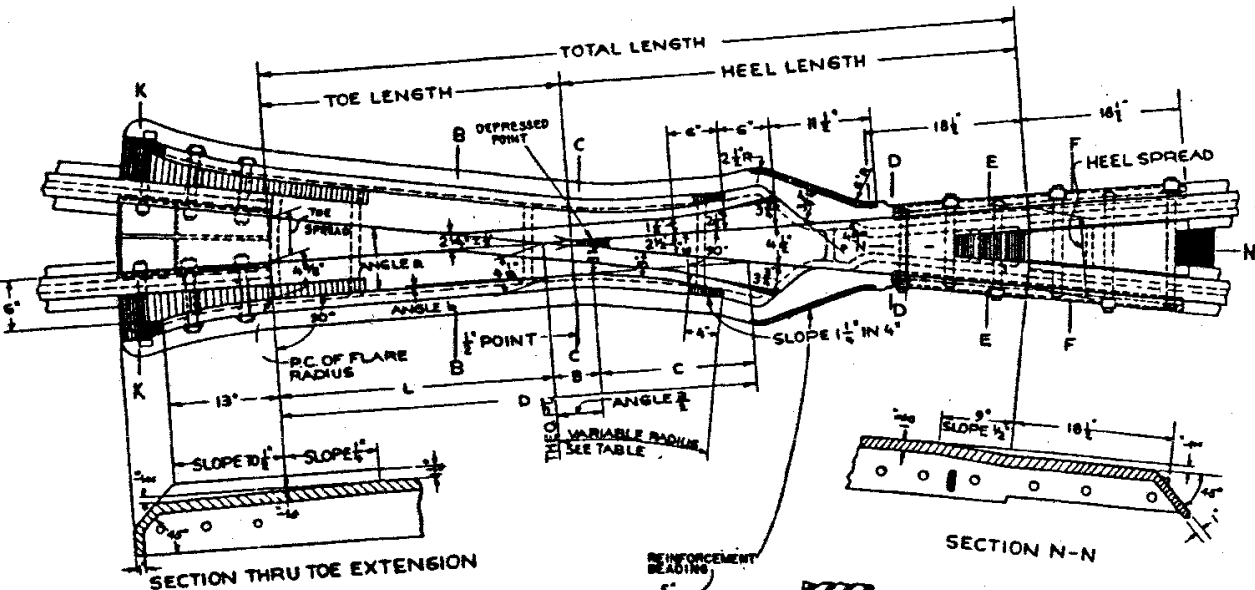
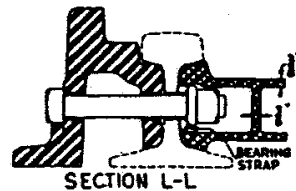
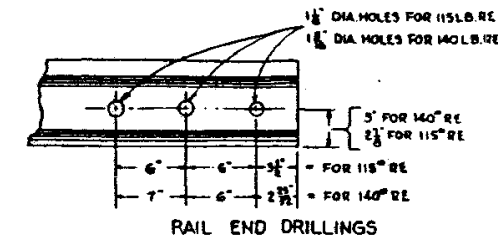
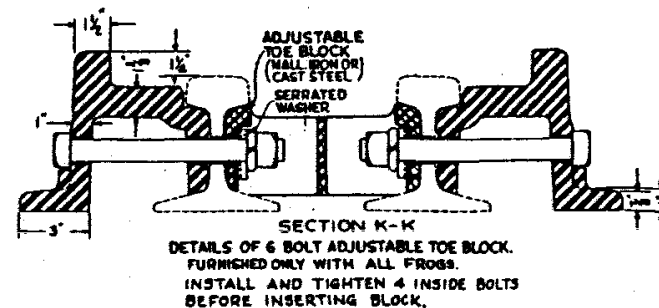
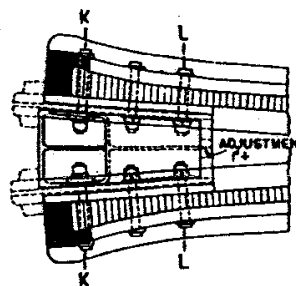
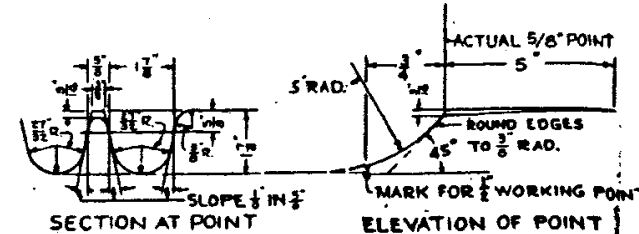


DIMENSIONS OF RAISED GUARDS						
RAIL SECTION	4b	4a	D	C	L	B
115 RE 140 RE	0'-33'-31"	10'-05'-09"	4'-6 1/2"	17 1/2"	2'-8"	3 1/2"

RAIL SECTION	TOE LENGTH	HEEL LENGTH	TOTAL LENGTH	VAR. RADIUS	TOE SPREAD	HEEL SPREAD
115 RE 140 RE	2'-11"	4'-5"	7'-4"	5'-0"	3 3/8"	9 5/16"

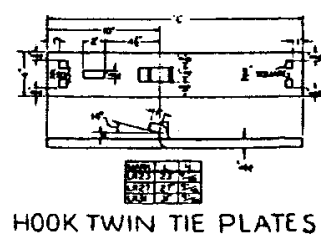
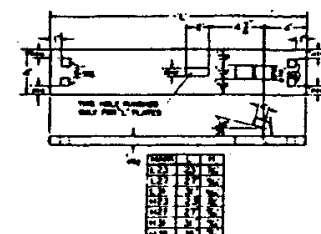


FORMULA FOR VARIABLE RADIUS OF RAISED GUARDS
 TAN ANGLE $\theta = \frac{D}{L}$
 $L = \frac{D}{\tan \theta}$
 $D = \frac{L \tan \theta}{1}$
 $C = \frac{L \tan \theta}{1}$
 $B = D - (L + C)$
 RADIUS = $\frac{L}{\tan \theta}$



QUANTITY OF ROCK TWIN TIE PLATES								
RAIL SECTION	H23M22	L27	H23	H27	H31	H35	LR27	LR31
115 RE	4	2	2	4	2	2	2	2
140 RE	4	2	2	4	2	2	2	2

PLATES MUST BE CLEARLY MARKED AND SHOW AREA PLATE DESIGNATION. HOOKS ON TWIN PLATES AT HEEL JOINT TO BE BENT UP TO VERTICAL POSITION, OR HORIZONTAL POSITION BURNED OFF, TO AVOID INTERFERENCE WITH JOINT BARS.



74151-A

THE PENNSYLVANIA RAILROAD
 AREA STANDARD 1962
 PLAN 6-62 SHEET 4

No. 6 SOLID SELF-GUARDED MANGANESE
 STEEL FROG
 FOR 115 LB. RE AND 140 LB. RE RAIL

OFFICE OF CHIEF ENGINEER, PHILA., PA. AUGUST, 1965

Henry
 Chief Engineer