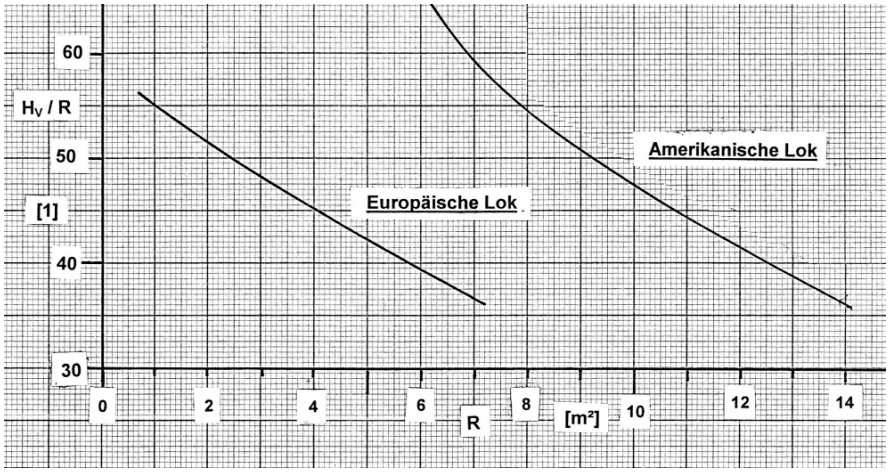


Abb. 4 - 1b Verhältnis H_v/R (JH)

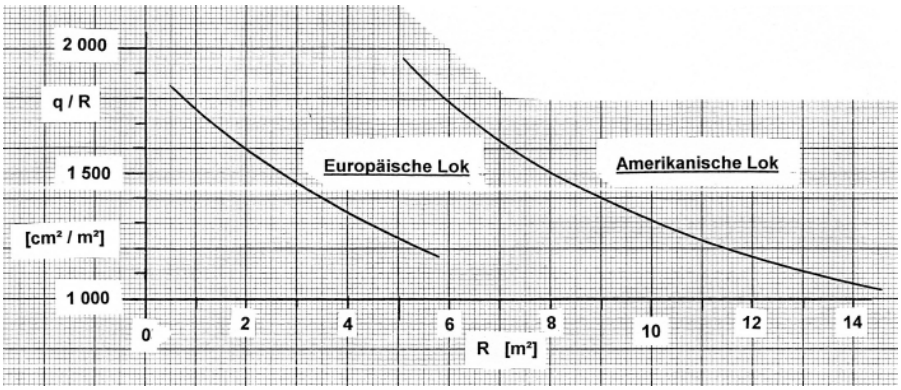


Abb. 4 - 2 Freier Querschnitt der Kesselrohre / Rostfläche (JH)

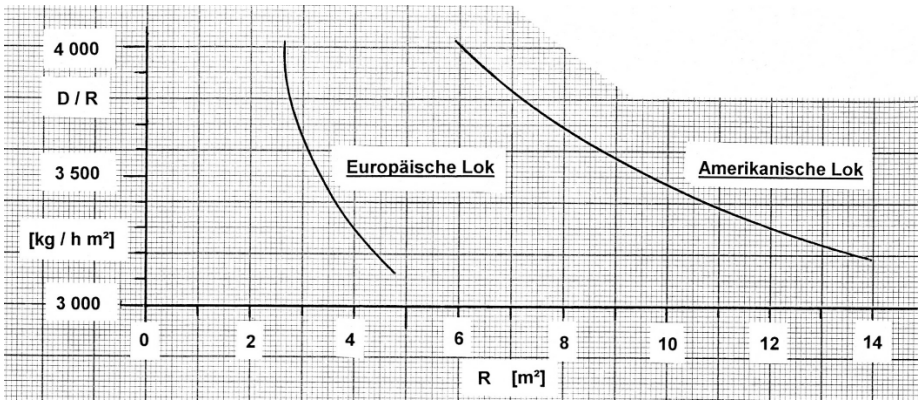
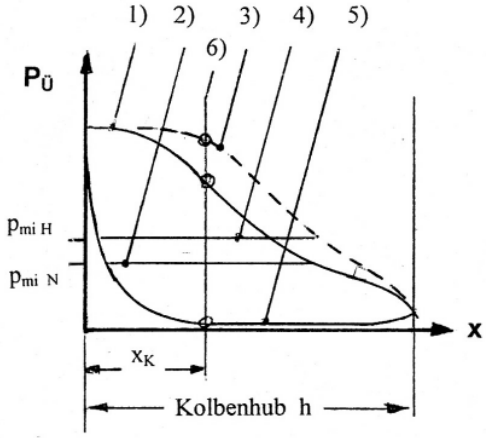


Abb. 4 - 3 Brutto-Dampfleistung / Rostfläche (JH)



1) Druck im Zylinder links vom Kolben bei Bewegung nach rechts. Nassdampf
2) Mittlerer Druck $p_{mi\ N}$ im Zylinder links vom Kolben. Nassdampf
3) Druck im Zylinder links vom Kolben bei Bewegung nach rechts. Heißdampf
4) Mittlerer Druck $p_{mi\ H}$ im Zylinder links vom Kolben. Heißdampf
5) Druck im Zylinder links vom Kolben bei Bewegung nach links. Heiß- und Nassdampf
6) Druck im Zylinder links vom Kolben bei Stellung des Kolbens im Abstand x_K vom linken Totpunkt.

Figur für die rechte Zylinderhälfte ist etwa symmetrisch zu h/2

Abb. 4 - 4 Indikat.-Diagramm linke Zylinderhälfte (JH)

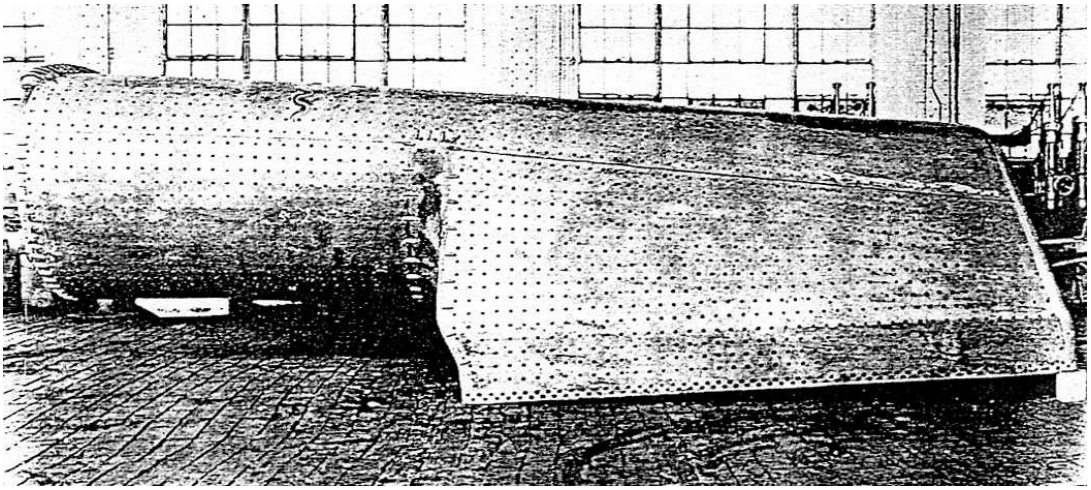
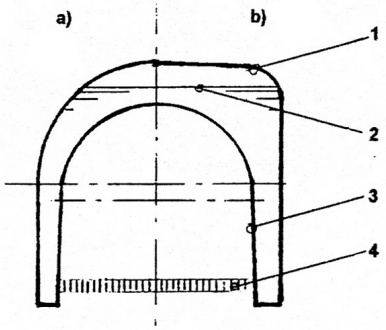


Abb. 4 - 5 Feuerbüchse und Verbrennungskammer (LC 1947)



1	Stehkessel	3	Feuerbüchse
2	Wasserspiegel	4	Rost

a) Normalform b) Belpaire-Form

Abb. 4 - 6 Hinterkessel-Querschnitte (JH)

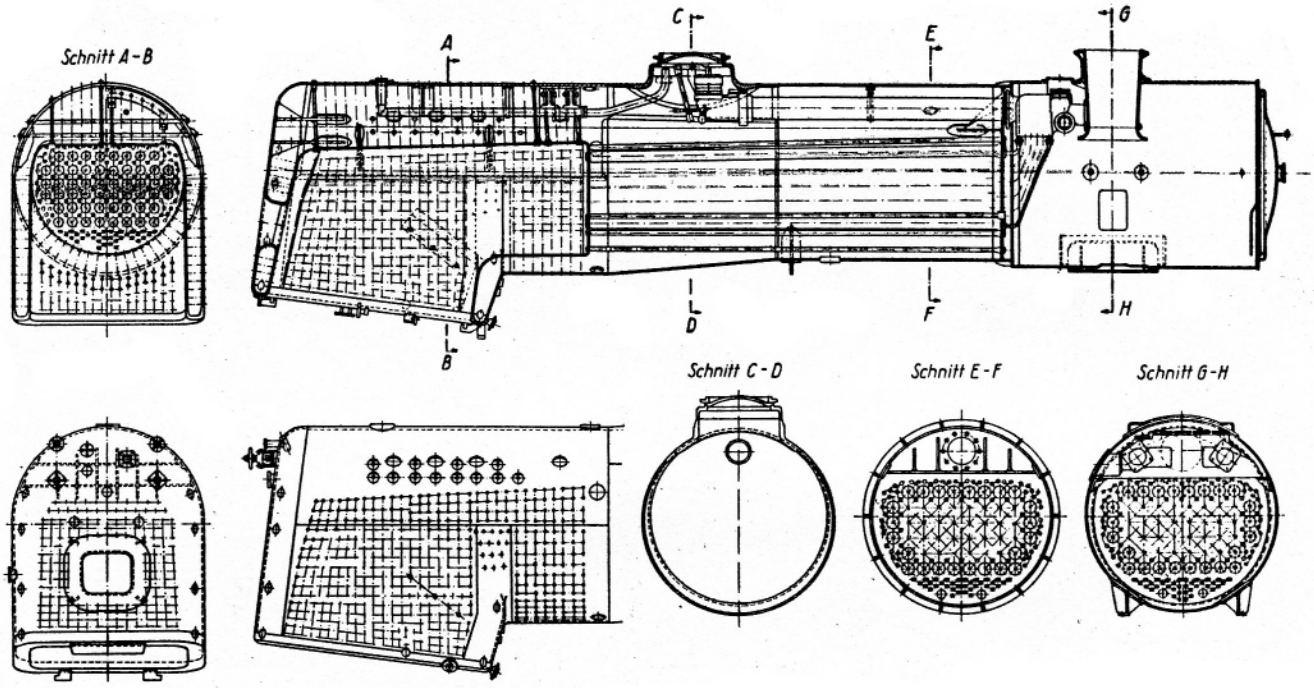


Abb. 4 - 8 Kessel DB 23 (Witte 1953)

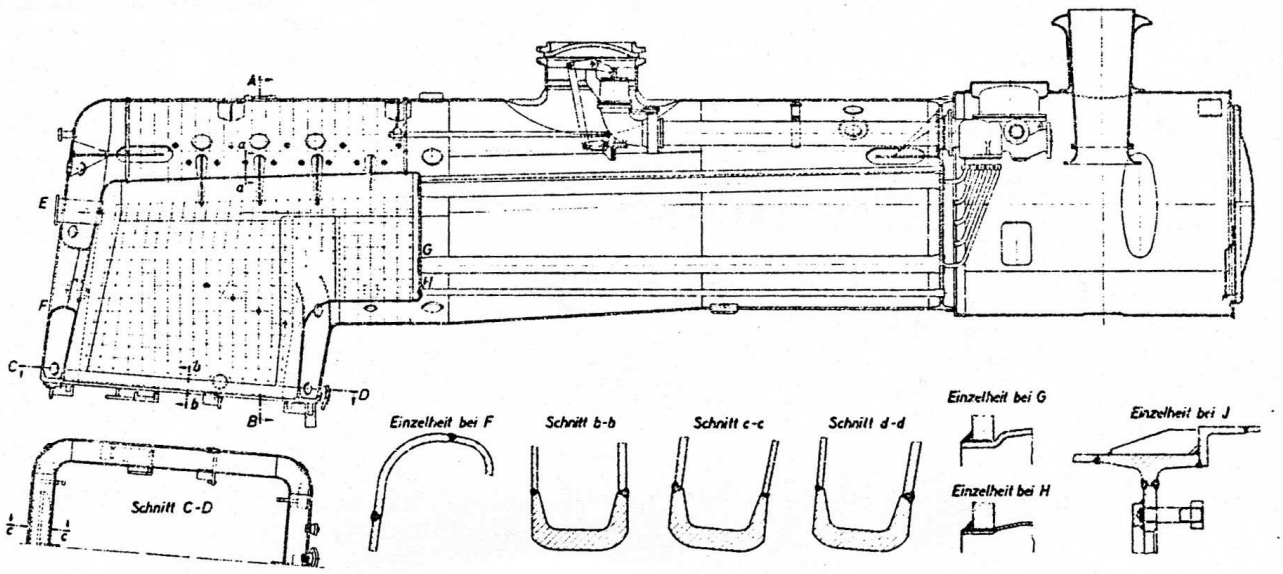
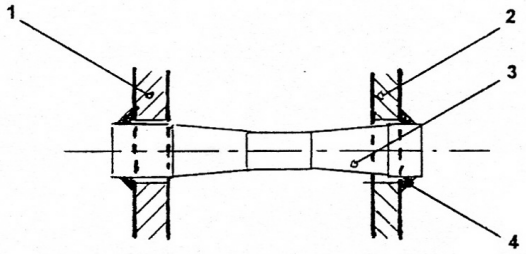
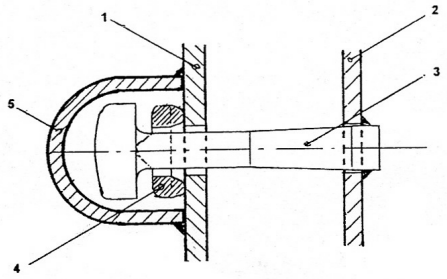


Abb. 4 - 9 Kessel DB 66 (Witte 1956)



1	Stehkessel-Wandung	3	Stehbolzen
2	Feuerbüchsen-Wandung	4	Kehlnaht

Abb. 4 - 10 Einschweiß-Stehbolzen (JH)



1	Stehkessel-Wandung	4	Gelenkstück
2	Feuerbüchsen-Wandung	5	Dichtkappe
3	Stehbolzen		

Abb. 4 - 11 Gelenk-Stehbolzen (JH)

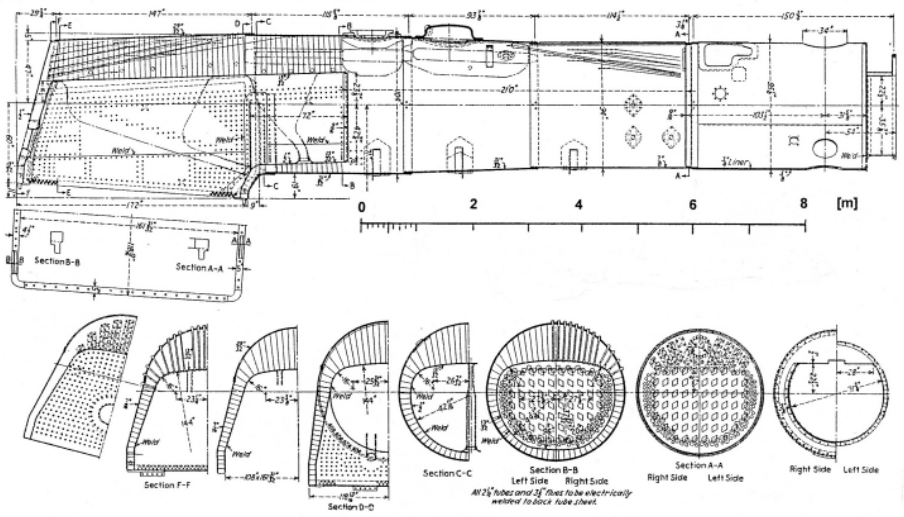


Abb. 4 - 12 Kessel einer 1'E2'-Lok (LC 1974)

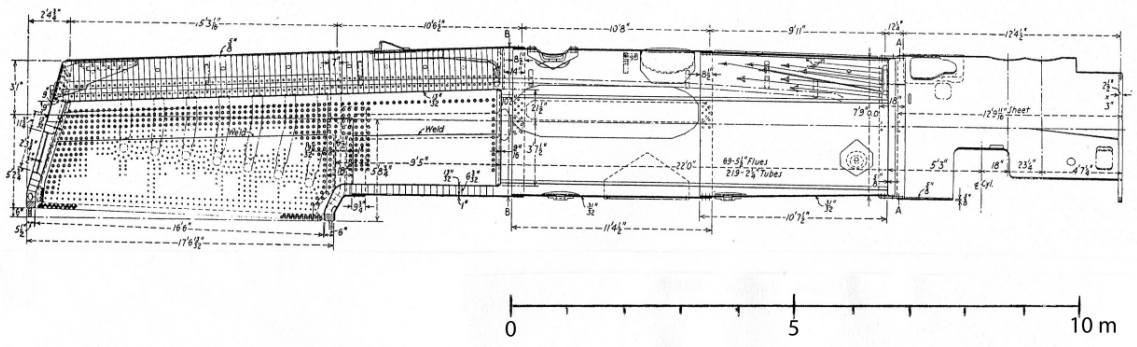


Abb. 4 - 13 Kessel einer 3'BB3'-Lok (LC 1947)
Feuerbüchse s. Abb. 4 - 15

Festigkeitsklasse ⇒		A	B	C
Zug-Bruchspannung σ_z	[N / mm²]	447 - 530	482 – 564	516 - 599
Zug-Streckgrenze σ_s	[N / mm²]	255	275	299
Zug-Bruchdehnung ε_b Probenlänge 51 [mm], für Feuerbüchse	[%]	27-23	25 - 21	23 - 20

Abb. 4 - 14 Kesselmaterial (Auszug LC 1947)

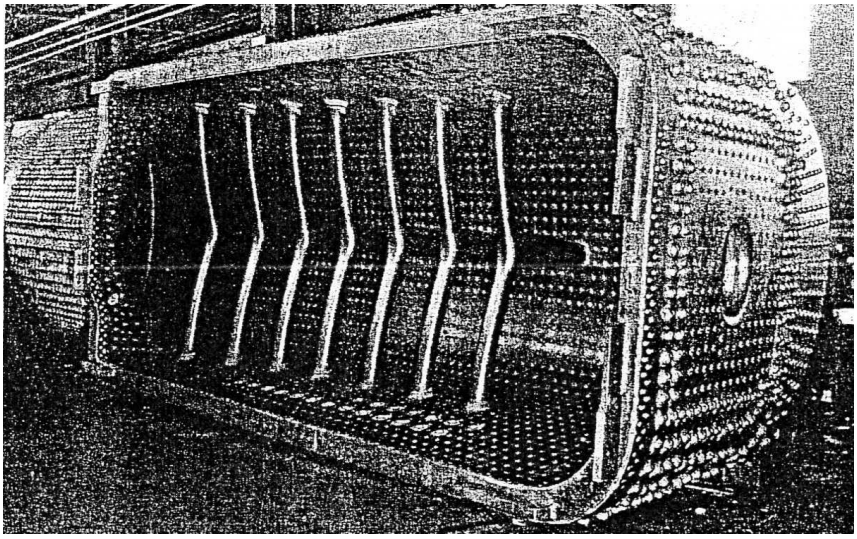


Abb. 4 - 15 Wasserrohre in der Feuerbüchse (LC 1947)
gehört zum Kessel nach Abb. 4 - 13

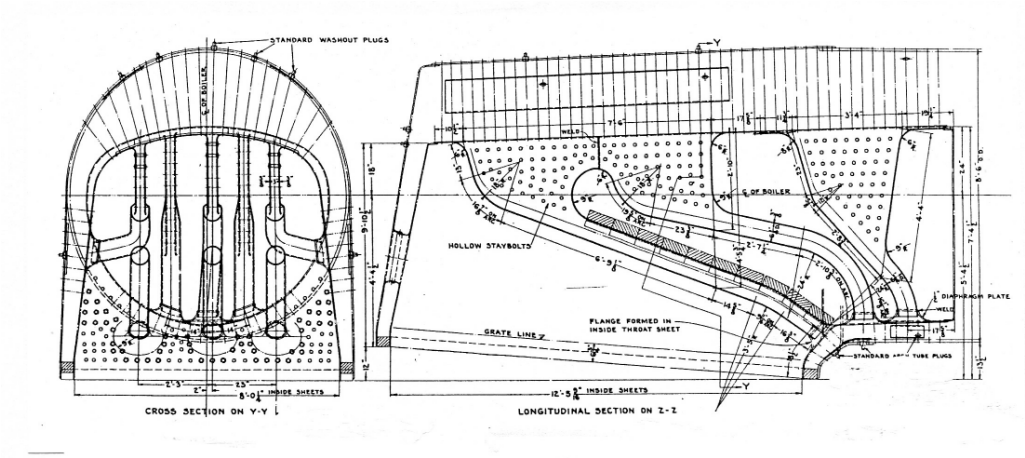


Abb. 4 - 16 Wassertaschen (LC 1941)

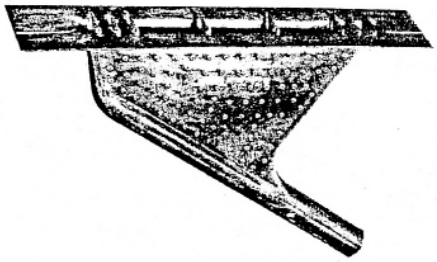


Abb. 4 - 17 Wasssertasche (LC 1947)

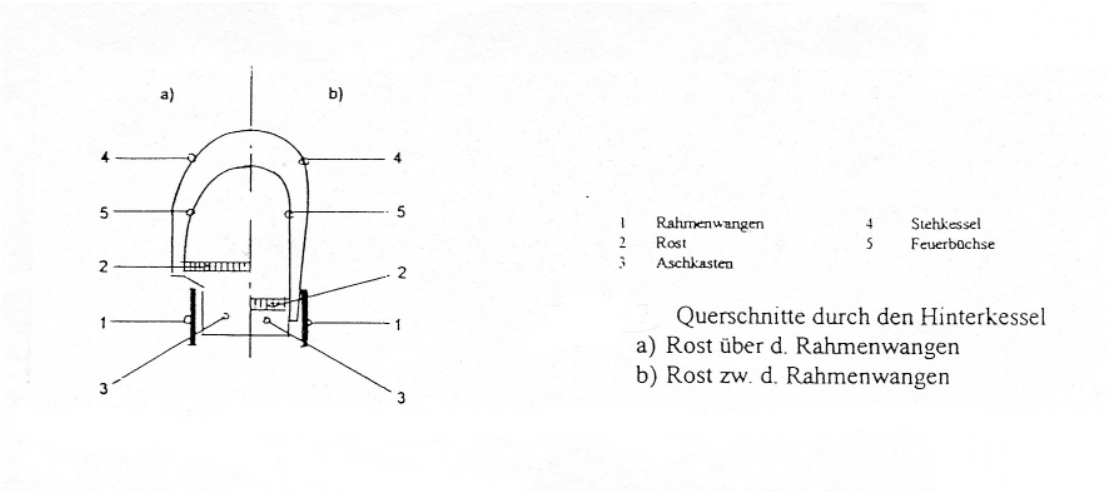


Abb. 4 - 18 Höhenlage des Rostes (JH)

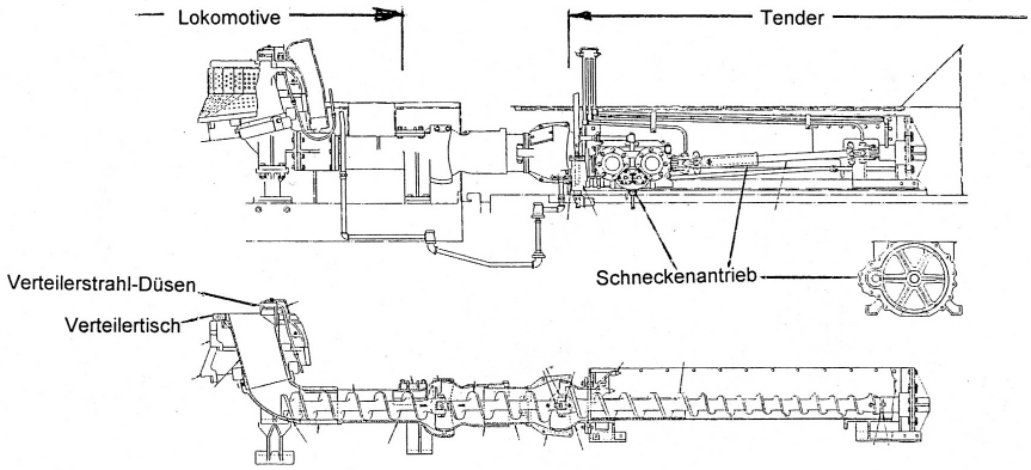


Abb. 4 - 19 Stoker-Anlage (LC 1947)

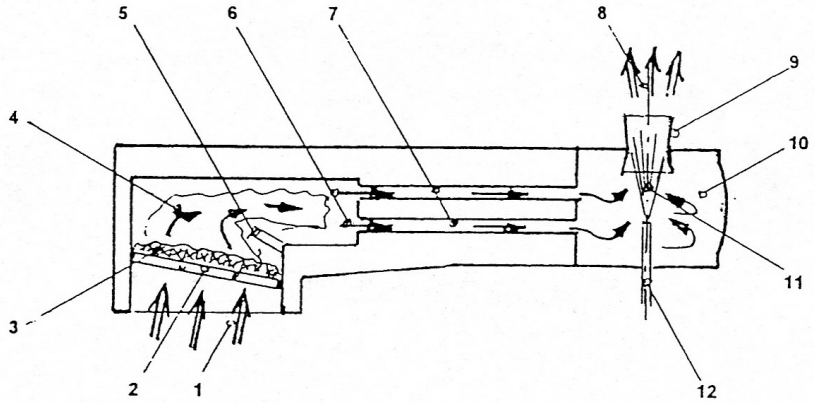
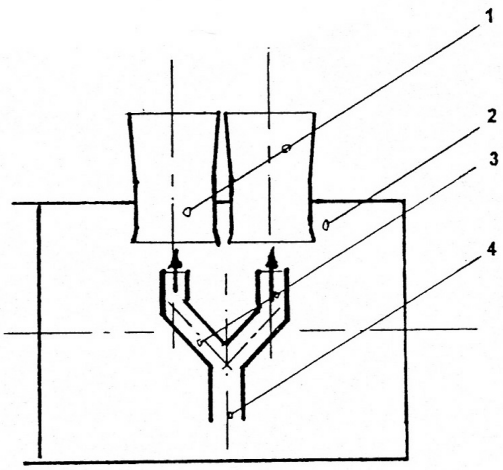
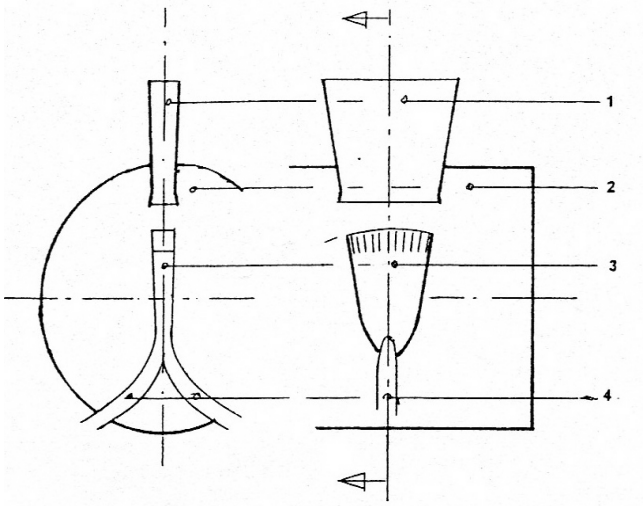


Abb. 4 - 20 Wirkung der Saugzuganlage (JH)



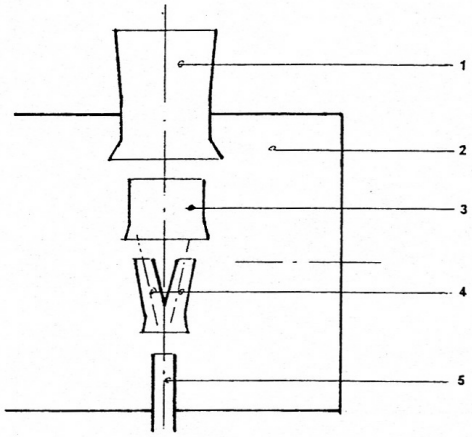
1 Doppelschornstein
2 Rauchkammer
3 Doppelblasrohr
4 Abdampf von Zylindern

Abb. 4 - 21 Doppelschornstein, Schema (JH)



1 Schornstein
2 Rauchkammer
3 Blaskopf
4 Abdampf von Zylindern

Abb. 4 - 22 Giesl-Ejektor (JH)



1 Schornstein
2 Rauchkammer
3 Zwischendüse
4 Spreizdüse (vierfach)
5 Abdampf von Zylindern

Abb. 4 - 23 Kylchap-Anlage (JH)

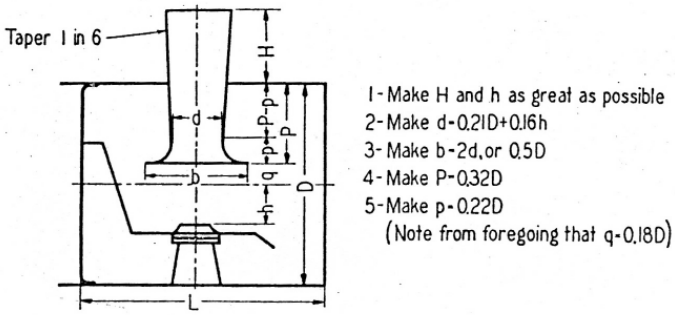


Abb. 4 - 24 Saugzuganlage (Johnson 1945)

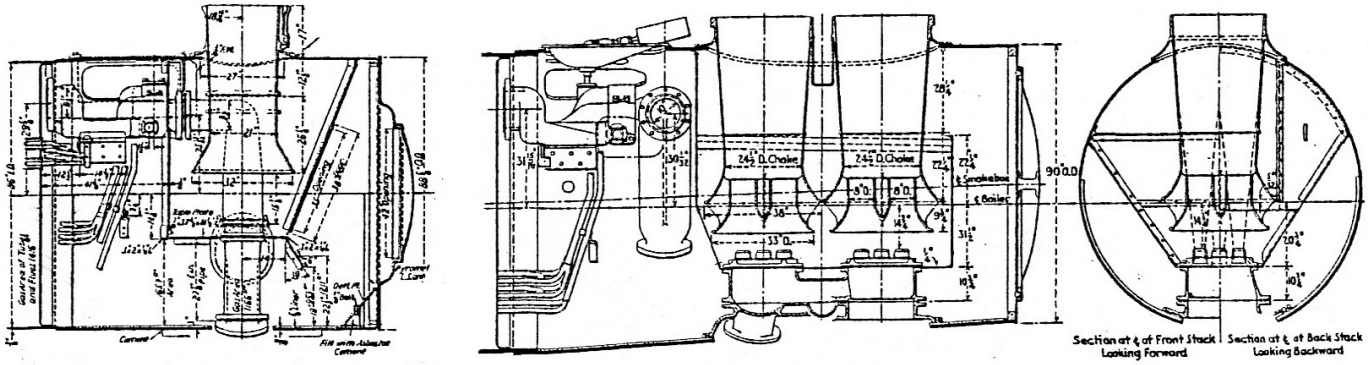


Abb. 4 - 25 verschiedene Saugzuganlagen (LC 1941)

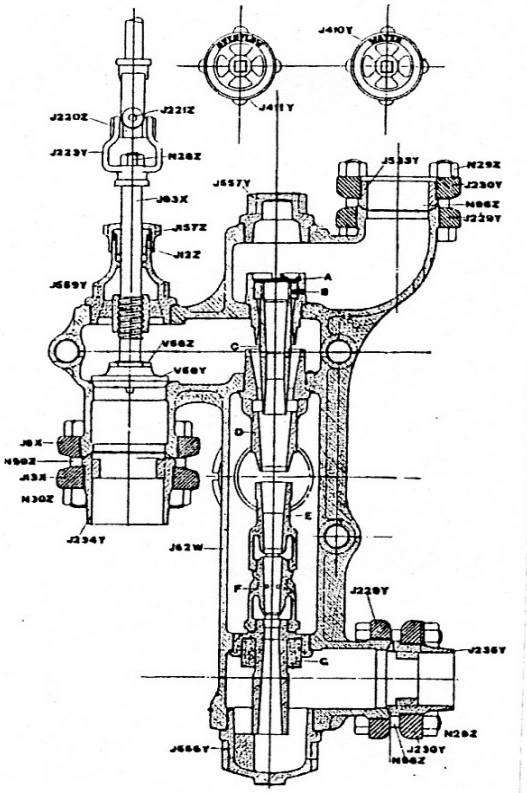


Abb. 4 - 26 Injektor (LC 1947)

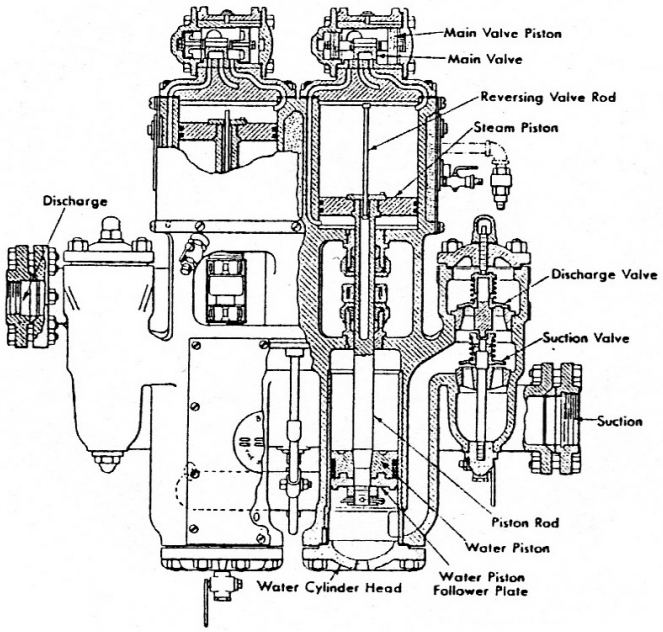


Abb. 4 - 28 Kolben-Speisepumpe (LC 1947)

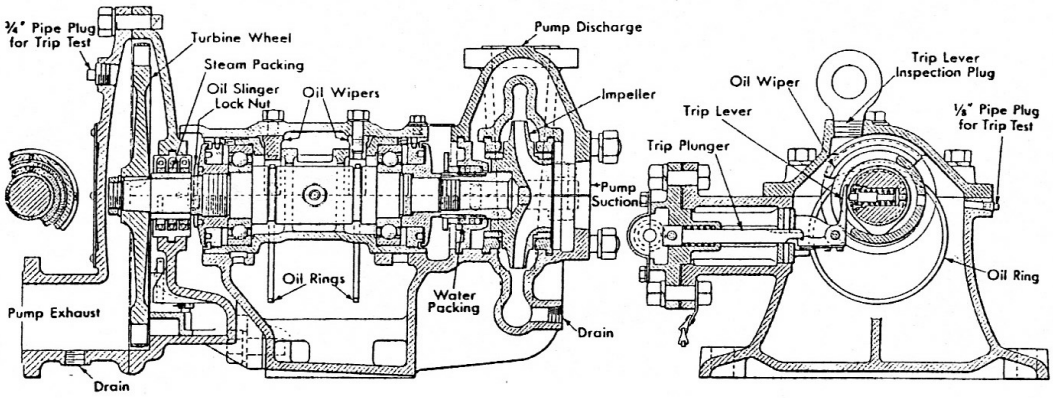
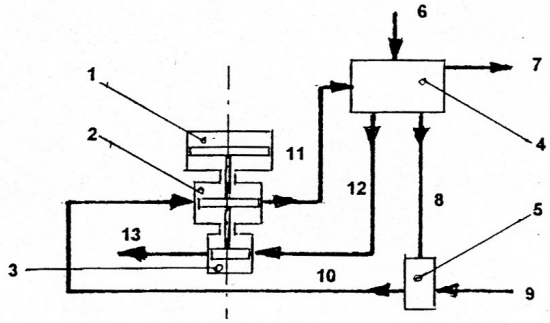


Abb. 4 - 27 Turbo-Speisepumpe (LC 1947)



1	Dampfzylinder	8	Rücklaufleitung
2	Zylinder Vorwärmerpumpe	9	vom Tender
3	Zylinder Speisepumpe	10	Zulauf Vorwärmerpumpe
4	Mischkasten	11	Druckleitung Vorwärmerpumpe
5	Mischgefäß	12	Zulauf Speisepumpe
6	Abdampf von Maschine	13	Speiseleitung zum Kessel
7	Überlauf		

Abb. 4 - 29 MV 57-Mischvorwärmer (JH)

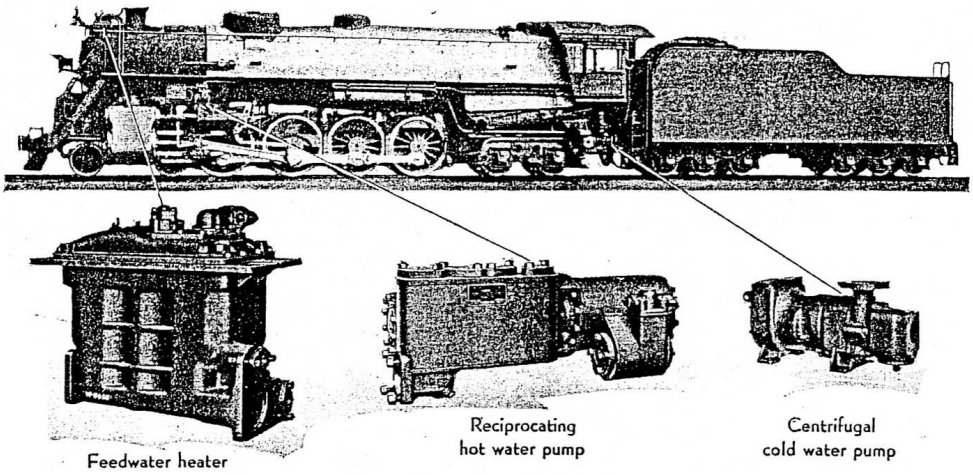
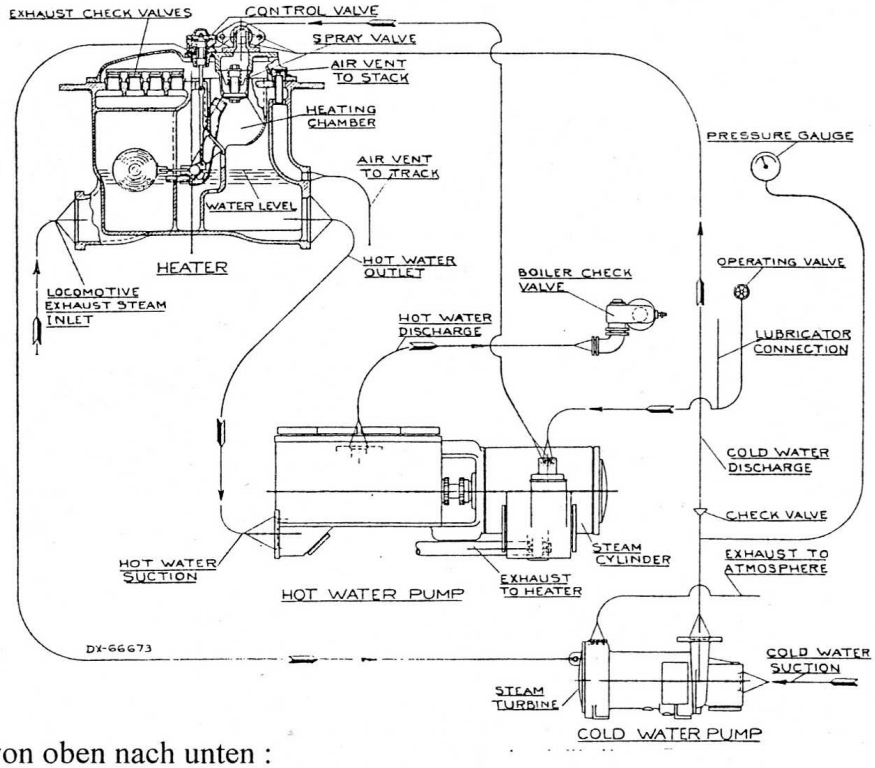


Fig. 4.33—Worthington Feedwater Heating Equipment, Type SA, applied to a locomotive.



Übersetzung der Bezeichnungen von oben nach unten :
Feedwater heater : Speisewasser-Vorwärmer Reciprocating hot water pump : Kolbenpumpe (Heißwasser) Centrifugal cold water pump : Kreiselpumpe (Kaltwasser) Exhaust check valves : Rückschlagventile (Abdampf) Control valve : Regulierventil *) Spray valve : Einspritzventil Air vent to stack : Luftventil (zum Schornstein) Heating chamber : Mischkammer Water level : Wasserstand Air vent to track : Luftventil-Entwässerung (auf das Gleis) Heater : Vorwärmer Hot water outlet : Heißwasseraustritt Locomotive exhaust steam inlet : Abdampf-Eintritt Pressure gauge : Druckmesser Operating valve : Bedienventil Boiler check valve : Speiseventil am Kessel Hot water discharge : Heißwasser-Austritt Hot water suction : Heißwasser-Zulauf Hot water pump : Heißwasserpumpe Exhaust to heater : Abdampf (zum Vorwärmer) Steam cylinder : Dampfzylinder Cold water discharge : Kaltwasseraustritt Check valve : Rückschlagventil Exhaust to atmosphere : Abdampf ins Freie Steam turbine : Dampfturbine Cold water suction : Kaltwassereintritt Cold water pump : Kaltwasserpumpe
*) zur Regulierung der Kreiselpumpe (Kaltwasser)

Abb. 4 - 30 Mischvorwärmanlage (LC 1947)

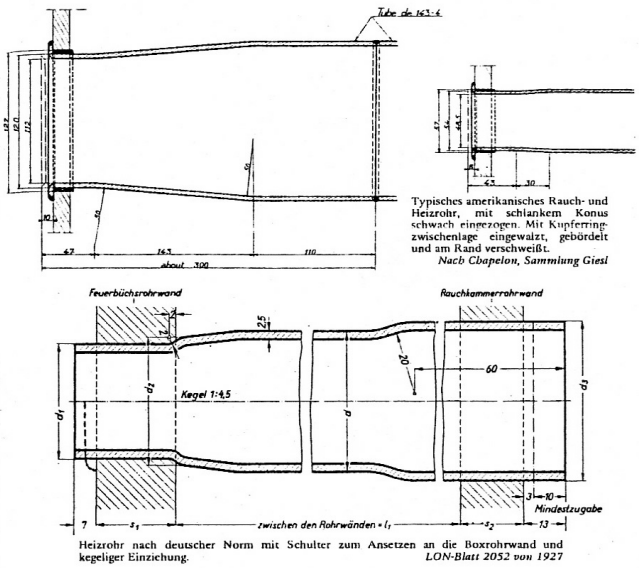


Abb. 4 - 31 Kesselrohr-Befestigung (LON/Gies-G. 1986)

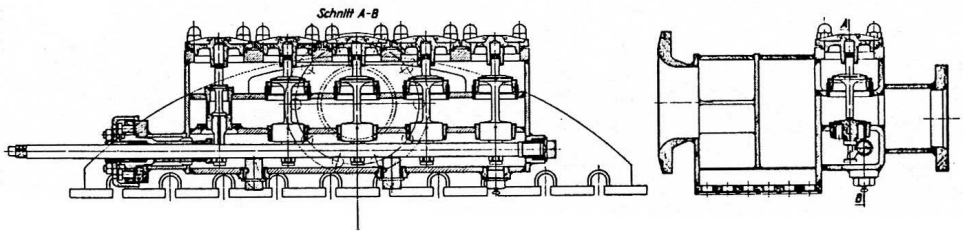


Abb. 4 - 32 Heißdampfregler (Witte 1953)

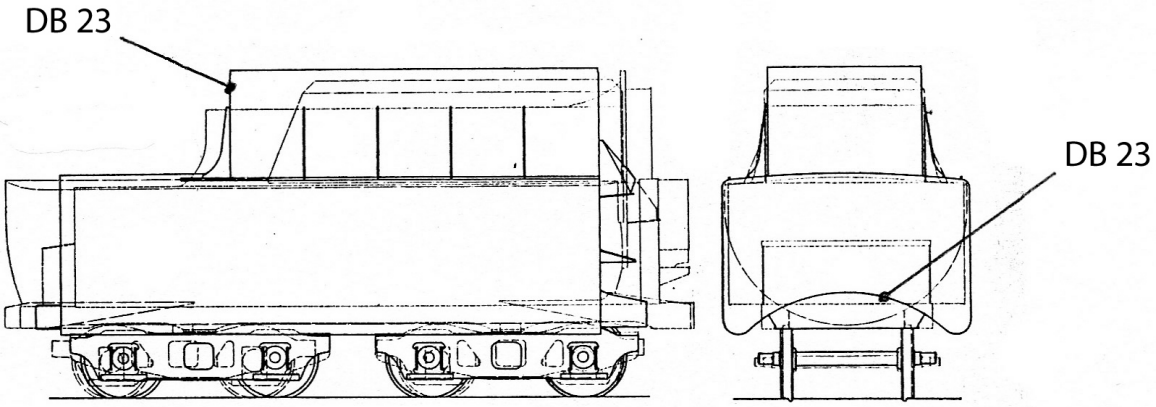
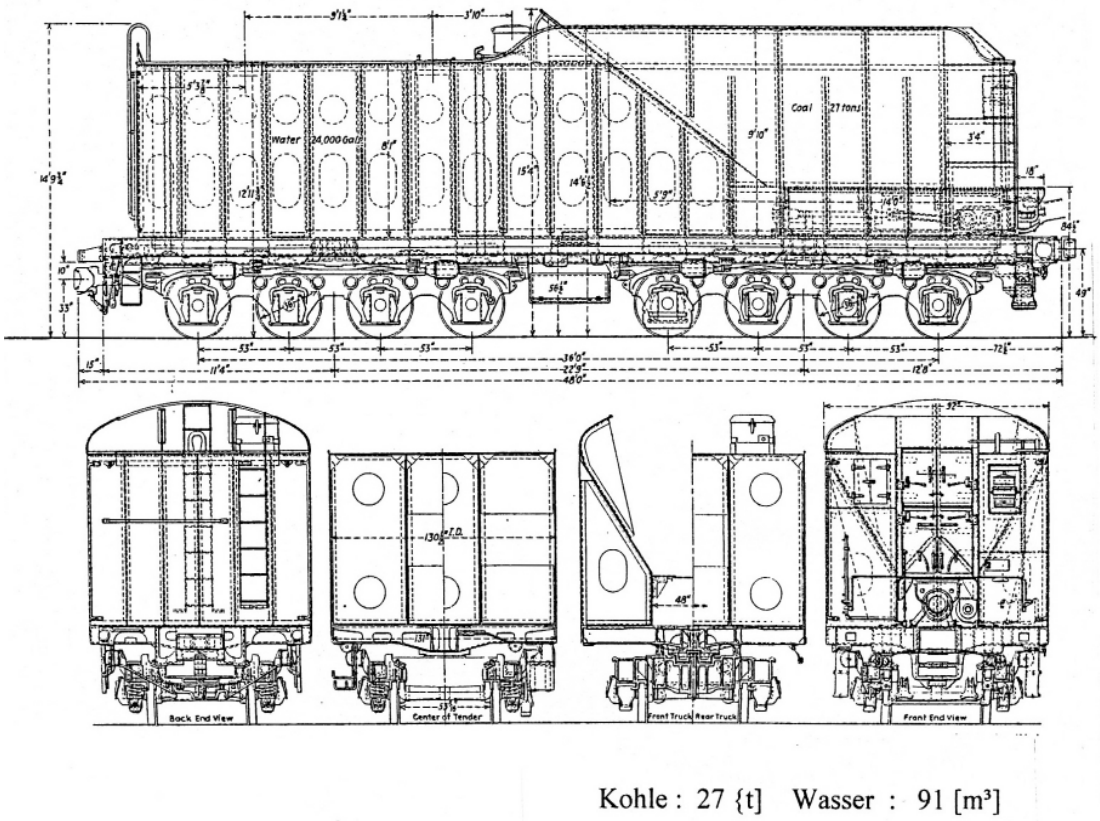


Abb. 4 - 33 verschiedene Tenderausführungen (Witte 1953)



Kohle : 27 {t] Wasser : 91 [m³]

Abb. 4 - 34 Groß-Tender (LC 1947)

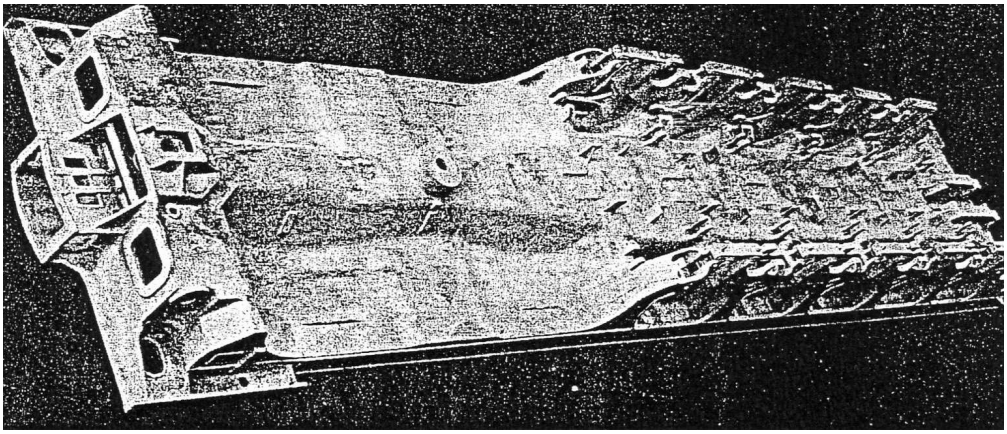


Abb. 4 - 35 GS-Tenderrahmen und -boden (LC 1947)

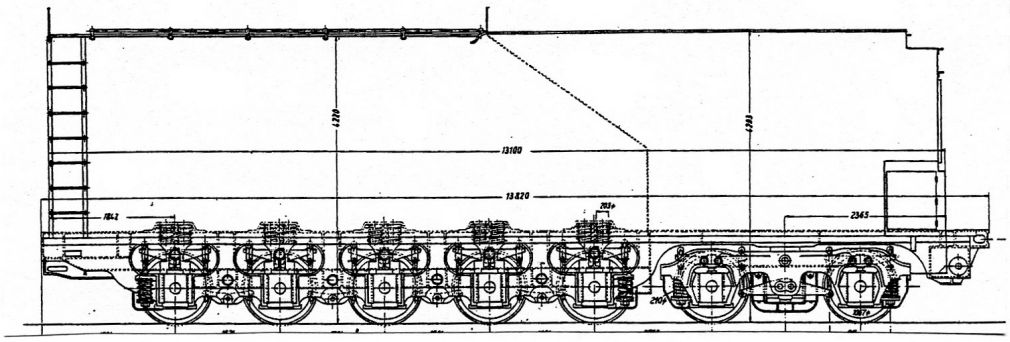


Abb. 4 - 36 94,5 m³-Tender der UP (Wolff 1947 b)

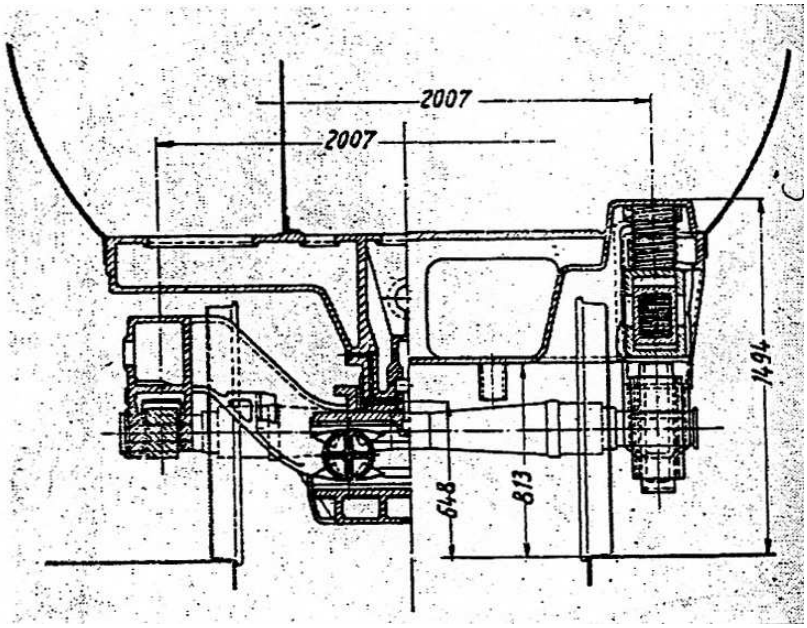


Abb. 4 - 37 Querschnitte zu Abb. 4 - 36 (Wolff 1947 b)

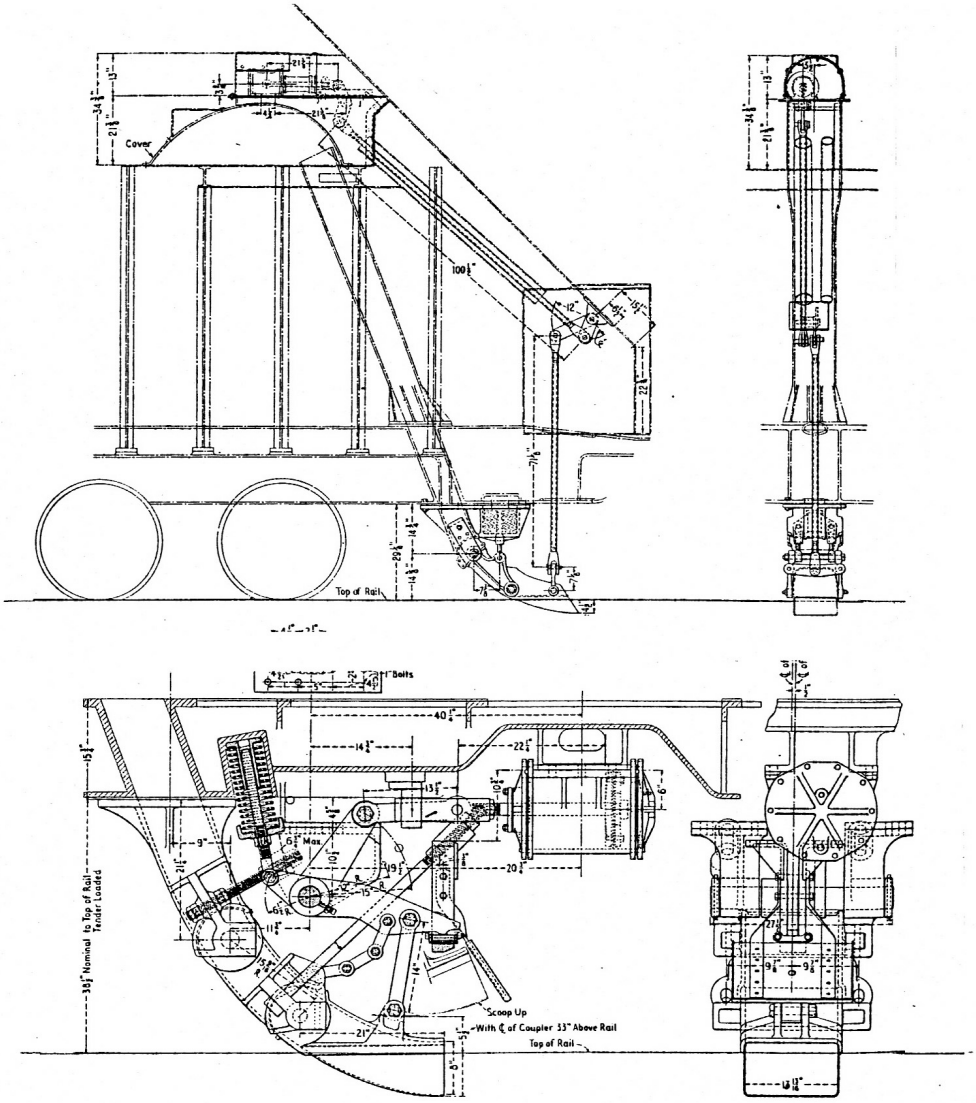


Abb. 4 - 38 Wasserschöpfeinrichtung, Einzelheiten (LC 1947)