

Fig. 1. Plan et coupe d'une écluse à sas (schéma).

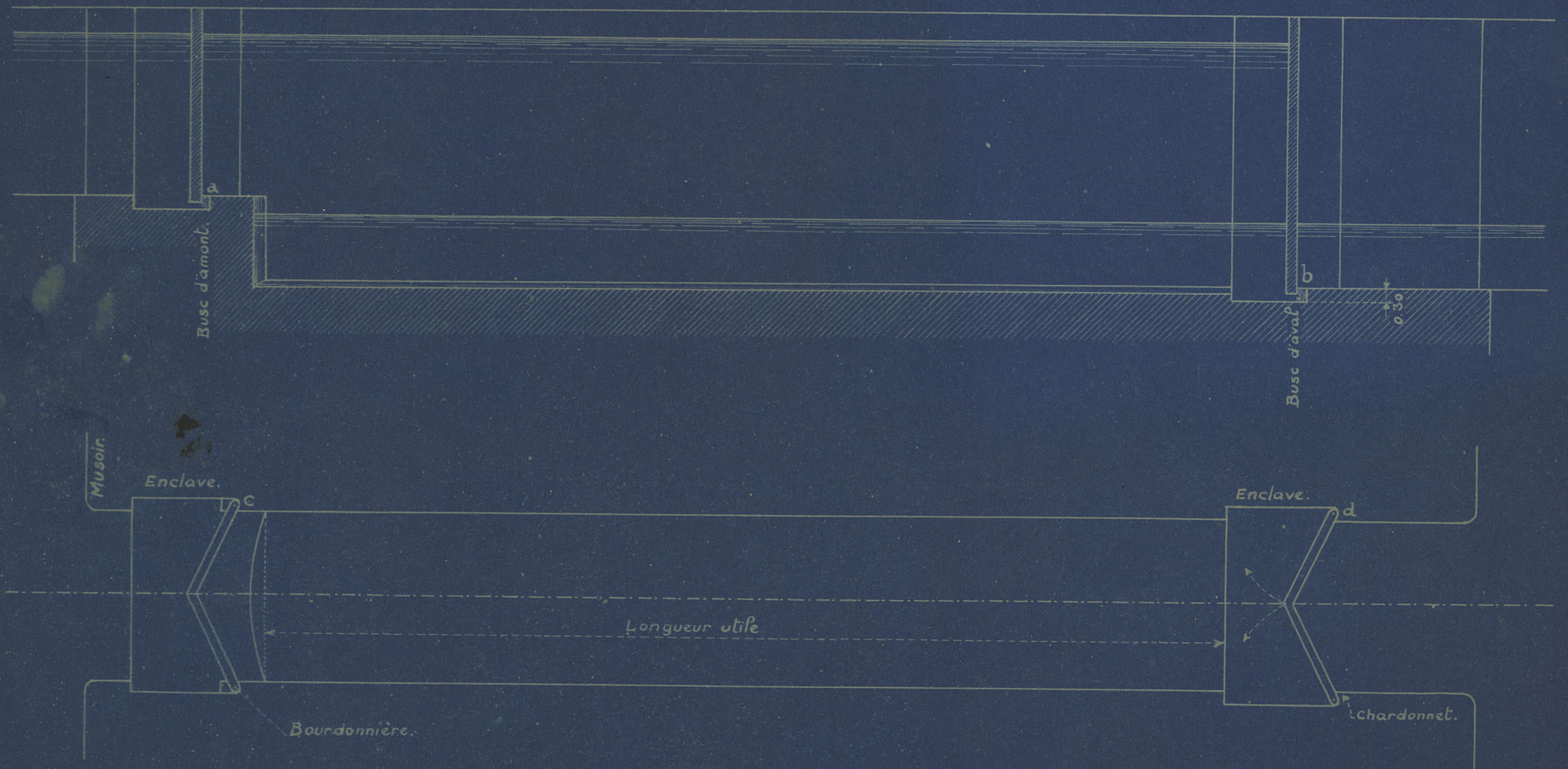
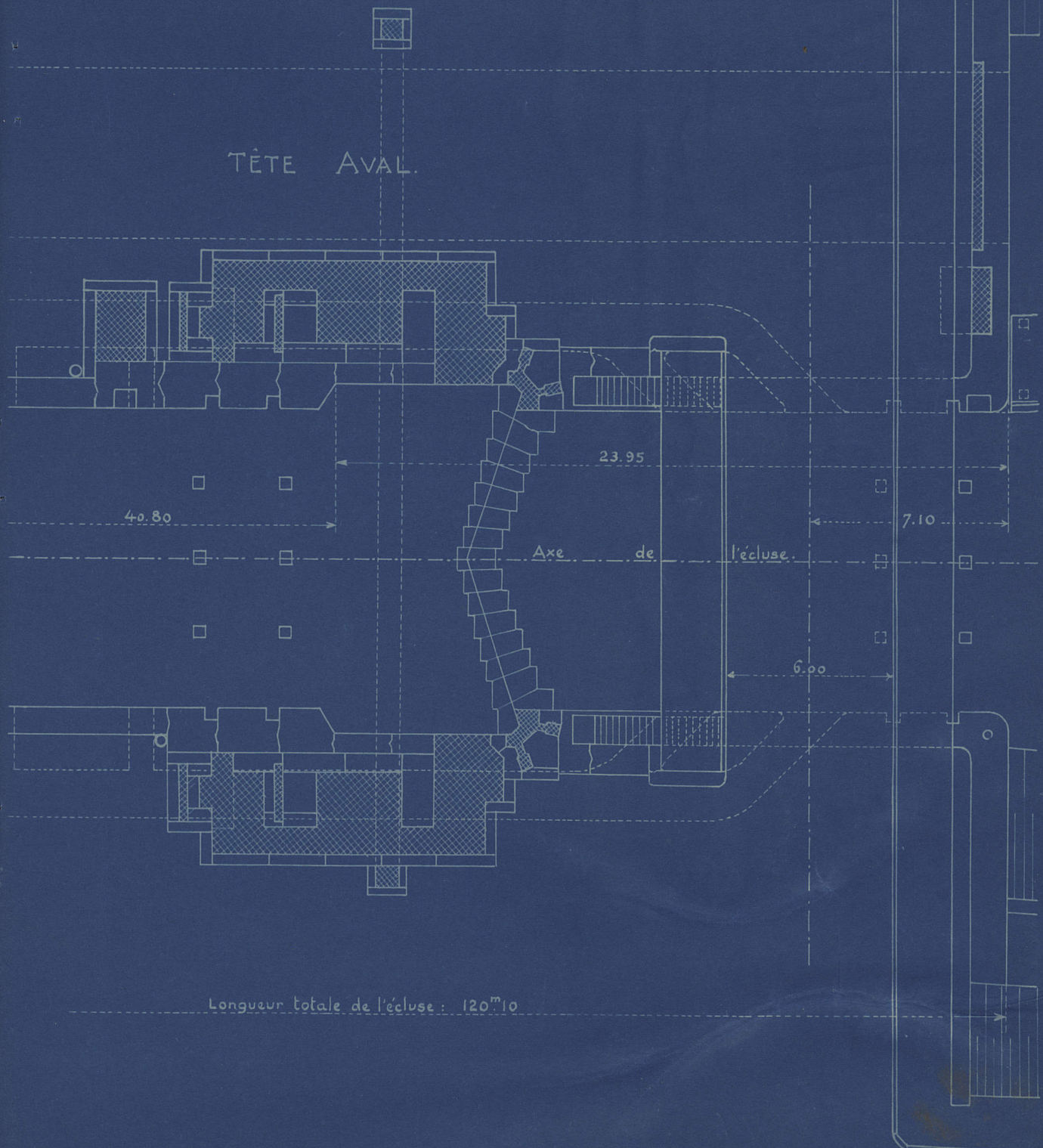


Fig 3^{bis} - Ecluse n°49 nouvelle du canal de Charleroi.

Sas double de 2x40.80.

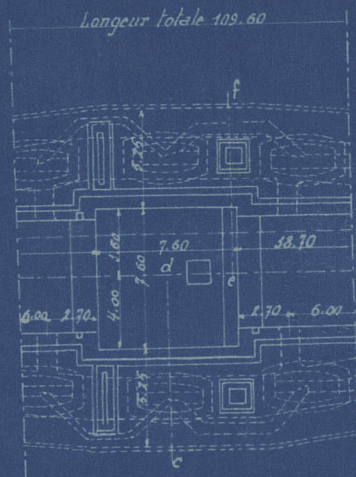
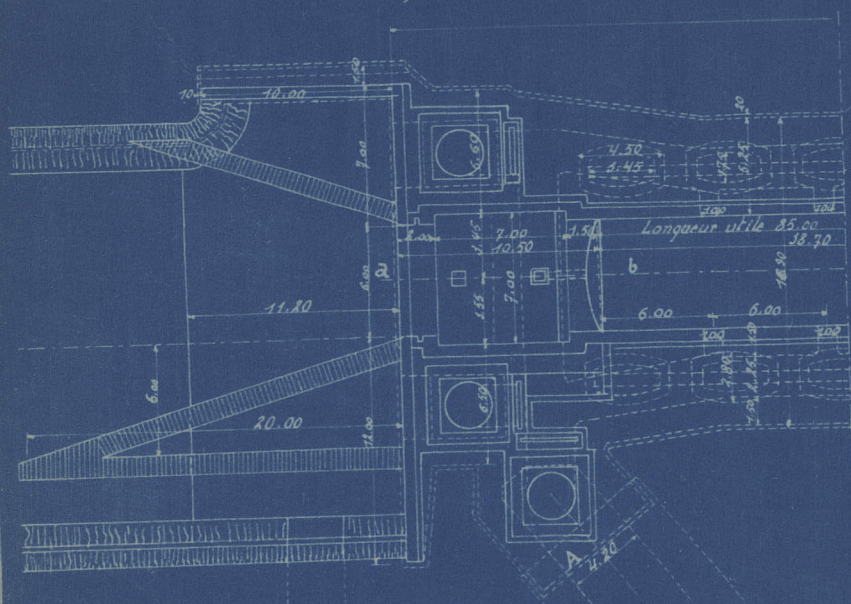
Echelle : 0^m.005 PAR M.



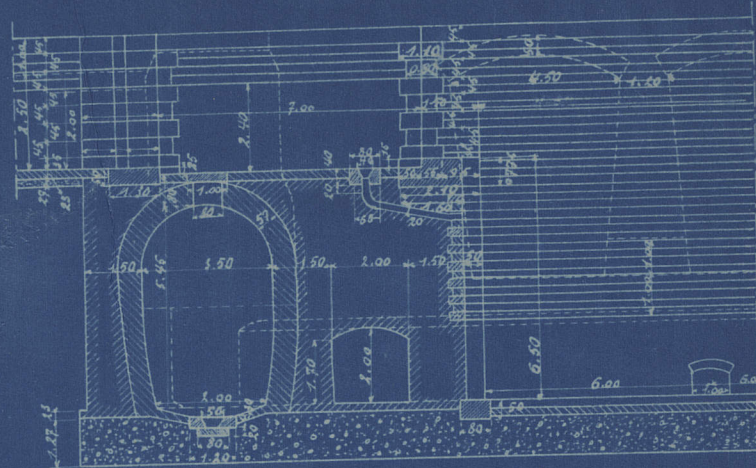
Longueur totale de l'écluse : 120^m.10

Fig. -- Ecluses du Canal du Nord (FRANCE). --

a) Plan partiel.



b) Coupe longitudinale. ab.



c) Coupe transversale c def.

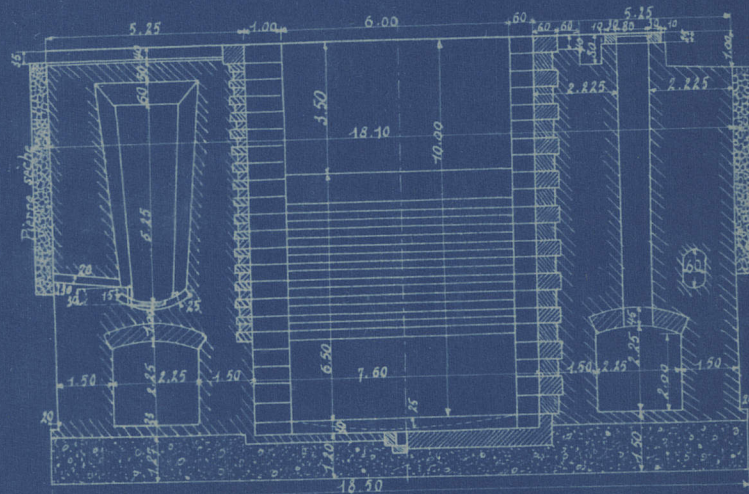
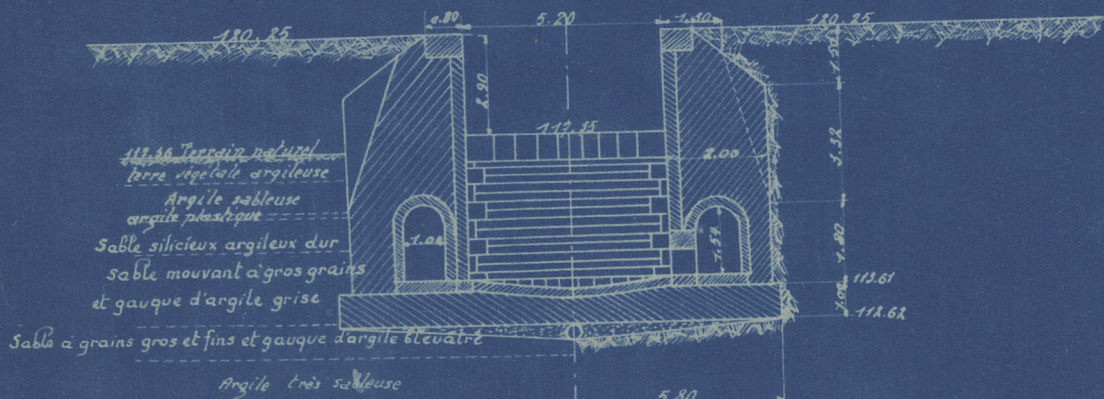


Fig. -- Ecluse du Canal d'Orléans
Demi-coupe transversales dans le sas (drainage du radier). --



117.46 Terrain naturel
terre végétale argileuse
Argile sableuse
argile plastique
Sable silicieux argileux dur
sable mouvant à gros grains
et gaugue d'argile grise
Sable à grains gros et fins et gaugue d'argile bleueâtre

Argile très sableuse

I. au droit du sondage.

II. au droit d'un parron.

b. Vue en plan..

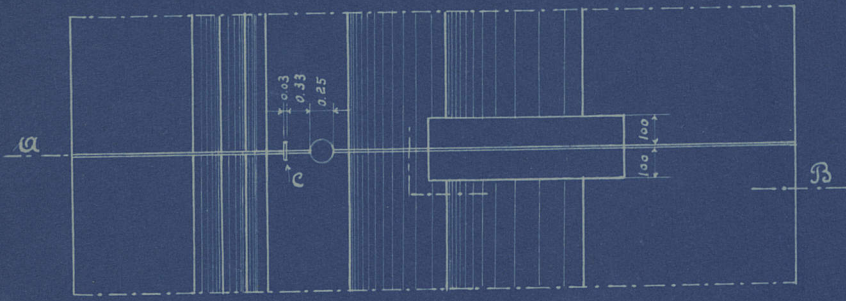
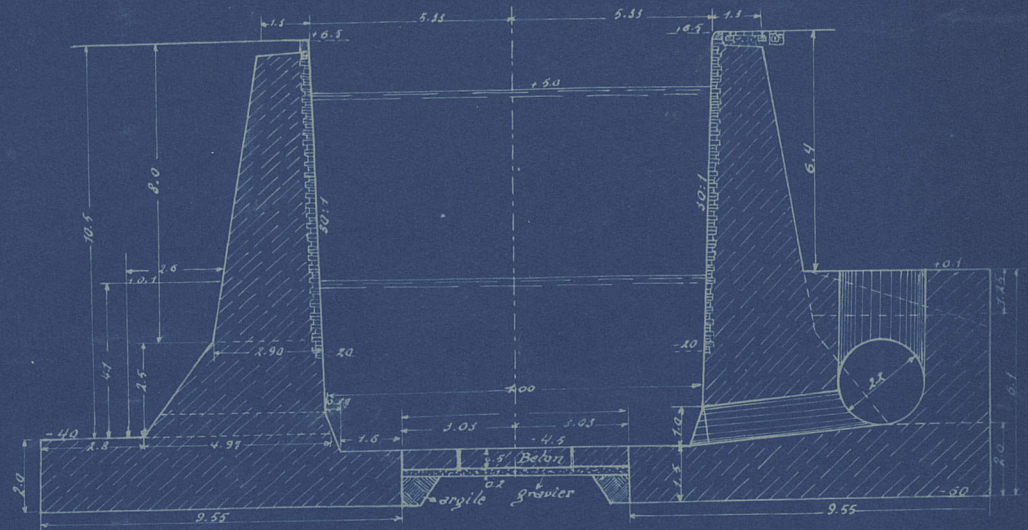
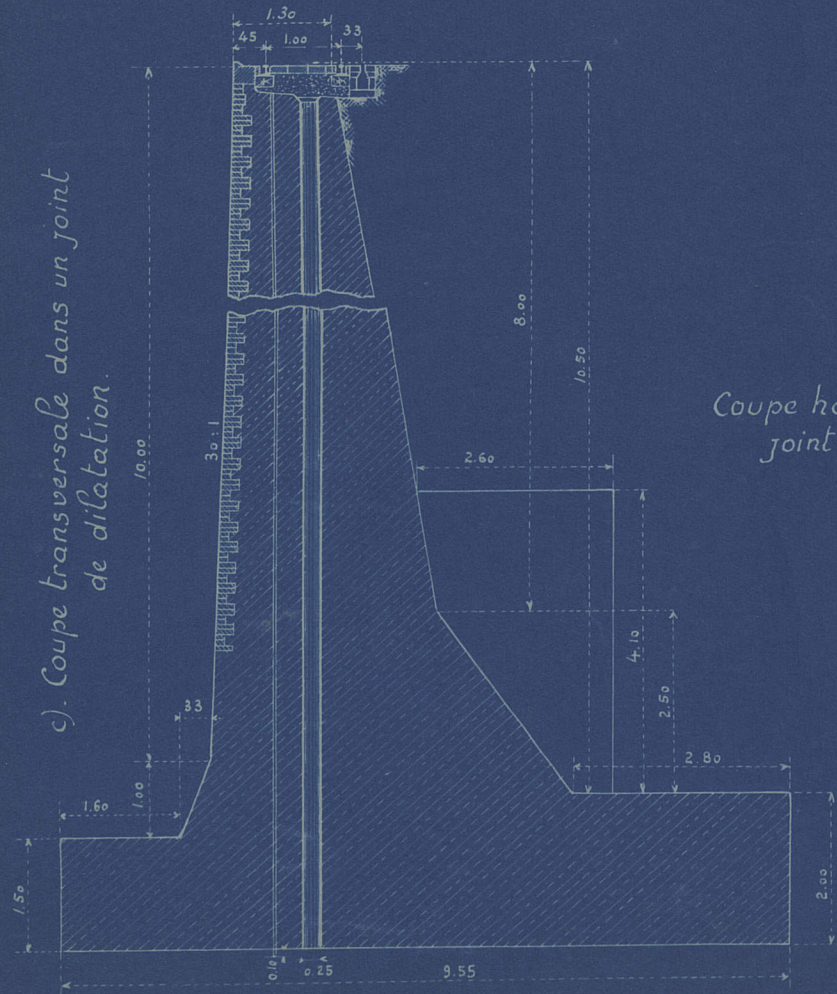


Fig. ... Ecluse en béton du canal Rhin-Herne (à bajoyers indépendants).

a) Coupe transversale du sas..



c). Coupe transversale dans un joint de dilatation.



Coupe horizontale dans un joint de dilatation..

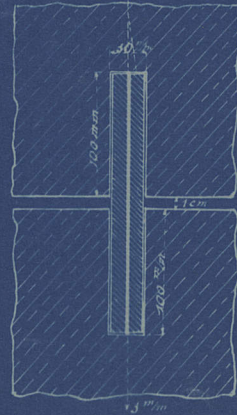
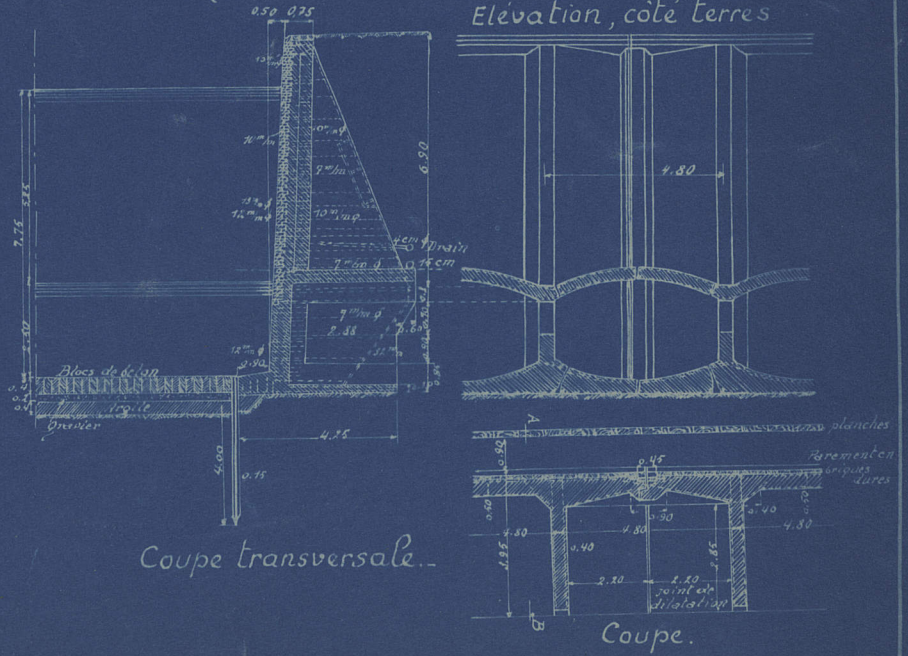


Fig. ... Sas d'écluse en béton armé à bajoyers indépendants (Döwerden sur le Wésér)..

Elevation, côté terres



Coupe transversale..

Coupe.

Plan général.

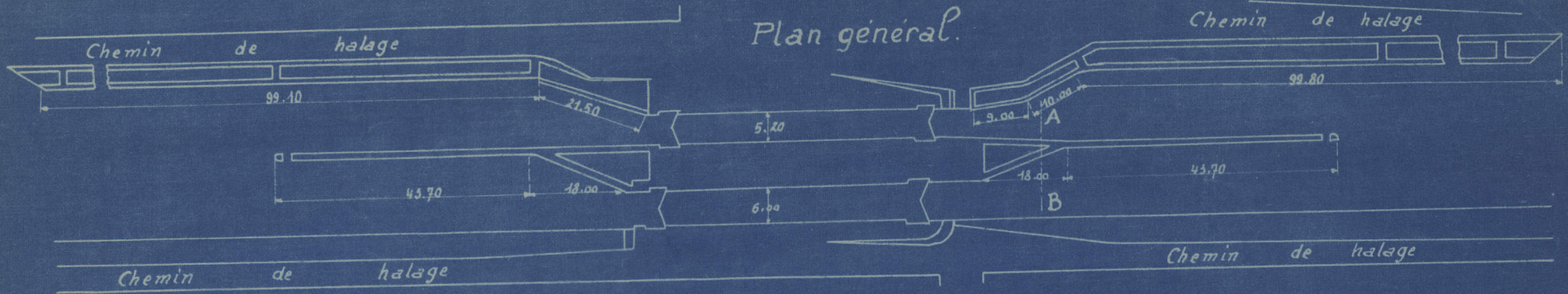
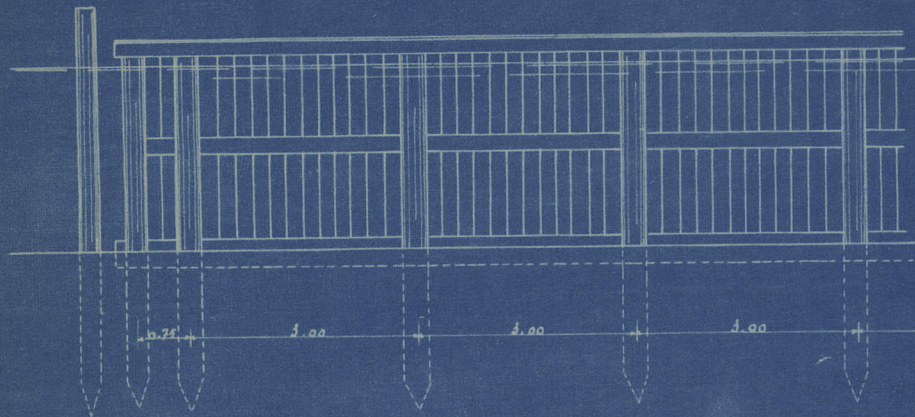
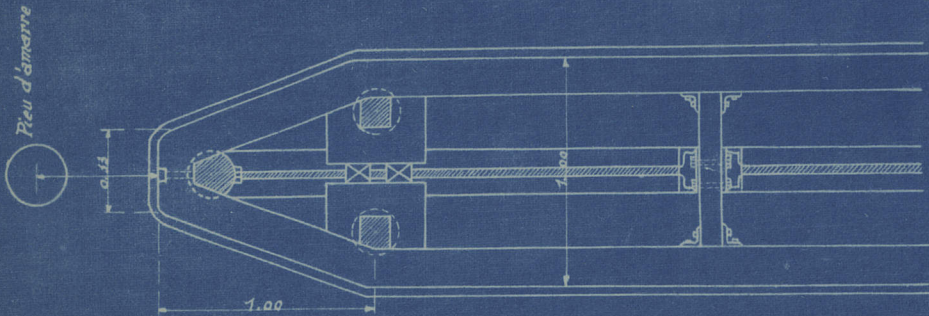
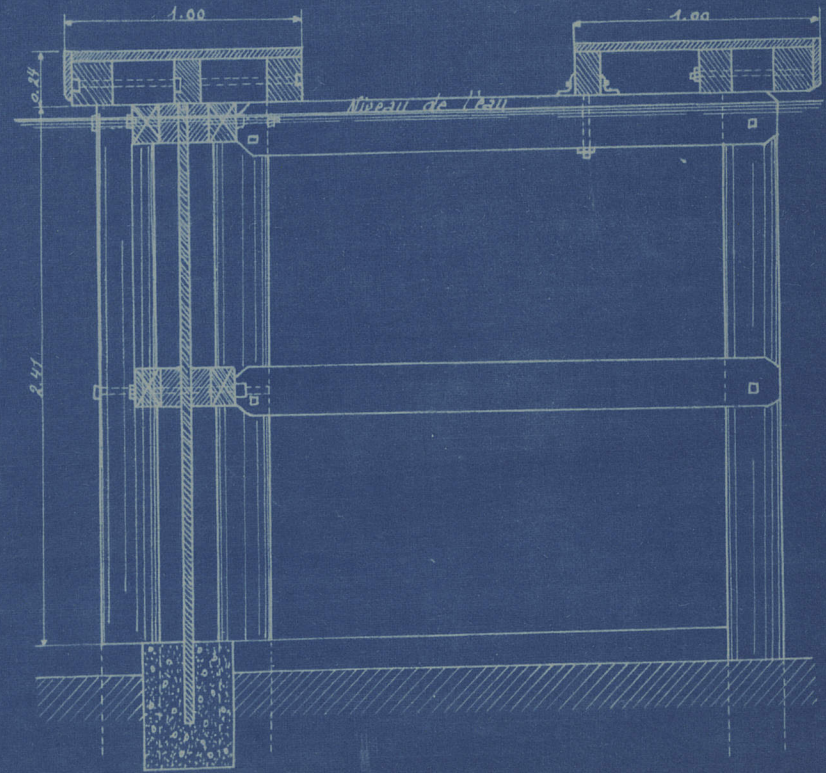


Fig. ESTACADES DES ECLUSES DOUBLES DU CANAL DE ST-QUENTIN

Coupe de l'estacade.



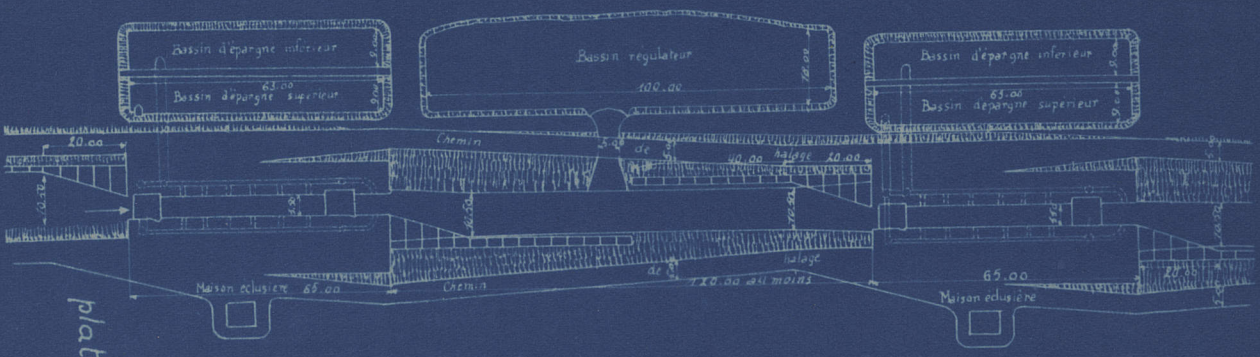
Elévation d'une estacade.



Détail de l'estacade.

Fig. Disposition des écluses d'un bief très court.

Vue en plan.

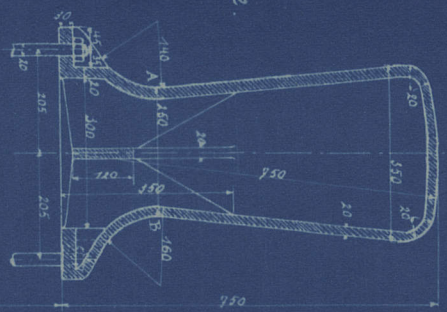


Plan

Coupe
plateau d'ancrage

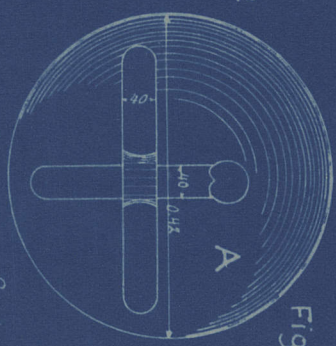


Coupe
verticale



Fig

Borne d'amarrage



Fig

Organeau

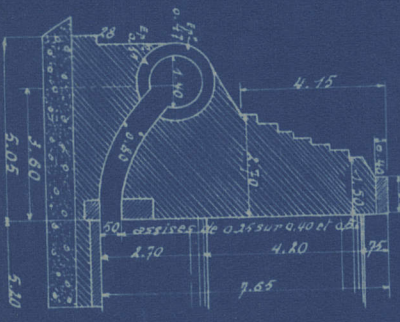


Fig Coupe transversale des
bajoyers du Canal du Centre belge.

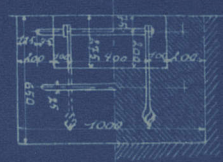
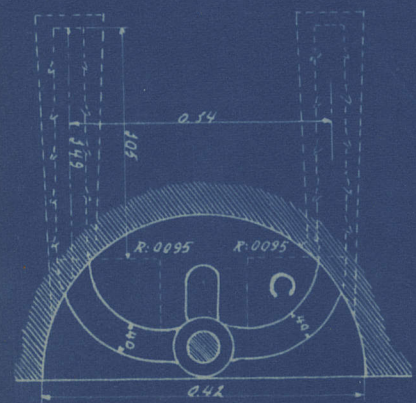
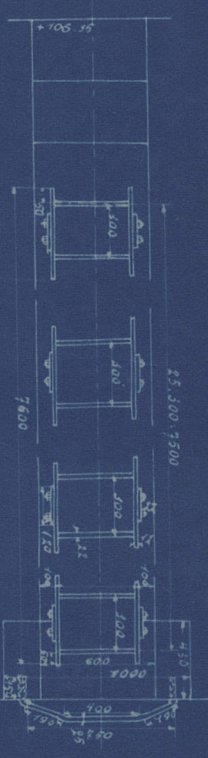


Fig - Echelle

Elevation



Coupe transversale.

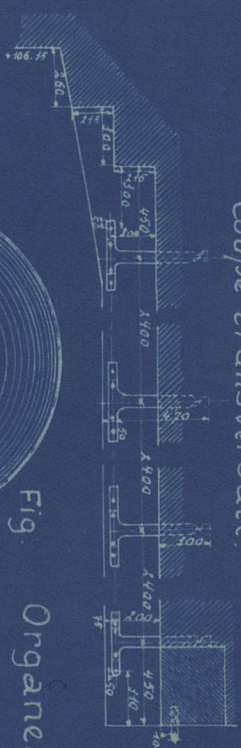


Fig. 1. Cabestan électrique, commandé par pédale.

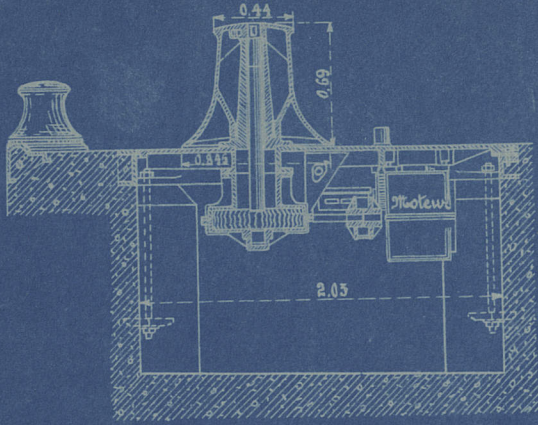


Fig. 2. Porte en bois de l'écluse de Kothheim sur le Mein.

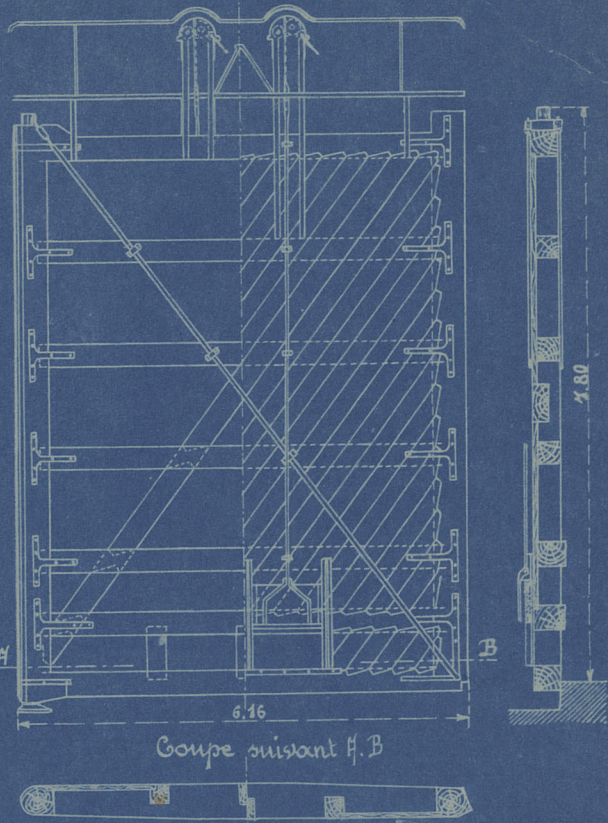


Fig. 3. Porte d'aval en béton armé (Canal du Rhône au Rhin) (1921)
a) Elevation d'un vantail (vue aval) b) Coupe H. B

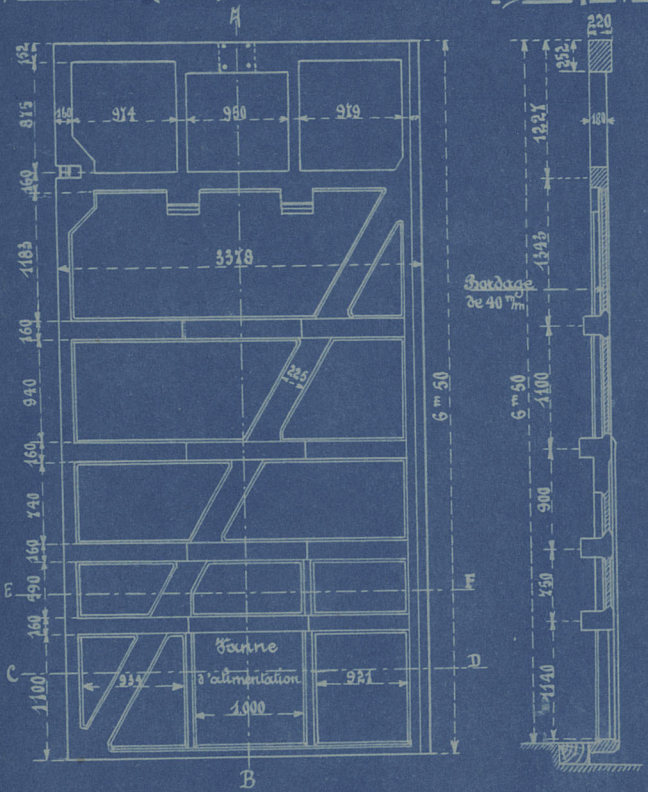
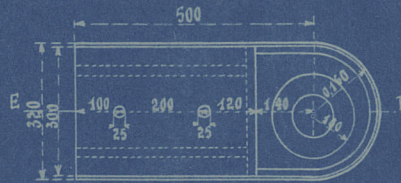


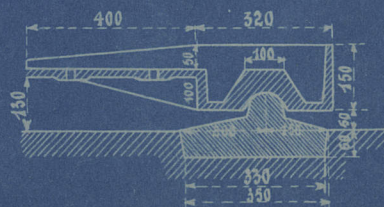
Fig. 4. Crapaudine simple pour porte en bois.



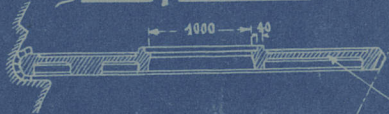
c) Dessus



c) Coupe E. F

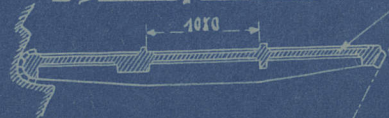


c) Coupe C. D



Echelle 1/50

d) Coupe E. F

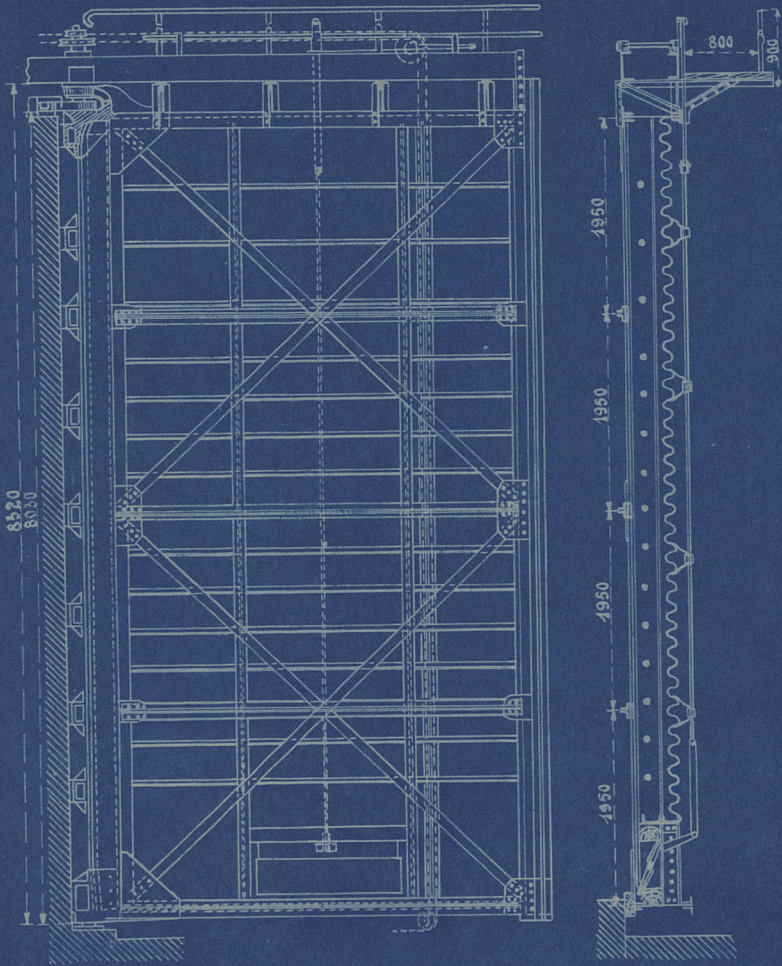


Bordage de 40 mm

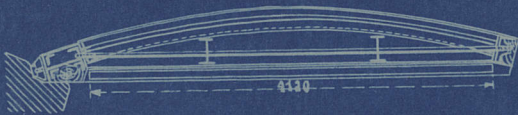
Fig. 1. Profil d'avant de l'écluse de Verdoy (Oder)

a) Elevation

b) Coupe H B



c) Coupe transversale



c) Touillon rapporté

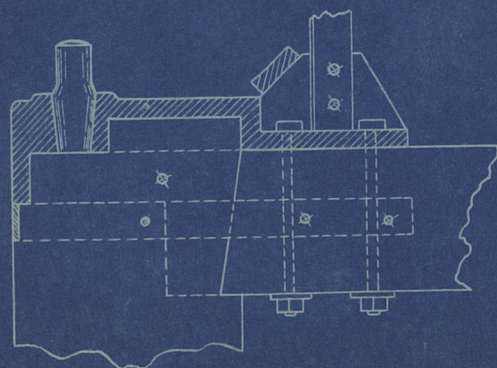
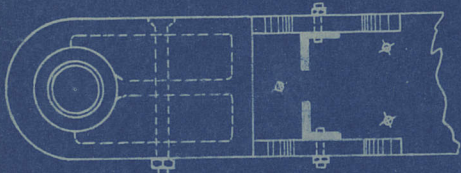


Fig. 3. Touillons et colliers de portes en bois.

a) Sabot touillon

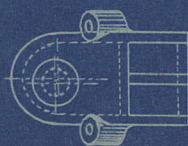
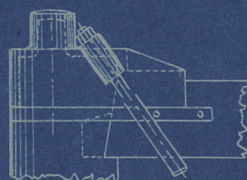
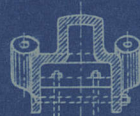
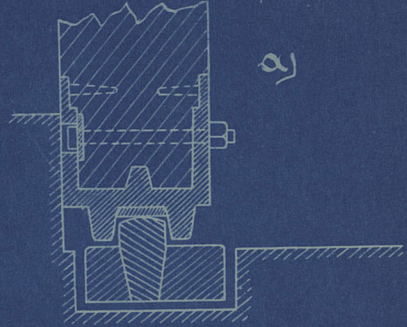
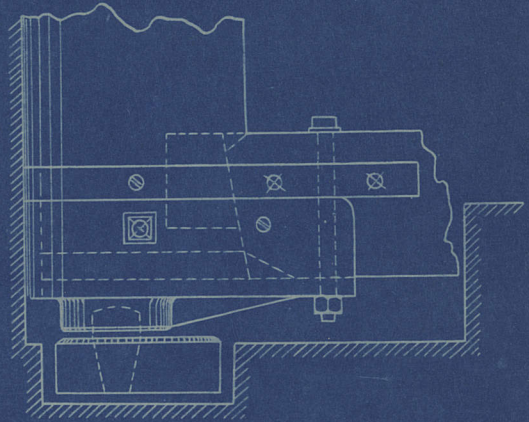


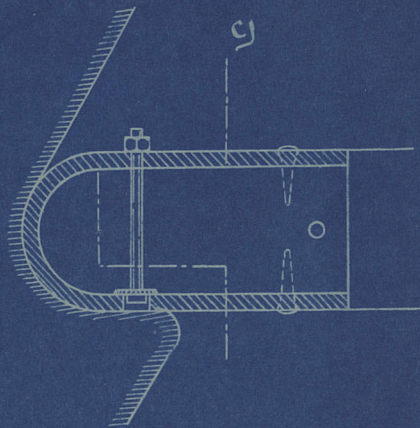
Fig. 2. Crapaudine à pivot amovible pour portes en bois.



b)



c)



b) Crapaudine

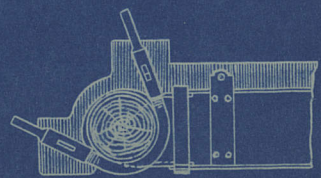
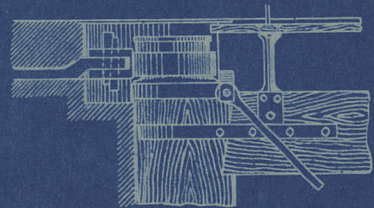


Fig. Porte d'écluse du Canal de la Marne à la Saône.

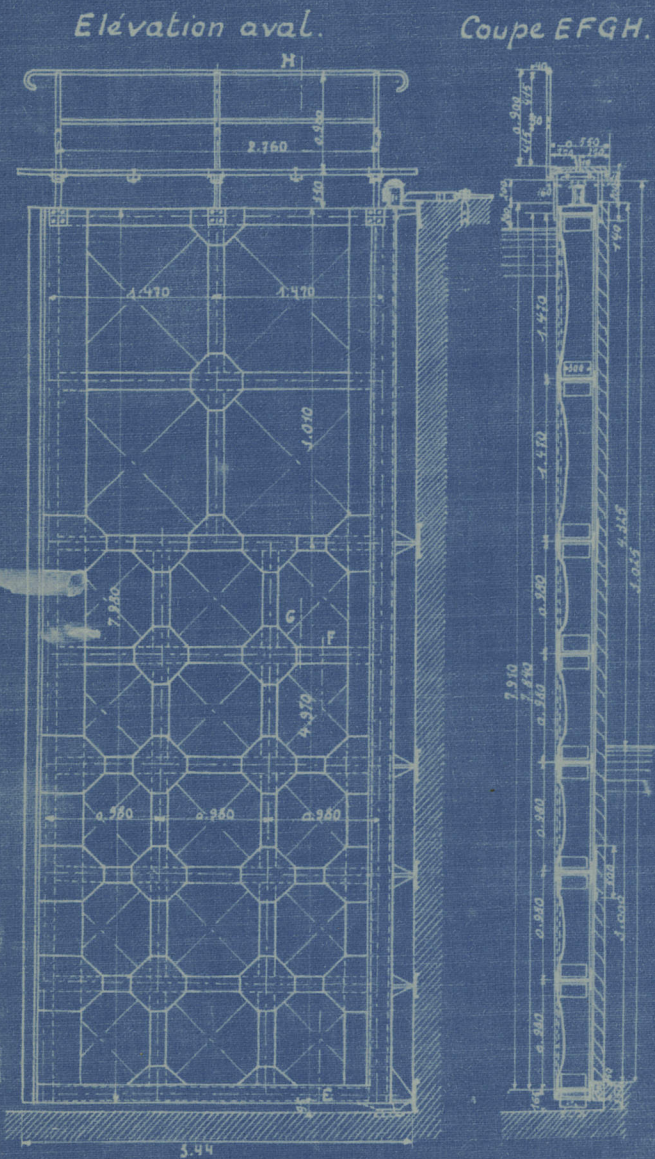


Fig. - Porte d'amont de l'écluse de Hun (Meuse-belge).

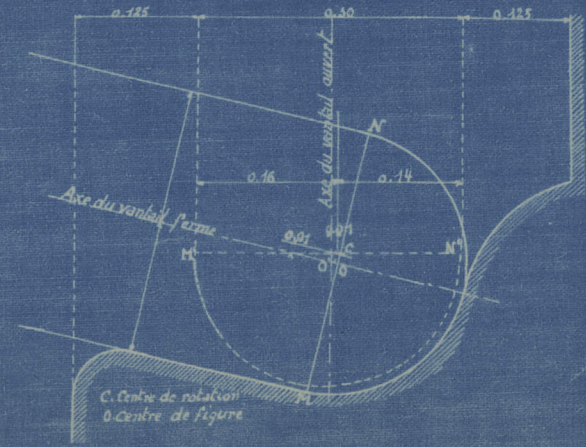
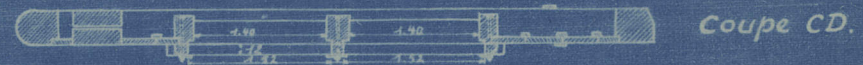
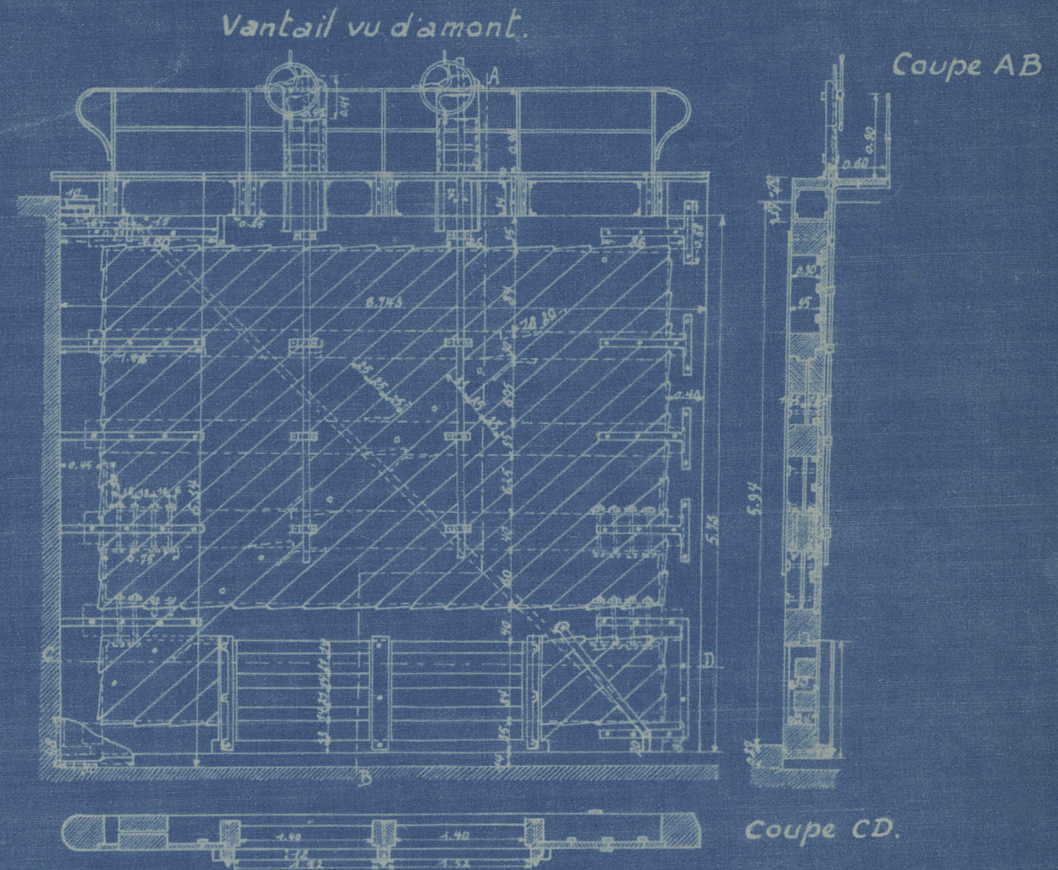
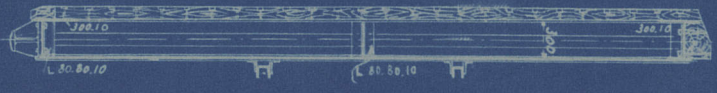
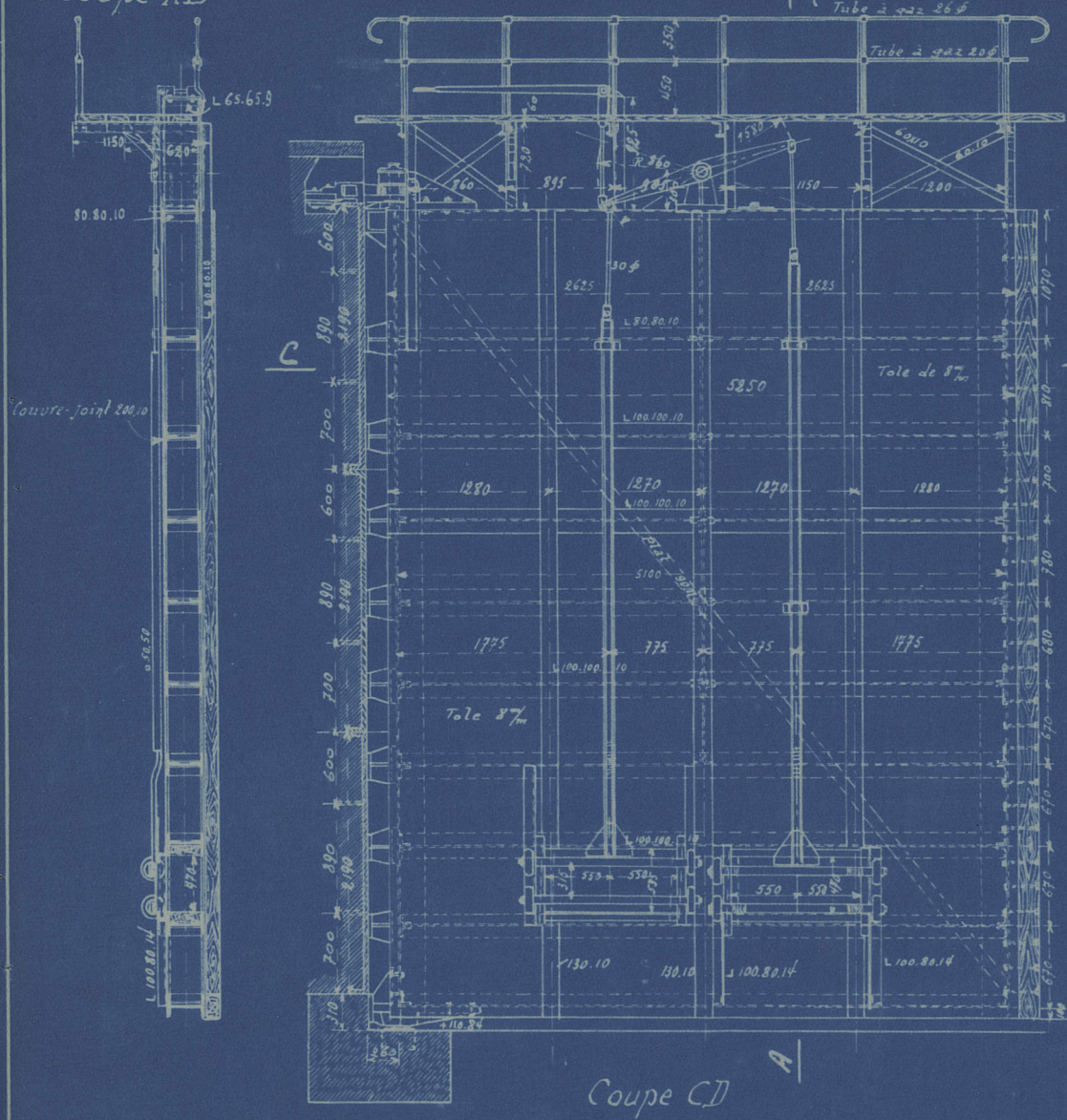


Fig: Porte de l'ecluse de Scheitnig (Brestau)

Coupe AB

Elevation



Heurtoir.

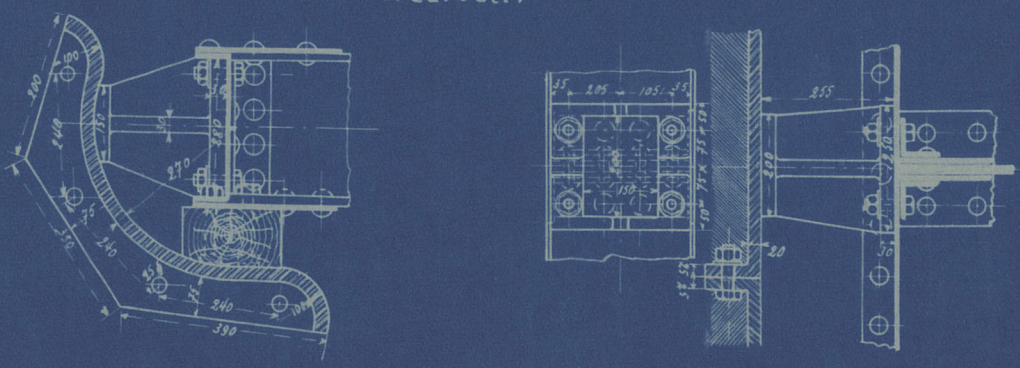


Fig. . Porte de l'écluse de Welhau sur l'Alte.

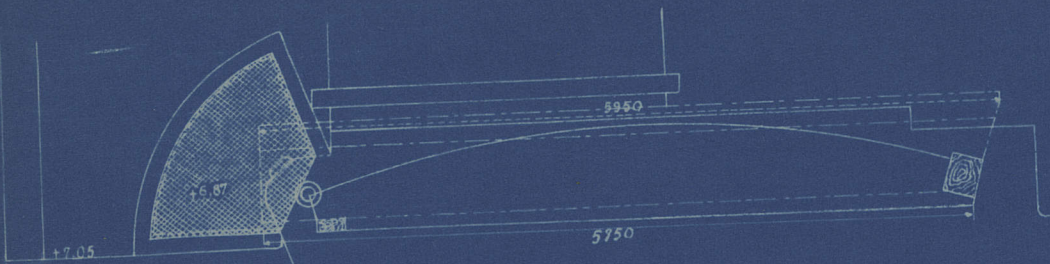


Fig: Collier réglable

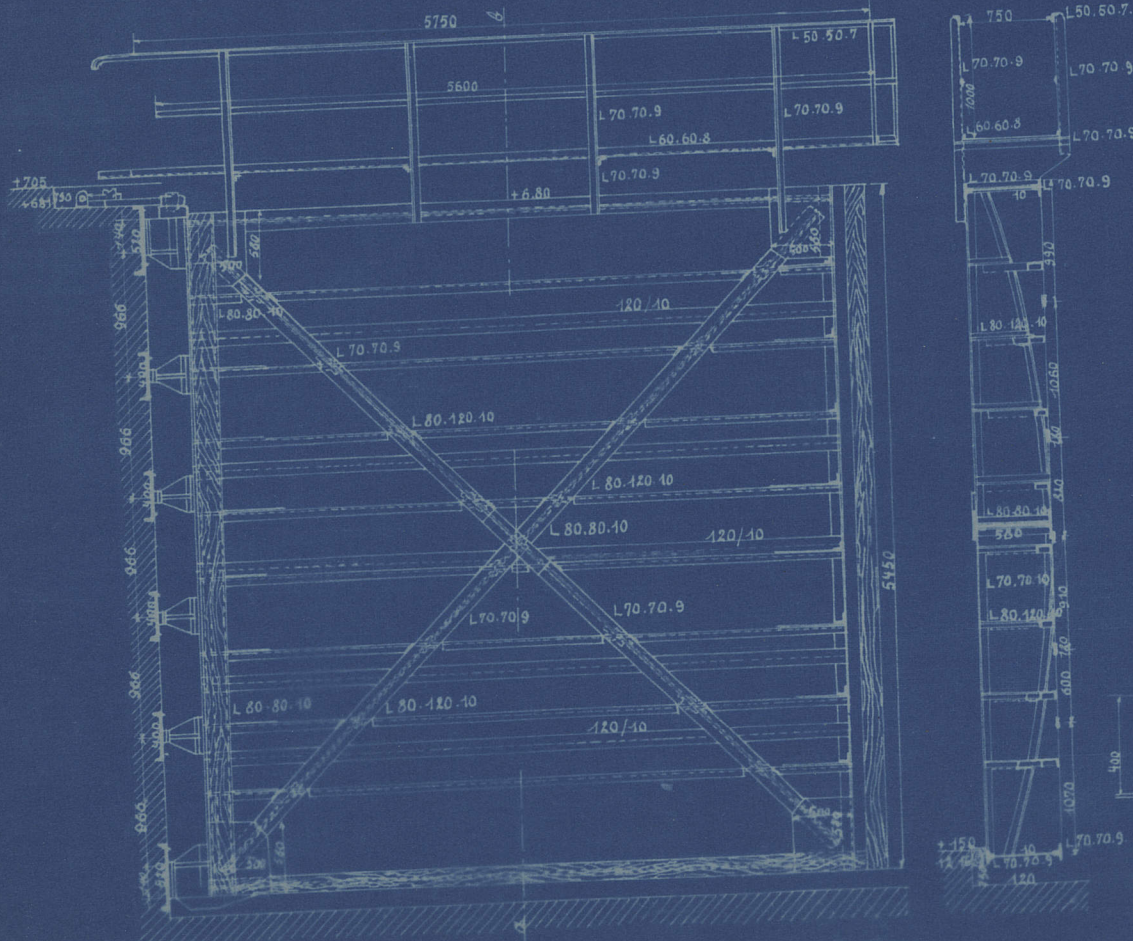
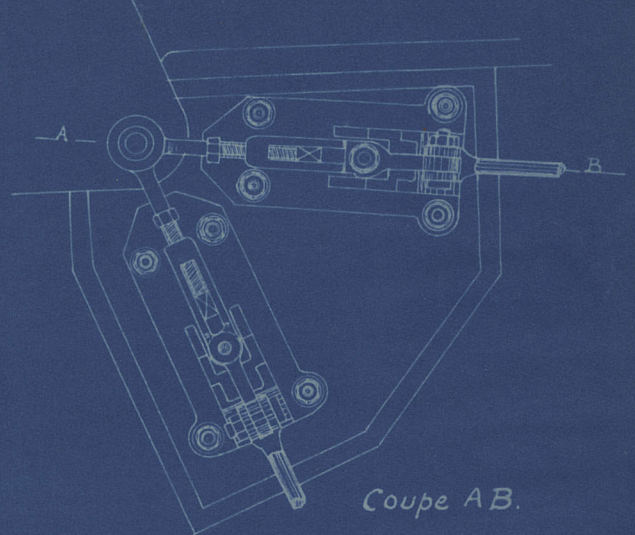
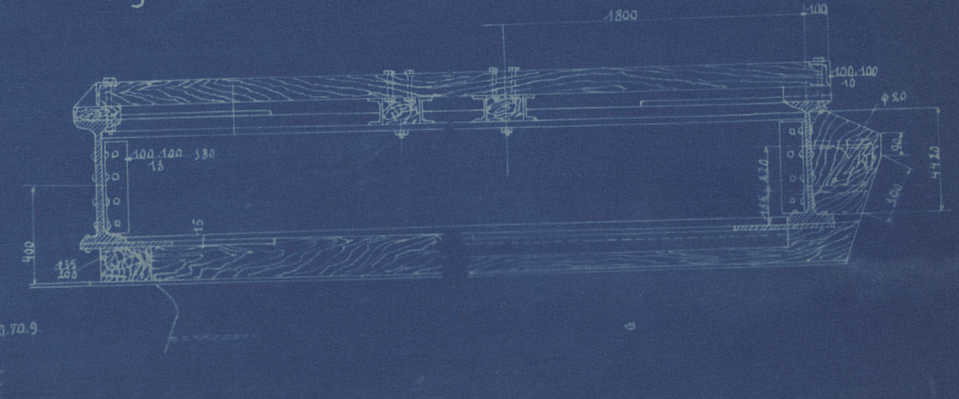


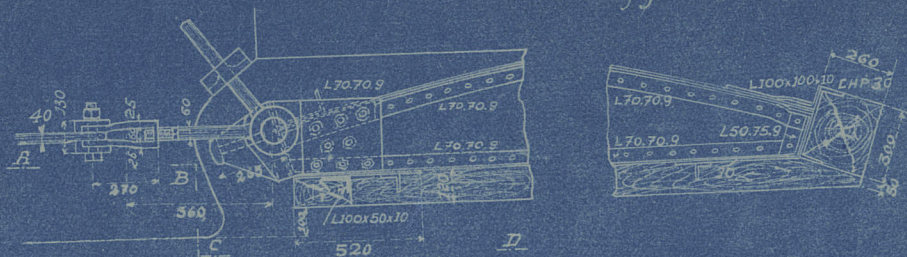
Fig. Ecluse mixte de Troja (Tchécoslovaquie)



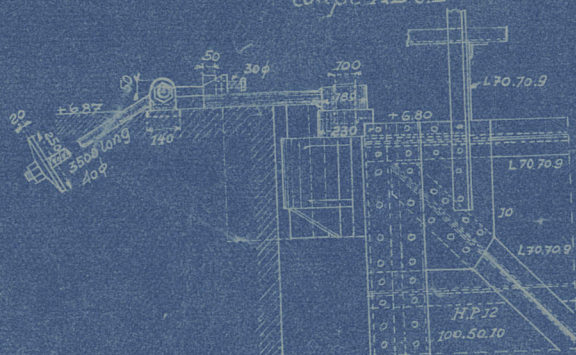
LANCURE

Ecluse de Welhau. fig 1.2.3.

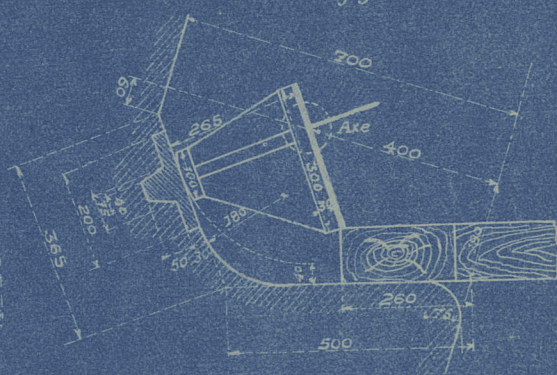
Tourillon fig1



Coupe ABCD

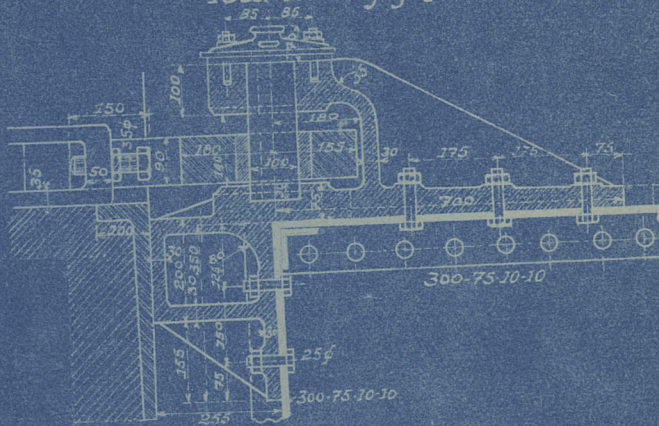


Heurtoir fig3

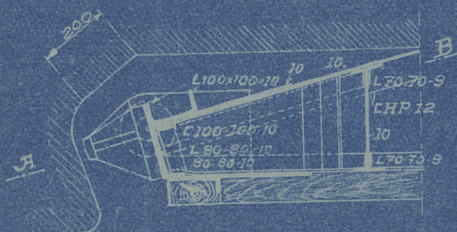


Ecluse de Scheitnig fig 4 et 5

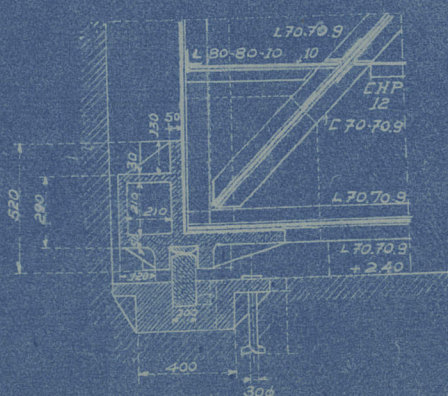
Tourillon fig 4



Pivot fig2



Coupe A.B.



Heurtoir fig 5

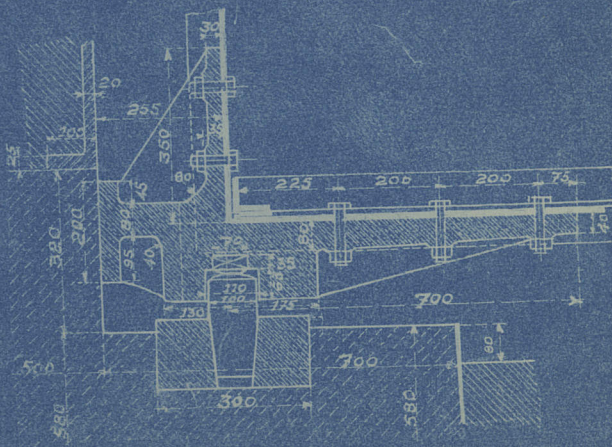
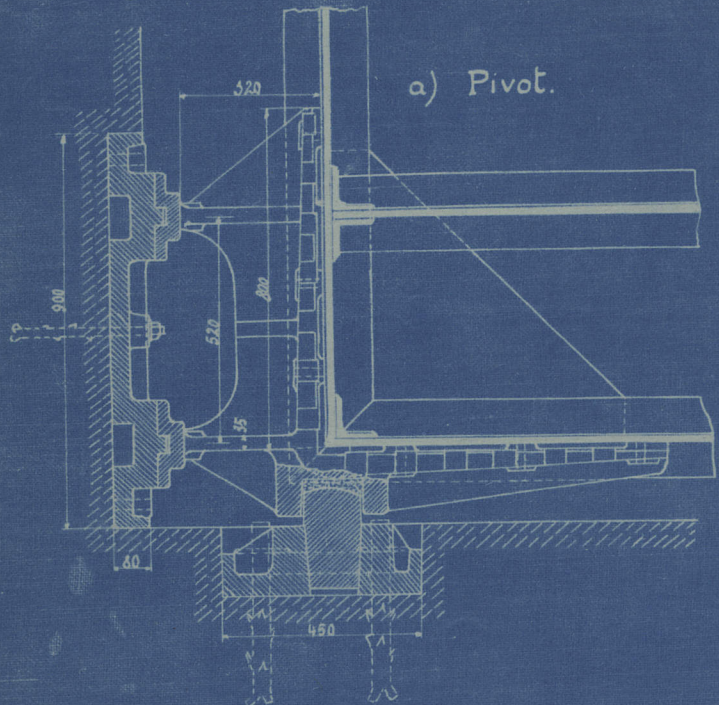
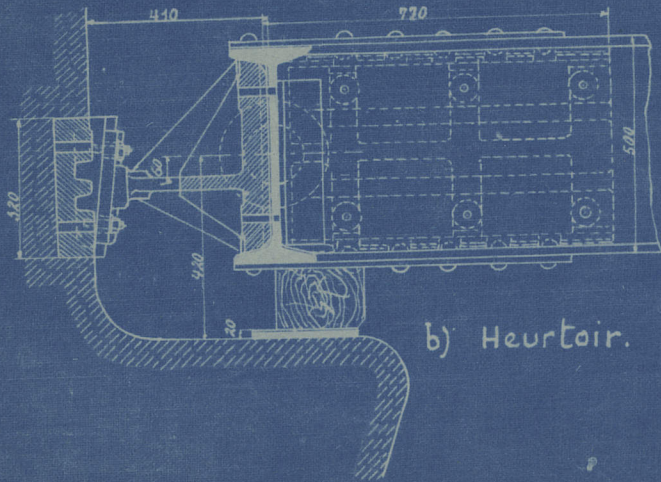


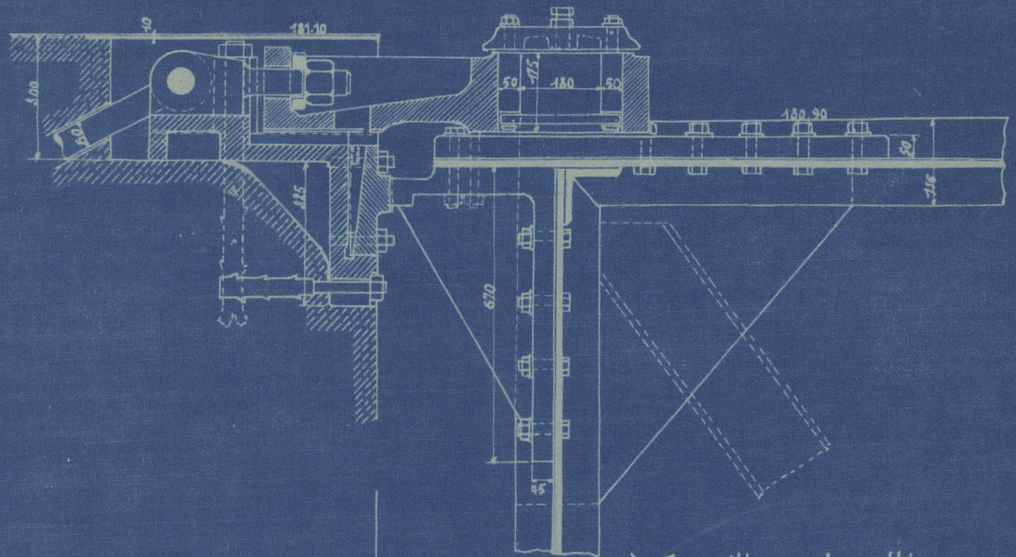
Fig. . Ecluse mixte de Troja (TCHÉCOSLOVAQUIE).



a) Pivots.



b) Heurtoir.



c) Tourillon et collier.

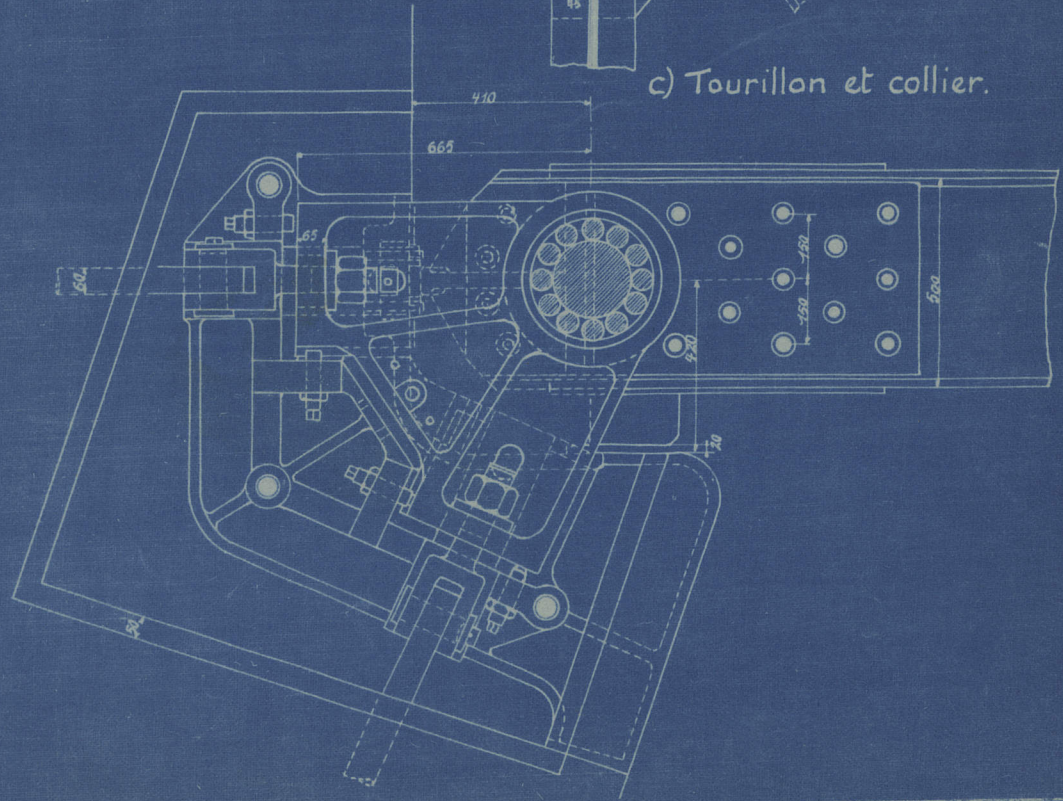


Fig. _ Porte d'aval de l'écluse de Varennes, sur la Haute-Seine.

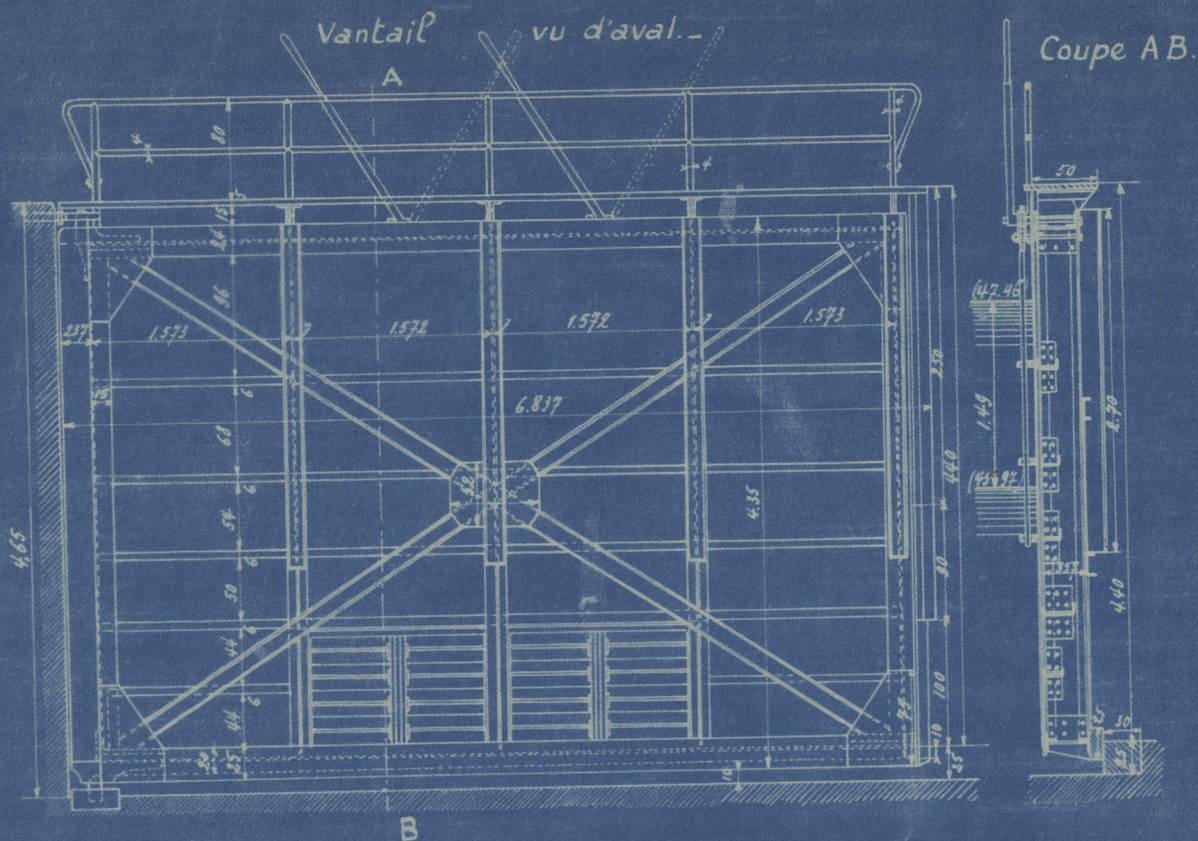


Fig. _ Porte mixte d'aval de l'Ecluse d'ABLON, sur la Haute-Seine.

Vantail vu d'aval.

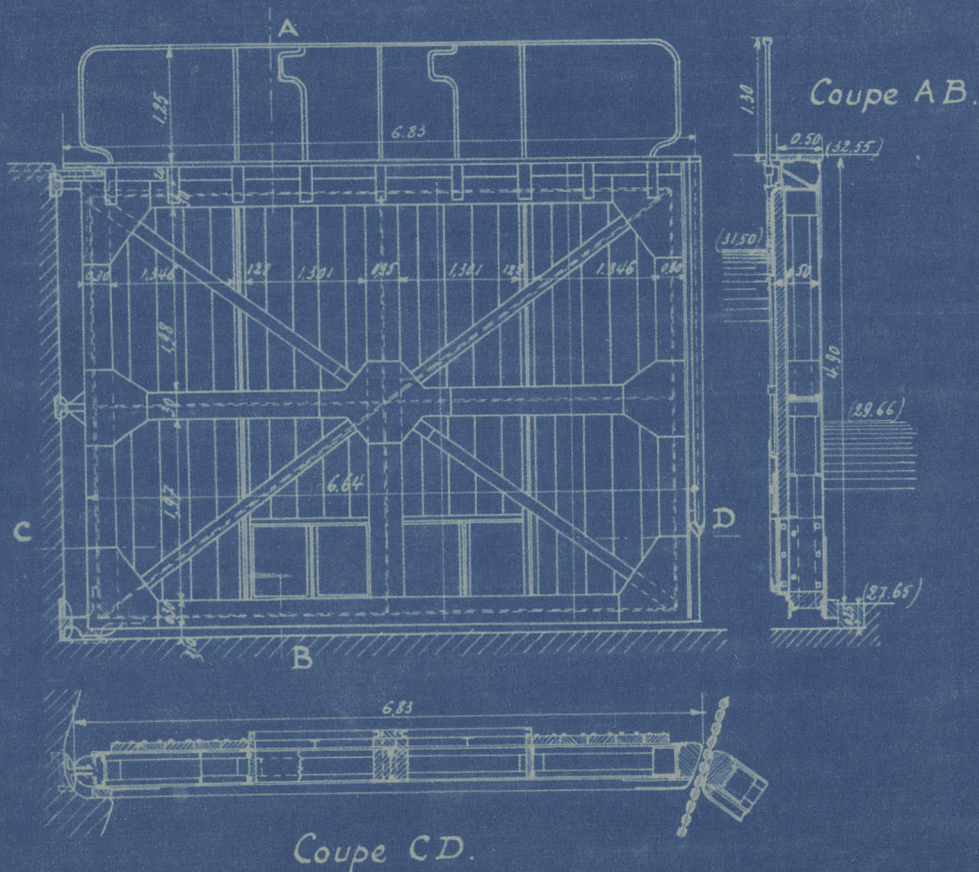
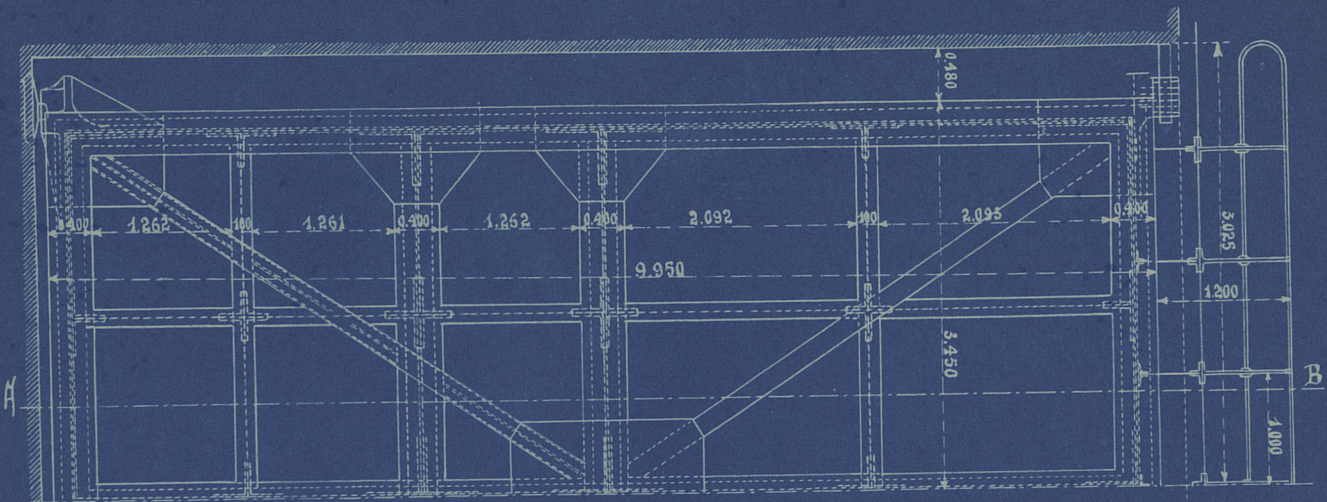


Fig. 1. Porte à 1 vantail du canal du Nord.



Coupe suivant A.B

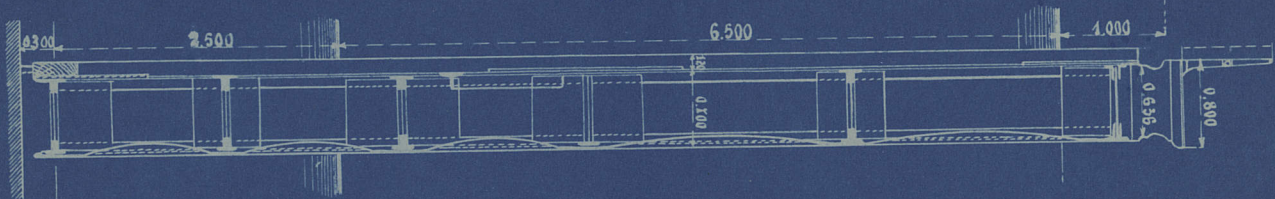
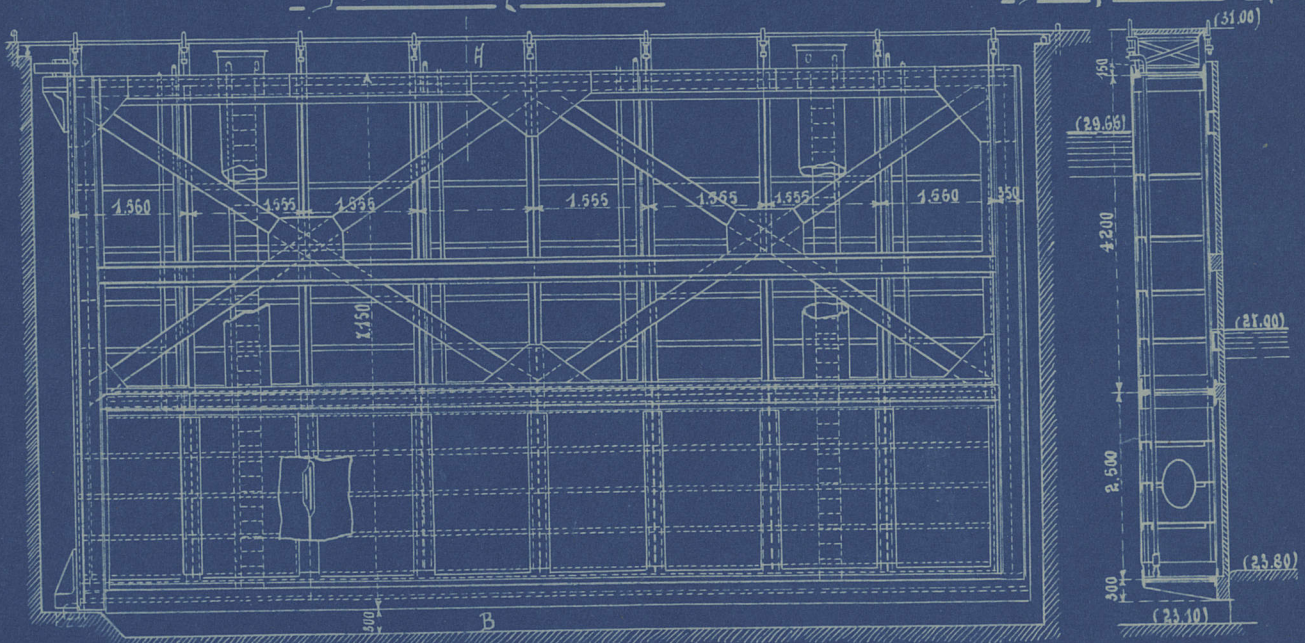


Fig. 2. Porte à 1 vantail équilibré de l'écluse de Port à l'Anglais (St. Seine)

a) Elevation d'aval

b) Coupe suivant A.B.



c) Plan supérieur (Passerelle et collier enlevés)

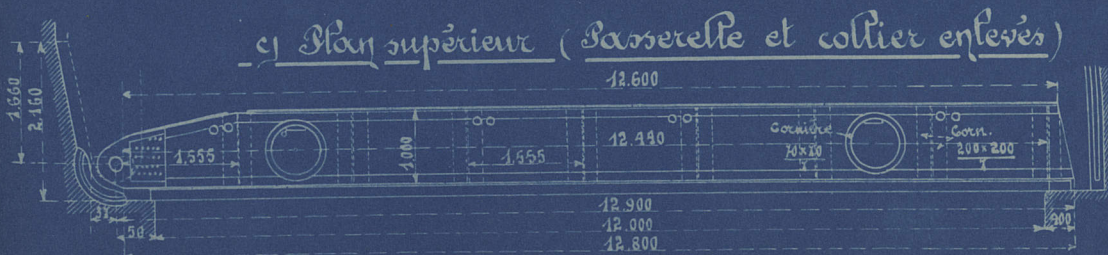


Fig. 1. Porte d'aval à 1 vantail de l'écluse à forte chute du canal St Denis.

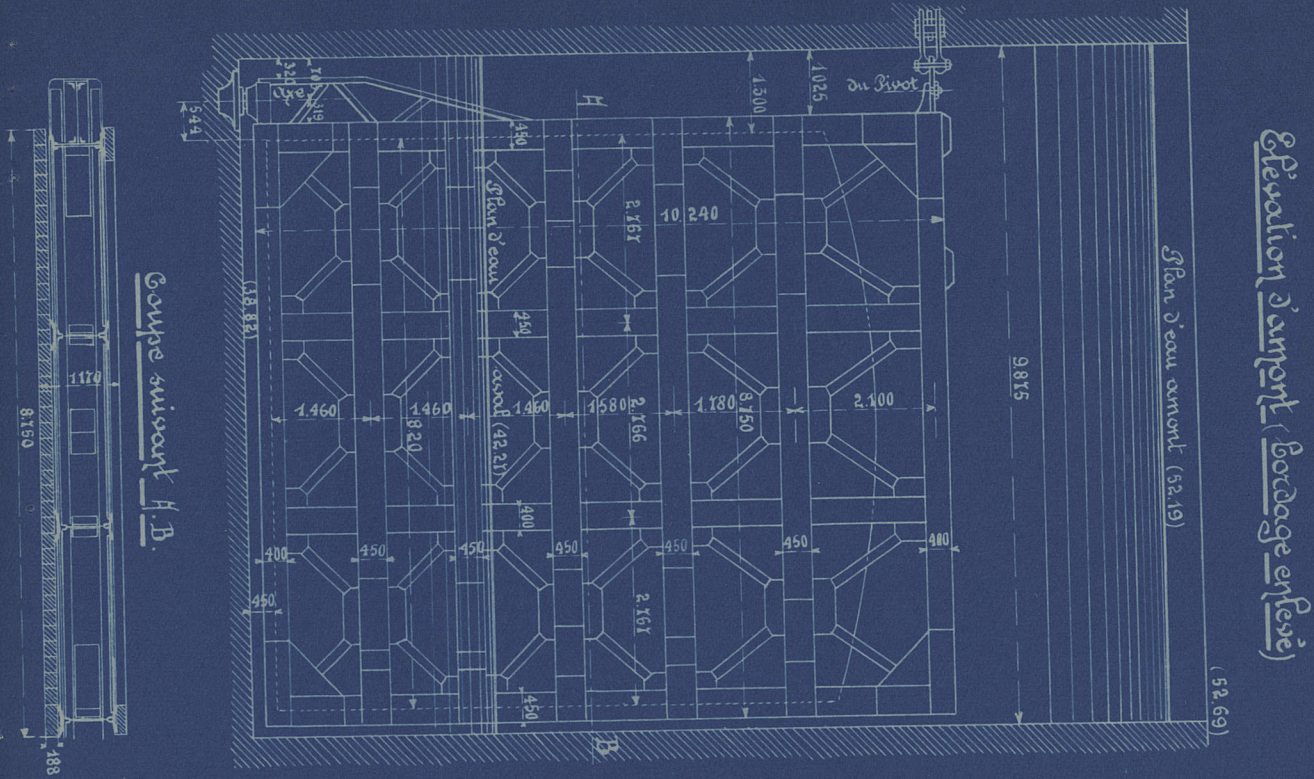


Fig. 2. Porte levante du canal de Veltoss.

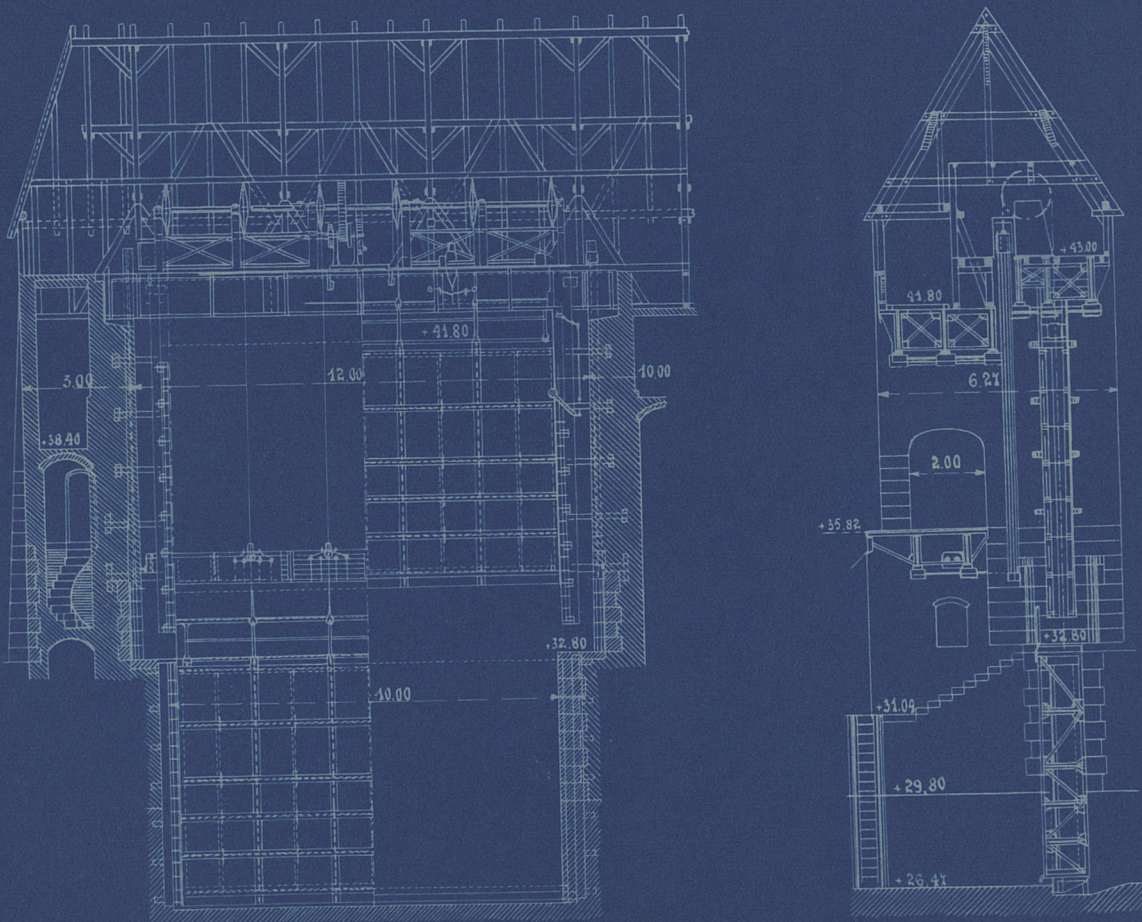
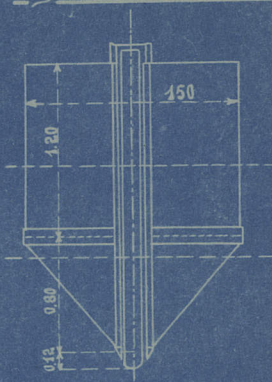
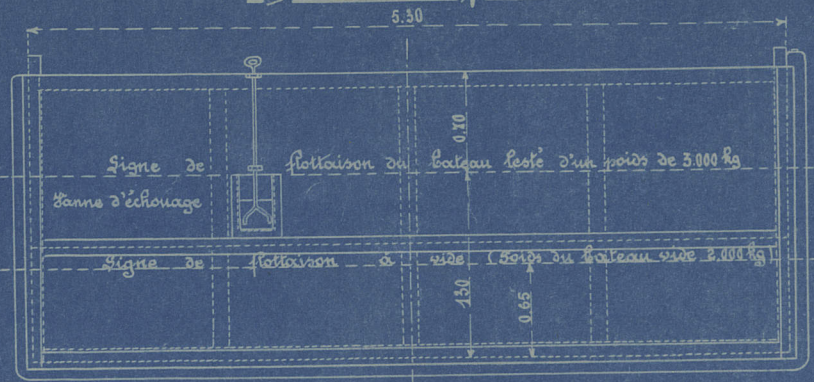


Fig. 1. Bateau-porte du canal de Bourgogne.

a) Vue de face.

b) Vue de côté



c) Plan

d) Détails

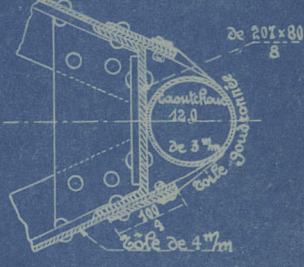
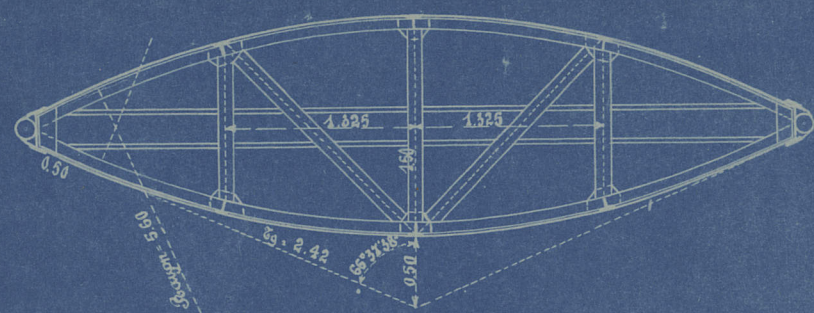


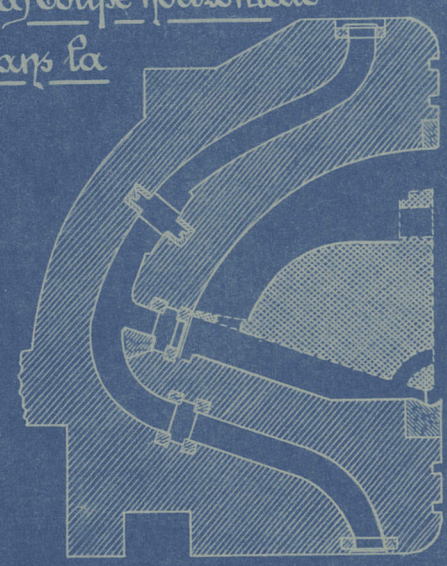
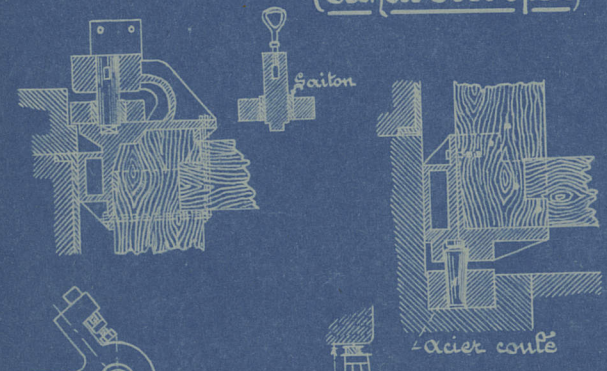
Fig. 2. Axes des portes en bois de l'écluse de Turstenswalde

(Canal Oder-Spree)

Fig. 3. Porte à éventail à Andel (Boys-Bov)

a) Coupe horizontale dans la

schématique chambre de porte.



c) Elevation perspective

b) Plan et coupe horizontale des 2 vantaux.

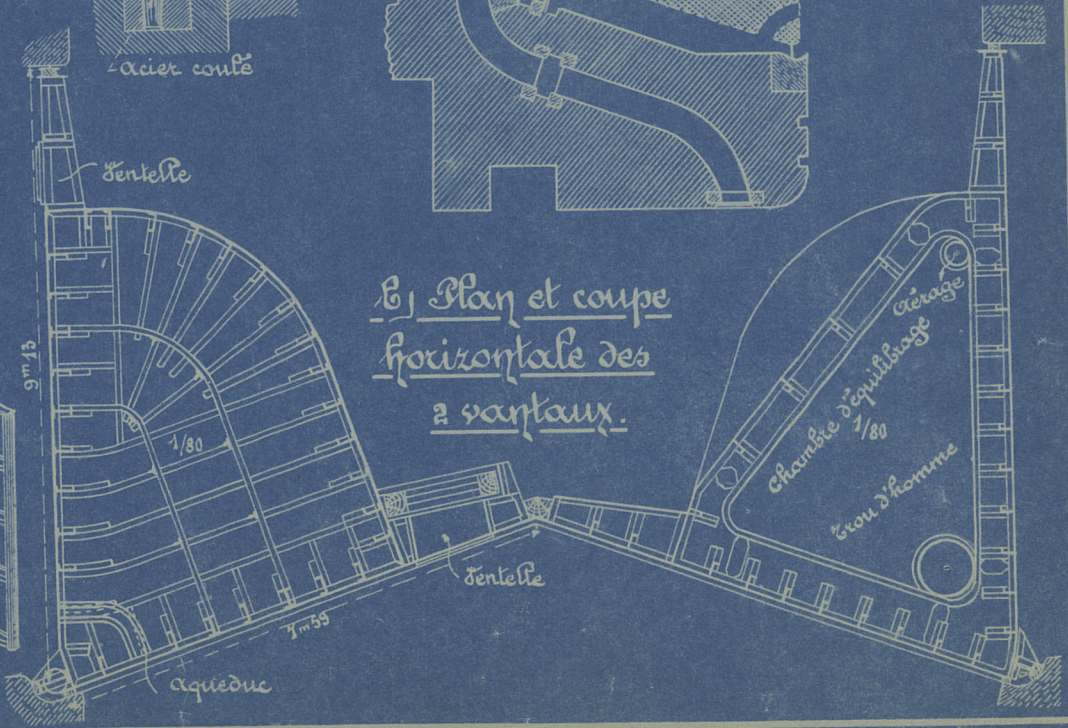
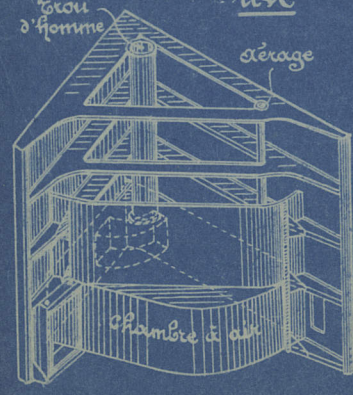
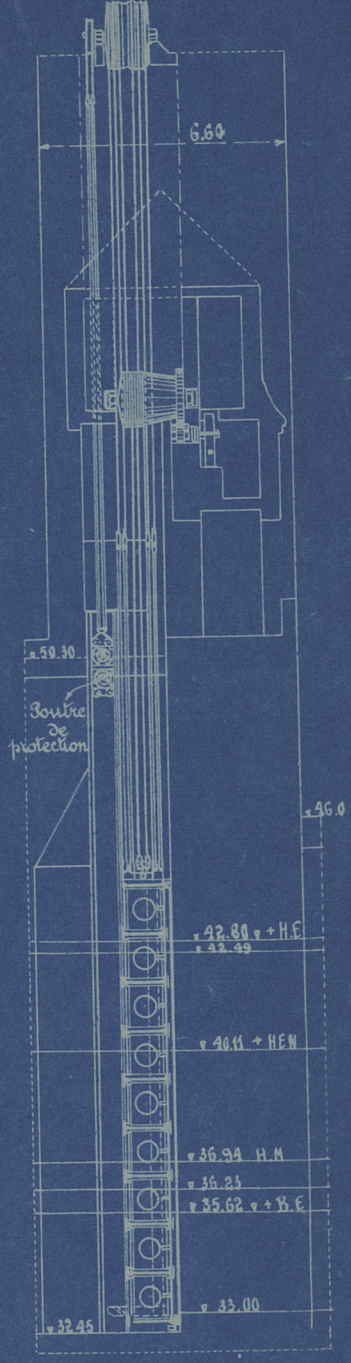
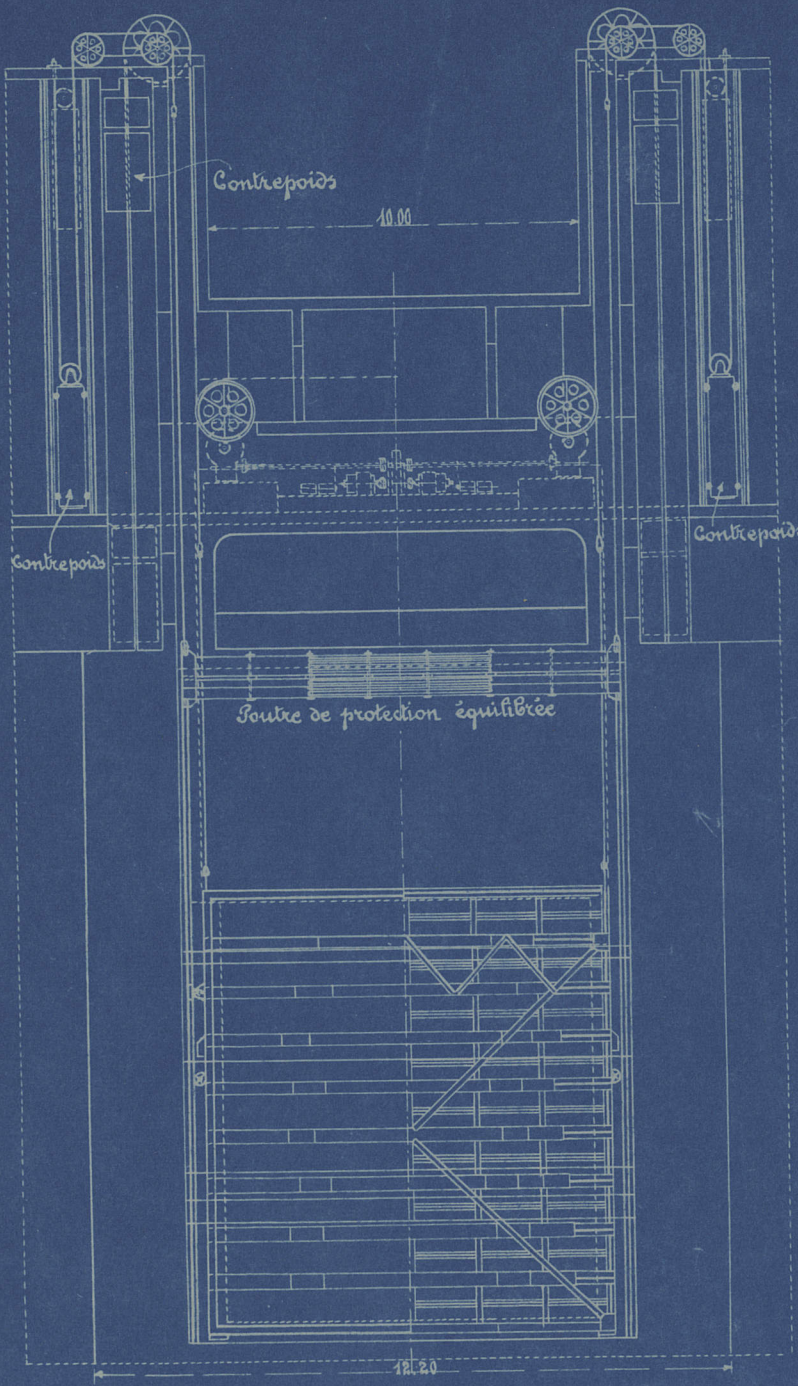


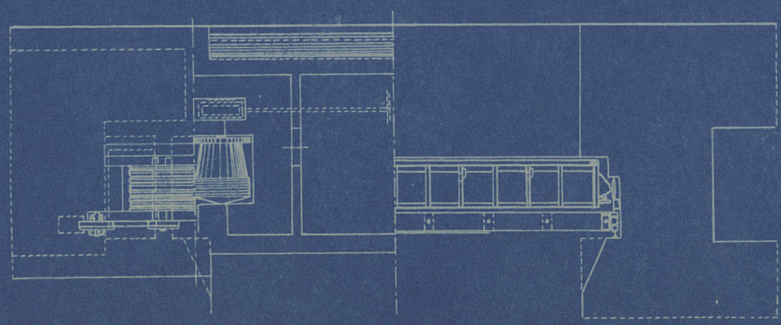
Fig. 1. Porte levante d'aval de l'écluse à forte chute de Moinden.

a) Elevation

b) Coupe verticale



c) Coupe horizontale.



Porte à segment à
l'écluse de Breslau.

Fig. 1.

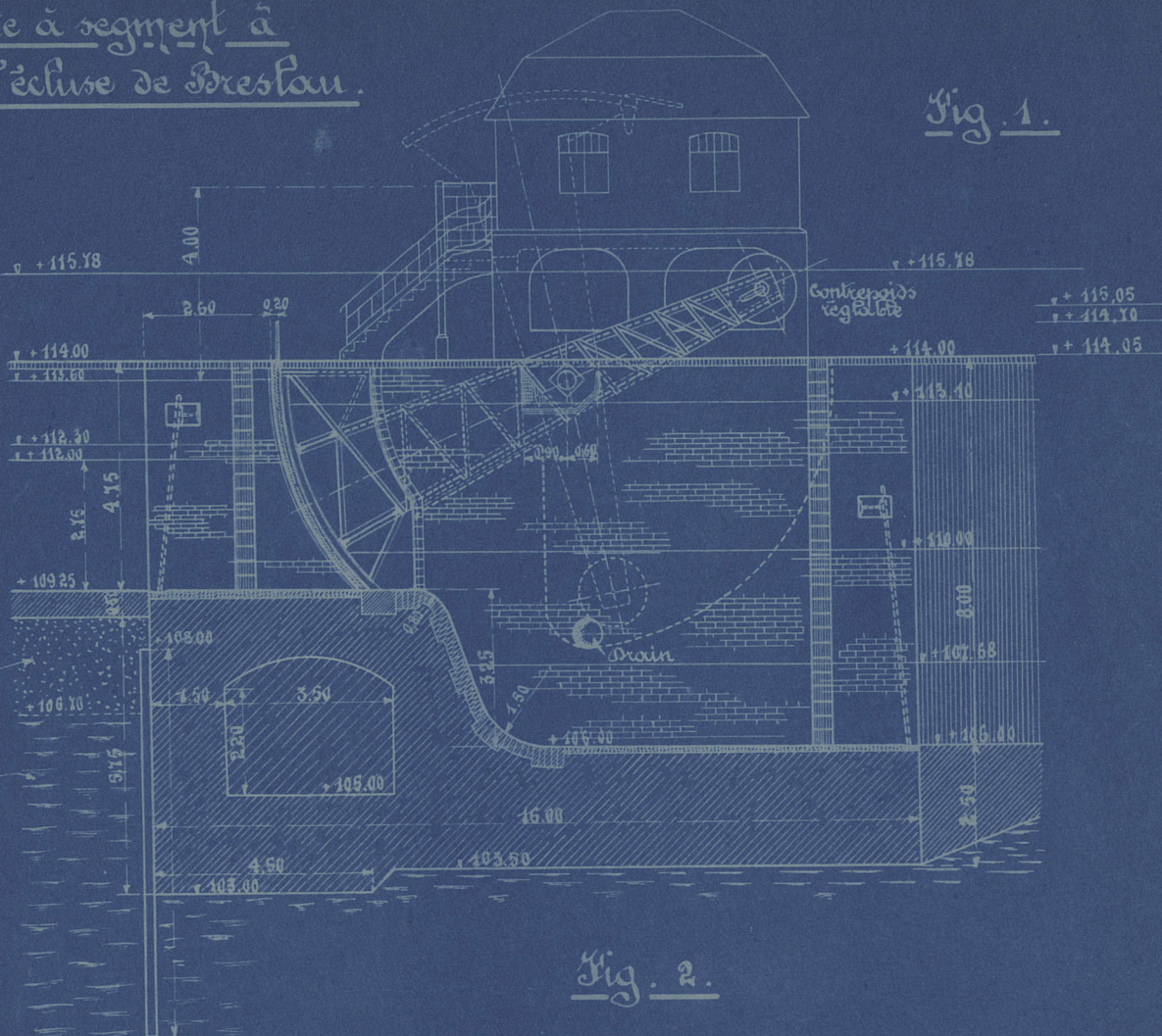
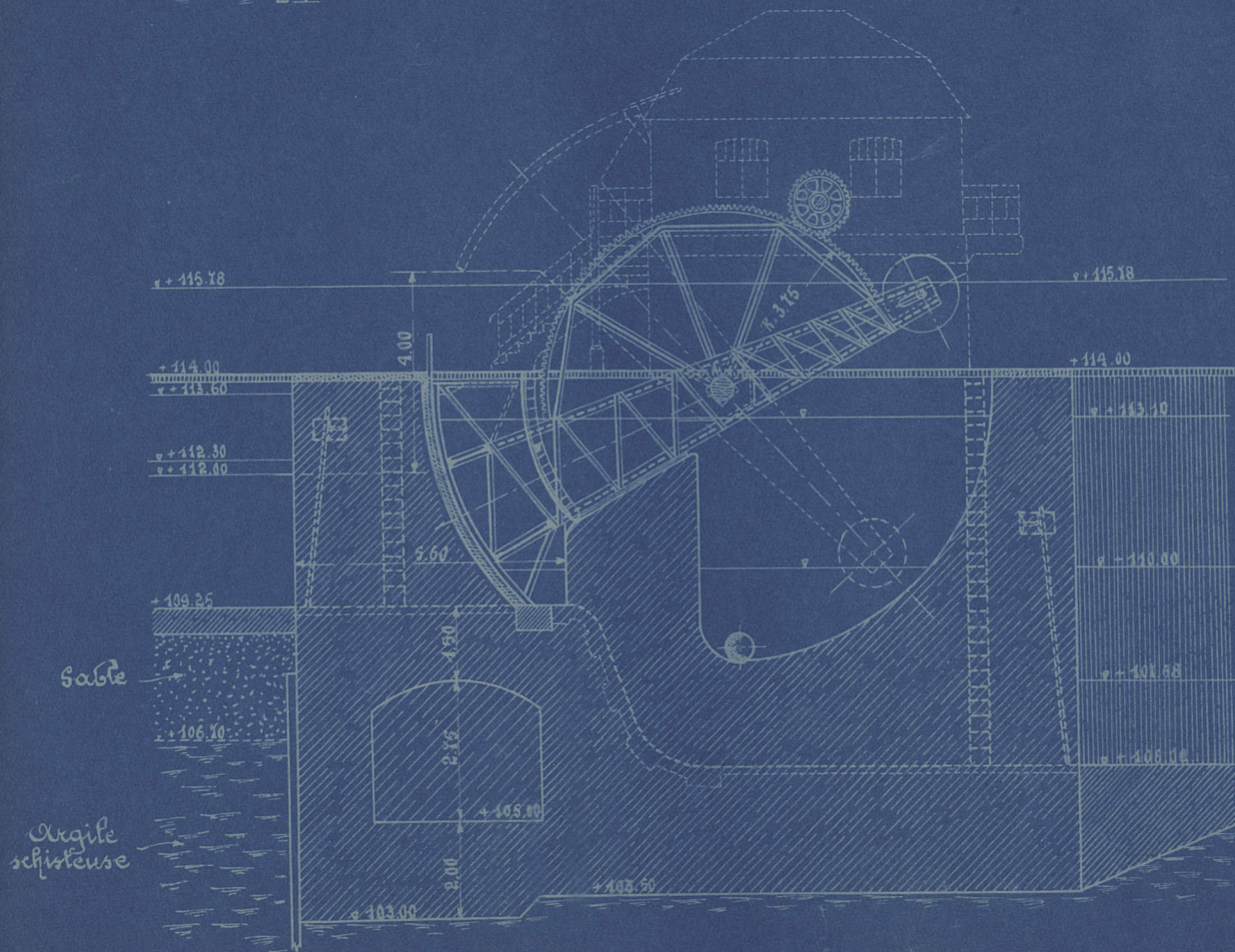


Fig. 2.



Porte à segment à l'écluse de Breslau (suite)

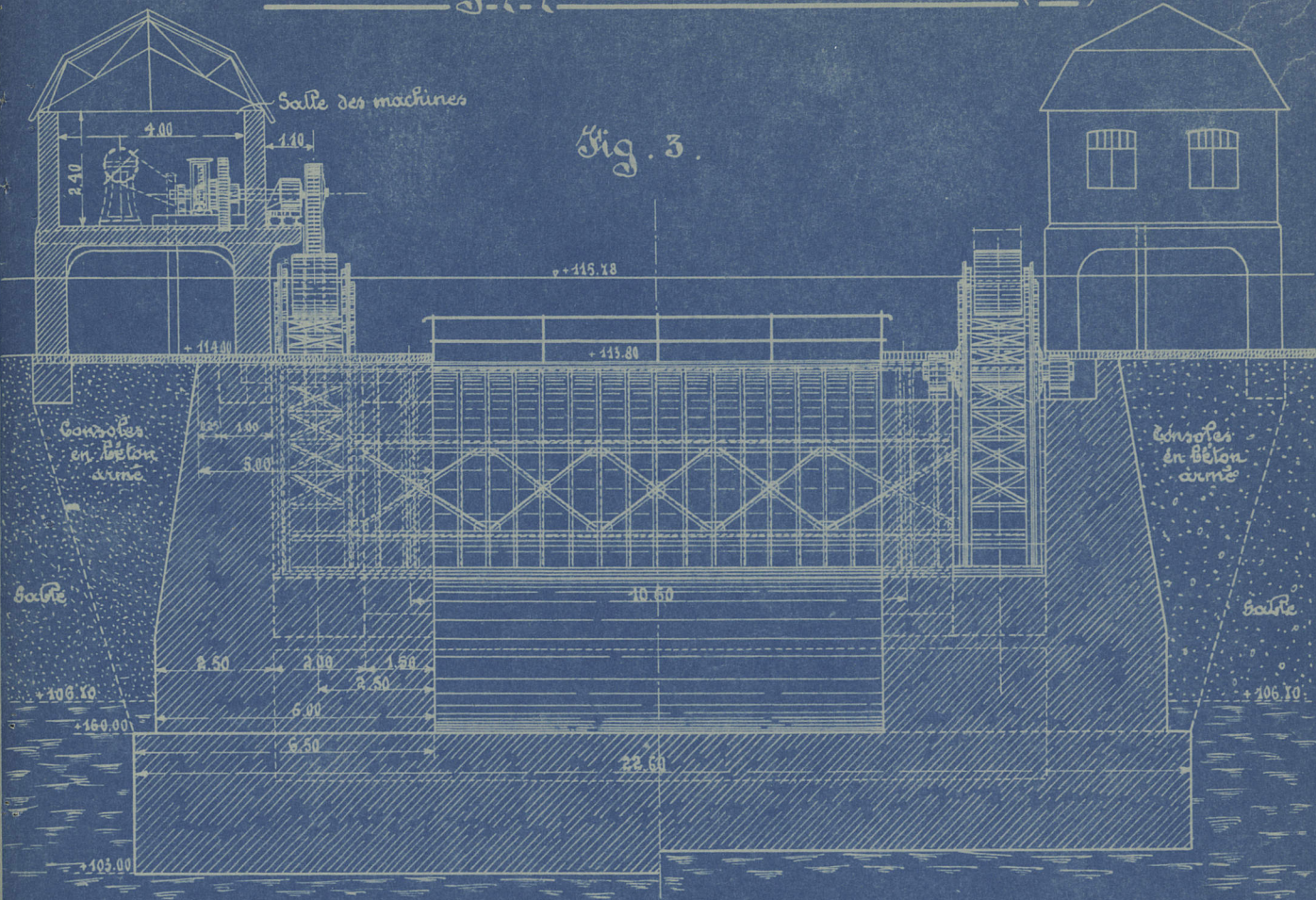
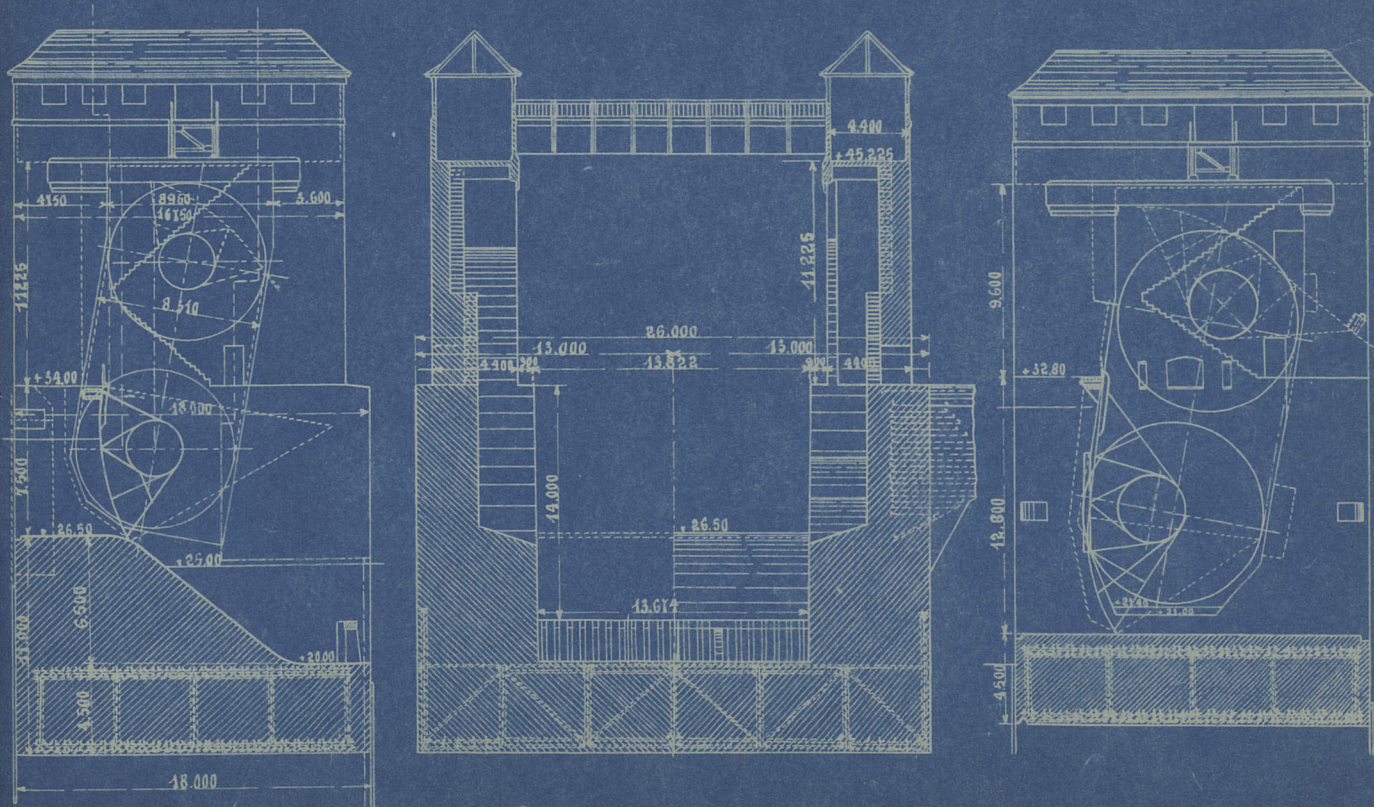


Fig. 3.

Fig. 1. Portes à cylindres de l'écluse de Mulheim (Suite)

a) Porte d'amont

b) Porte d'aval



Portes à rabattement.

Fig. 1. Porte amont de l'écluse de Groja (Sch-Sl)

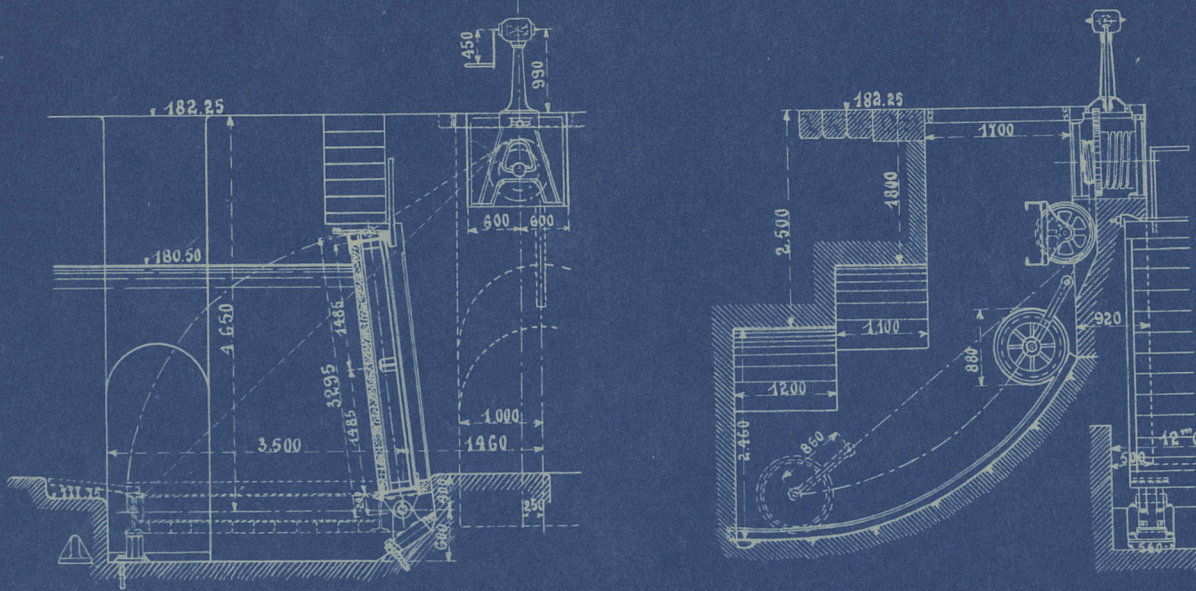


Fig. 2. Portes amont équilibrées des écluses du canal Rijn - Berne.

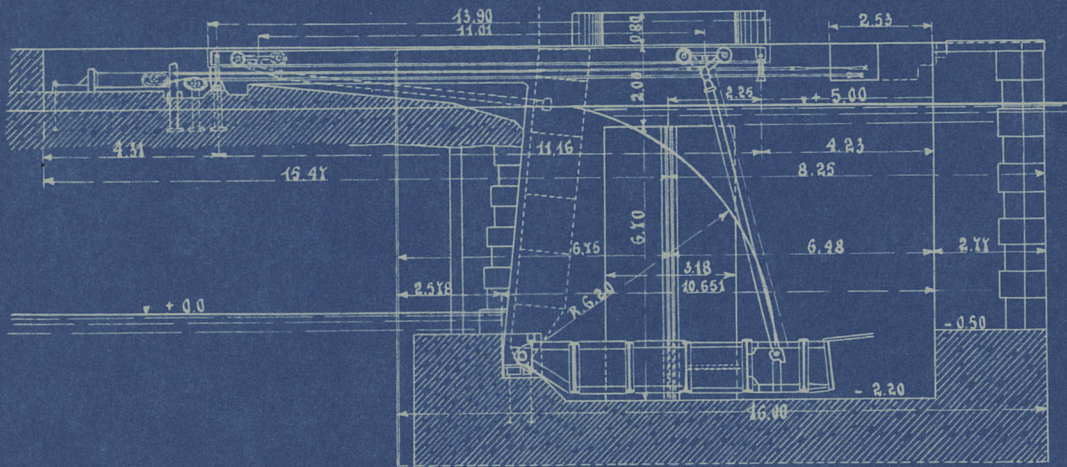
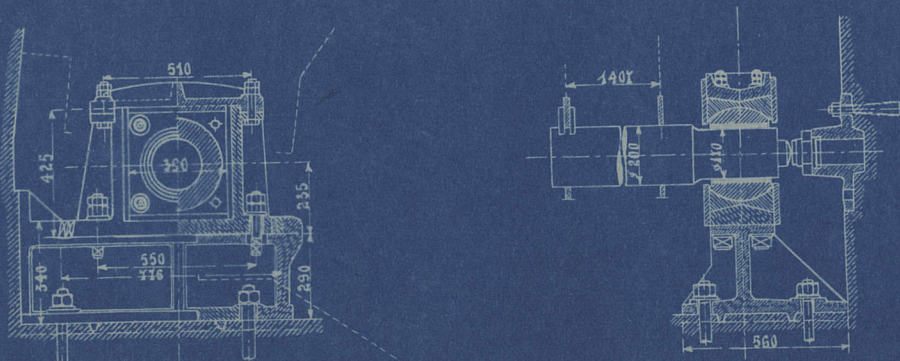
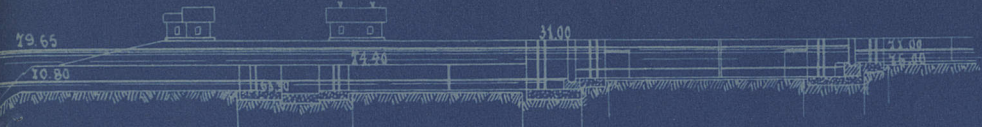


Fig. 3. Détails des tourillons (portes des écluses du canal Rijn - Berne)



a) Profil en long de l'écluse



b) Plan de l'écluse

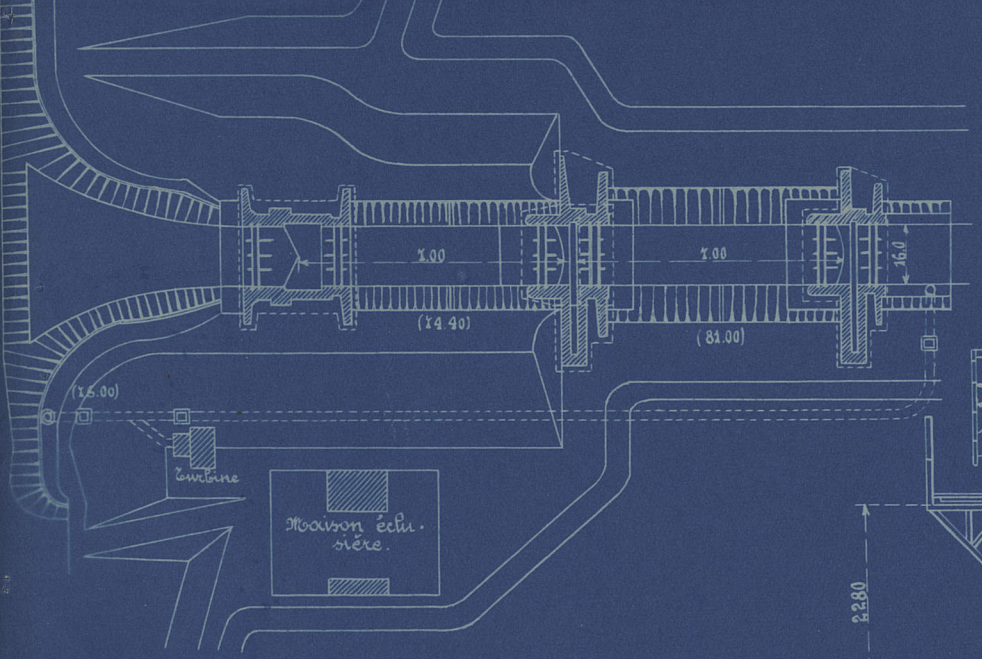


Fig. 1. Porte
roulante à pont
supérieur de
l'écluse de jonc-
tion de O'Beese
sur la Cheiss.

c) Coupe transver-
sale de la porte.

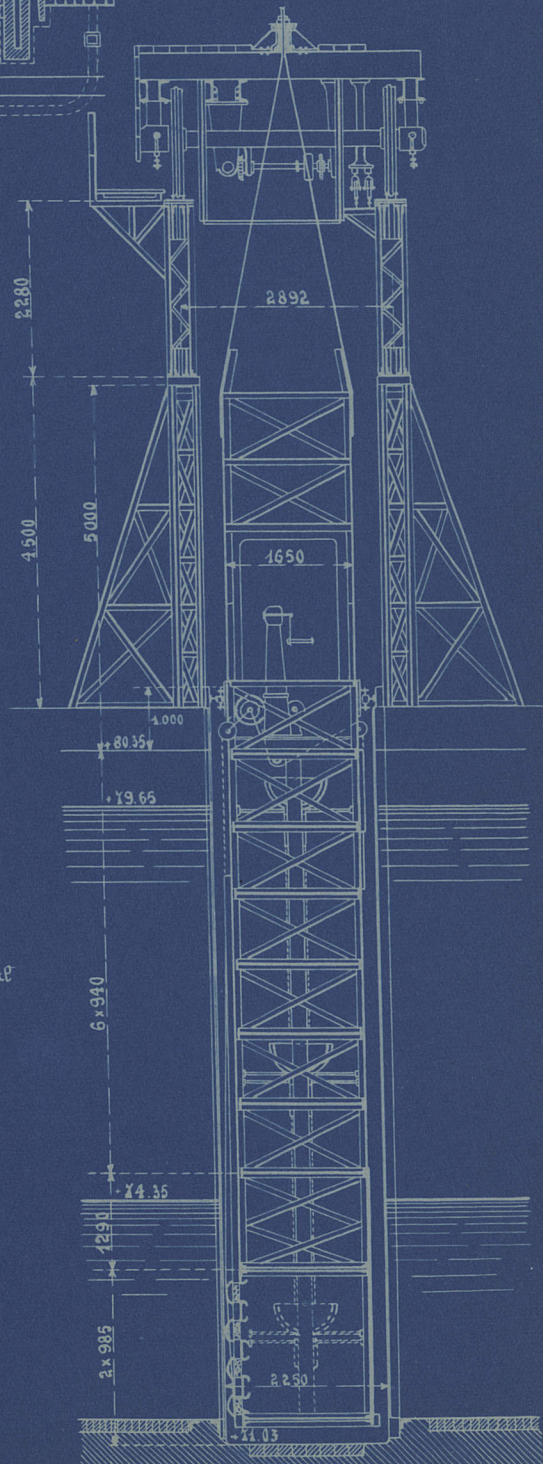
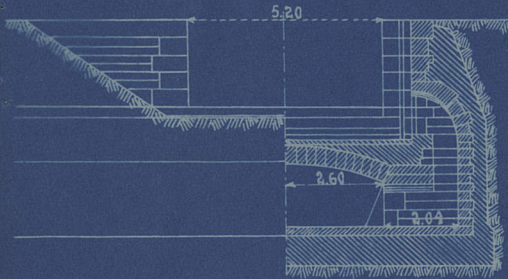


Fig. 2. Disposition des aqueducs dans
les écluses

a)



du canal
de la Moar-
ne à la
Saône.

b)

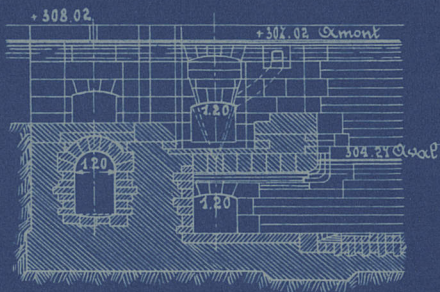


Fig. 3. Autre
disposition
(schématique)

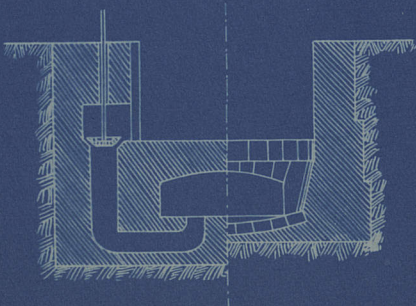


Fig. 1. Fosse centrale de sassement (schéma)

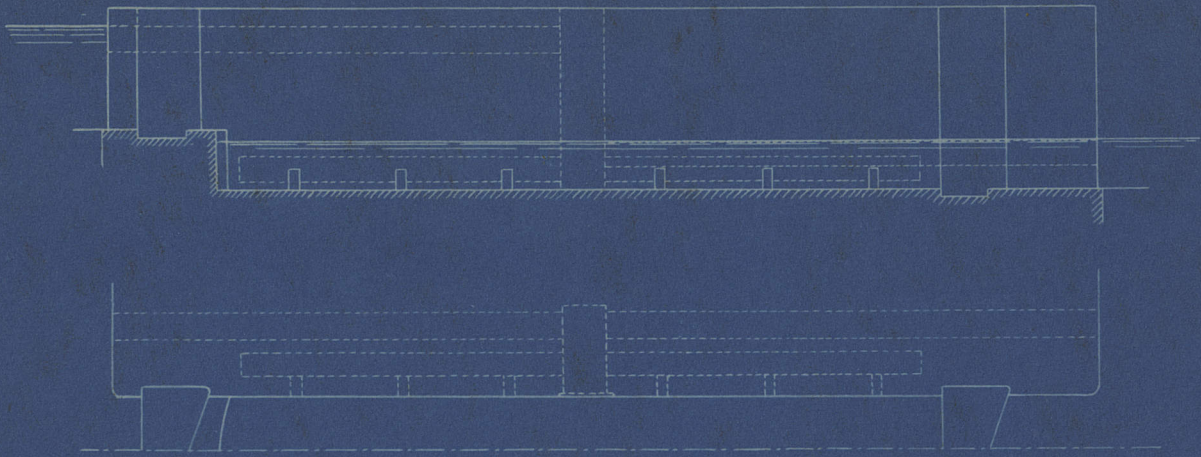
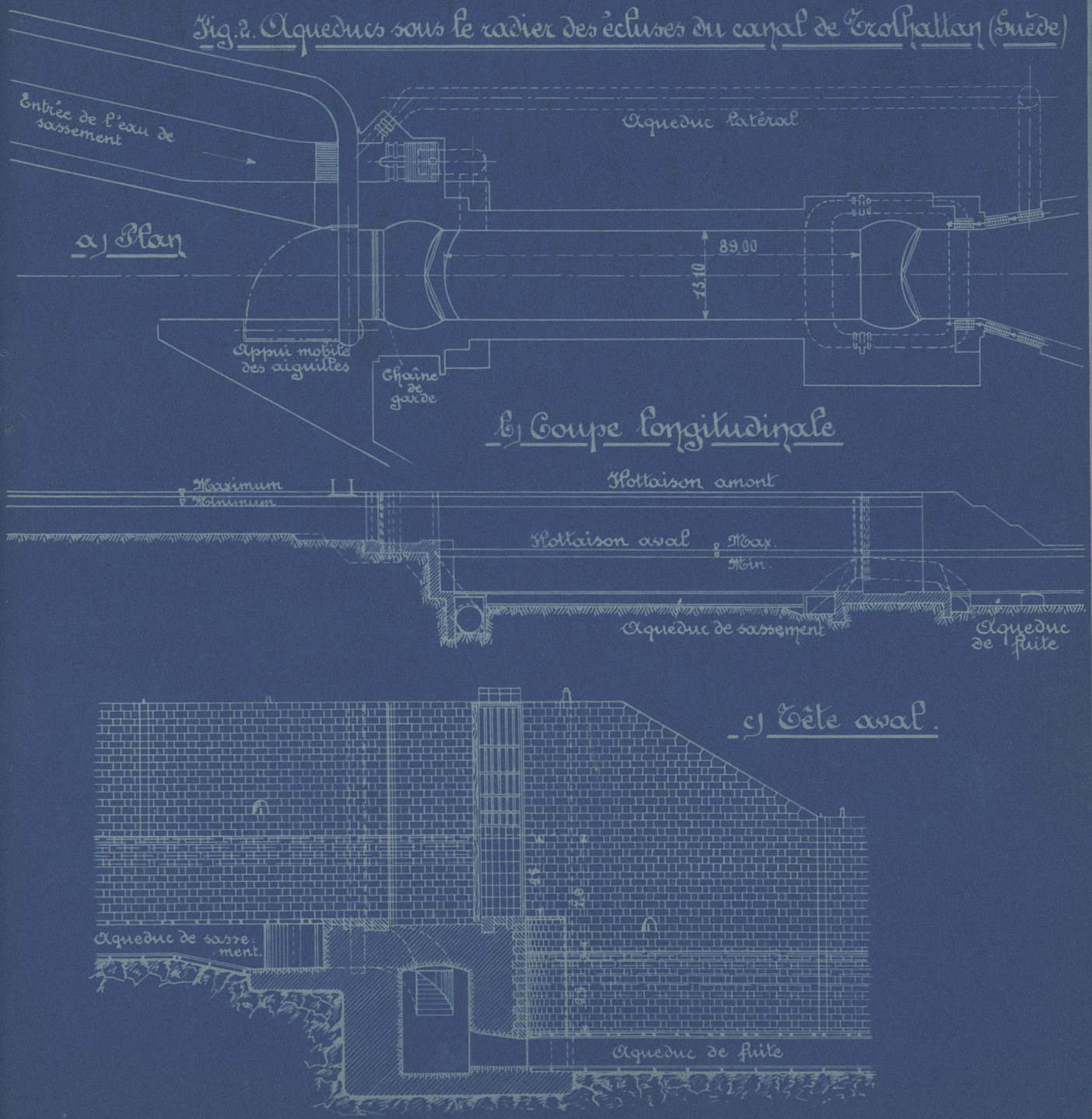
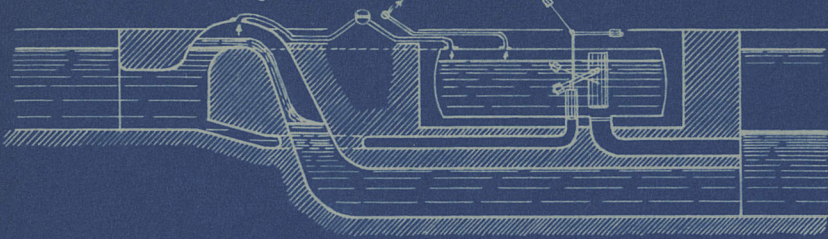


Fig. 2. Aqueducs sous le radier des écluses du canal de Troshattan (Suède)

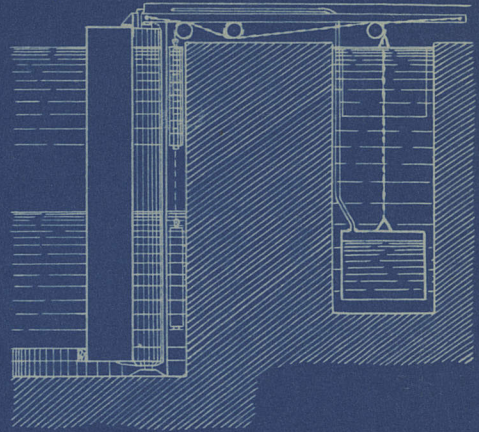


a) Principe du sassement par siphon

Siphon Réservoir à air



b) Principe de la manoeuvre hydro-pneumatique de la porte busquée aval.



c) Principe de la manoeuvre hydro-pneumatique de la porte amont à rabattement.

Étrappe à air Porte amont à rabattement

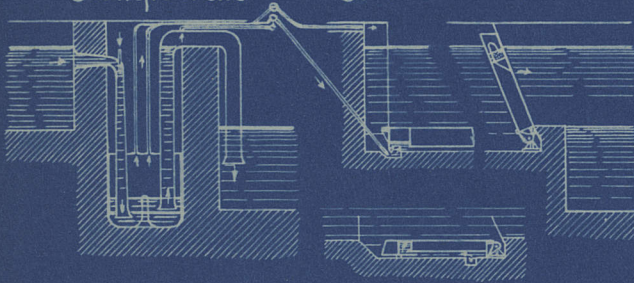
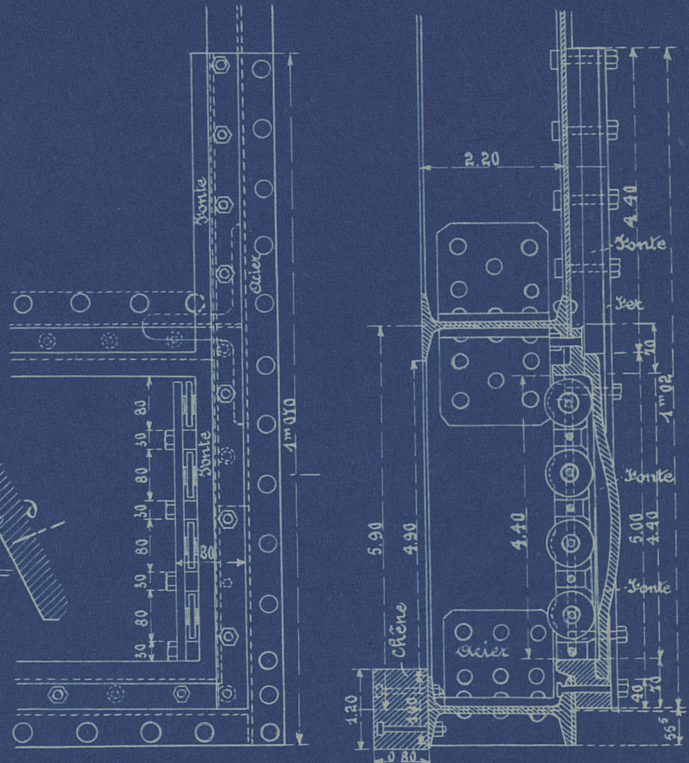
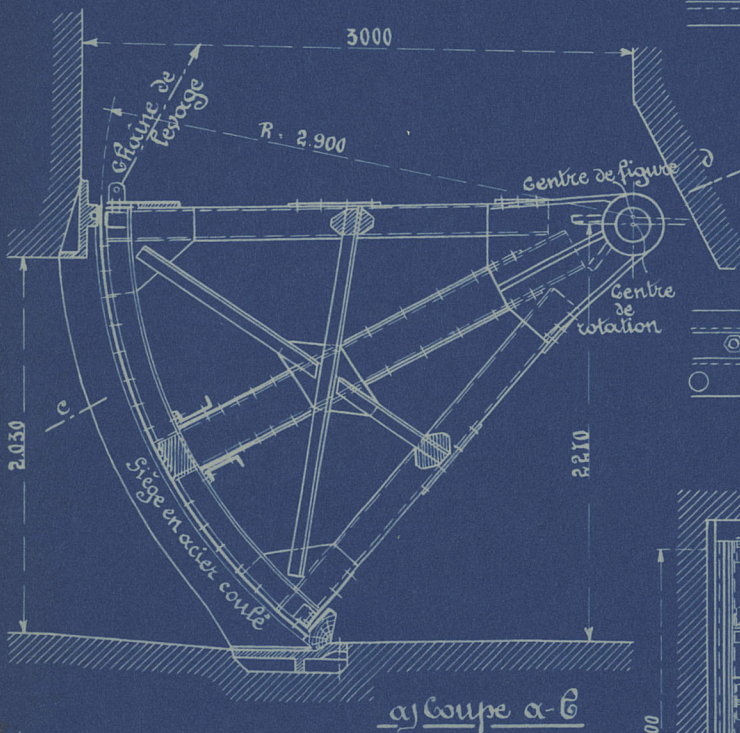


Fig. 2.

Grille à galets du canal de Bourgogne.

Fig. 1. Ecluse système Voottop.



Coupe c - d

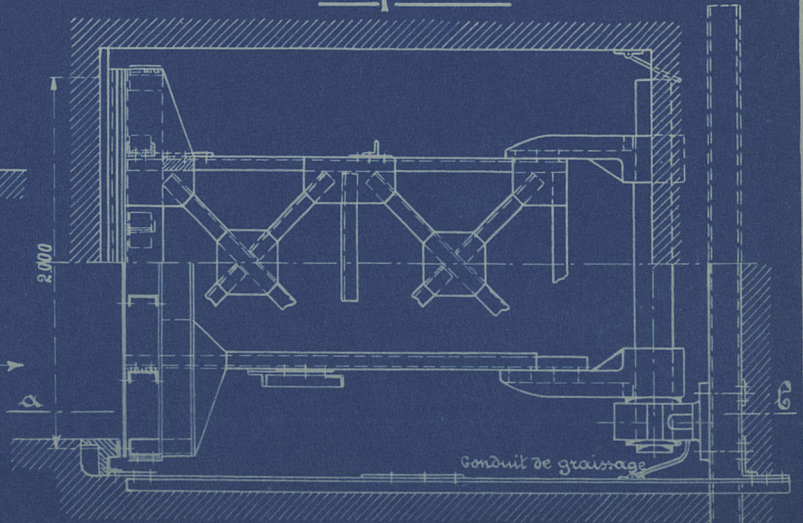
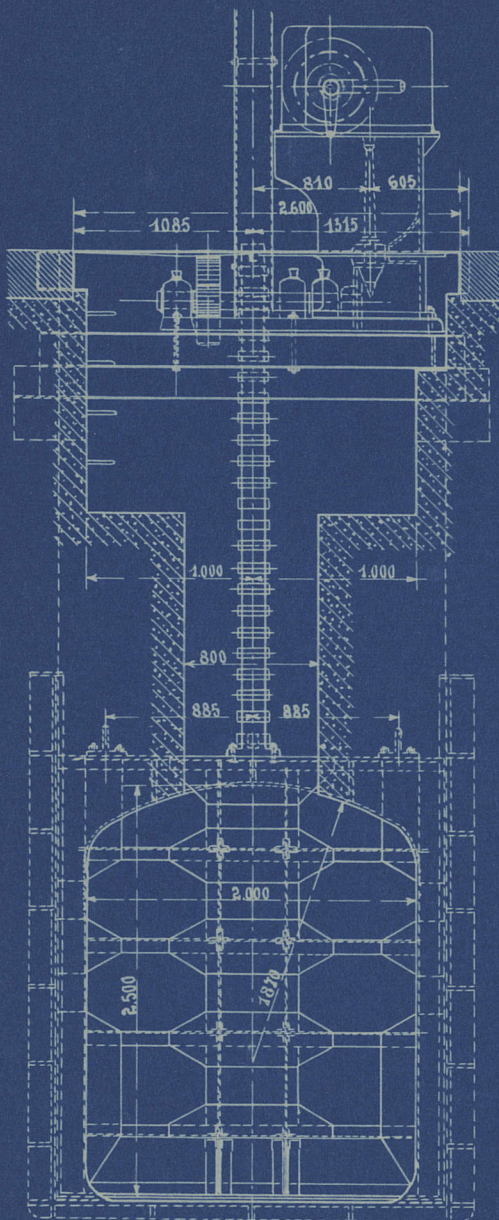


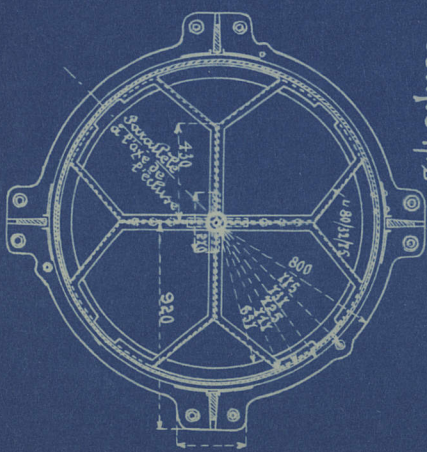
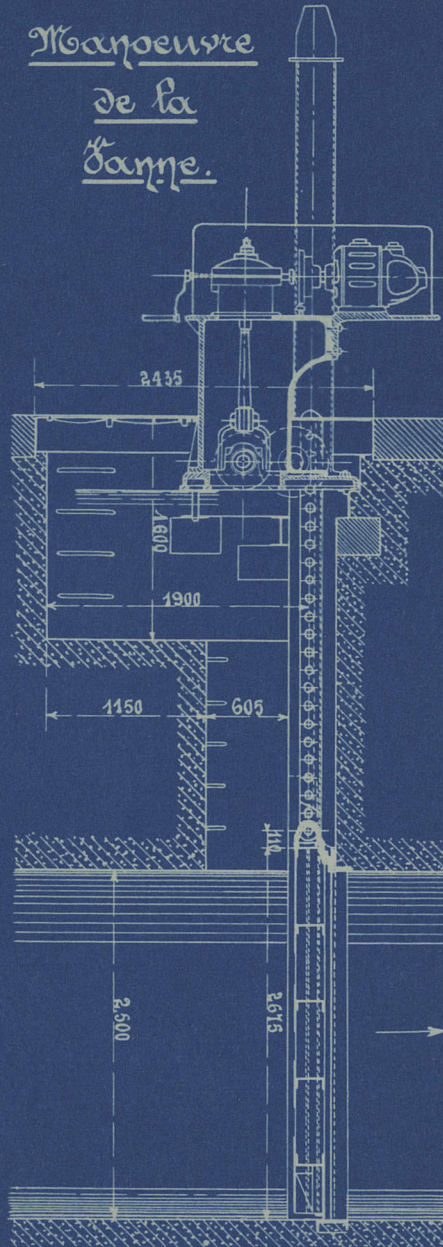
Fig. 3. Vanne à segment.

a) Coupe a-b

Fig. 1. Vanne levante des aqueducs des nouvelles écluses du Haut-Escaut.



Manoeuvre de la Vanne.



Coupe H.B.

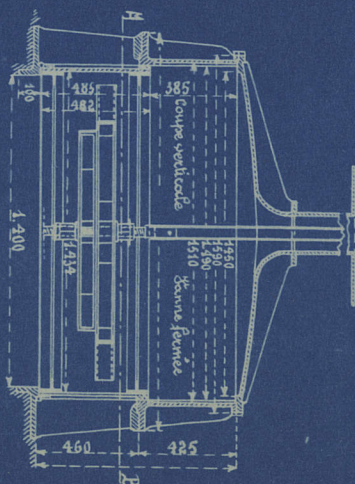


Fig. 2. Vanne_à_hydr= que_basse_à_simp= effet_du_canal_de_la_Meuse_à_la_Saône

Fig. 1. Principe et dispositifs d'étanchement des vannes cylindriques basses à double effet (Bassins d'épargne)

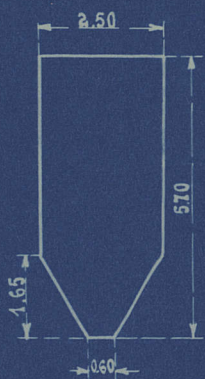
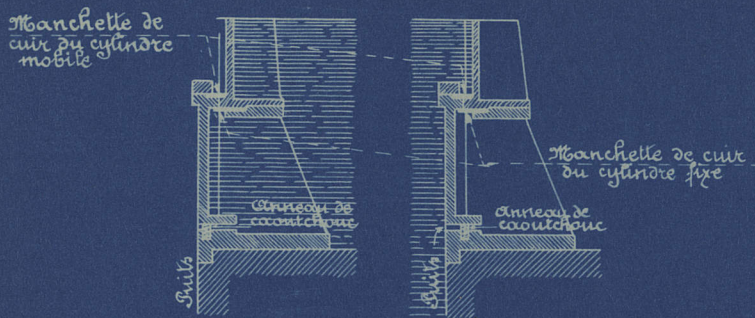


Fig. 2. Section de l'aqueduc de l'écluse (maritime) d'Ymuiden au droit de la vanne.

Fig. 3. Vanne cylindrique dentée à soulevement progressif.

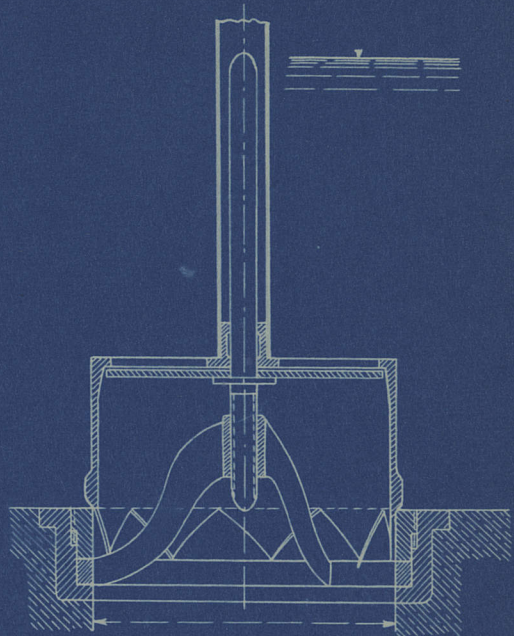
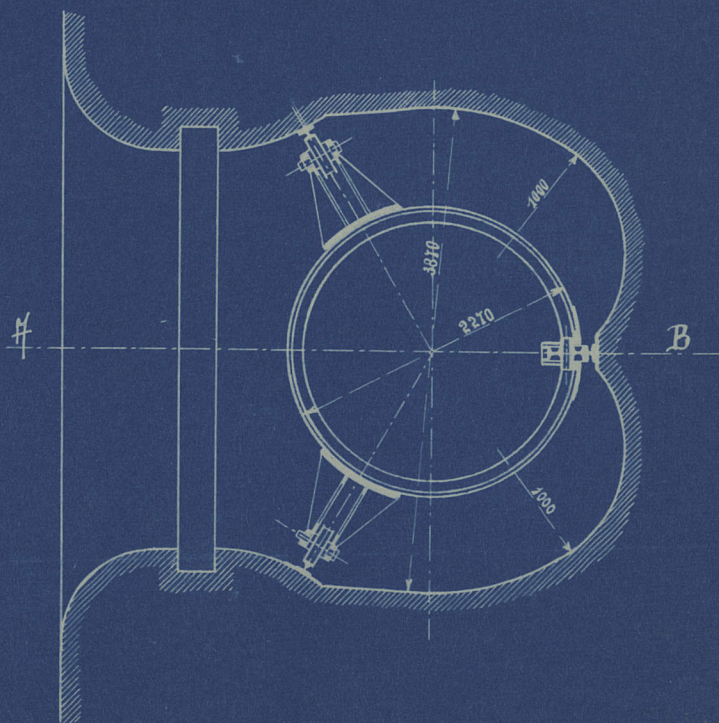
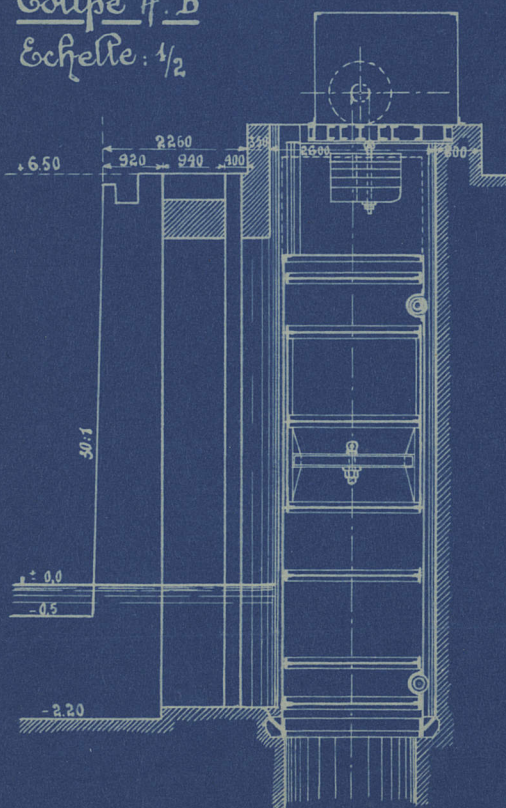
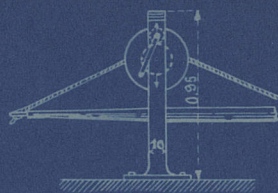
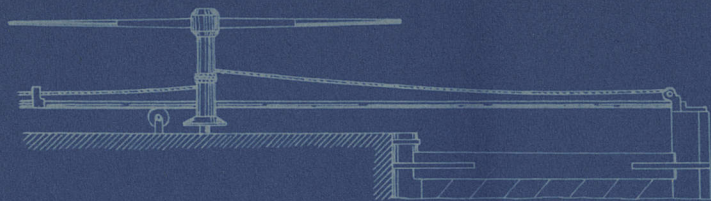


Fig. 4. Vanne cylindrique haute équilibrée, à manoeuvre électrique et guidage latéral (Canal Bohin-Sberne)

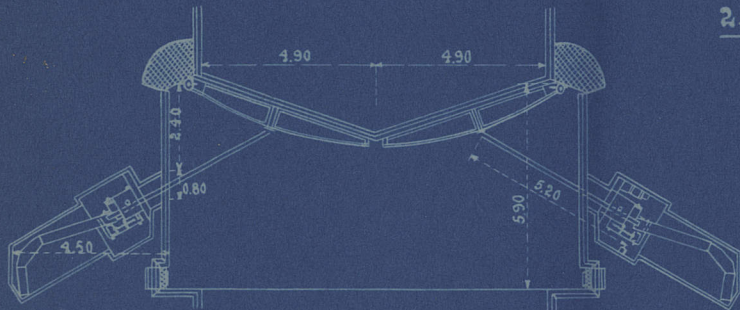
Coupe A-B
Echelle: 1/2



Manoeuvre des portes basquées.
a) à barre traînante et câble ou chaîne.

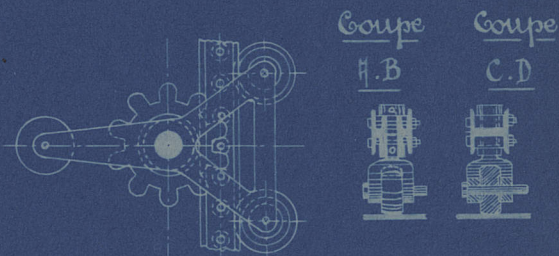


1. Disposition d'ensemble,
manoeuvre électrique.



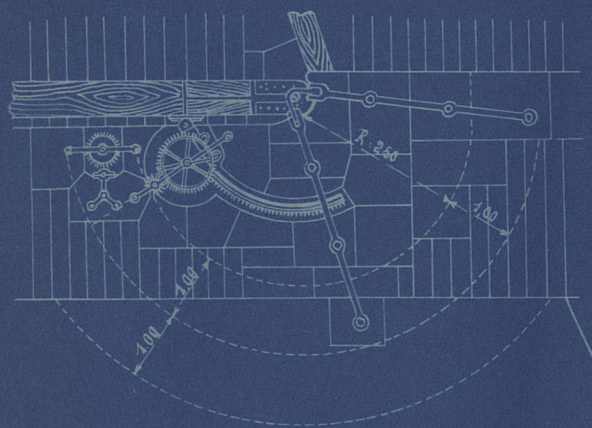
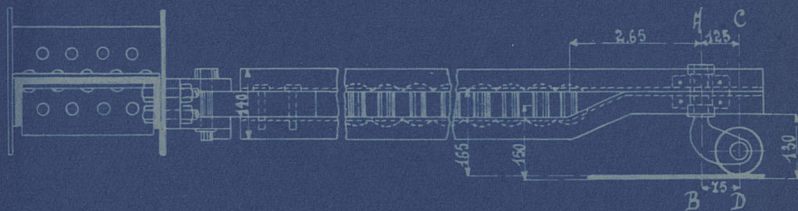
b) à crémaillère droite

2. Détails d'une barre à crémaillère

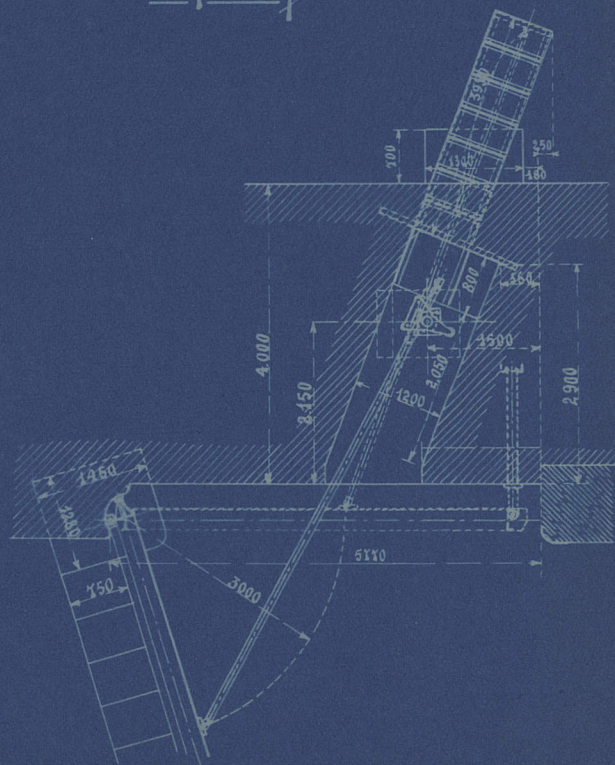


c) à crémaillère circulaire

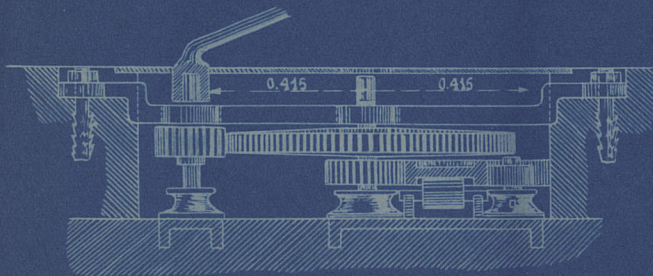
1. Disposition d'ensemble



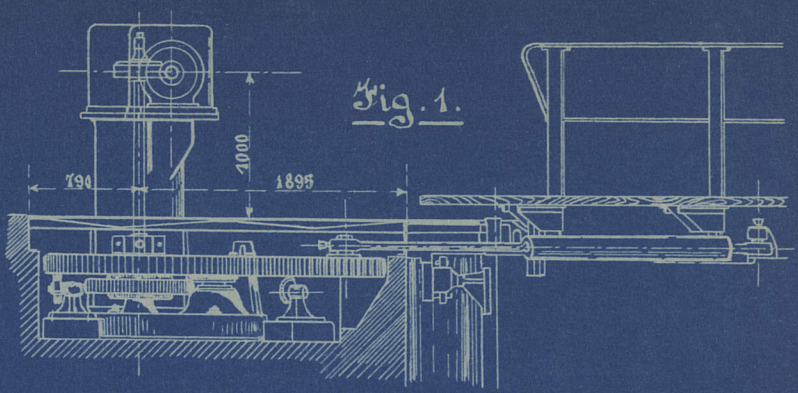
3. Ensemble du
dispositif



2. Cric de manoeuvre à main.

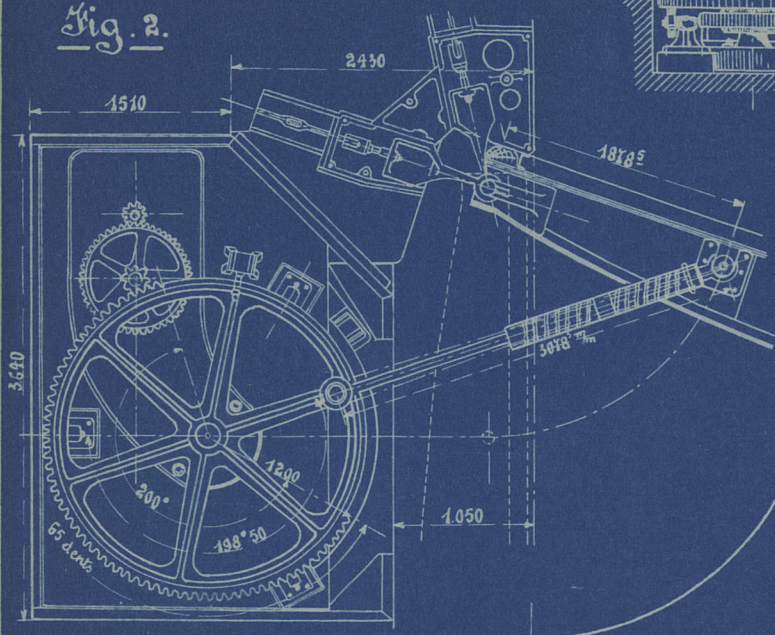


Manœuvre des portes à busquées.



d) à bielle (Fig. 1, 2 et 3)

Fig. 2.



e) à parallélogramme et secteur.

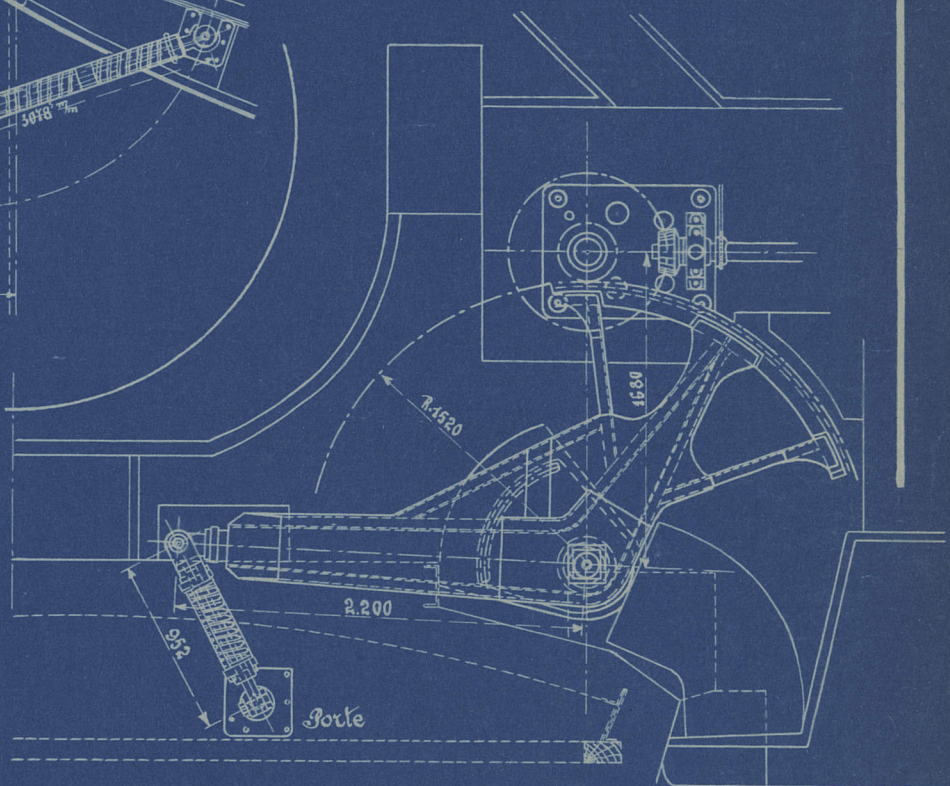


Fig. 1. et 2. Dispositif
des nouvelles écluses
du Haut-Escant.

Fig. 3. Principe appliqué à la manœuvre manuelle
Élévation (1/30) (Canal de Bourgogne)



Plan

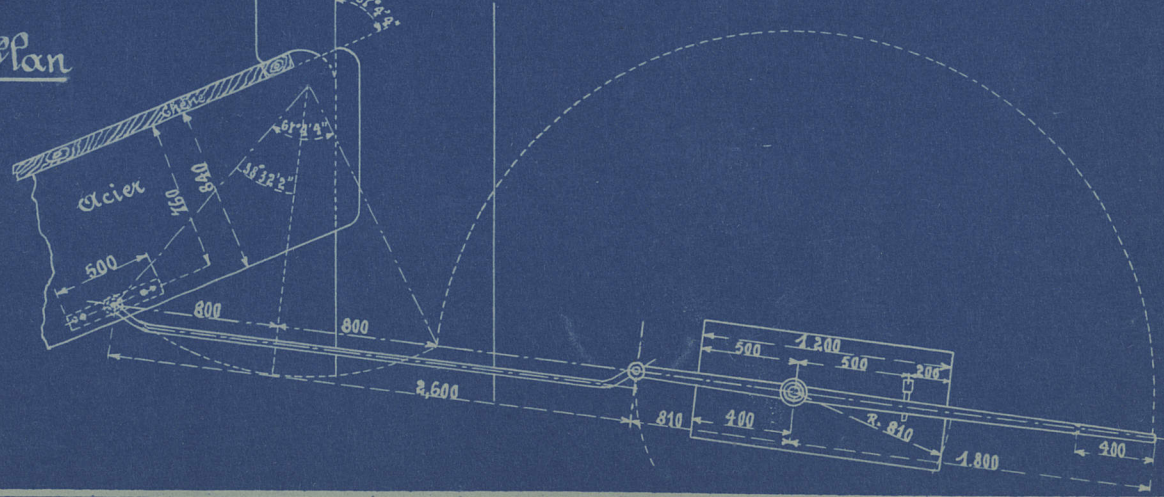
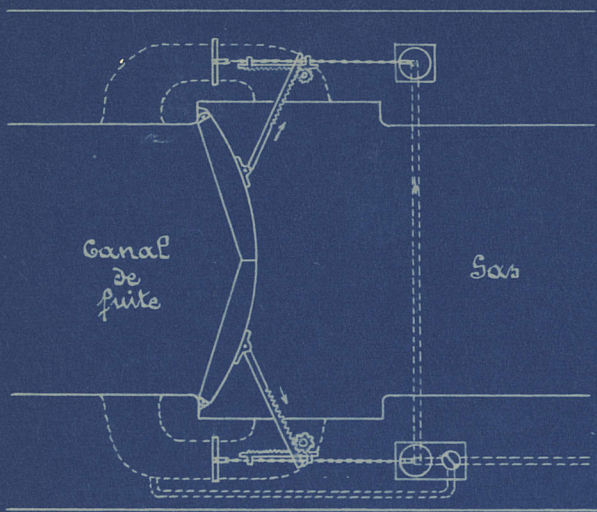


Fig. 1. Manoeuvre par la chute, système Nyholm simplifié.

a) Disposition détaillée



b) Schéma du fonctionnement.

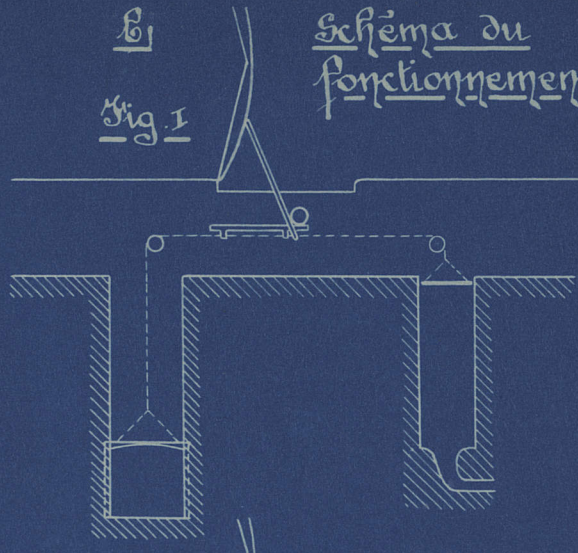


Fig. II

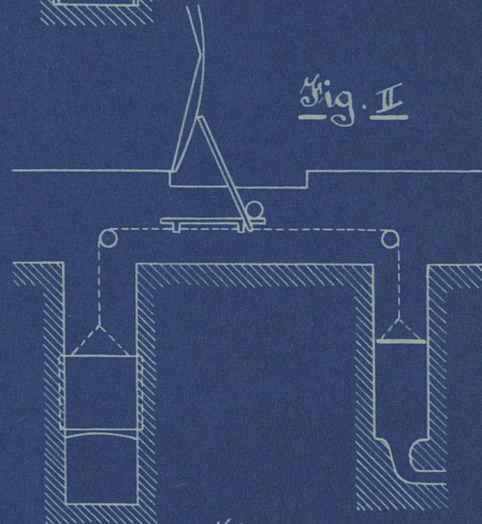


Fig. III

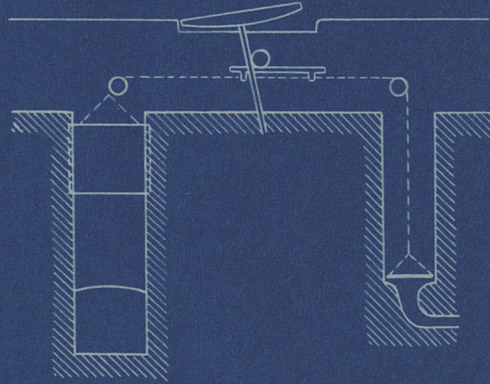
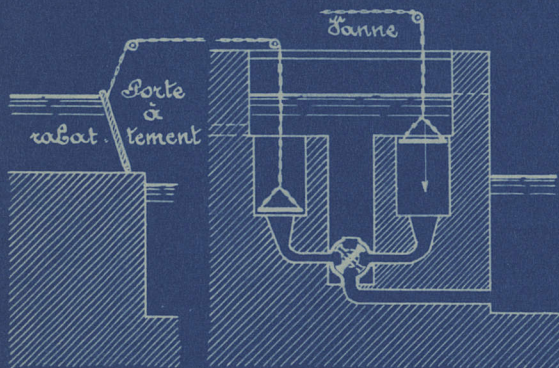


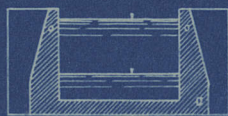
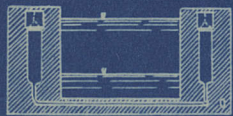
Fig. 2. Manoeuvre de la porte à rabattement par la chute, système Nyholm.



c) Disposition d'ensemble

Coupe a-a

Coupe b-b



Plan

Coupe c-c

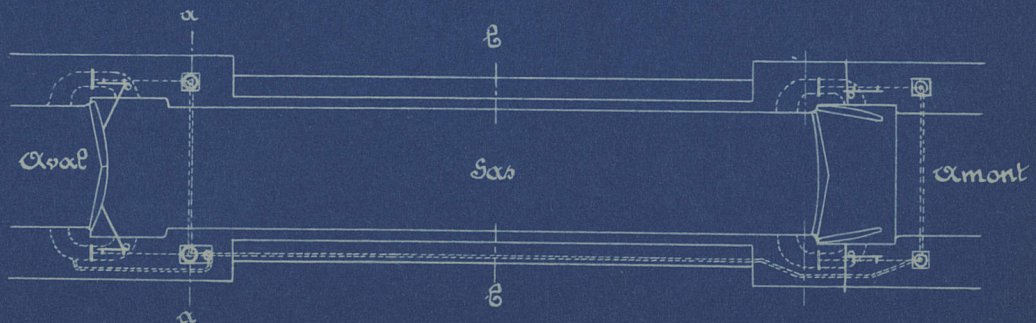
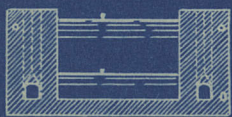
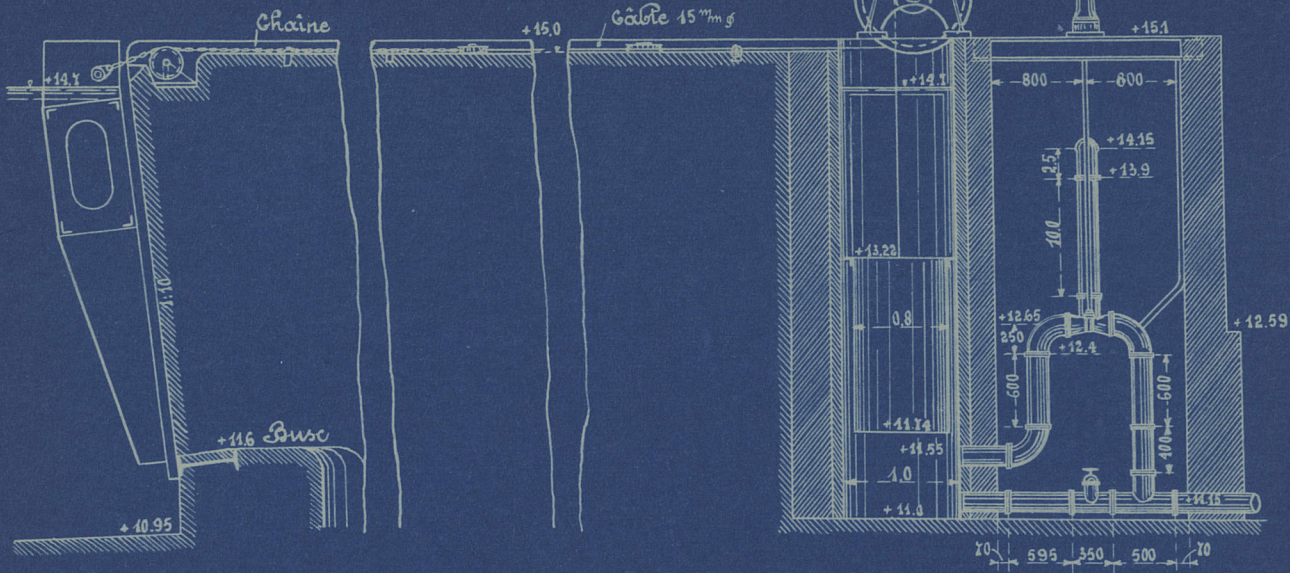
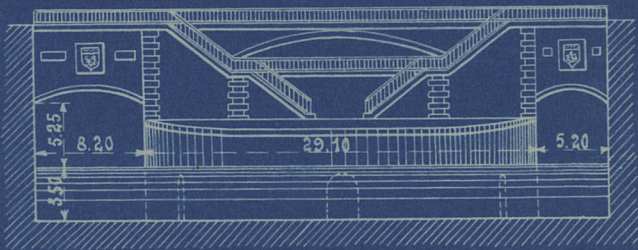


Fig. 1. Mesure de la porte à rabattement par la chute, flotteur différentiel, système Franke.

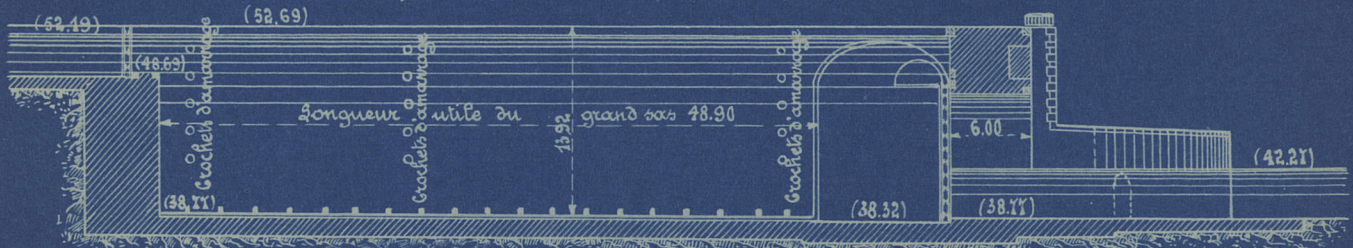


1. Élévation de la tête aval

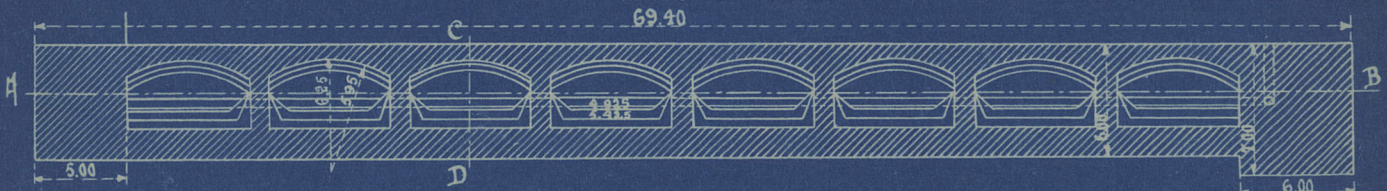
Fig. 2. Ecluses à forte chute.
a) Ecluses accolées de 9,92 m de chute du canal Saint Denis



2. Coupe longitudinale par l'axe du grand sas.



3. Coupe horizontale.



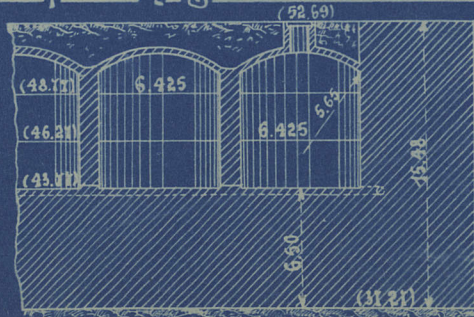
4.

Goupe H.B en regardant du côté des terres.



5.

Goupe H.B en regardant du côté du sas.



6. Coupe C.D.

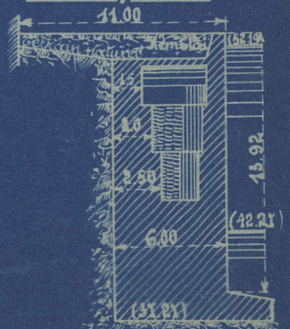
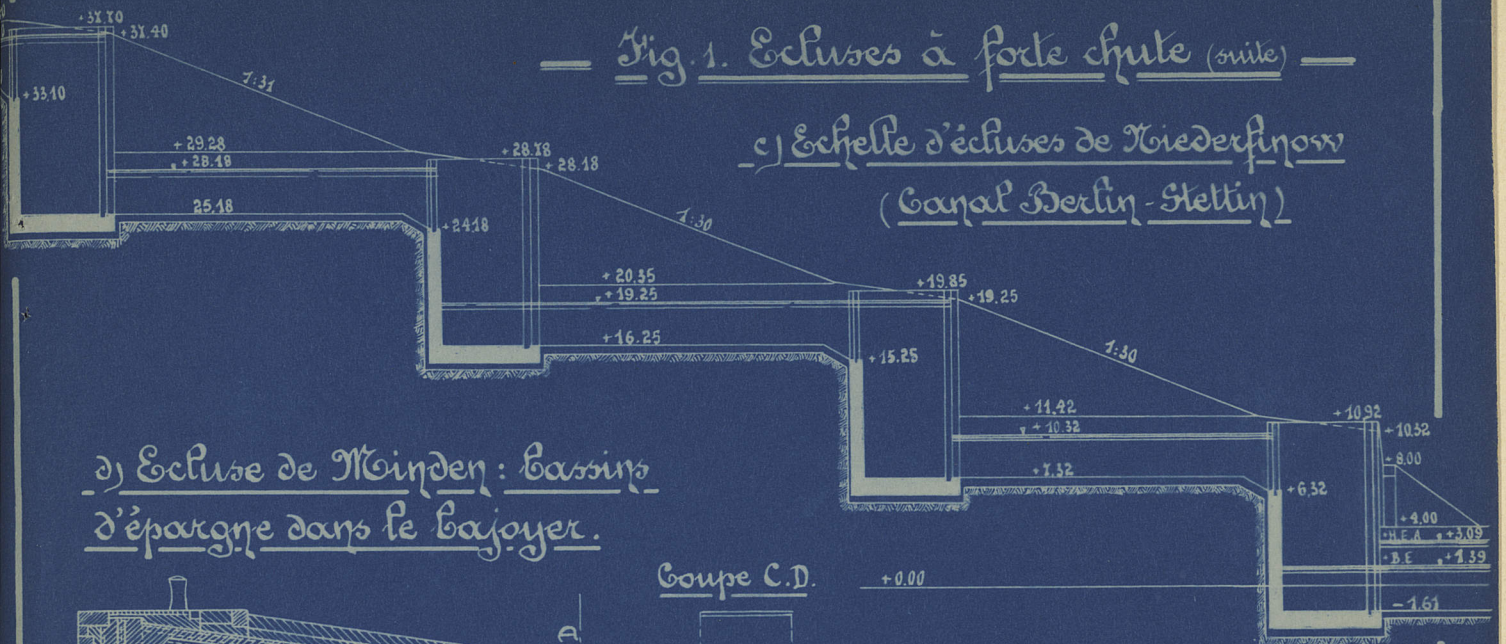


Fig. 1. Ecluses à forte chute (suite)

c) Echelle d'écluses de Niederfinow
(Canal Berlin - Stettin)



d) Ecluse de Weinden: Bassins d'épargne dans le bajoyer.

Coupe C.D.

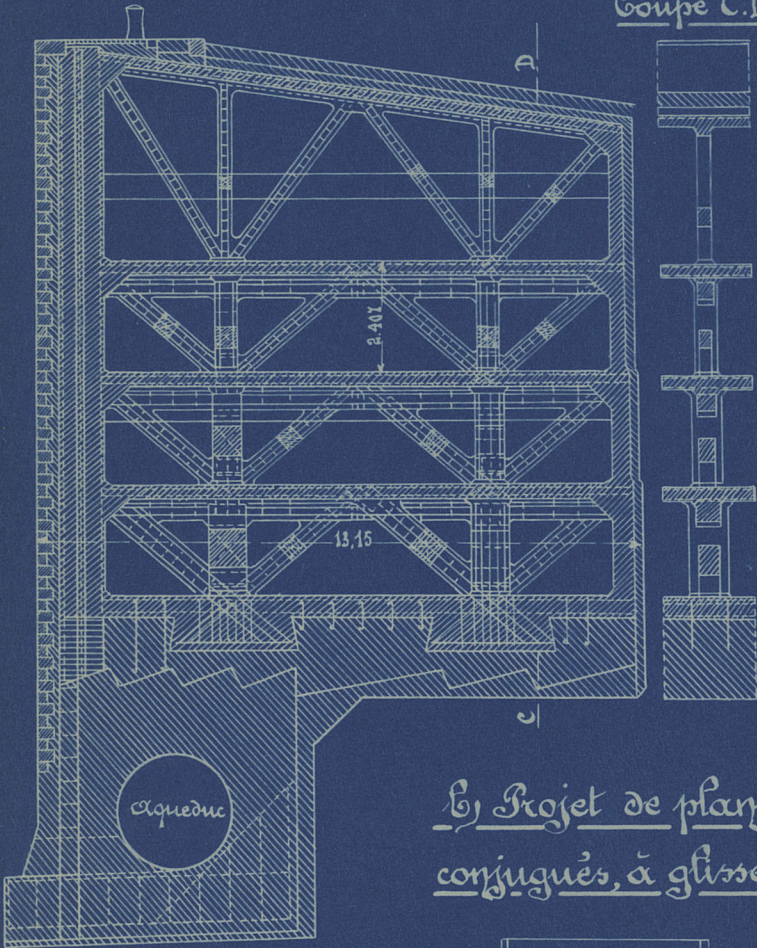
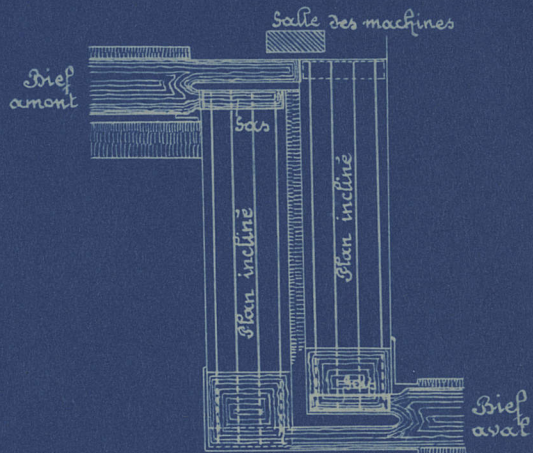
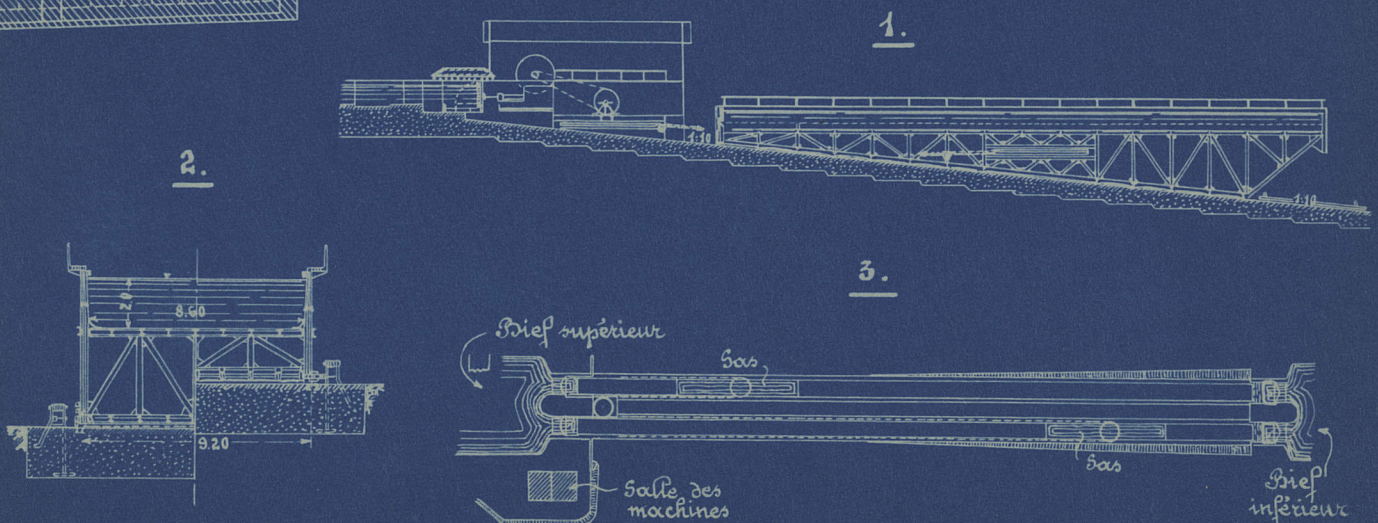


Fig. 2. Plans inclinés.

a) de Boxton (Angleterre)



b) Projet de plans inclinés longitudinaux conjugués, à glisseurs hydrauliques (syst. Nakornz.)



Ascenseurs de bateaux.

Fig. 1.
Ascenseur
funiculaire
(transformé)
d'Anderton.

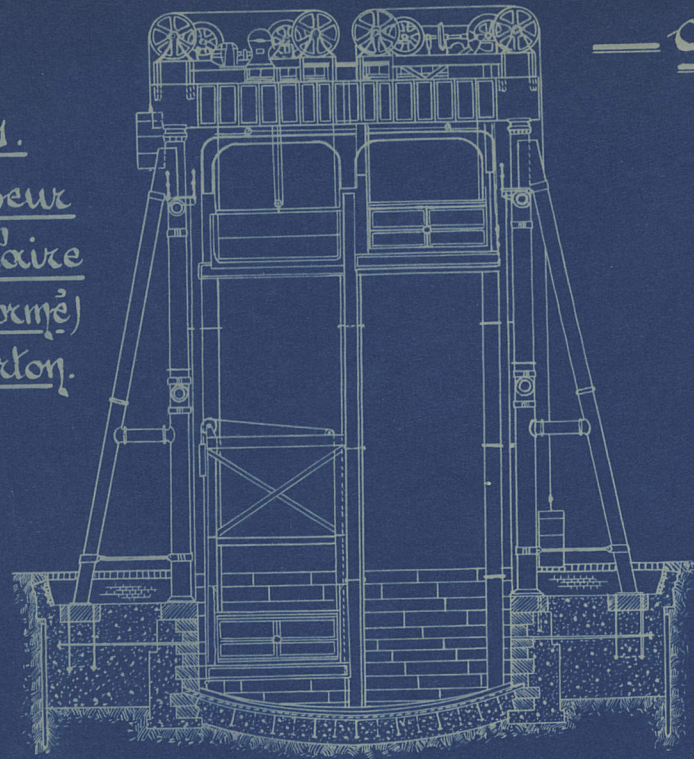


Fig. 2. Ascenseur à flotteurs de Benrichenbourg.

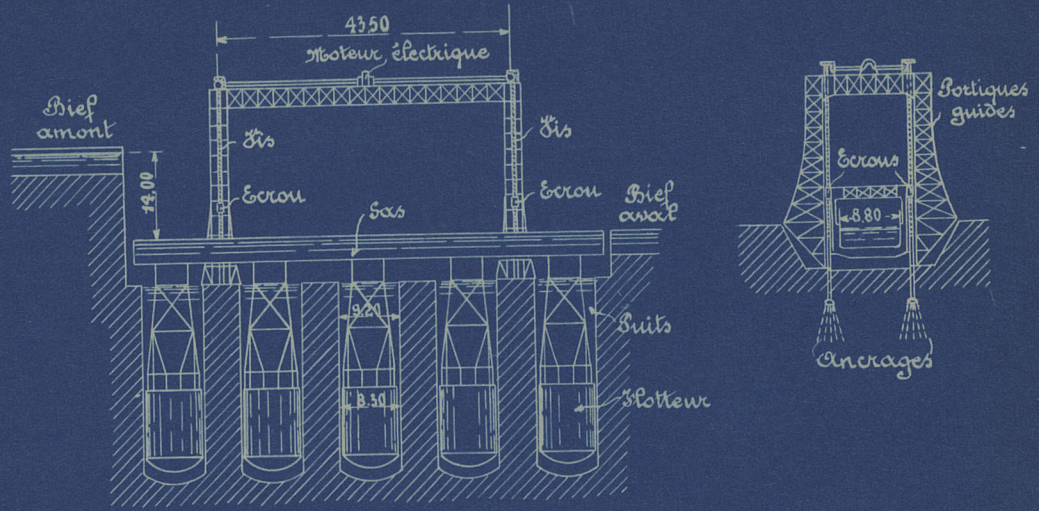


Fig. 3. Ascenseurs hydrauliques de la Souvière
(Cap. de 360 t.)

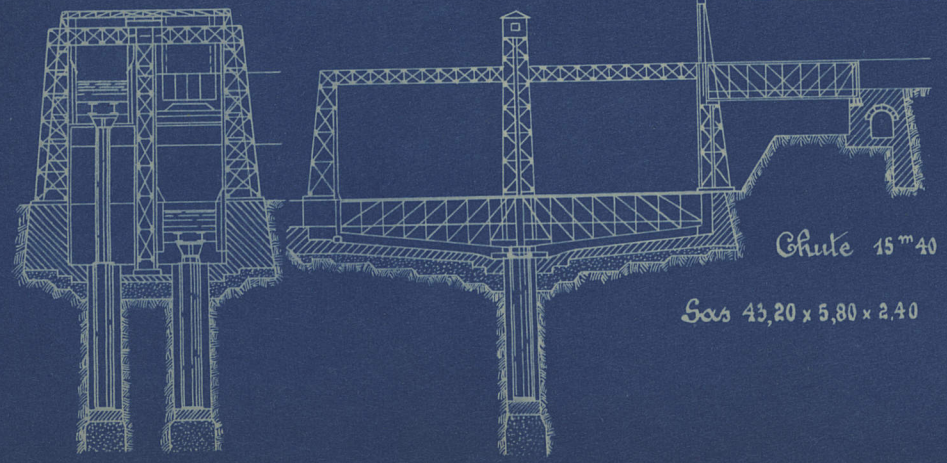
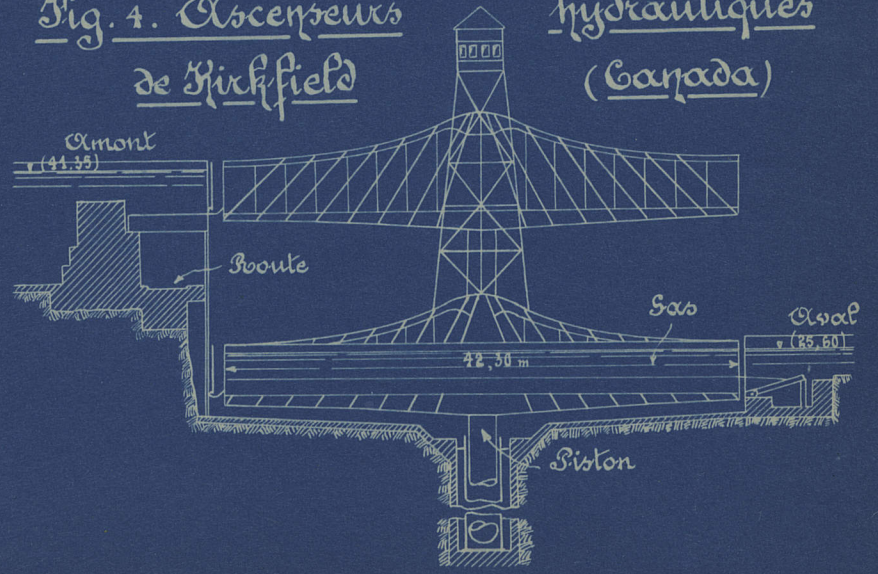


Fig. 4. Ascenseurs hydrauliques de Kirkfield
(Canada)



MONTRE