TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
1	Addison R. R. Co	Leicester Junction, Vermont	Ticonderoga, New York	15.60
2	Ashuelot R. R. Co	South Vernon, Vermont	Hinsdale, New Hampshire	4.97
		Hinsdale, New Hampshire	Ashuelot, New Hampshire	3.32
		Ashuelot, New Hampshire	Winchester, New Hampshire	1.79
		Winchester, New Hampshire	Westport, New Hampshire	5.41
		Westport, New Hampshire	Swanzey, New Hampshire	2.78
		Swanzey, New Hampshire	Keene, New Hampshire	5.46
				23.73
3	Atlantic and Saint Lawrence R. R. Co	Island Pond, Vermont	New Hampshire state line at North Stratford Station.	14.98
		New Hampshire state line	Maine state line near Shelburne	52.00
		Maine state line	Portland, Maine	82.60
				149.58
4	Belfast and Moosehead Lake R. R. Co	Burnham, Maine	Belfast, Maine	33.20
5	Boston and Albany R. R Co	Boston, Massachusetts	Worcester, Massachusetts	44.10
		Worcester, Massachusetts	Springfield, Massachusetts	54.53
		Springfield, Massachusetts	Pittsfield, Massachusetts	51.93
		Pittsfield, Massachusetts	Albany, New York	51.54
				202.10
		Brookline Junction, Massachusetts	Brookline, Massachusetts	1.55
		South Framingham, Massachusetts	Milford, Massachusetts	12.00
6	Boston and Lowell R. R. Co	Boston, Massachusetts	Lowell, Massachusetts	25.75
		Somerville, Massachusetts	Arlington, Massachusetts	2.27
		Arlington, Massachusetts	Lexington, Massachusetts	6.56
		Winchester, Massachusetts	Woburn, Massachusetts	1.92
7	Boston and New York Air Line R. R. Co	New Haven (Cedar Hill Junction), Connecticut.	Reed's Gap, between Wallingsford and Middlefield, Connecticut.	14.30
		Reed's Gap, Connecticut	Middletown, Connecticut	7.97
		Middletown, Connecticut	East Hampton, Connecticut	8.74
		East Hampton, Connecticut	Willimantic, Connecticut	19.83
				50.84
8	Boston and Providence R. R. Co	Boston, Massachusetts	Providence, Rhode Island	44.00
		East Junction, Massachusetts	India Point, Rhode Island	8.05
9	Boston, Revere Beach, and Lynn R. R. Co	Lynn, Massachusetts	East Boston, Massachusetts	8.62
10	Bucksport and Bangor R. R. Co	Bucksport, Maine	Bangor, Maine	18.75
11	Burlington and Lamoille R. R. Co	Burlington, Vermont	Cambridge Junction, Vermont	34.43
12	Central Vermont R. R. Co	Saint Albans, Vermont	White River Junction, Vermont	120.50
		White River Junction, Vermont	Windsor, Vermont	14.00
		Montpelier Junction, Vermont	Montpelier, Vermont	1.47
13	Cheshire R. R. Co	South Ashburnham, Massachusetts	Bellows Falls, Vermont	53.62
14	Colchester R. R. Co	Turnerville, Connecticut	Colchester, Connecticut	3.58
15	Concord R. R. Co	Nashua, New Hampshire	Concord, New Hampshire	34.53
16	Concord and Claremont R. R. Co	Concord, New Hampshire	Bradford, New Hampshire	27.24
		Bradford, New Hampshire	Claremont Junction, New Hampshire	29.30
				56.54
		Contoocook, New Hampshire	Hillsborough, New Hampshire	14.47
17	Concord and Portsmouth R. R. Co	Portsmouth, New Hampshire	Greenland, New Hampshire	4.04
		Greenland, New Hampshire	New Market, New Hampshire	5.83
		New Market, New Hampshire	East Epping, New Hampshire	4.50
		East Epping, New Hampshire	Epping, New Hampshire	2.84
		Epping, New Hampshire	West Epping, New Hampshire	2.31
		West Epping, New Hampshire	Raymond, New Hampshire	3.35
		Raymond, New Hampshire	Candia, New Hampshire	6.15
		Candia, New Hampshire	Auburn, New Hampshire	3.76
		Auburn, New Hampshire	Massabesic, New Hampshire	2.60
		Massabesic, New Hampshire	Manchester, New Hampshire	5.10
				40.48
18	Connecticut River R. R. Co	Springfield, Massachusetts	Chicopee, Massachusetts	3.22
		Chicopee, Massachusetts	Willimansett, Massachusetts	3.43
		Willimansett, Massachusetts	Holyoke, Massachusetts	0.81
		Holyoke, Massachusetts	Smith Ferry, Massachusetts	5.08
		Smith Ferry, Massachusetts	Mount Tom, Massachusetts	1.89
		Mount Tom, Massachusetts	Northampton, Massachusetts	2.40
		Northampton, Massachusetts	Hatfield, Massachusetts	3.77
		Hatfield, Massachusetts	North Hatfield, Massachusetts	2.95
		North Hatfield, Massachusetts	Whately, Massachusetts	2.35
		Whately, Massachusetts	South Deerfield, Massachusetts	2.23
		South Deerfield, Massachusetts	Deerfield, Massachusetts	4.37
		Deerfield, Massachusetts	Greenfield, Massachusetts	3.23
		Greenfield, Massachusetts	Bernardston, Massachusetts	6.68
		Bernardston, Massachusetts	South Vernon, Vermont	6.96
				49.37

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
9.57	40	6.03	1,257 43	1.47	8	84.83	3.59	53.00	11	335.00	10.54	52.00	1
1.77	14	3.20	521 00	0.89	1	92.40	3.30	28.00	1	12.00	0.78	15.00	2
0.89	14	2.43	553 45	.....	1	92.96	3.32	28.00	.....	.....	.....	.....	
0.84	3	0.95	176 00	0.53	1	21.28	0.76	28.00	1	7.50	0.50	15.00	
3.58	7	1.83	248 15	0.91	3	32.75	3.50	15.00	2	11.00	1.00	15.00	
1.46	4	1.32	114 00	0.78	2	15.00	1.25	15.00	1	11.25	0.75	15.00	
4.09	7	1.37	209 00	2.00	2	8.25	1.25	7.00	1	15.47	2.21	7.00	
12.63	49	11.10	1,822 00	5.11	10	262.64	13.38	28.00	6	57.22	5.24	15.00	
7.83	.....	7.15	939 00	6.40	.....	10.00	0.55	20.06	.....	280.00	8.03	63.36	3
29.22	.....	22.78	2,506 00	16.96	.....	348.00	12.29	40.65	.....	563.00	22.75	67.30	
52.51	.....	30.09	3,064 00	14.60	.....	407.00	20.53	46.99	.....	1,095.00	47.47	59.55	
89.56	.....	60.02	6,509 00	37.96	.....	765.00	33.37	46.99	.....	1,938.00	78.25	67.30	
.....	.....	.....	2,217 52	.....	.....	609.33	.....	.....	.....	761.88	.....	.....	4
26.20	74	17.90	1,855 00	9.15	30	588.40	26.78	30.00	11	124.50	8.17	30.00	5
.....	63	.....	.....	3.27	15	504.50	18.94	51.00	16	909.80	32.32	60.00	
.....	100	.....	.....	3.42	43	1,424.30	37.91	85.00	15	477.90	10.60	75.00	
.....	76	.....	.....	2.95	29	281.10	11.58	46.00	54	1,275.90	37.01	47.00	
88.36	313	113.74	8,225 00	18.79	117	2,798.30	95.21	85.00	96	2,788.10	88.10	75.00	
0.78	4	0.77	123 00	1.29	1	6.50	0.26	25.00	.....	.....	.....	.....	
9.43	9	2.57	331 00	1.43	10	126.80	7.55	37.00	3	38.30	3.02	34.60	
18.52	31	7.23	738 00	3.92	7	135.24	15.73	25.00	8	55.07	6.10	26.00	6
1.60	3	0.67	106 30	0.66	1	8.00	0.40	20.00	3	32.00	1.21	26.40	
4.22	13	2.34	402 06	1.85	6	216.00	4.41	58.80	2	8.00	0.30	33.00	
1.40	6	0.52	48 42	0.26	4	73.54	1.66	53.85	.....	.....	.....	.....	
12.62	10	1.68	75 03	1.62	16	395.50	10.29	38.58	5	86.50	2.39	37.00	7
5.21	10	2.76	110 50	0.47	1	3.00	0.46	6.81	7	305.56	7.04	43.52	
4.99	15	3.75	346 55	2.20	10	386.00	6.40	58.57	1	8.00	0.14	44.44	
10.85	47	8.98	765 12	2.58	13	334.80	7.45	45.13	12	480.50	9.80	40.28	
33.67	82	17.17	1,298 00	6.87	40	1,119.30	24.60	58.57	25	880.56	19.37	40.28	
36.54	32	7.46	749 56	9.86	22	304.80	15.16	44.00	16	300.20	18.98	24.00	8
7.15	4	0.90	123 00	3.00	.....	.....	.....	.....	3	82.00	5.05	.....	
6.03	18	2.59	371 06	1.93	19	33.73	3.45	55.00	17	36.09	3.24	73.00	9
10.61	55	8.14	1,546 21	4.93	16	354.00	6.58	73.92	10	346.00	7.24	73.92	10
17.17	78	17.26	2,070 10	5.90	22	634.00	18.22	70.00	20	270.00	10.31	70.00	11
75.01	141	45.49	4,857 07	32.37	54	1,073.70	45.78	43.00	26	1,118.00	42.35	41.00	12
7.94	28	6.06	945 50	3.14	7	152.00	5.01	38.00	7	166.50	5.85	38.00	
0.60	5	0.87	257 54	0.54	1	4.00	0.37	10.00	3	4.80	0.56	16.00	
30.90	86	22.72	3,195 11	7.94	16	737.00	15.48	58.00	30	1,520.00	30.20	60.00	13
2.54	8	1.04	69 30	0.80	5	42.00	0.90	46.66	14	86.00	1.88	45.74	14
18.89	68	15.64	1,276 20	4.79	72	112.88	28.62	37.50	1	8.50	1.12	8.00	15
11.50	106	15.74	2,012 52	11.24	20	506.00	13.40	68.64	8	76.00	2.60	52.80	16
13.97	126	15.33	4,742 31	4.00	16	890.00	9.50	100.30	20	670.00	15.80	78.00	
25.47	232	31.07	6,755 23	15.24	36	1,396.00	22.90	100.30	28	746.00	18.40	78.00	
8.68	39	5.79	1,689 06	4.34	14	282.00	7.13	78.14	12	85.00	3.00	72.30	
3.00	3	1.04	76 20	1.52	4	26.50	1.80	35.20	40	15.50	0.72	44.00	17
3.25	4	2.58	77 10	1.10	10	106.50	2.73	52.80	7	90.00	2.00	.....	
2.52	5	1.98	145 45	1.78	4	97.00	2.46	51.65	1	38.00	0.26	92.40	
2.23	3	0.61	34 30	0.44	3	36.00	2.12	38.23	1	0.08	0.28	62.01	
1.62	1	0.69	34 00	1.00	3	26.50	0.89	63.25	3	8.50	0.42	26.40	
2.23	6	1.12	95 50	0.45	3	43.00	2.40	39.60	2	15.00	0.50	18.48	
4.40	9	1.75	187 20	0.52	13	259.50	5.43	80.00	1	8.00	0.20	23.76	
1.94	11	1.82	328 00	.....	3	38.00	0.88	71.09	4	195.50	2.88	74.71	
1.48	6	1.12	119 00	0.19	5	55.50	1.41	60.00	4	71.50	1.00	78.44	
2.79	9	2.31	310 15	0.68	5	90.00	1.57	73.96	7	182.00	2.85	72.00	
25.46	57	15.02	1,409 10	7.68	53	778.50	21.69	80.00	70	624.08	11.11	92.40	
1.42	5	1.80	119 15	0.80	1	18.48	1.22	18.00	2	9.58	1.20	17.64	18
2.33	4	1.10	90 00	.....	2	15.70	2.20	9.00	2	17.78	1.23	21.00	
0.23	3	0.58	37 30	.....	1	17.29	0.81	32.20	.....	.....	.....	.....	
2.00	13	3.08	471 15	1.60	5	34.70	1.88	37.00	2	6.87	1.60	14.00	
1.41	3	0.48	76 30	0.27	3	5.56	1.06	8.00	2	4.68	0.56	8.00	
1.84	3	0.56	22 00	1.08	2	4.25	0.70	16.00	2	2.55	0.62	7.20	
2.42	4	1.35	142 00	.....	1	43.11	2.50	18.00	1	19.74	1.27	18.05	
2.95	.....	.....	.....	0.17	3	31.73	2.27	18.00	2	7.52	0.51	16.00	
2.26	1	0.09	1 15	0.19	3	13.12	2.16	9.00	.....	.....	.....	.....	
2.23	.....	.....	.....	.....	2	21.77	2.23	13.67	.....	.....	.....	.....	
3.50	4	0.87	34 00	0.57	1	34.40	2.63	13.67	1	20.80	1.17	18.00	
1.55	13	1.68	195 30	0.34	1	15.64	0.87	18.00	1	34.64	2.02	18.00	
5.49	5	1.19	130 45	0.26	3	165.00	5.68	32.00	1	8.00	0.74	10.50	
3.72	8	3.24	286 30	0.68	2	33.00	1.80	31.68	4	127.00	4.48	31.68	
33.35	66	16.02	1,606 30	5.96	30	453.75	28.01	37.00	20	259.16	15.40	31.68	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
19	Connecticut Valley R. R. Co	Hartford, Connecticut	Fenwick, Connecticut	46.18
20	Connecticut Western R. R. Co	Hartford, Connecticut	State line Connecticut and New York	67.60
21	Dexter and Newport R. R. Co	Newport, Maine	Dexter, Maine	14.00
22	Eastern R. R. Co. of Massachusetts	Boston, Massachusetts	New Hampshire state line	41.45
		Salisbury, Massachusetts	Amesbury, Massachusetts	3.79
23	Eastern R. R. Co. of New Hampshire	Massachusetts state line	Portsmouth, New Hampshire	16.08
24	European and North American Rw'y Co	Bangor, Maine	Oldtown, Maine	12.61
		Oldtown, Maine	Passadumkeag, Maine	18.20
		Passadumkeag, Maine	Lincoln, Maine	14.00
		Lincoln, Maine	Mattawamkeag, Maine	13.19
		Mattawamkeag, Maine	Bancroft, Maine	20.70
		Bancroft, Maine	Eaton, Maine	14.30
		Eaton, Maine	Vanceborough, Maine	21.00
				114.00
25	Fitchburg R. R. Co	Boston, Massachusetts	Fitchburg, Massachusetts	49.65
26	Hanover Branch R. R. Co	North Abington, Massachusetts	Hanover, Massachusetts	7.78
27	Holyoke and Westfield R. R. Co	Westfield, Massachusetts	Holyoke, Massachusetts	10.32
28	Maine Central R. R. Co	Portland, Maine	Brunswick, Maine	28.30
		Brunswick, Maine	Augusta, Maine	33.40
		Augusta, Maine	Waterville, Maine	20.00
		Waterville, Maine	Newport, Maine	} 54.90
		Newport, Maine	Bangor, Maine	
				136.60
		Cumberland Junction, Maine	Danville Junction, Maine	18.30
		Danville Junction, Maine	Winthrop, Maine	} 54.60
		Winthrop, Maine	Waterville, Maine	
				72.90
		Bath, Maine	Brunswick, Maine	8.70
		Brunswick, Maine	Lewiston Station, Maine	19.60
		Waterville, Maine	Skowhegan, Maine	28.30
		Crowley's Junction, Maine	Leeds Junction, Maine	18.20
				11.40
		Leeds Junction, Maine	Livermore Falls, Maine	19.70
		Livermore Falls, Maine	Farmington, Maine	16.70
				36.40
29	Massachusetts Central R. R. Co	Boston, Massachusetts	Waltham, Massachusetts	9.80
		Waltham, Massachusetts	Hudson, Massachusetts	18.18
		Hudson, Massachusetts	Oakdale, Massachusetts	13.38
		Oakdale, Massachusetts	Coldbrook, Massachusetts	18.31
		Coldbrook, Massachusetts	Ware, Massachusetts	15.33
		Ware, Massachusetts	Bondville, Massachusetts	7.18
		Bondville, Massachusetts	Belcherstown, Massachusetts	5.47
		Belcherstown, Massachusetts	Amherst, Massachusetts	9.39
		Amherst, Massachusetts	West Deerfield, Massachusetts	13.30
				110.34
		Amherst, Massachusetts	Northampton, Massachusetts	6.46
30	Manchester and Keene R. R. Co	Greenfield, New Hampshire	Harrisville, New Hampshire	16.17
		Harrisville, New Hampshire	Keene, New Hampshire	13.38
				29.55
31	Middlesex Central R. R. Co	Lexington, Massachusetts	Concord, Massachusetts	8.09
		Concord, Massachusetts	Framingham and Lowell Railroad Junction, Massachusetts.	3.08
				11.17
32	Missisquoi R. R. Co	Saint Albans, Vermont	Richford, Vermont	28.00
33	Montpelier and Wells River R. R. Co	Montpelier, Vermont	Wells River, Vermont	38.22
34	Narragansett Pier R. R. Co	Narragansett Pier, Rhode Island	Kingston, Rhode Island	8.50
35	Nashua and Lowell R. R. Co	Lowell, Massachusetts	Nashua, New Hampshire	14.26
36	Nashua and Rochester R. R. Co	Nashua, New Hampshire	Rochester, New Hampshire	48.39
37	New Haven and Northampton Co	New Haven, Connecticut	Farmington, Connecticut	30.74
		Farmington, Connecticut	Westfield, Massachusetts	29.74
		Westfield, Massachusetts	Northampton, Massachusetts	15.99
		Northampton, Massachusetts	Williamsburg, Massachusetts	7.49
				83.96
		Farmington, Connecticut	New Hartford, Connecticut	14.01

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE, ISLAND, CONNECTICUT—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
30.56	127	15.62	2,928 55	20.12	34	305.66	12.21	38.33	27	336.36	13.85	49.68	19
37.50	230	30.10	7,045 00	4.80	20	1,775.00	38.30	89.70	18	1,039.00	24.50	84.25	20
.....	.....	.....	490 28	.....	.....	268.25	.....	.....	.....	153.00	.....	.....	21
31.06	29	10.39	671 45	23.15	.....	148.00	9.70	32.00	.....	128.00	8.60	35.00	22
2.20	3	1.59	302 00	0.85	6	38.20	1.79	29.00	4	39.83	1.15	40.65	
.....	.....	.....	99 00	5.00	.....	122.00	5.70	35.00	.....	149.00	5.38	35.00	23
7.14	46	5.47	963 17	4.03	13	178.60	5.25	56.50	12	103.40	3.33	52.80	24
15.04	13	3.16	285 33	6.94	16	178.70	7.15	52.80	14	135.40	4.11	52.80	
12.67	8	1.33	91 14	3.24	16	240.40	6.88	52.80	8	166.40	3.88	52.80	
9.41	18	3.78	429 41	3.71	14	168.70	4.70	52.80	13	168.60	4.78	52.80	
14.66	21	6.04	811 12	5.12	22	372.02	9.03	64.40	17	244.42	6.55	64.30	
8.51	18	5.79	568 55	6.41	20	175.70	5.11	60.70	11	109.00	2.78	56.70	
12.41	27	8.59	849 52	2.82	32	284.60	10.89	58.40	22	288.30	7.29	56.50	
79.84	151	34.16	3,999 44	32.27	133	1,598.72	49.01	64.40	97	1,215.52	32.72	64.30	
34.86	.....	14.79	1,623 48	4.25	15	714.60	30.60	39.60	14	283.80	14.80	34.30	25
4.98	20	2.80	402 24	1.68	16	126.25	1.95	92.40	28	191.75	4.15	79.20	26
7.96	14	2.36	551 05	2.91	12	187.00	4.00	70.00	5	222.00	3.41	70.00	27
.....	.....	.....	685 17	.....	.....	384.85	.....	.....	.....	332.38	.....	.....	28
.....	.....	.....	1,452 23	.....	.....	322.12	.....	.....	.....	338.18	.....	.....	
.....	.....	.....	996 37	.....	.....	214.00	.....	.....	.....	147.00	.....	.....	
.....	.....	.....	1,492 13	.....	.....	417.20 267.60	.....	.....	.....	334.70 453.60	.....	.....	
.....	.....	.....	4,626 30	.....	.....	1,605.77	.....	.....	.....	1,605.86	.....	.....	
.....	.....	.....	488 01	.....	.....	279.36	.....	.....	.....	138.66	.....	.....	
.....	.....	.....	1,618 50	.....	.....	372.38 255.00	.....	.....	.....	347.00 360.00	.....	.....	
.....	.....	.....	2,106 51	.....	.....	906.74	.....	.....	.....	845.66	.....	.....	
.....	.....	.....	503 18	.....	.....	51.00	.....	.....	.....	107.00	.....	.....	
.....	.....	.....	929 00	.....	.....	455.30	.....	.....	.....	369.90	.....	.....	
.....	.....	.....	1,432 18	.....	.....	506.30	.....	.....	.....	476.90	.....	.....	
.....	.....	.....	623 46	.....	.....	269.00	.....	.....	.....	151.00	.....	.....	
.....	.....	.....	385 00	.....	.....	197.00	.....	.....	.....	120.00	.....	.....	
.....	.....	.....	317 15	.....	.....	211.80	.....	.....	.....	180.60	.....	.....	
.....	.....	.....	379 00	.....	.....	281.00	.....	.....	.....	183.00	.....	.....	
.....	.....	.....	696 15	.....	.....	492.80	.....	.....	.....	363.60	.....	.....	
7.81	11	1.99	309 30	4.31	8	149.00	3.41	60.00	7	53.00	2.08	52.80	29
14.70	28	3.48	598 09	5.38	16	313.00	8.14	60.00	15	198.00	4.66	52.80	
9.56	24	3.82	744 06	1.72	5	311.00	8.31	60.00	3	154.00	3.35	52.80	
10.51	47	7.80	1,705 16	0.21	2	668.00	11.60	60.00	4	333.00	6.50	52.80	
11.92	26	3.41	546 52	5.76	5	46.00	2.21	26.40	10	292.00	7.36	52.80	
4.95	14	2.23	377 02	1.21	4	104.00	2.58	52.80	4	166.00	3.39	52.80	
4.14	7	1.33	153 26	1.67	3	95.00	2.67	52.80	1	40.00	1.13	35.00	
6.14	21	3.25	488 39	1.29	2	86.00	1.82	52.80	3	311.00	6.28	52.80	
10.87	13	2.43	295 11	4.99	4	192.00	4.62	58.00	5	160.00	3.69	52.80	
30.60	191	29.74	5,218 11	26.54	49	1,964.00	45.36	60.00	52	1,707.00	38.44	52.80	
5.23	7	1.23	249 52	2.34	2	31.00	0.97	37.00	4	126.00	3.15	52.80	
7.34	51	8.83	2,356 11	3.17	8	630.10	9.37	94.00	4	238.60	3.63	78.00	30
6.51	49	6.87	1,848 31	2.76	1	32.00	0.62	52.80	4	771.00	10.00	100.00	
13.85	100	15.70	4,204 42	5.93	9	662.10	9.99	94.00	8	1,009.60	13.63	100.00	
6.33	14	1.76	334 34	2.37	5	35.00	2.01	46.20	7	13.50	3.71	52.80	31
1.50	9	1.58	293 50	0.37	5	25.00	1.61	35.20	7	13.50	1.10	52.80	
7.83	23	3.34	628 24	2.74	10	60.00	3.62	46.20	14	27.00	4.81	52.80	
19.00	24	9.00	1,450 00	9.90	48	513.00	9.70	106.00	46	430.00	8.40	106.00	32
19.61	166	18.61	764 21	5.70	.....	904.00	.....	45.00	.....	945.00	.....	51.00	33
6.00	28	2.50	970 17	1.33	15	124.00	4.17	70.00	8	35.00	3.00	70.00	34
6.74	24	7.52	755 00	3.97	7	53.50	7.22	12.70	6	18.00	3.07	12.60	35
34.96	51	13.43	749 13	6.52	120	868.88	21.02	52.80	118	772.33	20.85	52.80	36
20.44	64	10.30	1,282 00	10.59	47	343.00	15.38	44.00	19	113.00	4.77	40.00	37
22.82	34	6.92	622 00	3.89	35	364.00	12.70	51.00	47	393.00	13.15	54.00	
9.41	61	6.58	1,186 58	7.50	16	130.00	3.73	70.00	12	147.00	4.76	51.00	
4.28	27	3.21	664 18	0.77	15	368.10	6.72	83.00	.....	.....	.....	.....	
56.95	186	27.01	3,755 16	22.75	113	1,205.10	38.53	83.00	78	653.00	22.68	54.00	
6.67	43	7.34	1,255 40	3.51	11	248.00	7.63	66.00	6	109.00	2.87	53.00	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
38	New London Northern R. R. Co	New London, Connecticut	Norwich, Connecticut	13.20
		Norwich, Connecticut	Connecticut and Massachusetts state line	42.80
		Connecticut and Massachusetts state line	Amherst, Massachusetts	28.88
		Amherst, Massachusetts	Miller's Falls, Massachusetts	14.96
				99.84
39	New York and New England R. R. Co	Providence, Rhode Island	Willimantic, Connecticut	58.50
40	New York, New Haven, and Hartford R. R. Co	Harlem Railroad Junction, New York	New Haven, Connecticut	61.20
		New Haven, Connecticut	Springfield, Massachusetts	62.00
		Berlin, Connecticut	Middletown, Connecticut	9.84
		Berlin, Connecticut	New Britain, Connecticut	3.20
		Windsor Locks, Connecticut	Suffield, Connecticut	4.31
41	New York, Providence, and Boston R. R. Co	Groton Bank, Connecticut	Stonington Junction, Connecticut	12.40
		Stonington Junction, Connecticut	Cranston Junction, Rhode Island	44.22
		Cranston Junction, Rhode Island	Providence Cove, Rhode Island	4.38
				61.00
		Stonington Wharf, Connecticut	Stonington Junction, Connecticut	0.75
		Cranston Junction, Rhode Island	Eddy street, Providence, Rhode Island	1.18
		Eddy street, Providence, Rhode Island	Harbor line, Providence, Rhode Island	0.70
				1.88
42	North Brookfield R. R. Co	North Brookfield, Massachusetts	East Brookfield, Massachusetts	4.16
43	Northern R. R. Co. of New Hampshire	Concord, New Hampshire	White River Junction, Vermont	69.38
		Franklin, New Hampshire	Bristol, New Hampshire	12.65
44	Pawtuxet Valley R. R. Co	Hope, Rhode Island	Pontiac, Rhode Island	5.67
45	Peterborough R. R. Co	Wilton, New Hampshire	Greenfield, New Hampshire	10.77
46	Peterborough and Hillsborough R. R. Co	Hillsborough Bridge, New Hampshire	Peterborough, New Hampshire	18.23
47	Pontiac Branch R. R. Co	Auburn, Rhode Island	Pontiac, Rhode Island	4.69
48	Portland and Ogdensburg R. R. Co	Portland, Maine	Sebago Lake, Maine	16.71
		Sebago Lake, Maine	Baldwin, Maine	7.91
		Baldwin, Maine	Hiram, Maine	12.23
		Hiram, Maine	Fryeburg, Maine	12.95
		Fryeburg, Maine	North Conway, New Hampshire	9.47
		North Conway, New Hampshire	Glen Station, New Hampshire	5.36
		Glen Station, New Hampshire	Upper Bartlett, New Hampshire	5.82
		Upper Bartlett, New Hampshire	Bemis Station, New Hampshire	6.07
		Bemis Station, New Hampshire	Crawford's, New Hampshire	8.49
		Crawford's, New Hampshire	Fabyan's, New Hampshire	4.03
		Fabyan's, New Hampshire	Scott's Mills, New Hampshire	17.56
		Scott's Mills, New Hampshire	Lunenburg, Vermont	2.32
				108.92
49	Portland, Saco, and Portsmouth R. R. Co	Portsmouth, New Hampshire	Portland, Maine	50.76
50	Providence and Worcester R. R. Co	Providence, Rhode Island	Junction of Boston and Providence R. R.	5.00
		Junction of Boston and Providence R. R.	Worcester, Massachusetts	38.41
				43.41
		Valley Falls, Rhode Island	East Providence, Rhode Island	7.00
51	Providence, Warren, and Bristol R. R. Co	East Providence, Rhode Island	Bristol, Rhode Island	13.60
52	Rutland R. R. Co	Essex Junction, Vermont	Bellows Falls, Vermont	127.70
53	Shore Line Rw'y Co	New Haven, Connecticut	New London, Connecticut	49.51
54	Springfield and Northeastern R. R. Co	Athol Junction, Massachusetts	Athol, Massachusetts	45.26
55	Springfield and New London R. R. Co	Springfield, Massachusetts	Massachusetts and Connecticut state line	7.27
56	Sullivan County R. R. Co	Connecticut River Bridge, near Windsor, Vermont.	West Claremont, New Hampshire	5.42
		West Claremont, New Hampshire	Claremont Junction, New Hampshire	1.77
		Claremont Junction, New Hampshire	North Charlestown, New Hampshire	4.70
		North Charlestown, New Hampshire	Springfield, New Hampshire	3.89
		Springfield, New Hampshire	Charlestown, New Hampshire	1.54
		Charlestown, New Hampshire	South Charlestown, New Hampshire	3.96
		South Charlestown, New Hampshire	Chapin's Switch, New Hampshire	2.50
		Chapin's Switch, New Hampshire	Connecticut River Bridge, near Bellows Falls, Vermont.	0.52
				24.30
		Chapin's Switch	Cheshire R. R.	0.94
57	Suncook Valley R. R. Co	Suncook, New Hampshire	Pittsfield, New Hampshire	17.48

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
7.14	63	6.06	366 40	4.41	29	98.00	4.77	.....	22	91.00	4.02	.....	38
27.44	96	15.36	217 02	8.26	47	915.00	26.19	.....	25	303.00	8.35	.....	
17.36	69	11.52	182 45	3.43	15	314.00	10.36	.....	13	680.00	15.09	.....	
9.18	12	5.78	87 55	2.80	12	236.00	5.87	.....	11	198.00	6.29	.....	
61.12	240	38.72	854 22	18.90	103	1,563.00	47.19	.....	71	1,272.00	33.75	.....	
32.27	62	26.23	2,654 23	8.12	36	733.86	28.77	60.00	24	455.96	21.61	60.00	39
40.63	77	20.57	2,213 00	10.58	49	795.40	24.30	45.60	59	857.00	26.32	49.60	40
39.18	50	22.82	1,697 56	10.97	67	415.57	28.20	36.00	55	357.24	22.83	38.00	
5.66	14	4.18	185 51	3.80	10	47.00	2.05	26.40	21	93.93	3.99	34.40	
2.45	6	0.75	198 46	0.69	5	116.20	2.32	57.55	1	3.00	0.19	15.80	
3.14	6	1.17	185 51	0.07	13	101.67	3.35	64.40	2	13.50	0.89	29.70	
7.23	22	5.17	716 30	4.86	11	109.12	3.66	54.00	14	109.12	3.88	50.00	41
36.32	22	7.90	639 45	4.14	21	308.94	20.31	37.00	18	263.86	19.77	30.00	
2.67	6	1.71	224 00	0.74	4	7.40	2.24	54.00	1	46.44	1.40	36.00	
46.22	50	14.78	1,580 15	9.74	36	425.46	26.21	54.00	33	419.42	25.05	50.00	
0.41	4	0.34	36 00	0.11	2	6.50	0.11	52.00	2	6.50	0.53	25.00	
0.68	1	0.50	42 00	.....	.....	.....	.....	.....	1	21.34	1.18	21.00	
0.62	1	0.08	10 00	0.29	.....	.....	.....	.....	1	19.34	0.41	50.00	
1.30	2	0.58	52 00	0.29	.....	.....	.....	.....	2	40.68	1.59	50.00	
2.37	16	1.70	73 00	0.61	11	302.00	3.10	121.44	2	11.00	0.45	26.40	42
43.76	122	25.62	3,275 00	9.86	21	781.64	33.90	52.80	19	664.80	25.62	52.80	43
6.72	52	5.93	1,001 28	1.10	12	103.00	5.65	26.40	11	42.00	5.90	21.00	
3.87	21	1.80	640 00	1.25	4	51.00	0.75	70.00	9	202.00	3.67	80.00	44
6.06	37	4.71	1,054 59	2.12	4	513.00	7.76	80.25	3	31.50	0.89	52.80	45
10.80	36	7.43	1,288 38	7.50	45	301.00	7.43	89.70	26	150.00	3.30	100.30	46
.....	11	.....	44 30	2.69	4	54.00	2.00	54.00	.....	.....	.....	.....	47
11.55	32	5.16	736 02	4.29	19	456.53	8.08	82.10	13	193.87	4.34	79.20	48
6.17	11	1.74	242 29	1.80	9	130.00	3.09	77.40	8	101.00	3.02	55.30	
7.12	30	5.11	526 27	3.95	16	240.60	4.77	77.10	11	166.60	3.51	67.70	
9.69	12	3.26	284 22	1.35	17	221.50	5.82	66.00	18	181.50	5.78	66.00	
6.05	14	3.42	333 38	1.83	12	195.80	4.75	82.50	7	99.00	2.89	66.20	
3.93	10	1.43	119 35	0.15	3	83.20	4.11	52.80	2	62.00	1.10	63.60	
4.49	7	1.33	137 15	0.92	6	173.36	4.24	79.20	2	42.00	0.66	52.80	
3.90	15	2.17	409 55	0.91	5	329.04	5.03	93.60	1	4.00	0.13	13.80	
4.10	36	4.29	906 27	0.11	2	902.80	8.38	116.00	.....	.....	.....	.....	
1.85	13	2.18	452 58	0.17	1	2.20	0.06	22.20	1	320.80	3.80	84.00	
10.08	40	7.48	1,359 11	2.49	1	4.00	0.30	11.72	8	715.50	14.77	79.60	
2.13	2	0.19	20 00	1.09	2	14.00	0.55	49.30	2	26.00	0.68	40.80	
71.06	222	37.86	5,528 19	19.06	93	2,753.03	49.18	116.00	73	1,912.27	40.68	84.00	
44.40	23	6.36	346 00	9.50	21	610.00	19.12	40.00	25	610.00	22.14	35.00	49
3.70	8	1.30	241 55	1.05	2	68.00	3.71	18.50	1	3.20	0.24	13.20	50
24.21	83	14.20	2,339 53	8.58	40	457.33	25.36	27.00	6	53.30	4.47	21.10	
27.91	91	15.50	2,581 48	9.63	42	525.33	29.07	27.00	7	56.50	4.71	21.10	
4.18	16	2.82	426 42	1.29	4	40.49	1.79	37.00	7	103.44	3.92	37.00	
9.10	12	4.50	463 00	4.81	6	96.00	4.90	52.00	7	97.00	3.89	52.00	51
82.24	196	45.46	5,405 00	29.50	22	1,640.00	40.40	60.00	23	1,410.00	57.80	60.00	52
31.23	67	18.28	2,211 34	12.13	40	513.00	17.61	39.60	39	524.50	19.77	39.96	53
27.54	117	17.72	3,164 00	5.71	63	775.00	26.11	66.00	40	395.00	13.44	68.64	54
5.20	7	2.07	226 08	2.17	6	83.00	2.07	52.80	7	51.50	3.03	45.25	55
4.17	8	1.25	133 46	1.12	3	71.60	2.40	44.00	3	16.80	1.90	12.00	56
1.31	3	0.46	58 30	0.17	.....	71.20	1.39	62.00	.....	4.40	0.21	21.00	
3.12	4	1.58	109 42	0.89	2	18.30	0.78	26.00	3	74.70	3.03	48.00	
2.39	8	1.50	189 39	0.25	1	61.10	1.40	63.00	1	103.60	2.24	48.00	
1.18	1	0.36	27 59	0.72	1	8.20	0.32	25.00	2	6.50	0.50	26.00	
1.91	7	2.05	171 18	1.62	1	7.00	0.23	30.00	2	80.10	2.11	53.00	
1.64	5	0.86	88 37	0.69	1	39.30	1.30	42.00	1	13.50	0.51	26.00	
0.38	1	0.14	16 54	0.11	.....	.....	.....	.....	1	24.20	0.41	58.00	
16.10	37	8.20	796 25	5.57	9	276.70	7.82	63.00	13	323.80	10.91	58.00	
0.19	3	0.75	114 50	.....	.....	.....	.....	.....	1	27.60	0.94	47.00	
10.19	53	7.29	1,295 35	6.99	30	470.40	6.72	105.60	26	215.40	3.77	73.92	57

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
58	Troy and Greenfield R. R. and Hoosac Tunnel	Greenfield, Massachusetts	North Adams, Massachusetts	37.00
		North Adams, Massachusetts	State line, Vermont and Massachusetts	6.03
		State line, Vermont, and Massachusetts	State line, New York and Vermont	6.16
59	Vermont and Canada R. R. Co	Saint Albans, Vermont	Rouse's Point, New York	23.90
60	Vermont and Massachusetts R. R. Co	Fitchburg, Massachusetts	Greenfield, Massachusetts	55.98
61	Vermont Valley R. R. Co. of 1871	Brattleboro', Vermont	Dummerston, Vermont	5.30
		Dummerston, Vermont	Putney, Vermont	3.56
		Putney, Vermont	East Putney, Vermont	2.76
		East Putney, Vermont	Westminster, Vermont	8.18
		Westminster, Vermont	Bellows Falls, Vermont	3.81
				23.61
62	Ware River R. R. Co	Palmer, Massachusetts	Winchendon, Massachusetts	49.41
63	Wood River Branch R. R. Co	Wood River Junction, Rhode Island	Hope Valley, Rhode Island	5.71
64	Woodstock R. R. Co	White River Junction, Vermont	Hartford, Vermont	1.43
		Hartford, Vermont	Shallies Hill, Vermont	3.34
		Shallies Hill, Vermont	Dewey's Mills, Vermont	1.97
		Dewey's Mills, Vermont	Quechee, Vermont	0.81
		Quechee, Vermont	Taftsville, Vermont	3.45
		Taftsville, Vermont	Woodstock, Vermont	2.84
				13.84
65	Worcester and Nashua R. R. Co	Worcester, Mass	Nashua, New Hampshire	46.09

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA.

1	Albany and Susquehanna R. R. Co	Albany, New York	Quaker street, New York	26.93
		Quaker street, New York	East Worcester Summit, New York	27.82
		East Worcester Summit, New York	Oneonta, New York	27.09
		Oneonta, New York	Nineveh Junction, New York	37.04
		Nineveh Junction, New York	Tunnel Summit, New York	7.36
		Tunnel Summit, New York	Binghamton, New York	16.27
				142.51
2	Allentown R. R. Co	Topton, Pennsylvania	Kutztown, Pennsylvania	4.50
3	Alliance and Lake Erie R. R. Co	Alliance, Ohio	Phalanx, Ohio	25.00
4	Anderson, Lebanon, and Saint Louis R. R. Co	Anderson, Indiana	Noblesville, Indiana	19.00
5	Avon, Geneseo, and Mount Morris R. R. Co	Avon, New York	Mount Morris, New York	17.56
6	Bald Eagle Valley R. R. Co	Vail, Pennsylvania	Lock Haven, Pennsylvania	51.19
7	Baltimore and Cumberland Valley R. R. Co	Edgemont, Maryland	Waynesborough, Pennsylvania	7.56
8	Baltimore and Potomac R. R. Co	Baltimore, Maryland	South end of Long Bridge, Virginia	42.71
		Bowie, Maryland	Pope's Creek, Maryland	48.72
9	Bangor and Portland Rw'y Co	Portland, Pennsylvania	Mount Bethel, Pennsylvania	2.31
		Mount Bethel, Pennsylvania	Johnsonville, Pennsylvania	2.23
		Johnsonville, Pennsylvania	East Bangor, Pennsylvania	1.90
		East Bangor, Pennsylvania	Bangor, Pennsylvania	1.82
				8.26
10	Bellaire and South Western Rw'y Co	Bellaire, Ohio	Woodsfield, Ohio	42.00
11	Belvidere Delaware R. R. Co	Trenton, New Jersey	Belvidere, New Jersey	64.25
		Belvidere, New Jersey	Manunka Chunk, New Jersey	3.24
				67.49
12	Black River and Morristown R. R. Co	Philadelphia, New York	Morristown, New York	36.45
13	Boston, Hoosac Tunnel, and Western Rw'y Co	Vermont and Massachusetts line	Vermont and New York line	6.47
		Vermont and New York line	Mechanicsville, New York	32.54
				39.01
14	Breakwater and Frankford R. R. Co	Georgetown, Delaware	Maryland state line	20.15
15	Brooklyn, Flatbush, and Coney Island Rw'y Co	Atlantic avenue, Brooklyn, New York	Brighton Beach, Coney Island, New York	7.50
16	Buffalo, Bradford, and Pittsburgh R. R. Co	Carrollton, New York	Gilesville, Pennsylvania	25.97
17	Buffalo, New York, and Erie R. R Co	Painted Post, New York	Buffalo, New York	139.95
18	Buffalo New York, and Philadelphia Rw'y Co	Buffalo, New York	Lime Lake, New York	120.55
		Lime Lake, New York	Olean, New York	
		Olean, New York	Liberty, Pennsylvania	
		Liberty, Pennsylvania	Keating Summit, Pennsylvania	
		Keating Summit, Pennsylvania	Emporium, Pennsylvania	
				120.55

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP I.—MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
21.15	130	15.85	3,270 44	2.24	28	723.20	26.55	59.98	6	220.40	8.21	42.24	58
4.43	19	2.50	260 57	0.89	1	2.94	0.41	7.18	3	124.50	5.63	32.73	
4.07	10	2.09	317 54	0.93	18	38.00	1.26	43.98	39	130.80	3.97	43.40	
16.62	19	7.28	769 21	7.89	10	49.00	3.80	42.00	20	252.00	12.21	40.00	59
28.74	.....	27.24	3,760 54	6.40	8	794.20	16.00	60.00	7	1,016.00	33.58	47.50	60
3.08	14	2.22	392 00	0.74	4	73.20	2.86	29.60	2	46.50	1.70	31.20	61
2.30	8	1.26	157 00	0.56	3	26.80	1.00	35.00	3	35.50	2.00	21.10	
1.33	7	1.43	100 00	0.51	2	43.30	1.89	30.00	3	7.30	0.36	18.50	
4.24	15	3.94	364 00	3.41	6	28.90	2.00	23.20	4	59.40	2.77	28.50	
2.31	7	1.50	225 00	0.26	5	59.40	2.39	30.00	5	17.90	1.16	26.40	
13.26	51	10.35	1,238 00	5.48	20	231.60	10.14	35.00	17	166.60	7.99	31.20	
31.25	132	18.16	3,904 00	9.85	101	1,015.50	27.83	67.58	52	358.50	11.73	60.19	62
3.80	17	1.91	495 00	1.77	8	92.56	2.21	66.00	7	65.20	1.73	64.00	63
0.35	9	1.08	186 26	0.14	1	116.00	1.29	90.00	.....	.....	.....	.....	64
1.41	16	1.93	384 30	.....	4	307.00	3.34	121.00	.....	.....	.....	.....	
0.70	7	1.27	[illegible] 11	0.08	.....	.....	.....	.....	4	165.00	1.89	121.00	
0.25	3	0.56	166 13	0.28	1	23.00	0.38	66.00	1	1.00	0.15	11.00	
1.14	12	2.31	550 30	1.22	5	51.00	1.14	58.00	5	43.00	1.09	52.00	
1.43	12	1.41	360 48	6.64	6	64.00	1.38	69.00	4	25.00	0.82	69.00	
5.28	59	8.56	1,915 38	2.36	17	561.00	7.53	121.00	14	234.00	3.95	121.00	
31.00	89	15.09	2,110 47	5.48	38	407.29	15.11	45.83	50	761.10	25.50	69.00	65

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA.

19.70	49	7.23	1,142 35	5.15	32	896.00	18.50	78.00	14	103.00	03.28	48.00	1
15.29	70	12.53	1,805 50	1.90	31	1,020.00	17.62	72.00	24	331.00	08.30	56.00	
19.55	56	7.54	1,014 21	6.11	17	137.00	5.02	52.00	45	551.00	15.96	53.00	
25.19	77	11.85	1,711 43	12.70	36	246.00	10.49	59.00	36	298.00	13.85	52.00	
3.83	17	3.53	585 26	0.61	8	422.00	6.52	73.00	1	7.00	0.23	33.00	
7.36	67	8.91	1,479 37	3.92	1	6.00	0.27	23.00	9	594.00	12.08	56.00	
90.92	336	51.59	7,739 32	30.39	125	2,727.00	58.42	78.00	129	1,884.00	53.70	56.00	
2.50	4	2.00	57 38	.....	.....	.....	.....	.....	3	74.05	4.50	28.14	2
20.32	26	4.68	110 00	2.05	13	301.00	9.40	52.00	16	376.00	13.55	75.00	3
18.50	2	0.50	28 00	2.44	14	108.00	4.84	40.00	26	212.00	11.72	40.00	4
12.64	11	4.92	291 23	4.73	9	152.98	5.65	50.00	12	148.94	7.18	40.00	5
43.36	55	7.83	974 03	11.30	67	289.71	12.35	54.91	105	727.88	27.54	55.44	6
4.33	23	3.23	732 41	.....	3	116.00	1.67	79.20	14	378.00	5.89	81.50	7
35.54	60	7.17	1,052 09	6.63	56	693.70	17.85	69.90	47	746.70	18.23	92.40	8
40.21	60	8.51	1,440 09	7.97	103	606.60	16.40	52.80	121	737.00	24.35	52.80	
1.26	6	1.05	95 40	0.85	4	125.00	1.46	140.00	.....	.....	.....	.....	9
1.66	8	0.57	46 13	0.31	4	155.00	1.92	100.00	.....	.....	.....	.....	
1.42	5	0.48	47 15	1.90	.....	.....	.....	.....	.....	.....	.....	.....	
0.97	9	0.85	108 44	0.38	.....	.....	.....	.....	2	85.00	1.44	63.00	
5.31	28	2.95	297 52	3.44	8	280.00	3.38	140.00	2	85.00	1.44	63.00	
21.29	322	20.71	3,035 20	5.77	41	1,738.00	22.30	132.00	16	1,220.00	13.93	132.00	10
24.85	120	39.40	3,478 41	.....	.....	219.52	.....	15.00	.....	7.10	.....	13.00	11
1.24	13	2.00	329 09	.....	.....	96.52	.....	75.00	.....	27.00	.....	40.00	
26.09	133	41.40	3,807 50	.....	.....	316.04	.....	75.00	.....	34.10	.....	40.00	
25.25	57	11.20	889 25	10.12	39	457.00	10.27	88.00	49	693.50	16.06	60.00	12
4.46	10	2.01	299 00	2.58	.....	.....	.....	.....	6	93.00	3.89	26.40	13
18.83	50	13.71	2,169 30	6.67	17	101.00	4.87	26.40	39	488.00	21.00	33.00	
23.29	60	15.72	2,468 30	9.25	17	101.00	4.87	26.40	45	581.00	24.89	33.00	
18.79	7	1.36	238 51	2.86	15	186.81	6.84	36.96	20	247.61	10.45	41.18	14
6.50	7	1.00	7 40	6.00	2	34.00	0.50	117.00	3	65.00	1.00	80.00	15
18.24	46	7.73	1,030 08	6.67	33	739.83	16.20	130.00	8	127.08	3.10	52.80	16
97.83	153	42.12	3,265 02	16.93	178	1,181.09	66.65	47.00	95	1,536.39	56.37	57.00	17
90.55	138	30.00	3,467 00	.....	.....	1,080.00	.....	65.00	.....	.....	.....	.....	18
						.....	.....	.....	.....	200.00	.....	20.00	
						204.00	.....	20.00	.....	.....	.....	.....	
						261.00	.....	85.00	.....	.....	.....	.....	
						.....	.....	.....	.....	892.00	.....	116.00	
90.55	138	30.00	3,467 00	.....	.....	1,545.00	.....	85.00	.....	1,092.00	.....	116.00	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
19	Buffalo and South Western R. R. Co	Buffalo, New York	Jamestown, New York	68.39
20	Camden and Atlantic R. R. Co	Camden, New Jersey	Atlantic City, New Jersey	60.00
21	Carthage, Watertown, and Sackett's Harbor R. R. Co.	Carthage, New York	Watertown, New York	17.39
22	Catasauqua and Fogelsville R. R. Co	Catasauqua, Pennsylvania	Trexlertown, Pennsylvania	12.00
		Trexlertown, Pennsylvania	Rittenhouse Gap, Pennsylvania	8.00
				20.00
		Trexlertown, Pennsylvania	Lichty, Pennsylvania	5.00
23	Cayuga and Susquehanna R. R. Co	Cayuga Lake, New York	Owego, New York	34.61
24	Cazenovia, Canastota, and De Ruyter Rw'y Co	Cortland, New York	Canastota, New York	48.09
25	Celina, Van Wert, and State Line Extension of the Columbus and Northwestern Rw'y Co.	Van Wert, Ohio	Mercer County line, Ohio	10.38
26	Central Ohio R. R. Co	Columbus, Ohio	Bellaire, Ohio	137.29
27	Charlotteburg and Green Lake R. R. Co	Charlotteburg Junction, New Jersey	The Green Pond Mines, New Jersey	4.25
28	Chartiers Rw'y Co	Mansfield, Pennsylvania	Washington, Pennsylvania	22.76
29	Chateaugay R. R. Co	Dannemora, New York	Lyon Mountain, New York	16.66
		Plattsburgh, New York	Plattsburgh Barracks, New York	1.04
30	Cherry Valley, Sharon, and Albany R. R. Co	Cobleskill Junction, New York	Cherry Valley, New York	20.99
31	Chester R. R. Co	Morris and Essex R. R. Junction, New Jersey	Chester, New Jersey	10.00
32	Chester Valley R. R. Co	Bridgeport, Pennsylvania	Downingtown, Pennsylvania	21.52
33	Chicago and Canada Southern Rw'y Co	Chandler, Michigan	Fayette, Ohio	66.47
34	Chicago, Detroit, and Canada Grand Trunk Junction R. R. Co.	Port Huron, Michigan	Detroit, Michigan	59.25
35	Chicago and Grand Trunk Rw'y Co	Port Huron, Michigan	Lapeer, Michigan	45.99
		Lapeer, Michigan	Flint, Michigan	19.49
		Flint, Michigan	Lansing, Michigan	49.26
		Lansing, Michigan	Battle Creek, Michigan	45.05
		Battle Creek, Michigan	Schoolcraft, Michigan	28.83
		Schoolcraft, Michigan	Granger's, Indiana	35.86
		Granger's, Indiana	South Bend, Indiana	10.26
		South Bend, Indiana	Valparaiso, Indiana	45.35
		Valparaiso, Indiana	Chicago and Eastern Illinois Junction, Illinois	29.94
		Chicago and Eastern Illinois Junction, Illinois	Chicago, Illinois	20.43
				330.46
36	Cincinnati and Baltimore Rw'y Co	Cincinnati, Indianapolis, Saint Louis, and Chicago Rw'y Junction (in Cincinnati, Ohio).	Cincinnati and Springfield R. R. Junct'n, Ohio	6.00
37	Cincinnati, Hamilton, and Dayton R. R. Co	Cincinnati, Ohio	Hamilton, Ohio	25.44
		Hamilton, Ohio	Third street, Dayton, Ohio	34.44
				59.88
38	Cincinnati, Hamilton, and Indianapolis R. R. Co	Hamilton, Ohio	Connersville, Indiana	41.80
		Connersville, Indiana	Indianapolis, Indiana	57.10
				98.90
39	Cincinnati Northern Rw'y Co	Cincinnati, Ohio	Utica, Ohio	36.20
40	Cincinnati and Portsmouth R. R. Co	Columbia, Ohio	Mount Washington, Ohio	5.07
		Mount Washington, Ohio	Kyle's Station, Ohio	6.83
		Kyle's Station, Ohio	Cleveland, Ohio	8.45
				20.35
41	Cincinnati, Sandusky, and Cleveland R. R. Co	Springfield, Ohio	Dayton, Ohio	23.60
42	Cincinnati and Springfield Rw'y Co	Dayton, Ohio	Cincinnati and Springfield Junction, Ohio	47.80
43	Cincinnati, Wabash, and Michigan Rw'y Co	Goshen, Indiana	Warsaw, Indiana	24.30
		Warsaw, Indiana	North Manchester, Indiana	19.40
		North Manchester, Indiana	Wabash, Indiana	14.60
		Wabash, Indiana	Marion, Indiana	20.40
		Marion, Indiana	Anderson, Indiana	32.00
				110.70
44	Clayton and Theresa R. R. Co	Theresa Junction, New York	Clayton, New York	15.87
45	Cleveland, Columbus, Cincinnati, and Indianapolis Rw'y Co.	Cleveland, Ohio	Columbus, Ohio	138.00
		Galion, Ohio	Indianapolis, Indiana	203.15
		Delaware, Ohio	Springfield, Ohio	49.80
46	Cleveland and Mahoning Valley Rw'y Co	Cleveland, Ohio	Leavittsburg, Ohio	49.55
		Leavittsburg, Ohio	Sharon, Pennsylvania	31.75
				81.30
		Niles, Ohio	New Lisbon, Ohio	33.51
		Vienna Junction, Ohio	Vienna, Ohio	7.75

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
53.43	76	14.96	1,814 14	20.53	76	1,124.51	28.34	132.00	55	384.61	19.52	66.00	19
47.73	30	12.27	840 12	14.24	37	167.95	20.23	27.83	28	173.45	25.53	26.40	20
13.10	31	4.29	705 33	2.10	15	118.00	1.88	60.00	37	378.00	13.41	74.00	21
7.50	14	4.50	607 45	0.25	16	268.00	7.25	66.00	6	149.00	4.50	45.00	22
4.50	22	3.50	919 30	0.40	17	589.00	6.20	127.00	4	56.00	1.40	42.00	
12.00	36	8.00	1,527 15	0.65	33	857.00	13.45	127.00	10	205.00	5.90	45.00	
3.67	11	1.33	197 20	1.00	16	131.00	3.00	74.00	6	30.00	1.00	37.00	
17.70	17	16.91	1,285 00	5.17	14	644.00	13.34	90.00	25	197.00	16.10	25.00	23
33.72	146	14.37	2,376 40	9.27	19	524.00	16.22	80.00	21	1,285.00	22.60	106.00	24
9.67	8	0.71	20 40	2.30	16	80.00	0.10	27.70	9	24.00	1.98	26.40	25
102.64	187	34.65	5,451 57	76.02	9	1,950.00	31.00	85.00	9	1,195.00	30.27	85.00	26
1.91	28	2.34	1,130 59	0.75	18	271.00	3.22	158.00	3	11.00	0.28	52.80	27
14.71	45	8.05	1,611 37	4.15	31	386.51	13.76	52.80	15	127.17	4.85	52.80	28
10.78	80	5.88	1,977 17	10.43	23	578.50	5.93	158.50	1	5.50	0.30	16.50	29
0.61	6	0.43	156 46	0.08	7	46.00	0.96	105.50	.....	.....	.....	.....	
8.54	84	12.45	2,690 24	3.55	48	606.00	12.09	70.00	29	269.00	5.35	123.00	30
7.38	9	2.62	242 48	3.67	2	44.00	0.83	65.00	10	49.00	6.10	21.00	31
16.97	16	4.55	473 30	6.12	14	315.20	9.55	53.30	9	123.40	5.85	32.40	32
64.53	2	1.94	46 35	13.95	66	323.13	38.69	15.84	32	119.17	13.83	15.84	33
56.26	8	2.99	200 45	24.65	25	266.00	17.60	29.83	29	263.00	17.00	31.63	34
44.47	5	1.52	92 00	9.06	49	387.00	18.00	52.00	47	376.00	18.93	50.00	35
17.68	9	1.81	186 00	6.23	25	255.00	7.00	49.00	22	264.00	6.26	46.00	
46.20	26	3.06	280 30	11.25	56	395.00	20.50	50.00	57	401.00	17.51	49.00	
40.40	18	4.65	310 50	8.05	59	426.00	19.00	53.00	62	402.00	18.00	46.00	
25.90	13	2.93	260 06	4.71	44	314.00	12.48	54.00	43	260.00	11.64	48.00	
33.56	19	2.30	230 05	9.30	42	145.00	14.56	34.00	44	120.00	12.00	31.00	
9.69	1	0.57	30 00	1.57	7	22.00	1.95	29.00	20	109.00	6.74	35.00	
44.13	7	1.22	125 30	8.04	56	327.00	18.22	53.00	51	243.00	19.09	51.00	
27.94	12	2.00	140 03	8.15	15	95.00	5.94	42.00	34	285.00	15.85	45.00	
18.00	11	2.43	191 05	12.35	12	45.00	5.06	25.00	13	41.00	3.02	20.00	
307.97	115	22.49	1,846 09	78.71	365	2,411.00	122.71	54.00	393	2,501.00	129.04	51.00	
4.90	7	1.10	230 00	3.70	3	45.00	2.00	42.00	1	16.00	0.30	42.00	36
18.21	19	7.23	556 38	7.37	3	189.40	11.88	26.40	5	101.00	6.19	30.60	37
25.84	21	8.60	621 48	9.31	12	189.60	22.12	15.30	6	30.70	3.01	14.80	
44.05	40	15.83	1,178 26	16.68	15	379.00	34.00	26.40	11	131.70	9.20	30.60	
30.87	46	10.93	1,118 49	4.41	17	932.80	20.67	65.00	13	698.30	16.72	65.00	38
53.73	19	3.37	338 36	8.54	17	551.40	16.63	65.00	16	673.80	31.93	52.80	
84.60	65	14.30	1,457 25	12.95	34	1,484.20	37.30	65.00	29	1,372.10	48.65	65.00	
23.02	125	13.18	610 21	3.50	61	1,117.13	18.06	184.80	64	687.43	14.64	110.88	39
2.84	23	2.23	608 45	0.92	10	260.40	3.70	132.00	3	75.00	0.45	19.18	40
5.37	15	1.46	216 05	0.61	13	247.32	3.45	121.50	11	154.01	2.77	105.60	
6.79	12	1.66	148 43	2.02	15	161.94	3.08	105.60	14	129.84	3.35	129.84	
15.00	50	5.35	973 33	3.55	38	669.66	10.23	132.00	28	358.85	6.57	129.84	
19.30	19	4.30	319 07	1.63	6	40.10	1.90	31.10	12	274.30	20.07	32.50	41
34.90	39	12.90	1,258 21	5.70	26	289.60	12.70	40.10	42	517.60	20.40	40.50	42
23.06	6	0.64	15 30	4.96	32	138.65	10.32	52.80	29	111.65	9.02	48.25	43
15.50	19	3.90	34 00	3.45	31	216.70	7.05	52.80	36	266.30	8.90	52.80	
13.99	6	0.61	23 53	4.49	20	90.50	4.81	52.80	20	180.90	5.30	58.08	
17.64	15	2.76	29 26	5.86	32	268.40	8.88	79.20	21	133.40	5.66	60.72	
29.62	16	2.38	36 51	11.56	40	230.20	11.40	52.80	33	170.20	9.04	52.80	
100.41	62	10.29	139 40	30.32	155	944.45	42.46	79.20	139	862.45	37.92	60.72	
13.75	7	2.12	321 30	5.10	12	59.00	3.14	52.80	23	208.00	7.63	66.00	44
126.90	32	11.10	924 55	11.10	80	857.50	73.40	53.40	78	699.20	53.50	37.40	45
185.00	73	18.15	1,702 34	16.85	123	1,533.80	83.50	39.00	131	1,993.80	102.80	37.90	
41.40	20	8.40	629 24	4.10	27	458.40	25.30	33.00	29	379.40	20.40	33.90	
35.91	53	13.64	1,627 00	4.80	11	757.00	19.20	60.00	10	432.00	25.55	40.00	46
21.57	48	10.18	1,223 00	5.00	10	290.00	11.43	42.00	10	340.00	15.32	53.00	
57.48	101	23.82	2,850 00	9.80	21	1,047.00	36.63	60.00	20	772.00	40.87	53.00	
22.69	51	10.82	1,359 00	8.70	11	554.00	12.00	63.00	11	527.00	12.81	50.00	
4.65	16	3.10	447 00	1.41	4	330.00	5.51	66.00	3	26.50	0.83	42.80	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
47	Cleveland and Marietta R. R. Co	Marietta, Ohio	Caldwell, Ohio	35.39
		Caldwell, Ohio	Cambridge, Ohio	22.52
		Cambridge, Ohio	Newcomerstown, Ohio	21.41
		Newcomerstown, Ohio	Canal Dover, Ohio	18.75
				98.07
48	Cleveland, Mount Vernon, and Delaware R. R. Co	Hudson, Ohio	Akron, Ohio	13.26
		Akron, Ohio	Killbuck, Ohio	53.26
		Killbuck, Ohio	Summit, Ohio	10.04
		Summit, Ohio	Mount Vernon, Ohio	22.82
		Mount Vernon, Ohio	Columbus, Ohio	44.54
				143.92
49	Cleveland and Pittsburgh R. R. Co	Cleveland, Ohio	Yellow Creek, Ohio	97.67
		Rochester, Pennsylvania	Bellaire, Ohio	68.97
		Bayard, Ohio	New Philadelphia, Ohio	31.02
50	Cleveland, Tuscarawas Valley, and Wheeling Rw'y Co.	Lorain, Ohio	Uhrichsville, Ohio	100.54
		Uhrichsville, Ohio	Bridgeport, Ohio	58.21
				158.75
51	Clove Branch R. R. Co	Clove Branch Junction, New York	Clove Valley, New York	8.04
52	Colebrookdale R. R. Co	Pottstown, Pennsylvania	Barto, Pennsylvania	12.80
53	Columbia and Port Deposit R. R. Co	Columbia, Pennsylvania	Port Deposit, Maryland	40.00
54	Columbus and Hocking Valley R. R. Co	Columbus, Ohio	Lancaster, Ohio	31.13
		Lancaster, Ohio	Nelsonville, Ohio	30.52
		Nelsonville, Ohio	Athens, Ohio	13.97
				75.62
		Logan, Ohio	New Straitsville, Ohio	12.39
		Nelsonville, Ohio	Straitsville Branch, Ohio	16.78
		Bessemer, Ohio	Orbiston, Ohio	3.61
55	Columbus and Toledo R. R. Co	Columbus, Ohio	Walbridge, Ohio	117.77
56	Connecting Rw'y Co	Frankford Junction, Pennsylvania	Mantua, Pennsylvania	7.31
57	Connotton Valley R. R. Co	Dell Roy, Ohio	Carrollton, Ohio	8.10
		Carrollton, Ohio	Oneida Junction, Ohio	11.00
		Oneida Junction, Ohio	Canton, Ohio	16.08
				35.18
		Oneida Junction, Ohio	Minerva, Ohio	2.70
58	Corning, Cowanesque, and Antrim Rw'y Co	Corning, New York	Lawrenceville, Pennsylvania	14.81
		Lawrenceville, Pennsylvania	Antrim, Pennsylvania	37.22
				52.03
		Cowanesque Junction, Pennsylvania	Elkland, Pennsylvania	11.10
59	Crown Point Iron Co	New York and Canada Railroad, New York	Hammondville, New York	13.00
60	Cumberland Valley R. R. Co	Harrisburg, Pennsylvania	White Hill, Pennsylvania	2.60
		White Hill, Pennsylvania	Shiremanstown, Pennsylvania	2.59
		Shiremanstown, Pennsylvania	Mechanicsburg, Pennsylvania	2.93
		Mechanicsburg, Pennsylvania	Kingston, Pennsylvania	3.78
		Kingston, Pennsylvania	Middlesex, Pennsylvania	2.64
		Middlesex, Pennsylvania	Carlisle, Pennsylvania	3.88
		Carlisle, Pennsylvania	Greason, Pennsylvania	5.37
		Greason, Pennsylvania	Newville, Pennsylvania	6.37
		Newville, Pennsylvania	Oakville, Pennsylvania	4.14
		Oakville, Pennsylvania	Shippensburg, Pennsylvania	6.50
		Shippensburg, Pennsylvania	Summit, Pennsylvania	3.86
		Summit, Pennsylvania	Scotland, Pennsylvania	2.73
		Scotland, Pennsylvania	Chambersburg, Pennsylvania	4.61
		Chambersburg, Pennsylvania	Greencastle, Pennsylvania	11.20
		Greencastle, Pennsylvania	Hagerstown, Maryland	10.97
		Hagerstown, Maryland	Williamsport Station, Maryland	6.60
		Williamsport Station, Maryland	Potomac River, West Virginia	1.47
				82.24
61	Dayton and Michigan R. R. Co	Third street, Dayton, Ohio	Lima, Ohio	70.20
		Lima, Ohio	East Toledo, Ohio	69.60
				139.80
62	Dayton and South Eastern R. R. Co	Dayton, Ohio	Xenia, Ohio	17.69
		Xenia, Ohio	Washington Court-House, Ohio	30.00
		Washington Court-House, Ohio	Chillicothe, Ohio	32.20
		Chillicothe, Ohio	Baker's Junction, Ohio	15.52
				95.41
		Byer's Junction, Ohio	Wellston, Ohio	11.70

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
18.07	115	17.32	398 06	19.52	32	413.00	8.82	79.20	28	202.00	7.05	67.58	47
15.05	27	7.47	53 31	12.62	14	196.00	5.70	52.80	13	145.00	4.20	52.80	
14.16	30	7.25	50 44	6.55	9	308.00	7.91	79.20	11	294.00	6.95	63.36	
14.27	19	4.48	24 30	10.91	8	162.00	3.92	52.80	7	89.00	3.92	52.80	
61.55	191	36.52	526 51	49.60	63	1,079.00	26.35	79.20	59	730.00	22.12	67.58	
7.95	24	5.31	769 57	2.57	10	155.30	5.05	39.60	10	212.70	5.64	39.60	48
34.93	62	18.33	1,568 29	11.13	32	458.20	10.74	60.00	39	533.90	31.39	39.60	
6.44	29	3.60	861 02	0.62	7	315.30	9.08	66.00	3	4.50	0.34	17.60	
15.11	47	7.71	1,382 47	3.01	32	255.50	9.36	66.00	26	269.80	10.45	66.00	
38.46	24	6.08	563 55	4.35	41	363.30	17.84	46.50	65	343.90	22.35	50.60	
102.89	186	41.03	5,146 10	21.68	122	1,547.60	52.07	66.00	143	1,364.80	70.17	66.00	
75.06	138	22.61	3,646 00	34.65	64	1,362.00	34.67	39.60	61	1,241.00	28.35	50.00	49
40.72	87	28.25	1,155 45	54.27	6	62.00	4.22	26.40	14	123.00	10.48	26.40	
22.63	37	8.39	1,610 00	12.07	5	133.00	4.48	39.60	7	304.00	14.47	39.60	
73.12	185	27.42	3,720 55	21.14	74	814.00	35.07	52.00	70	488.00	44.33	33.00	50
35.97	138	22.24	5,743 15	11.36	23	329.00	17.97	60.00	45	553.00	28.88	47.00	
109.09	323	49.66	9,464 10	32.50	97	1,143.00	53.04	60.00	115	1,041.00	73.21	47.00	
4.50	24	3.54	1,000 30	1.61	17	206.00	4.93	64.00	9	64.00	1.50	90.00	51
6.80	40	6.00	634 27	0.78	14	366.90	9.56	64.94	5	47.90	2.46	43.52	52
21.98	127	18.02	599 11	11.49	.....	.....	.....	.....	26	232.00	28.51	16.00	53
24.66	29	6.47	785 12	11.04	19	211.50	12.17	26.40	13	114.70	7.92	26.40	54
18.29	51	12.23	1,676 09	11.15	8	25.35	1.86	26.40	22	169.15	17.51	21.12	
7.52	32	6.45	1,068 49	3.21	9	25.48	2.27	26.40	13	53.60	8.40	26.40	
50.47	112	25.15	3,530 10	25.40	36	262.33	16.30	26.40	48	337.45	33.92	26.40	
7.95	35	4.44	879 08	1.66	10	202.60	6.62	52.80	5	112.50	4.11	52.80	
9.09	38	7.69	2,172 12	3.61	11	75.35	10.42	26.40	10	27.25	2.75	21.12	
1.58	9	2.03	485 46	0.73	2	19.78	2.50	15.84	1	2.00	0.38	5.28	
109.52	28	8.25	476 42	18.99	61	571.00	41.42	26.00	83	680.00	57.36	26.00	55
5.67	12	1.64	243 49	0.87	7	10.79	3.03	42.70	9	58.10	3.41	27.90	56
5.54	40	2.56	1,017 16	1.28	13	215.00	5.12	150.00	5	15.00	1.70	52.80	57
8.19	22	2.81	705 09	.....	10	40.00	2.56	30.00	5	164.00	8.44	70.00	
12.33	25	3.75	701 00	2.22	15	277.50	7.59	52.80	23	254.70	6.27	60.00	
26.06	87	9.12	2,423 25	3.50	38	532.50	15.27	150.00	33	433.70	16.41	70.00	
1.93	8	0.77	250 11	0.41	7	36.90	1.88	39.40	3	17.40	0.41	26.40	
8.06	65	6.75	1,058 41	8.96	21	71.10	5.74	25.34	1	2.10	0.11	18.48	58
24.85	91	12.37	2,686 58	7.46	65	880.00	22.92	105.60	20	270.00	6.84	86.06	
32.91	156	19.12	3,745 39	16.42	86	951.10	28.66	105.60	21	272.10	6.95	86.06	
6.55	57	4.55	1,537 52	2.75	26	289.00	5.17	110.88	16	157.00	3.18	84.48	
7.25	69	5.75	2,590 00	.....	.....	1,200.00	13.00	160.00	.....	.....	.....	.....	59
2.34	3	0.26	61 10	0.02	5	91.22	2.46	46.90	1	2.90	0.12	22.70	60
2.42	1	0.17	18 00	0.08	2	37.22	1.19	35.30	6	35.64	1.32	35.90	
2.63	3	0.30	28 20	0.56	10	31.96	1.76	34.80	4	7.37	0.61	17.90	
3.07	2	0.71	80 50	0.33	9	45.99	1.93	38.90	7	36.90	1.52	31.00	
2.41	2	0.23	31 00	0.90	5	28.47	1.07	34.80	4	16.47	0.67	29.00	
3.52	2	0.36	49 30	0.53	10	51.38	1.95	43.30	9	35.59	1.40	32.20	
4.47	5	0.90	78 12	0.83	13	76.73	3.00	41.70	8	34.73	1.54	36.90	
5.65	5	0.72	83 13	0.30	10	84.11	3.07	40.60	16	65.79	3.00	41.10	
3.44	5	0.70	65 40	0.35	10	77.92	2.43	39.00	7	34.56	1.36	44.80	
5.00	10	1.50	197 48	0.50	24	114.32	4.00	49.10	9	36.51	2.00	32.20	
3.20	4	0.66	69 40	.....	14	128.60	3.86	42.20	.....	.....	.....	.....	
1.85	6	0.88	96 10	.....	1	2.00	0.12	20.00	10	92.39	2.61	40.10	
4.01	4	0.60	86 40	0.11	7	34.53	1.25	33.20	7	97.56	3.25	40.10	
10.36	4	0.84	20 35	2.08	15	73.96	3.54	27.90	12	118.56	5.58	26.40	
6.68	10	4.29	236 35	0.50	10	119.39	4.58	39.60	13	132.85	5.89	39.00	
5.79	4	0.81	91 00	0.50	5	64.90	1.60	44.80	11	184.91	4.50	52.80	
1.02	2	0.45	72 00	.....	.....	.....	.....	.....	4	76.65	1.47	58.00	
67.86	72	14.38	1,366 23	7.59	150	1,062.70	37.81	49.10	128	1,009.38	36.84	58.00	
62.87	47	7.33	717 26	0.24	21	488.30	42.75	31.10	13	384.80	27.21	24.80	61
67.08	11	2.52	266 25	1.16	1	49.00	4.71	10.40	18	330.80	63.73	22.70	
129.95	58	9.85	983 51	1.40	22	537.30	47.46	31.10	31	715.60	90.94	24.80	
13.36	33	4.33	963 41	0.93	6	253.54	9.49	38.00	5	92.50	7.27	15.84	62
26.58	21	3.42	648 35	2.68	8	255.40	10.99	26.40	9	206.94	16.33	15.84	
22.59	66	9.61	1,753 23	8.04	6	30.38	1.76	26.40	14	368.41	22.40	26.40	
13.16	12	2.36	339 13	5.60	13	86.60	4.39	79.20	11	102.40	5.53	26.40	
75.69	133	19.72	3,704 52	17.25	33	625.92	26.63	79.20	39	770.25	51.53	26.40	
6.82	30	4.88	1,309 25	0.79	3	138.60	8.16	63.36	3	64.50	2.75	26.40	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
63	Delaware R. R. Co	Seaford, Delaware	Rodney Station, Delaware	70.83
64	Delaware and Bound Brook R. R. Co	Yardly, Pennsylvania	Bound Brook Junction, New Jersey	27.00
		Trenton Junction, New Jersey	Trenton, New Jersey	3.70
65	Delaware and Chesapeake Rw'y Co	Clayton, Delaware	Oxford, Maryland	54.12
66	Delaware and Hudson Canal Co	Nineveh, New York	Jefferson Junction, Pennsylvania	22.01
		Carbondale, Pennsylvania	Valley Junction, Pennsylvania	12.34
		Valley Junction, Pennsylvania	Scranton, Pennsylvania	4.74
				17.08
67	Delaware, Lackawanna, and Western R. R. Co	Delaware river, near Delaware Water Gap, Pennsylvania.	Scranton, Pennsylvania	64.25
		Scranton, Pennsylvania	Pennsylvania and New York state line	50.75
				115.00
68	Detroit, Grand Haven, and Milwaukee Rw'y Co	Detroit, Michigan	Clarkston, Michigan	36.00
		Clarkston, Michigan	Owosso, Michigan	43.00
		Owosso, Michigan	Muir, Michigan	38.00
		Muir, Michigan	Ada, Michigan	30.00
		Ada, Michigan	Grand Haven, Michigan	42.00
				189.00
69	Detroit, Monroe, and Toledo R. R. Co	Air-Line Junction, Ohio	Monroe Junction, Michigan	21.87
		Monroe Junction, Michigan	Grand Trunk Junction, Michigan	32.37
		Grand Trunk Junction, Michigan	Dayton and Michigan Junction, Michigan	4.84
				59.08
70	Dillsburg and Mechanicsburg R. R. Co	Mechanicsburg, Pennsylvania	Dillsburg, Pennsylvania	7.70
71	Dunkirk, Allegheny Valley, and Pittsburgh R. R. Co.	Dunkirk, New York	Cassadaga Summit, New York	12.12
		Cassadaga Summit, New York	Irvineton, Pennsylvania	48.65
		Irvineton, Pennsylvania	Newton Summit, Pennsylvania	14.20
		Newton Summit, Pennsylvania	Titusville, Pennsylvania	15.63
				90.60
72	East Brandywine and Waynesburg R. R. Co	Intersection with Pennsylvania R. R., near Downington, Pennsylvania.	New Holland, Pennsylvania	28.11
73	East Broad Top R. R. and Coal Co	Mount Union, Pennsylvania	Rockhill, Pennsylvania	10.89
		Rockhill, Pennsylvania	Saltillo, Pennsylvania	8.09
		Saltillo, Pennsylvania	Sideling Hill Tunnel, Pennsylvania	3.70
		Sideling Hill Tunnel, Pennsylvania	Ray's Hill Tunnel, Pennsylvania	2.77
		Ray's Hill Tunnel, Pennsylvania	Robertsdale, Pennsylvania	4.94
				30.39
74	East Mahanoy R. R. Co	East Mahanoy Junction, Pennsylvania	Nicholas, Pennsylvania	7.54
75	East Pennsylvania R. R. Co	Reading, Pennsylvania	Allentown, Pennsylvania	36.00
76	Easton and Amboy R. R. Co	Perth Amboy, New Jersey	Musconetcong, New Jersey	48.00
		Musconetcong, New Jersey	Phillipsburg, New Jersey	12.00
				60.00
77	Eel River R. R. Co	Logansport, Indiana	Butler, Indiana	93.84
78	Elmira, Jefferson, and Canandaigua R. R. Co	Watkins, New York	Canandaigua, New York	46.60
79	Elmira State Line R. R. Co	Northern Central Junction, New York	Pennsylvania state line	6.25
80	Erie International R. R. Co	Main street, Buffalo, New York	International Bridge, New York	4.26
81	Evansville and Terre Haute R. R. Co	Evansville, Indiana	Princeton, Indiana	27.18
		Princeton, Indiana	Vincennes, Indiana	24.41
		Vincennes, Indiana	Sullivan, Indiana	31.00
		Sullivan, Indiana	Terre Haute, Indiana	26.41
				109.00
82	Evansville, Terre Haute, and Chicago Rw'y Co	Danville, Illinois	Newport, Indiana	23.92
		Newport, Indiana	Clinton, Indiana	15.99
		Clinton, Indiana	Terre Haute and Logansport R. R. Junction	8.90
				48.81
83	Fall Brook Coal Co	Blossburg, Pennsylvania	Fall Brook, Pennsylvania	6.09
84	Fayette County R. R. Co	Gibson, Pennsylvania	Uniontown, Pennsylvania	11.80
85	Florence Branch R. R. Co	Florence Station, New Jersey	Florence Foundry, Delaware river, New Jersey.	2.15
86	Fonda, Johnstown, and Gloversville R. R. Co	Fonda, New York	Gloversville, New York	10.00
87	Fort Wayne, Muncie, and Cincinnati R. R. Co	Fort Wayne, Indiana	Connersville, Indiana	104.18
88	Frankfort and Holmesburg R. R. Co	Holmesburg Junction, New Jersey	Bustleton, New Jersey	4.16

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
67.57	12	3.26	249 07	19.95	38	375.02	27.93	31.10	32	306.20	22.95	21.56	63
25.20	7	1.80	149 00	4.60	8	186.50	8.70	37.00	8	227.50	13.70	37.00	64
3.00	3	0.70	163 32	0.35	4	11.40	0.75	37.00	3	67.00	2.60	57.00	
49.78	17	4.34	330 04	7.27	59	311.49	22.54	50.16	56	337.49	24.31	45.40	65
9.49	79	12.52	1,843 48	8.12	18	162.30	5.33	70.00	22	201.70	8.56	35.00	66
8.61	36	3.73	742 46	2.90	.....	.....	.....	.....	18	331.38	9.44	63.36	
3.11	20	1.63	554 37	.....	.....	.....	.....	.....	.....	32.32	4.74	24.00	
11.72	56	5.36	1,297 23	2.90	.....	.....	.....	.....	18	363.70	14.18	63.36	
42.01	113	22.24	4,965 30	5.65	20	1,737.00	35.53	81.00	14	1,287.00	23.07	75.00	67
27.92	163	22.83	4,722 30	4.24	17	992.00	25.01	75.00	25	873.00	21.50	65.00	
69.93	276	45.07	9,688 00	9.89	37	2,729.00	60.54	81.00	39	2,160.00	44.57	75.00	
29.00	23	7.00	642 00	9.00	20	522.00	20.00	47.00	15	133.00	7.00	42.00	68
36.00	15	7.00	425 00	5.00	27	193.00	14.00	36.00	27	434.00	24.00	42.00	
36.00	6	2.00	80 00	5.00	29	241.00	15.00	42.00	23	324.00	18.00	42.00	
20.00	26	10.00	492 00	14.00	29	48.00	8.00	10.00	32	56.00	8.00	21.00	
34.00	27	8.00	673 00	3.00	23	477.00	18.00	58.00	25	523.00	21.00	63.00	
155.00	97	34.00	2,312 00	36.00	128	1,481.00	75.00	58.00	122	1,470.00	78.00	63.00	
19.60	9	2.27	147 35	7.07	14	49.15	5.31	21.41	18	77.45	9.49	21.45	69
31.20	5	1.17	38 22	9.83	30	105.30	11.54	22.44	27	98.50	11.00	21.45	
3.53	2	1.31	125 44	1.09	5	39.50	3.56	20.06	1	1.00	0.19	5.28	
54.33	16	4.75	311 41	17.99	49	193.95	20.41	22.44	43	176.95	20.68	21.45	
6.36	7	1.34	307 18	1.17	17	222.50	4.49	68.10	6	105.00	2.04	71.20	70
6.99	36	5.13	1,326 15	1.10	6	719.00	11.02	74.00	.....	.....	.....	.....	71
34.96	83	13.69	1,952 35	16.52	12	203.00	9.90	74.00	14	352.00	22.23	34.30	
10.12	29	4.08	617 38	1.77	14	234.00	11.71	42.20	1	9.50	0.72	13.20	
10.40	11	5.23	990 35	1.10	2	6.00	0.32	21.10	7	281.00	14.21	26.40	
62.47	159	28.13	4,887 03	20.49	34	1,162.00	32.95	74.00	22	642.50	37.16	34.30	
20.21	56	7.90	2,241 40	4.08	46	704.00	16.02	85.50	21	491.00	8.01	85.50	72
8.62	23	2.27	440 56	1.63	12	159.53	5.50	79.23	9	132.56	3.76	49.63	73
5.61	16	2.48	453 15	.....	11	219.34	6.51	69.70	2	66.60	1.58	52.80	
2.08	23	1.62	600 00	.....	4	449.11	3.70	139.92	.....	.....	.....	.....	
1.66	15	1.11	406 27	0.23	4	222.34	2.44	108.24	1	1.45	0.10	15.31	
3.19	21	1.75	514 06	0.37	13	365.76	4.44	120.00	1	2.10	0.13	15.84	
21.16	98	9.23	2,414 44	2.23	44	1,416.08	22.59	139.92	13	202.71	5.57	52.80	
6.38	11	1.16	289 23	0.15	4	241.31	3.30	84.48	2	196.69	4.09	52.80	74
23.74	42	12.26	512 19	5.25	31	436.60	15.55	52.80	28	447.60	15.20	50.00	75
37.00	35	11.00	1,134 56	8.60	20	521.50	23.69	47.00	2	71.00	15.71	4.50	76
8.00	17	4.00	737 53	.....	.....	.....	.....	.....	2	251.00	12.00	22.00	
45.00	52	15.00	1,872 49	8.60	20	521.50	23.69	47.00	4	322.00	27.71	22.00	
82.39	49	11.45	388 00	14.43	122	933.00	46.02	52.80	96	656.00	33.39	52.80	77
35.30	62	11.30	1,033 49	4.00	28	701.80	27.80	37.50	15	415.20	14.80	37.00	78
3.56	26	2.69	443 51	1.73	12	201.00	4.52	66.00	.....	.....	.....	.....	79
2.63	10	1.63	359 21	0.79	3	9.00	0.42	43.82	9	39.50	3.05	31.68	80
24.88	13	2.30	279 15	5.74	21	280.00	12.46	42.00	18	179.00	8.98	30.00	81
18.06	29	6.35	903 30	4.09	25	222.00	8.48	43.00	25	288.00	11.84	42.00	
24.99	15	6.01	575 30	7.00	30	318.00	14.17	42.00	20	198.00	9.83	30.00	
24.59	8	1.82	147 30	4.74	17	305.00	10.49	36.00	18	351.00	11.18	30.00	
92.52	65	16.48	1,905 45	21.57	93	1,125.00	45.60	43.00	81	1,016.00	41.83	42.00	
20.78	12	3.14	247 21	6.18	11	119.20	5.81	31.70	17	227.00	11.93	26.40	82
12.23	19	3.76	234 21	7.16	12	101.00	4.20	26.40	11	101.47	4.63	26.40	
6.99	7	1.91	170 37	3.07	5	90.00	5.47	26.40	5	91.53	6.25	26.40	
40.00	38	8.81	652 19	*a* 16.41	28	310.20	15.48	31.70	33	420.00	22.81	26.40	
3.15	33	2.94	753 59	0.05	24	466.00	6.04	116.16	.....	.....	.....	.....	83
7.46	23	4.34	764 48	0.70	13	323.00	6.31	92.00	6	249.00	4.79	84.00	84
1.80	3	0.35	211 00	0.42	.....	.....	.....	.....	10	33.00	1.73	40.00	85
3.37	29	6.63	1,101 24	0.90	22	524.00	7.82	120.00	2	23.00	1.28	32.00	86
98.53	29	5.65	478 20	16.00	35	780.13	50.18	48.00	37	713.27	38.00	50.00	87
2.55	13	1.61	341 29	1.59	4	107.00	2.57	57.00	.....	.....	.....	.....	88

a Profile to Terre Haute, 5.89 miles south Terre Haute and Logansport R. R. Co.

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
89	Frederick and Pennsylvania Line R. R. Co	Pennsylvania and Maryland state line	Frederick, Maryland	28.00
90	Freehold and New York Rw'y Co	Freehold, New Jersey	Keyport (Broad street), New Jersey	13.64
91	Geneva, Ithaca, and Sayre R. R. Co	Pennsylvania and New York state line	Spencer Summit, New York	21.78
		Spencer Summit, New York	Ithaca, New York	14.10
		Ithaca, New York	Trumansburg, New York	10.61
		Trumansburg, New York	Geneva, New York	29.09
				75.58
		Ithaca, New York	Cayuga Bridge, New York	37.45
92	Geneva and Lyons R. R. Co	Lyons, New York	Geneva, New York	14.00
93	George's Creek and Cumberland R. R. Co	Pennsylvania Railroad Junction, Maryland	Vale Summit, Maryland	10.21
		Vale Summit, Maryland	Midland Junction, Maryland	4.44
		Midland Junction, Maryland	New Detwold, Maryland	5.22
				19.87
		Midland Junction, Maryland	Jackson Mines, Maryland	4.85
94	Glens Falls R. R. Co	Fort Edward, New York	Glen's Falls, New York	5.74
95	Gloversville and Northville R. R. Co	Gloversville, New York	Northville, New York	16.17
96	Goshen and Deckertown Rw'y Co	Goshen, New York	Pine Island, New York	11.65
97	Grand Rapids, Newaygo, and Lake Shore R. R. Co	Grand Rapids, Michigan	Alpine, Michigan	7.40
		Alpine, Michigan	Casnovia, Michigan	13.90
		Casnovia, Michigan	Newaygo, Michigan	14.10
		Newaygo, Michigan	White Cloud, Michigan	10.20
				45.60
98	Grand River Valley R. R. Co	Rives Junction, Michigan	Charlotte, Michigan	24.26
		Charlotte, Michigan	Hastings, Michigan	26.66
		Hastings, Michigan	Grand Rapids, Michigan	33.08
				84.00
99	Greene R. R. Co	Chenango Forks, New York	Greene, New York	8.10
100	Hanover and York R. R. Co	York, Pennsylvania	Hanover, Pennsylvania	18.60
101	Harlem River and Port Chester R. R. Co	Harlem River Station, New York	New Rochelle Junction, New York	11.55
102	Hecla and Torch Lake R. R. Co	Calumet, Michigan	Torch Lake incline, Michigan	3.67
103	Hoboken Land and Improvement Co	Bergen Tunnel, New Jersey	Oak Cliff, New Jersey	5.10
104	Huntingdon and Broad Top Mountain R. R. and Coal Co.	Huntingdon, Pennsylvania	McConnellstown, Pennsylvania	4.50
		McConnellstown, Pennsylvania	Grafton, Pennsylvania	2.50
		Grafton, Pennsylvania	Marklesburg, Pennsylvania	4.10
		Marklesburg, Pennsylvania	Coffee Run, Pennsylvania	3.50
		Coffee Run, Pennsylvania	Rough and Ready, Pennsylvania	2.30
		Rough and Ready, Pennsylvania	Cove, Pennsylvania	2.90
		Cove, Pennsylvania	Saxton, Pennsylvania	4.30
		Saxton, Pennsylvania	Riddlesburg, Pennsylvania	5.20
		Riddlesburg, Pennsylvania	Hopewell, Pennsylvania	2.10
		Hopewell, Pennsylvania	Piper's Run, Pennsylvania	4.20
		Piper's Run, Pennsylvania	Tatesville, Pennsylvania	4.30
		Tatesville, Pennsylvania	Everett, Pennsylvania	3.07
		Everett, Pennsylvania	Mount Dallas, Pennsylvania	1.00
				43.97
105	Indianapolis, Decatur, and Springfield Rw'y Co	Indianapolis, Indiana	Decatur, Illinois	152.00
106	Jackson, Lansing, and Saginaw R. R. Co	Jackson, Michigan	Lansing, Michigan	36.64
		Lansing, Michigan	Owosso, Michigan	26.95
		Owosso, Michigan	East Saginaw, Michigan	37.49
		East Saginaw, Michigan	West Bay City, Michigan	12.39
		West Bay City, Michigan	Standish, Michigan	27.63
		Standish, Michigan	West Branch, Michigan	25.08
		West Branch, Michigan	Roscommon, Michigan	24.32
		Roscommon, Michigan	Gaylords, Michigan	45.50
				236.00
107	Jefferson R. R. Co	Lanesboro', Pennsylvania	Carbondale, Pennsylvania	36.69
108	Jeffersonville, Madison, and Indianapolis R. R. Co	Louisville, Kentucky	Indianapolis, Indiana	109.96
		Prison Station, Indiana	New Albany, Indiana	4.54
		Jeffersonville Junction, Indiana	Jeffersonville, Indiana	1.48
		Madison, Indiana	Columbus, Indiana	44.90
		Columbus, Indiana	Cambridge City, Indiana	63.03
109	Jersey Shore, Pine Creek, and Buffalo Rw'y Co	Stokesdale, Pennsylvania	Williamsport, Pennsylvania	74.71
110	Kalamazoo, Allegan, and Grand Rapids R. R. Co	Kalamazoo, Michigan	Plainwell, Michigan	11.47
		Plainwell, Michigan	Allegan, Michigan	13.74
		Allegan, Michigan	Grand Rapids, Michigan	33.21
				58.42

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
22.47	48	5.53	120 15	0.17	20	308.80	10.55	52.80	30	576.30	17.28	76.00	89
11.63	10	2.01	245 35	2.99	9	144.25	3.34	63.00	17	283.25	7.31	70.00	90
13.83	45	7.95	838 10	1.55	23	290.50	18.78	22.20	3	20.40	1.45	18.80	91
10.15	30	3.95	762 04	0.32	1	3.00	0.20	17.40	30	683.50	13.58	98.70	
7.68	29	2.93	269 46	0.83	15	506.70	9.16	69.20	2	21.90	0.62	32.50	
25.49	28	3.60	292 10	4.68	16	181.30	5.93	52.80	43	616.10	18.48	66.00	
57.15	132	18.43	2,162 10	7.38	55	981.50	34.07	69.20	78	1,341.90	34.13	98.70	
24.36	151	13.09	2,440 35	21.60	35	145.50	9.30	21.00	29	138.20	6.55	31.70	
9.34	19	4.66	490 05	4.71	11	142.50	5.32	36.96	12	85.50	3.97	26.40	92
4.37	118	5.84	2,885 15	.....	24	1,310.20	10.21	158.40	.....	.....	.....	.....	93
1.67	49	2.77	1,487 21	0.05	.....	.....	.....	.....	7	313.60	4.39	79.20	
2.22	77	3.00	1,531 32	0.18	11	184.20	3.95	66.00	2	72.10	1.09	66.00	
8.26	244	11.61	5,904 08	0.23	35	1,494.40	14.16	158.40	9	385.70	5.48	79.20	
2.14	69	2.71	1,252 35	2.02	6	99.00	2.24	63.40	1	24.60	0.59	41.00	
2.29	21	3.45	780 53	0.30	15	249.00	3.64	121.00	11	52.00	1.80	65.00	94
14.67	15	1.50	232 31	3.23	16	215.50	5.47	99.00	14	239.83	7.47	79.00	95
8.27	13	3.38	513 53	4.10	10	59.90	4.20	36.00	11	83.40	3.35	37.00	96
5.00	11	2.40	238 20	2.86	18	157.00	3.70	65.00	6	16.00	0.84	25.00	97
11.87	8	2.03	172 40	3.45	22	244.00	7.45	60.00	11	113.00	3.00	50.00	
10.10	19	4.00	516 23	1.13	12	164.00	3.90	65.00	27	364.00	9.07	85.00	
7.30	14	2.90	535 42	1.45	23	235.00	7.29	85.00	7	34.00	1.46	50.00	
34.27	52	11.33	1,463 05	8.89	75	800.00	22.34	85.00	51	527.00	14.37	85.00	
15.94	27	8.32	656 23	2.62	45	211.70	10.72	52.00	47	209.40	10.92	54.00	98
17.58	31	9.08	661 15	2.29	48	223.70	11.97	66.00	59	337.94	12.40	84.00	
24.74	24	8.34	653 43	3.17	52	324.10	10.51	68.00	89	512.46	19.40	52.00	
58.26	82	25.74	1,971 21	8.08	145	758.50	33.20	68.00	195	1,059.80	42.72	84.00	
5.45	23	2.65	455 58	2.35	9	63.00	3.94	37.00	7	46.00	1.81	40.00	99
11.43	39	7.17	154 36	.....	24	378.60	13.32	45.40	14	144.60	5.28	69.80	100
7.83	20	3.72	582 56	4.79	12	145.94	4.59	40.65	5	73.54	2.17	41.20	101
1.34	21	2.33	103 13	0.32	2	35.00	0.52	158.00	12	278.00	2.83	190.00	102
1.80	27	3.30	626 18	0.42	17	29.00	3.20	23.00	10	31.26	1.48	52.00	103
2.81	.....	1.69	196 02	.....	.....	990.00	.....	.....	.....	560.00	.....	.....	104
2.00	.....	0.50	36 35										
3.20	.....	0.90	17 19										
2.50	.....	1.00	43 26										
1.55	.....	0.75	52 12										
1.87	.....	1.03	120 46										
1.91	.....	2.39	332 00										
1.00	.....	4.20	913 21										
0.60	.....	1.50	227 49										
1.10	.....	3.10	804 24										
1.67	.....	2.63	524 30										
1.80	.....	1.27	154 00										
0.50	.....	0.50	120 00										
22.51	.....	21.46	3,542 24	.....	.....	990.00	.....	.....	.....	560.00	.....	.....	
141.38	49	10.62	899 59	51.39	70	1,231.00	54.38	40.00	75	1,271.00	46.23	40.00	105
27.72	68	8.92	589 30	4.49	38	256.35	16.18	37.00	39	341.35	15.97	35.00	106
23.56	13	3.39	305 13	9.03	20	206.84	7.13	58.00	31	312.85	10.79	67.00	
34.38	15	3.11	388 18	6.00	29	138.52	9.75	37.00	44	285.81	21.74	37.00	
10.80	12	1.59	183 29	7.56	9	21.40	2.18	26.00	10	21.00	2.65	37.00	
26.52	8	1.11	221 00	9.11	33	124.08	10.61	45.00	23	85.36	7.91	49.00	
24.33	5	0.75	114 04	2.37	36	446.07	18.01	52.00	14	116.19	4.70	50.00	
21.67	9	2.65	267 35	1.25	24	339.88	10.55	51.00	28	169.08	12.52	44.00	
41.02	16	4.48	529 38	7.13	52	505.00	25.41	52.00	29	283.92	12.96	52.00	
210.00	146	26.00	2,598 47	46.94	241	2,038.14	99.82	58.00	218	1,615.56	89.24	67.00	
15.88	198	20.81	5,239 58	1.67	17	944.80	18.92	71.97	20	1,043.30	16.10	70.33	107
98.55	59	11.41	1,038 50	26.06	121	842.64	55.92	36.96	82	591.72	27.98	36.96	108
2.81	16	1.73	290 04	2.52	6	33.16	1.40	31.15	7	56.57	0.62	69.70	
1.36	2	0.12	102 50	0.50	3	7.62	0.59	20.06	3	11.50	0.39	42.77	
40.99	23	3.91	702 16	5.21	36	776.02	17.83	310.99	32	956.03	21.86	40.13	
57.69	31	5.34	688 31	14.00	66	596.88	38.43	61.78	30	286.81	10.60	59.06	
36.68	148	38.03	5,372 22	13.53	21	740.00	55.73	26.40	7	80.50	5.45	26.40	109
10.11	9	1.36	173 00	2.26	18	50.50	3.16	52.80	22	78.50	6.05	42.24	110
10.66	7	3.08	275 30	2.06	16	154.00	5.17	55.31	26	190.00	6.51	48.00	
27.88	24	5.33	582 15	6.32	42	238.70	9.99	63.36	58	342.10	16.90	52.80	
48.65	40	9.77	1,030 45	10.64	76	443.20	18.32	63.36	106	610.60	29.46	52.80	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
111	Kalamazoo and South Haven R. R. Co	Kalamazoo, Michigan	Bloomingdale, Michigan	23.14
		Bloomingdale, Michigan	South Haven, Michigan	16.86
				40.00
112	Kalamazoo and White Pigeon R. R. Co	White Pigeon, Michigan	Three Rivers, Michigan	11.38
		Three Rivers, Michigan	Kalamazoo, Michigan	25.19
				36.57
113	Lake Champlain and Moriah R. R. Co	Port Henry, New York	Mineville, New York	7.38
114	Lake Erie, Evansville, and South Western Rw'y Co.	Evansville, Indiana	Boonville, Indiana	17.00
115	Lake Erie and Western Rw'y Co	Fremont, Ohio	Lima, Ohio	67.20
		Lima, Ohio	Muncie, Indiana	84.80
		Muncie, Indiana	La Fayette, Indiana	84.60
		La Fayette, Indiana	Bloomington, Illinois	116.40
				353.00
		Saint Mary's, Ohio	Minster, Ohio	9.20
116	Lake Shore and Michigan Southern Rw'y Co	Van Buren street, Chicago, Illinois	39th street, Chicago, Illinois	3.76
		39th street, Chicago, Illinois	Illinois state line	10.26
		Illinois state line	La Porte, Indiana	45.02
		La Porte, Indiana	South Bend, Indiana	27.06
		South Bend, Indiana	Elkhart, Indiana	15.09
		Elkhart, Indiana	White Pigeon, Michigan	18.75
		White Pigeon, Michigan	Coldwater, Michigan	35.42
		Coldwater, Michigan	Jonesville, Michigan	18.00
		Jonesville, Michigan	Hillsdale, Michigan	4.51
		Hillsdale, Michigan	Adrian, Michigan	33.25
		Adrian, Michigan	Lenawee Junction, Michigan	4.05
		Lenawee Junction, Michigan	Air-Line Junction, Ohio	26.36
		Air-Line Junction, Ohio	Toledo depot, Ohio	2.59
		Toledo depot, Ohio	West End Toledo Bridge, Ohio	1.10
		West End Toledo Bridge, Ohio	Cleveland, Ohio	111.77
		Cleveland, Ohio	Erie, Pennsylvania	95.50
		Erie, Pennsylvania	Buffalo, New York	88.00
				540.49
		Elkhart, Indiana	Goshen, Indiana	10.14
		Goshen, Indiana	Ligonier, Indiana	14.70
		Ligonier, Indiana	Kendallville, Indiana	17.01
		Kendallville, Indiana	Butler, Indiana	20.20
		Butler, Indiana	Bryan, Ohio	17.00
		Bryan, Ohio	Wauseon, Ohio	21.73
		Wauseon, Ohio	Air-Line Junction, Ohio	30.05
				130.83
		Elyria Junction, Ohio	Millbury Junction, Ohio	72.95
		Lenawee Junction, Michigan	Monroe, Michigan	29.37
		Lenawee Junction, Michigan	Tecumseh, Michigan	9.09
		Tecumseh, Michigan	Manchester, Michigan	12.26
		Manchester, Michigan	Jackson, Michigan	20.63
				41.98
117	Lancaster and Reading N. G. R. R. Co	Lancaster, Pennsylvania	Quarryville, Pennsylvania	15.22
118	Lehigh Valley R. R. Co	Phillipsburg, New Jersey	Penn Haven Junction, Pennsylvania	53.35
		Penn Haven Junction, Pennsylvania	Fairview, Pennsylvania	31.30
		Fairview, Pennsylvania	Wilkesbarre, Pennsylvania	16.35
				101.00
		Slatington, Pennsylvania	Slatedale, Pennsylvania	3.32
119	Lewisburg and Tyrone R. R. Co	Montandon, Pennsylvania	Spring Mills, Pennsylvania	43.42
120	Littles Town R. R. Co	Hanover, Pennsylvania	State line, Pennsylvania	9.40
121	Lockport and Buffalo Rw'y Co	Tonawanda, New York	Lockport, New York	13.89
122	Lykens Valley R. R. and Coal Co	Millersburg, Pennsylvania	Lykens, Pennsylvania	14.55
		Lykens, Pennsylvania	Williamstown, Pennsylvania	5.19
				19.74
123	McKean and Buffalo R. R. Co	Larabee, Pennsylvania	Clermont, Pennsylvania	22.15
124	Mahoning Coal R. R. Co	Andover, Ohio	Youngstown, Ohio	38.31
125	Manhattan Rw'y Co. (a)	South Ferry, New York city	129th street and 2d avenue, New York city	8.66
		City Hall, New York city	129th street and 3d avenue, New York city	7.65
		34th street and 3d avenue, New York city	East river	0.32
		42d street and 3d avenue, New York city	4th avenue and 42d street, New York city	0.18
		Morris and Church streets, New York city	158th street and 8th avenue, New York city	10.53
		do	59th street and 6th avenue, New York city	4.84
		South Ferry	61st street and 9th avenue, New York city	5.17

a Operating New York Elevated Railroad and Metropolitan Elevated Railway.

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
15.86	31	7.28	890 42	1.05	31	343.50	9.35	62.00	37	382.83	12.74	95.80	111
15.23	8	1.63	184 54	1.39	32	155.10	5.66	55.00	46	303.57	9.81	101.30	
31.09	39	8.91	1,075 36	2.44	63	498.60	15.01	62.00	83	686.40	22.55	101.30	
9.00	5	2.38	279 30	1.59	10	50.50	4.26	20.06	16	69.50	5.53	43.34	112
20.64	18	4.55	380 30	5.11	31	185.00	10.68	72.60	36	218.00	9.40	52.80	
29.64	23	6.93	660 00	6.70	41	235.50	14.94	72.60	52	287.50	14.93	52.80	
1.46	36	5.92	1,270 00	.....	.....	1,166.00	7.38	227.00	.....	.....	.....	.....	113
15.45	17	1.55	78 30	11.90	3	120.00	2.70	50.00	2	110.00	2.40	50.00	114
65.95	5	1.25	138 36	3.25	31	485.00	47.70	20.00	34	210.00	16.25	32.00	115
79.55	16	5.25	349 48	10.34	80	683.00	45.48	33.26	80	624.00	28.98	39.50	
75.50	17	9.10	297 18	11.58	43	544.00	30.90	52.80	45	925.00	42.12	52.80	
108.90	29	7.50	372 18	29.36	94	788.00	36.13	52.80	104	908.00	50.91	52.86	
329.90	67	23.10	1,158 00	54.53	248	2,500.00	160.21	52.80	263	2,667.00	138.26	52.80	
8.95	1	0.25	13 20	.....	10	27.00	6.80	6.00	5	12.00	2.40	6.00	
3.23	11	0.53	110 15	1.00	10	10.80	1.76	18.10	9	8.60	1.00	26.40	116
10.02	1	0.24	45 30	2.57	12	10.70	3.60	8.29	14	19.80	4.09	12.49	
36.16	24	8.86	466 45	13.00	47	346.02	21.93	29.81	30	126.31	10.09	29.56	
22.49	14	4.57	313 45	0.31	32	195.84	10.55	30.25	41	221.73	16.20	43.90	
13.24	5	1.85	122 30	0.71	16	48.52	12.70	13.55	6	18.42	1.68	18.50	
17.53	5	1.22	59 15	2.74	15	93.31	12.48	15.00	7	24.31	3.53	13.73	
30.79	17	4.63	206 30	10.13	29	289.00	18.02	25.34	15	130.00	7.27	30.09	
13.21	16	4.79	309 15	2.43	12	159.00	11.98	29.25	6	44.00	3.59	25.97	
2.70	4	1.81	166 15	1.97	2	19.53	1.38	16.39	2	22.74	1.16	25.97	
28.20	28	5.05	550 45	5.26	26	237.38	8.86	40.00	33	521.62	19.13	40.00	
3.89	1	0.16	30 00	0.16	1	6.50	0.23	52.80	12	102.50	3.66	42.80	
23.33	12	3.03	221 30	5.64	22	61.90	6.87	29.34	30	169.30	13.85	46.60	
1.96	1	0.63	70 30	1.17	.....	.....	.....	.....	2	27.48	1.42	19.53	
9.72	1	0.38	86 00	0.05	4	12.96	1.05	37.23	.....	.....	.....	.....	
101.87	27	9.90	600 20	25.00	72	743.58	47.97	45.93	53	679.19	38.80	40.00	
85.55	30	9.95	418 58	14.92	43	357.47	41.38	16.67	31	26.09	39.20	14.78	
80.30	26	7.70	455 27	10.36	61	349.16	40.43	32.31	58	650.00	37.21	35.36	
475.19	223	65.30	4,233 30	97.42	404	2,881.67	241.19	52.80	358	2,792.09	201.88	46.00	
8.54	5	1.60	103 30	2.53	10	58.56	5.28	18.48	7	24.49	2.33	19.00	
14.17	1	0.53	5 30	3.43	14	145.60	8.98	21.12	4	48.60	2.29	21.12	
15.63	2	1.38	65 00	3.23	17	138.80	10.39	21.12	6	50.20	3.39	21.12	
17.70	3	2.50	41 15	3.58	7	52.00	5.13	10.56	19	164.00	11.49	21.12	
16.88	1	0.12	14 45	3.93	6	47.00	4.35	15.84	14	145.00	8.72	21.12	
21.73	.....	.....	.....	4.66	15	83.00	10.51	15.84	12	80.00	6.56	21.12	
29.79	1	0.26	12 30	3.72	6	19.00	2.72	10.56	36	179.52	23.61	27.45	
124.44	13	6.39	242 30	25.08	75	543.96	47.36	21.12	98	691.81	58.39	27.45	
66.15	19	6.80	520 28	21.80	26	216.43	21.07	26.40	30	150.19	30.08	26.40	
28.78	5	0.59	91 15	7.96	18	41.90	3.64	28.00	45	177.60	17.77	26.60	
5.93	11	3.16	406 45	0.61	14	143.50	5.64	46.00	5	55.50	2.84	28.00	
7.68	12	4.58	315 30	1.56	15	152.81	7.58	34.00	6	52.96	3.12	25.00	
16.02	14	4.61	244 45	3.18	17	185.72	8.65	31.15	15	154.22	8.80	31.00	
29.63	37	12.35	967 00	5.35	46	482.63	21.87	46.00	26	262.68	14.76	31.00	
8.87	92	6.35	2,316 43	0.96	22	620.00	7.91	158.00	30	474.00	6.35	105.00	117
27.58	120	25.77	4,035 45	11.90	53	494.20	39.50	46.60	3	18.70	1.95	23.50	118
14.51	89	16.79	4,134 20	1.93	20	1,043.00	25.30	68.60	1	65.00	4.07	15.90	
8.73	51	7.62	2,005 35	0.62	3	12.40	0.85	19.80	8	1,136.00	14.88	95.70	
50.82	2.60	50.18	10,175 40	14.45	76	1,549.60	65.65	68.60	12	1,219.70	20.90	95.70	
1.72	15	1.60	682 30	.....	7	127.00	3.32	45.40	.....	.....	.....	.....	
32.12	56	11.30	1,964 32	9.02	55	844.50	27.19	71.28	24	216.10	7.21	47.50	119
6.70	12	2.70	27 00	0.27	9	130.40	4.12	61.80	10	18.90	5.01	55.40	120
13.15	5	0.74	236 30	3.36	8	24.43	5.29	10.56	10	23.19	5.24	15.84	121
8.50	44	6.05	548 32	0.96	10	306.70	13.40	42.00	1	0.70	0.19	4.00	122
3.31	19	1.88	134 54	.....	2	492.10	5.19	107.70	.....	.....	.....	.....	
11.81	63	7.93	683 26	0.96	12	798.80	18.59	107.70	1	0.70	0.19	4.00	
10.66	56	11.49	164 19	3.39	30	591.80	15.57	127.00	8	39.20	3.19	15.80	123
31.54	29	6.77	651 45	4.74	20	322.05	12.25	34.32	39	557.04	21.32	40.00	124
8.04	17	0.62	689 17	2.34	8	98.50	2.83	73.00	6	91.00	3.49	52.80	125
7.49	7	0.16	99 15	2.39	8	122.60	2.04	105.00	8	148.60	3.22	105.00	
0.32	.....	.....	.....	0.07	.....	.....	.....	.....	1	16.00	0.25	90.80	
0.18	.....	.....	.....	0.07	1	12.80	0.11	101.20	.....	.....	.....	.....	
9.98	22	0.55	890 25	2.42	8	141.00	3.81	107.70	9	146.00	4.30	79.20	
4.54	19	0.30	533 45	1.19	6	70.00	2.63	52.80	5	32.00	1.02	52.80	
4.80	10	0.37	319 30	1.31	8	105.00	2.44	107.70	5	35.00	1.42	52.80	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
126	Marquette, Houghton, and Ontonagon R. R. Co	Marquette, Michigan	Ishpeming, Michigan	15.00
		Ishpeming, Michigan	Michigamme, Michigan	23.00
		Michigamme, Michigan	L'Anse, Michigan	25.10
				63.10
		Marquette, Michigan	Carp river, Michigan	2.08
		Negaunee, Michigan	Rolling-mill, Michigan	2.47
		Ontario Junction, Michigan	Winthrop Mine, Michigan	1.87
		Ontario Junction, Michigan	Saginaw Mine, Michigan	2.06
		Humboldt, Michigan	Republic, Michigan	10.15
		Champion Junction, Michigan	Champion Mine, Michigan	1.04
		Boston Junction, Michigan	Sterling Mine, Michigan	2.06
		Taylor Junction, Michigan	Taylor Mine, Michigan	2.30
127	Michigan Air Line R. R. Co	Jackson Junction, Michigan	Homer, Michigan	23.79
		Homer, Michigan	Union City, Michigan	17.80
		Union City, Michigan	Three Rivers, Michigan	27.85
		Three Rivers, Michigan	Cassopolis, Michigan	20.35
		Cassopolis, Michigan	Niles, Michigan	13.81
				103.60
		Niles Junction, Michigan	South Bend, Indiana	11.12
128	Michigan Central R. R. Co	Detroit, Michigan	Ann Arbor, Michigan	37.30
		Ann Arbor, Michigan	Jackson, Michigan	38.16
		Jackson, Michigan	Battle Creek, Michigan	44.80
		Battle Creek, Michigan	Kalamazoo, Michigan	22.90
		Kalamazoo, Michigan	Niles, Michigan	47.89
		Niles, Michigan	Michigan City, Indiana	36.30
		Michigan City, Indiana	Kensington, Illinois	42.65
				270.00
129	Mill Creek and Mine Hill R. R. Co	Mill Brook Junction, Pennsylvania	New Castle, Pennsylvania	3.80
130	Millstone and New Brunswick R. R. Co	Millstone Junction, New Jersey	East Millstone, New Jersey	6.14
131	Mineral Range R. R. Co	Hancock, Michigan	Calumet, Michigan	12.50
132	Montgomery and Erie Rw'y Co	Goshen, New York	Montgomery, New York	10.22
133	Montour R. R. Co	Montour Junction, Pennsylvania	Imperial, Pennsylvania	11.00
134	Montrose R. R. Co	Tunkhannock, Pennsylvania	Marcy, Pennsylvania	4.35
		Marcy, Pennsylvania	Lemon, Pennsylvania	3.19
		Lemon, Pennsylvania	Meshoppen Creek, Pennsylvania	2.80
		Meshoppen Creek, Pennsylvania	Springville, Pennsylvania	4.00
		Springville, Pennsylvania	Tylerville, Pennsylvania	1.61
		Tylerville, Pennsylvania	Dimock, Pennsylvania	2.56
		Dimock, Pennsylvania	Woodburne, Pennsylvania	0.59
		Woodburne, Pennsylvania	Allenville, Pennsylvania	3.80
		Allenville, Pennsylvania	Montrose, Pennsylvania	4.28
				27.18
135	Morris and Essex R. R. Co	Hudson river at Hoboken, New Jersey	Newark depot, New Jersey	7.72
		Newark depot, New Jersey	Morristown, New Jersey	22.07
		Morristown, New Jersey	Dover, New Jersey	11.88
		Dover, New Jersey	Hackettstown, New Jersey	18.46
		Hackettstown, New Jersey	Delaware river at Phillipsburg, New Jersey	23.55
				83.68
		Junction near Bergen, New Jersey	Junction near Dover, New Jersey	34.54
136	Moshannon and Clearfield R. R. Co	Near Osceola, Pennsylvania	Southwestwardly	6.50
137	Mount Carbon and Port Carbon R. R. Co	Mount Carbon, Pennsylvania	Port Carbon, Pennsylvania	2.50
138	Mount Gilead Short Line Rw'y Co	Levering, Ohio	Mount Gilead, Ohio	2.00
139	Mount Pleasant and Broad Ford R. R. Co	Broad Ford, Pennsylvania	Mount Pleasant, Pennsylvania	9.70
140	Newark and Bloomfield R. R. Co	Roseville Junction, New Jersey	Montclair, New Jersey	4.25
141	Newburgh, Dutchess, and Connecticut R. R. Co	Dutchess Junction, New York	Glenham, New York	3.81
		Glenham, New York	La Grange, New York	13.54
		La Grange, New York	Millbrook, New York	11.81
		Millbrook, New York	Pine Plains, New York	14.74
		Pine Plains, New York	Millerton, New York	13.94
				57.84
142	Newburgh and New York R. R. Co	Greenwood Junction, New York	Vail's Gate, New York	12.59
143	New York and Canada R. R. Co	Lake Station, New York	Port Henry, New York	38.33
		Port Henry, New York	Plattsburg, New York	50.14
		Plattsburg, New York	Rouse's Point, New York	24.46
				112.93
		Ticonderoga Junction, New York	Baldwin, New York	4.42
		Plattsburg, New York	Ausable, New York	19.81
		Chazy Junction, New York	Province line, New York	12.78

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
6.97	38	8.03	753 07	2.92	36	886.80	9.74	200.64	12	52.40	2.34	40.66	126
12.85	46	10.15	1,223 54	7.49	30	318.80	9.15	84.48	25	182.40	6.36	79.20	
15.98	51	9.12	967 43	5.86	29	243.40	9.98	52.80	27	1,215.30	9.26	211.20	
35.80	135	27.30	2,944 44	16.27	95	1,449.00	28.87	200.64	64	1,450.10	17.96	211.20	
1.59	13	0.49	300 34	1.15	4	17.80	0.37	75.50	3	16.80	0.56	66.00	
0.65	12	1.82	437 18	0.35	16	202.75	2.12	295.68	.....	.....	.....	.....	
1.06	6	0.81	189 34	0.32	2	13.00	0.27	52.80	11	57.90	1.28	105.60	
1.43	6	0.63	101 39	0.14	12	132.70	1.39	190.08	4	224.20	0.53	82.37	
6.79	39	3.36	638 22	1.70	17	127.55	2.59	115.60	14	140.55	5.86	115.60	
0.61	3	0.43	124 40	0.18	5	113.70	0.54	157.34	2	6.80	0.32	28.51	
1.30	2	0.76	152 02	0.44	8	31.85	1.58	63.36	1	2.00	0.04	52.80	
1.19	4	1.11	127 49	.....	13	313.40	2.30	179.52	.....	.....	.....	.....	
19.40	19	4.39	338 34	6.16	26	246.98	8.54	39.00	25	215.46	9.09	39.00	127
16.57	57	1.23	74 48	6.08	23	51.03	2.32	39.00	39	124.53	9.40	39.00	
25.63	11	2.22	171 36	6.76	37	155.64	8.44	39.00	37	264.20	12.65	39.00	
18.35	11	2.00	149 55	6.32	14	240.68	7.75	39.00	17	150.81	6.28	39.00	
11.98	7	1.83	118 56	3.03	10	59.32	2.82	35.00	19	259.13	7.96	45.00	
91.93	105	11.67	853 49	28.35	110	753.65	29.87	39.00	137	1,014.13	45.38	45.00	
10.16	7	0.96	179 00	2.32	20	95.10	4.86	39.00	23	113.60	3.94	44.00	
32.19	20	5.11	579 14	10.19	38	251.33	21.55	32.00	13	61.02	5.56	31.00	128
24.28	39	13.88	1,211 38	8.44	34	317.96	16.46	38.00	23	162.39	13.26	32.00	
22.00	40	22.80	1,482 02	5.09	31	238.08	16.21	37.00	32	345.64	23.50	38.00	
14.26	22	8.64	544 12	3.44	13	93.38	7.34	22.00	18	141.87	12.12	24.00	
40.24	14	7.65	404 04	8.02	22	401.92	16.18	49.00	34	491.54	23.69	32.00	
27.14	18	9.16	541 30	4.45	36	299.45	12.44	38.00	57	377.14	19.41	35.00	
37.15	11	5.50	322 09	16.94	42	158.92	11.25	36.00	48	166.40	14.46	33.00	
197.26	164	72.74	5,084 58	56.57	216	1,761.04	101.43	49.00	225	1,746.00	112.00	38.00	
2.30	19	1.50	395 02	.....	6	249.50	3.80	130.00	.....	.....	.....	.....	129
4.59	6	1.55	145 18	1.23	6	54.25	2.45	37.00	6	88.75	2.46	47.50	130
8.97	24	3.53	81 30	3.00	18	660.00	7.90	211.00	7	33.50	1.60	21.00	131
5.88	26	4.34	453 54	0.54	11	115.00	5.24	42.00	12	156.50	4.44	42.00	132
4.54	65	6.46	3,108 33	0.89	30	268.00	9.73	37.00	1	12.00	0.38	35.00	133
2.20	33	2.15	1,071 59	0.54	7	354.00	3.81	95.10	.....	.....	.....	.....	134
1.71	19	1.48	716 16	0.14	4	79.00	3.05	28.70	.....	.....	.....	.....	
1.38	23	1.42	957 14	0.04	.....	.....	.....	.....	5	114.00	2.76	73.50	
2.50	30	1.50	690 16	0.11	9	329.00	3.89	91.50	.....	.....	.....	.....	
0.67	11	0.94	536 49	.....	3	13[illegible].00	1.61	93.80	.....	.....	.....	.....	
1.32	19	1.24	683 03	0.43	5	113.60	1.86	82.70	2	4.00	0.27	36.00	
0.29	4	0.30	127 39	.....	1	40.00	0.59	68.40	.....	.....	.....	.....	
1.98	18	1.82	745 00	.....	7	156.00	2.20	81.30	9	56.00	1.60	64.00	
1.81	24	2.47	1,001 15	.....	7	90.00	1.82	76.00	8	85.00	2.46	59.00	
13.86	181	13.32	6,529 31	1.26	43	1,300.00	18.83	95.10	24	259.00	7.09	73.50	
6.48	10	1.24	210 07	4.64	6	57.00	1.80	56.00	1	24.00	1.28	26.00	135
12.98	29	9.09	1,495 02	2.55	27	595.00	10.92	138.00	13	303.00	8.60	76.00	
6.50	19	5.38	706 38	1.66	12	304.00	8.29	50.00	4	56.00	1.93	40.00	
10.60	23	7.86	901 31	1.96	6	369.00	8.00	50.00	10	376.00	8.50	50.00	
18.77	16	4.78	397 00	4.06	10	262.00	5.41	60.00	23	608.00	14.08	55.00	
55.33	97	28.35	3,710 18	14.87	61	1,587.00	34.42	138.00	51	1,367.00	34.39	76.00	
22.99	46	11.55	1,388 05	10.02	15	585.00	17.05	50.00	7	33.00	7.47	26.00	
3.45	17	3.05	698 57	0.50	14	101.50	6.00	31.68	.....	.....	.....	.....	136
1.10	9	1.40	339 11	.....	4	38.50	2.50	29.10	.....	.....	.....	.....	137
1.50	5	0.50	119 30	0.15	2	67.00	1.35	58.10	2	22.50	0.50	75.00	138
.....	.....	.....	1,399 00	1.35	16	255.00	7.08	121.00	6	42.00	1.27	48.00	139
2.97	5	1.28	174 28	0.13	5	134.00	2.52	83.00	3	39.00	1.60	35.00	140
1.75	20	2.06	522 27	.....	5	204.00	3.81	67.00	.....	.....	.....	.....	141
10.40	13	3.14	344 27	3.50	9	144.00	10.04	30.00	.....	.....	.....	.....	
7.03	28	4.78	879 21	1.10	15	305.00	8.71	53.00	1	97.00	2.00	53.00	
10.27	35	4.47	1,011 18	3.50	11	107.00	6.40	.....	7	203.00	4.84	52.00	
5.84	59	8.10	2,373 18	0.55	11	556.00	9.42	69.00	6	290.00	3.97	79.00	
35.29	155	22.55	5,130 51	8.65	51	1,316.00	38.38	69.00	14	590.00	10.81	79.00	
8.25	21	4.34	419 24	0.75	7	346.00	3.68	53.00	8	105.00	8.16	53.00	142
22.17	106	16.16	2,749 40	21.70	18	227.00	8.18	37.00	20	226.00	8.45	35.00	143
30.79	174	19.35	4,127 18	10.21	23	421.00	18.71	31.00	27	413.00	21.22	37.00	
20.87	19	3.59	431 37	4.40	31	239.00	10.60	43.00	29	232.00	9.46	39.00	
73.83	299	39.10	7,308 35	36.31	72	887.00	37.49	43.00	76	871.00	39.13	39.00	
2.82	25	1.60	433 00	0.39	19	263.00	3.16	125.00	6	42.00	0.87	72.00	
12.61	50	7.20	1,137 22	2.61	39	633.00	12.82	86.00	19	176.00	4.38	109.00	
11.89	5	0.89	88 51	2.32	18	191.00	6.19	47.00	17	147.00	4.27	49.00	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
144	New York Central and Hudson River R. R. Co.	New York, New York	Albany, New York	143.75
		Albany, New York	Utica, New York	94.66
		Utica, New York	Syracuse, New York	53.10
		Syracuse, New York	Rochester, New York	80.75
		Rochester, New York	Buffalo, New York	68.06
				440.32
		Syracuse, New York	Auburn, New York	26.32
		Auburn, New York	Rochester, New York	76.54
				102.56
		Troy, New York	Schenectady, New York	20.76
		Rochester, New York	Suspension Bridge, New York	74.47
		Batavia, New York	Attica, New York	11.00
		Lockport Junction, New York	Tonawanda, New York	11.16
		Buffalo, New York	Lewiston, New York	27.99
		East Buffalo, New York	Black Rock Junction	6.91
		Buffalo, New York	Crosstown, New York	0.92
145	New York City and Northern R. R. Co	High Bridge, New York	Brewster, New York	51.33
146	New York and Coney Island R. R. Co	New Brighton, Coney Island, New York	Coney Island Point, New York	2.41
147	New York and Harlem R. R. Co	New York, New York	Millerton, New York	92.54
		Millerton, New York	Chatham Four Corners, New York	34.42
				126.96
		Golden's Bridge, New York	Lake Mahopac, New York	6.95
148	New York, Lake Erie, and Western R. R. Co	Jersey City, New Jersey	Port Jervis, New York	87.03
		Port Jervis, New York	Susquehanna, Pennsylvania	103.91
		Susquehanna, Pennsylvania	Hornellsville, New York	139.93
		Hornellsville, New York	Dunkirk, New York	129.16
				460.03
		Sufferns, New York	Piermont, New York	17.97
		Greycourt, New York	Newburgh, New York	18.73
		Hornellsville, New York	Attica, New York	59.85
149	New York, Pennsylvania, and Ohio R. R. Co	Salamanca, New York	Bear Lake, Pennsylvania	51.00
		Bear Lake, Pennsylvania	Meadville, Pennsylvania	50.86
		Meadville, Pennsylvania	Burghill, Ohio	42.68
		Burghill, Ohio	Kent, Ohio	48.26
		Kent, Ohio	West Salem, Ohio	45.80
		West Salem, Ohio	Galion, Ohio	45.66
		Galion, Ohio	North Lewisburg, Ohio	54.61
		North Lewisburg, Ohio	Dayton, Ohio	49.04
				387.91
		Meadville Junction, Pennsylvania	Oil City, Pennsylvania	33.20
150	New York, Ridgway, and Pittsburgh R. R. Co	Buttsville, Pennsylvania	Kinzua, Pennsylvania	1.91
		Kinzua, Pennsylvania	Top of maximum ascending grade, Pennsylvania	2.92
		Top of maximum ascending grade, Pennsylvania	Top of maximum descending grade, Pennsylvania	8.83
		Top of maximum descending grade, Pennsylvania	East Clarion, Pennsylvania	12.76
		East Clarion, Pennsylvania	Ridgeway, Pennsylvania	10.07
		Ridgeway, Pennsylvania	Mouth Toby Creek, Pennsylvania	7.77
		Mouth Toby Creek, Pennsylvania	Galushas, Pennsylvania	6.64
		Galushas, Pennsylvania	Brockwayville, Pennsylvania	4.45
		Brockwayville, Pennsylvania	Lane's Mill, Pennsylvania	2.12
		Lane's Mill, Pennsylvania	McMinus Summit, Pennsylvania	1.14
		McMinus Summit, Pennsylvania	Falls Creek, Pennsylvania	4.46
				63.07
		Brockwayville, Pennsylvania	Coal Run—Dogus Mine	12.20
151	New York and Sea Beach R. R. Co	Bay Ridge, New York	Bath Junction, New York	2.26
		Bath Junction, New York	Sea Beach, New York	3.74
				6.00
152	Niagara Bridge and Canandaigua R. R. Co	Canandaigua, New York	Tonawanda, New York	85.95
153	Niagara Falls Branch R. R. Co	Rome, Watertown, and Ogdensburg Junction, New York.	Suspension Bridge, New York	8.79
154	Northern Central Rw'y Co	Baltimore, Maryland	York, Pennsylvania	57.10
		York, Pennsylvania	Marysville, Pennsylvania	33.90
		Head block below Marysville Station, Pennsylvania.	Sunbury, Pennsylvania	46.15
				137.15
		Hollins, Maryland	Green Spring Junction, Maryland	8.60
155	Northern Central Michigan R. R. Co	Jonesville, Michigan	Michigan Central Air-Line crossing at Homer, Michigan.	12.91
		Michigan Central Air-Line crossing at Homer, Michigan.	Michigan Central crossing at Albion, Michigan	8.56
		Michigan Central crossing at Albion, Michigan	Grand River crossing at Eaton Rapids, Michigan	19.85
		Grand River crossing at Eaton Rapids, Michigan	Grand River, Michigan	9.68
		Grand River, Michigan	Peninsular Crossing, Michigan	7.56
		Peninsular Crossing, Michigan	Lansing, Michigan	1.19
		Lansing, Michigan	North Lansing, Michigan	1.39
				61.14

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP 2.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
97.52	242	46.23	4,079 47	108.48	28	23.51	20.86	24.33	23	225.40	14.41	34.30	144
68.15	132	26.51	2,226 02	41.97	65	556.60	40.72	93.98	20	178.70	11.97	77.09	
48.39	21	4.71	321 36	22.29	32	188.90	16.74	21.12	27	196.60	14.07	33.27	
60.05	57	20.70	1,475 09	21.40	60	456.20	31.32	35.90	52	353.70	28.03	38.10	
60.58	20	7.48	443 55	17.38	25	470.30	23.56	86.52	42	379.10	27.12	31.32	
334.69	472	105.63	8,546 29	211.52	210	1,695.51	133.20	93.98	164	1,333.50	95.60	77.09	
16.09	39	9.93	1,114 53	1.93	30	359.40	18.80	34.78	12	39.40	5.29	36.43	
51.05	59	25.49	1,452 13	5.09	72	654.50	31.32	39.60	106	880.90	40.13	56.03	
67.14	98	35.42	2,567 06	7.02	102	1,013.90	50.12	39.60	118	920.30	45.42	56.03	
11.45	25	9.31	1,059 16	4.45	13	342.90	9.76	52.80	13	133.20	6.55	26.40	
68.07	28	6.40	487 14	21.60	43	446.40	26.36	52.50	42	361.80	26.51	45.45	
8.68	7	2.32	321 00	0.32	12	100.10	10.68	43.84					
10.78	1	0.38	44 30	5.71					11	48.00	5.45	14.65	
22.12	53	5.87	971 49	13.40	19	86.50	5.06	47.34	30	318.30	9.53	84.36	
4.41	10	2.50	393 00	2.21	5	81.30	2.90	52.80	6	69.70	1.80	50.16	
0.40	6	0.52	231 13	0.29	3	16.00	0.29	96.00	3	12.00	0.34	67.20	
29.66	180	21.67	5,256 45	8.08	85	1,380.00	26.96	95.00	56	982.00	16.29	101.50	145
1.55	1	0.86	266 00	1.66	1	5.00	0.47	10.00	1	3.00	0.28	10.00	146
71.04	103	21.50	2,638 00	9.95	37	1,236.00	68.65	40.00	47	527.00	13.94	40.00	147
22.00	46	12.42	1,288 00	4.50	63	224.00	8.50	40.00	39	537.00	21.42	42.45	
93.04	149	33.92	3,926 00	14.45	100	1,460.00	77.15	40.00	86	1,064.00	35.36	42.45	
4.30	22	2.65	680 30	0.30	17	503.00	5.76	105.00	5	45.00	0.89	84.48	
61.63	145	25.40	4,033 19	8.42	54	1,465.13	46.28	60.00	41	1,030.13	32.33	60.00	148
48.12	387	55.79	9,167 06	41.19	48	934.27	54.43	57.00	7	461.39	8.29	60.00	
98.57	202	41.36	4,473 04	43.35	63	482.48	54.27	12.00	34	235.38	42.31	18.00	
92.47	162	36.69	4,183 42	16.51	27	1,351.82	38.10	52.00	69	1,914.40	74.55	47.00	
300.79	896	159.24	21,859 11	109.47	192	4,233.70	193.08	60.00	151	3,641.30	157.48	60.00	
10.56	65	7.41	1,281 45	0.90	13	617.75	11.27	65.00	4	321.10	5.80	59.00	
11.90	33	6.83	1,108 18	2.85	5	132.00	4.11	35.00	12	553.20	11.77	65.00	
44.58	107	15.27	1,475 24	11.33	45	452.00	25.82	47.00	36	619.00	22.70	48.00	
37.54	49	13.46	1,348 00	5.63	15	578.00	20.07	52.80	15	416.00	25.30	55.00	149
30.26	70	20.60	1,962 00	15.40	16	291.00	12.18	50.00	17	760.00	23.28	65.00	
32.66	25	10.02	1,239 00	12.25	8	590.00	14.60	53.00	7	626.00	15.83	53.00	
39.85	21	8.41	591 00	12.00	16	658.00	17.65	53.00	16	650.00	18.61	53.00	
32.75	56	13.05	1,365 00	9.30	14	734.00	18.33	60.00	15	688.00	18.17	54.00	
30.36	33	15.30	1,311 00	5.55	9	966.00	21.88	60.00	9	890.00	18.23	54.00	
50.83	15	3.78	189 00	11.10	6	348.00	17.40	53.00	7	436.00	26.11	57.00	
41.78	19	7.26	352 00	1.10	6	253.00	9.60	53.00	6	585.00	38.34	46.00	
296.03	288	91.88	8,357 00	72.33	90	4,418.00	131.71	60.00	92	5,051.00	183.87	65.00	
20.00	149	13.20	2,697 00	17.33	11	143.00	5.74	40.70	11	205.00	10.13	36.00	
0.83	8	1.08	278 59	1.15					1	40.00	0.76	52.80	150
1.61	7	1.31	447 24		2	244.50	2.92	87.12					
5.53	18	3.30	893 39	0.99	7	74.00	2.16	52.80	9	153.50	5.68	58.08	
5.89	41	6.87	2,088 56	0.09					2	658.00	12.67	58.08	
4.98	30	5.09	1,163 36	2.51	1	17.50	0.79	52.80	13	105.70	6.77	18.48	
2.75	12	5.02	1,050 13	2.59	2	2.00	0.28		7	41.80	4.90	10.56	
2.84	21	3.80	1,048 49	1.99	15	96.00	4.65	52.80					
2.61	9	1.84	539 41	2.88	2	21.00	1.19	26.40	1	5.00	0.38	13.20	
1.14	3	0.98	110 59	0.15	4	39.00	1.97	26.40					
0.47	4	0.67	193 35	0.02	6	128.20	1.12	126.72					
2.45	8	2.01	260 08						9	206.20	4.46	60.19	
31.10	161	31.97	8,075 59	12.37	39	622.20	15.08	126.72	42	1,210.20	35.62	60.19	
9.32	12	2.88	233 53	3.58	21	296.00	8.62	79.20					
1.90	7	0.36	108 15	0.11	3	68.00	1.26	78.00	2	40.00	0.89	53.00	151
3.08	4	0.66	117 41	0.95	2	8.00	0.85	13.00	3	39.00	1.94	27.00	
4.98	11	1.02	225 56	1.06	5	76.00	2.11	91.00	5	79.00	2.83	53.00	
67.04	72	18.91	1,619 09	16.53	59	745.90	32.66	55.00	60	900.10	36.76	42.00	152
5.60	25	3.19	457 03	2.08	15	264.10	5.97	58.08	5	18.70	0.74	42.24	153
26.89	168	30.21	5,451 30	0.27	13	993.00	31.80	85.00	6	608.00	25.03	60.00	154
18.13	65	15.77	1,904 30	11.37	41	257.70	11.85	60.00	28	280.10	10.68	52.00	
29.83	98	16.32	1,079 38	29.76	38	88.60	15.44	21.10	10	6.60	0.95	26.40	
74.85	331	62.30	8,435 38	41.40	92	1,339.30	59.09	85.00	44	894.70	36.66	60.00	
4.07	33	4.53	804 31	1.00	5	235.90	7.49	63.40	1	8.00	0.11	40.60	
10.55	10	2.36	147 00	2.49	8	48.70	1.94	52.80	23	174.62	8.48	52.80	155
4.41	16	4.15	323 00	3.41	8	48.20	2.08	52.80	14	80.38	3.07	52.80	
13.90	28	5.95	442 30	4.14	28	232.60	6.57	52.80	34	308.80	9.14	52.80	
8.84	6	0.84	48 30	4.46	10	84.40	2.32	52.80	9	100.40	2.90	52.80	
7.00	3	0.56	69 15	2.61	8	57.20	1.58	52.80	15	87.40	3.37	52.80	
0.60	6	0.59	114 30	0.79	1	2.00	0.07	26.40	3	7.40	0.33	42.24	
1.21	2	0.18	48 00	0.62	4	24.70	0.77	47.52					
46.51	71	14.63	1,192 45	18.52	67	497.80	15.33	52.80	98	759.00	27.20	52.80	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
156	North East Pennsylvania R. R. Co	Abington, Pennsylvania	Hartsville, Pennsylvania	9.56
157	Northern Coal and Iron Co	Green Ridge, Pennsylvania	Mill Creek, Pennsylvania	16.88
		South Wilkesbarre, Pennsylvania	Plymouth Junction, Pennsylvania	2.01
158	North Pennsylvania R. R. Co	Philadelphia, Pennsylvania	Bethlehem, Pennsylvania	55.70
		Lansdale, Pennsylvania	Doylestown, Pennsylvania	10.10
		Jenkintown, Pennsylvania	Middle of Delaware river at Yardley, Pennsylvania.	20.60
159	Ogdensburg and Morristown R. R. Co	Morristown, New York	Ogdensburg, New York	10.67
160	Ohio Central R. R. Co	Alum Creek Junction, Ohio	Bremen, Ohio	37.08
		New Lexington, Ohio	Corning, Ohio	12.35
161	Ohio and Mississippi Rw'y Co	Cincinnati, Ohio	Vincennes, Indiana	191.42
		Vincennes, Indiana	East Saint Louis, Illinois	146.63
				338.05
		North Vernon, Indiana	Jeffersonville, Indiana	53.31
		Beardstown, Illinois	Flora, Illinois	154.05
		Flora, Illinois	Shawneetown, Illinois	74.00
				228.05
162	Ohio and West Virginia Rw'y Co	Logan, Ohio	Pomeroy, Ohio	82.50
163	Oswego and Rome R. R. Co	Oswego, New York	Richland, New York	28.49
164	Oswego and Syracuse R. R. Co	Syracuse, New York	Oswego, New York	34.98
165	Passaic and Delaware R. R. Co	Morris and Essex R. R. Junction, New Jersey	Bernardsville, New Jersey	14.02
166	Paterson, Newark, and New York R. R. Co	Bergen Junction, New Jersey	Paterson, New Jersey	16.53
167	Pennsylvania R. R. Co	Harrisburg, Pennsylvania	Altoona, Pennsylvania	130.81
		Altoona, Pennsylvania	Gallitzin, Pennsylvania	11.80
		Gallitzin, Pennsylvania	Johnstown, Pennsylvania	26.90
		Johnstown, Pennsylvania	Derry, Pennsylvania	32.10
		Derry, Pennsylvania	Latrobe, Pennsylvania	5.10
		Latrobe, Pennsylvania	Carr's Tunnel, Pennsylvania	5.00
		Carr's Tunnel, Pennsylvania	Greensburg, Pennsylvania	4.70
		Greensburg, Pennsylvania	Pittsburgh, Pennsylvania	31.10
				247.51
		Columbia, Pennsylvania	York, Pennsylvania	13.20
		Blairsville intersection, Pennsylvania	Indiana, Pennsylvania	18.91
168	Pennsylvania R. R. Co. (in Maryland)	Cumberland, Maryland	George's Creek and Cumberland R. R. Junction, Maryland.	1.69
		George's Creek and Cumberland R. R. Junction, Maryland.	Pennsylvania state line	4.56
				6.25
169	Pennsylvania Coal Co	Lackawaxen, Pennsylvania	Honesdale, Pennsylvania	23.79
170	Pennsylvania and New York Canal and R. R. Co.	Lackawanna Junction, Pennsylvania	Towanda, Pennsylvania	76.26
		Towanda, Pennsylvania	Waverly and State Line R. R., Pennsylvania.	18.44
				94.70
		Wilkesbarre, Pennsylvania	Lackawanna Junction, Pennsylvania	9.60
171	Peoples Rw'y Co	Pottsville, Pennsylvania	Minersville, Pennsylvania	3.47
172	Perkiomen R. R. Co	Perkiomen Junction, Pennsylvania	Collegeville, Pennsylvania	6.00
		Collegeville, Pennsylvania	Schwenksville, Pennsylvania	5.03
		Schwenksville, Pennsylvania	Green Lane, Pennsylvania	7.11
		Green Lane, Pennsylvania	Pennsburg, Pennsylvania	4.83
		Pennsburg, Pennsylvania	Eman's Junction, Pennsylvania	15.59
				38.56
173	Philadelphia and Atlantic City Rw'y Co	Camden, New Jersey	Laurel, New Jersey	9.00
		Laurel, New Jersey	Cedar Brook, New Jersey	9.70
		Cedar Brook, New Jersey	Hammonton, New Jersey	8.50
		Hammonton, New Jersey	Egg Harbor, N. J	10.40
		Egg Harbor, New Jersey	Salt Meadow, New Jersey	12.30
		Salt Meadow, New Jersey	Atlantic City, New Jersey	4.60
				54.50
174	Philadelphia and Erie R. R. Co	Erie, Pennsylvania	Corry, Pennsylvania	37.00
		Corry, Pennsylvania	Warren, Pennsylvania	28.67
		Warren, Pennsylvania	Kane, Pennsylvania	28.33
		Kane, Pennsylvania	Clarion Summit, Pennsylvania	1.11
		Clarion Summit, Pennsylvania	West Creek Summit, Pennsylvania	34.20
		West C eek Summit, Pennsylvania	Renovo, Pennsylvania	66.48
		Renovo, Pennsylvania	Lock Haven, Pennsylvania	27.45
		Lock Haven, Pennsylvania	Williamsport, Pennsylvania	24.51
		Williamsport, Pennsylvania	Sunbury, Pennsylvania	39.74
				287.49
175	Philadelphia, Marlton, and Medford R. R. Co	Haddonfield, New Jersey	Marlton, New Jersey	6.25

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
6.47	12	3.09	452 02	1.90	6	194.87	3.80	67.58	4	211.19	3.86	63.88	156
9.75	51	7.13	2,182 50	2.06	14	194.76	6.62	46.00	18	312.42	8.20	73.92	157
1.41	3	0.60	202 00	2.01	.....	.....	.....	.....	.....	.....	.....	.....	
40.20	50	15.50	1,777 08	5.65	47	1,108.00	25.20	63.00	36	886.00	24.85	53.00	158
6.83	8	3.27	289 38	1.44	16	146.16	4.50	68.00	15	150.62	4.16	68.00	
18.10	12	2.50	225 33	2.58	7	160.50	6.90	33.79	8	286.00	11.12	37.00	
7.30	25	3.37	468 08	3.60	17	72.50	3.23	52.80	13	77.50	3.84	52.80	159
30.15	37	6.93	1,058 06	9.37	20	250.50	10.62	42.24	19	255.50	17.09	42.24	160
6.74	33	5.61	1,087 58	0.25	4	163.50	4.00	66.00	2	284.50	8.10	66.00	
132.43	.....	58.99	8,417 00	.....	112	1,924.00	.....	.....	147	1,992.00	.....	.....	161
132.62	.....	14.01	1,123 00	.....	79	1,048.00	.....	.....	75	1,048.00	.....	.....	
265.05	.....	73.00	9,540 00	.....	191	2,972.00	.....	.....	222	3,040.00	.....	.....	
45.08	.....	8.23	615 00	.....	32	580.63	.....	.....	40	847.15	.....	.....	
132.06	.....	21.99	2,177 00	}	240	2,064.00	.....	.....	258	2,123.00	.....	.....	
62.04	.....	11.96	494 00										
194.10	.....	33.95	2,671 00	.....	240	2,064.00	.....	.....	258	2,123.00	.....	.....	
60.26	163	22.24	3,932 13	24.87	72	900.00	26.28	70.00	89	1,046.00	31.35	65.00	162
19.11	44	9.38	1,130 32	4.41	36	504.00	15.98	41.66	22	237.00	8.10	62.85	163
28.96	30	6.02	534 27	13.31	10	99.30	7.62	26.00	16	209.20	14.05	20.00	164
8.62	18	5.40	767 40	4.63	14	199.00	5.56	79.00	11	168.00	3.83	132.00	165
13.46	24	3.07	528 22	2.49	20	126.40	4.51	53.00	36	216.08	9.53	47.00	166
85.94	251	44.87	6,119 00	22.43	154	1,124.12	77.13	29.40	83	266.50	31.25	19.32	167
				0.16	28	983.36	11.47	100.32	2	3.00	0.17	26.40	
				4.07	1	20.14	0.50	39.60	65	998.25	22.33	59.70	
				8.43	28	261.63	10.87	30.10	29	260.29	12.80	31.20	
64.30	238	52.40	8,452 38	0.54	2	9.30	0.45	45.40	10	189.80	4.11	52.80	
				0.14	14	206.10	4.58	73.90	1	1.66	0.28	5.30	
				0.98	3	21.66	0.50	52.80	12	143.45	3.22	58.08	
				6.02	37	332.83	8.26	84.50	68	653.28	16.82	63.40	
150.24	489	97.27	14,571 38	42.77	267	2,959.23	113.76	100.32	270	2,516.23	90.98	63.40	
8.41	13	4.79	175 00	1.18	14	190.80	9.66	3.00	3	67.40	2.36	32.70	
11.52	30	7.39	599 18	3.14	25	675.70	8.81	98.00	17	477.70	6.96	98.00	
0.95	12	0.74	274 00	0.28	2	46.80	1.12	52.80	1	9.30	0.20	31.70	168
2.48	37	2.08	590 10	2.59	.....	54.00	1.97	52.80	.....	.....	.....	.....	
3.43	49	2.82	864 10	2.87	2	100.80	3.09	52.80	1	9.30	0.29	31.70	
9.22	116	14.57	3,453 47	0.38	26	324.93	22.08	33.79	2	72.00	1.33	95.00	169
30.16	142	46.10	4,396 05	32.35	36	196.10	41.16	23.50	7	28.10	2.75	20.00	170
11.42	25	7.02	693 34	7.20	7	80.10	11.24	38.70	.....	.....	.....	.....	
41.58	167	53.12	5,089 39	39.55	43	276.20	52.40	38.70	7	28.10	2.75	20.00	
6.50	22	3.10	665 52	3.97	7	57.60	3.84	58.70	5	37.70	1.79	42.20	
2.07	25	1.40	509 49	0.23	2	87.00	0.64	148.00	4	106.00	2.60	127.00	171
3.93	8	2.07	450 53	1.45	4	83.25	2.22	40.92	4	35.14	2.33	20.80	172
3.57	9	1.46	228 35	1.50	4	38.93	2.38	30.20	2	29.98	1.15	28.80	
3.74	22	3.37	866 50	0.52	8	89.00	6.59	35.16	.....	.....	.....	.....	
3.21	12	1.62	449 37	.....	3	120.00	4.05	36.10	1	13.50	0.78	17.58	
6.84	33	8.75	2,082 33	0.72	4	289.00	7.57	44.66	3	252.50	7.30	42.91	
21.29	84	17.27	4,078 28	4.19	23	620.18	22.81	44.66	10	331.12	11.56	42.91	
7.46	8	1.54	129 33	1.07	10	162.50	5.19	52.80	13	83.10	2.74	52.80	173
8.01	5	1.69	67 22	1.42	5	135.50	4.34	52.80	4	100.50	3.94	52.80	
7.63	2	0.87	30 10	1.84	10	100.00	2.82	52.80	11	121.00	3.84	52.80	
10.25	2	0.15	1 45	2.51	11	88.00	2.61	52.80	11	133.00	5.28	52.80	
11.65	2	0.65	34 19	2.50	15	90.50	4.13	52.80	16	145.00	5.67	52.80	
3.78	4	0.82	80 31	4.20	1	6.00	0.40	26.40	.....	.....	.....	.....	
48.78	23	5.72	343 40	13.54	52	582.50	19.49	52.80	55	582.60	21.47	52.80	
29.36	21	7.64	479 15	6.99	40	954.70	23.19	72.60	16	94.10	6.82	28.50	174
18.27	27	10.40	931 15	8.40	19	84.80	4.73	32.20	42	334.80	15.54	42.30	
16.10	58	12.23	2,080 03	3.07	29	931.80	20.47	58.60	10	107.10	4.79	32.40	
0.12	3	0.99	257 57	.....	3	19.00	0.61	49.00	4	13.60	0.50	36.90	
17.71	86	16.49	3,089 48	4.62	25	320.20	12.77	52.85	33	650.40	16.81	104.59	
33.68	159	32.80	4,806 17	11.08	6	9.90	1.21	13.88	82	1,033.10	54.19	52.95	
14.10	41	13.35	1,338 47	6.45	10	28.50	3.12	17.16	33	141.90	17.88	24.02	
16.02	27	8.49	768 42	4.45	15	132.10	8.35	21.12	23	162.40	11.71	23.17	
29.16	43	10.58	978 00	17.12	12	33.60	5.73	12.67	29	114.80	16.89	19.80	
174.52	465	112.97	14,750 04	62.18	159	2,514.60	80.18	72.60	272	2,652.20	145.13	104.59	
5.27	5	0.98	106 31	0.22	5	127.71	3.09	52.80	6	111.61	2.94	52.80	175

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
176	Philadelphia, Newtown, and New York R. R. Co	Philadelphia, Pennsylvania	Newtown, Pennsylvania	21.60
177	Philadelphia and Reading R. R. Co	Pottsville, Pennsylvania	Delaware river at Philadelphia, Pennsylvania	98.40
178	Philadelphia and Trenton R. R. Co	Kensington depot, Philadelphia, Pennsylvania	Morrisville, Pennsylvania	26.44
179	Philadelphia, Wilmington, and Baltimore R. R. Co	Philadelphia, Pennsylvania	Wilmington, Delaware	27.80
		Wilmington, Delaware	Havre de Grace, Maryland	33.06
		Havre de Grace, Maryland	Baltimore, Maryland	34.04
				94.90
180	Pittsburgh, Cincinnati, and Saint Louis Rw'y Co	Pittsburgh, Pennsylvania	Steubenville, Ohio	43.14
		Steubenville, Ohio	Newark, Ohio	116.62
		Newark, Ohio	Columbus, Ohio	33.03
				192.79
181	Pittsburgh and Connellsville R. R. Co	Pittsburgh, Pennsylvania	McKeesport, Pennsylvania	14.40
		McKeesport, Pennsylvania	Connellsville, Pennsylvania	43.00
		Connellsville, Pennsylvania	Sand Patch Summit, Pennsylvania	59.30
		Sand Patch Summit, Pennsylvania	Mount Savage Junction, Maryland	29.80
				146.50
182	Pittsburgh and Lake Erie R. R. Co	Pittsburgh, Pennsylvania	Youngstown, Ohio	68.00
		New Castle Junction, Pennsylvania	New Castle, Pennsylvania	2.35
183	Pittsburgh, Virginia, and Charleston Rw'y Co	Pittsburgh, Pennsylvania	Monongahela City, Pennsylvania	30.00
184	Plattsburgh and Dannemora R. R. Co	Plattsburgh Barracks, New York	Dannemora, New York	15.92
185	Plymouth R. R. Co	Conshohocken, Pennsylvania	Oreland, Pennsylvania	9.25
186	Port Huron and North Western Rw'y Co	Carsonville, Michigan	Port Huron, Michigan	37.00
187	Poughkeepsie, Hartford, and Boston R. R. Co	Junction with New York Central and Hudson River R. R. at Poughkeepsie, New York.	Stissing, New York	23.71
		Junction North Durham and Connecticut R. R. at Pine Plains.	Connecticut State Line R. R	17.99
188	Prospect Park and Coney Island R. R. Co	Ninth avenue and Twentieth street, Brooklyn, New York.	West Brighton, Coney Island, New York	5.61
189	Reading and Columbia R. R. Co	Sinking Spring, Pennsylvania	Columbia, Pennsylvania	39.57
190	Rensselaer and Saratoga R. R. Co	Albany, New York	Waterford Junction, New York	12.46
		Waterford Junction, New York	Saratoga, New York	25.93
		Saratoga, New York	Fort Edward, New York	17.30
		Fort Edward, New York	Lake Champlain, New York	23.45
				79.14
		Troy, New York	Waterford Junction, New York	5.59
		East Line, New York	West End, New York	0.59
		Whitehall, New York	Castleton, Vermont	13.66
		Eagle Bridge, New York	Salem, New York	17.44
		Salem, New York	Granville, New York	18.71
		Granville, New York	Castleton, Vermont	16.20
		Castleton, Vermont	Rutland, Vermont	10.09
				62.44
191	Rhinebeck and Connecticut R. R. Co	Rhinecliff, New York	Boston Corners, New York	35.20
192	Rochester and Genesee Valley R. R. Co	Avon, New York	Rochester, New York	18.26
193	Rochester and Lake Ontario Rw'y Co	Rochester, New York	Lake Ontario, New York	6.05
194	Rochester and State Line Rw'y Co	Rochester, New York	Salamanca, New York	107.69
195	Rome and Clinton R. R. Co	Rome, New York	Clinton, New York	12.88
196	Rome, Watertown, and Ogdensburg R. R. Co	Rome, New York	Watertown Junction, New York	71.48
		Watertown Junction, New York	Cape Vincent, New York	24.28
		Oswego, New York	Lewiston, New York	147.95
		Syracuse, New York	Sandy Creek, New York	44.50
197	Salisbury R. R. Co	Salisbury Junction, Pennsylvania	West Salisbury, Pennsylvania	8.65
		Livengood's Mills, Pennsylvania	Coal Mines, Pennsylvania	1.28
		West Salisbury, Pennsylvania	Coal Mines, Pennsylvania	0.75
		West Salisbury, Pennsylvania	Coal Mines, Pennsylvania	0.50
198	Sandusky, Mansfield, and Newark R. R. Co	Sandusky, Ohio	Newark, Ohio	116.25
199	Saratoga and Schenectady R. R. Co	Schenectady, New York	Ballston, New York	14.97
200	Schenectady and Duanesburg R. R. Co	Quaker Street Junction, New York	Schenectady, New York	13.79
201	Schuylkill Valley Navigation and R. R. Co	Port Carbon, Pennsylvania	Reevesdale, Pennsylvania	11.00
202	Shamokin Valley and Pottsville R. R. Co	Sunbury, Pennsylvania	Shamokin, Pennsylvania	18.73
		Shamokin, Pennsylvania	Mount Carmel, Pennsylvania	8.57
				27.30
		Lancaster Junction, Pennsylvania	Lancaster Colliery, Pennsylvania	2.32

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
16.63	33	4.97	787 36	2.10	29	435.50	11.05	105.00	22	365.50	8.45	105.00	176
59.00	168	39.40	6,032 00	44.40	1	61.00	1.43	42.70	6	586.00	52.57	33.50	177
18.06	26	8.38	425 20	2.87	25	66.08	12.03	26.00	26	69.07	11.54	17.90	178
20.45	21	7.35	642 25	3.87	28	163.88	12.23	23.76	22	182.03	11.70	28.00	179
20.50	33	12.56	927 55	3.01	29	310.07	16.95	39.60	31	290.55	13.10	36.66	
22.27	14	11.77	407 30	11.55	22	163.96	9 10	20.59	26	193.21	13.39	20.38	
63.22	68	31.68	1,977 50	18.43	79	637.91	38.28	39.60	79	665.79	38.19	36.66	
25.91	114	17.23	3,585 33	3.38	38	746.67	19.52	52.80	29	760.81	20.24	52.80	180
71.38	370	45.24	5,098 16	21.63	49	923.50	35.67	39.60	59	838.86	59.32	39.60	
30.59	12	2.44	162 50	6.74	15	411.43	12.80	47.52	17	490.48	13.49	52.80	
127.88	496	64.91	8,846 39	31.75	102	2,081.60	67.99	52.80	105	2,090.15	93.05	52.80	
.....	.....	.....	.....	6.20	7	66.00	4.09	32.00	5	52.00	4.11	20.00	181
.....	.....	.....	.....	26.50	16	129.00	16.50	.....	.....	.....	.....	.....	
72.30	411	74.20	15,287 50	12.34	31	1,395.50	46.77	53.00	1	3.50	0.19	18.00	
.....	.....	.....	.....	1.15	3	20.00	1.42	44.00	44	1,587.00	27.23	85.00	
72.30	411	74.20	15,287 50	46.19	57	1,610.50	68.78	53.00	50	1,642.50	31.53	85.00	
45.53	195	22.47	3,025 47	29.82	32	265.86	20.76	52.80	22	176.56	17.42	26.40	182
1.44	9	0.91	136 00	0.77	1	16.00	1.11	14.31	1	14.66	0.47	28.62	
17.70	66	12.30	1,162 37	8.35	21	154.00	8.50	21.00	24	169.00	13.15	13.00	183
12.39	37	3.53	1,116 17	1.51	49	1,194.00	13.90	168.50	3	15.00	0.51	45.00	184
5.75	25	3.50	666 41	1.89	11	214.70	6.02	62.30	4	54.90	1.34	52.30	185
32.77	19	4.23	551 47	8.00	39	175.00	10.60	52.80	54	350.00	18.40	80.00	186
15.68	30	8.03	1,670 32	4.30	18	603.00	14.16	52.80	17	207.00	5.25	52.80	187
14.01	16	3.98	702 24	4.88	11	456.00	9.64	52.80	9	104.00	3.47	52.80	
5.23	6	0.38	87 31	0.87	2	15.50	0.44	40.00	15	184.00	4.30	212.00	188
23.50	75	16.07	2,463 06	5.87	35	681.00	15.45	103.40	36	794.00	18.25	100.00	189
9.05	22	3.41	351 01	2.75	22	156.00	5 57	40.00	18	113.00	4.14	38.00	190
16.06	33	9.87	1,108 28	4.67	31	327.00	17.08	42.00	10	60.00	4.18	26.00	
14.47	21	2.83	367 03	2.78	6	69.00	2.52	37.00	25	250.00	12.00	53.00	
19.37	32	4.08	413 29	9.78	24	106.00	5.79	53.00	27	140.00	7.88	53.00	
58.95	108	20.19	2,240 01	19.98	83	658.00	30.96	53.00	80	563.00	28.20	53.00	
4.10	12	1.49	169 23	2.28	6	36.00	1.81	33.00	8	19.00	1.50	40.00	
.....	1	0.59	112 31	.. .	1	29.00	0.59	50.00	.....	.....	.....	.....	
9.08	25	4.58	705 29	2.82	27	364.00	8.60	83.00	9	66.00	2.24	57.00	
13.56	13	3.88	441 14	3.54	25	191.00	9.15	37.00	16	124.00	4.75	52.00	
15.06	21	3.65	458 15	0.59	36	342.00	8.90	73.00	45	417.00	9.22	95.00	
12.50	20	3.70	379 37	4.59	23	185.00	6.75	54.00	19	154.00	4.86	52.00	
7.10	13	2.99	364 38	3.34	19	152.00	5.40	50.00	5	30.00	1.35	46.00	
48.22	67	14.22	1,643 44	12.06	103	870.00	30.20	73.00	85	725.00	20.18	95.00	
17.73	106	17.47	3,271 11	6.97	33	782.12	24.25	55.40	20	78.77	3.98	33.40	191
15.07	12	3.19	194 22	4.45	12	114.41	6.43	20.60	14	186.00	7.38	30.10	192
5.21	19	0.84	667 31	1.13	14	51.00	1.41	100.00	29	233.00	3.51	110.00	193
80.32	117	27.37	3,380 20	18.04	102	1,879.00	50.32	71.00	87	1,000.00	39.33	52.80	194
9.97	18	2.91	408 03	3.32	24	151.00	9.56	74.00	.....	.....	.....	.....	195
54.00	61	17.48	1,479 30	12.95	57	578.00	29.88	40.13	59	620.90	28.65	35.02	196
21.46	14	2.82	263 50	5 50	19	197.80	7.40	39.06	27	358.80	11.38	35.02	
122.16	93	25.79	2,502 50	43.50	93	1,142.30	51.94	52.80	83	1,009.00	52.51	39.60	
34.52	45	9.98	1,028 03	8.95	35	684.30	20.25	71.81	33	515.00	15.30	92.40	
3.76	41	4.89	1,258 50	2.26	18	79.00	5.03	42.25	4	43.00	1.36	47.50	197
0.74	5	0.54	175 30	0.38	3	59.00	0.90	132.00	.....	.....	.....	.....	
0.37	6	0.38	131 04	.....	4	96.00	0.75	147.75	.....	.....	.....	.....	
0.13	2	0.37	137 00	.....	2	58.00	0.50	132.00	.....	.....	.....	.....	
87.85	123	28.40	1,581 30	7.25	12	710.00	60.50	60.00	14	650.00	48.50	55.00	198
9.90	17	5.07	461 54	1.77	19	87.00	8.79	24.00	11	37.00	4.41	33.00	199
7.45	47	6.34	1,283 36	1.43	6	37.00	1.25	42.00	25	608.00	11.11	79.00	200
5.54	21	5.46	774 10	.....	8	397.50	10.10	145.00	2	89.50	0.90	110.00	201
12.18	44	6.55	731 19	0.28	20	295.20	18.45	50.95	.....	.....	.....	.....	202
4.27	23	4.30	388 41	1.53	6	318.70	6.96	71.43	1	1.50	0.08	11.29	
16.45	67	10.85	1,120 00	1.81	26	613.90	25.41	71.43	1	1.50	0.08	11.29	
1.35	5	0.97	139 22	.....	4	187.30	2.32	148.47	.....	.....	.....	.....	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
203	Sharon Rw'y Co	Sharon, Pennsylvania	Sharon Junction, Pennsylvania	7.76
204	Somerset and Cambria R. R. Co	Rockwood, Pennsylvania	Somerset, Pennsylvania	8.81
205	Southern Pennsylvania Rw'y and Mining Co	South Pennsylvania Junction, Pennsylvania	Conococheague, Pennsylvania	2.32
		Conococheague, Pennsylvania	Williamson, Pennsylvania	3.58
		Williamson, Pennsylvania	Lehmasters, Pennsylvania	3.92
		Lehmasters, Pennsylvania	Mercersburg Junction, Pennsylvania	1.63
		Mercersburg Junction, Pennsylvania	Mercersburg, Pennsylvania	2.21
				13.66
206	Springville and Sardinia R. R. Co	Springville, New York	Sardinia Junction, New York	12.00
207	Spuyten Duyvil and Port Morris R. R. Co	Junction New York and Harlem Railroad, New York.	Spuyten Duyvil, New York	6.05
208	Summit Branch R. R. Co	Lykens, Pennsylvania	Short Mountain Colliery, Pennsylvania	0.82
209	Sunbury, Hazleton, and Wilkesbarre R. R. Co	Sunbury, Pennsylvania	Tomhicken, Pennsylvania	43.44
210	Sunbury and Lewistown Rw'y Co	Lewistown, Pennsylvania	Selin's Grove Junction, Pennsylvania	43.33
211	Suspension Bridge and Erie Junction R. R. Co	East Buffalo, New York	Suspension Bridge, New York	23.28
212	Swedesborough R. R. Co	Woodbury, New Jersey	Swedesborough, New Jersey	10.80
213	Syracuse, Binghamton, and New York R. R. Co	Binghamton, New York	Syracuse, New York	81.00
214	Syracuse, Geneva, and Corning Rw'y Co	Corning, New York	Geneva, New York	57.75
215	Terre Haute and South Eastern R. R. Co	Terre Haute, Indiana	Spring Hill, Indiana	5.00
		Spring Hill, Indiana	Riley, Indiana	5.00
		Riley, Indiana	Cory, Indiana	5.00
		Cory, Indiana	Saline City, Indiana	5.00
		Saline City, Indiana	Clay City, Indiana	6.00
		Clay City, Indiana	Coal City, Indiana	5.00
		Coal City, Indiana	Hubbells, Indiana	4.00
		Hubbells, Indiana	Worthington, Indiana	5.00
				40.00
216	Troy and Greenbush R. R. Association	Greenbush, New York	Troy, New York	5.77
217	Tyrone and Clearfield Rw'y Co	Vail, Pennsylvania	Curwensville, Pennsylvania	44.04
218	Ulster and Delaware R. R. Co	Rondout, New York	Phœnicia, New York	26.77
		Phœnicia, New York	Summit, New York	14.06
		Summit, New York	Arkville, New York	7.66
		Arkville, New York	Stamford, New York	24.74
				73.23
219	Union R. R. Co. of Baltimore	Union Depot, Baltimore, Maryland	Canton, Baltimore, Maryland	6.05
220	United New Jersey R. R. and Canal Co	Jersey City, New Jersey	New Brunswick, New Jersey	33.78
		New Brunswick, New Jersey	Trenton, New Jersey	23.03
				56.81
221	Utica and Black River R. R. Co	Utica, New York	Boonville, New York	34.75
		Boonville, New York	Lowville, New York	23.60
		Lowville, New York	Philadelphia, New York	28.47
				86.82
222	Utica, Chenango, and Susquehanna Valley R. R. Co.	Greene, New York	Utica, New York	75.66
		Richfield Junction, New York	Richfield Springs, New York	21.75
223	Utica, Ithaca, and Elmira Rw'y Co	Elmira, New York	Cortland, New York	71.05
224	Valley R. R. Co	Pennsylvania and New York state line	Binghamton, New York	11.64
225	Valley Rw'y Co	Cleveland, Ohio	Canton, Ohio	58.70
226	Wallkill Valley R. R. Co	Montgomery, New York	Kingston, New York	32.80
227	Warren R. R. Co	New Hampton, New Jersey	Delaware River, New Jersey	18.25
228	Waverly and State Line R. R. Co	State line, Pennsylvania	Junction New York, Lake Erie, and Western Railroad, near Waverly, New York.	0.25
229	West Jersey R. R. Co	Camden, New Jersey	Cape May, New Jersey	81.47
		Glassborough, New Jersey	Bridgeton, New Jersey	19.60
230	West Jersey and Atlantic R. R. Co	Newfield, New Jersey	Atlantic City, New Jersey	34.46
231	West Troy and Green Island R. R. Co	West Troy, New York	Green Island, New York	1.08
232	Western Pennsylvania R. R. Co	Blairsville, Pennsylvania	Allegheny City, Pennsylvania	63.50
		Butler Junction, Pennsylvania	Butler, Pennsylvania	21.05

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
4.91	25	2.85	635 00	4.86	2	86.00	2.90	66.00	.....	.....	.....	.....	203
4.72	32	4.09	1,290 00	1.34	19	289.00	7.47	79.00	.....	.....	.....	.....	204
1.02	9	1.30	286 03	.....	.....	.....	.....	.....	1	118.20	2.32	50.00	205
1.52	18	2.06	462 51	.....	1	13.50	0.67	20.38	2	16.50	2.91	50.00	
2.47	8	1.45	331 17	.....	1	98.00	3.07	47.50	2	23.50	0.85	47.50	
1.63	.....	.....	.....	.....	2	11.60	0.62	45.00	2	45.60	1.01	47.50	
1.47	3	0.74	191 23	.....	2	31.80	1.45	43.40	1	27.80	0.76	36.50	
8.11	38	5.55	1,271 34	.....	6	154.90	5.81	47.50	8	231.60	7.85	50.00	
7.25	24	4.75	317 03	5.20	11	420.00	3.65	141.00	10	205.00	3.15	120.00	206
3.88	18	2.17	520 07	4.05	6	9.20	0.88	42.20	8	17.20	1.12	35.20	207
0.46	4	0.36	58 05	.....	3	128.10	0.82	418.70	.....	.....	.....	.....	208
22.12	158	21.32	3,027 59	7.03	99	944.40	29.10	102.96	32	152.70	7.31	66.00	209
33.03	101	10.30	2,430 00	8.06	23	677.00	16.34	65.00	36	784.00	18.93	65.00	210
20.94	17	2.34	428 51	10.25	10	141.95	4.95	52.80	18	171.35	8.08	84.48	211
9.38	11	1.42	112 28	2.33	24	193.40	4.69	63.36	19	172.50	3.78	63.36	212
53.66	130	27.34	2,552 45	20.14	51	530.00	33.83	52.00	33	980.00	27.03	52.00	213
43.84	73	13.91	1,574 24	10.10	12	512.00	22.42	37.00	18	1,002.00	25.23	74.00	214
4.89	2	0.11	41 00	3.62	3	39.00	0.73	52.80	3	23.00	0.65	52.80	215
3.62	8	1.38	231 51	3.09	4	66.00	1.78	52.80	1	5.00	0.13	36.96	
4.54	2	0.46	24 34	0.54	5	129.00	2.74	52.80	4	73.00	1.72	52.80	
4.18	4	0.82	104 31	1.30	1	14.00	0.26	52.80	4	84.00	3.44	42.24	
5.11	3	0.89	71 53	1.50	4	76.00	2.25	39.60	4	47.00	2.25	31.68	
4.20	2	0.80	76 55	2.07	5	98.00	2.18	52.80	2	31.00	0.75	47.52	
2.66	6	1.34	98 41	1.30	.....	.....	.....	.....	4	134.00	2.70	52.80	
3.03	14	1.97	309 42	3.88	2	2.00	0.37	5.28	3	4.00	0.75	5.28	
32.23	41	7.77	959 07	17.30	24	424.00	10.31	52.80	25	401.00	12.39	52.80	
3.85	17	1.92	299 48	2.45	2	4.30	1.03	6.74	4	11.70	2.29	5.97	216
22.96	159	21.08	5,687 11	2.82	61	1,518.00	23.43	139.34	68	1,366.00	17.79	118.00	217
17.97	54	8.80	1,831 17	4.96	27	924.60	15.93	160.00	14	134.60	5.88	71.00	218
6.64	56	7.42	1,868 14	0.62	18	1,094.00	13.44	158.40	.....	.....	.....	.....	
4.27	27	3.39	697 17	0.45	1	1.24	0.42	.....	8	549.24	6.79	142.56	
14.30	82	10.44	1,478 25	4.66	36	591.17	16.56	82.37	11	164.60	3.52	68.00	
43.18	219	30.05	5,875 13	10.69	82	2,614.01	46.35	160.00	33	848.44	16.19	142.56	
4.82	7	1.23	357 52	1.25	4	63.00	1.46	63.36	9	113.00	3.34	95.00	219
26.68	42	7.10	877 01	8.88	37	331.62	15.10	26.00	22	221.00	9.80	26.00	220
21.17	7	1.86	86 11	3.90	15	94.09	6.02	40.00	24	188.07	13.11	40.00	
47.85	49	8.96	963 12	12.78	52	425.71	21.12	40.00	46	409.07	22.91	40.00	
21.75	40	13.00	1,062 20	6.22	17	932.00	20.81	66.00	10	218.00	7.72	45.00	221
16.49	38	7.11	671 40	8.46	8	143.00	4.06	45.00	22	401.00	11.08	52.80	
25.42	21	3.05	345 00	11.42	15	65.00	3.63	34.00	45	448.00	13.42	66.00	
63.66	99	23.16	2,079 00	26.10	40	1,140.00	28.50	66.00	77	1,067.00	32.22	66.00	
54.35	124	21.31	2,656 38	21.15	79	708.00	27.82	79.00	70	1,214.00	26.69	84.00	222
15.95	26	5.80	714 45	4.96	27	446.00	8.91	84.00	21	324.00	7.88	68.00	
62.19	107	8.86	1,541 23	5.14	27	1,010.00	45.11	85.00	22	782.00	20.80	126.72	223
8.24	9	3.40	226 40	3.61	1	5.00	0.62	8.33	5	26.00	7.41	11.00	224
33.38	113	25.32	3,117 45	15.20	30	535.00	35.00	40.00	11	80.00	8.50	13.00	225
22.98	70	9.82	1,381 45	5.30	38	382.00	11.80	60.70	41	583.00	15.70	52.80	226
13.67	45	4.58	775 10	1.11	4	116.00	2.33	60.00	17	320.00	14.81	35.00	227
0.06	1	0.19	57 45	.....	1	5.90	0.25	30.00	.....	.....	.....	.....	228
66.61	20	14.86	510 26	32.99	48	520.26	22.70	61.78	60	529.12	25.78	48.00	229
18.53	3	1.07	100 59	5.36	16	109.88	5.08	38.54	20	223.69	9.16	45.00	
31.94	10	2.52	223 17	15.83	27	190.85	7.47	39.60	36	298.91	11.16	39.60	230
0.32	7	0.76	202 22	0.06	2	6.00	0.24	37.00	4	20.00	0.78	39.00	231
35.93	186	27.57	3,436 53	30.12	25	355.30	12.52	52.80	30	625.30	20.86	52.80	232
10.77	76	10.28	2,715 51	1.54	5	594.50	13.01	79.00	5	356.00	6.50	79.00	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
233	Wilmington and Northern R. R. Co	Wilmington, Delaware	Du Pont Summit, Delaware	7.51
		Du Pont Summit, Delaware	Pyle's Station, Pennsylvania	5.57
		Pyle's Station, Pennsylvania	Coatesville, Pennsylvania	19.92
		Coatesville, Pennsylvania	Springfield, Pennsylvania	18.56
		Springfield, Pennsylvania	Birdsborough, Pennsylvania	11.93
		Birdsborough, Pennsylvania	Poplar Neck, Pennsylvania	6.41
				69.90
234	Worcester R. R. Co	Delaware state line	Franklin City, Virginia	36.00
235	Youghiogheny R. R. Co	Sewickley, Pennsylvania	Irwin's, Pennsylvania	10.00

GROUP III.—VIRGINIA, WEST VIRGINIA, KENTUCKY, TENNESSEE, MISSISSIPPI, ALABAMA, GEORGIA, FLORIDA, NORTH CAROLINA, SOUTH CAROLINA.

1	Alexandria and Fredericksburg Rw'y Co	South end of Long Bridge, Virginia	Quantico, Virginia	32.27
2	Alexandria and Washington R. R. Co	South end of Long Bridge, Virginia	Alexandria, Virginia	4.96
3	Atlanta and West Point R. R. Co	East Point, Georgia	West Point, Georgia	79.67
4	Atlantic, Mississippi, and Ohio R. R. Co	Norfolk, Virginia	Petersburg, Virginia	81.62
		Petersburg, Virginia	Lynchburg, Virginia	122.38
		Lynchburg, Virginia	Blue Ridge Summit, Virginia	41.53
		Blue Ridge Summit, Virginia	Alleghany Summit, Virginia	43.94
		Alleghany Summit, Virginia	Clarke's Summit, Virginia	34.20
		Clarke's Summit, Virginia	Mount Airy Summit, Virginia	27.48
		Mount Airy Summit, Virginia	Bristol, Virginia (state line)	57.49
				408.64
		Petersburg, Virginia	City Point, Virginia	10.12
		Glade Spring, Virginia	Saltville depot, Virginia	8.34
		Saltville Depot, Virginia	Plaster Works, Virginia	1.26
				9.60
5	Charlotte, Columbia, and Augusta R. R. Co	Charlotte, North Carolina	Augusta, Georgia	191.00
6	Cheraw and Salisbury R. R. Co	Cheraw, South Carolina	Wadesborough, North Carolina	25.00
7	Cincinnati Southern Rw'y Co	Cincinnati, Ohio	Silver Lake, Kentucky	7.68
		Silver Lake, Kentucky	Lexington, Kentucky	72.12
		Lexington, Kentucky	Somerset, Kentucky	79.10
		Somerset, Kentucky	Glen Mary, Tennessee	65.14
		Glen Mary, Tennessee	Rockwood, Tennessee	42.01
		Rockwood, Tennessee	Chattanooga, Tennessee	69.87
				335.92
8	Cumberland and Ohio R. R. Co	Lebanon, Kentucky	Greensburg, Kentucky	30.50
9	Cumberland and Ohio R. R. Co. (northern division)	Shelbyville, Kentucky	Taylorsville, Kentucky	16.57
10	Chesapeake and Ohio Rw'y Co	Richmond, Virginia	Charlottesville, Virginia	96.81
		Charlottesville, Virginia	Blue Ridge Summit, Virginia	24.13
		Blue Ridge Summit, Virginia	North Mount Summit, Virginia	28.58
		North Mount Summit, Virginia	Clifton Forge, Virginia	43.10
		Clifton Forge, Virginia	Covington, Virginia	12.79
		Covington, Virginia	Alleghany Summit, West Virginia	16.98
		Alleghany Summit, West Virginia	Hinton, West Virginia	50.30
		Hinton, West Virginia	Cannelton, West Virginia	70.10
		Cannelton, West Virginia	Huntington, West Virginia	76.77
				419.56
11	Duck River Valley N. G. R. R. Co	Columbia, Tennessee	Harris Gap, Tennessee	14.28
		Harris Gap, Tennessee	Lewisburg, Tennessee	5.63
		Lewisburg, Tennessee	Davis Gap, Tennessee	7.88
		Davis Gap, Tennessee	Petersburg, Tennessee	6.73
				34.52
12	East Florida Rw'y Co	Jacksonville, Florida	Saint Mary's river, Florida	37.60
13	Eastern Kentucky Rw'y Co	Riverton, Kentucky	Hunnewell, Kentucky	12.00
		Hunnewell, Kentucky	Grayson, Kentucky	11.00
		Grayson, Kentucky	Willard, Kentucky	11.15
				34.15
14	Elberton Air Line R. R. Co	Toccoa, Georgia	Elberton, Georgia	49.86
15	Elizabethtown, Lexington, and Big Sandy R. R. Co	Lexington, Kentucky	Mount Sterling, Kentucky	33.60
		Mount Sterling, Kentucky	Herat, Kentucky	68.40
				102.00

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP II.—NEW YORK, PENNSYLVANIA, OHIO, MICHIGAN, INDIANA, MARYLAND, DELAWARE, NEW JERSEY, DISTRICT OF COLUMBIA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
4.03	19	3.48	1,002 10	1.46	6	290.00	6.05	57.50	.....	.....	.....	.....	233
2.60	25	2.97	1,428 38	0.06	.....	.....	.....	.....	6	147.00	5.51	31.50	
10.78	91	9.14	3,047 01	5.23	15	157.00	14.69	26.50	.....	.....	.....	.....	
9.64	77	8.92	3,376 34	4.15	15	360.00	12.81	52.80	3	27.00	1.60	26.40	
6.10	50	5.83	2,301 33	2.18	.....	.....	.....	.....	6	447.00	9.75	52.80	
5.13	7	1.28	187 47	2.28	6	62.00	3.13	28.00	3	15.00	1.00	26.40	
38.28	269	31.62	11,343 43	15.36	42	869.00	36.68	57.50	18	636.00	17.86	52.80	
34.80	12	1.20	121 25	17.59	22	399.08	8.01	40.00	25	476.50	10.40	39.60	234
4.60	54	5.40	1,129 06	0.60	3	384.00	6.60	80.00	3	268.00	2.80	132.00	235

GROUP III.—VIRGINIA, WEST VIRGINIA, KENTUCKY, TENNESSEE, MISSISSIPPI, ALABAMA, GEORGIA, FLORIDA, NORTH CAROLINA, SOUTH CAROLINA.

23.53	53	8.74	1,404 23	8.83	26	483.30	11.80	60.70	29	479.80	11.64	52.80	1
4.19	11	0.77	132 07	1.03	8	91.70	1.93	60.70	8	73.70	2.00	52.80	2
59.33	84	20.34	2,494 37	5.06	66	973.30	31.31	42.24	68	1,432.47	43.30	42.24	3
74.58	10	7.04	539 33	31.46	63	585.40	27.76	37.50	42	582.10	22.40	37.00	4
75.73	117	46.65	5,345 19	16.30	85	1,552.10	56.23	35.60	100	1,042.50	49.85	47.00	
				2.56	35	1,447.10	25.68	71.50	21	679.00	13.29	60.90	
				4.30	35	1,301.40	26.50	80.00	25	546.60	13.14	62.00	
110.58	527	94.06	17,597 00	2.20	27	861.80	17.88	68.70	21	622.50	14.03	60.70	
				2.63	23	719.50	16.91	70.90	10	429.40	7.94	70.50	
				4.00	36	893.80	16.43	68.80	55	1,788.50	37.06	66.00	
260.89	654	147.75	23,481 52	63.54	304	7,361.10	187.39	80.00	274	5,690.60	157.71	70.50	
7.07	14	3.05	440 13	2.46	5	94.40	3.68	47.00	6	98.20	3.98	42.00	
.....	.....	.....	.....	.....	1	103.60	1.72	60.00	1	440.60	6.62	67.00	
3.33	39	6.27	957 51	.....	.....	.....	.....	.....	1	31.80	1.26	.....	
3.33	39	6.27	957 51	.....	1	103.60	1.72	60.00	2	472.40	7.88	67.00	
113.49	201	77.51	6,870 07	18.93	155	4,359.00	82.29	112.50	186	4,707.00	89.78	94.50	5
19.00	31	6.00	809 00	6.80	20	559.00	12.10	60.00	13	286.00	6.10	62.00	6
4.47	14	3.21	675 14	0.25	9	410.00	7.43	79.20	.....	.....	.....	.....	7
51.11	90	21.01	2,587 17	11.54	50	711.30	25.70	26.40	49	649.50	34.88	26.40	
52.28	128	26.82	3,092 31	5.54	70	1,446.24	36.20	52.80	67	1,540.53	37.36	52.80	
34.99	194	30.15	5,906 27	4.12	50	1,659.90	33.17	60.00	55	1,252.90	27.85	60.00	
22.11	119	19.90	3,917 47	4.78	23	585.14	13.97	60.00	34	990.70	23.26	60.00	
53.07	99	16.80	2,379 18	18.88	49	616.09	21.17	39.60	68	818.51	29.82	39.60	
218.03	644	117.89	18,558 34	45.11	251	5,428.67	137.64	79.20	273	5,252.14	153.17	60.00	
19.40	84	11.10	1,103 00	4.75	25	655.00	12.08	89.70	30	900.00	13.67	125.60	8
9.00	52	7.57	1,385 06	1.62	8	319.36	5.05	66.50	10	578.26	9.90	70.00	9
58.24	164	38.57	4,893 48	7.89	125	1,599.00	44.53	66.00	108	1,176.00	44.39	52.00	10
10.70	76	13.43	2,721 32	0.91	20	1,268.00	18.81	72.00	10	224.00	4.41	70.00	
14.63	72	13.95	1,793 09	1.05	16	1,205.00	17.13	84.58	14	639.00	10.40	71.00	
22.88	101	20.22	2,606 21	4.91	19	608.00	10.47	81.00	40	1,617.00	27.72	75.00	
3.45	14	9.34	200 00	4.30	8	246.00	6.50	65.00	3	71.00	1.99	38.00	
8.41	45	8.57	1,374 25	1.86	18	829.15	14.94	66.00	1	1.15	0.18	18.00	
24.06	153	26.24	4,376 16	6.65	8	31.02	3.50	21.12	35	731.02	40.15	30.00	
28.75	268	41.35	5,449 52	10.77	2	5.00	0.86	5.28	51	746.47	58.47	21.12	
51.16	117	25.61	2,533 00	17.98	30	381.35	21.40	29.30	47	441.38	37.39	30.93	
222.28	1,010	197.28	25,948 23	56.32	246	6,172.52	138.14	84.58	309	5,647.02	225.10	75.00	
8.48	74	5.80	1,437 27	2.55	53	417.00	8.53	117.00	22	265.00	3.20	116.00	11
3.80	9	1.83	248 00	0.68	18	123.00	1.81	105.60	23	192.00	3.14	105.60	
5.10	18	2.78	440 30	1.53	29	342.00	4.35	105.60	22	152.00	2.00	105.60	
4.21	16	2.52	306 00	0.91	4	23.00	0.32	105.60	26	213.00	5.50	105.60	
21.59	117	12.93	2,431 57	5.67	104	905.00	15.01	117.00	93	822.00	13.84	116.00	
36.22	9	1.38	235 58	17.42	18	208.50	11.08	26.40	16	200.00	9.10	36.96	12
6.01	74	5.99	1,251 45	.....	10	322.76	.....	80.00	9	272.42	.....	80.00	13
6.88	33	4.12	1,130 00	.....	10	192.69	.....	85.00	10	189.19	.....	80.00	
5.85	22	5.30	874 00	.....	4	93.53	.....	52.00	6	65.03	.....	40.00	
18.74	129	15.41	3,255 45	.....	24	608.98	.....	85.00	25	526.64	.....	80.00	
27.88	93	21.98	2,733 30	5.26	178	949.50	19.80	105.60	194	1,288.00	24.80	110.88	14
22.96	35	10.64	1,251 54	3.14	17	521.00	16.50	43.00	17	540.00	13.96	45.00	15
48.90	162	19.50	4,141 00	12.57	164	1,041.00	25.80	60.00	168	1,310.00	30.03	66.00	
71.86	197	30.14	5,392 54	15.71	181	1,562.00	42.30	60.00	185	1,850.00	43.99	66.00	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP III.—VIRGINIA, WEST VIRGINIA, KENTUCKY, TENNESSEE, MISSISSIPPI, ALABAMA, GEORGIA, FLORIDA, NORTH CAROLINA, SOUTH CAROLINA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
16	Georgia R. R. and Banking Co	Augusta, Georgia	Atlanta, Georgia	171.00
		Union Point, Georgia	Athens, Georgia	40.00
		Camak, Georgia	Macon, Georgia	78.00
17	Glasgow R. R. Co	Glasgow Junction, Kentucky	Glasgow, Kentucky	10.50
18	Lawrenceville Branch R. R. Co	Suwanee, Georgia	Lawrenceville, Georgia	10.00
19	Louisville and Nashville R. R. Co	Louisville, Kentucky	Bowling Green, Kentucky	113.50
		Bowling Green, Kentucky	Nashville, Tennessee (*a*)	71.73
				185.23
		Lebanon Junction, Kentucky	Livingston, Kentucky	110.30
		Bardstown Junction, Kentucky	Bardstown, Kentucky	17.30
		Richmond Junction, Kentucky	Richmond, Kentucky	33.80
		Memphis Junction, Kentucky	Erin, Tennessee	87.40
		Erin, Tennessee	Paris, Tennessee	41.50
		Paris, Tennessee	Memphis, Tennessee	130.20
				259.10
20	Macon and Brunswick R. R. Co	Brunswick, Georgia	Hazlehurst, Georgia	88.00
		Hazlehurst, Georgia	Cochran, Georgia	62.00
		Cochran, Georgia	Macon, Georgia	38.00
				188.00
		Cochran, Georgia	Hawkinsville, Georgia	10.25
21	Marietta and North Georgia R. R. Co	Marietta, Georgia	Canton, Georgia	23.85
22	Memphis and Charleston R. R. Co	Memphis, Tennessee	Stevenson, Alabama	272.00
23	Mississippi and Tennessee R. R. Co	Memphis, Tennessee	Grenada, Mississippi	99.07
24	Mobile and North Western R. R. Co	Glendale, Mississippi	Clarksdale, Mississippi	29.71
25	Mobile and Ohio R. R. Co	Mobile, Alabama	Tupelo, Mississippi	279.20
		Tupelo, Mississippi	Columbus, Kentucky	192.80
				472.00
26	Nashville and Tuscaloosa R. R. Co	Dickson, Tennessee	Bon Aqua, Tennessee	11.50
		Bon Aqua, Tennessee	Graham, Tennessee	9.40
				20.90
27	Norfolk and Ocean View R. R. and Hotel Co	Norfolk, Virginia	Ocean View, Virginia	8.02
28	North Eastern R. R. Co. of Georgia	Athens, Georgia	Lula, Georgia	40.00
29	North Western North Carolina R. R. Co	Salem Junction, North Carolina	Winston, North Carolina	25.57
30	Paducah and Elizabethtown R. R. Co	Elizabethtown, Kentucky	Paducah, Kentucky	185.70
31	Petersburg R. R. Co	Petersburg, Virginia	Jarratts, Virginia	31.68
		Jarratts, Virginia	Seaboard and Roanoke R. R., North Carolina	27.32
				59.00
32	Piedmont R. R. Co	Danville, Virginia	Greensborough, North Carolina	48 66
33	Pittsburgh, Wheeling, and Kentucky R. R. Co	Wheeling Junction, West Virginia	Wheeling, West Virginia	24.26
34	Port Royal and Augusta R. R. Co	Port Royal, South Carolina	Augusta, Georgia	112.00
35	Pratt Coal and Coke Co	Birmingham, Alabama	Pratt Mines, Alabama	5.06
36	Richmond and Danville R. R. Co	Richmond, Virginia	Danville, Virginia	140.60
37	Richmond, Fredericksburg, and Potomac R. R. Co.	Richmond, Virginia	Quantico, Virginia	81.70
38	Richmond and Petersburg R. R. Co	Richmond, Virginia	Petersburg, Virginia	22.50
39	Saint Louis and South Eastern Rw'y Co. (Kentucky and Tennessee divisions).	Edgefield Junction, Tennessee	Henderson, Kentucky	135.25
40	Savannah and Memphis R. R. Co	Opelika, Alabama	Goodwater, Alabama	60.00
41	Seaboard and Roanoke R. R. Co	Portsmouth, Virginia	Weldon, North Carolina	78.56
42	Waycross and Florida R. R. Co	Waycross, Georgia	Saint Mary's river, Florida	36.85

a Alignment to Gallatin, Tennessee, only.

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP III.—VIRGINIA, WEST VIRGINIA, KENTUCKY, TENNESSEE, MISSISSIPPI, ALABAMA, GEORGIA, FLORIDA, NORTH CAROLINA, SOUTH CAROLINA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
113.80	146	57.20	5,344 15	7.01	131	2,698.74	95.98	39.60	113	1,785.49	68.01	39.60	16
26.78	32	13.22	1,345 46	1.62	118	463.61	19.89	36.90	103	427.64	18.49	36.90	
60.00	43	18.00	1,578 36	6.76	78	1,160.50	32.77	52.80	88	1,441.10	38.47	58.00	
8.82	10	1.68	264 00	1.50	18	462.00	5.37	101.40	14	305.00	3.63	96.60	17
5.87	31	4.13	930 00	1.71	8	325.00	4.15	132.00	6	275.00	4.14	132.00	18
91.47	92	22.03	1,913 44	32.84	48	1,294.56	37.39	70.31	55	1,258.46	43.27	52.79	19
35.21	34	9.97	887 00	15.75	54	1,197.00	28.76	70.22	38	1,254.00	27.22	70.00	
126.68	126	32.00	2,800 44	48.59	102	2,491.56	66.15	70.31	93	2,512.46	70.49	70.00	
63.62	238	46.08	6,506 41	15.34	83	2,124.92	55.62	68.20	61	1,695.72	39.34	68.20	
9.16	46	8.14	1,337 05	2.03	15	429.13	9.90	66.00	11	208.96	5.37	64.70	
17.00	131	16.80	3,327 48	6.29	26	782.90	12.80	92.40	20	690.90	14.71	92.40	
66.89	91	20.51	1,679 10	18.29	76	1,272.33	28.51	66.22	68	1,334.53	40.60	105.00	
30.67	44	10.83	993 00	8.37	35	786.50	17.25	90.00	30	744.00	15.88	89.00	
108.39	55	21.81	1,257 50	27.41	107	1,512.89	47.33	52.80	124	1,732.79	55.46	52.80	
205.95	190	53.15	3,930 00	54.07	218	3,571.72	93.09	90.00	222	3,811.32	111.94	105.00	
86.00	6	2.00	266 00	.....	.....	557.00	.....	26.00	.....	260.00	.....	26.00	20
43.00	39	19.00	1,004 00	.....	.....	606.00	.....	26.00	.....	526.00	.....	26.00	
29.00	16	9.00	536 00	.....	.....	219.00	.....	75.00	.....	226.00	.....	75.00	
158.00	61	30.00	1,806 00	.....	.....	1,382.00	.....	75.00	.....	1,012.00	.....	75.00	
8.45	4	1.80	158 00	.....	.....	87.00	.....	75.00	.....	193.00	.....	75.00	
12.47	107	11.38	4,113 16	3.70	38	718.00	8.71	105.60	51	957.00	11.44	105.60	21
226.00	180	46.00	4,514 16	41.51	94	3,726.95	120.49	52.80	97	3,515.80	110.00	52.80	22
80.67	.....	18.40	1,612 30	18.62	.....	1,454.00	39.10	.....	.....	1,531.00	41.35	.....	23
25.55	15	4.16	445 20	22.21	21	30.00	3.45	21.12	26	43.60	4.05	21.12	24
191.94	223	87.26	6,014 09	69.60	322	2,253.00	120.40	40.00	268	1,973.00	89.20	30.00	25
132.61	152	60.19	3,515 32	50.90	150	1,440.00	72.80	40.00	127	1,411.00	69.10	30.00	
324.55	375	147.45	9,529 41	120.50	472	3,693.00	193.20	40.00	395	3,384.00	158.30	30.00	
5.07	51	6.43	2,166 49	1.93	76	538.00	5.08	171.60	60	489.00	4.49	168.96	26
3.98	60	5.42	3,374 11	1.46	61	427.00	3.89	184.80	58	460.00	4.05	158.40	
9.05	111	11.85	5,541 00	3.39	137	965.00	8.97	184.80	118	949.00	8.54	168.96	
6.96	12	1.06	369 44	.....	7	26.00	3.90	52.80	7	28.00	4.12	52.80	27
26.09	52	13.91	1,049 00	2.25	28	1,235.00	12.70	71.00	41	635.00	25.05	52.80	28
16.62	54	8.95	1,353 51	0.67	52	559.00	12.31	52.80	54	537.00	12.59	52.80	29
126.00	258	59.70	107 41	36.76	86	2,394.00	73.47	66.00	80	2,747.00	75.47	66.00	30
.....	.....	.....	928 17	.....	.....	213.40	.....	.....	.....	122.74	.....	.....	31
.....	.....	.....	427.08	.....	.....	210.47	.....	.....	.....	228.21	.....	.....	
.....	.....	.....	1,355.25	.....	.....	423.87	.....	.....	.....	350.95	.....	.....	
32.30	55	16.36	2,569 52	.....	.....	1,239.00	.....	67.58	.....	817.00	.....	67.58	32
15.35	56	8.91	789 46	4.25	12	105.99	6.17	26.40	17	170.77	13.84	26.40	33
109.50	26	2.50	84 00	92.45	13	435.60	8.25	45.00	16	596.64	11.30	50.00	34
2.19	18	2.87	528 25	0.77	8	110.00	1.65	80.00	6	105.90	2.64	60.00	35
92.90	.....	47.70	5,335 00	.....	.....	2,128.00	.....	.....	.....	1,743.00	.....	60.00	36
59.70	81	22.00	2,450 00	2.25	37	928.00	30.00	116.00	35	848.00	49.45	55.00	37
17.10	14	5.40	433 30	2.80	17	303.05	11.50	26.36	15	240.13	8.20	29.28	38
108.13	119	27.12	3,088 32	16.87	214	2,363.00	52.16	216.48	272	2,390.00	66.22	89.76	39
22.97	131	37.03	3,927 15	5.56	84	1,204.00	23.37	66.00	80	1,703.00	31.07	66.00	40
65.95	30	12.61	431 25	18.39	23	398.00	36.89	26.00	21	326.00	23.28	29.00	41
35.26	7	1.59	267 26	11.70	15	118.20	10.00	37.49	18	231.20	15.15	31.68	42

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
1	Albia, Knoxville, and Des Moines R. R. Co	Albia, Iowa	Knoxville, Iowa	32.89
2	American Central R. R. Co	Galva, Illinois	New Boston, Illinois	50.59
3	Belleville and Eldorado R. R. Co	Duquoin, Illinois	Benton, Illinois	18.77
		Benton, Illinois	Eldorado, Illinois	30.90
				49.67
4	Belleville and Southern Illinois R. R. Co	Belleville, Illinois	Duquoin, Illinois	56.43
5	Brownville and Nodaway Valley Rw'y Co	Villisca, Iowa	Burlington Junction, Missouri	34.90
6	Brunswick and Chillicothe R. R. Co	Brunswick, Missouri	Chillicothe, Missouri	38.00
		Chillicothe, Missouri	Pattonsburg, Missouri	41.75
				79.75
7	Burlington, Cedar Rapids, and Northern Rw'y Co	Burlington, Iowa	Cedar Rapids, Iowa	98.08
		Cedar Rapids, Iowa	Albert Lea, Minnesota	154.60
				252.68
8	Burlington and Northwestern Rw'y Co	Mediapolis, Iowa	Washington, Iowa	36.50
9	Burlington and Southwestern Rw'y Co	Viele, Iowa	Farmington, Iowa	18.40
		Farmington, Iowa	Bloomfield, Iowa	41.20
				59.60
		Moulton, Iowa	Unionville, Missouri	29.50
		Unionville, Missouri	Laclede, Missouri	53.20
				82.70
10	Cape Girardeau and State Line R. R. Co	Cape Girardeau, Missouri	Mingo, Missouri	40.00
11	Carthage and Burlington R. R. Co	Burlington, Iowa	Carthage, Illinois	30.41
12	Cedar Falls and Minnesota R. R. Co	Cedar Falls Junction, Iowa	Minnesota state line	75.58
13	Central Iowa Rw'y Co	Albia, Iowa	Oskaloosa, Iowa	23.79
		Oskaloosa, Iowa	Grinnell, Iowa	32.52
		Grinnell, Iowa	Marshalltown, Iowa	24.69
		Marshalltown, Iowa	Ackley, Iowa	43.50
		Ackley, Iowa	Mason City, Iowa	44.50
		Mason City, Iowa	Northwood, Iowa	20.00
				189.00
14	Central R. R. Co. of Minnesota	Wells, Minnesota	Mankato, Minnesota	40.00
15	Centerville, Moravia, and Albia R. R. Co	Centerville, Iowa	Albia, Iowa	24.00
16	Chariton, Des Moines, and Southern R. R. Co	Chariton, Iowa	Indianola, Iowa	32.83
17	Chicago and Alton R. R. Co	Joliet, Illinois	East Saint Louis, Illinois	243.50
		Joliet, Illinois	Mazon River and Braidwood, Illinois	27.84
		Dwight, Illinois	Washington and Lacon, Illinois	79.80
		Roodhouse, Illinois	Louisiana, Illinois	38.10
18	Chicago, Bellevue, Cascade, and Western R. R. Co	Bellevue, Iowa	Cascade, Iowa	35.70
19	Chicago, Burlington, and Quincy R. R. Co	Chicago, Illinois	Burlington, Iowa	203.35
		Burlington, Iowa	East Plattsmouth, Iowa	280.31
				483.66
		Galesburg, Illinois	Peoria, Illinois	52.57
		Galesburg, Illinois	Quincy, Illinois	99.73
		Aurora, Illinois	Turner Junction, Illinois	12.02
		Red Oak, Iowa	Hamburg, Iowa	39.12
		Chariton, Iowa	Leon, Iowa	36.72
		Creston, Iowa	Missouri state line, Iowa	42.68
20	Chicago and Eastern Illinois R. R. Co	Dalton, Illinois	Bloom, Illinois	10.17
		Bloom, Illinois	Saint Anne, Illinois	33.30
		Saint Anne, Illinois	Watseka, Illinois	17.41
		Watseka, Illinois	Hoopestown, Illinois	21.48
		Hoopestown, Illinois	Danville City, Illinois	25.12
				107.48

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
21.07	54	11.82	1,242 21	2.12	69	521.29	15.21	72.07	68	572.02	15.56	66.00	1
44.66	15	5.93	241 48	4.88	44	269.28	16.54	36.96	63	546.78	29.17	52.04	2
17.07	11	1.70	292 45	1.86	15	218.40	7.91	60.00	21	210.90	9.00	44.00	3
24.90	36	6.00	704 30	1.68	44	514.60	13.56	100.00	44	605.70	15.66	119.00	
41.97	47	7.70	997 15	3.54	59	733.00	21.47	100.00	65	816.60	24.66	119.00	
53.00	20	3.43	366 40	13.37	41	589.00	20.42	39.60	39	608.50	22.64	39.60	4
31.25	18	3.74	478 23	5.86	34	212.23	10.32	54.38	55	305.94	18.81	68.64	5
.....	.....	.....	.....	18.33	22	287.50	11.68	52.80	20	185.00	7.99	52.80	6
.....	.....	.....	.....	18.93	30	265.00	12.86	52.80	25	262.00	9.96	52.80	
68.02	61	11.73	1,805 49	37.26	52	552.50	24.54	52.80	45	447.00	17.95	52.80	
67.52	70	30.56	1,936 24	8.47	119	1,130.77	57.36	.....	57	941.20	32.25	.....	7
128.15	107	26.45	2,408 10	36.88	252	1,849.20	72.35	.....	178	1,353.80	45.37	.....	
195.67	177	57.01	4,344 34	45.35	371	2,979.97	129.71	66.00	235	2,295.00	77.62	66.00	
31.57	28	4.93	605 36	3.31	71	445.28	15.34	68.64	64	447.88	17.85	68.64	8
10.38	42	8.02	1,249 36	2.17	31	390.00	8.60	68.64	29	359.00	7.63	68.64	9
27.84	71	13.36	2,154 15	5.73	92	697.00	25.25	68.64	52	388.00	10.22	68.64	
38.22	113	21.38	3,403 51	7.90	123	1,087.00	33.85	68.64	81	747.00	17.85	68.64	
15.46	57	14.04	2,211 54	3.14	30	692.00	13.75	68.64	33	618.00	12.61	68.64	
35.93	84	17.27	2,360 24	6.62	103	733.00	17.24	68.64	138	1,007.00	29.34	68.64	
51.39	141	31.31	4,572 18	9.76	133	1,425.00	30.99	68.64	171	1,625.00	41.95	68.64	
38.20	9	1.80	184 13	20.65	17	67.30	6.43	15.84	18	67.30	12.92	10.56	10
25.35	29	5.06	690 35	1.81	146	467.40	14.35	73.92	130	333.22	14.25	72.86	11
61.56	55	14.02	1,454 35	23.95	75	961.00	30.62	60.00	47	634.00	21.01	59.00	12
16.83	31	6.96	588 46	4.15	28	257.80	8.55	52.80	24	376.70	11.09	66.00	13
25.12	34	7.40	510 40	3.92	48	717.74	16.45	66.00	39	561.06	12.15	66.00	
19.67	22	5.02	332 41	1.49	35	306.08	10.08	66.00	38	436.92	13.12	52.80	
31.35	50	12.15	1,446 26	5.00	55	630.70	25.20	76.14	30	425.83	13.30	72.86	
38.60	36	5.90	44 50	4.32	63	666.64	23.44	54.91	45	619.70	16.74	66.00	
19.14	5	0.86	20 00	1.13	26	259.00	12.41	52.80	14	142.50	6.46	43.82	
150.71	178	38.29	2,943 23	20.01	255	2,837.96	96.13	76.14	190	2,562.71	72.86	72.86	
37.57	47	2.43	483 00	17.07	25	203.00	7.68	52.80	47	592.00	15.25	79.20	14
12.72	32	11.28	1,232 28	19.75	3	169.00	2.75	69.00	2	90.00	1.50	60.00	15
18.09	77	14.74	2,470 09	3.11	66	644.97	15.67	85.54	51	717.27	14.05	79.20	16
220.90	65	22.60	111 10	*a* 52.80	163	1,536.51	72.60	43.00	160	1,758.10	94.70	80.00	17
20.81	22	7.03	55 33	*b* 7.74	21	72.93	8.04	26.00	16	61.33	8.02	35.00	
73.43	32	6.37	76 17	*c* 5.24	30	172.90	8.16	45.00	36	192.70	8.97	61.00	
29.39	41	8.71	102 19	11.69	29	298.40	8.37	64.00	38	494.50	18.04	64.00	
22.00	121	13.70	2,892 16	3.83	25	1,339.00	15.98	175.00	24	1,141.00	15.89	160.00	18
181.28	77	22.07	1,773 54	43.32	271	1,367.98	82.54	38.02	261	1,411.83	77.49	54.80	19
188.70	234	91.61	8,184 34	38.01	318	4,280.94	135.44	69.69	262	3,803.60	106.86	70.22	
369.98	311	113.68	9,958 28	81.33	589	5,648.92	217.98	69.69	523	5,215.43	184.35	70.22	
41.68	77	10.89	1,256 59	5.12	74	350.52	15.37	61.78	51	673.49	32.08	52.80	
85.35	78	14.38	1,541 25	18.53	52	750.66	36.54	37.02	71	1,056.74	44.66	49.10	
8.75	17	3.27	337 15	.....	.....	135.00	.....	.....	.....	85.00	.....	.....	
32.08	20	7.04	723 40	13.43	25	104.37	8.33	21.12	37	228.77	17.36	21.12	
23.22	51	13.50	1,618 19	4.91	54	604.53	18.28	68.64	48	522.22	13.53	68.64	
28.81	64	13.87	1,493 20	6.61	43	270.19	10.38	52.80	67	530.24	25.69	52.80	
8.74	5	1.43	108 37	1.26	5	105.97	6.71	40.02	4	22.14	2.20	32.55	20
29.64	14	3.66	168 13	2.56	18	209.64	14.33	59.87	20	238.02	16.41	23.44	
16.53	4	0.88	36 28	4.73	10	59.21	5.80	22.60	14	85.21	6.88	19.38	
19.86	7	1.62	84 44	3.26	13	159.80	11.53	24.73	10	75.42	6.69	18.37	
20.00	10	4.22	258 44	3.09	11	135.56	6.69	20.26	11	256.71	15.34	10.21	
95.67	40	11.81	656 46	14.90	57	670.18	45.06	59.87	59	677.50	47.52	32.55	

a Profile to Albany only. *b* Profile to Mazon river only. *c* Profile to Streator only.

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
21	Chicago, Milwaukee, and Saint Paul Rw'y Co	Milwaukee, Wisconsin	Chicago, Illinois	82.20
		Milwaukee, Wisconsin	Prairie du Chien, Wisconsin	194.40
		Milwaukee, Wisconsin	La Crosse Wisconsin	196.39
		New Lisbon, Wisconsin	Necedah, Wisconsin	12.86
		Watertown Junction, Wisconsin	Madison, Wisconsin	36.55
		Horicon, Wisconsin	Berlin, Wisconsin	42.30
		Stock Yards, Wisconsin	Prairie du Chien Division Junction, Wisconsin	0.66
		La Crosse Bridge Switch, Minnesota	South Minnesota Junction, Minnesota	3.35
		Springville, Iowa	Paralta, Iowa	2.30
		Marion Junction, Dakota territory	Running Water, Dakota territory	62.31
		Libertyville Junction, Illinois	Libertyville, Illinois	3.00
		Spring Street Junction, Milwaukee, Wisconsin	Schwartzburg, Wisconsin	5.34
		Milwaukee, Wisconsin	Portage, Wisconsin	95.08
		Milton, Wisconsin	Monroe, Wisconsin	42.90
		Sabula, Iowa	Marion, Iowa	86.80
		Eldridge, Iowa	Maquoketa, Iowa	32.30
		Racine, Wisconsin	Port Byron Junction, Illinois	192.00
		Hastings, Minnesota	Glencoe, Minnesota	74.14
		Glencoe, Minnesota	Ortonville, Minnesota	127.96
		Bridge Junction, Minnesota	Saint Paul, Minnesota	202.10
		Austin, Minnesota	Mason City, Iowa	39.33
		Conover, Iowa	Decorah, Iowa	8.77
		McGregor, Iowa	Minneapolis, Minnesota	215.42
		Saint Paul Junction, Minnesota	Saint Paul, Minnesota	5.61
		Calomar, Iowa	Algona, Iowa	126.11
		Algona, Iowa	Canton, Dakota territory	126.19
		Canton, Dakota territory	Mitchell, Dakota territory	79.40
				331.70
		Davenport, Iowa	Fayette, Iowa	125.60
		Fayette, Iowa	Junction Iowa and Dakota division, Iowa	25.00
				150.60
22	Chicago and Pacific R. R. Co	Chicago, Illinois	Byron, Illinois	88.00
23	Chicago and Rock River R. R. Co	Shabbona, Illinois	Rock Falls, Illinois	46.80
24	Chicago and Springfield R. R. Co	Gilman, Illinois	Springfield, Illinois	111.47
25	Creston and Northern R. R. Co	Creston, Iowa	Fontanelle, Iowa	27.70
26	Danville and Southwestern R. R. Co	Tilton Junction, Illinois	Ridge Farm, Illinois	15.20
		Ridge Farm, Illinois	Paris, Illinois	20.20
		Paris, Illinois	Marshall, Illinois	15.70
		Marshall, Illinois	Robinson, Illinois	27.90
		Robinson, Illinois	Ohio and Mississippi Junction, Illinois	21.10
				100.10
27	Dent and Phelps R. R. Co	Avery, Missouri	Smith Bank, Missouri	3.88
28	Des Moines and Fort Dodge R. R. Co	Des Moines, Iowa	Fort Dodge, Iowa	87.20
29	Des Moines and Knoxville Rw'y Co	Knoxville, Iowa	Des Moines, Iowa	34.92
30	Dixon, Peoria, and Hannibal R. R. Co	Buda, Illinois	Elmwood, Iowa	44.49
31	Dixon and Quincy R. R. Co	Keithsburg Junction, Illinois	Keithsburg, Iowa	6.23
32	Dubuque and Dakota R. R. Co	Sumner, Iowa	Hampton, Iowa	63.82
33	Dubuque and Sioux City R. R. Co	Dubuque, Iowa	Iowa Falls, Iowa	142.71
34	Fort Dodge and Fort Ridgely R. R. Co	Fort Dodge, Iowa	Humboldt, Iowa	18.00
		Humboldt, Iowa	Livermore, Iowa	10.40
				28.40
35	Fort Madison and North Western Rw'y Co	Fort Madison, Iowa	Summit, Iowa	3.50
		Summit, Iowa	West Point, Iowa	8.50
				12.00
36	Hannibal Bridge Co	East Hannibal, Illinois	Hannibal, Missouri	2.94
37	Hannibal and Saint Joseph R. R. Co	Hannibal, Missouri	Brookfield, Missouri	104.00
		Brookfield, Missouri	Cameron, Missouri	67.54
		Cameron, Missouri	Saint Joseph, Missouri	34.87
				206.41
		West Quincy, Missouri	Palmyra, Missouri	13.42
		Cameron, Missouri	Kansas City, Missouri	53.05
		Saint Joseph, Missouri	Winthrop, Missouri	19.47
38	Illinois Central R. R. Co	Cairo, Illinois	Centralia, Illinois	112.63
		Centralia, Illinois	Champaign, Illinois	124.40
		Champaign, Illinois	Chicago, Illinois	127.70
				364.73
		Branch Junction, Illinois	Clinton, Illinois	111.38
		Clinton, Illinois	Amboy, Illinois	114.29
		Amboy, Illinois	East end Mississippi Bridge, East Dubuque, Illinois.	115.10
				340.77
39	Illinois Grand Trunk Rw'y Co	Mendota, Illinois	East Clinton, Illinois	62.43

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

ALIGNMENT.					PROFILE.									
						Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.		Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg.*	*Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
74.82	30	7.38	443	55	28.96	30	416.13	20.39	32.00	77	396.00	32.85	26.00	21
154.21	113	40.19	2,885	10	70.03	94	1,061.70	51.46	36.00	106	1,042.40	72.91	35.00	
165.92	114	30.47	2,607	15	34.64	119	1,847.32	79.96	50.00	143	1,774.30	81.79	53.00	
11.91	8	0.95	239	15	4.80	18	40.58	4.21	52.80	15	40.74	3.85	36.96	
31.12	20	5.43	326	58	7.84	91	416.20	13.50	60.00	87	395.70	15.21	75.00	
37.91	16	4.39	447	00	11.53	36	401.00	12.83	56.00	33	522.80	17.94	52.80	
0.33	2	0.33	34	30	0.44	1	5.00	0.13	36.00	1	1.14	0.09	10.00	
2.46	6	0.89	160	15	1.94	4	10.50	0.53	46.00	5	22.50	0.88	39.00	
1.64	5	0.66	182	10	0.62	1	50.00	0.86	57.50	2	61.00	0.82	81.30	
54.27	36	8.04	789	03	13.88	41	436.70	21.22	50.10	47	665.70	27.21	52.80	
2.72	1	0.28	63	30	0.26	5	56.00	1.83	52.80	1	47.00	0.91	52.80	
4.09	4	1.25	185	00	1.06	6	100.70	2.29	46.80	5	50.00	1.99	36.40	
85.00	65	9.18	1,378	00	25.22	81	1,079.90	35.83	63.00	77	893.40	34.03	68.00	
35.81	20	7.09	514	30	7.14	40	575.60	20.28	44.80	28	381.90	15.48	44.80	
68.09	97	18.71	2,195	57	16.48	129	1,329.00	41.53	58.00	84	1,071.00	28.79	58.00	
23.47	52	8.83	1,430	00	3.95	54	411.00	13.91	59.00	47	540.00	14.44	56.00	
168.67	104	23.33	2,460	24	50.07	153	2,020.00	71.59	69.00	139	2,022.00	70.34	53.00	
55.88	81	18.26	1,734	00	9.77	109	1,093.00	38.66	73.90	77	798.00	25.71	63.30	
116.60	60	11.36	958	00	36.74	136	879.00	45.03	58.00	137	871.00	46.19	39.60	
172.48	141	29.62	2,692	00	46.51	245	2,972.00	83.69	73.90	214	1,669.00	71.90	63.30	
35.93	17	3.40	307	00	9.10	45	846.00	12.91	47.50	57	431.00	17.32	42.20	
4.85	29	3.92	989	00	.....	.....	.....	.....	.....	14	352.00	8.77	52.80	
166.65	224	48.77	6,501	00	45.44	257	2,633.00	87.29	62.80	231	2,453.00	82.69	52.80	
3.65	17	1.96	209	00	3.26	2	7.00	0.30	26.40	6	74.00	2.05	42.20	
102.27	76	23.84	1,647	00	21.33	120	1,485.00	50.92	52.80	141	1,568.00	53.86	73.90	
109.36	61	16.83	1,295	05	29.52	100	1,573.10	52.45	58.00	130	1,289.00	44.22	52.80	
72.31	30	7.09	572	18	22.05	62	782.80	28.83	52.80	62	716.70	28.52	63.00	
283.94	167	47.76	3,514	23	72.90	282	3,840.90	132.20	58.00	333	3,574.30	126.60	73.90	
94.51	207	31.09	4,950	00	13.77	177	2,132.00	63.37	63.00	142	1,656.00	48.46	58.00	
20.53	22	4.47	562	34	3.83	61	449.50	12.08	55.40	40	302.30	9.09	47.50	
115.04	229	35.56	5,512	34	17.60	238	2,581.50	75.45	63.00	182	1,958.30	57.55	58.00	
76.88	60	11.12	1,114	16	12.93	98	1,075.84	39.40	52.80	73	949.70	35.67	52.80	22
41.85	30	4.95	731	21	.....	.....	319.73	.....	.....	.....	614.55	.....	.....	23
105.73	33	5.74	476	19	27.68	142	1,010.00	39.46	57.00	167	1,064.00	44.33	66.00	24
15.14	52	12.56	2,263	23	4.69	56	271.70	11.22	68.64	69	339.50	11.79	79.20	25
14.32	4	0.88	95	21	3.00	10	119.32	6.40	42.00	9	107.32	5.80	52.80	26
18.98	6	1.22	95	39	6.30	14	264.00	6.43	52.80	15	244.00	7.47	40.00	
12.85	15	2.85	295	23	1.01	12	131.64	5.89	58.08	11	217.34	8.80	52.80	
26.77	6	1.13	129	08	5.96	18	234.00	9.23	52.80	19	345.80	12.71	58.08	
19.78	7	1.32	224	43	5.55	15	138.50	5.68	52.80	15	234.00	9.87	52.80	
92.70	38	7.40	840	14	21.82	69	887.46	33.63	58.08	69	1,148.46	44.65	58.08	
1.93	20	1.95	573	30	0.78	14	113.00	1.27	132.00	16	191.00	1.83	158.40	27
78.70	21	8.50	290	06	23.43	11	795.46	35.11	52.80	15	596.84	28.66	63.36	28
27.00	29	7.92	540	14	5.16	43	291.86	18.91	56.50	24	403.53	10.85	58.08	29
37.78	26	6.71	574	15	6.28	34	473.18	15.42	43.82	55	619.88	22.79	44.35	30
5.08	6	1.15	283	02	1.28	7	47.50	2.71	36.83	7	26.00	2.24	31.15	31
49.43	61	14.39	1,094	24	20.72	71	816.00	23.55	52.80	63	741.00	19.55	52.80	32
113.20	125	29.51	3,549	00	35.93	142	2,299.00	62.66	81.00	109	1,776.00	44.12	80.00	33
12.88	36	5.12	722	19	4.06	30	200.40	7.01	66.00	28	231.00	6.93	68.64	34
9.29	5	1.11	119	25	2.35	13	105.60	5.15	46.20	9	60.00	2.90	52.80	
22.17	41	6.23	841	44	6.41	43	306.60	12.16	66.00	37	291.00	9.83	68.64	
1.50	18	2.00	594	00	.....	1	173.00	3.50	63.36	.....	.....	.....	.....	35
7.00	8	1.50	150	00	2.50	9	108.00	4.50	42.24	7	47.00	1.50	42.24	
8.50	26	3.50	744	00	2.50	10	281.00	8.00	63.36	7	47.00	1.50	42.24	
2.16	5	0.78	30	30	1.18	3	20.00	1.00	26.40	2	20.00	0.76	39.60	36
78.12	69	25.88	1,610	26	16.25	70	1,797.00	48.75	80.00	68	1,509.00	39.00	80.00	37
51.06	55	16.48	1,373	47	16.02	49	1,531.00	28.80	80.00	47	1,263.00	22.72	80.00	
26.89	29	7.98	707	27	8.90	24	517.50	11.08	80.00	21	718.90	14.89	73.90	
156.07	153	50.34	3,691	40	41.17	143	3,845.50	88.63	80.00	136	3,490.90	76.61	80.00	
9.23	22	4.19	631	06	6.56	8	209.50	5.16	75.50	4	46.50	1.70	32.20	
33.34	120	19.71	2,945	40	15.53	47	673.50	15.95	75.00	42	949.70	21.57	64.90	
17.39	9	2.08	221	51	12.08	5	22.00	1.46	27.50	11	57.40	5.93	25.30	
88.89	62	23.74	2,799	13	38.32	85	1,063.00	41.82	63.00	64	885.00	32.49	45.00	38
118.85	7	5.55	109	20	50.64	58	800.00	45.31	39.00	42	551.00	28.45	33.00	
124.99	9	2.71	115	43	64.87	51	565.00	28.81	37.00	50	683.00	34.02	33.00	
332.73	78	32.00	3,024	16	153.83	194	2,428.00	115.94	63.00	156	2,119.00	94.96	45.00	
106.49	9	4.89	153	49	41.97	95	991.00	43.62	77.00	63	744.00	25.79	86.00	
105.40	24	8.89	696	13	30.30	80	1,088.00	40.63	50.00	89	1,078.00	43.36	59.00	
88.02	92	27.08	3,281	27	29.46	101	1,321.00	41.32	55.00	105	1,449.00	44.32	56.00	
299.91	125	40.86	4,131	29	101.73	276	3,400.00	125.57	77.00	257	3,271.00	113.47	86.00	
53.84	40	8.59	667	40	14.54	43	330.34	18.57	53.12	58	684.40	29.32	49.05	39

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
40	Illinois Midland Rw'y Co.	Farmingdale, Illinois	Maroa, Illinois	60.60
		Decatur, Illinois (Illinois Central Junction)	Paris, Illinois	70.80
		Paris, Illinois	Farrington, Illinois	13.50
				84.30
41	Iowa Falls and Sioux City R. R. Co.	Iowa Falls, Iowa	Sioux City, Iowa	183.87
42	Iowa Midland Rw'y Co	Lyons, Iowa	Anamosa, Iowa	68.80
43	Jacksonville Southeastern Rw'y Co.	Jacksonville, Illinois	Waverly, Illinois	18.37
		Waverly, Illinois	Virden, Illinois	12.31
		Virden, Illinois	Litchfield, Illinois	23.14
				53.82
44	Joliet and Northern Indiana R. R. Co	Lake, Indiana	Matteson, Illinois	24.90
		Matteson, Illinois	Joliet, Illinois	20.10
				45.00
45	Kankakee and Southwestern R. R. Co	Otto, Illinois	Kankakee Junction, Illinois	66.68
		Kempton Junction, Illinois	Colfax, Illinois	34.54
46	Kansas City, Saint Louis, and Chicago R. R. Co	Mexico, Missouri	Kansas City, Missouri	162.62
47	Keokuk and North Western Rw'y Co.	Keokuk, Iowa	North line Lee county, Iowa	33.70
48	Keokuk and Saint Paul R. R. Co	Burlington, Iowa	Keokuk, Iowa	41.86
49	Leon, Mount Ayr, and Southwestern R. R. Co.	Leon, Iowa	Mount Ayr, Iowa	35.25
50	Louisiana and Missouri River R. R. Co.	Louisiana, Missouri	Cedar City, Missouri	100.80
51	Lyndale Rw'y Co	Minneapolis, Minnesota	Lake Calhoun, Minnesota	4.50
		Lake Calhoun, Minnesota	Lake Harriett, Minnesota	1.07
				5.57
52	Milwaukee Cement Rw'y Co.	Main line Chicago, Milwaukee, and Saint Paul Rw'y, Wisconsin.	Cement Mill, Wisconsin	1.20
53	Milwaukee, Lake Shore, and Western Rw'y Co.	Lake Shore Junction, Wisconsin	Manitowoc, Wisconsin	73.70
		Manitowoc, Wisconsin	Aniwa, Wisconsin	121.40
				195.10
		Manitowoc, Wisconsin	Two Rivers, Wisconsin	7.46
		Oshkosh, Wisconsin	Hortonville Junction, Wisconsin	22.50
		Eland Junction, Wisconsin	Wausau, Wisconsin	22.54
54	Minneapolis and Duluth R. R. Co.	Minneapolis, Minnesota	White Bear, Minnesota	13.10
55	Minneapolis and Saint Louis Rw'y Co.	Minneapolis, Minnesota	Merriam Junction, Minnesota	27.20
		Merriam Junction, Minnesota	Albert Lea, Minnesota	80.80
		Albert Lea, Minnesota	Forest City, Iowa	33.70
		Forest City, Iowa	Livermore, Iowa	39.90
				181.60
56	Minnesota Midland Rw'y Co	Wabasha, Minnesota	Zumbrota, Minnesota	59.00
57	Missouri, Iowa, and Nebraska Rw'y Co.	Keokuk, Iowa	Van Wert, Iowa	148.00
58	Moulton and Albia Rw'y Co	Albia, Iowa	Moravia, Iowa	11.48
59	Nebraska City, Sidney, and Northeastern Rw'y Co.	Hastings, Iowa	Sidney, Iowa	20.87
60	Northwestern Union Rw'y Co	Milwaukee, Wisconsin	Fond du Lac Junction, Wisconsin	62.63
61	Ottawa, Oswego, and Fox River Valley R. R. Co	Geneva, Illinois	Aurora, Illinois	9.46
		Aurora, Illinois	Fox River Junction, Illinois	1.60
		Fox River Junction, Illinois	Streator, Illinois	57.31
				68.37
62	Peoria and Hannibal R. R. Co.	Elmwood, Illinois	Lewiston, Illinois	30.06
		Lewiston, Illinois	Rushville, Illinois	32.61
				62.67
63	Quincy, Alton, and Saint Louis R. R. Co	Quincy, Illinois	East Louisiana, Illinois	41.65
		Fall Creek, Illinois	East Hannibal, Illinois	4.71
64	Quincy, Missouri, and Pacific R. R. Co	West Quincy, Missouri	Milan, Missouri	103.08
65	Quincy and Warsaw R. R. Co.	Carthage, Illinois	Quincy, Illinois	39.72
66	Red Oak and Atlantic R. R. Co	Red Oak, Iowa	Griswold, Iowa	17.99
67	Saint Francisville and Lawrenceville R. R. Co.	Saint Francisville, Illinois	Lawrenceville, Illinois	9.35
68	Saint Joseph and Saint Louis R. R. Co.	North Lexington, Missouri	Saint Joseph, Missouri	76.25
69	Saint Louis, Alton, and Terre Haute R. R. Co.	East Saint Louis, Illinois	Belleville, Illinois	14.00

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

ALIGNMENT.				PROFILE.										
					Ascending grades.				Descending grades.					
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.		
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*		
48.24	60	12.36	162 10	14.11	60	963.50	21.76	73.90	74	777.80	24.73	68.60	40	
64.47	26	6.33	50 50	14.03	60	478.80	27.57	58.00	67	416.30	29.20	58.00		
12.60	6	0.90	26 00	2.23	17	153.10	4.00	58.00	25	316.10	7.27	63.30		
77.07	32	7.23	76 50	16.26	77	631.90	31.57	58.00	92	732.40	36.47	63.30		
164.79	83	19.08	935 25	68.27	113	1,922.00	55.10	63.00	124	1,918.00	60.50	53.00	41	
.....	.....	.....	.....	13.88	64	1,167.40	31.17	52.80	49	941.40	23.75	52.80	42	
15.67	10	2.70	380 06	5.47	22	204.00	7.95	63.36	24	132.00	4.95	63.36	43	
11.49	8	0.82	186 20	1.60	31	153.40	5.51	63.36	24	153.40	5.20	63.36		
22.30	6	0.84	88 54	6.82	47	183.50	9.39	52.80	32	171.00	6.93	52.80		
49.46	24	4.36	655 20	13.89	100	540.90	22.85	63.36	80	456.40	17.08	63.36		
24.23	3	0.67	40 44	6.65	39	173.56	11.80	61.00	35	80.56	6.45	34.00	44	
18.39	5	1.71	129 27	1.94	23	142.57	5.91	48.00	45	312.86	12.25	48.00		
42.62	8	2.38	170 11	8.59	62	316.13	17.71	61.00	80	393.42	18.70	48.00		
61.86	24	4.82	476 37	18.15	90	506.00	27.61	40.00	63	399.00	20.92	38.00	45	
31.49	13	3.05	236 32	11.03	52	279.00	13.44	35.00	43	245.00	10.07	35.00		
119.60	255	43.02	632 15	14.78	205	2,810.24	105.50	61.00	119	3,029.53	42.34	59.00	46	
30.25	35	3.45	493 00	18.20	10	227.00	10.25	60.00	13	61.00	5.25	53.00	47	
29.77	73	12.09	963 24	9.88	39	256.00	14.81	52.80	45	299.00	17.17	67.84	48	
19.21	89	16.04	2,381 37	2.62	61	618.94	17.85	68.64	52	608.33	14.78	66.00	49	
83.33	118	17.47	384 11	22.30	118	1,590.86	42.40	71.00	87	1,515.11	36.10	80.00	50	
4.00	8	0.50	400 00	2.10	3	80.00	1.40	150.00	2	62.00	1.00	52.80	51	
0.80	3	0.27	50 00	.....	2	25.00	0.50	80.00	2	40.00	0.57	80.00		
4.80	11	0.77	450 00	2.10	5	105.00	1.90	150.00	4	102.00	1.57	80.00		
0.98	2	0.22	50 00	0.24	1	0.40	0.08	21.01	5	27.00	0.88	52.80	52	
63.62	44	10.08	973 48	18.60	103	884.35	26.90	66.00	102	784.90	28.20	58.75	53	
92.51	132	28.89	3,878 01	29.40	168	2,017.65	60.30	85.00	112	1,192.80	31.70	74.00		
156.13	176	38.97	4,851 49	48.00	271	2,902.00	87.20	85.00	214	1,977.70	59.90	74.00		
6.62	6	0.84	114 19	1.38	9	86.26	3.08	63.40	10	93.10	3.00	53.00		
19.60	18	2.90	325 06	8.32	24	192.15	8.22	53.00	16	156.25	5.96	52.00		
18.90	27	3.64	551 13	3.25	26	220.62	7.95	58.00	34	282.62	11.34	63.40		
10.14	25	2.96	324 48	3.38	24	262.00	6.72	66.00	15	161.00	3.00	66.00	54	
18.30	58	8.90	990 16	6.37	43	347.00	10.13	66.00	42	419.00	10.70	66.00	55	
63.52	101	17.28	2,132 34	14.88	151	1,153.00	38.92	63.66	81	682.00	27.00	63.36		
24.56	44	9.14	1,559 16	12.53	40	350.20	10.05	52.80	47	354.70	11.12	52.80		
38.27	11	1.63	147 14	13.75	64	317.50	12.10	52.80	89	402.00	14.05	52.80		
144.65	214	36.95	4,829 20	47.53	298	2,167.70	71.20	66.00	259	1,857.70	62.87	66.00		
32.63	493	26.37	9,662 00	15.10	138	619.00	30.74	55.40	85	334.00	13.16	68.60	56	
101.50	175	46.50	5,127 22	107.60	16	1,314.00	21.90	69.00	14	639.50	18.50	60.00	57	
7.98	11	3.50	384 47	1.69	30	144.87	5.29	66.00	23	107.57	4.50	52.80	58	
18.40	14	2.47	286 14	4.79	29	257.81	6.57	66.00	33	208.70	9.51	66.00	59	
51.52	47	11.11	1,114 28	12.12	28	885.50	28.39	.....	26	703.50	22.12	.....	60	
7.73	10	1.73	224 32	1.35	39	138.00	5.13	47.52	23	63.24	2.98	39.60	61	
0.98	4	0.62	76 34	0.21	.....	.....	.....	.....	3	20.93	1.39	30.10		
44.09	100	13.22	1,724 01	11.34	183	864.30	21.30	73.92	211	707.00	24.67	71.28		
52.80	114	15.57	2,025 07	12.90	222	1,002.30	26.43	73.92	237	791.17	29.04	71.28		
21.26	29	8.80	452 40	4.91	59	277.64	9.20	52.80	56	366.44	15.95	45.93	62	
20.11	44	12.50	1,364 40	5.49	37	458.50	15.85	63.36	29	365.50	11.27	58.08		
41.37	73	21.30	1,817 20	10.40	96	736.14	25.05	63.36	85	731.94	27.22	58.08		
37.70	27	3.95	362 23	3.77	106	213.50	16.68	31.68	117	240.73	21.20	50.69	63	
4.28	3	0.43	128 05	1.76	7	19.44	2.19	28.51	3	11.20	0.76	12.46		
83.45	98	19.63	2,943 04	34.42	95	1,716.00	37.53	66.00	85	1,457.50	31.13	90.00	64	
32.77	48	6.95	794 52	0.51	112	611.94	16.97	69.70	140	799.93	22.24	74.45	65	
14.57	17	3.42	704 08	2.97	28	150.13	10.11	52.80	16	79.00	4.91	49.10	66	
7.33	13	2.02	239 24	4.53	16	61.30	3.02	52.80	12	55.00	1.80	52.80	67	
50.29	158	25.96	514 07	16.86	60	1,450.00	31.32	52.80	53	1,323.00	28.07	52.80	68	
13.00	6	1.00	36 00	7.11	2	176.00	3.84	52.80	5	114.00	3.05	52.80	69	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
70	Saint Louis, Iron Mountain, and Southern Rw'y Co.	Saint Louis, Missouri	De Soto, Missouri	42.25
		De Soto, Missouri	Bismarck, Missouri	33.00
		Bismarck, Missouri	Piedmont, Missouri	51.50
		Piedmont, Missouri	Grande Glaise, Arkansas	146.50
		Grande Glaise, Arkansas	Texarkana, Texas	216.25
				489.50
		Bismarck, Missouri	Glen Allen, Missouri	55.00
		Glen Allen, Missouri	Belmont, Missouri	65.00
				120.00
		Poplar Bluff, Missouri	Bird's Point, Missouri	70.50
		Mineral Point, Missouri	Potosi, Missouri	3.69
			In Columbus, Kentucky	0.75
71	Saint Louis, Jacksonville, and Chicago R. R. Co	Bloomington, Illinois	Godfrey, Illinois	150.60
72	Saint Louis, Ottumwa, and Cedar Rapids R. R. Co	Iowa state line	Ottumwa, Iowa	43.50
73	Saint Louis, Rock Island, and Chicago R. R. Co	Sterling, Illinois	Rock Island, Illinois	52.47
		Cleveland, Illinois	Cleveland Junction, Illinois	2.36
		Rock Island, Illinois	Alton Junction, Illinois	215.43
		Sagetown, Illinois	Keithsburg, Illinois	17.27
74	Saint Louis, Salem, and Little Rock R. R. Co	Cuba, Missouri	Salem, Missouri	41.00
75	Saint Louis and South Eastern Rw'y Co	Evansville, Indiana	East Saint Louis, Illinois	160.60
		Shawneetown Junction, Illinois	Shawneetown, Illinois	41.50
76	Saint Paul and Duluth R. R. Co	Saint Paul, Minnesota	White Bear, Minnesota	12.00
		White Bear, Minnesota	Wyoming, Minnesota	18.00
		Wyoming, Minnesota	Rush City, Minnesota	23.68
		Rush City, Minnesota	Hinckley, Minnesota	22.82
		Hinckley, Minnesota	North Pacific Junction, Minnesota	54.84
		North Pacific Junction, Minnesota	Duluth, Minnesota	23.66
				155.00
		Wyoming, Minnesota	Centre City, Minnesota	10.77
		North Pacific Junction, Minnesota	Knife Falls, Minnesota	6.28
77	Saint Paul and Sioux City R. R. Co	Saint James, Minnesota	Le Mars, Iowa	122.39
78	Salem and South Eastern R. R. Co	Round House, Missouri	Orchard Bank, Missouri	1.25
79	Sheboygan and Western Rw'y Co	Sheboygan, Wisconsin	Princeton, Wisconsin	78.40
80	Sioux City and Pacific R. R. Co	Sioux City, Iowa	Missouri Valley, Iowa, and Fremont, Nebraska	107.42
81	Southern Minnesota Rw'y Extension Co	La Crosse, Wisconsin	Flandreau, Dakota territory	311.00
82	Stillwater and Saint Paul R. R. Co	White Bear, Minnesota	Stillwater, Minnesota	12.57
83	Toledo and North Western Rw'y Co	Tama, Iowa	Garwin, Iowa	11.40
84	Toledo, Peoria, and Warsaw Rw'y Co	State Line, Indiana	Peoria, Illinois	110.90
		Hollis, Illinois	Warsaw, Illinois	108.80
		La Harpe, Illinois	Iowa Junction, Illinois	10.30
85	Wabash, Saint Louis, and Pacific Rw'y Co	Toledo, Ohio	Danville, Illinois	249.30
		Danville, Illinois	Camp Point, Illinois	202.32
		Decatur, Illinois	East Saint Louis, Illinois	109.35
		Bluffs, Illinois	East Hannibal, Illinois	47.02
		Clayton, Illinois	Elvaston, Illinois	35.10
		Union Depot, Saint Louis, Missouri	Ferguson, Missouri	12.50
		Ferguson, Missouri	Saint Charles, Missouri	10.75
		Saint Charles, Missouri	Moberly, Missouri	124.75
		Moberly, Missouri	Brunswick, Missouri	39.00
		Brunswick, Missouri	Kansas City, Missouri	89.75
				276.75
		Biddle street, Saint Louis, Missouri	Ferguson, Missouri	10.75
		Moberly, Missouri	Macon City, Missouri	22.75
		Macon City, Missouri	Iowa state line	64.75
				87.50
		Pattonsburg, Missouri	Roseberry, Missouri	63.25
		Roseberry, Missouri	Council Bluffs, Iowa	81.50
				144.75
		Roseberry, Missouri	Clarinda, Iowa	21.50
86	Western R. R. Co. of Minnesota	Sauk Rapids, Minnesota	Brainerd, Iowa	60.54
87	Winona and Saint Peter R. R. Co	Winona, Minnesota	Watertown, Dakota territory	319.96
88	Wisconsin Central R. R. Co	Menasha, Wisconsin	Stevens Point, Wisconsin	63.00
		Stevens Point, Wisconsin	Worcester, Wisconsin	100.69
		Worcester, Wisconsin	Ashland, Wisconsin	85.31
				249.00
		Stevens Point, Wisconsin	Portage, Wisconsin	71.03

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
26.56	243	15.69	1,827 03	19.83	36	198.60	12.71	21.12	29	119.60	9.71	15.84	70
16.60	129	16.40	2,010 13	5.73	28	913.40	22.38	55.44	6	385.70	4.89	44.88	
30.31	123	21.19	3,045 53	8.37	59	850.60	19.84	92.00	144	1,371.30	23.29	92.00	
125.30	177	21.20	2,740 01	80.50	100	167.10	16.69	16.00	209	444.60	49.31	16.00	
202.35	99	13.90	2,261 41	68.69	295	1,925.00	78.98	59.10	291	1,848.00	68.58	58.00	
401.12	771	88.38	11,884 51	183.12	518	4,054.70	150.60	92.00	679	4,169.20	155.78	92.00	
31.81	223	23.19	2,427 85	7.40	41	717.50	16.86	87.65	94	1,284.20	30.74	74.00	
61.41	31	3.50	418 14	33.80	31	133.20	6.83	30.00	55	278.20	24.37	30.00	
93.22	254	26.78	2,845 49	41.20	72	850.70	23.69	87.65	149	1,562.40	55.11	74.00	
67.81	16	2.69	214 30	46.51	53	197.20	11.68	40.00	60	219.70	12.31	52.10	
1.77	10	1.92	332 25	0.32	4	144.80	2.34	61.16	2	78.40	1.03	62.30	
0.40	3	0.35	270 00	0.75	.....	.....	.....	.....	.....	.....	.....	.....	
135.25	80	15.35	153 46	30.98	257	1,800.24	60.10	80.00	255	1,738.48	59.52	90.00	71
29.63	75	13.82	2,261 17	8.69	47	695.00	13.71	77.00	58	1,048.50	21.10	80.00	72
45.09	48	7.38	858 01	.....	.....	80.00	.....	.....	.....	100.00	.....	.....	73
1.41	6	0.95	141 13	.....	.....	10.00	.....	.....	.....	10.00	.....	.....	
143.63	195	71.80	3,432 00	.....	.....	520.00	.....	.....	.....	560.00	.....	.....	
15.00	3	2.27	75 00	.....	.....	30.00	.....	.....	.....	20.00	.....	.....	
23.46	180	17.54	3,544 45	5.51	58	1,038.00	20.47	105.60	33	798.00	15.02	89.76	74
a 21.50	28	6.13	740 42	39.30	275	1,721.47	55.77	79.20	281	1,754.25	65.53	73.92	75
36.79	22	4.71	327 20	14.09	65	598.00	14.90	52.80	47	297.00	12.51	52.80	
8.27	40	3.73	801 07	2.21	22	340.52	6.37	105.00	10	106.62	3.42	52.80	76
15.50	18	2.50	218 21	6.50	19	126.95	4.90	52.80	26	159.13	6.60	52.80	
23.37	2	0.31	16 25	11.49	27	135.67	6.40	52.80	22	121.48	5.79	52.80	
22.03	6	0.79	73 48	7.30	26	255.00	8.83	52.80	16	134.10	6.60	52.80	
46.50	41	8.34	719 13	15.85	60	537.90	18.27	52.80	63	487.80	20.72	52.80	
15.71	52	7.95	1,844 54	9.12	1	30.00	1.80	15.84	66	509.00	12.65	71.28	
131.38	159	23.62	3,673 48	52.47	155	1,426.04	46.66	105.00	203	1,518.13	55.87	71.28	
7.65	20	3.12	609 65	3.06	18	123.30	3.75	52.80	22	108.12	3.96	52.80	
4.26	11	2.02	370 10	1.04	17	120.30	4.72	52.80	4	12.90	0.52	15.84	
107.58	50	14.81	1,332 20	35.58	.....	1,212.50	.....	66.00	.....	1,066.50	.....	52.80	77
0.75	6	0.50	164 45	0.13	7	58.00	1.12	195.60	.....	.....	.....	.....	78
64.65	.....	13.75	1,610 32	11.61	.....	1,044.70	39.04	.....	.....	852.70	27.75	.....	79
97.21	35	10.21	1,025 13	38.99	39	429.00	16.81	52.80	67	340.00	51.62	52.80	80
260.35	296	50.65	8,230 00	106.12	442	4,924.00	110.15	89.70	366	3,086.00	94.73	79.20	81
7.43	38	5.14	737 58	2.31	9	98.80	3.31	63.36	15	351.00	6.95	79.20	82
8.50	11	2.90	325 20	1.00	5	97.00	8.90	31.68	3	22.00	1.50	26.40	83
103.70	22	7.20	768 21	28.32	110	734.89	40.25	63.36	98	960.51	42.33	60.19	84
75.80	177	33.00	3,856 13	22.21	114	1,242.40	39.57	70.20	129	1,216.30	47.02	67.60	
6.50	11	3.80	515 10	1.02	9	82.70	2.17	59.66	21	229.70	7.11	51.22	
225.80	72	23.50	903 15	74.93	133	1,367.00	97.06	40.00	135	1,372.00	77.31	40.00	85
181.40	72	20.92	1,971 39	34.46	218	1,640.04	90.63	56.81	194	1,492.19	77.23	52.80	
101.81	35	7.54	714 53	17.65	96	482.00	37.74	43.20	119	736.00	53.96	52.80	
37.83	44	9.19	1,149 32	11.86	78	682.60	17.04	105.60	77	657.10	18.12	116.20	
29.60	33	5.50	672 06	5.65	23	521.50	10.36	72.60	30	230.90	19.09	76.56	
8.96	25	3.54	508 39	2.51	10	201.50	6.62	52.80	4	142.00	3.37	52.80	
9.37	5	1.38	115 56	3.48	4	153.00	3.23	45.00	4	170.50	4.04	45.00	
111.63	44	13.12	747 28	29.66	124	1,660.50	48.54	52.80	125	1,296.00	46.55	52.80	
28.97	45	10.03	1,003 51	17.71	22	282.00	6.52	52.80	36	509.00	14.77	50.00	
77.65	51	12.10	1,072 19	51.43	22	146.00	33.36	.....	11	56.00	4.96	.....	
236.58	170	40.17	3,448 13	104.79	182	2,443.00	98.27	52.80	180	2,173.50	73.69	52.80	
8.44	8	2.31	168 43	3.18	6	151.60	5.53	42.00	2	75.00	2.04	45.00	
19.54	10	3.21	196 55	6.55	22	176.00	7.44	46.40	24	186.00	8.76	48.00	
58.05	37	6.70	1,275 46	13.07	78	772.00	28.18	52.80	70	657.00	23.50	50.00	
77.59	47	9.91	1,472 41	19.62	100	948.00	35.62	52.80	94	837.00	32.26	50.00	
47.67	84	15.58	2,818 09	11.78	44	1,117.50	31.79	68.00	32	902.50	19.68	68.00	
58.73	120	22.77	3,835 30	11.36	17	1,326.00	38.97	68.00	16	1,385.50	31.17	68.00	
106.40	204	38.35	6,653 39	23.14	61	2,443.50	70.76	68.00	48	2,288.00	50.85	68.00	
19.34	16	2.16	244 00	13.62	16	122.00	4.65	40.00	10	83.00	3.23	40.00	
55.89	12	4.65	478 00	7.16	76	412.40	40.56	50.00	42	214.60	12.82	50.00	86
272.64	.....	47.32	3,712 49	87.35	.....	4,400.00	127.52	.....	.....	3,350.00	105.00	.....	87
51.77	41	11.23	1,503 16	14.13	54	833.00	29.83	52.80	28	484.00	19.04	52.80	88
89.78	50	10.91	1,703 24	22.70	149	1,499.00	46.65	63.36	97	896.62	31.34	52.80	
64.02	111	21.29	7,135 58	26.93	93	635.90	17.31	73.92	116	1,596.00	41.07	63.40	
205.57	202	43.43	10,342 38	63.76	296	2,967.90	93.79	73.92	241	2,976.62	91.45	63.40	
56.70	62	14.33	2,749 06	18.96	49	425.66	24.25	52.80	54	723.66	27.82	58.08	

a Alignment to Indiana state line only.

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
89	Wisconsin Valley R. R. Co	Tomah, Wisconsin	Centralia, Wisconsin	46.60
		Centralia, Wisconsin	Wausau, Wisconsin	42.10
		Wausau, Wisconsin	Jenny, Wisconsin	19.30
				108.00
90	Viroqua Rw'y Co	Viroqua Junction, Wisconsin	Viroqua, Wisconsin	32.20

GROUP V.—LOUISIANA, ARKANSAS, INDIAN TERRITORY.

1	Iron Mountain and Helena R. R. Co	Helena, Arkansas	Marianna, Arkansas	26.38

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON.

1	Albany and Lebanon R. R. Co	Albany Junction, Oregon	Lebanon, Oregon	11.50
2	Amador Branch R. R. Co	Galt, California	Ione, California	27.20
3	Atchison and Nebraska R. R. Co	Atchison, Kansas	Fanning, Kansas	22.80
4	Atchison, Topeka, and Santa Fé R. R. Co	Atchison, Kansas	Topeka, Kansas	50.54
		Topeka, Kansas	Emporia, Kansas	61.24
		Emporia, Kansas	Newton, Kansas	73.33
		Newton, Kansas	Nickerson, Kansas	43.87
		Nickerson, Kansas	Dodge City, Kansas	123.55
		Dodge City, Kansas	Kansas and Colorado state line	118.05
				470.58
5	Berkeley Branch R. R. Co	Shell Mound, California	Berrymans, California	3.84
6	Burlington and Missouri River R. R. Co. (in Nebraska).	Plattsmouth, Nebraska	Ashland, Nebraska	30.70
		Crete, Nebraska	Sutton, Nebraska	48.10
7	California Northern R. R. Co	Oroville, California	Marysville, California	26.50
8	California Pacific R. R. Co	South Vallejo, California	Sacramento, California	60.39
		Adalante, California	Calistoga, California	34.48
		Davis, California	Knight's Landing, California	18.64
9	Carson and Colorado R. R. Co	Mound House, Nevada	Hawthorne, Nevada	103.00
10	Central Pacific R. R. Co	Oakland wharf, California	American river, California	133.54
		Sacramento, California	Summit, California	105.07
		Summit, California	Wadsworth, Nevada	83.47
		Wadsworth, Nevada	Winnemucca, Nevada	135.26
		Winnemucca, Nevada	Carlin, Nevada	120.54
		Carlin, Nevada	Toano, Nevada	116.04
		Toano, Nevada	Union Pacific Junction, Utah territory	178.15
				872.07
		Roseville, California	Redding, California	152.10
		Lathrop, California	Goshen, California	146.08
		Niles, California	San José, California	17.54
		Oakland wharf, California	East Oakland, California	5.66
		West Oakland, California	Alameda wharf, California; Melrose, California; Fruitvale, California; Brooklyn, California	11.02
11	Colorado Central R. R. Co	Denver, Colorado	Golden, Colorado	15.55
		Golden, Colorado	Georgetown, Colorado	34.28
		Forks Creek, Colorado	Central City, Colorado	11.12
		Denver Junction, Colorado	Omaha Junction, Colorado	151.16
12	Colorado Central R. R. Co. of Wyoming	South boundary of Wyoming territory	Hazard Station, Wyoming territory (on Union Pacific railway).	8.64
13	Corpus Christi, San Diego, and Rio Grande N. G. R. R. Co.	Corpus Christi, Texas	Laredo, Texas	160.80
14	Cowley, Sumner, and Fort Smith R. R. Co	Wichita, Kansas	Mulvane Junction, Kansas	15.85
		Mulvane Junction, Kansas	Arkansas City, Kansas	36.03
				51.88
		Mulvane Junction, Kansas	Wellington, Kansas	15.74
		Wellington, Kansas	Caldwell, Kansas	24.31
				40.05
15	Deadwood and Red Water Valley R. R. Co	Lead City, Dakota territory	Centennial Prairie, Dakota territory	13.58
		Centennial Prairie, Dakota territory	Red Water City, Dakota territory	35.89
				49.47
		Sturgis City, Dakota territory	Deadwood, Dakota territory	13.41

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP IV.—ILLINOIS, IOWA, WISCONSIN, MISSOURI, MINNESOTA—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
45.37	6	1.23	247 18	17.08	43	228.00	20.64	37.00	24	165.00	8.88	52.80	89
34.95	40	7.15	718 07	9.44	67	458.00	22.63	52.80	48	254.00	10.03	52.80	
13.25	44	6.05	1,040 45	6.26	35	200.00	6.91	52.80	30	159.00	6.13	52.80	
93.57	90	14.43	2,006 10	32.78	145	886.00	50.18	52.80	102	578.00	25.04	52.80	
20.44	71	11.76	1,997 10	7.01	83	816.80	16.82	132.00	49	331.78	8.37	79.20	90

GROUP V.—LOUISIANA, ARKANSAS, INDIAN TERRITORY.

24.72	8	1.66	176 00	24.93	5	32.00	0.97	52.80	5	16.00	0.48	52.80	1

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON.

10.65	3	0.85	130 36	1.63	23	122.30	9.87	26.40	.....	.....	.....	.....	1
22.55	28	4.65	873 31	4.70	40	366.60	16.83	58.08	19	122.60	5.67	52.08	2
13.39	56	9.41	1,016 58	2.35	87	461.30	11.24	65.00	61	385.20	9.21	68.00	3
32.49	76	18.05	1,715 25	4.05	30	996.00	26.22	63.67	30	885.00	20.27	62.04	4
47.09	81	14.15	1,759 49	4.49	32	1,041.00	32.63	61.00	36	795.00	24.12	58.20	
61.89	39	11.44	851 43	12.98	28	517.00	48.24	42.73	18	244.00	12.11	31.68	
40.45	5	3.42	103 28	3.47	24	297.00	33.20	29.00	17	143.00	7.20	31.80	
115.03	14	8.52	327 34	4.86	31	1,024.00	106.46	32.68	21	140.00	12.23	30.00	
107.39	31	10.66	433 28	17.46	61	1,078.00	83.03	32.68	44	200.00	17.56	30.00	
404.34	246	66.24	5,191 27	47.31	206	4,953.00	329.78	63.67	166	2,407.00	93.49	62.04	
2.97	5	0.87	145 39	0.05	18	248.33	3.79	76.03	.....	.....	.....	.....	5
20.90	49	9.80	518 22	7.70	31	135.62	20.10	18.00	7	17.62	2.90	9.00	6
45.25	8	2.85	150 48	7.21	47	445.88	30.09	35.00	23	133.18	10.80	25.00	
26.15	2	0.35	366 00	22.90	.....	261.00	.....	47.50	.....	124.00	.....	.....	7
54.16	25	6.23	490 50	16.32	40	454.48	21.63	68.94	41	436.93	22.44	96.62	8
27.18	35	7.30	586 19	0.78	65	492.11	21.85	108.24	35	205.20	11.85	51.22	
17.81	5	0.83	84 50	4.87	14	50.88	7.17	19.85	13	60.39	6.00	22.70	
75.25	218	27.75	5,354 50	32.00	.....	.....	.....	.....	20	796.92	71.00	120.00	9
104.41	91	29.13	4,266 59	32.94	103	1,056.79	54.16	52.80	72	1,012.12	46.44	52.80	10
52.21	345	52.86	15,820 14	10.52	209	7,055.41	90.03	116.16	10	75.90	4.52	26.40	
45.42	195	38.05	7,727 14	15.23	22	155.71	6.74	89.76	227	3,086.57	61.50	105.60	
92.71	88	42.55	2,197 04	23.48	232	1,448.40	67.21	79.20	162	1,187.48	44.57	80.41	
78.98	127	41.56	4,780 54	19.15	247	1,140.52	70.62	57.71	131	584.44	30.77	66.00	
73.67	149	42.37	5,624 03	19.14	229	2,154.41	68.63	79.20	93	1,073.66	28.27	73.92	
137.04	145	41.11	4,868 39	27.26	112	1,676.29	61.05	71.28	149	3,377.09	89.84	95.04	
584.44	1,140	287.63	45,285 07	147.72	1,154	14,687.53	418.44	116.16	844	10,397.26	305.91	105.60	
130.89	44	21.21	1,467 10	31.98	148	1,055.45	82.03	52.80	83	653.80	38.09	42.24	
137.16	14	8.92	345 32	23.91	95	449.44	79.99	10.56	54	188.82	42.18	5.28	
15.62	8	1.92	189 43	5.70	21	113.43	4.83	53.85	12	110.89	7.01	52.80	
4.72	10	0.94	102 08	2.65	28	22.24	2.05	22.80	13	24.55	0.96	60.50	
8.18	15	2.84	563 28	2.92	10	72.87	5.46	57.55	18	49.40	2.64	79.52	
12.55	31	3.00	489 10	2.31	.....	554.00	12.17	105.40	.....	45.00	1.07	79.20	11
14.03	422	20.25	14,396 43	2.88	.....	2,827.00	30.74	237.60	.....	37.00	0.66	132.50	
3.70	111	7.42	3,621 58	0.28	.....	1,606.00	10.84	237.60	.....	.....	.....	.....	
131.38	57	19.78	769 21	13.81	146	1,258.00	133.44	15.84	10	45.00	3.91	15.84	
6.76	10	1.88	451 30	0.53	6	348.00	6.08	80.00	5	70.00	2.03	53.00	12
134.98	127	25.82	3,890 52	21.58	263	1,549.55	92.62	34.00	122	1,117.70	46.60	44.00	13
14.02	12	1.83	235 28	2.25	11	90.00	0.40	40.00	37	163.00	13.20	42.00	14
29.12	48	6.91	1,084 53	4.51	43	300.00	12.14	40.00	84	458.00	19.38	40.00	
43.14	60	8.74	1,320 21	6.76	54	390.00	12.54	40.00	121	621.00	32.58	42.00	
14.41	8	1.33	129 56	4.66	8	178.00	4.22	40.00	19	182.00	6.86	40.00	
22.08	17	2.23	339 25	3.87	23	182.00	7.97	40.00	31	297.00	12.47	40.00	
36.49	25	3.56	469 21	8.53	31	360.00	12.19	40.00	50	479.00	19.33	40.00	
5.90	83	7.68	3,392 31	0.81	6	392.00	2.33	211.20	31	1,423.00	10.44	211.20	15
24.73	38	11.16	1,015 35	3.91	52	733.00	18.88	79.20	58	1,115.00	13.10	79.20	
30.63	121	18.84	4,408 06	4.72	58	1,125.00	21.21	211.20	89	2,538.00	23.54	211.20	
8.19	64	5.22	2,072 01	0.56	23	1,288.11	11.28	158.40	1	250.00	1.57	158.40	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON—Continued.

	Name of company.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
16	Denver and Boulder Valley R. R. Co	Brighton, Colorado	Boulder, Colorado	26.99
17	Elk and Chautauqua R. R. Co	South line Greenwood county, Kansas	Howard, Kansas	12.16
18	Eureka and Palisade R. R. Co	Eureka, Nevada	Diamond, Nevada	10.72
		Diamond, Nevada	Garden Pass, Nevada	8.18
		Garden Pass, Nevada	Summit, Nevada	7.10
		Summit, Nevada	Pine, Nevada	10.37
		Pine, Nevada	Alpha, Nevada	2.30
		Alpha, Nevada	Mineral, Nevada	11.62
		Mineral, Nevada	Blackburns, Nevada	4.00
		Blackburns, Nevada	Hay Ranch, Nevada	12.56
		Hay Ranch, Nevada	Palisade, Nevada	17.20
				84.05
19	Florence, Eldorado, and Walnut Valley R. R. Co	Florence, Kansas	Eldorado, Kansas	29.18
20	Fort Scott, Southeastern, and Memphis Rw'y Co	Junction of Kansas City, Fort Scott, and Gulf R. R.	Coalvale, Kansas	15.23
21	Fremont, Elkhorn, and Missouri Valley R. R. Co	Fremont, Nebraska	Oakdale, Nebraska	109.99
22	Golden, Boulder, and Caribou R. R. Co	Boulder, Colorado	Marshall, Colorado	5.60
23	Gulf, Colorado, and Santa Fé Rw'y Co	Galveston, Texas	Belton, Texas	226.50
		Temple Junction, Texas	Cleburne, Texas	100.11
24	Gulf, Western Texas, and Pacific Rw'y Co	Indianola, Texas	Victoria, Texas	38.00
		Victoria, Texas	Cuero, Texas	28.00
				66.00
25	Houston and Texas Central Rw'y Co	Houston, Texas	Hempstead, Texas	51.30
		Hempstead, Texas	Hearne, Texas	69.40
		Hearne, Texas	Bremond, Texas	21.47
		Bremond, Texas	Corsicana, Texas	68.55
		Corsicana, Texas	Garrett, Texas	23.80
		Garrett, Texas	Dallas, Texas	31.12
		Dallas, Texas	Sherman, Texas	64.08
		Sherman, Texas	Red River City, Texas	12.56
				342.28
		Hempstead, Texas	Brenham, Texas	21.85
		Brenham, Texas	McDade, Texas	56.51
		McDade, Texas	Austin, Texas	37.29
				115.65
		Bremond, Texas	Ross, Texas	54.43
26	International and Great Northern R. R. Co	Houston, Texas	Columbia, Texas	49.82
		Houston, Texas	Palestine, Texas	150.03
		Palestine, Texas	Longview, Texas	81.30
		Troupe, Texas	Mineola, Texas	44.30
		Palestine, Texas	Jewett, Texas	43.80
		Jewett, Texas	Hearne, Texas	45.37
		Hearne, Texas	Rockdale, Texas	29.51
		Rockdale, Texas	Round Rock, Texas	41.88
		Round Rock, Texas	Austin, Texas	18.50
				179.06
27	Junction City and Fort Kearney R. R. Co	Junction City, Kansas	Concordia, Kansas	70.45
28	Kansas City, Emporia, and Southern R. R. Co	Emporia, Kansas	South line Greenwood county, Kansas	64.00
29	Kansas City, Fort Scott, and Gulf R. R. Co	Kansas City, Missouri	State line Kansas and Indian territory	159.92
30	Kansas City, Lawrence, and Southern R. R. Co	Kansas City, Missouri	Boundary line Kansas and Indian territory	143.32
		Olathe, Kansas	Ottawa, Kansas	31.77
		Cherryvale, Kansas	Independence, Kansas	9.64
31	Kansas City, Topeka, and Western R. R. Co	Kansas City, Missouri	Topeka, Kansas	66.25
32	Lake Tahoe N. G. R. R. Co	Lake Tahoe, Nevada	Summit, Nevada	9.50
33	Lawrence and Southwestern R. R. Co	Lawrence, Kansas	Carbondale, Kansas	32.10
34	Lincoln and North Western R. R. Co	Columbus, Nebraska	Ulysses, Nebraska	32.00
35	Los Angeles and Independence R. R. Co	Santa Monica, California	Los Angeles, California	16.40
36	Los Angeles and San Diego R. R. Co	Florence, California	Santa Aña, California	27.82
37	Manhattan, Alma, and Burlingame Rw'y Co	Burlingame, Kansas	Manhattan, Kansas	57.25
38	Marion and McPherson R. R. Co	Florence, Kansas	McPherson, Kansas	48.29
		McPherson, Kansas	Lyons, Kansas	30.47
				78.76
39	Memphis, Kansas, and Colorado Rw'y Co	Weir City, Kansas	Parsons, Kansas	31.04

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
18.60	37	8.39	972 40	0.76	45	619.85	16.82	60.19	32	290.75	9.41	55.44	16
11.35	6	0.81	146 32	3.05	9	87.00	3.14	39.60	7	148.00	5.97	39.60	17
7.20	11	3.52	74 25	4.00	.....	.....	.....	.....	4	430.00	6.72	65.00	18
7.19	4	0.99	116 14	.....	2	55.00	3.08	20.00	2	65.00	5.10	18.00	
1.16	19	5.94	467 24	.....	5	745.00	7.10	105.00	.....	.....	.....	.....	
7.96	6	2.41	86 19	.....	.....	.....	.....	.....	4	785.00	10.37	105.00	
1.04	5	1.26	229 54	.....	3	80.00	1.05	78.00	2	90.00	1.25	85.00	
10.16	23	1.46	292 39	.....	2	10.00	0.05	8.00	30	478.00	11.57	52.80	
3.38	1	0.62	18 56	.....	.....	.....	.....	.....	6	140.00	4.00	52.80	
11.92	5	0.64	79 12	1.57	3	27.00	0.60	65.00	26	299.00	10.39	45.00	
13.20	52	4.00	1,319 20	1.46	20	72.00	3.45	52.00	51	422.00	12.29	55.00	
63.21	126	20.84	2,084 23	7.03	35	989.00	15.33	105.00	125	2,709.00	61.69	105.00	
24.12	25	5.06	328 50	2.61	34	358.00	12.02	49.78	34	350.00	14.55	36.20	19
10.58	33	4.65	763 59	3.18	28	128.34	5.26	60.72	35	226.10	6.79	52.80	20
98.36	51	11.63	885 37	24.58	113	626.10	78.47	26.40	25	86.60	6.94	26.40	21
3.65	15	1.95	538 27	0.53	21	259.50	4.16	132.00	6	38.50	0.91	58.00	22
192.26	147	34.24	3,357 49	39.55	316	3,292.93	124.16	66.00	223	2,673.43	62.79	66.00	23
84.20	61	15.91	1,268 57	11.02	123	1,858.58	49.58	66.00	96	1,766.83	39.51	66.00	
36.23	3	1.77	148 06	33.59	2	20.00	2.01	10.00	3	22.70	2.40	9.00	24
25.03	10	2.97	188 00	15.84	6	108.60	6.00	18.00	9	94.00	6.16	15.00	
61.26	13	4.74	336 06	49.43	8	128.00	8.01	18.00	12	116.70	8.56	15.00	
48.09	9	3.21	178 23	9.30	70	351.16	35.32	42.24	25	136.82	6.68	36.96	25
60.70	35	8.70	1,069 50	18.37	100	883.51	27.38	66.00	91	726.85	23.65	66.00	
17.40	15	4.07	280 51	6.35	57	387.20	10.57	58.08	34	235.20	4.55	60.72	
63.84	35	4.71	493 54	19.28	112	846.65	25.05	58.08	97	882.13	24.22	58.08	
21.39	11	2.41	228 39	7.10	33	321.50	10.49	58.08	21	188.50	6.21	58.08	
27.91	12	3.21	315 43	8.96	31	377.45	12.45	60.72	21	461.25	9.71	60.72	
56.58	44	7.50	842 24	11.69	52	1,133.10	30.92	58.08	39	858.75	21.47	52.08	
8.74	21	3.82	496 19	2.17	6	209.85	4.46	58.08	6	390.00	5.93	63.36	
304.65	182	37.63	3,906 03	83.22	461	4,510.42	156.64	66.00	334	3,879.50	102.42	66.00	
14.62	18	7.23	826 00	5.45	30	388.00	9.85	59.64	23	283.00	6.55	60.35	
42.35	63	14.16	1,618 30	11.31	94	1,007.94	26.26	58.08	82	770.81	18.94	58.08	
24.86	59	12.43	1,209 30	9.53	72	492.00	13.18	60.72	73	600.30	14.58	63.36	
81.83	140	33.82	3,654 00	26.29	196	1,887.94	49.29	60.72	178	1,654.11	40.07	63.36	
46.95	39	7.48	940 18	16.09	71	455.16	22.40	58.08	52	474.20	15.94	58.08	
43.63	9	6.19	210 25	21.38	38	44.80	9.47	10.56	55	66.30	18.97	10.56	26
113.57	131	36.46	3,587 03	30.12	159	2,036.24	75.05	63.40	122	1,598.24	44.86	63.36	
50.71	122	30.59	3,574 06	12.81	70	1,261.00	30.25	63.36	68	1,417.00	38.24	61.78	
30.45	63	13.85	1,746 57	5.00	56	758.20	19.57	60.72	59	804.30	19.73	60.72	
29.10	58	14.70	919 15	9.54	41	650.30	16.47	62.30	41	648.30	17.79	59.14	
32.47	44	12.90	625 57	9.92	34	378.20	15.42	50.37	40	570.20	20.03	51.00	
26.00	13	3.51	144 00	4.59	29	466.60	9.02	58.08	40	302.60	15.90	60.72	
36.73	20	5.15	197 47	8.32	61	740.60	20.10	52.80	44	489.60	13.46	52.80	
15.60	17	2.90	139 01	3.04	19	178.40	5.16	58.08	28	451.40	10.30	53.85	
139.90	152	39.16	2,026 00	35.41	184	2,414.10	66.17	62.30	193	2,462.10	77.48	60.72	
55.61	83	14.84	1,443 55	29.93	158	485.00	37.38	53.00	60	199.00	12.14	45.00	27
50.15	80	13.85	2,135 24	27.67	49	723.00	24.66	44.88	47	794.00	11.67	52.80	28
126.62	132	33.30	3,073 57	44.69	180	1,654.86	55.98	58.60	172	1,550.65	59.25	52.80	29
120.00	94	23.32	1,680 49	24.88	185	1,727.80	54.64	80.00	191	1,810.09	63.80	84.48	30
25.73	19	6.04	641 50	6.17	20	296.08	10.94	44.35	30	414.33	14.66	39.60	
7.94	6	1.70	168 18	1.50	12	146.10	3.04	84.48	15	184.00	5.10	63.36	
51.83	144	14.42	1,794 37	18.73	74	441.00	31.59	42.24	62	293.00	15.93	26.40	31
.....	.....	.....	1,138 00	.....	1	1,235.00	9.50	165.00	.....	.....	.....	.....	32
21.70	64	10.40	1,839 14	6.42	77	504.00	18.50	53.00	39	269.00	7.18	53.00	33
24.72	30	7.28	760 43	7.31	29	175.00	9.58	73.00	35	206.50	15.11	37.50	34
12.19	11	4.21	500 54	1.62	35	355.25	11.95	92.00	16	99.55	2.83	70.00	35
25.22	4	2.60	129 22	2.59	12	128.00	10.40	31.68	15	149.30	14.83	26.40	36
46.66	109	10.59	2,268 00	10.26	106	773.00	24.09	58.00	120	815.00	22.90	70.00	37
43.28	35	5.01	836 20	5.07	88	404.00	20.27	32.00	152	189.00	22.95	32.00	38
27.51	24	2.96	519 40	2.60	66	477.00	17.96	32.00	57	263.00	9.91	32.00	
70.79	59	7.97	1,356 00	7.67	154	881.00	38.23	32.00	209	452.00	32.86	32.00	
27.85	24	3.19	422 05	9.52	53	386.29	11.74	52.80	49	412.95	9.78	66.00	39

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
40	Missouri, Kansas, and Texas Extension Rw'y Co	Denison, Texas	Whitewright, Texas	20.39
41	Monterey R. R. Co	Castroville, California	Monterey, California	15.12
42	Nebraska Rw'y Co	Lincoln, Nebraska	York, Nebraska	51.70
43	Nevada County N. G. R. R. Co	Colfax, California	Nevada City, California	22.64
44	New Mexico and Southern Pacific R. R. Co	Colorado and New Mexico state line	Las Vegas, New Mexico	118.27
		Las Vegas, New Mexico	Albuquerque, New Mexico	132.20
				250.47
		Galisteo Junction, New Mexico	Santa Fé, New Mexico	18.10
45	Northern Rw'y Co	Oakland, California	Junction of San Pablo and Tulare railroad near Martinez, California.	31.02
		Benicia, California	Suisun, California	16.33
		Woodland, California	Willows, California	64.79
46	Northern Pacific R. R. Co	Northern Pacific Junction, Minnesota	Red River Bridge, Dakota territory	228.23
		Red River Bridge at Fargo, Dakota territory	Missouri River Landing at Bismarck, Dakota territory.	196.50
		Missouri River Landing at Bismarck, Dakota territory.	Westward	100.00
				524.73
47	Omaha, Niobrara, and Black Hills R. R. Co	Duncan, Nebraska	Norfolk, Nebraska	47.45
		Lost Creek, Nebraska	Albion, Nebraska	33.98
48	Omaha and Republican Valley R. R. Co	Valley, Nebraska	Stromsburg, Nebraska	90.03
		Valparaiso, Nebraska	Lincoln, Nebraska	20.30
		Grand Island, Nebraska	Saint Paul, Nebraska	21.65
49	Oregon and California R. R. Co	East Portland, Oregon	Oregon City, Oregon	14.88
		Oregon City, Oregon	Salem, Oregon	37.26
		Salem, Oregon	Albany, Oregon	27.90
		Albany, Oregon	Eugene, Oregon	42.81
		Eugene, Oregon	Summit Calapoosa Mountain, Oregon	25.35
		Summit Calapoosa Mountain, Oregon	Roseburg, Oregon	49.37
				197.57
50	Oregon Central R. R. Co	Portland, Oregon	Saint Joseph, Oregon	46.70
51	Oregon Railway and Navigation Co	Celilo, Oregon	Wallula, Washington territory	112.45
		Walla Walla, Washington territory	Texas Ferry, Washington territory	55.72
		Texas Ferry, Washington territory	Colfax, Washington territory	60.96
				116.68
52	Pleasant Hill and De Soto R. R. Co	Pleasant Hill, Missouri	Cedar Junction, Kansas	44.90
53	Pueblo and Arkansas Valley R. R. Co	Kansas and Colorado state line	Pueblo, Colorado	147.85
		La Junta Junction, Colorado	Colorado and New Mexico state line	96.37
54	Republican Valley R. R. Co	Wymore, Nebraska	Endicott, Nebraska	27.10
		Hastings, Nebraska	Red Cloud, Nebraska	40.90
		Culbertson, Nebraska	Indianola, Nebraska	22.67
55	Rich Hill R. R. Co	Kansas City, Fort Scott, and Gulf Railroad Junction.	Carbon Centre, Missouri	24.88
56	Sacramento and Placerville R. R. Co	Sacramento, California	Folsom, California	21.90
		Folsom, California	Shingle Springs, California	26.23
				48.13
57	Salina and South Western R. R. Co	Salina, Kansas	McPherson, Kansas	35.42
58	San Francisco and North Pacific R. R. Co	Donahue, California	Cloverdale, California	56.00
		Fulton, California	Guerneville, California	16.00
		Petaluma Junction, California	San Rafael, California	20.50
59	San Pablo and Tulare R. R. Co	Junction with Northern Railway near Martinez, California.	Tracy, California	46.52
60	Short Creek and Joplin R. R. Co	Baxter Springs, Kansas	Joplin, Missouri	15.46
61	Sioux City and Dakota R. R. Co	Sioux City, Iowa	Yankton, Dakota territory	61.35
		Davis Junction, Dakota territory	Sioux Falls, Dakota territory	73.51
62	Solomon R. R. Co	Solomon, Kansas	Beloit, Kansas	56.95
63	Southern Kansas and Western R. R. Co	Independence, Kansas	Wellington, Kansas	103.90
64	Southern Pacific R. R. Co	San Francisco, California	Tres Pinos and Soledad, California	160.89
		Huron, California	Goshen, California	40.00
		Goshen, California	Mojave, California	141.66
		Mojave, California	Los Angeles, California	99.12
		Los Angeles, California	State line near Yuma, Arizona territory	247.83
				528.61
		Los Angeles, California	Wilmington, California	22.06

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
13.13	36	7.26	906 34	4.39	17	341.00	9.07	63.40	14	315.00	6.93	66.80	40
10.23	39	4.89	765 02	2.85	18	287.80	6.43	92.40	19	303.30	5.84	118.80	41
43.70	29	8.00	933 50	5.07	126	899.60	29.55	76.00	77	422.20	17.08	48.00	42
10.23	.....	12.41	7,938 25	0.67	12	1,153.00	12.25	121.00	11	1,042.00	9.72	121.00	43
97.27	147	21.00	3,780 00	14.71	96	2,036.00	41.59	100.30	100	3,348.00	61.97	175.30	44
104.81	219	27.39	8,156 53	19.04	55	2,558.00	38.53	89.80	79	4,005.00	74.63	158.40	
202.08	366	48.39	11,936 53	33.75	151	4,594.00	80.12	100.30	179	7,353.00	136.60	175.30	
12.43	47	5.67	3,434 30	2.90	25	811.00	10.74	105.60	22	334.00	4.46	105.60	
17.20	43	13.82	1,622 40	16.66	14	61.87	6.93	10.56	15	66.13	7.43	10.56	45
14.10	7	2.23	213 33	13.09	12	8.00	1.74	5.28	14	11.00	1.50	26.40	
63.38	4	1.41	78 59	13.82	57	282.63	30.61	26.40	43	201.63	20.36	21.12	
199.75	112	28.48	2,034 45	57.37	.....	1,765.00	96.19	50.00	.....	1,942.00	74.67	40.00	46
171.18	96	25.32	2,028 36	40.86	136	2,453.00	94.47	60.00	56	1,724.00	61.67	56.00	
75.96	85	24.04	2,761 43	8.76	.....	1,430.00	62.44	51.00	.....	704.00	28.80	50.00	
446.89	293	77.84	6,825 04	106.49	.....	5,648.00	253.10	60.00	.....	4,370.00	165.14	56.00	
37.76	52	9.69	1,157 12	14.23	64	491.00	16.35	52.80	57	516.00	16.87	61.78	47
30.90	16	3.08	317 47	9.41	52	307.00	22.26	52.80	10	47.00	2.31	37.70	
68.30	122	21.73	3,040 25	18.07	191	1,364.00	42.94	98.28	130	878.00	29.02	79.20	48
17.58	16	2.72	381 07	5.24	9	43.00	2.47	43.20	31	201.00	12.59	53.55	
18.61	17	3.04	357 04	8.86	14	78.00	4.26	42.24	25	142.00	8.53	52.80	
10.86	51	4.02	735 43	4.50	66	194.42	6.12	69.69	39	147.36	4.26	58.08	49
30.98	85	6.28	1,115 16	7.15	51	345.85	15.51	55.44	52	258.21	14.60	47.62	
19.92	15	7.98	575 57	4.19	37	238.69	14.96	39.60	23	187.86	8.75	49.10	
39.04	8	3.77	264 18	7.30	67	274.51	31.11	49.63	20	61.44	4.40	48.05	
20.83	29	4.52	821 34	2.54	52	425.54	19.19	52.80	19	101.44	3.62	52.80	
31.20	146	18.17	4,318 42	3.85	56	816.00	18.14	84.48	78	1,105.42	27.38	85.01	
152.83	334	44.74	7,831 30	29.53	329	2,295.01	105.03	84.48	231	1,861.73	63.01	85.01	
35.24	59	11.46	1,688 45	1.60	83	1,010.00	21.76	198.00	77	897.00	23.34	80.00	50
81.94	301	30.51	4,768 00	11.93	79	744.30	56.75	26.40	80	578.17	43.77	26.40	51
29.80	185	25.92	6,093 00	0.70	29	1,475.00	28.30	81.84	32	1,868.00	26.72	149.95	
41.34	141	19.62	4,374 00	2.25	95	2,064.93	48.85	89.80	16	642.80	9.86	121.40	
71.14	326	45.54	10,467 00	2.95	124	3,539.93	77.15	89.80	48	2,510.80	36.58	149.95	
27.05	94	17.85	2,835 36	5.32	33	713.00	19.58	59.82	37	795.00	20.00	54.43	52
134.71	71	13.14	1,144 33	21.55	131	1,627.00	104.45	42.24	71	339.00	21.85	39.60	53
81.19	77	15.18	3,362 29	6.78	57	3,951.00	71.79	195.40	47	448.00	17.80	34.50	
21.10	32	6.00	595 08	5.79	31	250.20	13.99	28.00	21	184.00	7.32	32.00	54
27.83	49	13.07	1,333 39	8.71	33	237.00	11.98	27.00	54	490.50	20.21	26.50	
19.33	13	3.34	240 76	5.33	33	238.00	14.77	21.00	10	46.00	2.57	16.00	
19.25	27	5.63	802 27	4.00	54	288.10	8.44	52.80	71	435.80	12.44	42.24	55
17.68	20	4.22	244 50	1.78	53	829.52	15.71	68.64	22	232.80	4.41	33.00	56
15.96	96	10.27	2,448 48	0.21	77	1,137.84	21.55	126.72	23	236.09	4.47	77.98	
33.64	116	14.49	2,693 38	1.99	130	1,967.36	37.26	126.72	45	468.89	8.88	77.98	
30.98	21	4.44	480 10	8.96	57	344.00	20.62	48.00	21	82.00	5.84	37.00	57
47.00	40	9.00	1,111 57	9.29	64	553.50	30.10	47.52	43	241.40	16.61	44.00	58
8.50	36	7.50	1,200 00	6.21	12	47.60	3.44	31.68	16	122.80	6.35	71.64	
16.40	33	4.10	700 00	14.33	9	146.10	2.87	100.32	10	148.70	3.30	79.20	
40.79	10	5.73	174 18	13.91	17	176.90	20.29	10.56	14	120.40	12.32	10.56	59
11.31	23	4.15	671 10	3.34	69	320.30	8.35	58.00	45	142.55	3.77	52.80	60
53.27	63	8.08	963 41	37.37	81	169.00	19.47	38.00	19	88.00	4.51	36.00	61
58.07	89	15.44	1,983 41	21.37	95	662.00	33.84	62.00	61	384.00	18.30	79.00	
53.15	26	3.80	291 31	22.64	105	282.00	27.77	26.00	32	74.00	6.54	21.00	62
79.24	150	24.66	2,507 41	24.13	157	1,777.60	42.54	80.00	164	1,365.80	37.23	54.91	63
133.25	105	27.64	2,982 16	33.97	50	1,505.80	79.73	116.16	51	973.70	47.19	72.60	64
38.23	2	1.77	84 40	12.36	17	94.50	11.20	26.40	8	186.30	16.44	52.80	
107.41	145	34.25	8,792 40	15.35	24	3,989.60	82.60	116.16	25	1,530.20	43.71	116.16	
75.48	101	23.64	3,606 41	8.20	8	1,251.50	23.15	116.16	13	3,697.00	67.77	116.16	
210.40	98	37.43	3,027 22	34.87	35	3,437.70	108.15	103.78	35	3,589.80	104.81	102.96	
431.52	346	97.00	15,511 23	70.78	84	8,773.30	225.10	116.16	81	9,003.30	232.73	116.16	
17.83	16	4.23	279 52	1.69	2	24.30	1.02	24.00	6	305.30	19.35	37.00	

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON—Continued.

	Corporation.	DIVISION, SECTION, OR BRANCH. Extending— From—	To—	Length.
				Miles.
65	Southern Pacific R. R. Co. of Arizona	Territory line near Yuma, Arizona territory	Tucson, Arizona territory	248.01
		Tucson, Arizona territory	Pantano, Arizona territory	28.10
				276.11
66	Stockton and Copperopolis R. R. Co	Stockton, California	Milton, California	25.82
		Peters, California	Oakdale, California	18,83
67	Summit County R. R. Co	Echo, Utah territory	Park City, Utah territory	27.27
		Grass Creek Junction, Utah territory	Union Pacific R. R. Coal Mines, Utah territory	3.94
68	Sumner County R. R. Co	Wellington, Kansas	Hunnewell, Kansas	18.35
69	Texas Central Rw'y Co	Ross, Texas	Aquilla, Texas	11.50
		Aquilla, Texas	Whitney, Texas	10.50
		Whitney, Texas	Fowler, Texas	11.50
		Fowler, Texas	Morgan, Texas	10.00
		Morgan, Texas	Walnut Springs, Texas	9.00
		Walnut Springs, Texas	Iredell, Texas	10.00
		Iredell, Texas	Hico, Texas	11.50
		Hico, Texas	Alexander, Texas	13.00
		Alexander, Texas	Dublin, Texas	9.00
		Dublin, Texas	Mount Airy, Texas	4.00
		Mount Airy, Texas	De Leon, Texas	7.60
		De Leon, Texas	Carbon, Texas	21.10
		Carbon, Texas	Cisco, Texas	14.30
				143.00
70	Texas and New Orleans R. R. Co	Houston, Texas	Orange	105.10
71	Union Pacific Rw'y Co	Council Bluffs, Iowa	Omaha, Nebraska	2.87
		Omaha, Nebraska	North Platte, Nebraska	289.37
		North Platte, Nebraska	Cheyenne, Wyoming territory	225.08
		Cheyenne, Wyoming territory	Sherman, Wyoming territory	32.14
		Sherman, Wyoming territory	Laramie, Wyoming territory	24.03
		Laramie, Wyoming territory	Creston, Wyoming territory	165.90
		Creston, Wyoming territory	Green River, Wyoming territory	105.76
		Green River, Wyoming territory	Aspen, Wyoming territory	90.13
		Aspen, Wyoming territory	Watsatch, Utah territory	30.79
		Watsatch, Utah territory	Ogden, Utah territory	64.88
				1,030.95
		Kansas City, Missouri	Brookville, Kansas	200.00
		Brookville, Kansas	Wallace, Kansas	220.00
		Wallace, Kansas	Denver, Colorado	218.50
				638.50
		Leavenworth, Kansas	Lawrence, Kansas	30.87
		Denver, Colorado	Cheyenne, Wyoming territory	106.00
72	Utah Central R. R. Co	Ogden, Utah territory	Kaysville, Utah territory	16.67
		Kaysville, Utah territory	Farmington, Utah territory	4.65
		Farmington, Utah territory	Salt Lake City, Utah territory	15.13
				36.45
73	Utah Eastern R. R. Co	Coalville, Utah territory	Park City, Utah territory	23.44
74	Utah and Northern Rw'y Co	Ogden, Utah territory	Franklin, Idaho territory	76.91
		Franklin, Idaho territory	Blackfoot, Idaho territory	100.48
		Blackfoot, Idaho territory	Divide, Idaho territory	105.35
		Divide, Idaho territory	Dillon, Idaho territory	63.77
				346.51
75	Utah Southern R. R. Co	Salt Lake, Utah territory	Point Mountain, Utah territory	24.43
		Point Mountain, Utah territory	Lehi, Utah territory	5.87
		Lehi, Utah territory	Provo, Utah territory	17.04
		Provo, Utah territory	Payson, Utah territory	15.47
		Payson, Utah territory	Nephi, Utah territory	24.77
		Nephi, Utah territory	Juab, Utah territory	14.56
				102.14
76	Utah Southern R. R. Extension Co	Juab, Utah territory	Milford, Utah territory	119.31
		Milford, Utah territory	Frisco, Utah territory	16.39
		Frisco, Utah territory	Horn Silver Mine, Utah territory	1.13
				136.83
77	Utah Western Rw'y Co	Salt Lake City, Utah territory	Terminus, Utah territory	36.92
78	Virginia and Truckee R. R. Co	Reno, Nevada	Steamboat Springs, Nevada	11.32
		Steamboat Springs, Nevada	Carson, Nevada	19.18
		Carson, Nevada	Virginia City, Nevada	22.00
				52.50
79	Western Oregon R. R. Co	Saint Joseph, Oregon	Corvallis, Oregon	49.76
80	Wichita and South Western R. R. Co	Newton Junction, Kansas	Wichita, Kansas	26.62

TABLE X.—STATISTICS RELATING TO GRADES AND CURVES.

GROUP VI.—DAKOTA, NEBRASKA, KANSAS, TEXAS, NEW MEXICO, COLORADO, WYOMING, MONTANA, IDAHO, UTAH, ARIZONA, CALIFORNIA, NEVADA, OREGON, WASHINGTON—Continued.

ALIGNMENT.				PROFILE.									
					Ascending grades.				Descending grades.				
Length of tangents.	Number of curves.	Aggregate length of curved line.	Total curvature.	Length of level track.	Number.	Sum of ascents.	Aggregate length of ascending grades.	Maximum grade per mile.	Number.	Sum of descents.	Aggregate length of descending grades.	Maximum grade per mile.	
Miles.		*Miles.*	*Deg. Min.*	*Miles.*		*Feet.*	*Miles.*	*Feet.*		*Feet.*	*Miles.*	*Feet.*	
217.16	101	30.85	2,893 55	34.43	.....	8,121.00	165.53	52.80	.....	869.00	48.05	52.80	65
22.66	30	5.44	738 09	0.92	.....	1,196.00	26.09	73.92	.....	50.00	1.09	53.22	
239.82	131	36.29	3,632 04	35.35	.....	4,317.00	191.62	73.92	.....	919.00	49.14	53.22	
21.88	24	3.94	539 16	1.44	65	384.92	22.40	58.61	14	17.12	1.98	31.68	66
17.76	6	1.07	110 16	3.21	26	129.01	11.10	63.99	18	72.75	4.52	104.96	
20.20	65	7.07	1,626 18	1.38	60	1,373.00	24.58	105.60	2	26.00	1.31	35.16	67
2.01	18	1.93	520 58	.....	11	555.00	3.94	168.96	.....	.....	.....	.....	
16.87	15	1.48	154 43	3.65	29	174.20	5.07	58.80	50	286.50	9.63	52.80	68
10.55	7	0.95	139 43	2.12	11	107.75	3.54	52.80	9	156.75	5.84	52.80	69
9.36	6	1.14	131 00	0.77	10	121.90	5.03	52.80	6	62.90	4.70	52.80	
9.24	12	2.26	261 28	1.72	11	196.20	4.96	52.80	8	206.20	4.82	52.80	
8.57	7	1.43	160 08	1.89	13	179.73	6.08	52.80	2	26.00	2.03	52.80	
7.97	4	1.03	78 15	1.55	9	227.00	5.60	52.80	7	50.00	1.85	52.80	
7.36	13	2.64	310 55	2.20	10	110.00	3.40	52.80	10	140.00	4.40	52.80	
8.68	12	2.82	459 09	2.80	18	211.00	5.70	52.80	12	112.00	3.00	52.80	
10.54	11	2.46	313 30	2.96	20	210.00	8.56	52.80	6	62.00	1.48	52.80	
5.57	17	3.43	540 21	0.53	10	280.50	7.41	58.00	2	40.80	1.06	52.80	
2.50	8	1.50	206 50	0.37	13	79.50	1.53	52.80	8	90.00	2.10	52.80	
4.83	13	2.77	386 59	1.10	2	18.00	0.50	52.80	7	242.50	6.00	52.80	
18.30	13	2.80	274 02	3.54	26	650.00	12.09	56.00	17	254.00	5.47	52.80	
12.29	9	2.01	264 00	5.38	6	146.00	4.15	56.00	9	217.00	4.77	52.80	
115.76	132	27.24	3,526 20	26.93	159	2,537.58	68.55	58.00	103	1,660.15	47.52	52.80	
97.75	14	7.35	292 00	50.35	28	221.00	21.48	47.50	20	264.00	33.27	50.00	70
2.29	3	0.58	18 00	1.13	3	51.20	1.74	35.16	.....	.....	.....	.....	71
273.47	66	15.90	1,132 08	66.57	855	2,180.00	199.66	31.68	123	411.00	23.14	26.40	
190.32	117	34.76	1,695 49	30.04	483	3,620.00	176.70	35.16	76	364.00	18.34	34.95	
23.79	66	8.35	1,303 58	0.77	39	2,194.00	31.37	79.99	.....	.....	.....	.....	
17.62	36	6.41	918 45	4.91	.....	.....	.....	.....	36	1,098.00	19.12	87.76	
116.88	238	40.02	6,872 46	30.85	90	2,007.00	60.33	66.26	130	2,044.00	74.72	62.25	
86.74	96	19.02	2,406 04	26.18	13	436.00	11.56	52.64	93	1,469.00	68.02	55.23	
64.81	110	25.32	3,366 18	20.26	90	1,889.00	56.39	61.78	32	485.00	13.48	60.72	
21.93	47	8.86	1,324 17	2.45	8	129.00	8.71	35.90	20	783.00	19.63	60.72	
41.54	142	23.34	3,844 45	2.65	1	0.75	0.17	4.40	81	2,524.00	62.06	89.76	
839.39	921	191.56	22,882 50	185.81	1,582	12,506.95	546.63	79.99	591	9,178.00	298.51	80.76	
170.33	194	29.67	3,177 57	14.43	90	964.00	155.14	38.00	43	362.00	20.43	67.00	
171.89	160	48.11	3,843 41	12.92	195	3,577.00	147.33	76.00	113	1,624.00	59.75	94.00	
183.43	107	35.07	2,344 17	24.58	251	4,082.00	125.66	74.00	131	2,198.00	68.26	56.00	
525.65	461	112.85	9,365 55	51.93	536	8,623.00	428.13	76.00	287	4,184.00	158.44	94.00	
17.87	33	13.00	1,281 54	3.65	37	463.00	13.33	74.00	25	413.00	13.89	68.00	
90.80	58	15.20	1,314 14	9.32	134	1,850.50	48.98	87.00	130	968.50	47.70	90.00	
12.90	16	3.77	250 41	2.76	10	210.50	6.81	39.60	8	212.50	7.10	39.60	72
3.10	5	1.55	105 44	1.13	2	28.00	1.08	37.00	3	68.00	2.44	38.00	
13.37	10	1.76	163 11	3.24	8	109.00	6.10	39.60	9	113.00	5.79	39.60	
29.37	31	7.08	519 36	7.13	20	347.50	13.99	39.60	20	393.50	15.33	39.60	
17.10	33	6.34	909 00	1.17	55	1,470.00	20.53	156.00	6	125.00	1.74	117.00	73
64.71	76	12.20	1,361 19	14.56	64	1,279.00	35.94	95.00	57	1,070.00	26.41	105.60	74
85.77	125	14.71	3,074 39	21.41	178	1,221.00	38.75	106.00	202	1,219.00	40.32	119.00	
94.75	129	10.60	2,193 16	25.55	231	2,574.00	70.22	126.36	88	253.00	9.58	66.00	
55.20	72	8.57	1,251 24	3.67	4	16.00	1.16	26.40	106	1,737.00	58.94	77.62	
300.43	402	46.08	7,880 38	65.19	477	5,090.00	146.07	126.36	453	4,279.00	135.25	119.00	
17.09	34	7.34	688 26	0.79	32	658.50	19.18	60.00	12	111.00	4.46	60.00	75
4.01	11	1.86	324 30	1.86	.....	.....	.....	.....	10	227.50	4.01	60.00	
14.71	10	2.33	257 32	1.10	8	116.90	5.90	57.00	17	178.20	10.04	52.80	
13.51	5	1.96	154 15	2.12	20	154.90	8.75	58.00	9	62.50	4.60	26.40	
21.52	13	3.25	246 03	1.92	21	707.70	15.54	73.90	14	200.18	7.31	66.00	
13.27	4	1.29	124 00	0.39	9	149.00	5.58	47.50	10	186.15	8.59	44.00	
84.11	77	18.03	1,794 46	8.18	90	1,787.00	54.95	73.90	72	965.48	39.01	66.00	
105.91	79	13.40	1,872 13	12.69	55	871.80	53.84	73.90	58	980.40	52.78	65.50	76
12.52	8	3.87	288 57	.....	13	1,424.60	15.88	137.30	1	18.20	0.51	36.96	
0.58	5	0.55	113 70	.....	6	134.30	1.13	158.00	.....	.....	.....	.....	
119.01	92	17.82	2,275 20	12.69	74	2,430.70	70.85	158.00	59	998.60	53.29	65.50	
30.32	26	6.60	472 36	6.88	33	851.60	23.00	67.50	19	116.30	7.04	40.90	77
10.31	6	1.01	189 51	0.52	28	229.60	6.45	98.20	16	128.56	4.35	105.60	78
14.63	43	4.55	1,623 31	1.53	37	629.80	10.32	116.00	16	422.28	7.33	111.00	
9.00	.....	13.00	6,120 00	.....	5	1,724.00	16.00	121.00	3	300.00	6.00	100.00	
33.94	.....	18.56	7,933 22	2.05	70	2,583.40	32.77	121.00	35	850.84	17.68	111.00	
40.31	45	9.45	838 36	11.18	76	524.00	22.41	63.00	58	439.00	16.17	63.00	79
23.87	12	2.75	224 12	2.42	5	11.00	2.35	9.40	7	145.00	21.85	43.24	80