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**Railway crossings—Shape and
dimension**

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by Minister of Land, Infrastructure, Transport and Tourism through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard from Japan Railway Turnout Manufacture's Association (JRTMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently, **JIS E 1306:1995** is replaced with this Standard.

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Being in conformance with this Standard may come under the use of the following patent right concerning the symbol of grade below.

1. Title of invention Crossing nose rail and manufacture thereof and weld crossing and manufacture thereof

Patent number	No. 2965280
Patent holder	Yamato Kogyo Co., Ltd.
Address	380 Kibi, Otsu-ku, Himeji city, Hyogo
2. Title of invention Crossing nose rail and formation thereof and weld crossing and formation thereof

Patent number	No. 2110362
Patent holder	Tetsudo Kiki, Ltd.
Address	1151 Simomino, Fukuoka-machi, Takaoka city, Toyama

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The “patent rights” as mentioned here include patent right, application for a patent after opening to the public or utility model right.

Railway crossings—Shape and dimension

Introduction

This Japanese Industrial Standard was established in 1975 and has gone through three-time revisions to this day. The last revision was taken place in 1995; and the revision of this time is to add NEW crossings (Non-groove Electron beam Welding crossings) and advanced welded crossings to this Standard, which are newly developed and put into practical use afterwards, as well as to modify and organize diagrams thereof.

The corresponding International Standard has not yet been published at this moment.

1 Scope

This Standard specifies the shapes and dimensions of 1 067 mm and 1 435 mm gauge railway crossings (hereafter referred to as “crossings”) used for the ordinary railway among railways stipulated in the Enforcement Regulations of Article 4 of the Railway Business Act. However, this does not apply to the crossings for Shinkansen railway which is based on the Nationwide Shinkansen Railway Development Act.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS E 1301 *Turnout number*

JIS E 1311 *Railway—Turnouts and crossings vocabulary*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in **JIS E 1311** and the following apply.

3.1 advanced welded crossing

rigid crossing of combined type in which the long point rail and the short point rail of the flat bottom in shape are welded at the head and the bottom thereof to construct the V-piece, and bonded with the wing rail through the filler

4 Shapes and dimensions of crossings

The shapes and dimensions of crossings are as given in table 1 to table 5.

For the crossing number, **JIS E 1301** applies.

Table 1 Crossing

Type of rail	Crossing number	Applicable figure number				
		Built-up crossing	Pressure welded crossing	NEW crossing	Advanced welded crossings	Solid manganese steel rigid crossing
40N	6	17	—	—	—	—
	7	1, 4				
	8	1, 4, 16				
	10	1, 4				
	12					
	14	2, 5				
	16					
50N	6	17	—	—	—	23, (31)
	7	1, 4				24, (31)
	8	1, 4, 16	7	10	13	25, (31)
	10	1, 4				26, (31)
	12					27, (31)
	14	3, 6				28, (31)
	16					29, (31)
	20					30, (31)
60	8	—	8	11	14	32, (37)
	10					33, (37)
	12					34, (37)
	16		9	12	15	35, (37)
	20					36, (37)
30A	8	16	—	—	—	—
37A	8	16	—	—	—	—
NOTE : The number in parentheses indicates that in the detailed diagram of solid manganese steel rigid crossing.						

Table 2 End crossing

Type of rail	Crossing number	Applicable figure number	
		Built-up crossing	Solid manganese steel rigid crossing
40N	4	17	—
	5		
	6		
50N	4	17	38, (41)
	5		39, (41)
	6		40, (41)
60	4	—	42, (45)
	5		43, (45)
	6		44, (45)
NOTE : The number in parentheses indicates that in the detailed diagram of solid manganese steel rigid end crossing.			

Table 3 Rigid obtuse crossing

Type of rail	Crossing number	Applicable figure number	
		Built-up crossing	Solid manganese steel rigid crossing
40N	4	18	—
	5		
	6		
	8		
50N	4	18	46, (50)
	5		47, (50)
	6		48, (50)
	8		49, (50)
60	4	—	51, (54)
	5		52, (54)
	6		53, (54)
NOTE 1 The number in parentheses indicates that in the detailed diagram of solid manganese steel rigid obtuse crossing.			
NOTE 2 That of crossing number 8 can be used only for 1 435 mm gauge.			

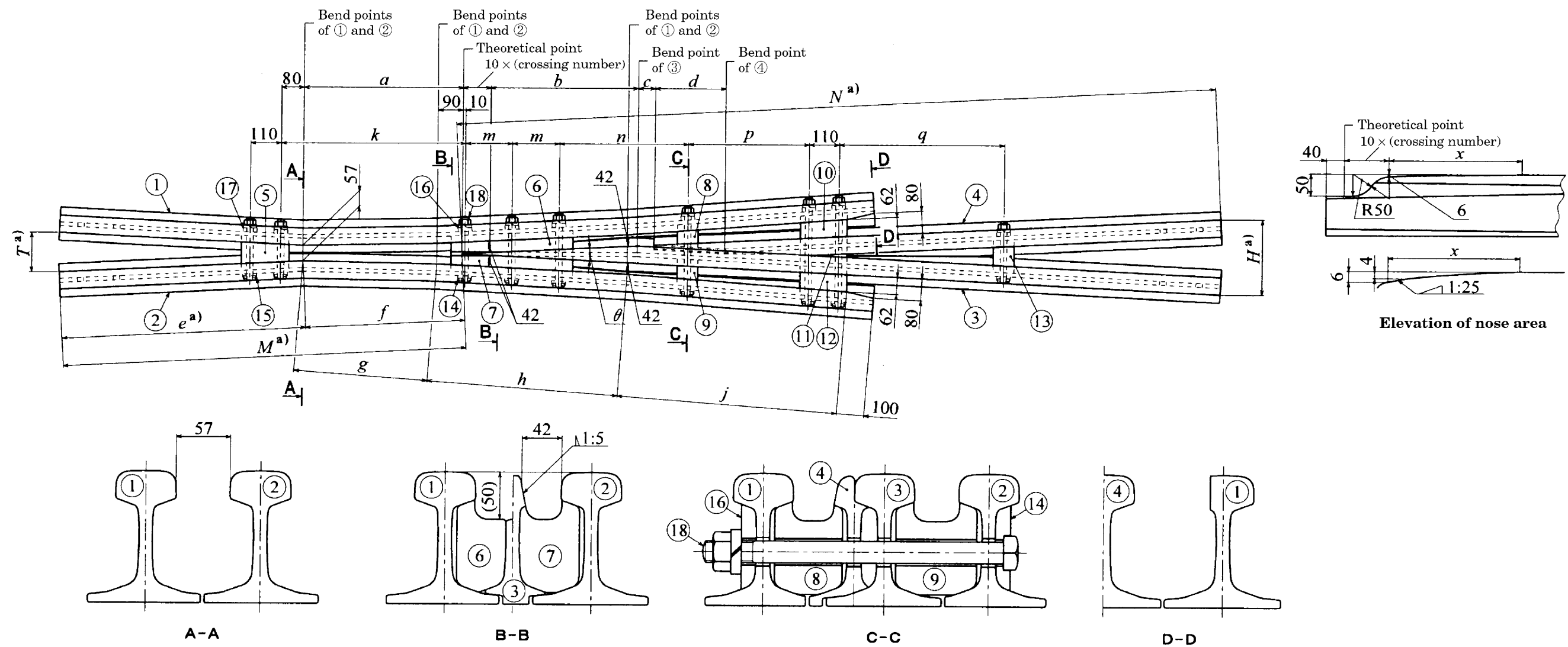
Table 4 Movable obtuse crossing

Type of rail	Crossing number	Applicable figure number		
		Movable obtuse crossing	Movable rail	Components
40N	8	19	19.1	19.2 to 19.5, 19.12 to 19.14, 19.17, 19.18, 19.20, 19.21, 19.25 to 19.28, 19.35 to 19.37, 19.39, 19.40, 19.42, 19.43, 20.7
	9			19.2 to 19.7, 19.12, 19.17 to 19.19, 19.22, 19.25 to 19.27, 19.31, 19.32, 19.37, 19.39, 19.40, 19.42, 20.7
	10			
	12			
50N	8	19	19.1	19.2 to 19.5, 19.12, 19.15 to 19.18, 19.20, 19.21, 19.25 to 19.28, 19.33, 19.34, 19.37, 19.38, 19.40 to 19.43, 20.7
	9			19.2 to 19.5, 19.8, 19.9, 19.12, 19.17 to 19.19, 19.22, 19.25 to 19.27, 19.29, 19.30, 19.37, 19.38, 19.40, 19.42, 20.7
	10			
	12			
	16			
60	8	20	(20.1)	20.4 to 20.11, 20.13, 20.15 to 20.25, 20.32 to 20.40
	9		20.2, 20.3	20.4 to 20.11, 20.13, 20.16 to 20.25, 20.32 to 20.38, 20.40
	10			20.4 to 20.14, 20.16 to 20.33, 20.41
	12			20.4 to 20.11, 20.13, 20.14, 20.16 to 20.25, 20.27, 20.28, 20.32, 20.33
	16			
NOTE 1 The number in parentheses indicates that in the diagram of knuckle rail.				
NOTE 2 That for 60 kg rail is the flexible movable obtuse crossing.				

Table 5 Run-over type crossings

Type of rail	Crossing number	Applicable figure number
40N	7	21
	8	
50N	7	21
	8	21, 22
	10	22
	12	
60	8	21

Unit: mm



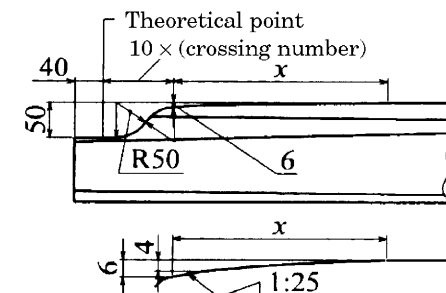
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	x
40N	7	8° 10'	1 100	2 050	157	292	399	374	42	180	698	402	309	506	800	489	130	312	492	0	600
	8	7° 9'	1 200	2 250	150	281	456	427	48	205	741	459	366	567	800	546	130	390	474	0	600
	10	5° 43'	1 450	2 750	145	274	571	534	60	257	877	573	481	687	800	661	170	466	440	600	600
	12	4° 46'	1 700	3 250	141	270	685	640	72	308	1 013	687	595	808	800	775	180	601	405	700	650
50N	7	8° 10'	1 100	2 050	157	292	399	378	42	182	698	402	309	506	1 000	489	130	330	673	0	600
	8	7° 9'	1 200	2 250	150	281	456	432	48	208	741	459	366	567	1 000	546	130	410	654	0	600
	10	5° 43'	1 450	2 750	145	274	571	540	60	260	877	573	481	688	1 000	661	170	490	616	500	600
	12	4° 46'	1 700	3 250	141	270	685	647	72	312	1 013	687	595	808	1 000	775	180	620	587	650	650

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

Note ^{a)} Relevant dimensions may be changed depending upon the working condition.

Figure 1 Built-up crossing (1)

Unit: mm



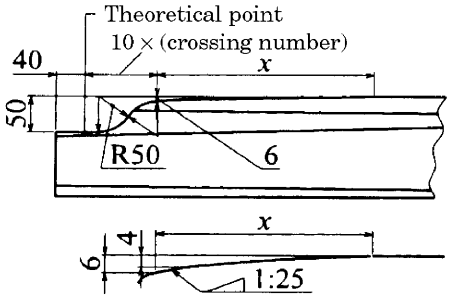
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	x
40N	14	4° 5'	2 050	3 850	146	274	799	747	84	359	1 249	801	710	929	889	130	150	698	1 200	760
	16	3° 34' 30"	2 200	4 250	137	265	913	853	96	411	1 285	915	823	1 049	1 003	160	170	784	1 400	880

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

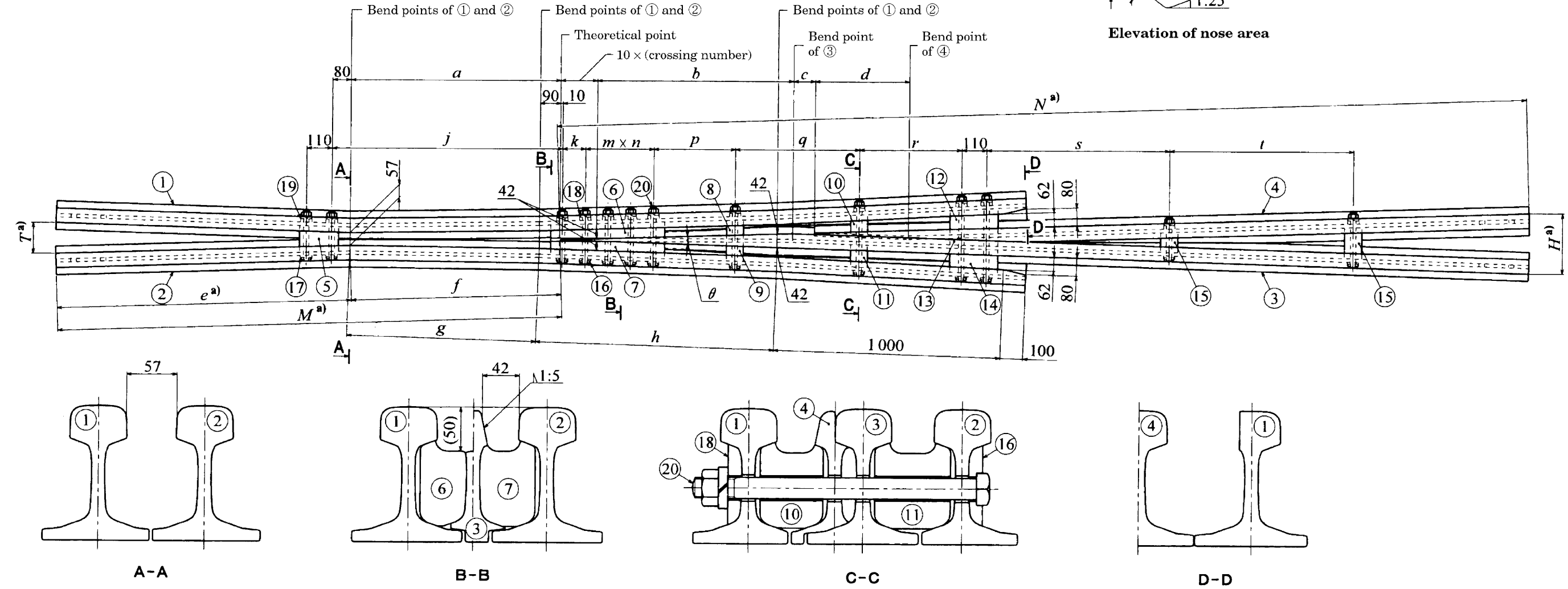
Note ^{a)} Relevant dimensions may be changed depending upon the working condition.

Figure 2 Built-up crossing (2)

Unit: mm



Elevation of nose area



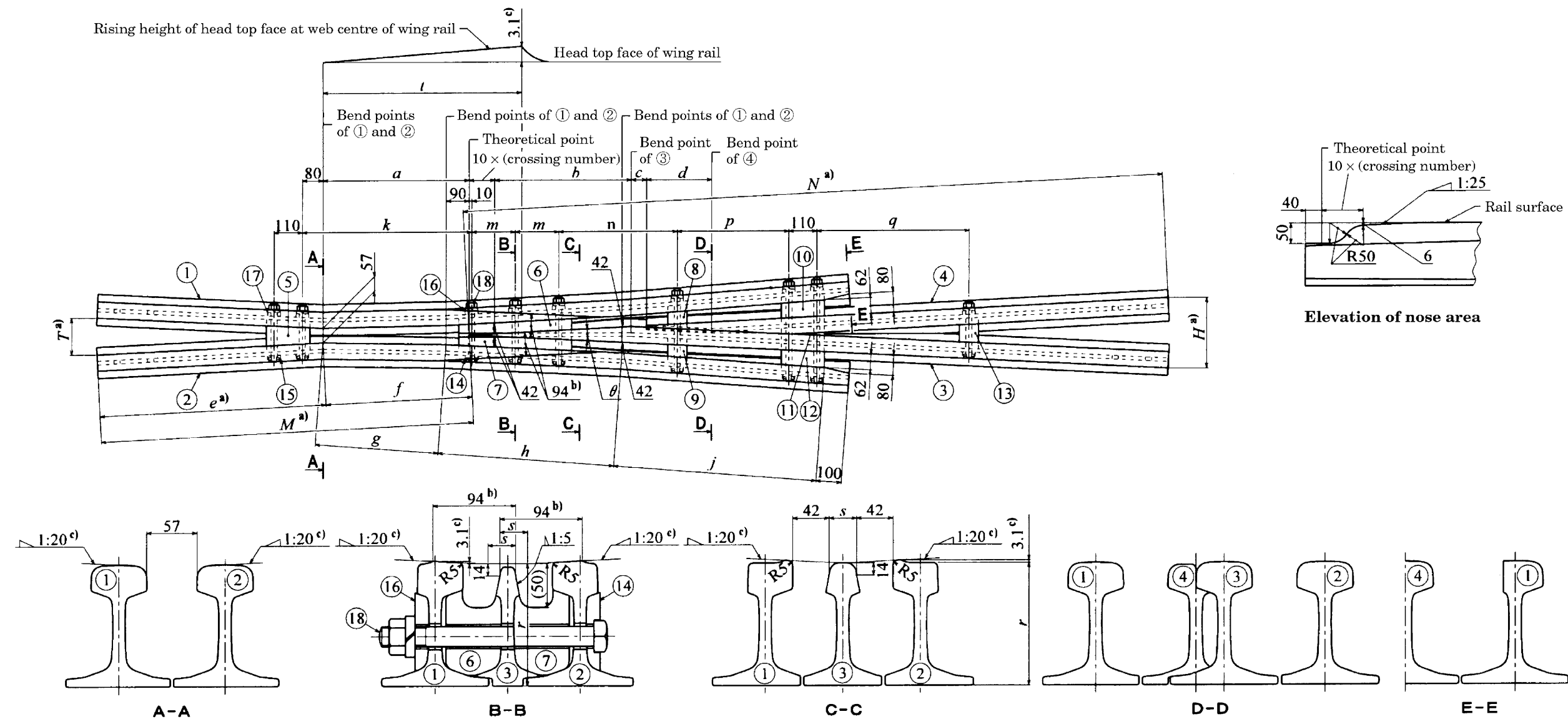
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	x
50N	14	4° 5'	2 050	3 850	146	274	799	755	84	364	1 249	801	710	929	889	130	150	2	0	710	549	800	0	770
	16	3° 34' 30"	2 200	4 250	137	265	913	863	96	416	1 285	915	823	1 050	1 003	160	170	2	0	800	509	1 000	0	880
	20	2° 51' 30"	2 900	5 450	145	272	1 142	1 079	120	520	1 757	1 143	1 052	1 291	1 232	160	160	3	460	520	430	1 000	1 000	1 120

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑳	
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

Note a) Relevant dimensions may be changed depending upon the working condition.

Figure 3 Built-up crossing (3)

Unit: mm



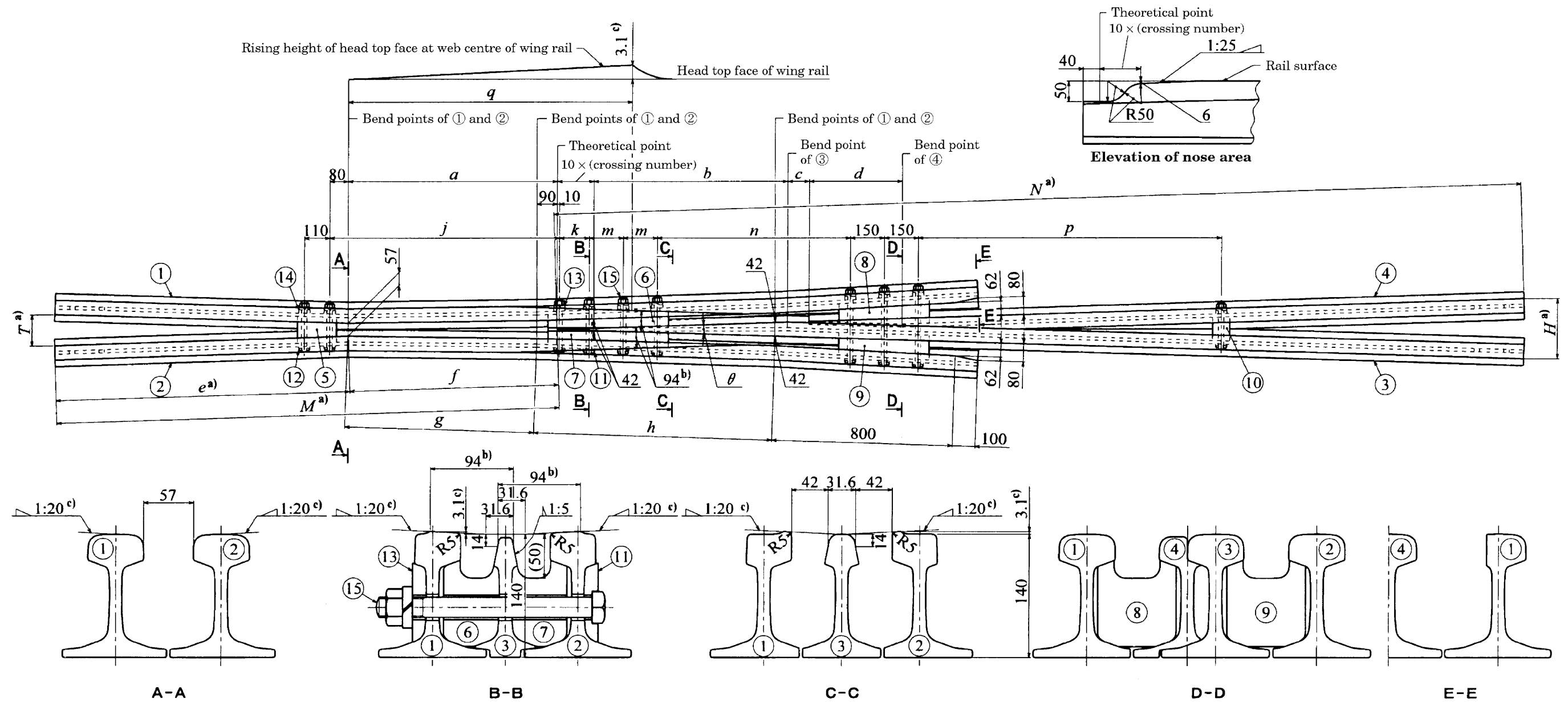
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t
40N	7	8° 10'	1 100	2 050	157	292	399	374	42	180	698	402	309	506	800	489	130	312	492	0	140	31.6	542
	8	7° 9'	1 200	2 250	150	281	456	427	48	205	741	459	366	567	800	546	130	390	474	0	140	31.6	620
	10	5° 43'	1 450	2 750	145	274	571	534	60	257	877	593	481	687	800	661	170	466	440	600	140	31.6	775
	12	4° 46'	1 700	3 250	141	270	685	640	72	308	1 013	687	595	808	800	775	180	601	405	700	140	31.6	930
50N	7	8° 10'	1 100	2 050	157	292	399	378	42	182	698	402	309	506	1 000	489	130	330	673	0	153	31.9	540
	8	7° 9'	1 200	2 250	150	281	456	432	48	208	741	459	366	567	1 000	546	130	410	654	0	153	31.9	617
	10	5° 43'	1 450	2 750	145	274	571	540	60	260	877	573	481	688	1 000	661	170	490	616	500	153	31.9	772
	12	4° 46'	1 700	3 250	141	270	685	647	72	312	1 013	687	595	808	1 000	775	180	620	587	650	153	31.9	926

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

- Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.
^{b)} Rising width may be changed depending upon the working condition.
^{c)} Rising slant of head top face may be changed depending upon the working condition.

Figure 4 Built-up crossing (4)

Unit: mm



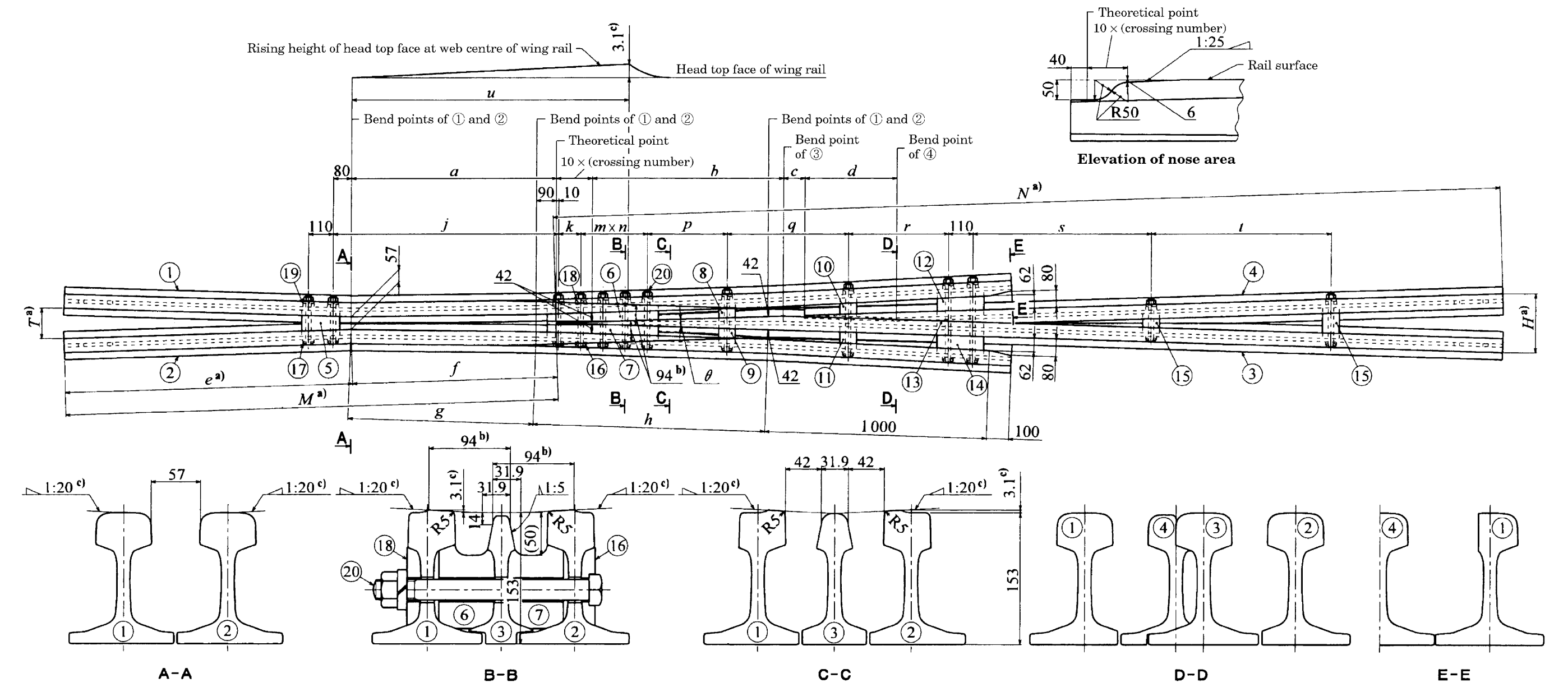
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q
40N	14	4° 5'	2 050	3 850	146	274	799	747	84	359	1 249	801	710	929	889	130	150	698	1 200	1 086
	16	3° 34' 30"	2 200	4 250	137	265	913	853	96	411	1 285	915	823	1 049	1 003	160	170	784	1 400	1 240

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

- Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.
^{b)} Rising width may be changed depending upon the working condition.
^{c)} Rising slant of head top face may be changed depending upon the working condition.

Figure 5 Built-up crossing (5)

Unit: mm

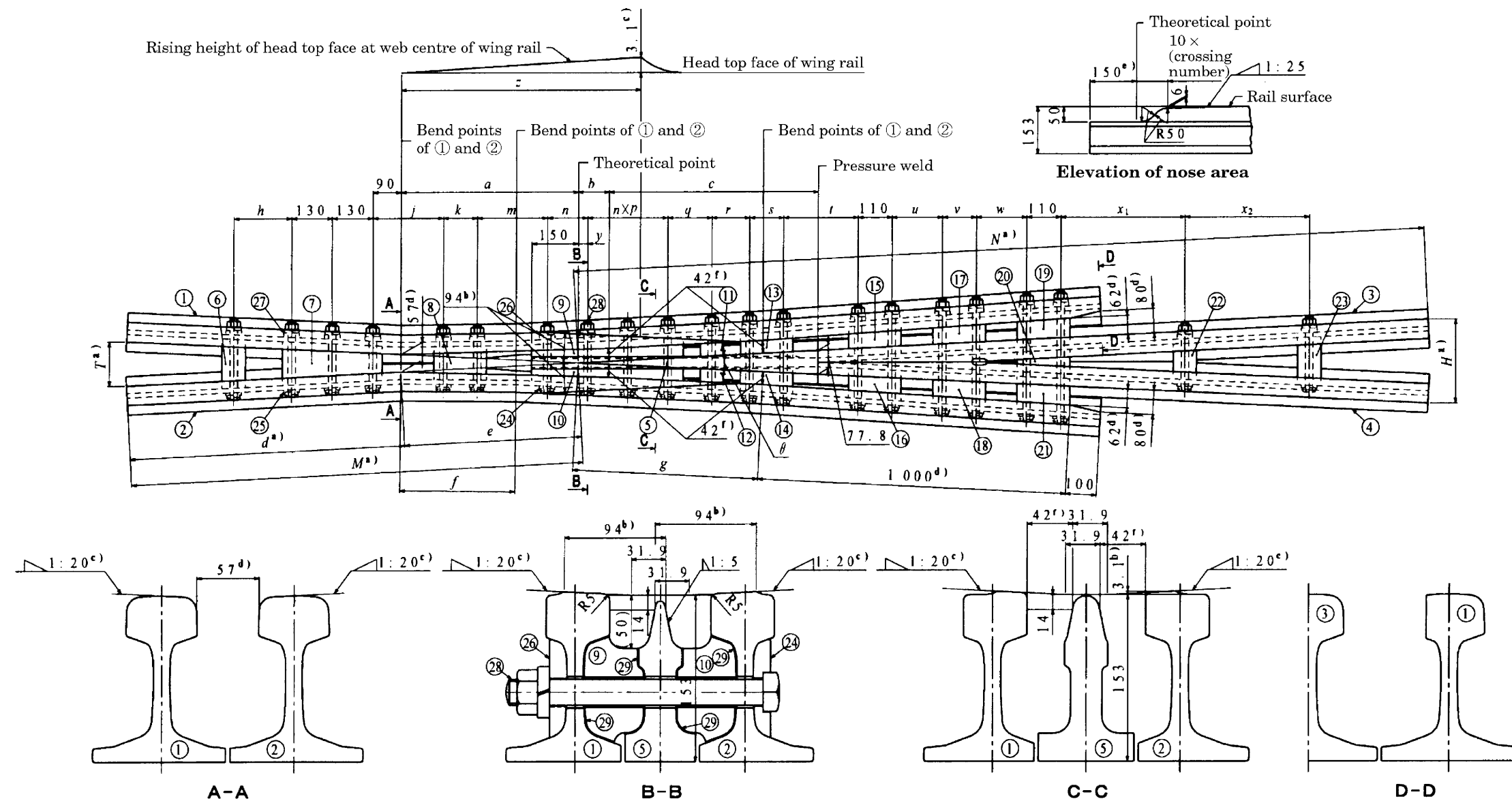


Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u
50N	14	4° 5'	2 050	3 850	146	274	799	755	84	364	1 249	801	710	929	889	130	150	2	0	710	549	800	0	1 082
	16	3° 34' 30"	2 200	4 250	137	265	913	863	96	416	1 285	915	823	1 050	1 003	160	170	2	0	800	509	1 000	0	1 235
	20	2° 51' 30"	2 900	5 450	145	272	1 142	1 079	120	520	1 757	1 143	1 052	1 290	1 232	160	160	3	460	520	430	1 000	1 000	1 545

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑳	
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

- Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.
^{b)} Rising width may be changed depending upon the working condition.
^{c)} Rising slant of head top face may be changed depending upon the working condition.

Figure 6 Built-up crossing (6)



Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w	x_1	x_2	y	z
50N	8	7° 9'	1 200	2 250	150	281	456	88	535	741	459	256	481	0	0	0	446	150	1	200	0	0	360	0	0	464	0	0	50	617
	10	5° 43'	1 450	2 750	145	274	571	100	679	877	573	371	602	0	0	0	561	150	1	0	210	110	390	0	0	436	500	0	50	772
	12	4° 46'	1 700	3 250	141	270	685	112	823	1 013	687	485	721	0	0	0	675	150	1	0	330	110	400	0	0	427	650	0	50	923
	14	4° 5'	2 050	3 850	146	274	799	124	967	1 249	801	598	842	0	0	0	789	150	2	0	340	110	400	0	0	389	1 000	0	50	1 082
	16	3° 34' 30"	2 200	4 250	137	265	913	136	1 110	1 285	915	713	962	0	0	0	903	150	2	0	420	110	470	0	0	357	1 050	0	50	1 235
20	2° 51' 30"	2 900	5 450	145	272	1 142	200	1 359	1 757	1 143	942	1 203	800	422	110	600	150	2	2	400	110	400	340	110	241	700	1 050	50	1 454	

[illegible]

Code	21	22	23	24	25	26	27	28	29
Name	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt	Gluing cloth

NOTE: For the crossing number of 20, the filler ⑳ is not used.

Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.

- b) Rising width may be changed depending upon the working condition.

c) Rising slant of head top face may be changed depending upon the working condition.

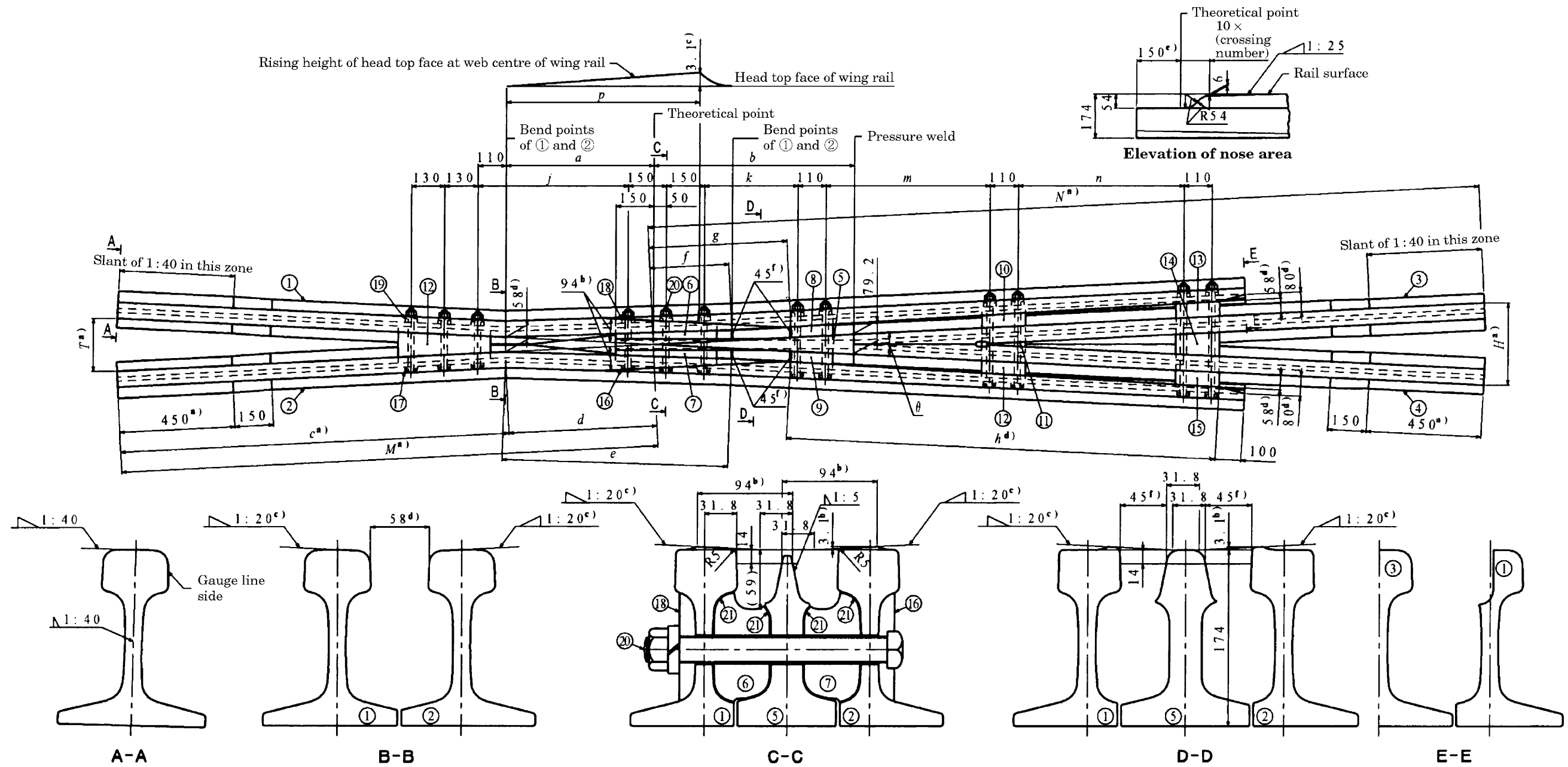
d) Flange way width and guide length may be changed depending upon the working condition.

e) Length between theoretical point and edge may be changed depending upon the working condition.

f) Flange way width of 42 mm may be changed depending upon the working condition.

Figure 7 Pressure welded crossing (1)

Unit: mm



Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p
60	8	7° 9'	1 700	2 850	212	355	464	634	1 235	465	740	280	480	1 440	474	210	570	576	602
	10	5° 43'	2 100	3 050	209	304	581	793	1 518	582	890	310	510	1 690	591	370	630	630	753
	12	4° 46'	1 950	3 750	162	312	697	951	1 253	697	994	300	480	1 690	707	520	540	548	904

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑
Name	Wing rail	Wing rail	Point rail	Point rail	Point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt	Gluing cloth

Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.

b) Rising width may be changed depending upon the working condition.

c) Rising slant of head top face may be changed depending upon the working condition.

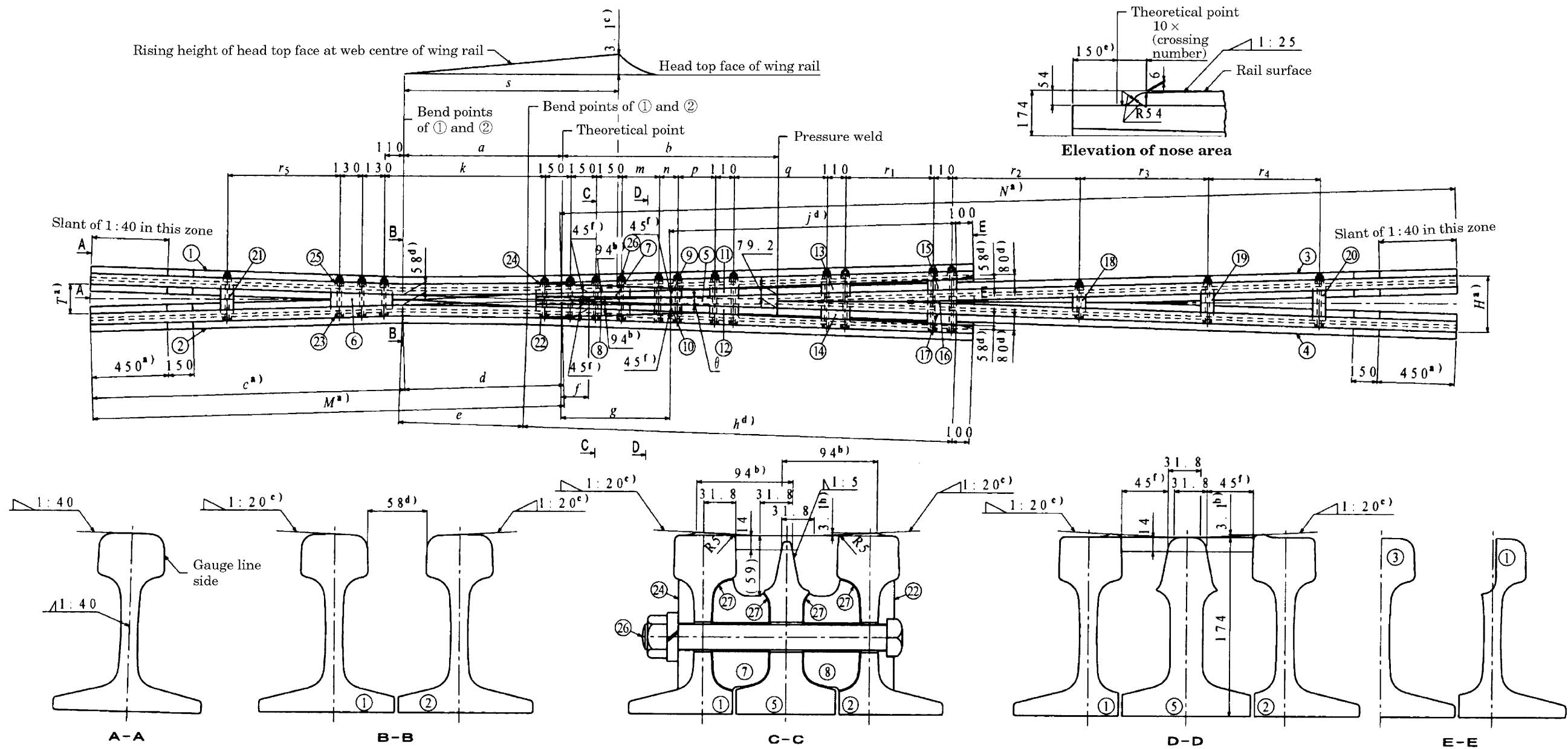
d) Flange way width and guide length may be changed depending upon the working condition.

e) Length between theoretical point and edge may be changed depending upon the working condition.

f) Flange way width of 45 mm may be changed depending upon the working condition.

Figure 8 Pressure welded crossing (2)

Unit: mm



Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r_1	r_2	r_3	r_4	r_5	s
60	16	3° 34' 30"	2 750	5 250	172	328	929	1 269	1 820	930	729	160	640	2 630	1 690	939	0	0	550	550	519	750	750	650	650	1 205
	20	2° 51' 30"	3 150	6 000	157	299	1 162	1 587	1 987	1 163	962	200	800	2 789	1 690	1 172	450	110	450	380	389	900	900	900	800	1 507

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑
Name	Wing rail	Wing rail	Point rail	Point rail	Point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler

Code	㉒	㉓	㉔	㉕	㉖	㉗
Name	Washer	Washer	Washer	Washer	Bolt	Gluing cloth

NOTE : For the crossing number of 20, the filler ⑯ is not used.

Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.

^{b)} Rising width may be changed depending upon the working condition.

^{c)} Rising slant of head top face may be changed depending upon the working condition.

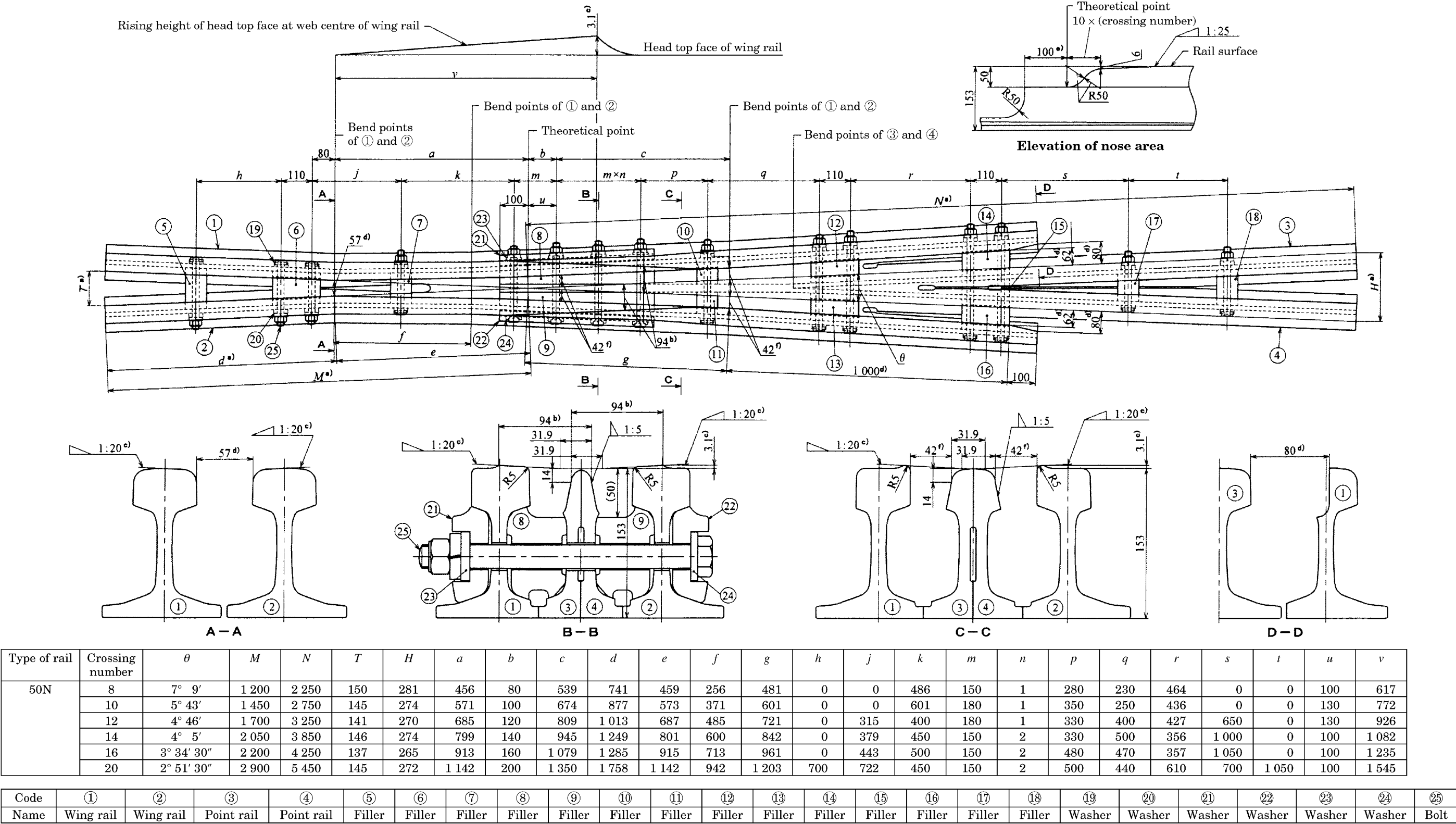
^{d)} Flange way width and guide length may be changed depending upon the working condition.

^{e)} Length between theoretical point and edge may be changed depending upon the working condition.

^{f)} Flange way width of 45 mm may be changed depending upon the working condition.

Figure 9 Pressure welded crossing (3)

Unit: mm



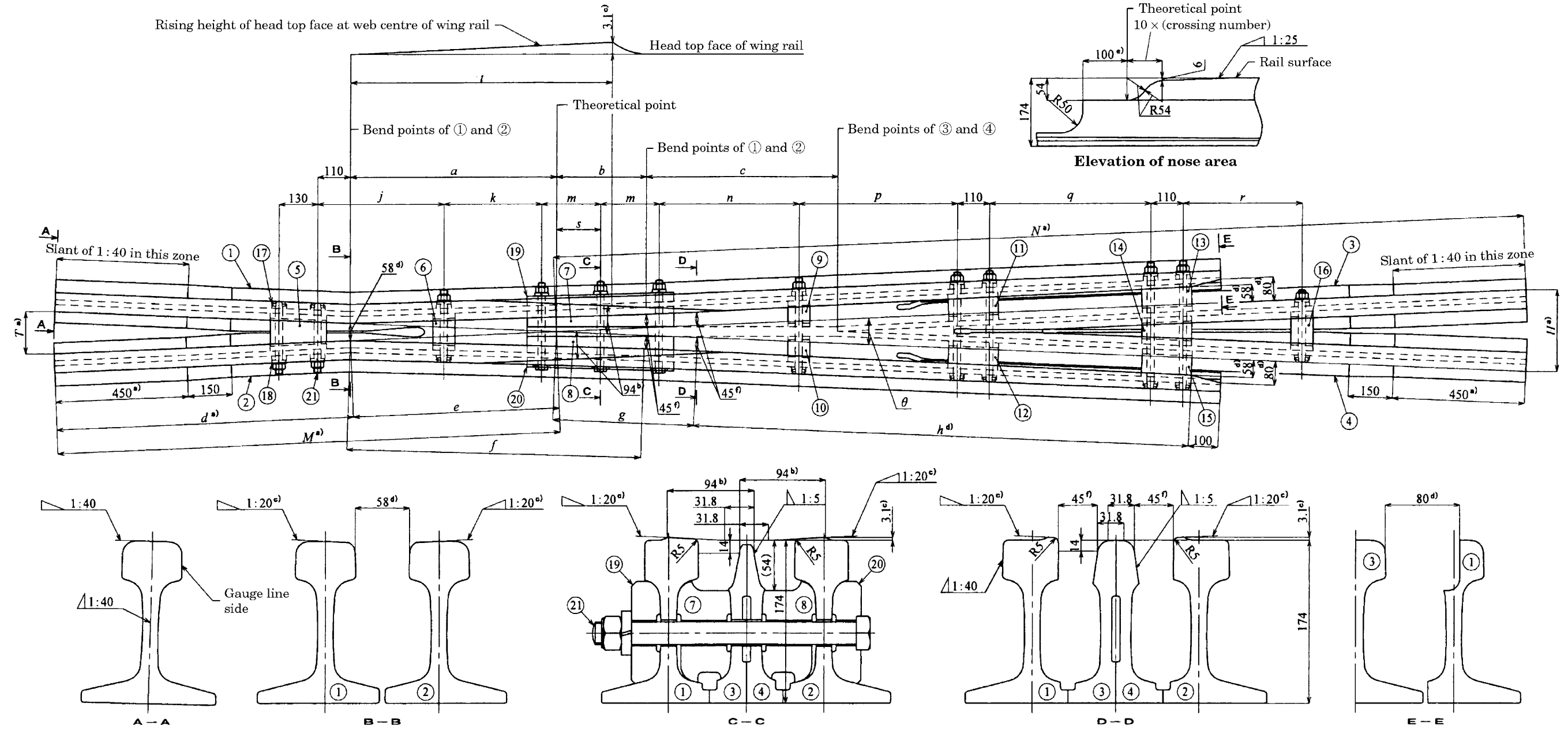
NOTE : For the crossing numbers of 14, 16 and 20, the filler ⑮ is not used.

Notes ^{a)} Relevant dimensions may be changed depending upon the working condition. ^{c)} Rising slant of head top face may be changed depending upon the working condition. ^{e)} Length between theoretical point and edge may be changed depending upon the working condition.

^{b)} Rising width may be changed depending upon the working condition. ^{d)} Flange way width and guide length may be changed depending upon the working condition. ^{f)} Flange way width of 42 mm may be changed depending upon the working condition.

Figure 10 NEW crossing (1)

Unit: mm



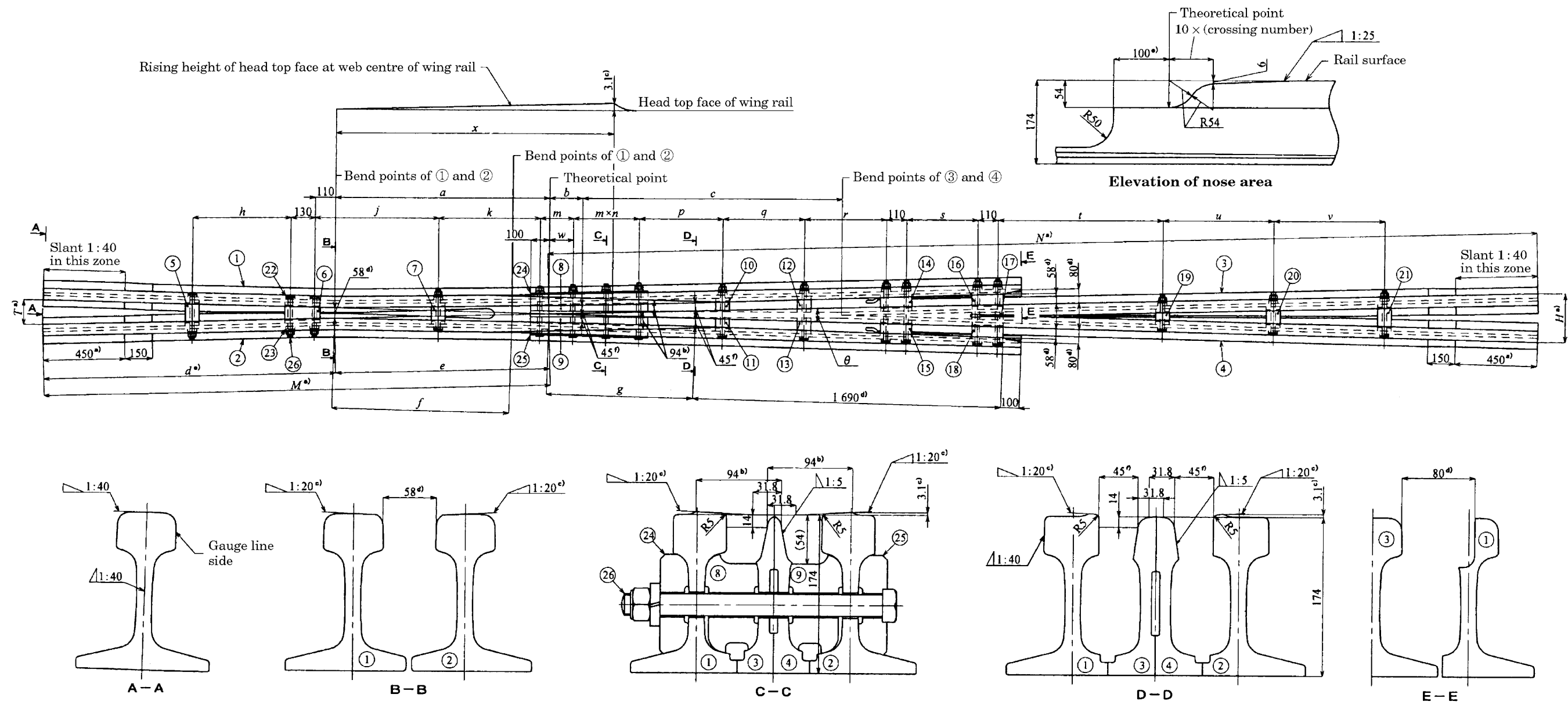
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t
60	8	7° 9'	1 700	2 850	212	355	464	280	358	1 233	467	740	480	1 440	0	524	150	270	570	576	0	100	602
	10	5° 43'	2 100	3 050	209	304	581	310	488	1 517	593	890	510	1 690	0	641	180	370	630	630	0	130	753
	12	4° 46'	1 950	3 750	162	312	697	300	657	1 251	699	994	480	1 690	427	330	200	480	540	548	650	150	904

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑
Name	Wing rail	Wing rail	Point rail	Point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

- Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.
^{b)} Rising width may be changed depending upon the working condition.
- ^{c)} Rising slant of head top face may be changed depending upon the working condition.
^{d)} Flange way width and guide length may be changed depending upon the working condition.
- ^{e)} Length between theoretical point and edge may be changed depending upon the working condition.
^{f)} Flange way width of 42 mm may be changed depending upon the working condition.

Figure 11 NEW crossing (2)

Unit: mm



Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w	x
60	16	$3^{\circ} 34' 30''$	2 750	5 250	172	328	929	160	1 116	1 820	930	729	640	780	500	489	150	2	390	390	380	519	750	750	650	100	1 205
	20	$2^{\circ} 51' 30''$	3 150	6 000	157	299	1 162	200	1 396	1 987	1 163	962	800	930	672	550	180	2	460	450	450	389	900	900	900	130	1 507

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖
Name	Wing rail	Wing rail	Point rail	Point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt

- Notes

^{a)} Relevant dimensions may be changed depending upon the working condition.

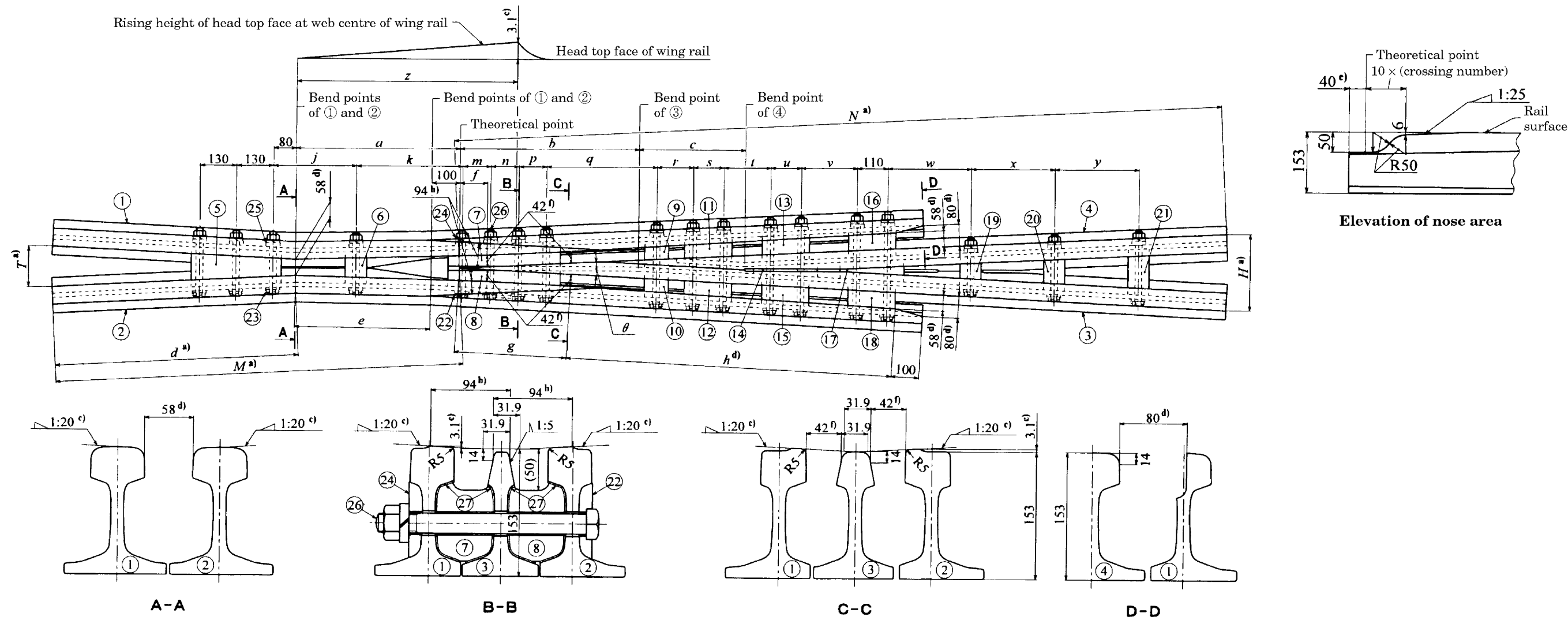
^{b)} Rising width may be changed depending upon the working condition.
- ^{c)} Rising slant of head top face may be changed depending upon the working condition.

^{d)} Flange way width and guide length may be changed depending upon the working condition.
- ^{e)} Length between theoretical point and edge may be changed depending upon the working condition.

^{f)} Flange way width of 45 mm may be changed depending upon the working condition.

Figure 12 NEW crossing (3)

Unit: mm



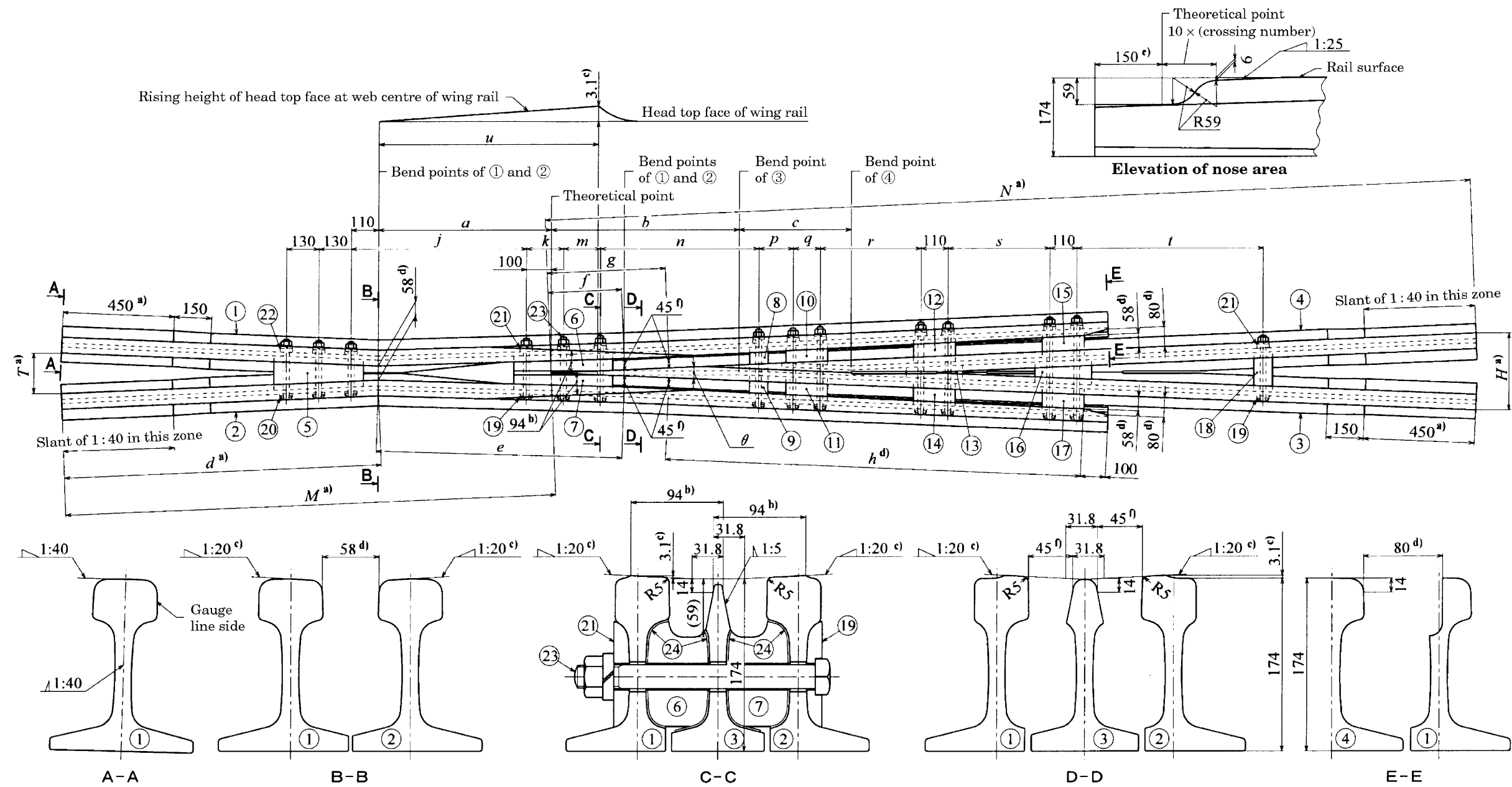
Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w	x	y	z
50N	8	7° 9'	1 200	2 250	150	281	464	512	305	733	364	80	320	1 150	554	0	130	130	0	300	100	70	585	0	0	0	0	0	625
	10	5° 43'	1 450	2 750	145	274	581	640	381	867	481	100	400	1 570	671	0	150	150	0	395	130	110	370	110	400	0	0	0	783
	12	4° 46'	1 700	3 250	141	270	697	767	457	1 001	597	120	480	1 600	787	0	150	150	0	550	150	110	355	110	350	0	0	0	939
	14	4° 5'	2 050	3 850	146	274	714	995	533	1 235	714	140	560	1 600	904	0	150	150	150	530	245	110	245	110	315	800	0	0	1 096
	16	3° 34' 30"	2 200	4 250	137	265	929	1 023	609	1 269	829	160	640	1 600	500	519	150	150	150	670	155	110	350	0	350	650	650	0	1 251
	20	2° 51' 30"	2 900	5 450	145	272	1 162	1 279	762	1 737	1 062	200	800	1 600	625	627	150	150	150	480	480	0	350	110	378	850	850	850	1 565

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt	Gluing cloth

- Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.
- ^{b)} Rising width may be changed depending upon the working condition.
- ^{c)} Rising slant of head top face may be changed depending upon the working condition.
- ^{d)} Flange way width and guide length may be changed depending upon the working condition.
- ^{e)} Length between theoretical point and edge may be changed depending upon the working condition.
- ^{f)} Flange way width of 42 mm may be changed depending upon the working condition.

Figure 13 Advanced welded crossing (1)

Unit: mm



Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u
60	8	7° 9'	1 700	2 850	212	355	464	510	305	1 233	740	280	480	1 440	474	130	130	535	0	0	505	466	0	580
	10	5° 43'	2 100	3 050	209	304	581	638	381	1 517	887	310	510	1 690	591	150	150	518	110	110	520	490	0	730
	12	4° 46'	1 950	3 750	162	312	697	765	457	1 251	994	300	480	1 690	707	150	150	645	140	110	410	413	750	887

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt	Gluing cloth

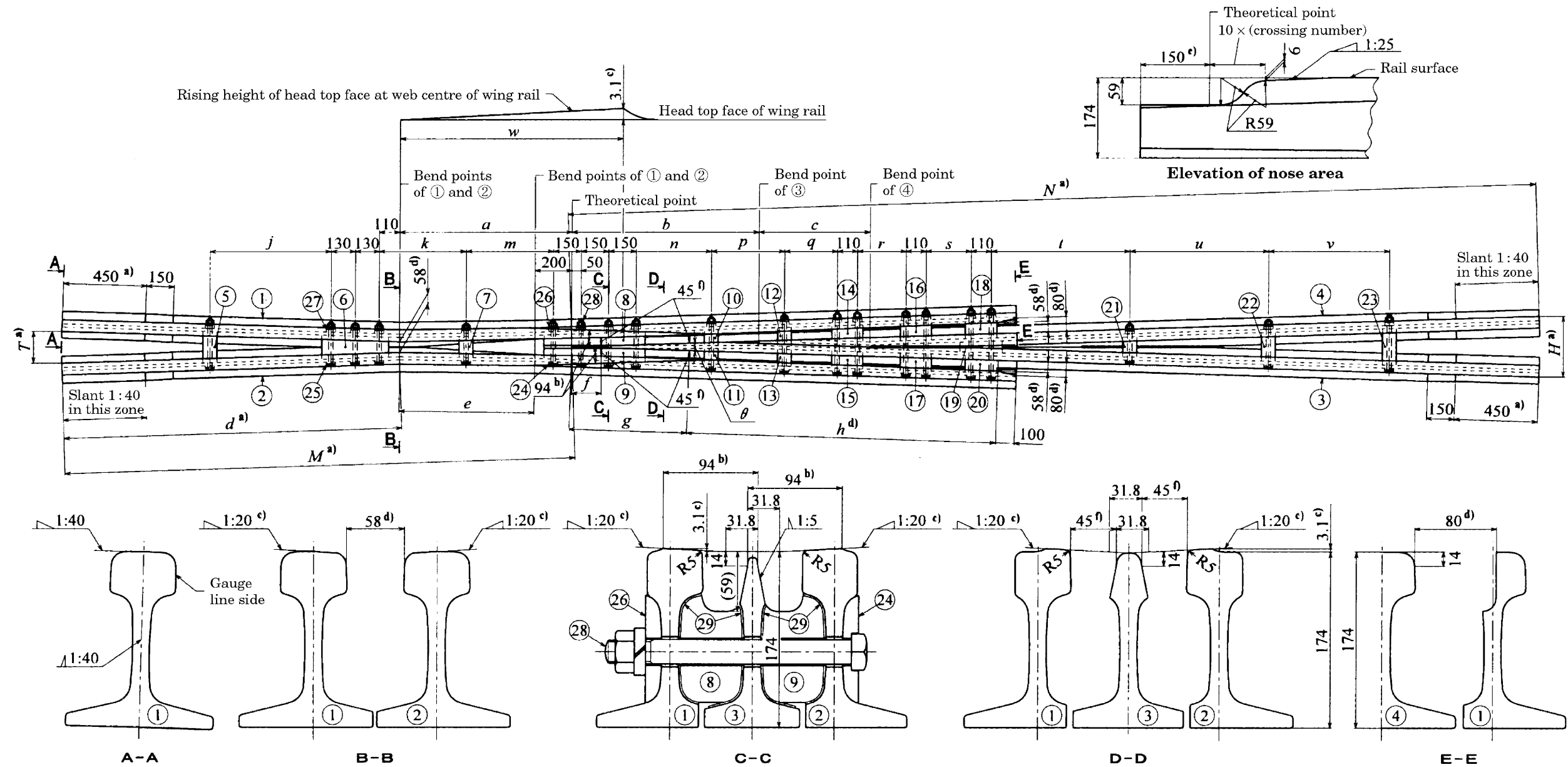
Notes ^{a)} Relevant dimensions may be changed depending upon the working condition.
^{b)} Rising width may be changed depending upon the working condition.

^{c)} Rising slant of head top face may be changed depending upon the working condition.
^{d)} Flange way width and guide length may be changed depending upon the working condition.

^{e)} Length between theoretical point and edge may be changed depending upon the working condition.
^{f)} Flange way width of 45 mm may be changed depending upon the working condition.

Figure 14 Advanced welded crossing (2)

Unit: mm



Type of rail	Crossing number	θ	M	N	T	H	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w
60	16	3° 34' 30"	2 750	5 250	172	328	929	1 019	609	1 820	729	160	640	1 690	650	939	0	410	400	290	620	0	750	750	650	1 205
	20	2° 51' 30"	3 150	6 000	157	299	1 162	1 275	762	1 987	962	200	800	1 690	800	600	572	380	380	290	350	380	900	900	900	1 507

Code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲
Name	Wing rail	Wing rail	Long point rail	Short point rail	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler	Filler

Code	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙
Name	Filler	Filler	Filler	Filler	Washer	Washer	Washer	Washer	Bolt	Gluing cloth

- Notes
- ^{a)} Relevant dimensions may be changed depending upon the working condition.
 - ^{b)} Rising width may be changed depending upon the working condition.
 - ^{c)} Rising slant of head top face may be changed depending upon the working condition.
 - ^{d)} Flange way width and guide length may be changed depending upon the working condition.
 - ^{e)} Length between theoretical point and edge may be changed depending upon the working condition.
 - ^{f)} Flange way width of 45 mm may be changed depending upon the working condition.

Figure 15 Advanced welded crossing (3)

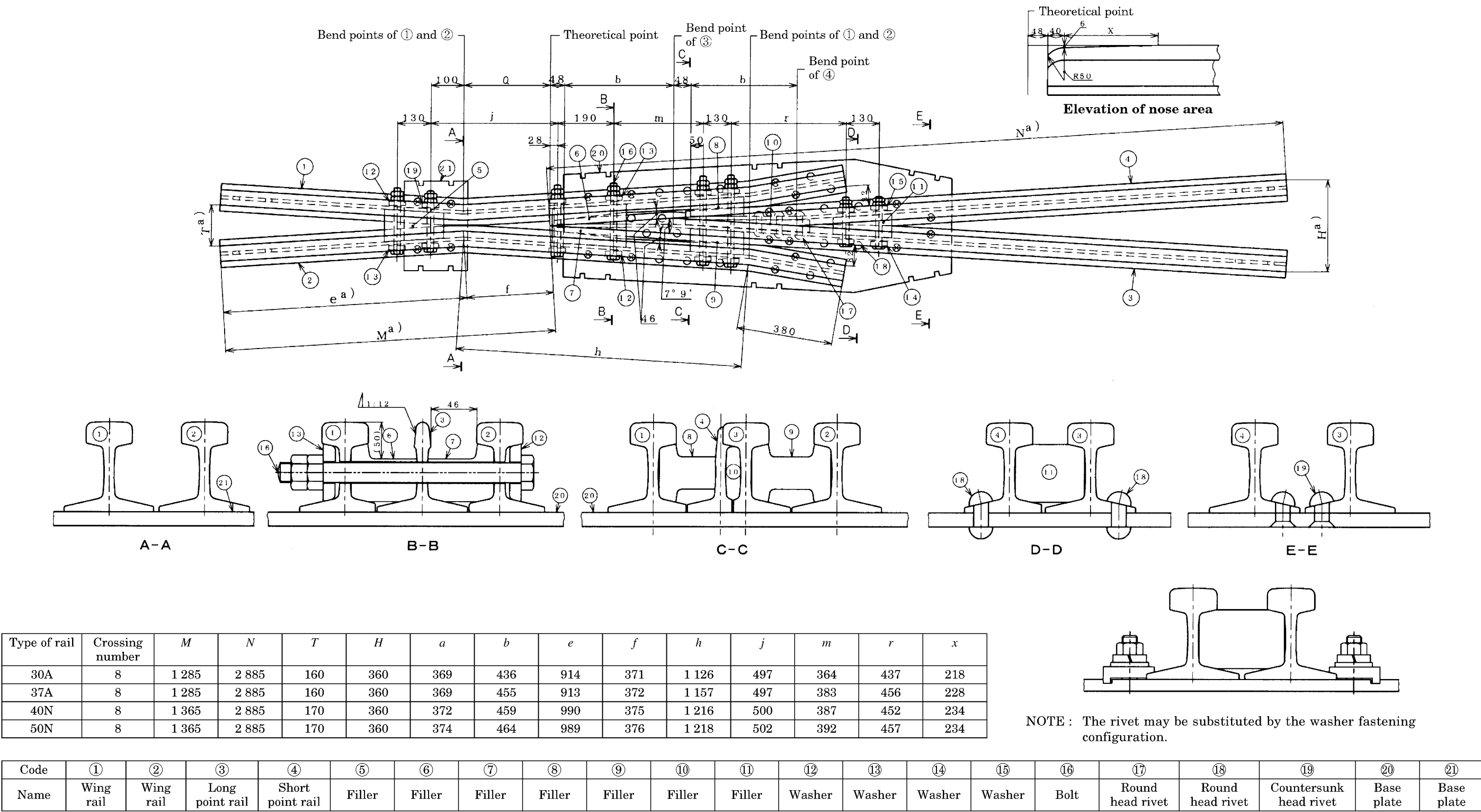


Figure 16 Built-up crossing (7)