feet above the ground, in the face of the rock wall. A Camp Columbia standard disk, stamped "43." (895.393 feet.)

LINE 13, MORRIS STATION, VIA MOUNT TOM, TO BANTAM, CONN.

[Second-order levelling by the Columbia University Summer School of Surveying]

This line follows roads and trails west from Morris Station over the shoulder of Mount Tom to the Bantam-Woodville highway; thence along the highway to Bantam. From this line a double-run spur was run to the summit of Mount Tom. The field work was done, during the summer of 1932, by a field party from the Columbia University Summer School of Surveying.

C.—See page 7.

36.—About 0.6 mile west of **Morris Station**, Litchfield County, on the trail leading from the first house west of Morris Station to the summit of Mount Tom, at the right-hand edge of the trail (facing up the mountain), opposite a white birch tree to the left-hand side of the trail, in the top of a large boulder. A Camp Columbia standard disk, stamped "36." (924.263 feet.)

37.—About 0.8 mile west of **Morris Station**, Litchfield County, on the trail leading from the first house west of Morris Station to the summit of Mount Tom, in a slight hollow on the right-hand side of the trail (facing up the mountain), opposite a blazed tree on the left-hand side of the trail, in the top of a very large boulder which projects about 3 or 4 feet above the surrounding ground. A Camp Columbia standard disk, stamped "37." (985.900 feet.)

38.—About 1.7 miles west of **Morris Station**, Litchfield County, on the trail leading from the first house west of Morris Station to the summit of Mount Tom, at the junction of that trail and the trail leading to the summit of Mount Tom from the vicinity of the south end of Mount Tom Pond, in the north fork at the junction of the trails, close to the edge of the trail, in the top of a large boulder several feet above the actual junction of the trails. A Camp Columbia standard disk, stamped "38." (1,047.477 feet.)

Spur line to summit of Mount Tom (double run).

39. About 0.7 mile northwest of **Morris Station**, Litchfield County, on Mount Tom, about 0.18 mile down the trail from the tower on the summit, to the left of the trail (facing up the mountain), just at the foot of the last steep ascent to the tower, in the top of a none-too-conspicuous boulder at the left edge of the trail. A Camp Columbia standard disk, stamped "39." (1,195.841 feet.)

Triangulation station Mount Tom (C. & G.S.).—About 0.6 mile northwest of **Morris Station**, Litchfield County, at the summit of Mount Tom, inside the stone tower, in the center of the masonry floor of the tower, underneath the stairway. A United States Coast and Geodetic Survey standard triangulation-station disk. (1,291.076 feet.)

End of spur line.

44.—About 1.0 mile northwest of **Morris Station**, Litchfield County, on the trail leading from the south end of Mount Tom Pond to the summit of Mount

Tom, about 20 yards below a sharp bend in the trail where it turns to the right (facing up the mountain) and ascends to a sand pit, at a place where the woods begin to thin out at the edge of a clearing to the left of the trail, about 10 yards to the left of the trail, in the top of a boulder. A Coast and Geodetic Survey standard monel-metal rivet. (943.545 feet.)

45.—About $3\frac{1}{4}$ miles southwest along the Bantam-Woodville highway from Bantam, Litchfield County, at the place where the general direction of the road changes from southwest to northwest going from Bantam to Woodville, and at a place where the new concrete highway has left the old location in easing the curve, at the intersection of the old highway and the road leading into the Mount Tom State Park, 15 yards south of the center line of the old highway, and 4 yards west of the center line of the road leading into the park, in the root on the east side of a twin oak. The highest point of an iron lag screw. (922.832 feet.)

46.—About $2\frac{1}{4}$ miles southwest along the Bantam-Woodville highway from Bantam, Litchfield County, on the northwest shore of Mount Tom Pond, opposite "Mount Tom Shelter," 12 yards southeast of the center line of the highway, in a root extending 5 or 6 feet toward the highway from the trunk of the northernmost one of a row of six large maple trees overhanging the beach. The highest point of an iron lag screw. (885.018 feet.)

47.—About 2.3 miles southwest along the Bantam-Woodville highway from Bantam, Litchfield County, at the crossroad which is very close to the Litchfield-Morris town line, in the grass triangle where the road splits in joining the highway, about in the center line of the road leading northwest, in the root of the southeast one of two trees located about 8 yards northwest of the center line of the highway. The mark is in a 20-inch maple tree, the other tree being a 12-inch elm. The highest point of an iron lag screw. (910.445 feet.)

49.—About 1.0 mile southwest along the Bantam-Woodville highway from Bantam, Litchfield County, about 100 feet northeast of the house on the northwest side of the road, a little southwest of the high point of the road, about 10 yards northwest of the highway, in the south edge of a large boulder which is about 6 feet in diameter and projects approximately 2 feet above the ground and which is surrounded on all sides, except that towards the highway, by a large number of other massive boulders. A row of large maple trees stands between the bench mark and the above-mentioned house. A Camp Columbia standard disk, stamped "49." (872.934 feet.)

50.—At Bantam, Litchfield County, on the south side of the highway leading to Woodville, near the foot of the hill in the west portion of the town, in the north face of the northeast corner of an abandoned brick factory building, about $1\frac{1}{2}$ feet above the ground. A Camp Columbia standard disk, stamped "50" and set vertically. (840.370 feet.)

14.—See page 47.

End of line.

LINE 14, SPRINGFIELD, MASS., TO TROY, N.Y. (PART)

[First-order leveling]

This line follows the Boston & Albany Railroad from Springfield, through Westfield, Huntington, and Pittsfield, to State Line. The field work was done in June 1933, by a party in charge of W. M. Gibson, junior hydrographic and geodetic engineer.

For additional bench marks in the vicinity of Springfield, Mass., see pages 23 and 38.

Y 5.—At Springfield, Hampden County, in the Boston & Albany Railroad yards, about 0.2 mile west of the station, about 615 feet east of bridge 98.79 over Connecticut River, about 150 feet east of the Columbus Avenue underpass, 50 feet north of the main west-bound track, in the top of the center of the north foundation of a signal tower bridge over the tracks, 2 feet higher than the top of the rail. A standard disk, stamped "Y 5 1933." (24.345 meters or 79.872 feet.)

Z 5.—At Springfield, Hampden County, in the Boston & Albany Railroad yards, at 7-span steel-truss bridge 98.79 over Connecticut River, in the top of the north end of the back wall of the east concrete abutment, 12 feet north of the center line of the west-bound track, and 6 inches lower than the top of the rail. A standard disk, stamped "Z 5 1933." (22.367 meters or 73.382 feet.)

A 11 (M.P.W.D.).—At **West Springfield**, Hampden County, at Boston & Albany Railroad bridge 98.79 over Connecticut River, on the top of the southwest corner of the south wing wall of the west abutment, 18 feet south of the center line of the east-bound track, and 2½ feet lower than the top of the rail. A chiseled square. (20.970 meters or 68.799 feet.)

A 22 (M.P.W.D.).—At **West Springfield**, Hampden County, at Boston & Albany Railroad bridge 99.27 over Union Street, 57 feet south of the center line of the east-bound track, on the top of the southwest wing wall, 8 feet from the south corner of the west abutment, and 4 feet lower than the top of the rail. A chiseled square. (18.563 meters or 60.902 feet.)

75.8 (?).—At **West Springfield**, Hampden County, in the Boston & Albany Railroad yards, about 2,760 feet east of the station, about 230 feet southeast of switch tower 43, at the Baldwin Street underpass under the main track, in the top of the southeast end of the west abutment, 45 feet south of the center line of the east-bound main track, and 6 feet lower than the top of the rail. A ¾-inch structural steel rivet. (23.104 meters or 75.800 feet.)

T.B.M. 277 (M.P.W.D.).—At **West Springfield**, Hampden County, in the Boston & Albany Railroad yards, about 2,760 feet east of the station, about 230 feet southeast of switch tower 43, at the Baldwin Street underpass under the main track, on the top of the southeast corner of the west abutment, 45 feet south of the center line of the east-bound main track, and 6 feet lower than the top of the rail. A chiseled square. (23.093 meters or 75.764 feet.)

100.49 (B. & A. R.R.).—At **West Springfield**, Hampden County, on the Boston & Albany Railroad, at mileage 100.49, about 290 feet west of the Baldwin Street underpass under the main track, about 50 feet southwest of switch tower 43, on the top of the concrete base of a dwarf signal, 8 feet north of the center line of the west-bound track, and 6 inches lower than the top of the rail. A chiseled square. (25.301 meters or 83.008 feet.)

A 6.—At **West Springfield**, Hampden County, in the south face of the Boston & Albany Railroad station, 4½ feet east of the southwest corner, 42 feet north of the center line of the west-bound track, and 5 feet higher than the top of the rail. A standard disk, stamped "A 6 1933" and set vertically. (31.599 meters or 103.671 feet.)

B 22 (M.P.W.D.).—At **West Springfield**, Hampden County, near the corner of Front and Second Streets, on the south side of the post office, on the top of the southeast corner of the stone step, 6 inches higher than the sidewalk. A chiseled square. (32.860 meters or 107.808 feet.)

103.58 (M.S.T.S.).—At **West Springfield**, Hampden County, on the Boston & Albany Railroad, about 900 feet west of the station, about 240 feet west of Plummit Street, 30 feet south of Front Street, on the apex of milepost B 101, 12 feet north of the center line of the west-bound track, and 4½ feet higher than the top of the rail. A chiseled square. (32.651 meters or 107.122 feet.)

T.B.M. 278 (M.P.W.D.).—About 1.4 miles west along the Boston & Albany Railroad from the station at **West Springfield**, Hampden County, about 600 feet west of signal tower 102.31, 55 feet south of the center line of the east-bound track, at an abandoned signal bridge of the abandoned main track, on the top of the northwest anchor bolt of the west concrete pier, and 3 feet higher than the top of the rail. The top of a bolt, above the letters "B.M." stamped on the grillage plate. (43.758 meters or 143.563 feet.)

B 6.—About 1.8 miles west along the Boston & Albany Railroad from the station at **West Springfield**, Hampden County, about 1,280 feet east of signal tower 103.31 (?), 30 feet north of the center line of the west-bound track, and 1 foot higher than the top of the rail. A standard disk, stamped "B 6 1933" and set in the top of a concrete post. (42.713 meters or 140.134 feet.)

103.72 (B. & A. R.R.).—About 2.8 miles west along the Boston & Albany Railroad from the station at **West Springfield**, Hampden County, about 1,100 feet east of Union Street underpass 103.98, about 100 feet west of bridge 103.75 over the Westfield-Springfield highway, in the top stone of the west wing wall of the north abutment of a culvert, 14 feet south of the center line of the east-bound main track, and 2 feet lower than the top of the rail. A copper plug. (40.065 meters or 131.447 feet.)

C 22 (M.P.W.D.).—About 3.1 miles west along the Boston & Albany Railroad from the station at **West Springfield**, Hampden County, 72 feet east of milepost B 104, at the Dewey Street underpass, in the top of the northeast corner of the east concrete abutment, 12 feet north of the center line of the west-bound track, and 2 feet lower than the top of the rail. A copper plug. (39.764 meters or 130.459 feet.)

C 6.—About 2.7 miles southeast along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, about 700 feet south of the Westfield State Sanitorium, at concrete bridge 105.18 over East Mountain Road, in the top of the north end of the east abutment, 12 feet north of the center line of the west-bound track, and 4 feet lower than the top of the rail. A standard disk, stamped "C 6 1933." (39.600 meters or 129.921 feet.)

105.18 (B. & A. R.R.).—About 2.7 miles southeast along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, about 700 feet south of the Westfield State Sanitorium, at concrete bridge 105.18 over East Mountain Road, on the top of the west end of the south concrete head wall, 12 feet north of the center line of the east-bound track, and 9 inches lower than the top of the rail. A chiseled square. (40.639 meters or 133.330 feet.)

D 22 (M.P.W.D.).—About 2.7 miles southeast along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, about 700 feet south of the Westfield State Sanitorium, at concrete bridge 105.18 over East Mountain Road, in the top of the south corner of the southwest girder, 10 feet south of the center line of the east-bound track, and 1 foot lower than the top of the rail. A steel rivet. (40.636 meters or 133.320 feet.)

E 22 (M.P.W.D.).—About 2.0 miles southeast along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, at bridge 105.87 over Frog Hole Brook and Union Street, in the top of the southwest end of the south-east back wall, 8 feet south of the center line of the east-bound track, 2 feet southwest of the center of the southwest girder, and 1 foot lower than the top of the rail. An iron bolt. (41.230 meters or 135.269 feet.)

137.09 (M.S.T.S.).—About 1.9 miles southeast along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, about 730 feet west of bridge 105.87 over Frog Hole Creek and Union Street, 10 feet southwest of the center line of the east-bound track, on the apex of milepost B 106, and 4 feet higher than the top of the rail. A chiseled square. (42.565 meters or 139.649 feet.)

D 6.—About 0.9 mile east along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, about 230 feet west of milepost B 107, 40 feet east of a dirt-road grade crossing, 15 feet south of the center line of the east-bound track, and 1½ feet lower than the top of the rail. A standard disk, stamped "D 6 1933" and set in the top of a concrete post. (41.178 meters or 135.098 feet.)

T.B.M. 279 (M.P.W.D.).—About ¼ mile east along the Boston & Albany Railroad from the station at **Westfield**, Hampden County, 764 feet southeast of the Fowler Street crossing, about 440 feet east of a dirt road, 12 feet south of the center line of the east-bound track, at semaphore 107.22, on the top of the westernmost corner of the concrete base, and 2 feet lower than the top of the rail. A chiseled square. (41.185 meters or 135.121 feet.)

E 6.—At **Westfield**, Hampden County, on the Boston & Albany Railroad, about 330 feet east of the station, at the viaduct over the parkway and the intersection of Elm and Union Streets, in the top of the southeast corner of the south parapet, 7 feet south of the center line of the east-bound track, and 1 foot higher than the top of the rail. A standard disk, stamped "E 6 1933." (46.413 meters or 152.273 feet.)

F 6.—At **Westfield**, Hampden County, in the south face of the Boston & Albany Railroad station, 13 feet west of the southeast corner, 21 feet north of the center line of the west-bound track, and 5 feet higher than the top of the rail. A standard disk, stamped "F 6 1933" and set vertically. (47.484 meters or 155.787 feet.)

155.4 (M.S.S.).—At **Westfield**, Hampden County, at the Boston & Albany Railroad station, at the south entrance to the east waiting room, in the west wooden panel of the doorway, 21 feet north of the west-bound track, and 4 feet higher than the top of the rail. A Massachusetts State Survey copper plate, set vertically. (47.235 meters or 154.970 feet.)

F 22 (M.P.W.D.).—At **Westfield**, Hampden County, at the southwest side of the Boston & Albany Railroad station, in the west corner of the stone threshold of the southernmost door, 21 feet north of the center line of the west-bound track, and 6 inches higher than the top of the rail. A copper block. (46.058 meters or 151.109 feet.)

G 6.—At **Westfield**, Hampden County, on the New York, New Haven & Hartford Railroad, about 235 feet west of the Boston & Albany Railroad station, at bridge 60.38 over Westfield River, in the top of the east end of the north abutment, 10 feet east of the center line of the track, and 6 feet lower than the top of the rail. A standard disk, stamped "G 6 1933." (43.976 meters or 144.278 feet.)

152.06 (M.S.T.S.).—At Westfield, Hampden County, on the Boston & Albany Railroad, about 500 feet west of the station, about 370 feet west of the junction of the New York, New Haven & Hartford Railroad, 30 feet southwest of the center line of the east-bound track, on the apex of milepost B 108, and 4 feet higher than the top of the rail. A chiseled square. (46.898 meters or 153.865 feet.)

150.6 (?).—About 0.7 mile west along the Boston & Albany Railroad from the station at Westfield, Hampden County, 12 feet south of the center line of the east-bound track, on the top of the concrete foundation of semaphore 108.62, and 9 inches lower than the top of the rail. A chiseled square. (45.902 meters or 150.597 feet.)

T.B.M. 280 (M.P.W.D.).—About 1.9 miles west along the Boston & Albany Railroad from the station at Westfield, Hampden County, about 250 feet north of Westfield River, about 210 feet north of semaphore 109.81, about 212 feet northeast of the center line of the track, and about 175 feet north of a gravel road, on the top of a boulder in an open field. A chiseled square. (50.263 meters or 164.905 feet.)

110.23 (B. & A. R.R.).—About 2.7 miles southeast along the Boston & Albany Railroad from the station at Woronoco, Hampden County, at bridge 110.23 over the road to Bonnieventure Farm, in the top of the west end of the south girder, 9 feet south of the center line of the east-bound track, and 1 foot lower than the top of the rail. A bolt. (49.913 meters or 163.756 feet.)

H 6.—About 2.7 miles southeast along the Boston & Albany Railroad from the station at Woronoco, Hampden County, at bridge 110.23 over the road to Bonnieventure Farm, in the top of the east end of the north concrete girder, 9 feet northeast of the center line of the west-bound track, and 6 inches lower than the top of the rail. A standard disk, stamped "H 6 1933." (49.929 meters or 163.809 feet.)

167.1 (?).—About 2.2 miles southeast along the Boston & Albany Railroad from the station at Woronoco, Hampden County, about 1,100 feet southwest of a group of dairy barns and farm buildings, 9 feet north of the center line of the west-bound track, on the top of the concrete foundation of semaphore 110.71, level with the top of the rail. A chiseled square. (50.947 meters or 167.149 feet.)

205.7 (?).—About 1.2 miles southeast along the Boston & Albany Railroad from the station at Woronoco, Hampden County, 36 feet south of tower 111.72, 12 feet south of the center line of the west-bound track, on the top of the concrete foundation of semaphore 111.72, 2½ feet lower than the top of the rail. A chiseled square. (62.692 meters or 205.682 feet.)

J 6.—About 0.8 mile southeast along the Boston & Albany Railroad from the station at Woronoco, Hampden County, about 259 feet west of milepost B 112, 45 feet south of the center line of the west-bound track, in the highest point of a large rock ledge overhanging the north bank of Westfield River, and 6½ feet lower than the top of the rail. A standard disk, stamped "J 6 1933." (64.982 meters or 213.195 feet.)

112.48 (B. & A. R.R.).—About 0.4 mile southeast along the Boston & Albany Railroad from the station at Woronoco, Hampden County, 12 feet from the center line of the west-bound track, on the top of the southeast corner of the concrete base of semaphore 112.51, 6 inches higher than the top of the rail. A chiseled square. (71.920 meters or 235.958 feet.)

K 6.—At Woronoco, Hampden County, in the north face of the Boston & Albany Railroad station, 3 feet east of the main entrance to the waiting room, 15 feet south of the center line of the east-bound track, and 5 feet higher than the top of the rail. A standard disk, stamped "K 6 1933" and set vertically. (78.017 meters or 255.961 feet.)

T.B.M. 281 (M.P.W.D.).—At Woronoco, Hampden County, at the north entrance to the Boston & Albany Railroad station, on the top of the west end of the doorsill, 15 feet south of the center line of the east-bound track, and 6 inches higher than the top of the rail. A chiseled square. (76.654 meters or 251.489 feet.)

113.22 (B. & A. R.R.).—About 0.4 mile northwest along the Boston & Albany Railroad from the station at Woronoco, Hampden County, at the end of the first curve west of the station, 12 feet west of the center line of the east-bound track, on the top of the concrete foundation of semaphore 113.32, 1 foot lower than the top of the rail. A chiseled square. (78.212 meters or 256.601 feet.)

257.78 (M.S.T.S.).—About 1.1 miles northwest along the Boston & Albany Railroad from the station at Woronoco, Hampden County, 9 feet south of the center line of the west-bound track, on the apex of milepost B 114, 4 feet higher than the top of the rail. A chiseled square. (79.494 meters or 260.807 feet.)

L 6.—About 0.6 mile south along the Boston & Albany Railroad from the station at **Russell**, Hampden County, 60 feet north of a rock cut, 39 feet east of the center line of the west-bound track, in the top of a large, exposed, rock ledge, 1 foot higher than the top of the rail. A standard disk, stamped "L 6 1933." (81.301 meters or 266.735 feet.)

259.0 (?).—About 0.6 mile south along the Boston & Albany Railroad from the station at **Russell**, Hampden County, on the high point of a retaining wall and head wall of a culvert east of the track, 21 feet east of the center line of the west-bound track, and 7 feet lower than the top of the rail. A chiseled square. (78.940 meters or 258.989 feet.)

M 6.—At **Russell**, Hampden County, about 200 feet south of the Boston & Albany Railroad station, at overhead bridge 115.36 over Westfield River, in the top of the south end of the east abutment and wing wall, 45 feet southeast of the center line of the north-bound track, and 2½ feet higher than the top of the rail. A standard disk, stamped "M 6 1933." (85.320 meters or 279.921 feet.)

T.B.M. 282 (M.P.W.D.).—At **Russell**, Hampden County, on the west side of the Boston & Albany Railroad station, on the southwest corner of the stone threshold of the southernmost door, 2 feet higher than the top of the rail. A chiseled square. (85.505 meters or 280.528 feet.)

295.3 (?).—About 0.6 mile north along the Boston & Albany Railroad from the station of **Russell**, Hampden County, 85 feet north of milepost B 116, 50 feet east of Westfield River, 15 feet west of the center line of the south-bound track, on the top of the concrete foundation of semaphore 116.02, 3 feet lower than the top of the rail. A chiseled square. (90.015 meters or 295.324 feet.)

116.97 (B. & A. R.R.).—About 1.6 miles north along the Boston & Albany Railroad from the station at **Russell**, Hampden County, 75 feet north of semaphore 117.02, 40 feet east of Westfield River, on the top of milepost B 117, 12 feet west of the center line of the east-bound track, and 3 feet higher than the top of the rail. A chiseled square. (98.432 meters or 322.939 feet.)

N 6.—About 2.1 miles north along the Boston & Albany Railroad from the station at **Russell**, Hampden County, at the north end of a rock cut, 30 feet south of a 3- by 3-foot dry-rubble masonry culvert, 25 feet east of the center line of the north-bound track, in the top of a rock ledge, 4 feet higher than the top of the rail. A standard disk, stamped "N 6 1933." (102.396 meters or 335.944 feet.)

T.B.M. 283 (M.P.W.D.).—About 2.5 miles north along the Boston & Albany Railroad from the station at **Russell**, Hampden County, about 100 feet north of the north end of a large rock cut, at bridge 117.95 over Taylor Brook, in the top of the southwest end of the top stone of the southeast abutment, 15 feet south of the center line of the east-bound track, and 1½ feet lower than the top of the rail. A drill hole, marked "B." (104.452 meters or 342.690 feet.)

369.47 (?).—About 0.3 mile southeast along the Boston & Albany Railroad from the station at **Huntington**, Hampshire County, at bridge 118.93 over North Branch River, on the top of the south end of the west concrete abutment, 15 feet south of the center line of the east-bound track, and 2 feet lower than the top of the rail. A chiseled square. (112.614 meters or 369.468 feet.)

369.51 (?).—About 0.3 mile southeast along the Boston & Albany Railroad from the station at **Huntington**, Hampshire County, at bridge 118.93 over North Branch River, on the top of the north corner of the west abutment, 6 feet north of the center line of the west-bound track, and 3 feet lower than the top of the rail. A chiseled square. (112.628 meters or 369.514 feet.)

371.90 (M.S.T.S.).—About ¼ mile southeast along the Boston & Albany Railroad from the station at **Huntington**, Hampshire County, about 210 feet west of the west abutment of bridge 118.93 over North Branch River, and 35 feet south of the center line of the east-bound track, on the apex of milepost B 119, 3 feet higher than the top of the rail. A chiseled square. (114.365 meters or 375.213 feet.)

P 6.—At **Huntington**, Hampshire County, in the south face of the Boston & Albany Railroad station, 5 feet west of the entrance to the women's waiting room, 18 feet north of the center line of the west-bound track, and 5 feet higher than the top of the rail. A standard disk, stamped "P 6 1933" and set vertically. (116.406 meters or 381.909 feet.)

G 22 (M.P.W.D.).—At **Huntington**, Hampshire County, in the Boston & Albany Railroad yards, 96 feet south of the south side of the station, and 72 feet east of the center line of the east-bound track, in the top of a rock ledge outcrop southeast of the station. A drill hole, marked "B." (115.395 meters or 378.592 feet.)

382 (M.S.S.).—At **Huntington**, Hampshire County, at the **Boston & Albany** Railroad station, on the wooden panel in front of the train dispatcher's bay window, midway between the men's and women's waiting rooms, 5 feet higher than the top of the rail. A Massachusetts State Survey copper plate, set vertically. (116.419 meters or 381.951 feet.)

376.1 (?).—At **Huntington**, Hampshire County, on the **Boston & Albany** Railroad, about 509 feet west of the station, at bridge 119.36 over **Westfield** River, in the top of the north end of the east concrete abutment, 15 feet north of the center line of the west-bound track, and 2 feet lower than the top of the rail. A chiseled square. (114.626 meters or 376.069 feet.)

120.67 (B. & A. R.R.).—About 1.4 miles west along the **Boston & Albany** Railroad from the station at **Huntington**, Hampshire County, about 110 feet north of the **Westfield-Pittsfield** highway, at bridge 120.67, in the top of the east end of the north spandrel wall, 15 feet north of the center line of the west-bound track, and 5 feet lower than the top of the rail. A drill hole. (126.853 meters or 416.184 feet.)

Q 6.—In **Hampden** County, about 2.1 miles west along the **Boston & Albany** Railroad from the station at **Huntington**, Hampshire County, 80 feet north of the **Westfield-Pittsfield** highway, in the top of the concrete head wall of a pipe culvert under the track, 12 feet south of the center line of the west-bound track, and 1 foot lower than the top of the rail. A standard disk, stamped "Q 6 1933." (134.631 meters or 441.702 feet.)

121.36 (B. & A. R.R.).—In **Hampden** County, about 2.2 miles west along the **Boston & Albany** Railroad from the station at **Huntington**, Hampshire County, 80 feet north of the **Westfield-Pittsfield** highway, on the top of the east end of the south stone head wall of a 30-inch cast-iron pipe under the track, 12 feet south of the center line of the east-bound track, and 2 feet lower than the top of the rail. A chiseled square. (134.842 meters or 442.394 feet.)

455.7 (?).—In **Hampden** County, about 2.5 miles west along the **Boston & Albany** Railroad from the station at **Huntington**, Hampshire County, at the east end of a 7-foot gravel cut, 10 feet north of the center line of the west-bound track, on the top of the concrete base of semaphore 121.71, level with the top of the rail. A chiseled cross. (138.903 meters or 455.718 feet.)

453.2 (?).—In **Hampden** County, about 2.5 miles west along the **Boston & Albany** Railroad from the station at **Huntington**, Hampshire County, at the east end of a 7-foot gravel cut, 12 feet south of the center line of the east-bound track, on the top of the concrete base of semaphore 121.72, 2½ feet lower than the top of the rail. A chiseled square. (138.124 meters or 453.162 feet.)

R 6.—About 2.3 miles southeast along the **Boston & Albany** Railroad from the station at **Chester**, **Hampden** County, at bridge 123.50, in the top of the south end of the east concrete bridge seat, 6 feet south of the center line of the east-bound track, and 5 feet lower than the top of the rail. A standard disk, stamped "R 6 1933." (154.941 meters or 508.336 feet.)

123.50 (B. & A. R.R.).—About 2.3 miles southeast along the **Boston & Albany** Railroad from the station at **Chester**, **Hampden** County, at bridge 123.50 over **Westfield** River, in the top of the north end of the west concrete abutment, 9 feet north of the center line of the west-bound track, and 2 feet lower than the top of the rail. A structural-steel rivet. (156.294 meters or 512.775 feet.)

524.33 (M.S.T.S.).—About 1.8 miles southeast along the **Boston & Albany** Railroad from the station at **Chester**, **Hampden** County, about 400 feet east of semaphore 124.11, 12 feet south of the center line of the east-bound track, on the apex of milepost B 124, 3 feet higher than the top of the rail. A chiseled square. (162.962 meters or 534.651 feet.)

124.47 (B. & A. R.R.).—About 1.4 miles southeast along the **Boston & Albany** Railroad from the station at **Chester**, **Hampden** County, at steel bridge 124.47 over **Westfield** River, on the top of the north end of the west concrete abutment, 10 feet north of the center line of the east-bound track, and 1½ feet lower than the top of the rail. A chiseled square. (167.156 meters or 548.411 feet.)

S 6.—At **Chester**, **Hampden** County, about 250 feet east of the **Boston & Albany** Railroad station, about 250 feet south of the **Chester Granite Quarries** buildings, at a concrete bridge over a paved street, in the top of the north end of the west abutment and coping, 30 feet north of the center line of the north-bound track, and 6 inches higher than the top of the rail. A standard disk, stamped "S 6 1933." (183.282 meters or 601.318 feet.)

608.1 (M.S.S.).—At **Chester**, **Hampden** County, at the **Boston & Albany** Railroad station, in the north door panel of the east entrance to the main waiting room, 25 feet south of the center line of the east-bound track, and 6 feet higher than the top of the rail. A Massachusetts State Survey copper plate, stamped "1893" and set vertically. (185.358 meters or 608.129 feet.)

605.86 (M.S.T.S.).—At **Chester**, Hampden County, on the Boston & Albany Railroad, about 870 feet north of the station, about 100 feet south of the highest point of a rock cut east of the track, 50 feet east of Westfield River, and 45 feet south of the center line of the east-bound track, on the apex of milepost B 126, 3½ feet higher than the top of the rail. A chiseled square. (186.790 meters or 612.827 feet.)

126.65 (B. & A. R.R.).—About 0.8 mile northwest along the Boston & Albany Railroad from the station at **Chester**, Hampden County, about 300 feet north of bridge 126.60, 12 feet south of the center line of the east-bound track, on the top of the concrete foundation of semaphore 126.72, 1 foot lower than the top of the rail. A chiseled cross. (195.467 meters or 641.295 feet.)

127.55 (B. & A. R.R.).—About 1.7 miles northwest along the Boston & Albany Railroad from the station at **Chester**, Hampden County, at bridge 127.55, on the top of the northwest corner of the north end of the west concrete abutment, 10 feet north of the center line of the west-bound track, and 2 feet lower than the top of the rail. A chiseled square. (211.978 meters or 695.464 feet.)

T 6.—About 1.7 miles northwest along the Boston & Albany Railroad from the station at **Chester**, Hampden County, at bridge 127.55, in the top of the south end of the west concrete abutment, 6 feet south of the center line of the east-bound track, and 1½ feet lower than the top of the rail. A standard disk, stamped "T 6 1933." (211.991 meters or 695.507 feet.)

749.5 (?).—In Hampden County, about 2.4 miles northwest along the Boston & Albany Railroad from the station at **Chester**, Hampden County, about 2.4 miles east of the station at **Middlefield**, Hampshire County, at bridge 128.21 over Westfield River, at the east end of the south parapet, 10 feet south of the center line of the east-bound track, on the top of the granite end post, 3 feet higher than the top of the rail. A chiseled square. (228.461 meters or 749.542 feet.)

128.44 (B. & A. R.R.).—In Berkshire County, about 2.2 miles east along the Boston & Albany Railroad from the station at **Middlefield**, Hampshire County, at bridge 128.44, in the top of the south end of the west abutment, 9 feet south of the south rail, and 1 foot lower than the base of the rail. A bolt. (233.270 meters or 765.320 feet.)

128.88 (B. & A. R.R.).—In Berkshire County, about 1.8 miles east along the Boston & Albany Railroad from the station at **Middlefield**, Hampshire County, at an old abandoned stone arch, near bridge 128.88, in the top of the tenth stone from the west end of the north parapet wall, 75 feet east of the east rail, and 4 feet higher than the top of the rail. A hole. (243.836 meters or 799.985 feet.)

U 6.—At **Middlefield**, Hampshire County, on the Boston & Albany Railroad, about 820 feet east of the station, at bridge 130.46, in the top of the west end of the concrete coping, 9 feet south of the south rail, and 1 foot higher than the top of the rail. A standard disk, stamped "U 6 1933." (279.374 meters or 916.580 feet.)

V 6.—At **Middlefield**, Hampshire County, in the north face of the Boston & Albany Railroad station, at the west edge of the eastermost window, 15 feet south of the south rail, and 5 feet above the ground. A standard disk, stamped "V 6 1933" and set vertically. (285.374 meters or 936.265 feet.)

131.50 (B. & A. R.R.).—About 0.8 mile west along the Boston & Albany Railroad from the station at **Middlefield**, Hampshire County, at bridge 131.50, on the top of the southwest corner of the west end of the north parapet wall, 6 feet east of the east rail, and 6 inches higher than the top of the rail. A chiseled square. (304.884 meters or 1,000.274 feet.)

131.91 (B. & A. R.R.).—About 1.2 miles west along the Boston & Albany Railroad from the station at **Middlefield**, Hampshire County, about 120 feet north of bridge 131.87, 6 feet north of the north rail, on the top of the southwest corner of signal post 131.91, level with the base of the rail. A chiseled cross. (314.131 meters or 1,030.611 feet.)

132.03 (B. & A. R.R.).—About 1.4 miles west along the Boston & Albany Railroad from the station at **Middlefield**, Hampshire County, at bridge 132.03, in the top of the south end of the west abutment, 12 feet south of the south rail, and 1 foot lower than the base of the rail. A bolt. (316.721 meters or 1,039.109 feet.)

132.04 (B. & A. R.R.).—About 1.4 miles west along the Boston & Albany Railroad from the station at **Middlefield**, Hampshire County, at bridge 132.03, in the top of the north end of the east abutment, 12 feet north of the north rail, and 1 foot lower than the base of the rail. A bolt. (317.117 meters or 1,040.408 feet.)

DUNN.—In Hampshire County, about 1.2 miles east along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, about 500 feet east of bridge 132.94, about 40 rails west of automatic signal 132.72, 27 feet south of the south rail, and 1.5 feet lower than the base of the rail. A standard disk, stamped "DUNN 1933" and set in the top of a concrete post. (336.684 meters or 1,104.604 feet.)

132.94 (B. & A. R.R.).—About 1.1 miles east along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, at bridge 132.94, in the top of the north end of the west back wall, 7 feet north of the north rail, and 1 foot lower than the base of the rail. A square-headed bolt. (339.690 meters or 1,114.466 feet.)

133.19 (B. & A. R.R.).—About 0.9 mile east along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, at bridge 133.19, in the top of the northeast corner of the north end of the west abutment, 9 feet north of the north rail, and 1 foot lower than the base of the rail. A bolt. (345.910 meters or 1,134.873 feet.)

133.5 (B. & A. R.R.).—About 0.6 mile east along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, about 200 feet south of bridge 133.54, in the top of the northwest corner of the east side of a concrete culvert, 9 feet east of the east rail, and 1 foot lower than the base of the rail. A bolt. (353.084 meters or 1,158.410 feet.)

133.56 (B. & A. R.R.).—About 0.5 mile east along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, at bridge 133.56, in the top of the north end of the west back wall, 9 feet north of the north rail, and 1 foot lower than the base of the rail. The top of a bolt. (355.283 meters or 1,165.624 feet.)

133.96 (B. & A. R.R.).—At **Becket**, Berkshire County, about 400 feet east of the Boston & Albany Railroad station, at bridge 133.96, in the top of the north end of the west back wall, 6 feet north of the north rail, 1.5 feet lower than the base of the rail. The top of a bolt. (365.216 meters or 1,198.213 feet.)

W 6.—At **Becket**, Berkshire County, about 400 feet east of the Boston & Albany Railroad station, 40 feet east of a grade crossing, at the west end of bridge 133.96, in the top of the west end of the coping, 5 feet north of the north rail, level with the top of the rail. A standard disk, stamped "W 6 1933." (365.733 meters or 1,199.909 feet.)

134.74 (B. & A. R.R.).—About 0.5 mile north along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, at bridge 134.64, in the top of the north end of the west retaining wall, 9 feet west of the west rail, and 1 foot lower than the base of the rail. A bolt. (377.778 meters or 1,239.427 feet.)

134.8 (B. & A. R.R.).—About 0.7 mile north along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, at concrete culvert 134.80, on the top of the north end of the west head wall, 12 feet west of the west rail, and 1 foot lower than the base of the rail. A chiseled square. (380.690 meters or 1,248.980 feet.)

135.1 (B. & A. R.R.).—About 1.0 mile north along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, at bridge 135.21, in the top of the east end of the north abutment, 9 feet east of the east rail, and 2 feet lower than the base of the rail. A bolt. (386.966 meters or 1,269.571 feet.)

ROCK.—About 1.4 miles northwest along the Boston & Albany Railroad from the station at **Becket**, Berkshire County, about 200 feet northwest of semaphore 135.52, and 13 feet south of the south rail, in the top of a rock ledge, level with the rail. A standard disk, stamped "ROCK 1933." (395.655 meters or 1,298.078 feet.)

136.3 (B. & A. R.R.).—About 1.5 miles south along the Boston & Albany Railroad from the station at **Washington**, Berkshire County, about 150 feet south of signal post 136.31, at bridge 136.29, on the top of the northeast corner of the south abutment, 15 feet east of the east rail, and 5 feet lower than the base of the rail. A chiseled square. (410.734 meters or 1,347.550 feet.)

136.8 (B. & A. R.R.).—About 0.9 mile south along the Boston & Albany Railroad from the station at **Washington**, Berkshire County, about 700 feet south of signal post 136.91, in the top of the north end of the east wall of a culvert, 15 feet east of the east rail, and 1.5 feet lower than the base of the rail. A bolt. (423.065 meters or 1,388.006 feet.)

X 6.—About 0.1 mile south along the Boston & Albany Railroad from the station at **Washington**, Berkshire County, about 400 feet north of an overhead highway bridge, 22 feet north of a small watchman's shanty, 8 feet west of the west rail, in the top of a large embedded boulder, 1 foot higher than the top of

the rail. A standard disk, stamped "X 6 1933." (441.182 meters or 1,447.445 feet.)

138.15 (B. & A. R.R.).—About 0.2 mile north along the Boston & Albany Railroad from the station at **Washington**, Berkshire County, 54 feet north of the north rail, on the top of the northwest corner of the southeast footing of a railroad water tank, level with the ground. A chiseled square. (439.961 meters or 1,443.439 feet.)

138.85 (B. & A. R.R.).—About 1.3 miles north along the Boston & Albany Railroad from the station at **Washington**, Berkshire County, about 890 feet south of milepost 139, at overhead highway crossing 138.85, on the top of the bottom step of a series of steps on the south end of the west abutment, 6 feet south of the south rail, and 1 foot higher than the top of the rail. A chiseled high point. (444.343 meters or 1,457.815 feet.)

Y 6.—About 1.1 miles south along the Boston & Albany Railroad from the station at **Hinsdale**, Berkshire County, at the overhead crossing of State Highway 8, in the top of the concrete back wall, 3 feet west of a point where the north back wall and the northeast wing wall join, 6 feet east of the east rail, and 3 feet higher than the top of the rail. A standard disk, stamped "Y 6 1933." (439.266 meters or 1,441.159 feet.)

1441.6 (M.S.S.).—At **Hinsdale**, Berkshire County, on the south side of the Boston & Albany Railroad station, on the west side of the wooden door-facing of the easternmost door, 5 feet above the sidewalk. A Massachusetts State Survey copper plate, stamped "STATE SURVEY 1441.6" and set vertically. (439.428 meters or 1,441.690 feet.)

Z 6.—At **Hinsdale**, Berkshire County, in the south face of the Boston & Albany Railroad station, between the door to the waiting room from the tracks and the door to a small storeroom at the east end of the station, 3.5 feet above the sidewalk. A standard disk, stamped "Z 6 1933" and set vertically. (438.906 meters or 1,439.977 feet.)

141.91 (B. & A. R.R.).—At **Hinsdale**, Berkshire County, on the south side of the Boston & Albany Railroad station, on the top of the west end of the stone doorsill of the easternmost door, 15 feet north of the north rail, and 1 foot higher than the top of the rail. A chiseled square. (437.831 meters or 1,436.451 feet.)

1402.0 (?).—About 0.5 mile north along the Boston & Albany Railroad from the station at **Hinsdale**, Berkshire County, at a concrete bridge over a small mountain creek, on the top of the north corner of the east abutment, 12 feet north of the north rail, and 2 feet lower than the base of the rail. A chiseled square. (427.316 meters or 1,401.953 feet.)

144.18 (B. & A. R.R.).—About 2.3 miles northwest along the Boston & Albany Railroad from the station at **Hinsdale**, Berkshire County, about 950 feet west of milepost 144, at bridge 144.18, on the top of the north end of the west coping, 13 feet north of the north rail, and 3 feet lower than the base of the rail. A chiseled square. (387.425 meters or 1,271.077 feet.)

145.25 (B. & A. R.R.).—At **Dalton**, Berkshire County, on the south side of the Boston & Albany Railroad station, on the top of the southwest corner of the east doorsill. A chiseled square. (363.894 meters or 1,193.876 feet.)

A 7.—At **Dalton**, Berkshire County, in the south face of the Boston & Albany Railroad station, just east of the bay window of the agent's office, 12 feet north of the north rail, and 6 feet higher than the top of the rail. A standard disk, stamped "A 7 1933" and set vertically. (365.494 meters or 1,199.125 feet.)

146.34 (B. & A. R.R.).—About 1.1 miles west along the Boston & Albany Railroad from the station at **Dalton**, Berkshire County, about 1,770 feet west of milepost 146, at bridge 146.34 over a highway, on the top of the north end of the east bridge seat, 12 feet north of the north rail, and 4 feet lower than the base of the rail. A chiseled square. (338.057 meters or 1,109.109 feet.)

146.95 (B. & A. R.R.).—About 1.8 miles west along the Boston & Albany Railroad from the station at **Dalton**, Berkshire County, about 250 feet east of milepost 147, at railroad bridge 146.95 over a highway, on the top of the northwest corner of the northeast abutment, 14 feet north of the north rail, and 3 feet lower than the base of the rail. A chiseled square. (323.549 meters or 1,061.510 feet.)

147.71 (B. & A. R.R.).—About 2.9 miles east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 147.71, on the top of the north end of the west concrete back wall, 11 feet north of the north rail, and 1 foot lower than the base of the rail. A chiseled square. (306.360 meters or 1,005.116 feet.)

147.72 (B. & A. R.R.).—About 2.9 miles east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 147.71, in the northeast corner of the top stone of the north wing wall of an old masonry

abutment, 9 feet north of the north rail, and 1 foot lower than the base of the rail. A $\frac{3}{8}$ -inch hole. (306.280 meters or 1,004.854 feet.)

B 7.—About 2.9 miles east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 147.71 (the first bridge east of the junction), in the top of the north end of the west abutment, 10 feet north of the north rail, and 1 foot lower than the base of the rail. A standard disk, stamped "B 7 1933." (306.363 meters or 1,005.126 feet.)

C 7.—About 2.4 miles east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, about 120 feet west of a switch-control tower on the back wall of bridge 148.18, at an overhead highway bridge, 8 feet north of the north rail, and 2 feet higher than the rail. A standard disk, stamped "C 7 1933." (306.324 meters or 1,004.998 feet.)

148.88 (B. & A. R.R.).—About 1.7 miles east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 148.88, on the top of the west end of the north abutment, at the southwest corner of the next to the bottom course, 3 feet north of the north rail of a sidetrack, and 2 feet higher than the top of the rail. A chiseled square. (307.012 meters or 1,007.255 feet.)

1,006.7 (?).—About 0.9 mile east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, about 200 feet northeast of the Cooperative Coal Plant, at bridge 149.67, on the top of the north end of the west abutment, 8 feet north of the north rail, and 4 feet lower than the base of the rail. A chiseled cross. (306.835 meters or 1,006.674 feet.)

1,009.2 (?).—About 0.9 mile east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, about 200 feet northeast of the Cooperative Coal Plant, at bridge 149.67, on the top of the south end of the east abutment, 15 feet south of the south rail, and 2 feet lower than the base of the rail. A chiseled square. (307.614 meters or 1,009.230 feet.)

1,009.5 (?).—About 0.9 mile east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, about 200 feet northeast of the Cooperative Coal Plant, at bridge 149.67, on the top of the north end of the west abutment, 8 feet north of the north rail, and 2 feet lower than the base of the rail. A bolt. (307.703 meters or 1,009.522 feet.)

D 7.—About 0.3 mile east along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 150.25 (the first overhead street bridge east of the station), in the top of the south back wall, 9 feet south of the south rail, and 2 feet higher than the top of the rail. A standard disk, stamped "D 7 1933." (311.076 meters or 1,020.589 feet.)

F 7.—At **Pittsfield**, Berkshire County, at the north entrance to the post office, about 100 feet south of Fenn Street, and 40 feet east of Allen Street, in the top of the north end of the stone coping at the west end of the steps. A standard disk, stamped "F 7 1933." (316.656 meters or 1,038.896 feet.)

1,038.0 (?).—At **Pittsfield**, Berkshire County, at the Episcopal Church, about 200 feet north of East Street, and 18 feet from the center line of Allen Street, in the stone foundation. A copper bolt. (316.389 meters or 1,038.020 feet.)

1,036.5 (?).—At **Pittsfield**, Berkshire County, about 100 feet west of the county courthouse, at the north entrance to the public library, in the top of the east end of the stone steps. A copper bolt. (315.939 meters or 1,036.543 feet.)

PITTSFIELD.—At **Pittsfield**, Berkshire County, in the north face of the county courthouse, 2 feet east of the northwest corner, and 3 inches above the sidewalk. A standard disk, stamped "PITTSFIELD 1933" and set vertically. (315.580 meters or 1,035.365 feet.)

E 7.—At **Pittsfield**, Berkshire County, in the north face of the Boston & Albany Railroad station, 3 feet east of the steps leading to the waiting room, in the top of a cast-stone water table, 1.5 feet above the grade. A standard disk, stamped "E 7 1933." (309.390 meters or 1,015.057 feet.)

150.57 (B. & A. R.R.).—At **Pittsfield**, Berkshire County, 80 feet northeast of the northeast corner of the Boston & Albany Railroad station, at the south end of bridge 150.57, on the top of the northeast corner of the concrete platform at the foot of the steps. A chiseled square and $\frac{3}{8}$ -inch hole. (309.060 meters or 1,013.974 feet.)

G 7.—About 0.3 mile west along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 150.87, in the top of the east bridge seat, 5 feet north of the north rail, and 4.5 feet lower than the base of the rail. A standard disk, stamped "G 7 1933." (307.099 meters or 1,007.541 feet.)

1,011.8 (?).—About 0.3 mile west along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, at bridge 150.87, in the top of the east end of the concrete coping on the south side, 7 feet south of the south rail,

and 1 foot lower than the base of the rail. A drill hole. (308.383 meters or 1,011.753 feet.)

152.83 (B. & A. R.R.).—About 2.2 miles west along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, about 250 feet east of signal post 152.81, at bridge 152.84 over Fort Hill Avenue, on the top of the north end of the west abutment, 8 feet north of the north rail, and 1 foot lower than the base of the rail. A chiseled square. (321.542 meters or 1,054.926 feet.)

152.84 (B. & A. R.R.).—About 2.2 miles west along the Boston & Albany Railroad from the station at **Pittsfield**, Berkshire County, about 250 feet east of signal post 152.81, at bridge 152.84 over Fort Hill Avenue, on the top of the south end of the east abutment, 8 feet north of the north rail, and 1 foot lower than the base of the rail. A chiseled square. (322.205 meters or 1,057.101 feet.)

1,146.8 (M.P.W.D.).—At **West Pittsfield**, Berkshire County, on the Boston & Albany Railroad, at the concrete bridge carrying State Highway 20 over the track, in the top of the northwest wing wall, 3.5 feet south of the north end. A Massachusetts Public Works Department standard disk. (349.548 meters or 1,146.809 feet.)

H 7.—At **West Pittsfield**, Berkshire County, directly opposite the Boston & Albany Railroad station, 50 feet north of the north rail, level with the top of the rail. A standard disk, stamped "H 7 1933" and set in the top of a concrete post. (340.078 meters or 1,115.739 feet.)

155.23 (B. & A. R.R.).—About 1.0 mile southwest along the Boston & Albany Railroad from the station at **West Pittsfield**, Berkshire County, on the southeast corner of the south end of a double culvert, 8 feet south of the south rail, and 3 feet lower than the base of the rail. A chiseled square. (343.626 meters or 1,127.380 feet.)

J 7.—At **Richmond Summit**, Berkshire County, about 120 feet east of the Boston & Albany Railroad station, at an overhead highway bridge, in the top of the north back wall, 5 feet north of the north rail, and 3 feet higher than the top of the rail. A standard disk, stamped "J 7 1933." (348.886 meters or 1,144.637 feet.)

157.55 (B. & A. R.R.).—About 0.8 mile southwest along the Boston & Albany Railroad from the station at **Richmond Summit**, Berkshire County, at bridge 157.55, on the coping at the foot of the southeast concrete wing wall, 12 feet south of the south rail, and 2 feet higher than the top of the rail. A chiseled square. (337.631 meters or 1,107.711 feet.)

1,056.2 (M.S.S.).—At **Richmond**, Berkshire County, at the Boston & Albany Railroad station, on the east casing of the east door, 18 feet north of the north rail, and 5.5 feet above the sidewalk. A Massachusetts State Survey standard copper plate, stamped "STATE SURVEY 1056.2" and set vertically. (321.984 meters or 1,056.376 feet.)

K 7.—At **Richmond**, Berkshire County, in the south face of the Boston & Albany Railroad station, on the south side of the east door, 15 feet north of the north rail, and 5 feet higher than the grade. A standard disk, stamped "K 7 1933" and set vertically. (322.216 meters or 1,057.137 feet.)

L 7.—At **Richmond Furnace**, Berkshire County, about 150 feet west of the Boston & Albany Railroad station, and 39 feet south of the south rail, level with the top of the rail. A standard disk, stamped "L 7 1933" and set in the top of a concrete post. (305.821 meters or 1,003.348 feet.)

919.72 (M.S.S.).—At **State Line**, Berkshire County, in the north face of the Boston & Albany Railroad station, on the center window casing, 4 feet higher than the top of the rail. A Massachusetts State Survey standard copper plate, stamped "STATE SURVEY 919.72" and set vertically. (280.546 meters or 920.425 feet.)

M 7.—At **State Line**, Berkshire County, about 100 feet west of the Boston & Albany Railroad station, and 12 feet south of the south rail of the main line, level with the top of the rail. A standard disk, stamped "M 7 1933" and set in the top of a concrete post. (279.109 meters or 915.710 feet.)

161.86 (B. & A. R.R.).—At **State Line**, Berkshire County, on the Boston & Albany Railroad, in front of the State Line Hotel, about 125 feet from the center of a road crossing, and 96 feet west of the west rail, in the top of a railroad property monument, 4 feet higher than the grade. A hole. (280.390 meters or 919.913 feet.)

918.9 (?).—At **State Line**, Berkshire County, on the Boston & Albany Railroad, in front of the State Line Hotel, 75 feet north of a railroad property monument, and 57 feet west of the west rail, in the top of a New York-Massachusetts 1913 boundary monument. A $\frac{3}{8}$ -inch hole. (280.089 meters or 918.925 feet.)

The line continues into New York.

RAIL ELEVATIONS

The elevations in the following list were determined during the course of the leveling and refer to the top of the rail opposite the railroad station. These elevations are approximate only, since the track does not accurately maintain a constant elevation for any great length of time.

Approximate rail elevations

Station	Railroad	Elevation	Station	Railroad	Elevation
		<i>Feet</i>			<i>Feet</i>
Allston, Mass.	B. & M. R.R.	25.5	Enfield Bridge, Conn.	N.Y., N.H. & H. R.R.	64.4
Andover, Conn.	N.Y., N.H. & H. R.R.	344.0	Fairfield, Conn.	do	19.9
Anthony, R.I.	do	223.4	Faneuil, Mass.	B. & M. R.R.	30.1
Apponaug, R.I.	do	27.1	Forest Hills, Mass.	N.Y., N.H. & H. R.R.	54.4
Arctic, R.I.	do	131.0	Forestville, Conn.	do	208.0
Attleboro, Mass.	do	139.9	Glenbrook, Conn.	do	49.7
Auburn, R.I.	do	50.1	Greene, R.I.	do	427.5
Auburndale, Mass.	B. & M. R.R.	65.2	Greenfield, Mass.	B. & M. R.R.	201.4
Baltic, Conn.	N.Y., N.H. & H. R.R.	138.2	Green Lodge, Mass.	N.Y., N.H. & H. R.R.	48.1
Berlin, Conn.	do	61.3	Greens Farms, Conn.	do	27.2
Bernardston, Mass.	B. & M. R.R.	356.7	Greenwich, Conn.	do	38.6
Bleachery Station, Mass.	do	113.6	Greenwood, R.I.	do	48.9
Bolton, Conn.	N.Y., N.H. & H. R.R.	574.1	Groton, Conn.	do	41.5
Boylston, Mass.	do	47.8	Grove Beach, Conn.	do	13.8
Bradford, Mass.	B. & M. R.R.	44.3	Groveland, Mass.	B. & M. R.R.	23.5
Bradford, R.I.	N.Y., N.H. & H. R.R.	54.6	Guilford, Conn.	N.Y., N.H. & H. R.R.	10.4
Branford, Conn.	do	11.2	Haggetts, Mass.	B. & M. R.R.	128.2
Bristol, Conn.	do	362.6	Hartford, Conn.	N.Y., N.H. & H. R.R.	53.9
Brookline, Mass.	B. & M. R.R.	16.1	Haydens, Conn.	do	48.6
Buckland, Conn.	N.Y., N.H. & H. R.R.	153.0	Hazelwood, Mass.	do	42.5
Burnside, Conn.	do	62.1	Heath Street Station, Mass.	do	44.1
Byfield, Mass.	B. & M. R.R.	63.6	Hebronville, Mass.	do	92.6
Canterbury, Conn.	N.Y., N.H. & H. R.R.	125.0	Hills Grove, R.I.	do	66.2
Canton, Mass.	do	101.8	Hop River, Conn.	do	274.6
Carolina, R.I.	do	93.0	Howard, R.I.	do	66.8
Centerville, R.I.	do	163.4	Hyde Park, Mass.	do	49.3
Chepianoxet, R.I.	do	29.1	Jamaica Plain, Mass.	do	50.1
Chestnut Hill, Mass.	B. & M. R.R.	167.2	Kenyons, R.I.	do	97.8
Clarendon Hills, Mass.	N.Y., N.H. & H. R.R.	43.5	Leetes Island, Conn.	do	31.9
Clinton, Conn.	do	24.8	Lisbon, Conn.	do	204.5
Club House, Conn.	do	519.1	Long Meadows, Mass.	do	57.2
Coldbrook, Mass.	B. & M. R.R.	728.9	Longwood, Mass.	B. & M. R.R.	8.9
Coscob, Conn.	N.Y., N.H. & H. R.R.	32.2	Lowell, Mass.	do	102.0
Coventry, R.I.	do	305.3	Lyme (Black Hall), Conn.	N.Y., N.H. & H. R.R.	17.9
Cowesett, R.I.	do	28.1	Madison, Conn.	do	25.0
Crescent Beach (Black Point), Conn.	do	30.0	Manchester, Conn.	do	178.2
Darien, Conn.	do	61.4	Mansfield, Mass.	do	168.4
Davisville, R.I.	do	55.5	Medford Hillside, Mass.	B. & M. R.R.	30.3
Devon, Conn.	do	32.4	Medford, Conn.	N.Y., N.H. & H. R.R.	41.1
Dodgeville, Mass.	do	111.1	Millstone, Conn.	do	32.1
East Billerica, Mass.	B. & M. R.R.	108.9	Montvale, Mass.	B. & M. R.R.	40.8
East Foxboro, Mass.	N.Y., N.H. & H. R.R.	212.6	Moosup, Conn.	N.Y., N.H. & H. R.R.	233.4
East Greenwich, R.I.	do	32.0	Mystic, Conn.	do	7.6
East Hartford, Conn.	do	47.8	New Britain, Conn.	do	177.3
East Haven, Conn.	do	28.9	Newburyport, Mass.	B. & M. R.R.	39.5
East Lyme (Niantic), Conn.	do	19.8	Newington, Conn.	N.Y., N.H. & H. R.R.	68.5
East Natick, R.I.	do	59.3	New London, Conn.	do	7.6
East Northfield, Mass.	B. & M. R.R.	263.0	Newton Center, Mass.	B. & M. R.R.	141.2
East Norwalk, Conn.	N.Y., N.H. & H. R.R.	36.2			
East River, Conn.	do	20.5			
Elliot, Mass.	B. & M. R.R.	145.0			
Elmwood, Conn.	N.Y., N.H. & H. R.R.	65.6			

Approximate rail elevations—Continued

Station	Railroad	Elevation	Station	Railroad	Elevation
		<i>Feet</i>			<i>Feet</i>
Newton Highlands, Mass.	B. & M. R.R.	141.1	Springfield, Mass.	N. Y., N.H. & H. R.R.	84.5
Newton Station, Mass.	do.	32.2	Stamford, Conn.	do.	33.8
Newtonville, Mass.	do.	43.8	Stirling, Conn.	do.	305.6
Noank, Conn.	N. Y., N.H. & H. R.R.	14.5	Stonington, Conn.	do.	6.7
Noroton, Conn.	do.	81.4	Stony Creek, Conn.	do.	25.2
Norwood, R.I.	do.	45.3	Stratford, Conn.	do.	22.3
North Andover, Mass.	B. & M. R.R.	44.9	Summit, R.I.	do.	463.4
North Billerica, Mass.	do.	126.5	Talcottville, Conn.	do.	266.6
North Haven, Conn.	N. Y., N.H. & H. R.R.	20.4	Terryville, Conn.	do.	553.9
North Somerville, Mass.	B. & M. R.R.	34.1	Tewksbury Center, Mass.	B. & M. R.R.	115.1
Oneco, Conn.	N. Y., N.H. & H. R.R.	362.2	Thomaston, Conn.	N. Y., N.H. & H. R.R.	376.7
Packerville, Conn.	do.	157.9	Thompsonville, Conn.	do.	64.4
Parkville, Conn.	do.	63.6	Tufts College, Mass.	B. & M. R.R.	34.0
Pawtucket, R.I.	do.	74.2	Vernon (Rockville Jct.), Conn.	N. Y., N.H. & H. R.R.	320.1
Pettaconsett, R.I.	do.	22.3	Versailles, Conn.	do.	147.4
Pine Orchard, Conn.	do.	36.0	Waban, Mass.	B. & M. R.R.	133.2
Plainville, Conn.	do.	187.6	Walnut Hill, Mass.	do.	47.3
Pontiac, R.I.	do.	39.6	Warehouse Point, Conn.	N. Y., N.H. & H. R.R.	63.0
Prospect Hill, Mass.	B. & M. R.R.	25.1	Ward Hill, Mass.	B. & M. R.R.	63.4
Quidnick, R.I.	N. Y., N.H. & H. R.R.	214.3	Washington, R.I.	N. Y., N.H. & H. R.R.	245.0
Quinnipiac, Conn.	do.	8.8	Waterford, Conn.	do.	42.1
Reservoir, Mass.	B. & M. R.R.	106.7	Wedgemere, Mass.	B. & M. R.R.	22.2
River Point, R.I.	N. Y., N.H. & H. R.R.	104.8	West Andover, Mass.	do.	159.9
Riverside, Conn.	do.	41.4	Westbrook, Conn.	N. Y., N.H. & H. R.R.	25.8
Rowayton, Conn.	do.	53.6	Westcott, R.I.	do.	85.1
Roxbury, Mass.	do.	37.6	Westerly, R.I.	do.	35.6
Sagehams Head, Conn.	do.	19.8	West Haven, Conn.	do.	35.2
Salisbury, Mass.	B. & M. R.R.	22.6	West Mansfield, Mass.	do.	143.5
Saybrook, Conn.	N. Y., N.H. & H. R.R.	23.8	West Medford, Mass.	B. & M. R.R.	22.2
Scotland, Conn.	do.	114.9	West Mystic, Conn.	N. Y., N.H. & H. R.R.	6.6
Shannock, R.I.	do.	87.4	West Newton, Mass.	B. & M. R.R.	45.0
Sharon, Mass.	do.	219.4	Westport (Saugatuk), Conn.	N. Y., N.H. & H. R.R.	26.2
Sharon Heights, Mass.	do.	263.0	Wickford Junction, R.I.	do.	90.2
Silver Lake, Mass.	B. & M. R.R.	100.8	Wilmington, Mass.	B. & M. R.R.	93.2
Slocums, R.I.	N. Y., N.H. & H. R.R.	134.3	Winchester, Mass.	do.	22.0
Sockanosset, R.I.	do.	51.8	Winchester Highlands, Mass.	do.	35.2
Somerville Junction, Mass.	B. & M. R.R.	34.6	Windsor, Conn.	N. Y., N.H. & H. R.R.	43.1
Sound Beach, Conn.	N. Y., N.H. & H. R.R.	32.9	Windsor Locks, Conn.	do.	46.0
Sound View, Conn.	do.	32.7	Winter Hill, Mass.	B. & M. R.R.	30.1
South Lowell, Mass.	B. & M. R.R.	119.1	Woodmont, Conn.	N. Y., N.H. & H. R.R.	54.9
South Lyme, Conn.	N. Y., N.H. & H. R.R.	29.3	Wood River Junction, R.I.	do.	55.2
South Norwalk, Conn.	do.	35.4	Yalesville, Conn.	do.	99.5
Southport, Conn.	do.	23.4			
South Windham, Conn.	do.	152.1			

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