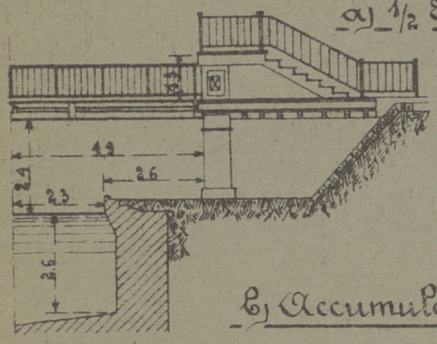
Ponts levants à presses hydrauliques.

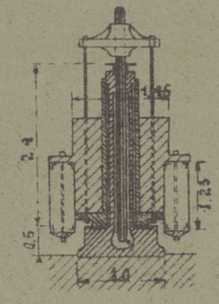
Fig. 1. Sur le canal de Bourgogne, près de Dijon.

a) ½ Elévation

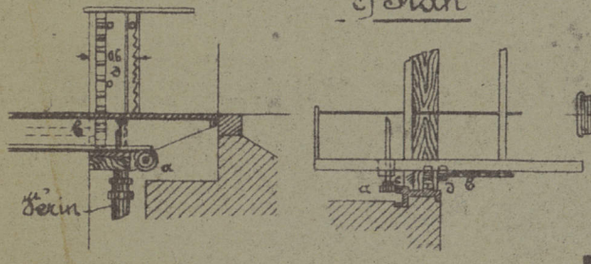


b) Accumulateur

a) pignon
b) axes
c) } crémaillères
d) }



c) Plan



d) Coupe transversale

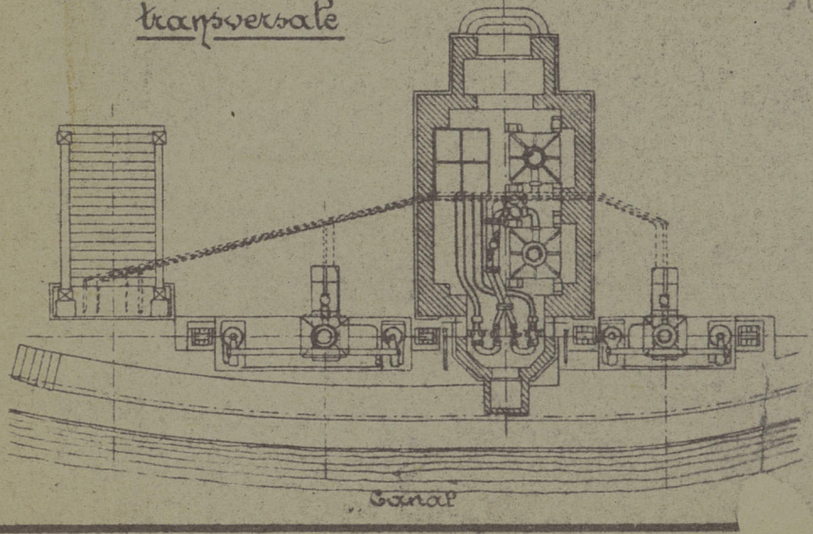
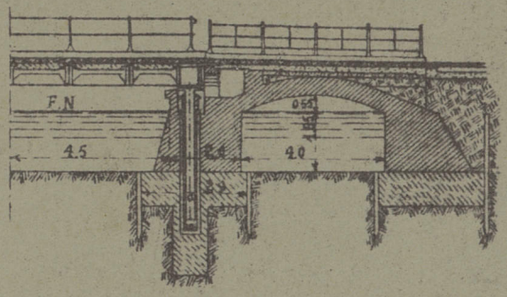


Fig. 2. à Berlin (port Urban) (1895)



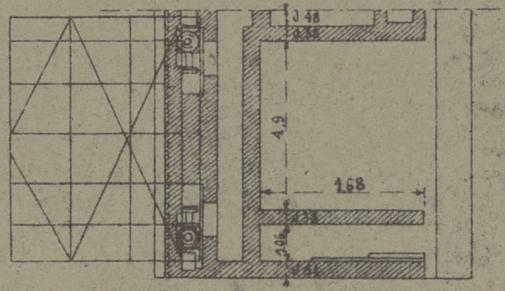
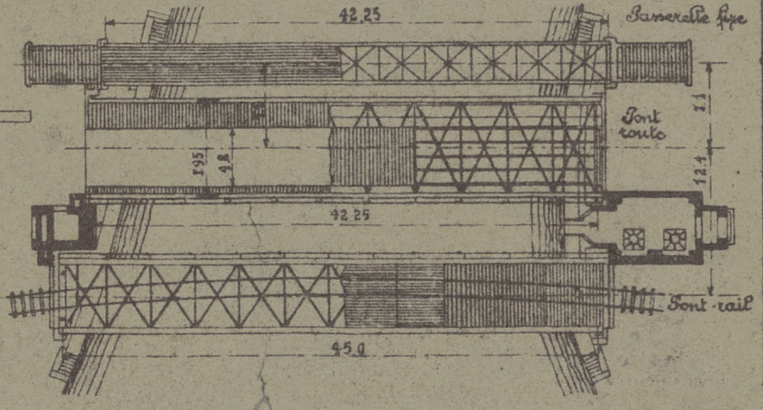
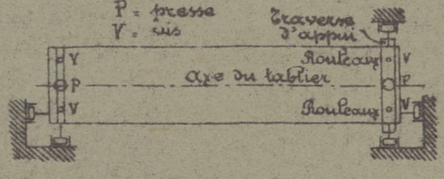


Fig. 3. à Lubeck (1.900)

a) Plan.



c) Schéma des appuis et du guidage.



Pont levant à presses hydrauliques de Lubeck (1900) (suite)

d) Accumulateurs et vérins.

Fig. 1.

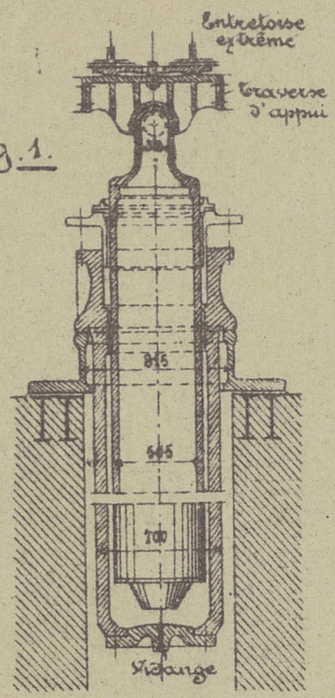


Fig. 2.

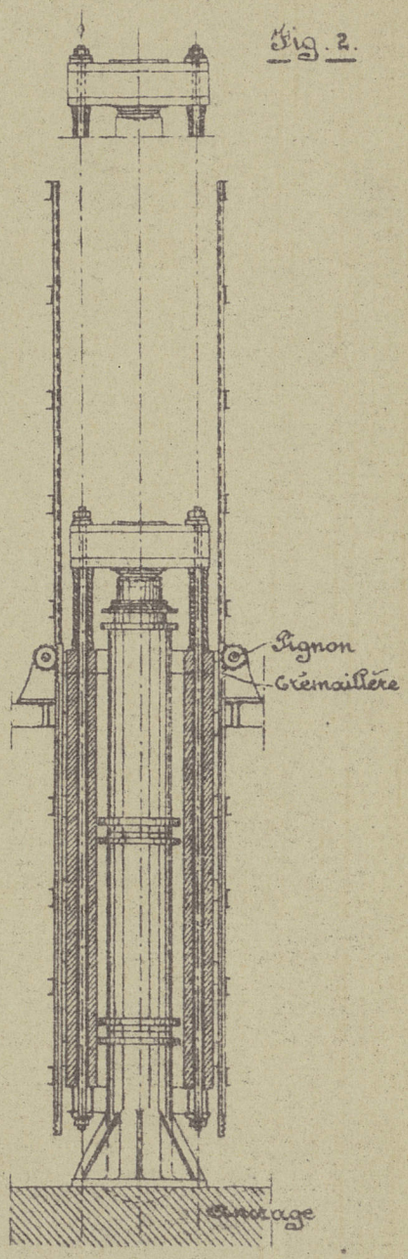


Fig. 3.

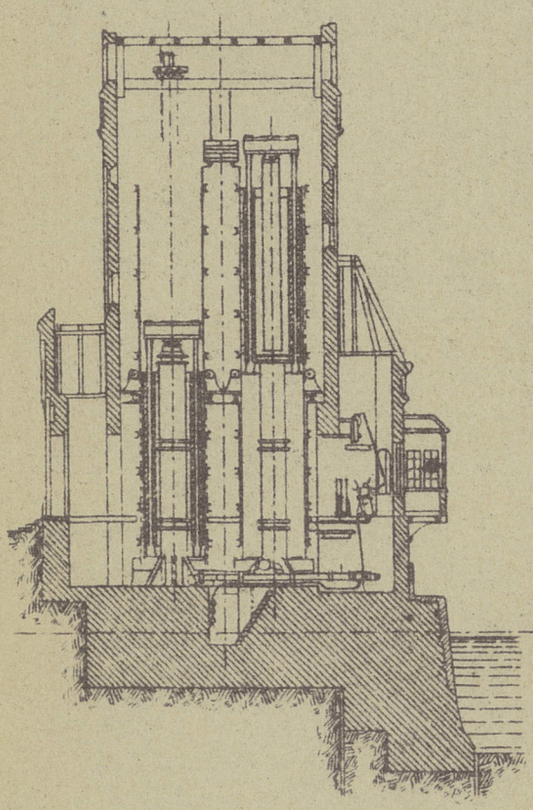


Fig. 4.

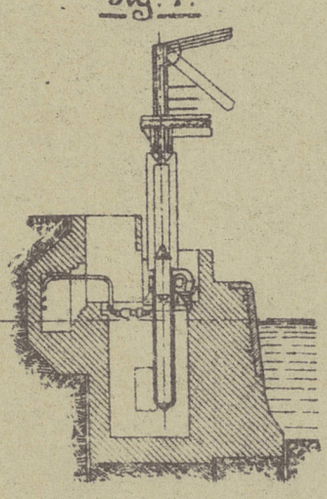


Fig. 1. Appui fixe

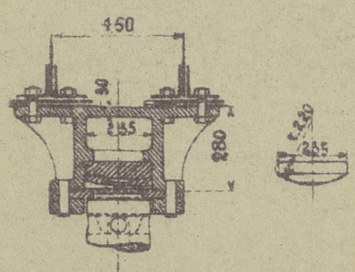
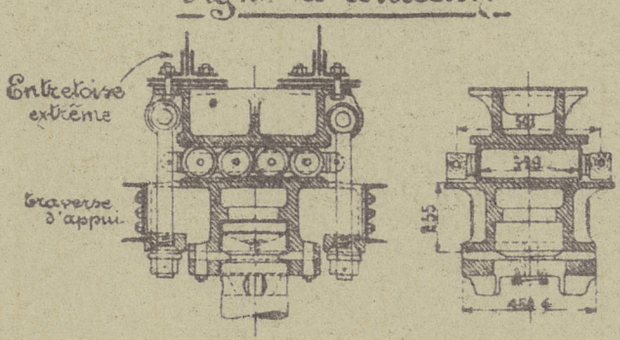
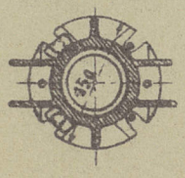
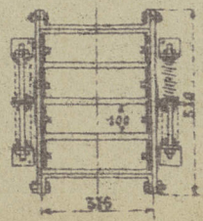


Fig. 2. à rouleaux





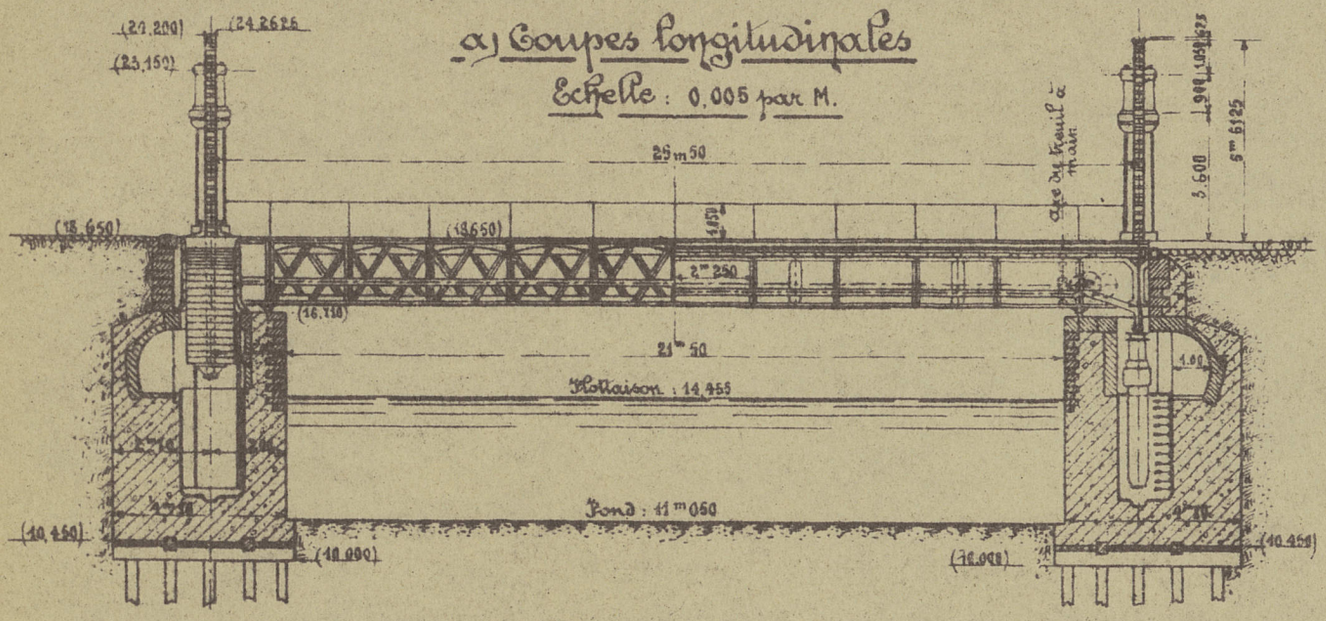
e) Appuis sur les vis.



Pont "de fer" à Tournai sur l'Escaut (1910-11)

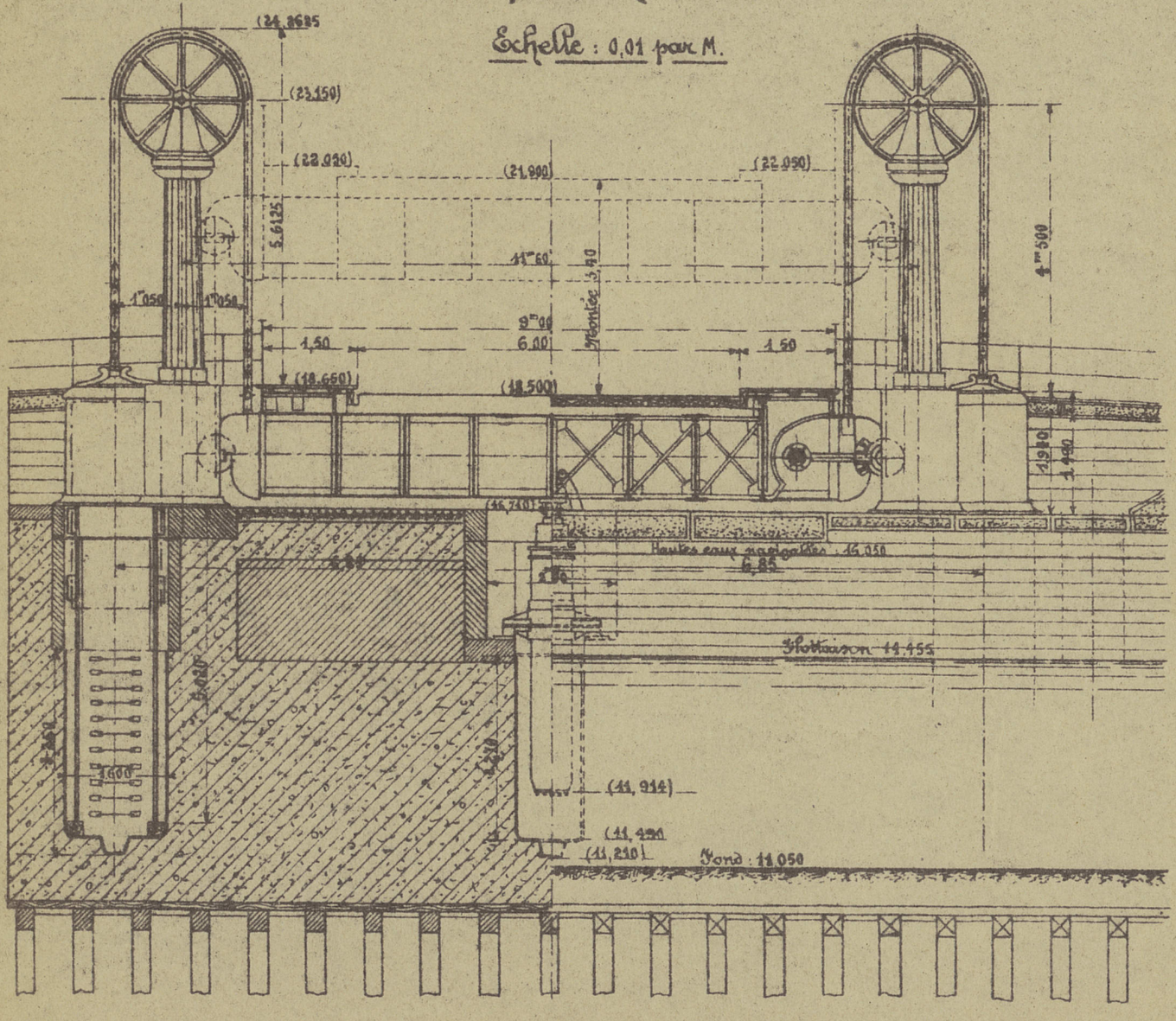
a) Coupes longitudinales

Echelle : 0,005 par M.



b) Coupes transversales.

Echelle : 0,01 par M.



Ponts levants funiculaires.

Fig. 1. Sur le canal de l'Ourcq à la Villette (1885)

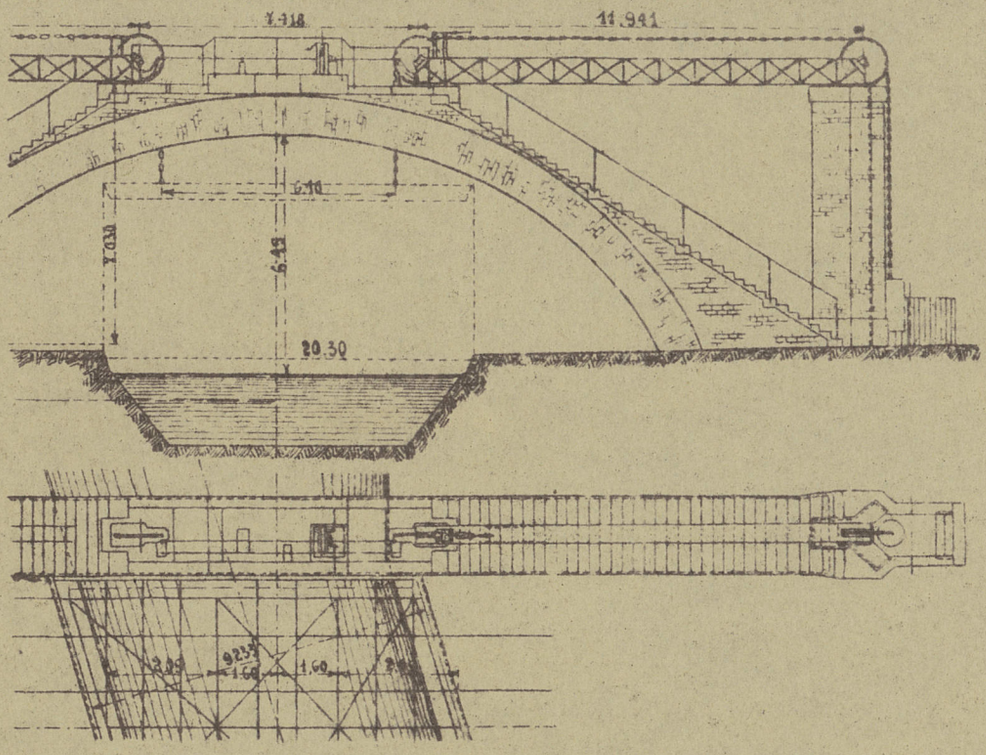


Fig. 2. Sur la rivière Halsted à Chicago.

(1892 - 1895)

Fig. a)

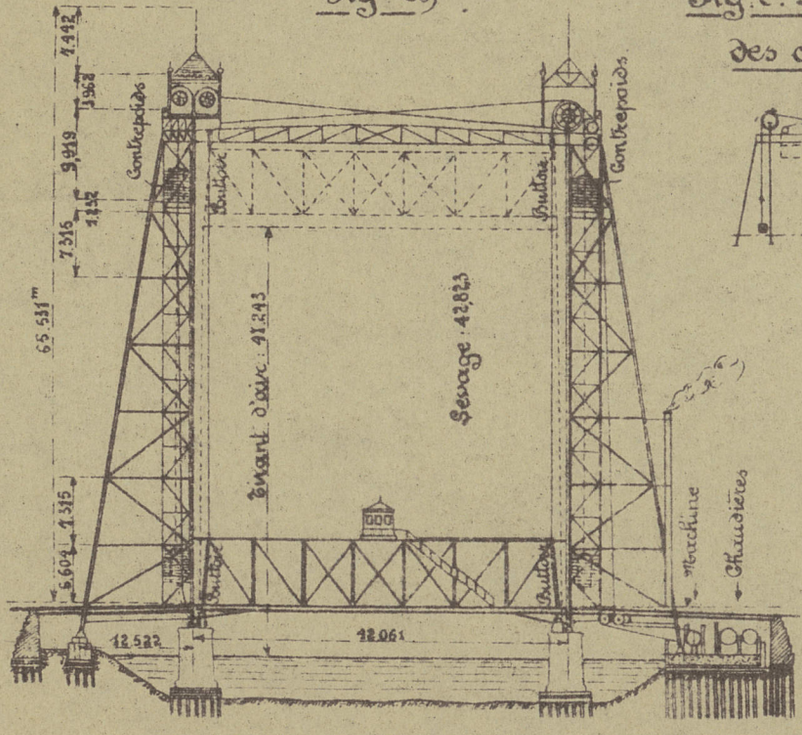


Fig. c. Schéma des câbles

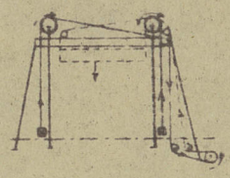
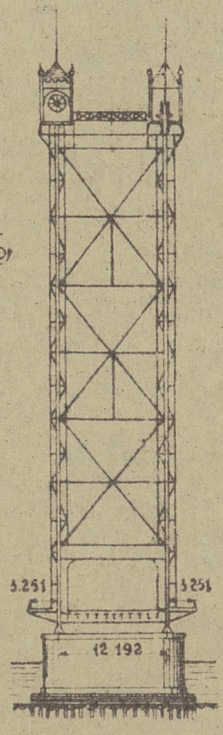


Fig. b.



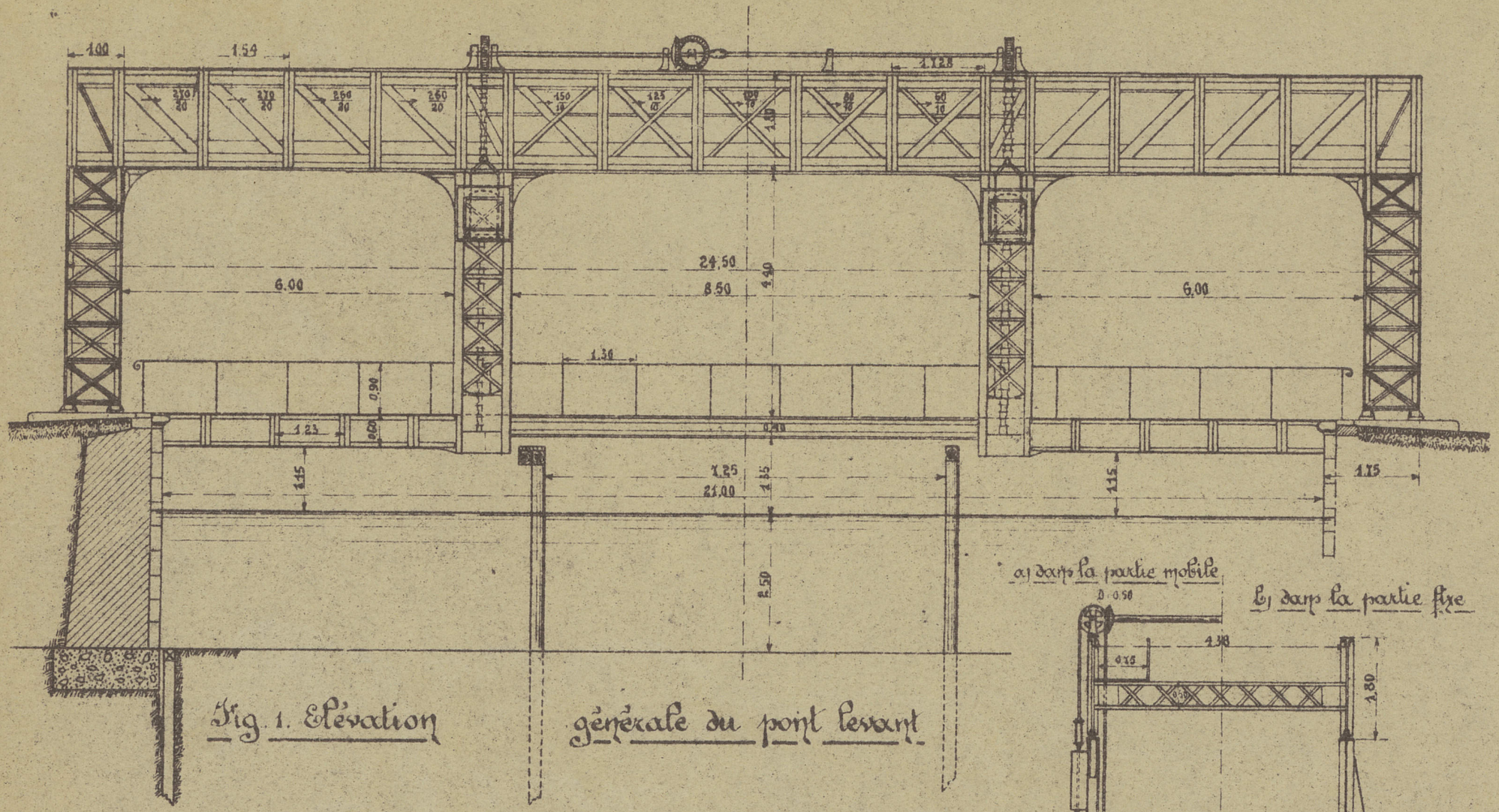


Fig. 1. Élévation générale du pont levant

a) dans la partie mobile

b) dans la partie fixe

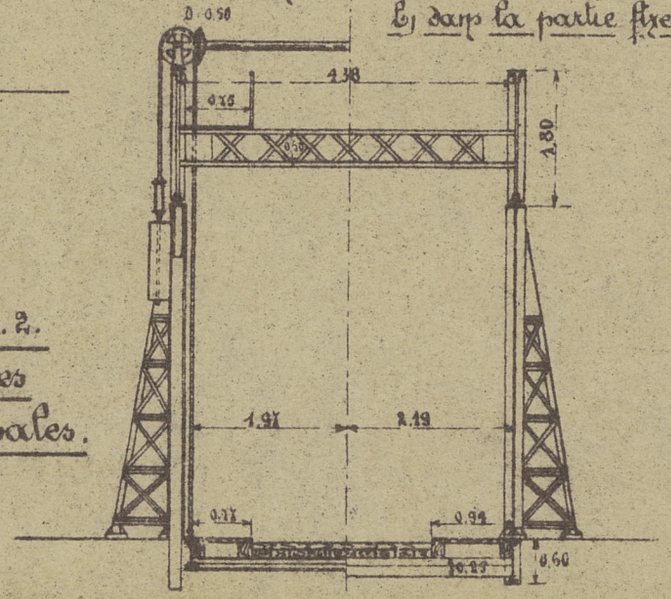


Fig. 2. Coupes transversales.

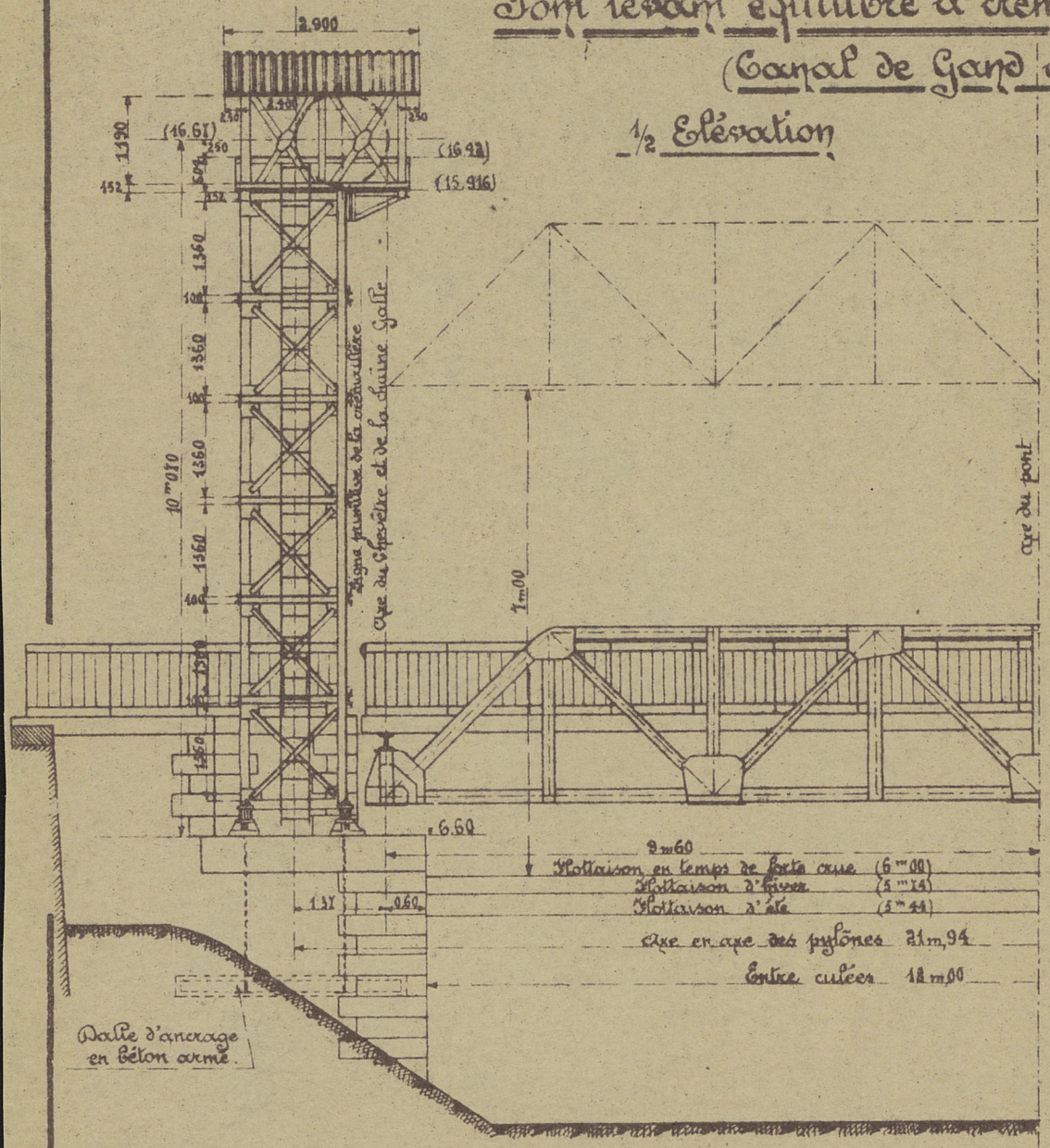
Sur la Lys à Houplines (1892)

Planche

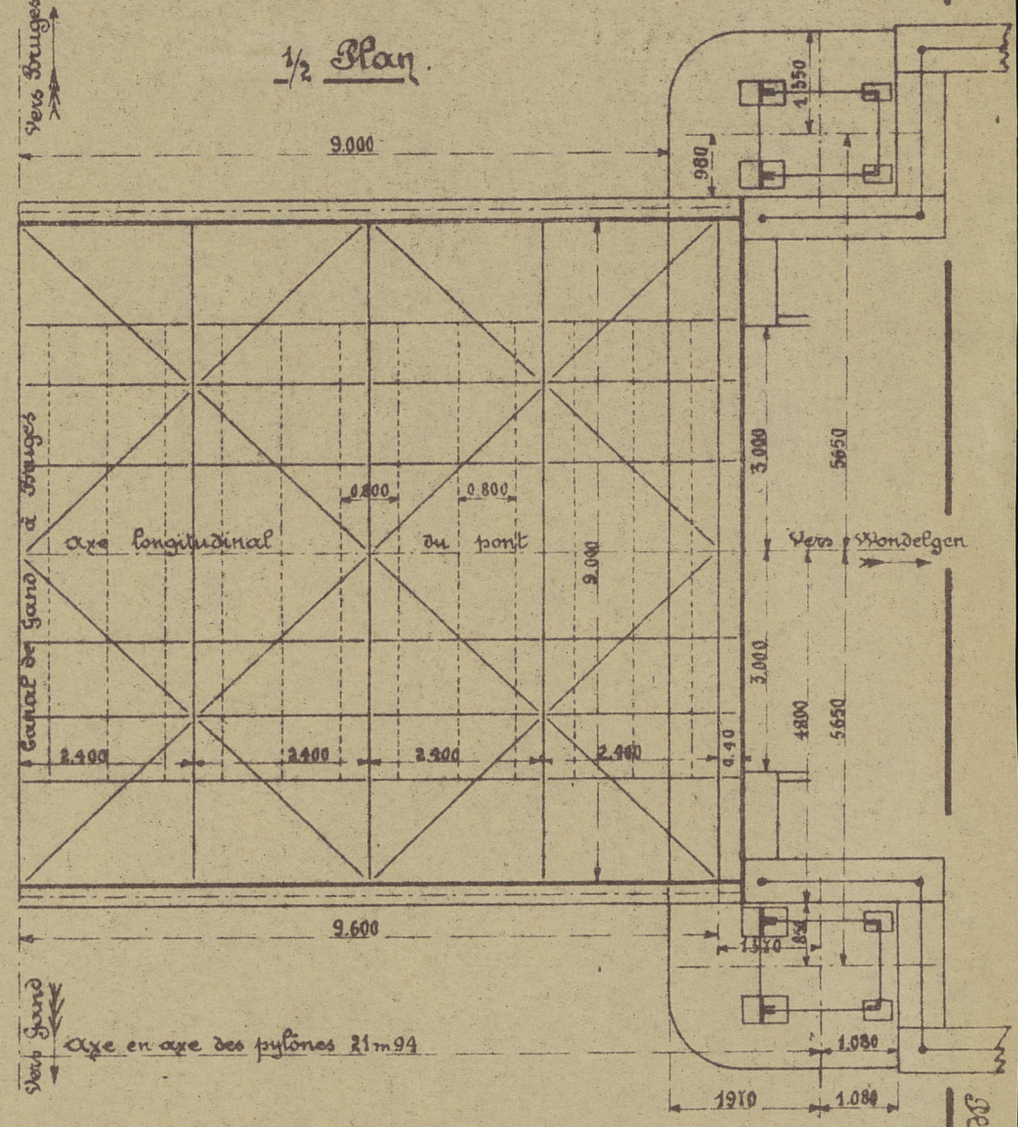
Pont levant équilibré à crémaillères à Mariakerke

(Canal de Gand à Bruges) 1924.

½ Elévation



½ Plan.



Planche

Sur la Meuse à Rotterdam

(1925-1926)

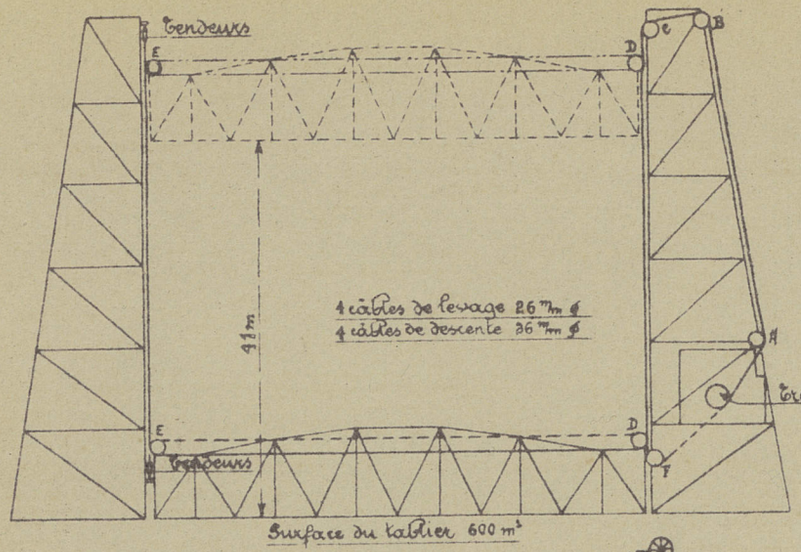


Fig. 3. Dispositif des câbles de levage et de descente.

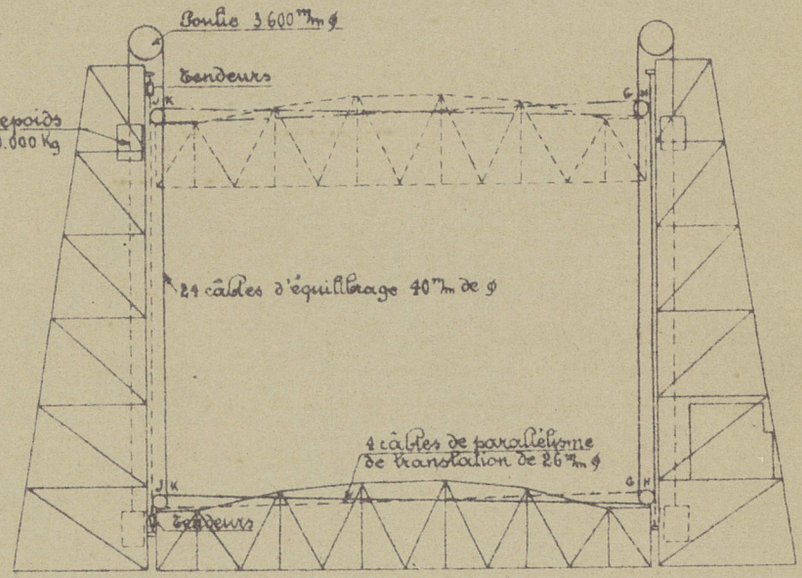


Fig. 4. Dispositif des câbles d'équilibrage et de parallélisme de translation.

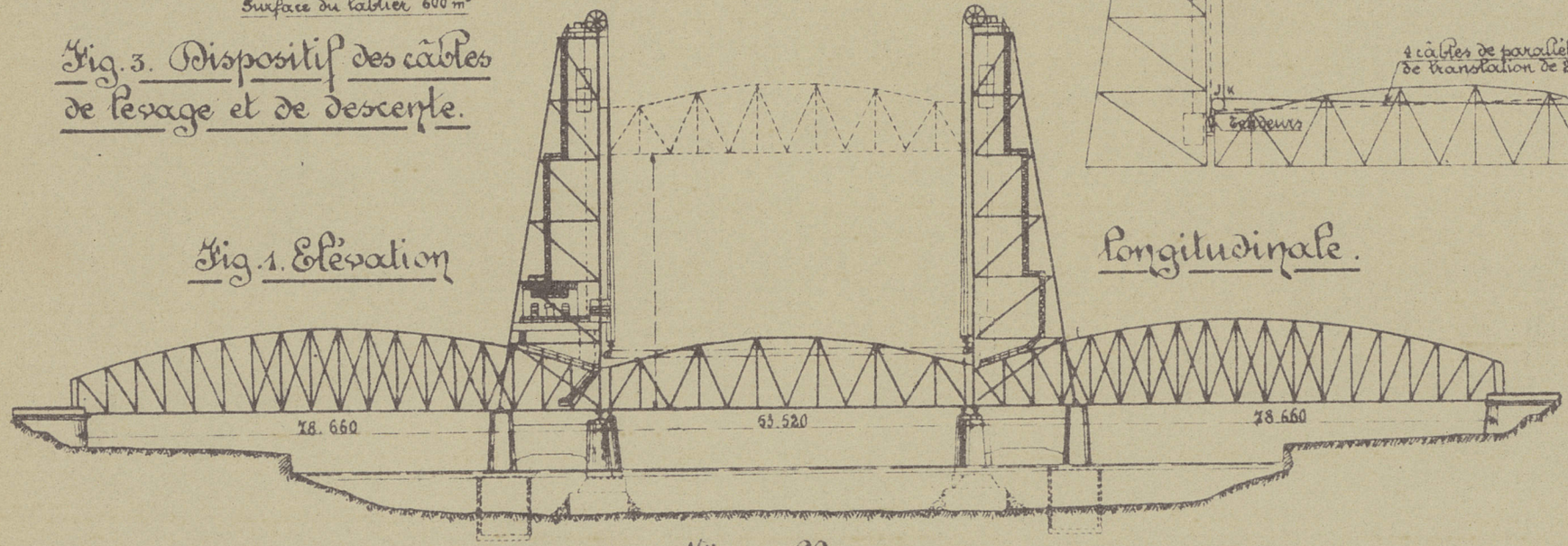


Fig. 1. Élévation longitudinale.

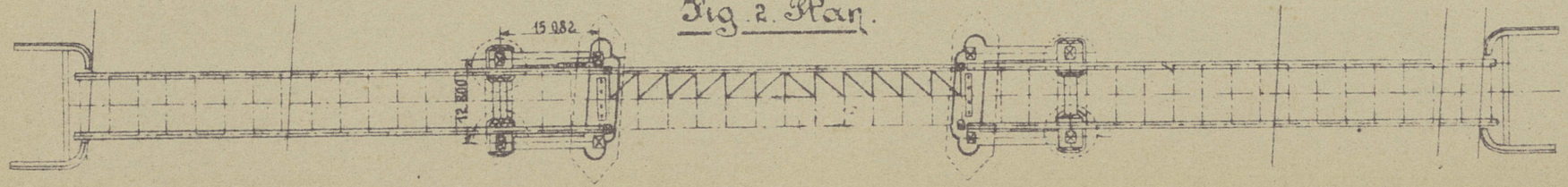


Fig. 2. Plan.

Planche 1

Sur la Meuse à Rotterdam (1925-26) (suite)

Fig. 5. Plan des piles

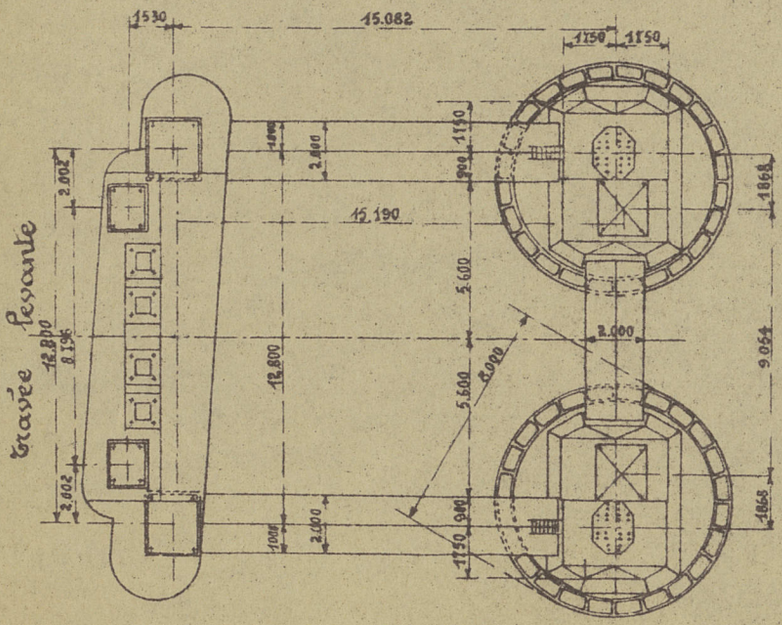


Fig. 6. Coupe E.F

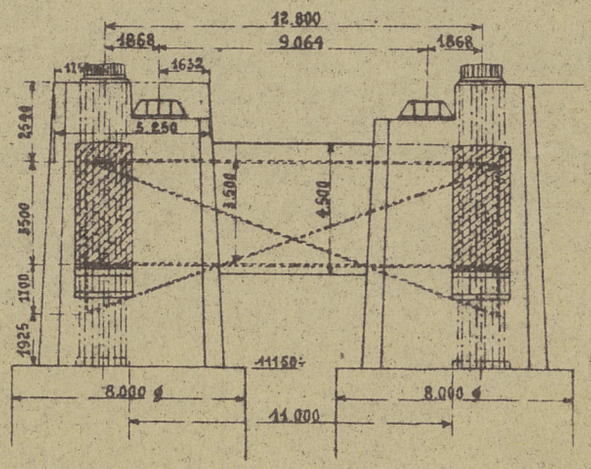
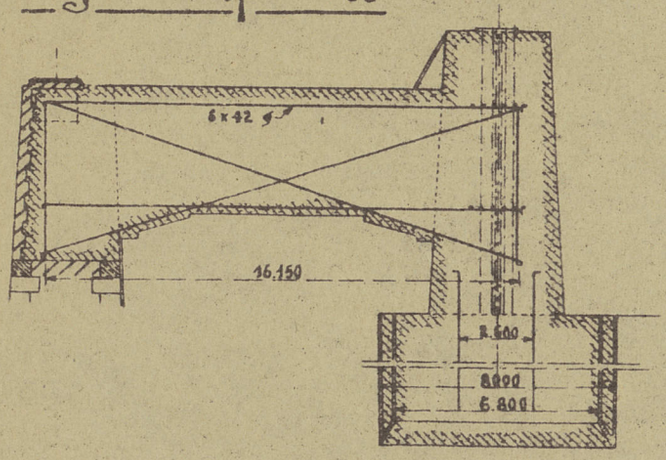


Fig. 7. Coupe G.H

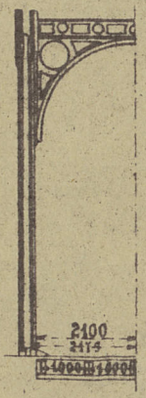


Pont levis à flèche

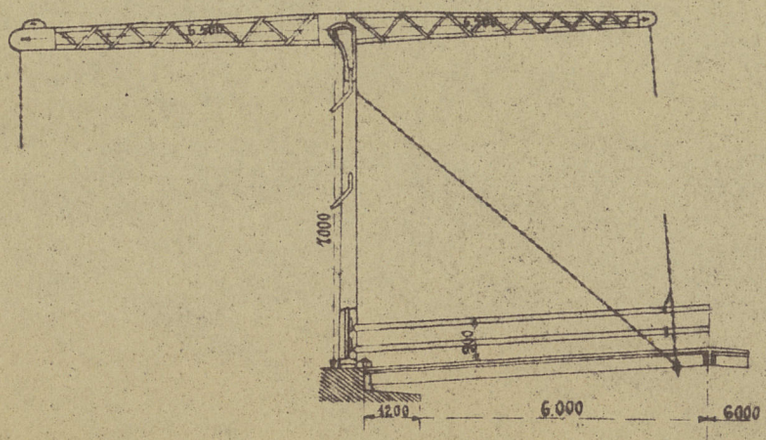
Fig. 1. Type à 2 volées

(Vreeswyk Pays-Bas)

a) Elévation



b) Coupe



c) Plan

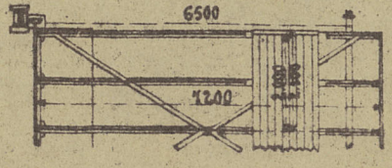
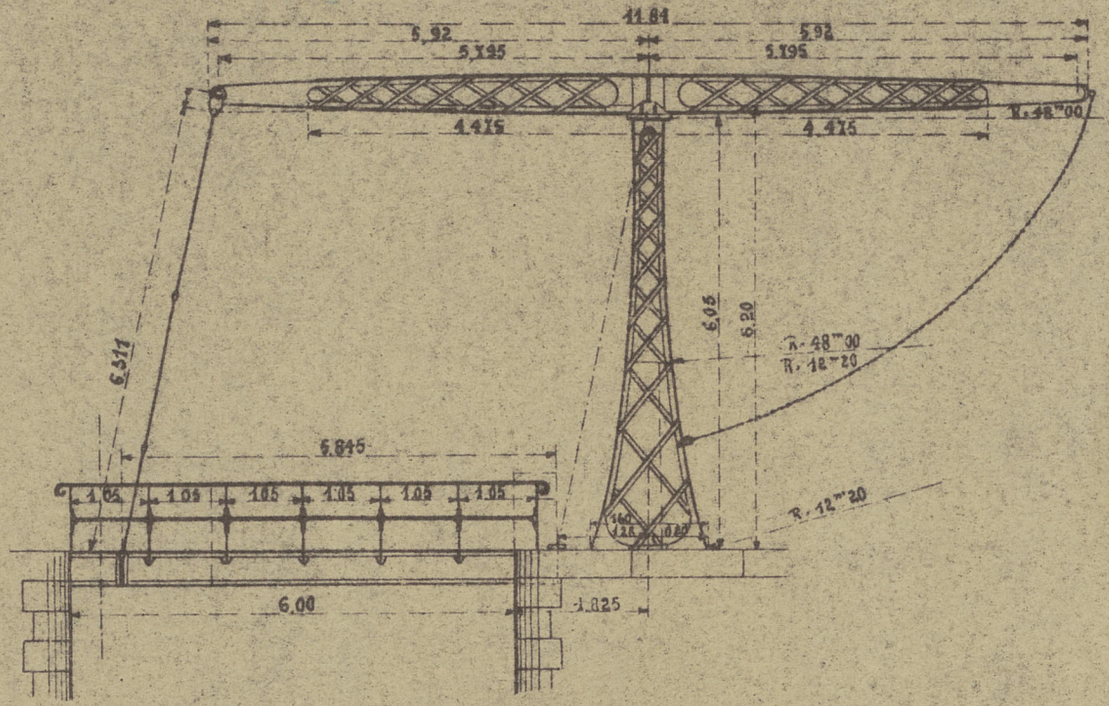


Fig. 1. Pont levis à flèche ... Type à simple voie de faible portée.

a) Elévation longitudinale



b) Coupe transversale.

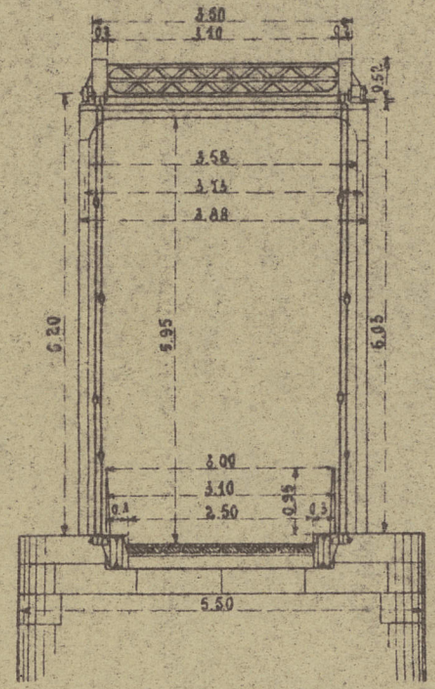
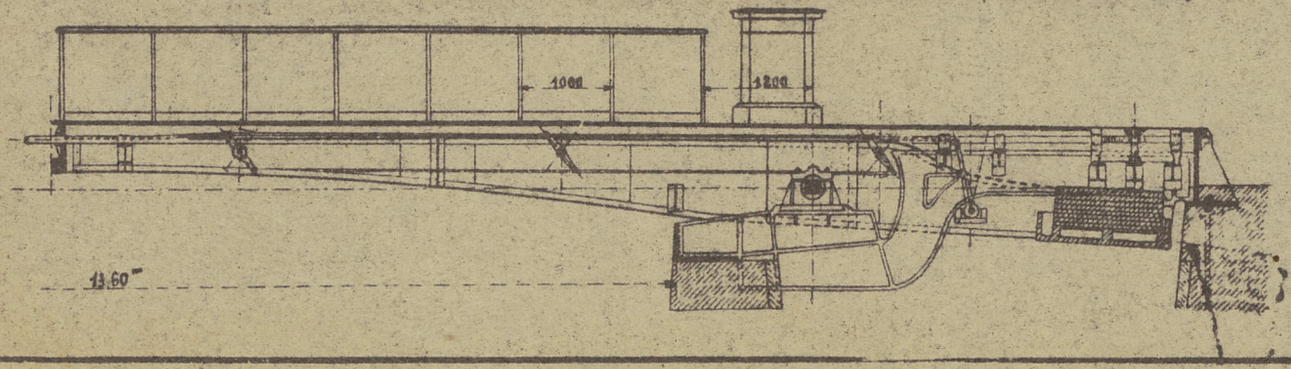


Fig. 2. "Scheluwebrug" près de Rotterdam

a) Coupe longitudinale.



à verin hydraulique

b)

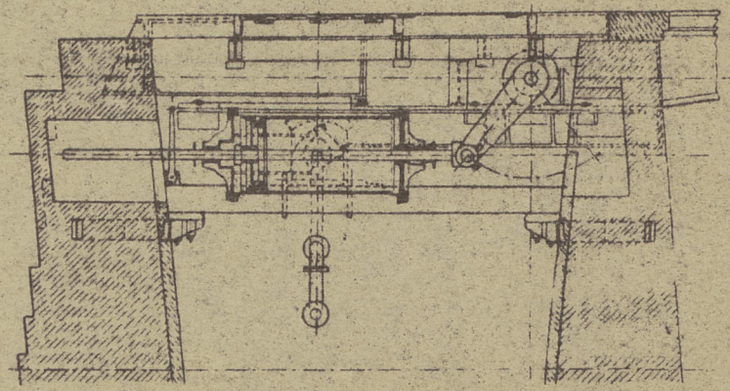
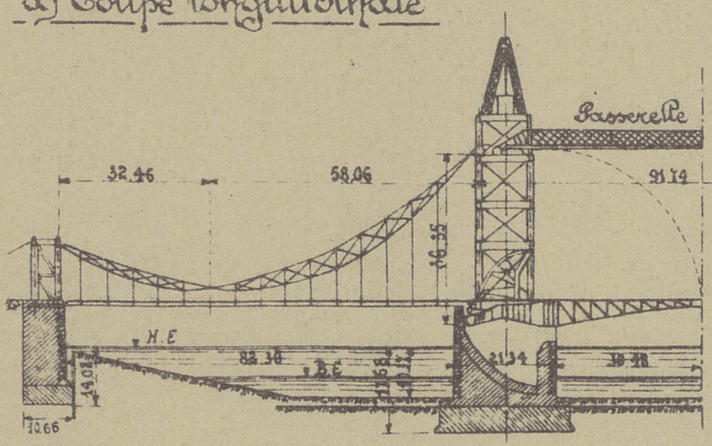


Planche 8

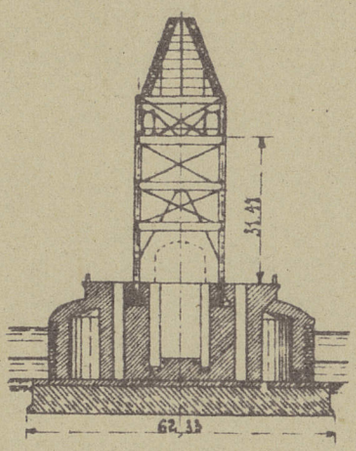
Pont de la Tour de Londres (1894)

Fig. 1. Schémas d'ensemble

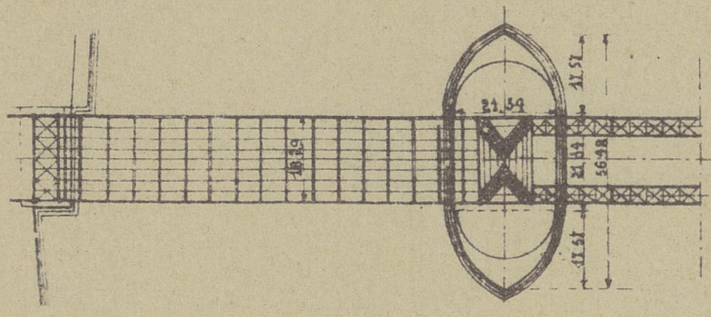
a) Coupe longitudinale



b) Coupe transversale



c) Plan



d) Coupe horizontale

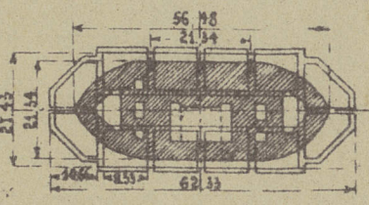


Fig. 2. Détail de la travée basculante.

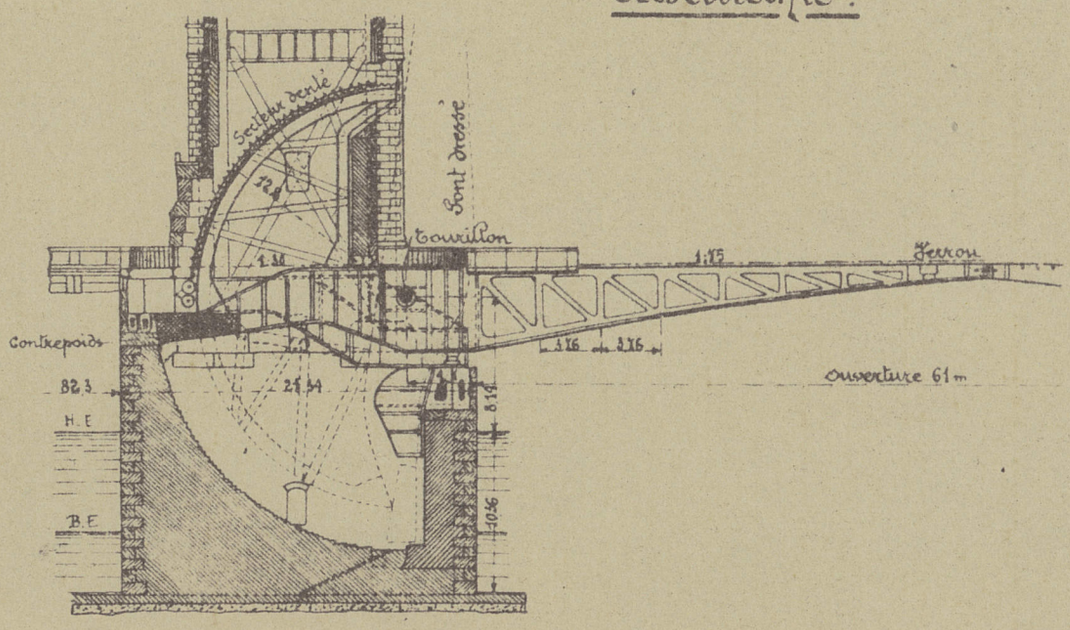


Fig. 1. Pont de Rendsburg (Canal de la Baltique) 1899

a)

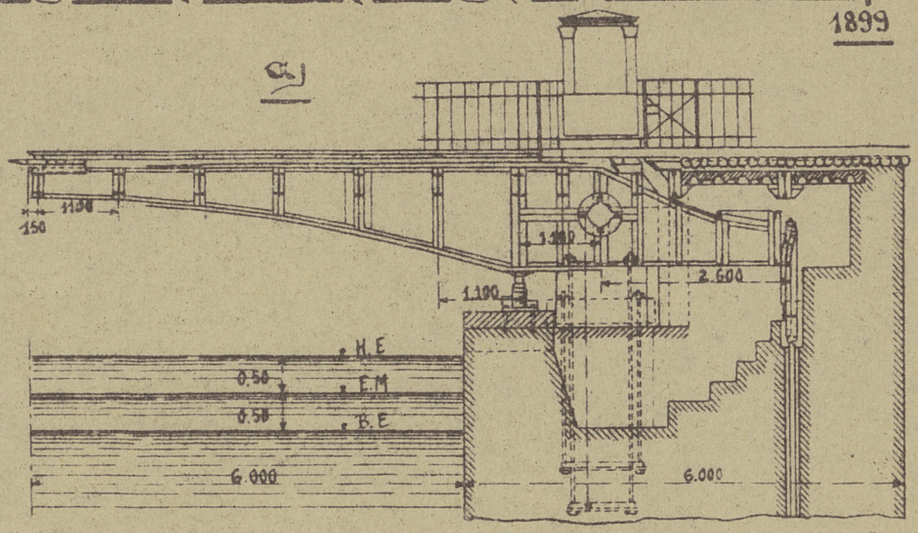


Fig. 2. Rotule de jonction des volées du pont de Eyerpoard (Rotterdam)

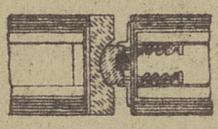
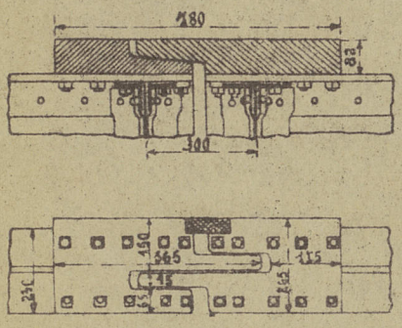


Fig. 3. Ferrouillage à griffe des volées du Pont Haut de Königsberg.



b)

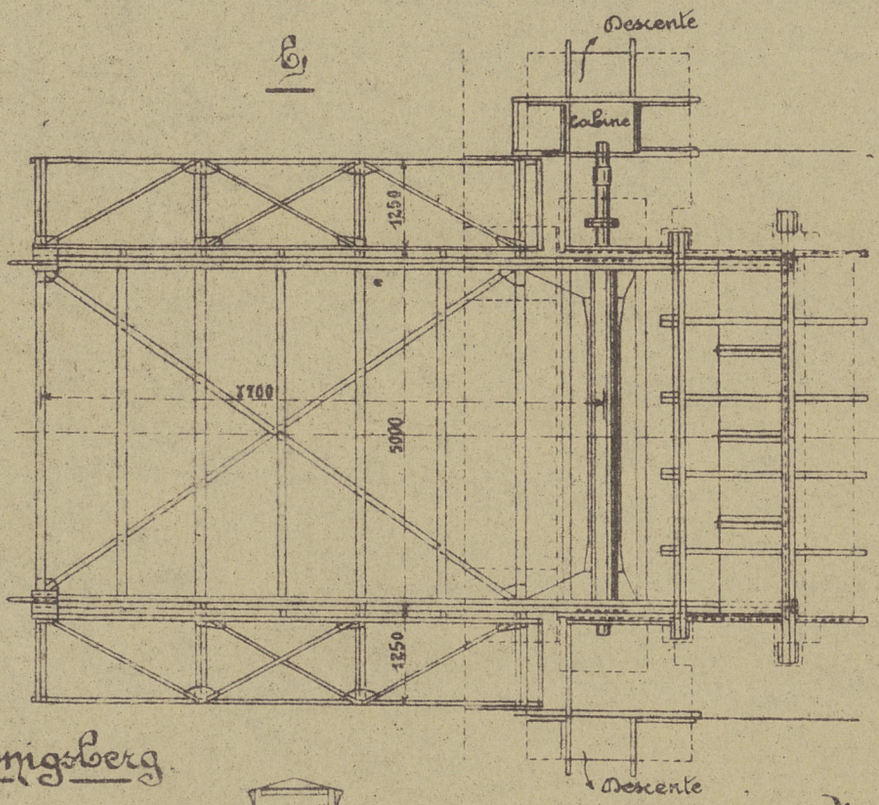
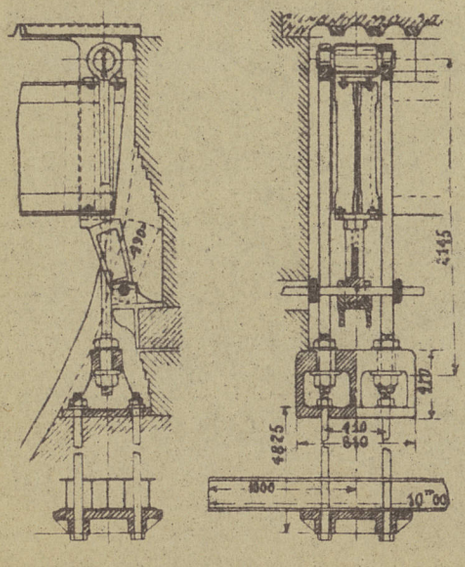
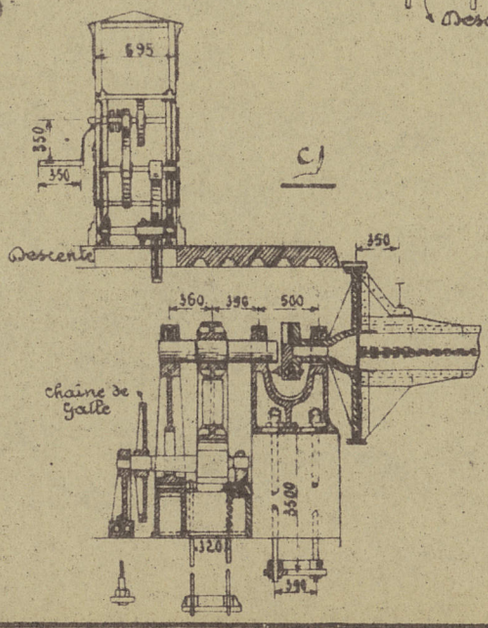


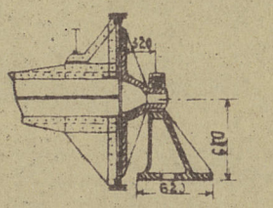
Fig. 4. Ancrage et butée de culasse d'un pont à Königsberg

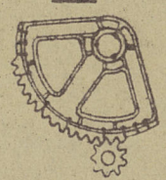


c)



d)





Pont basculant à tourillons de Petit-Willebroeck (Canal Maritime de Bruxelles) (1924-25)

Fig. 1. Coupe longitudinale.

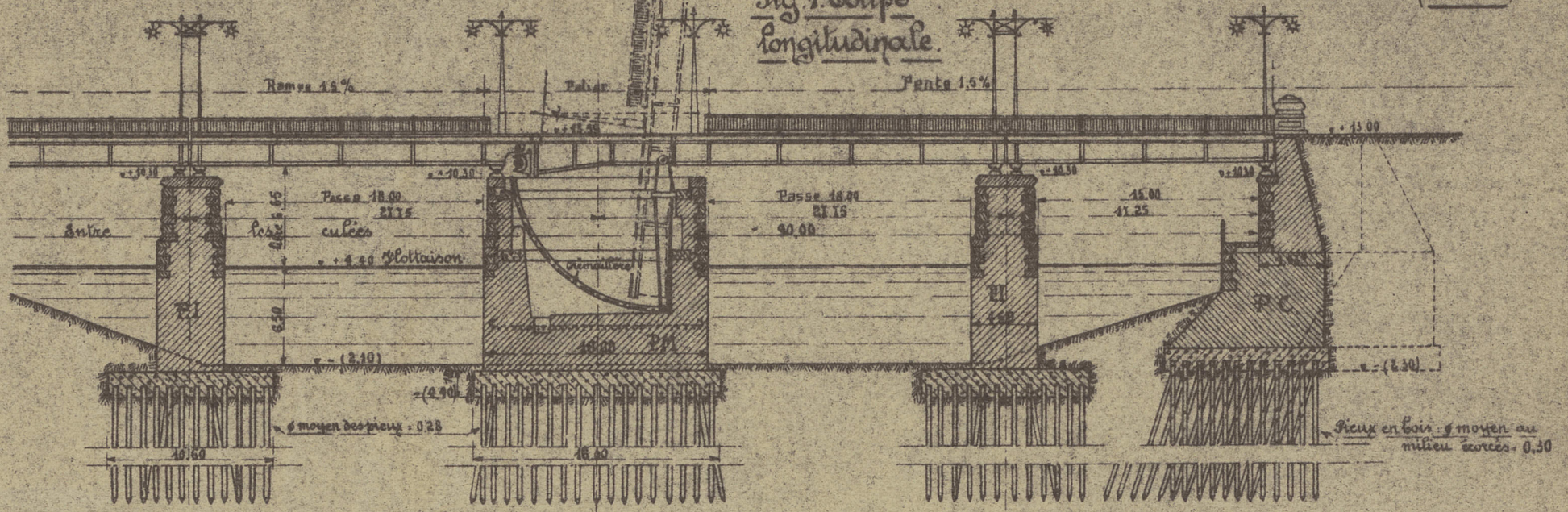


Fig. 2. Vue de face des culées P.C.

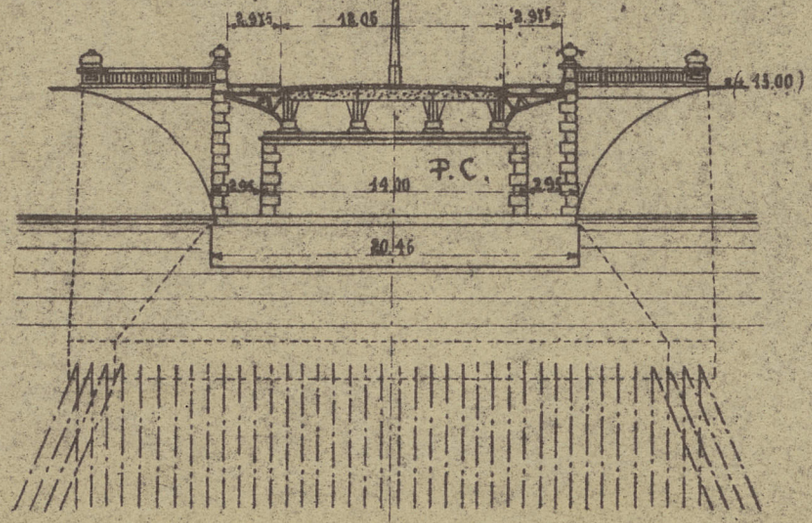


Fig. 3. Coupes transversales

a) ½ Coupe dans P.M

b) ½ Coupe dans P.1

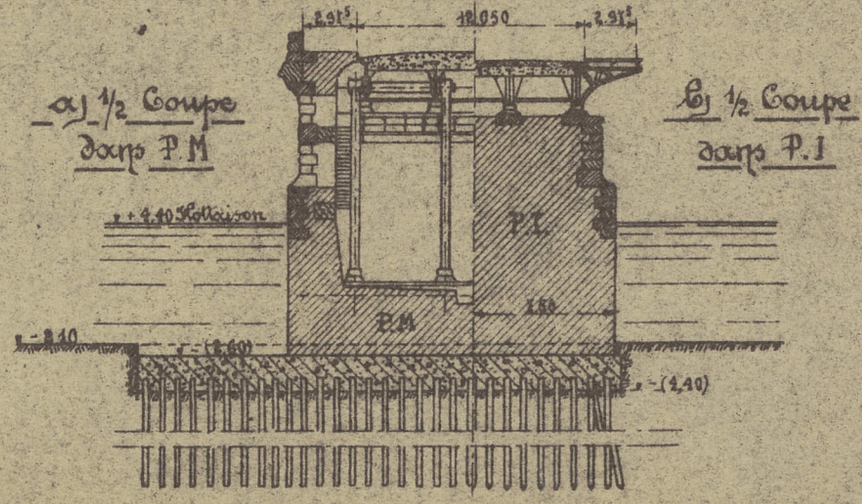


Planche 12.

Pont basculant à tourillons de Petit-Willebroeck (Canal maritime de Bruxelles — 1924-25) (Suite)

Fig. 4. Ensemble des mécanismes de manoeuvre de la travée basculante.

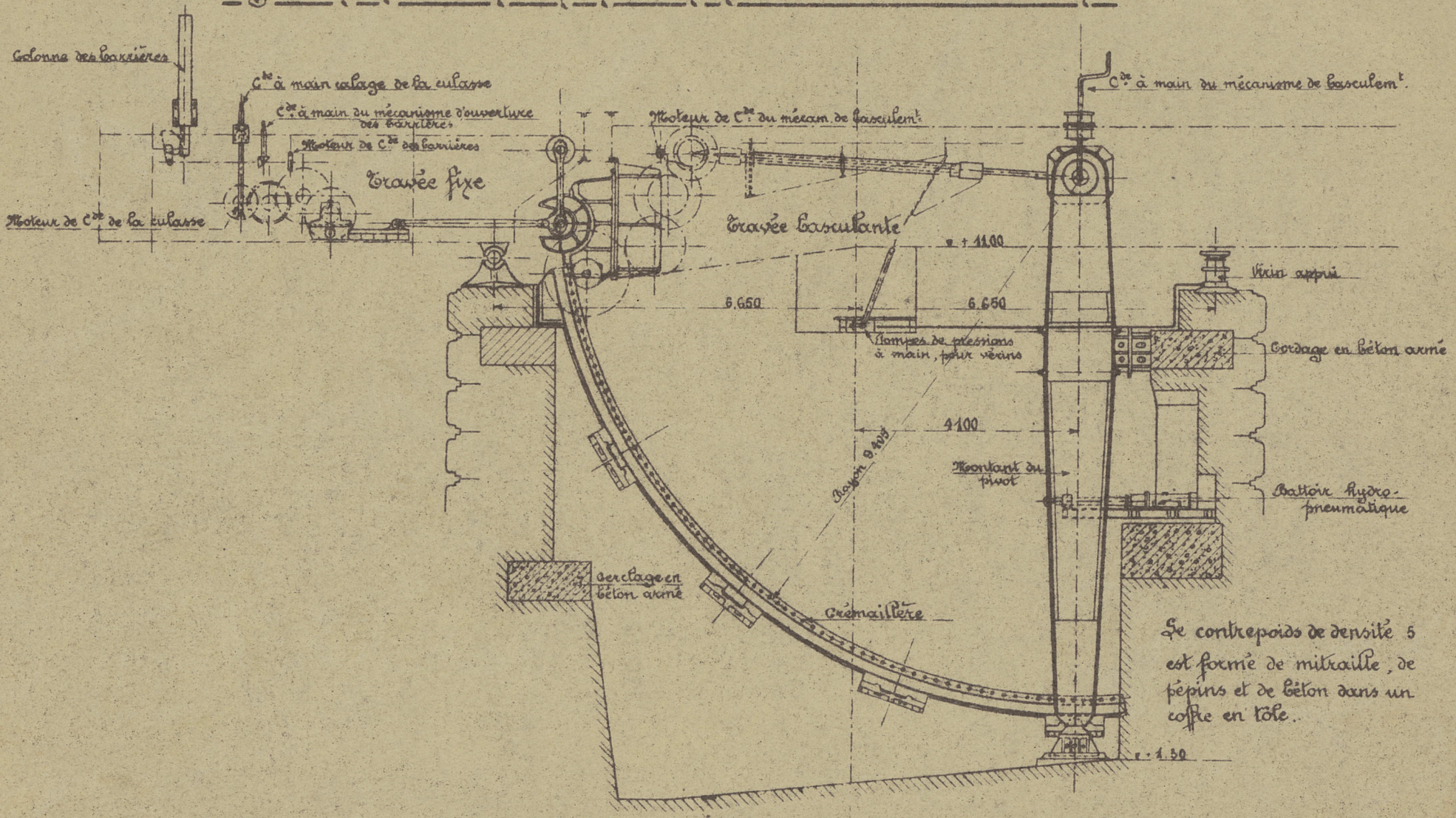
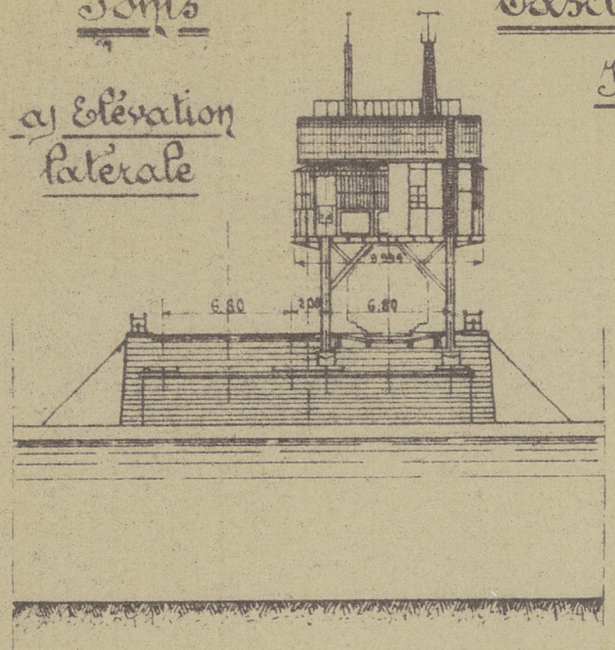


Planche 15

Ponts basculants de Selzaete (Canal de Gand à Terneuzen)

Fig. 1. Pont-rail.

a) Élévation latérale



b) 1/2 Élévation longitudinale.

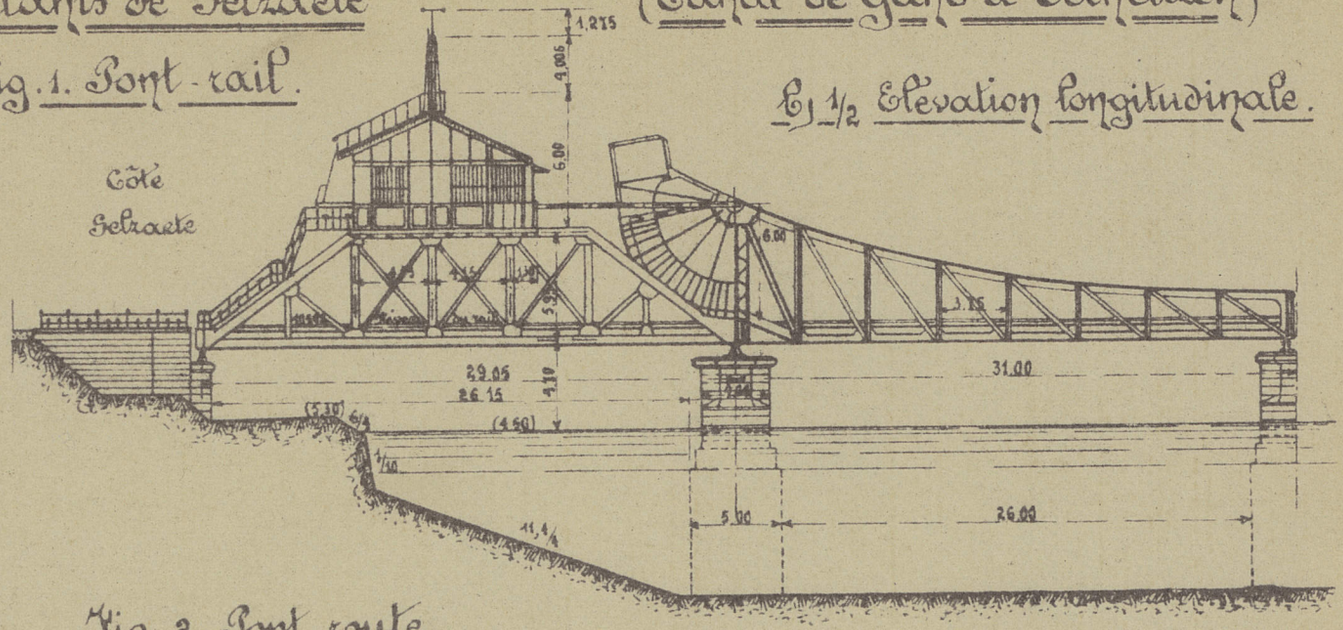
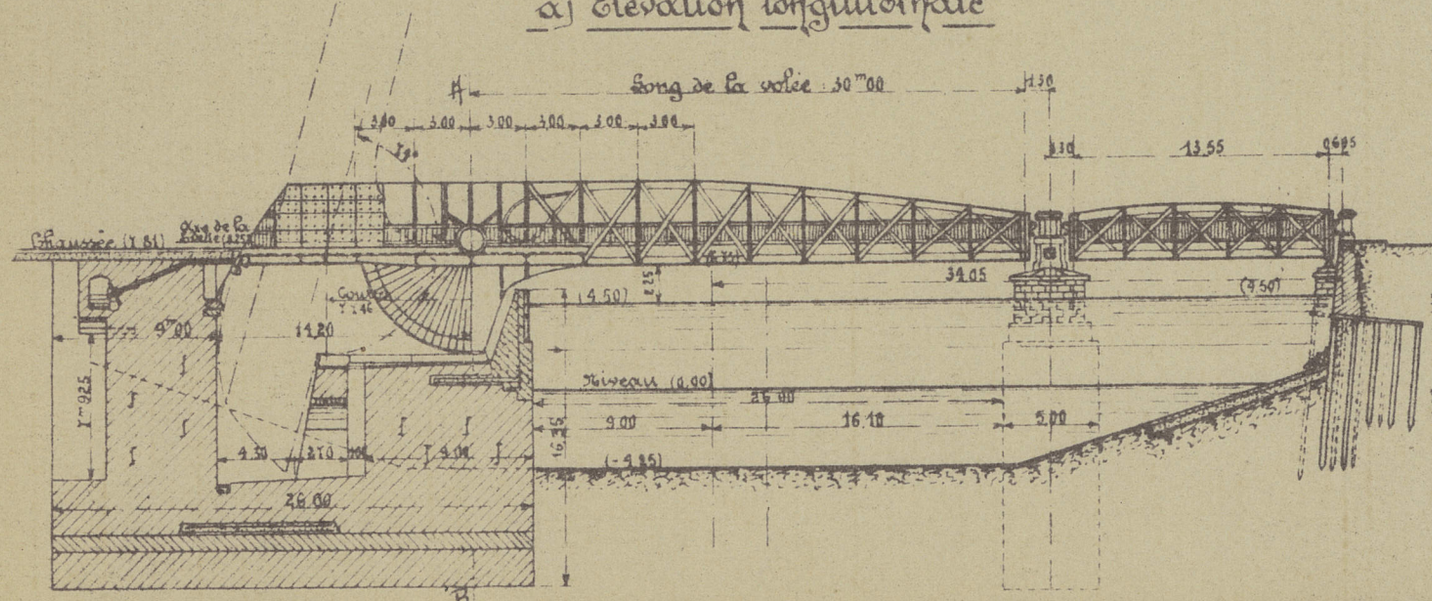


Fig. 2. Pont route

a) Élévation longitudinale



b) Coupe transversale suivant AB

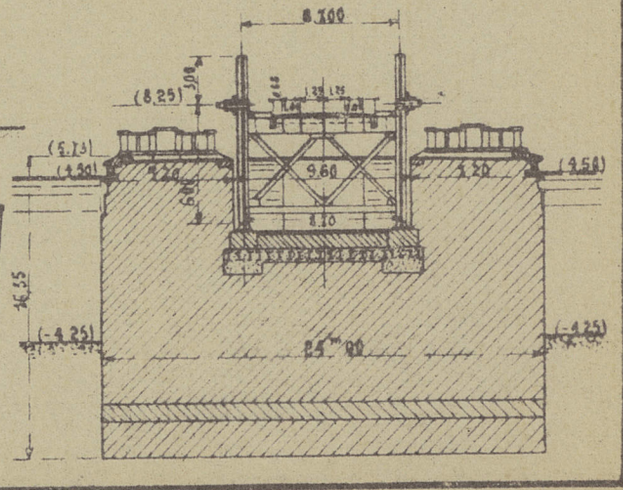
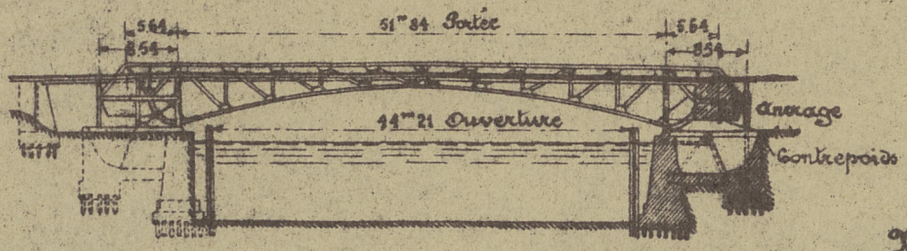


Planche 11

Fig. 1. Ponts basculants Scherzer à double volée.

a) à tablier supérieur.



b) Pont de Newton Creek à New York.

b) à tablier inférieur.

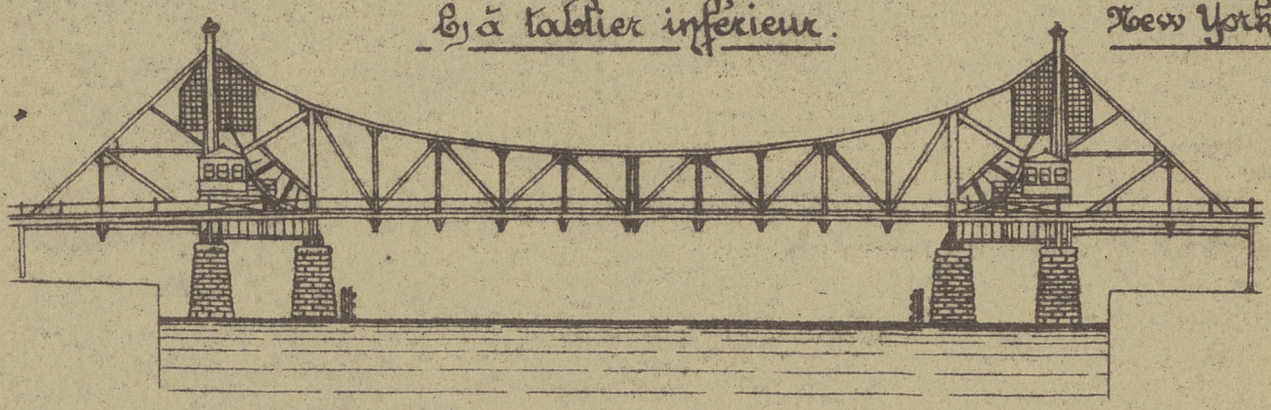


Fig. 2. Pont de bateaux du port de Kustrin (Oder). à travée tournante

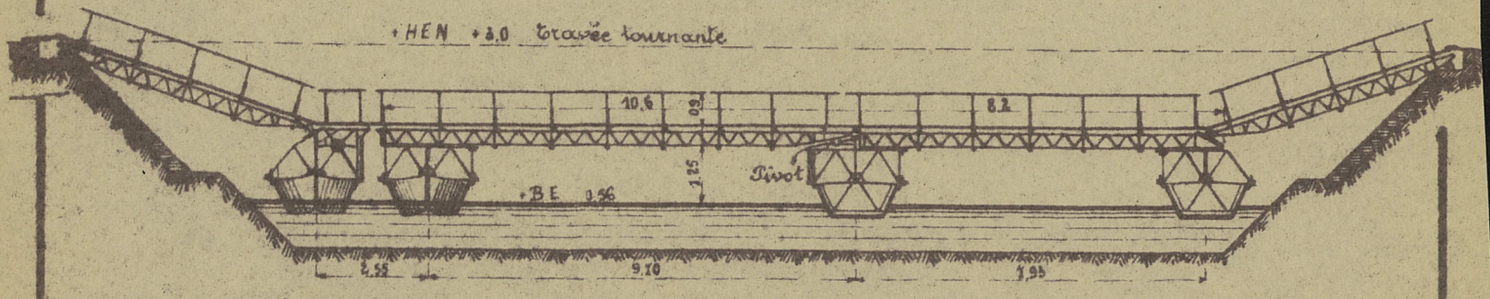


Fig. 3. Schéma du pont roulant de l'écluse du Kattendyk à Anvers.

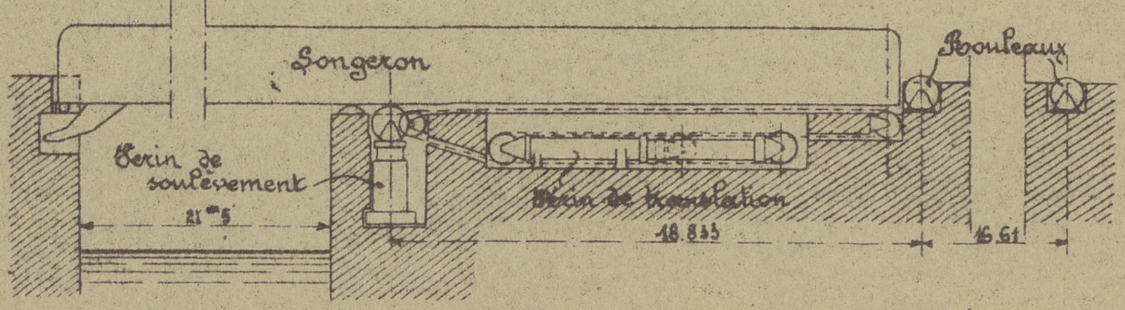


Fig. 2. Pont basculant Hansa, à Stettin (1900)

Disposition du secteur de roulement, de la culasse et du cylindre régulateur de course.

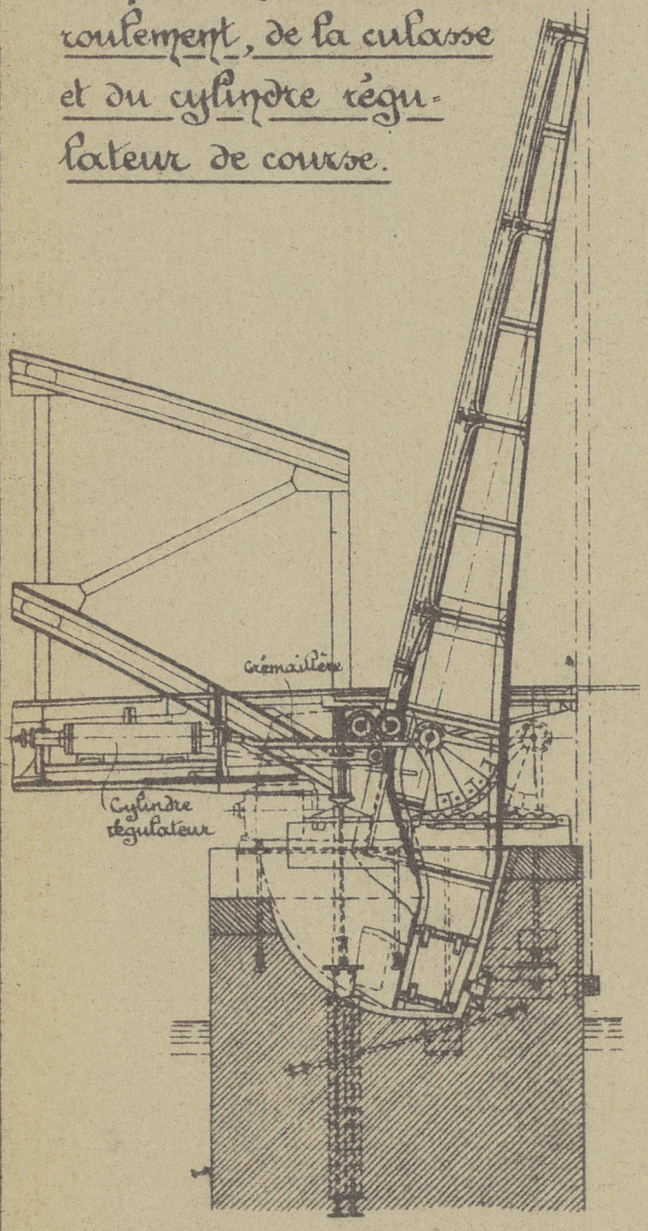


Fig. 1. Pont transbordeur de Rouen (1899)

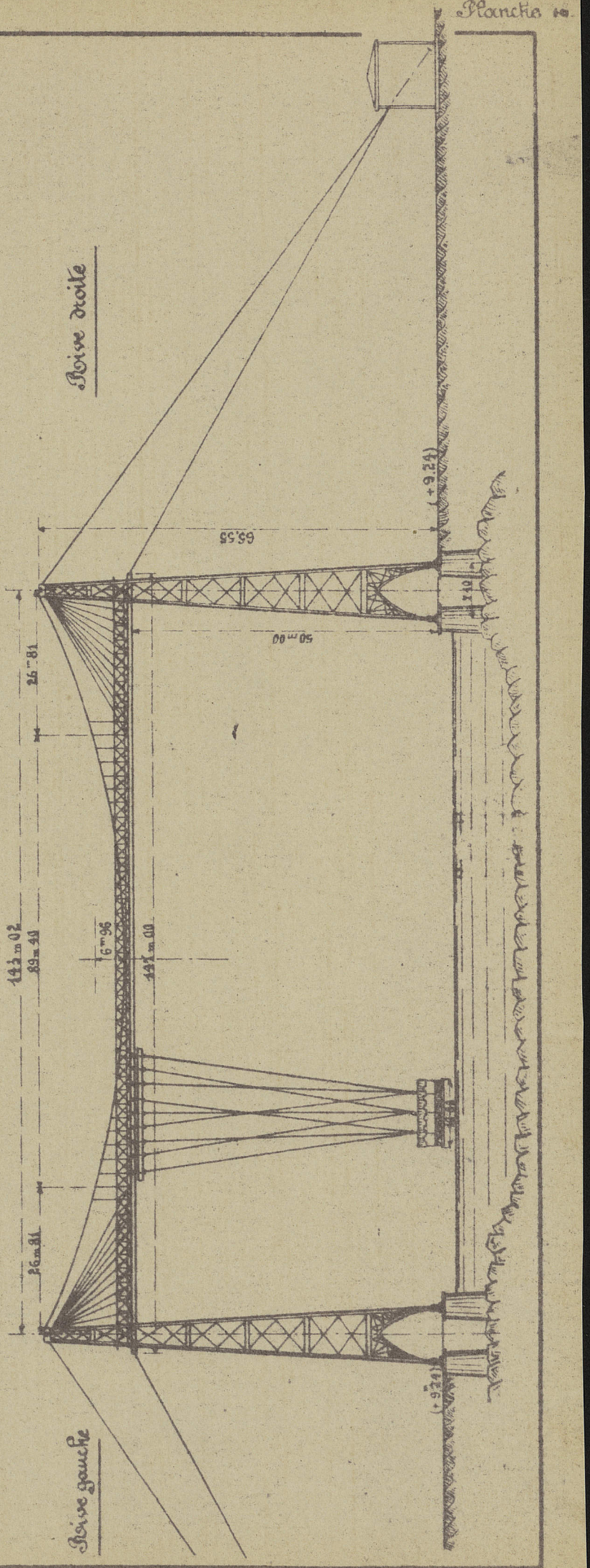


Fig. 1. Pont roulant Victoria sur la Dee près de Queensferry en Angleterre.

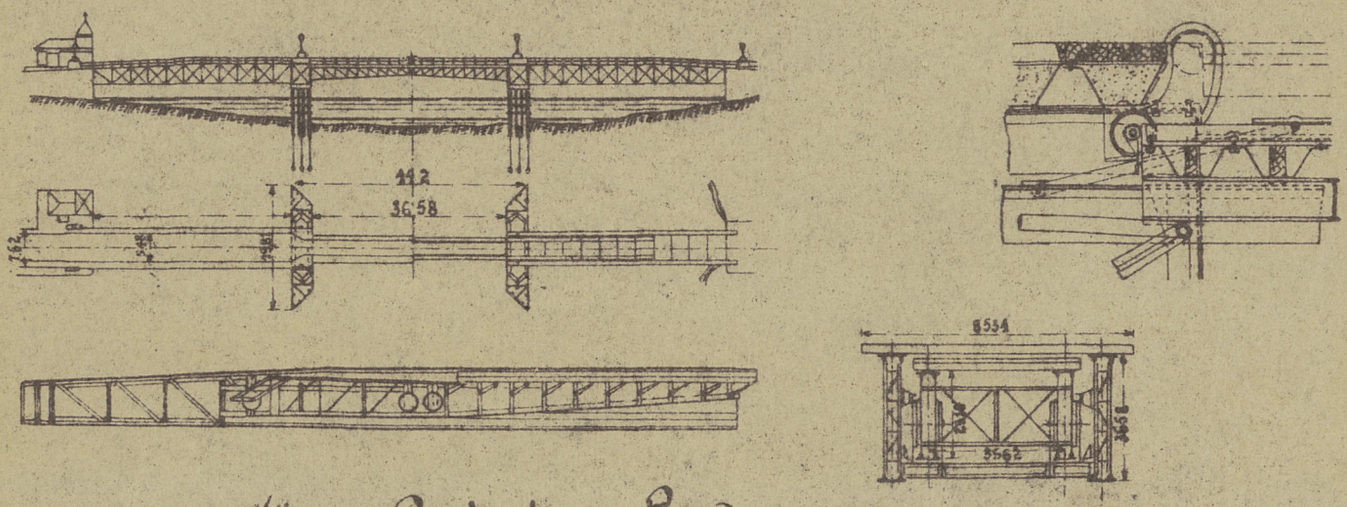
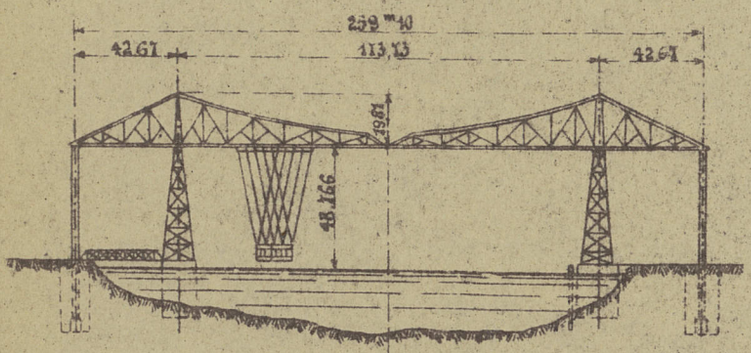
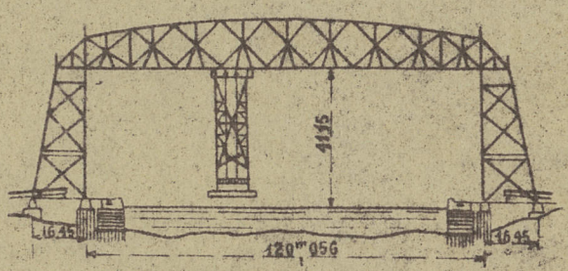


Fig. 2. Ponts transbordeurs.

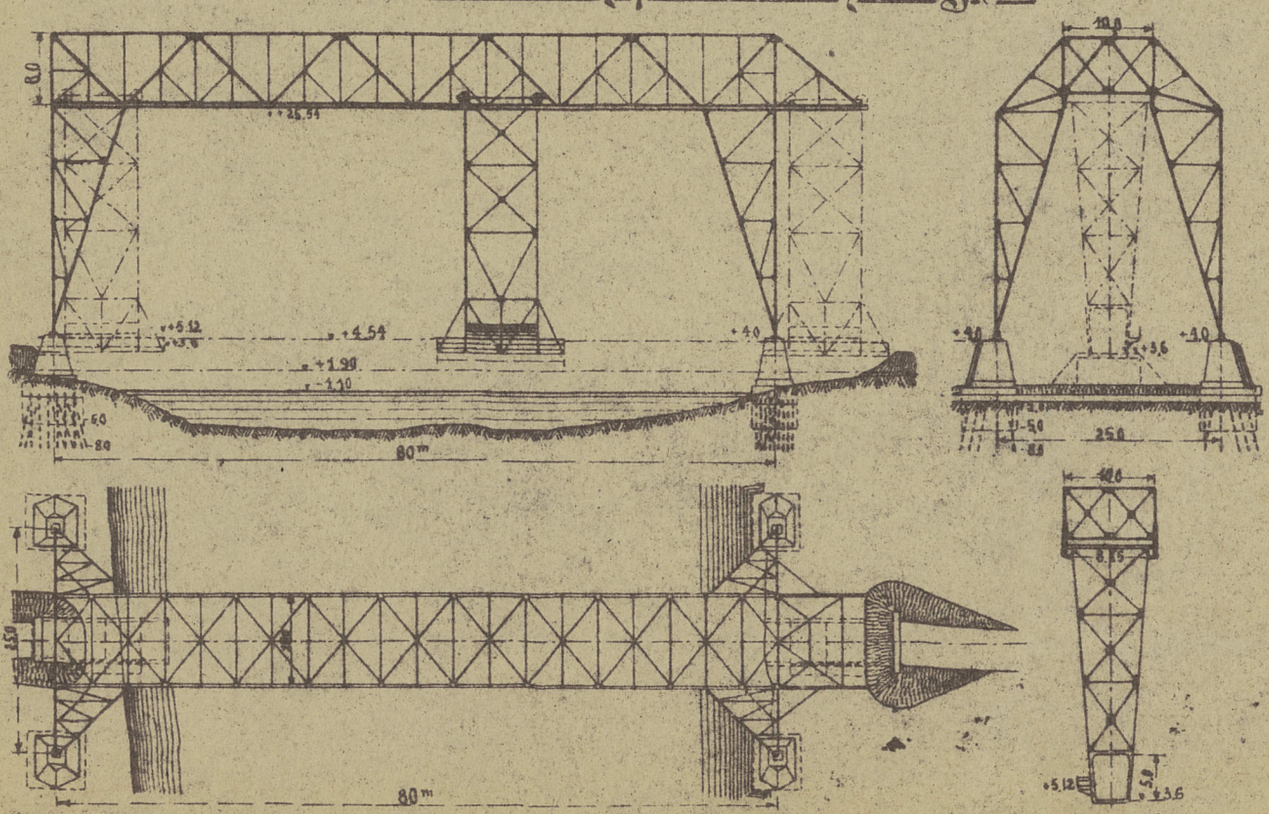
a) de Middlesbrough (1911)



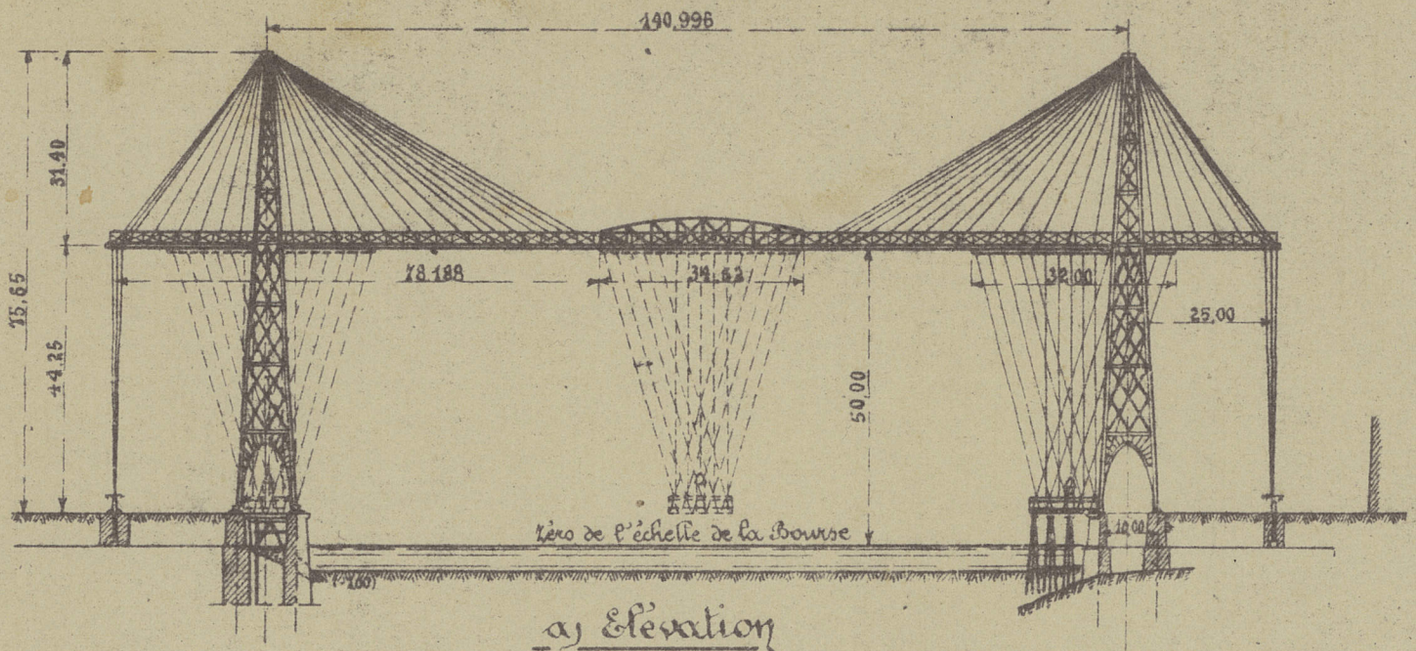
b) de Duluth (1906)



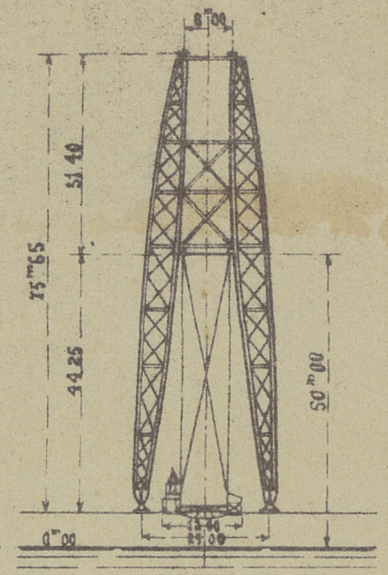
c) de Osten près d'Hambourg (1909)



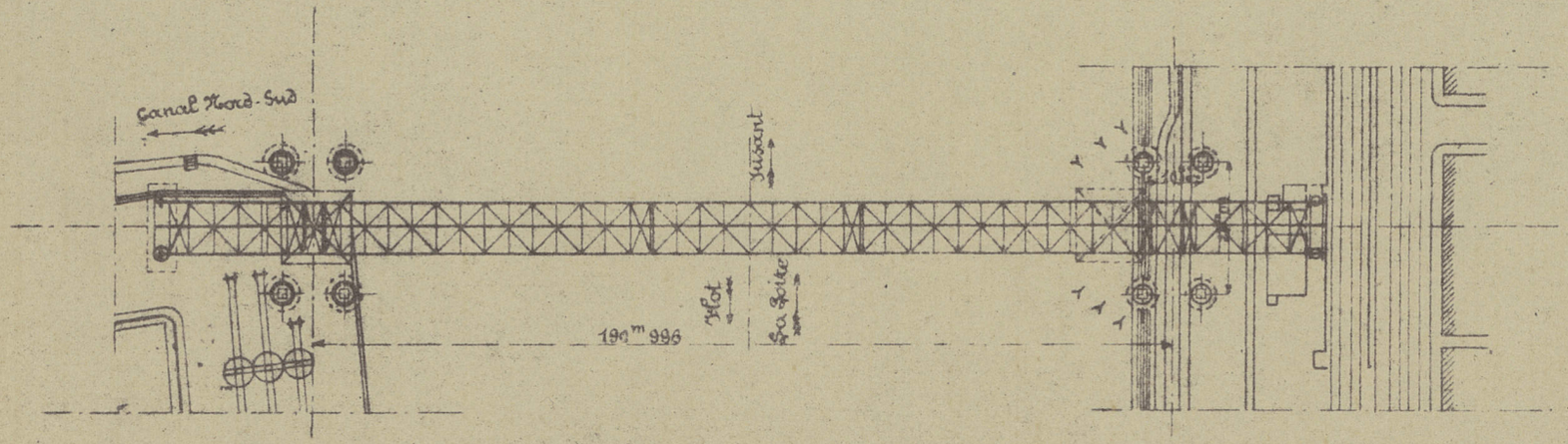
Pont transbordeur de Nantes (1903)



a) Élévation



c) Vue transversale

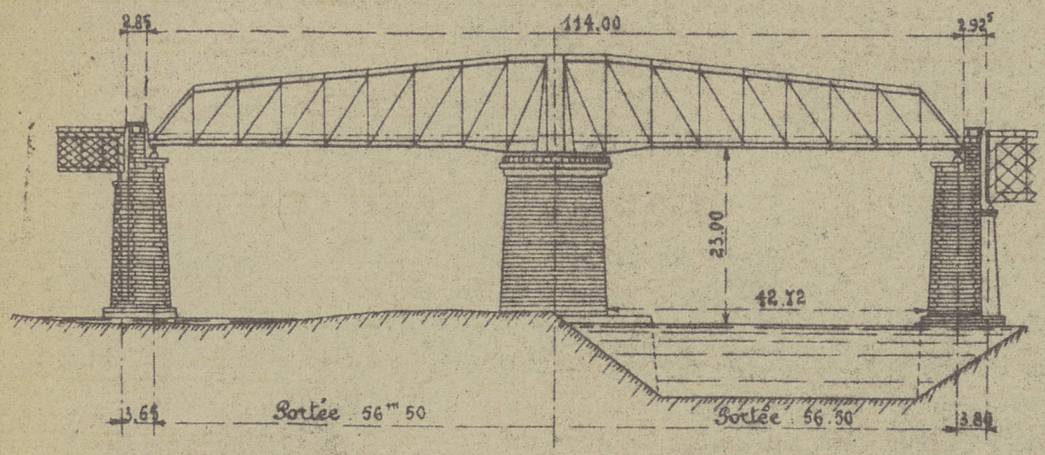


b) Plan

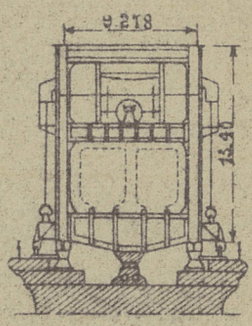
Planche 18

Fig. 1. Pont tournant de Caronte.

a) Élévation



b) Coupe sur l'axe



Coupe sur la culasse

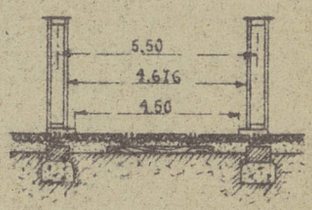
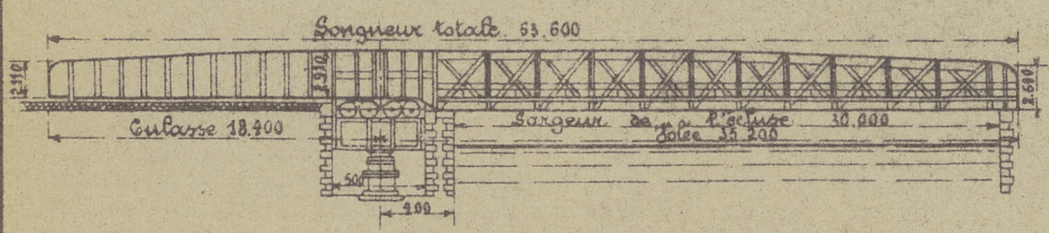


Fig. 2. Pont roulant de Saint Nazaire.

Élévation extérieure



Coupe sur la volée

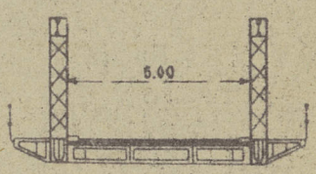
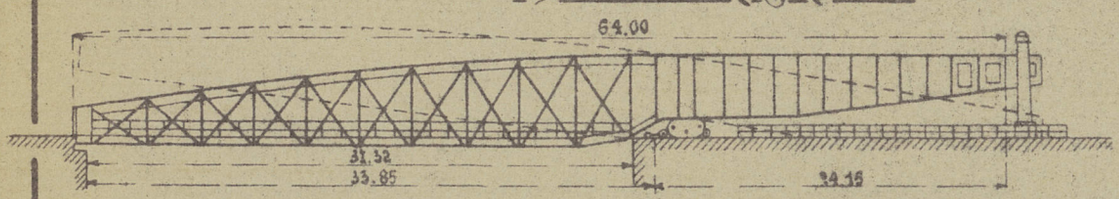


Fig. 3. Pont roulant de Cherbourg

a) Élévation générale.



b) Chariot de roulement.

½ Coupe

½ Élévation

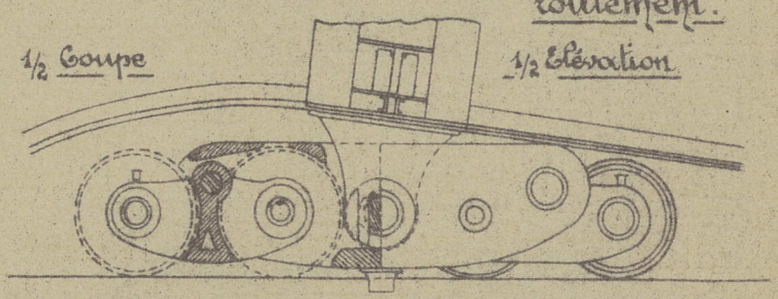
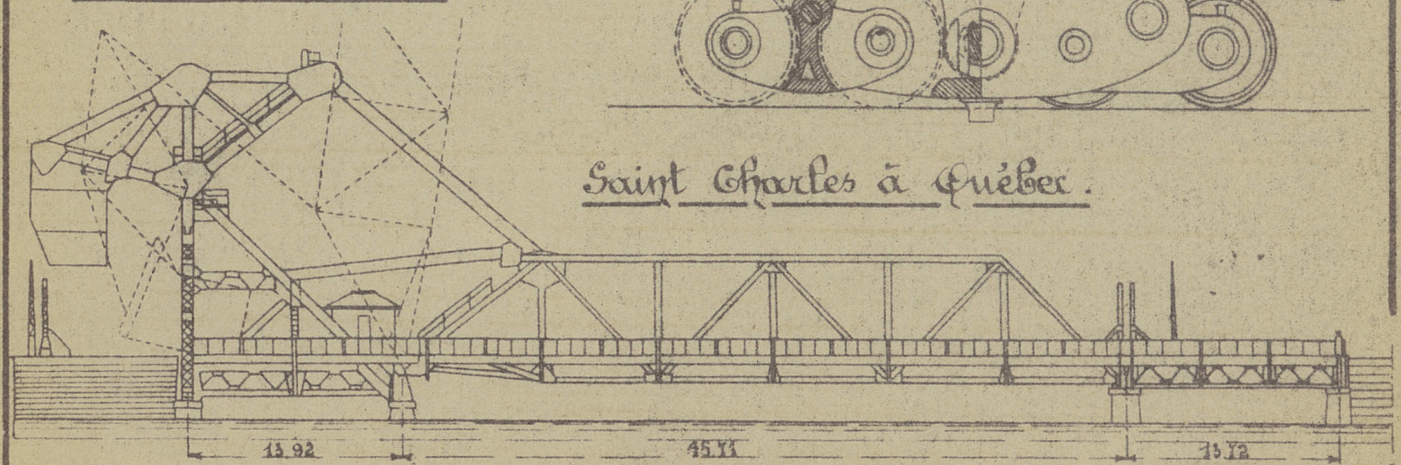


Fig. 4. Pont basculant Strauss sur la rivière Saint Charles à Québec.



Petit pont tournant pour route sur l'Aa à St Omer (France)

Fig. 1. Infrastructure
Fig. 2. Demi-coupe suivant l'axe longitudinal du pont.
Fig. 3. Demi-coupe suivant l'axe transversal du pont

Fig. 1.

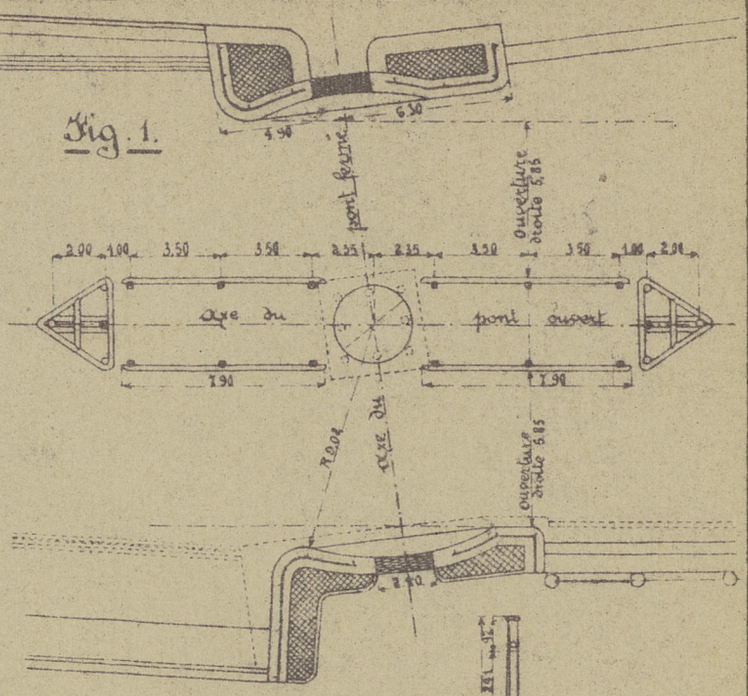


Fig. 2.

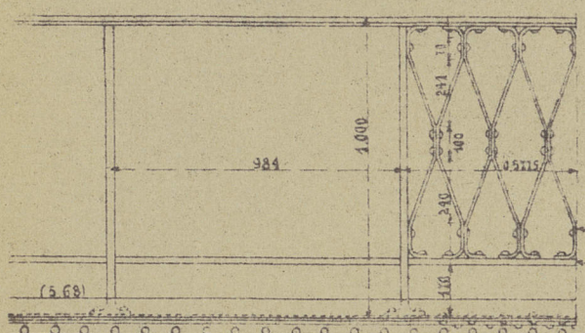


Fig. 3.

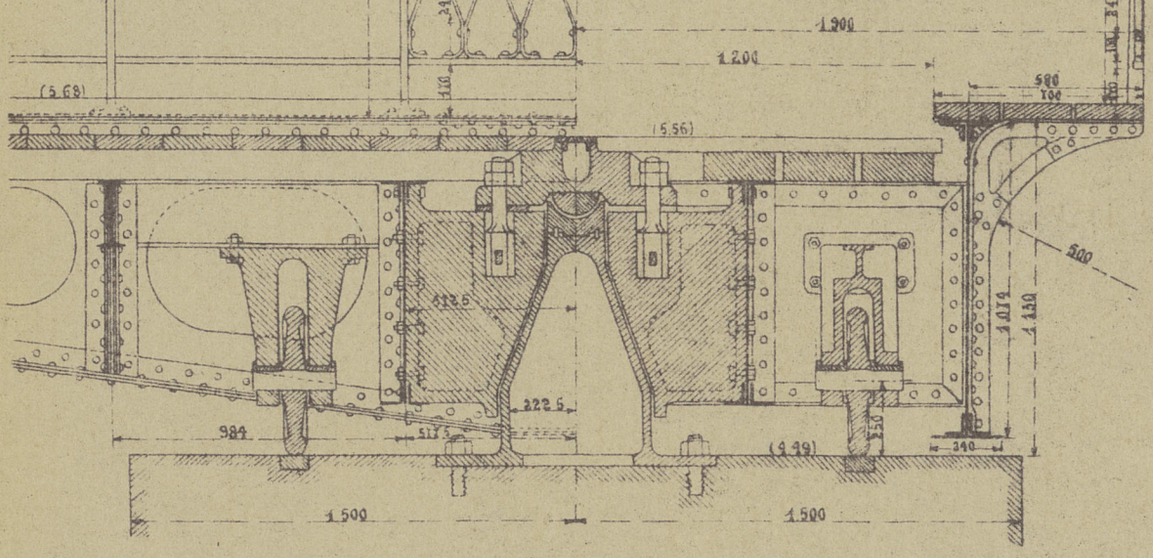


Fig. 4. Demi-Elévation

Fig. 5. Demi-coupe longitudinale

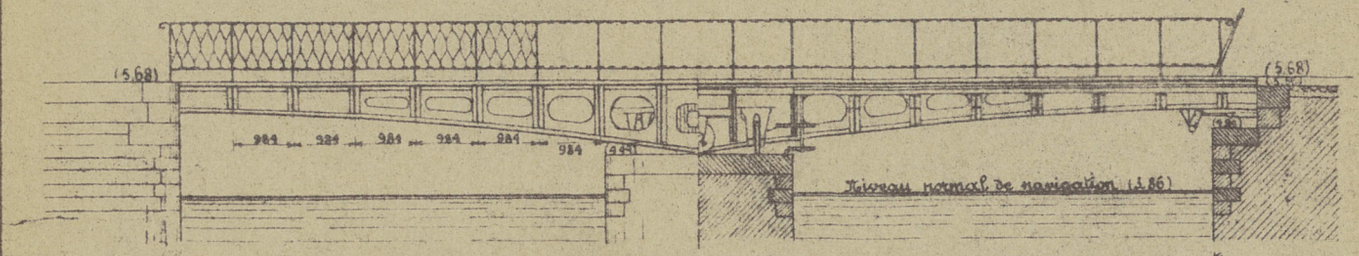
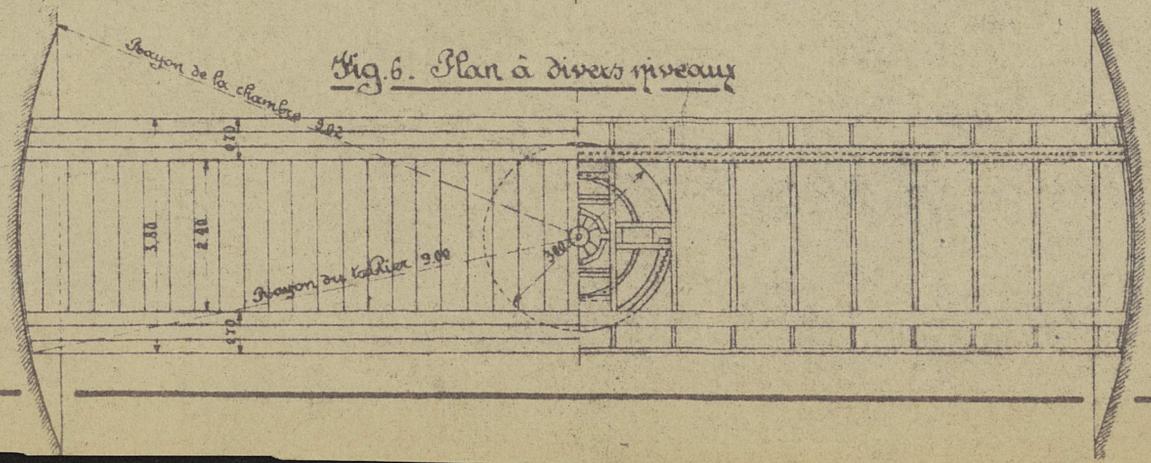


Fig. 6. Plan à divers niveaux



Pont rail tournant des écluses à Strasbourg (1926) Fig. 1. Elévation

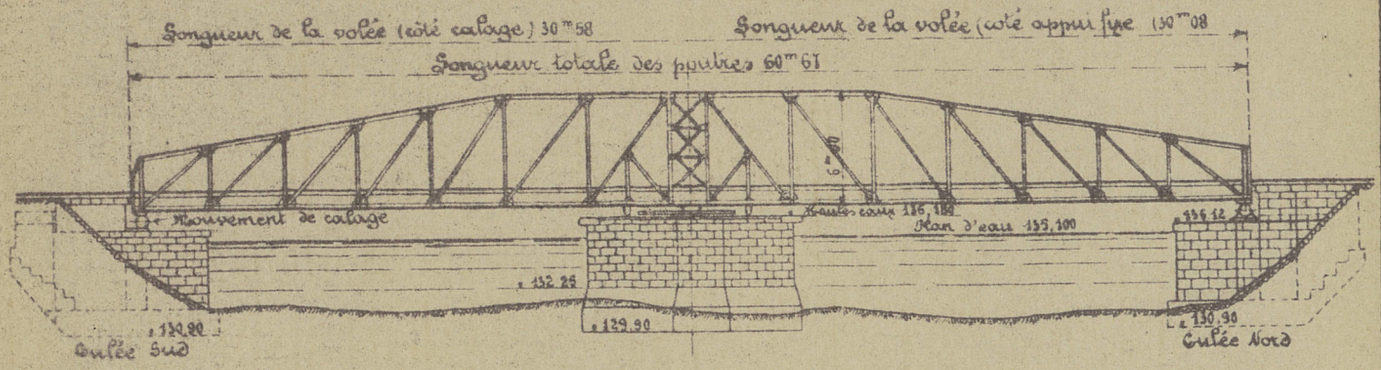


Fig. 2. Plan.

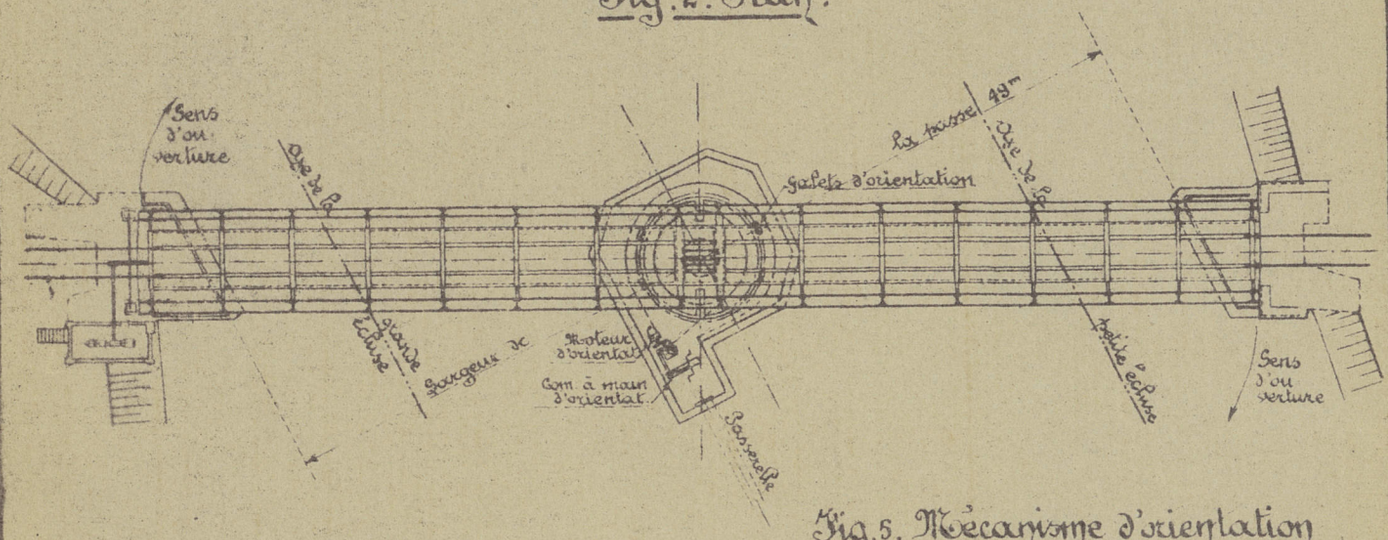


Fig. 3. Coupe transversale

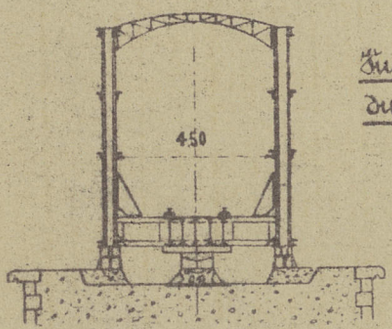


Fig. 4. Pivot

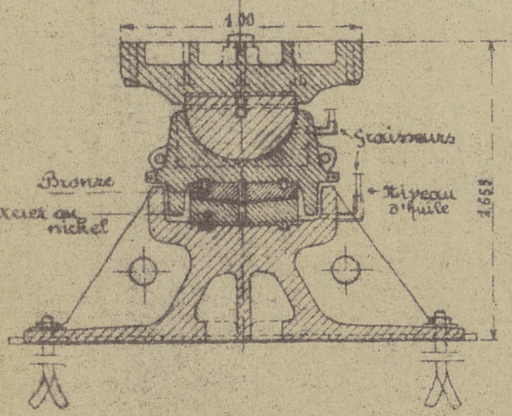


Fig. 7. Vues latérales du mécanisme de calage

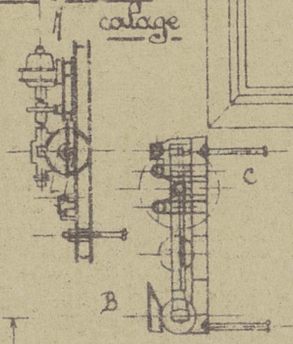


Fig. 5. Mécanisme d'orientation

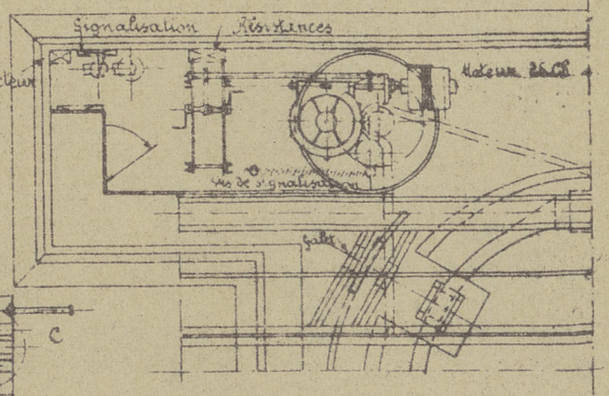
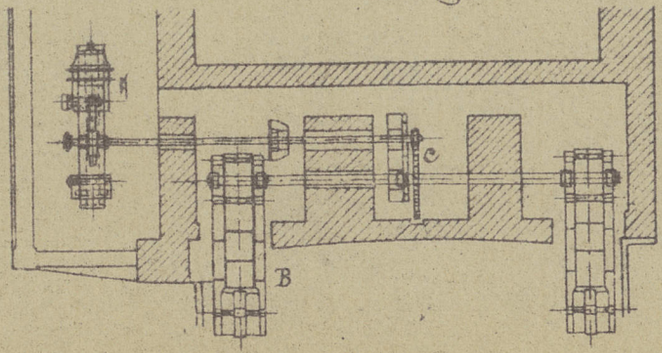


Fig. 6. Mécanisme de calage.



Pont rail tournant d'Hoofstade (1913)

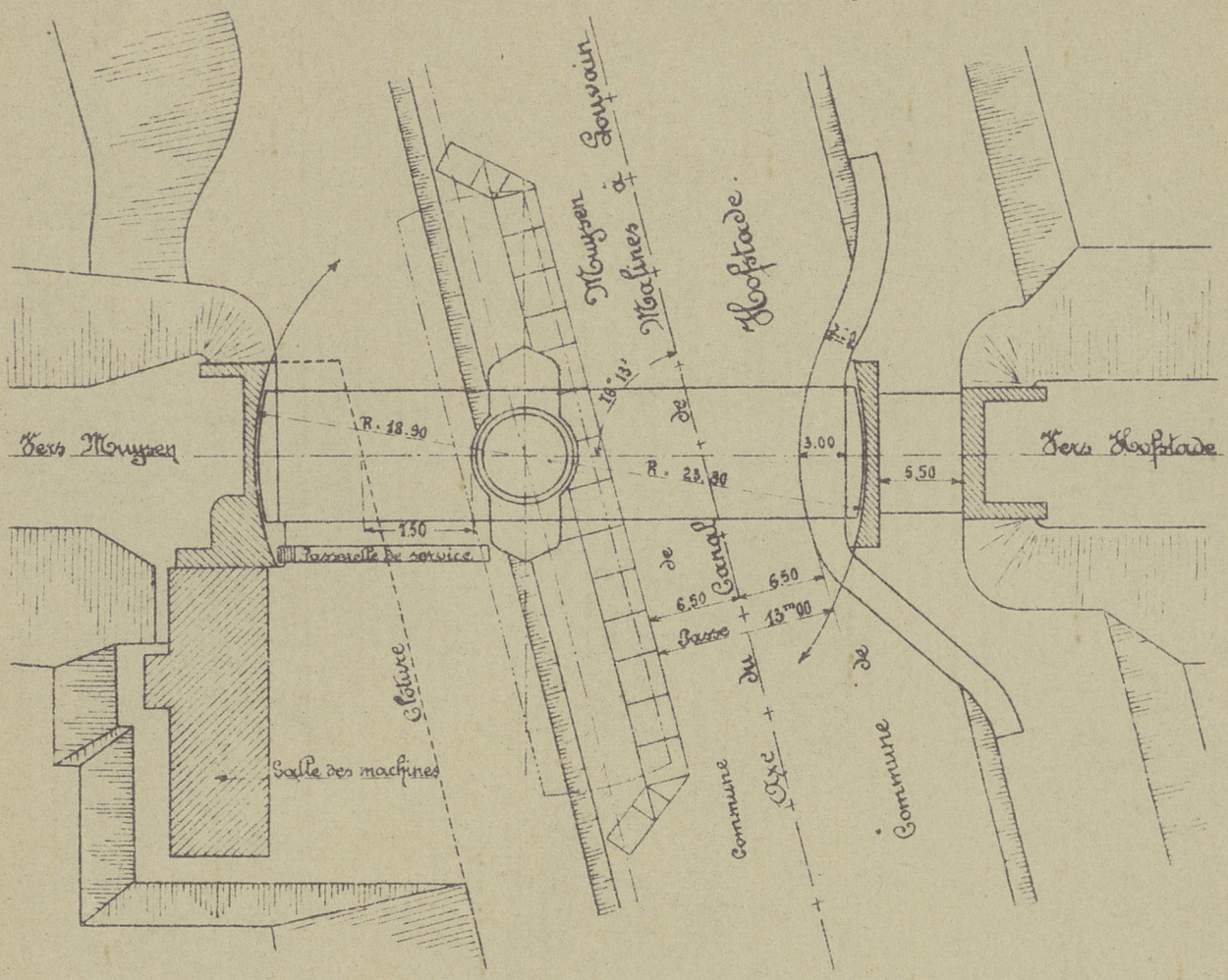


Fig. 1. Plan schématique.

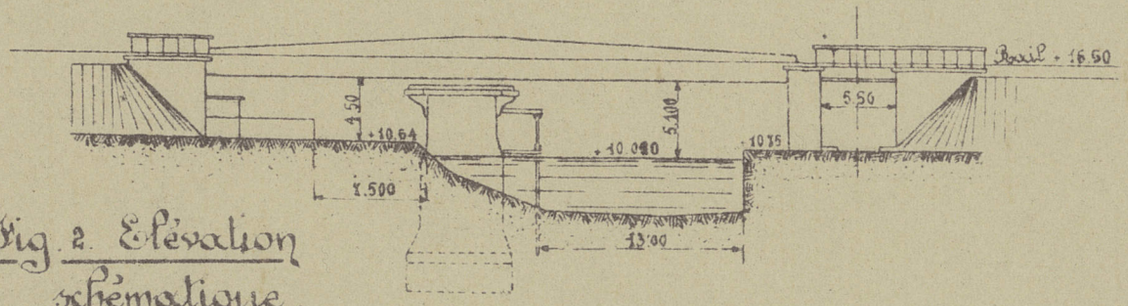


Fig. 2. Élévation schématique.

Fig. 3. Amortisseur hydropneumatique.

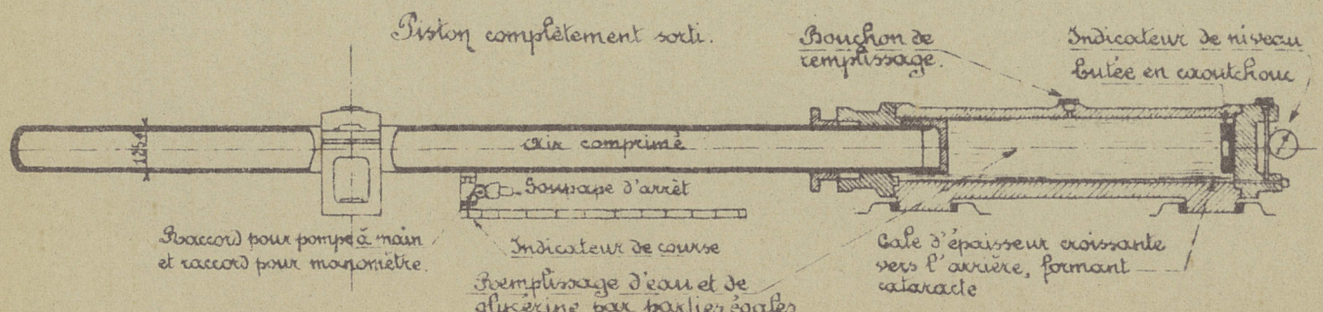


Fig. 4. Appui de volée à rotule.

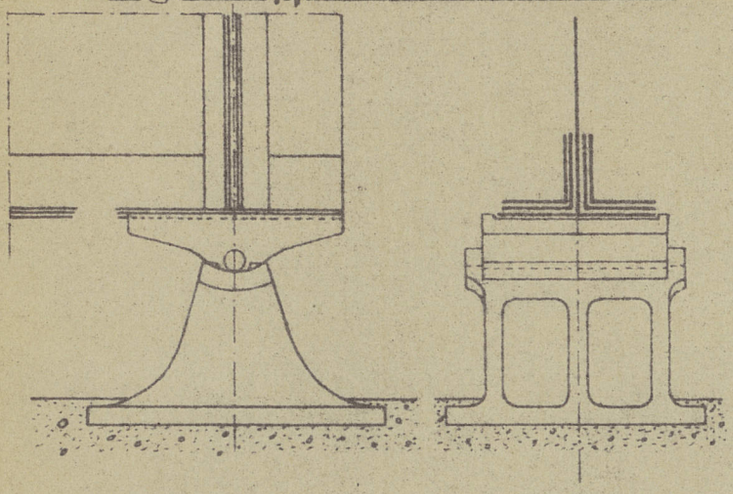
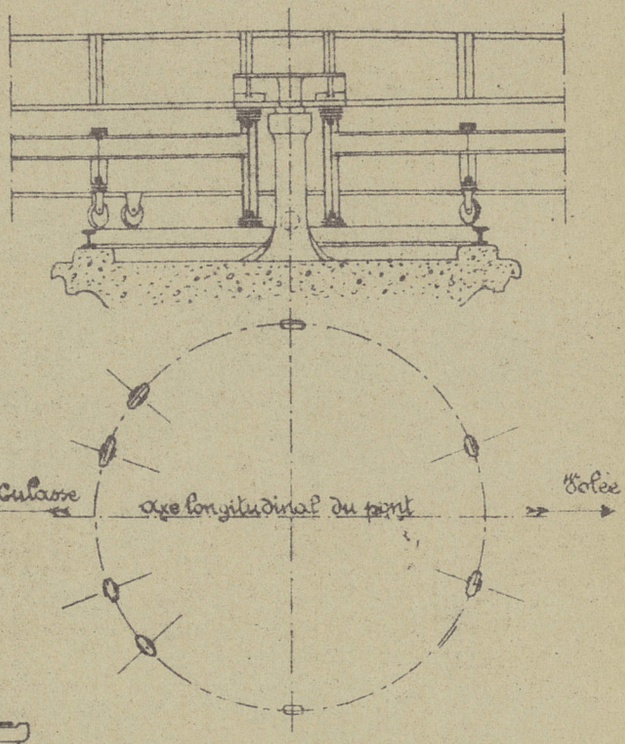


Fig. 7. Galets d'équilibre.



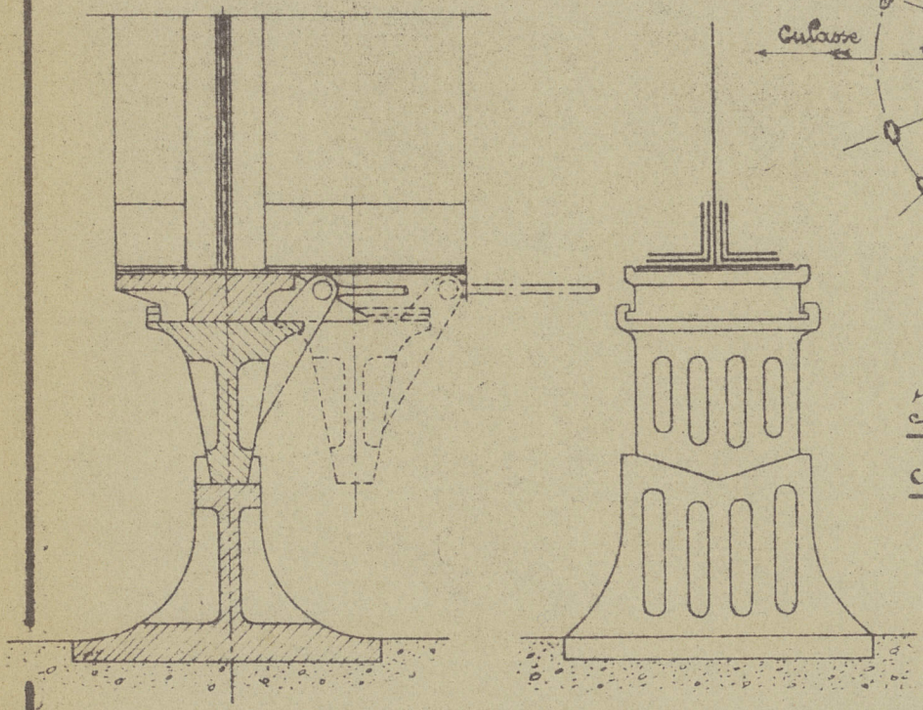
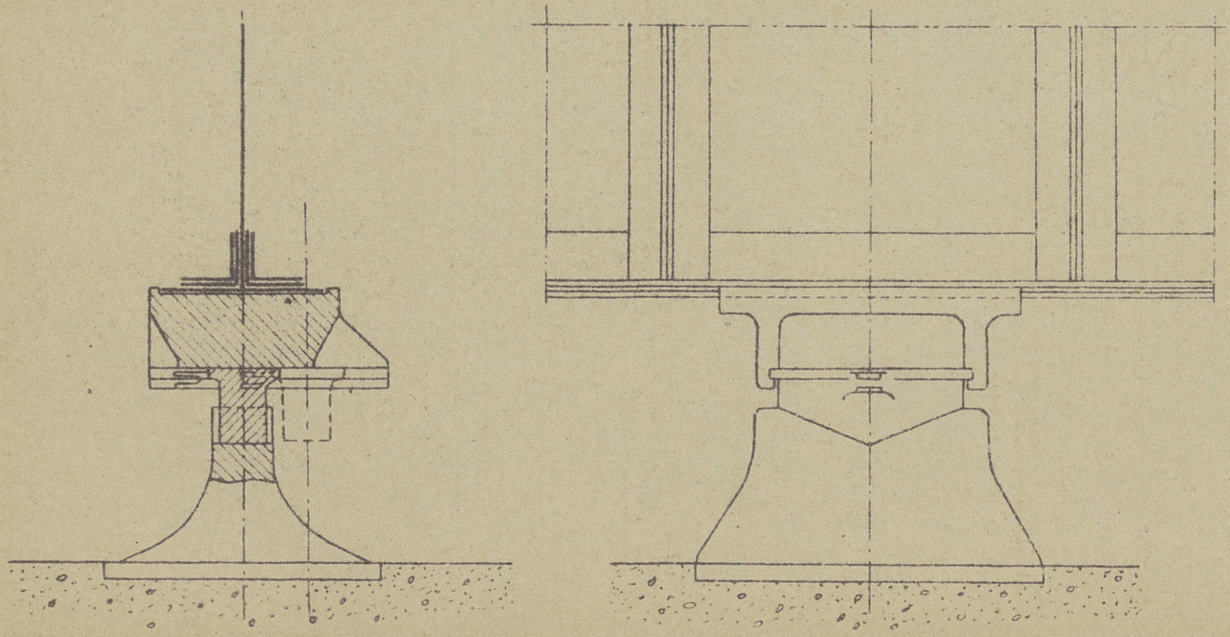


Fig. 5. Appui de culasse à effacement.

Fig. 6. Appui central à effacement.



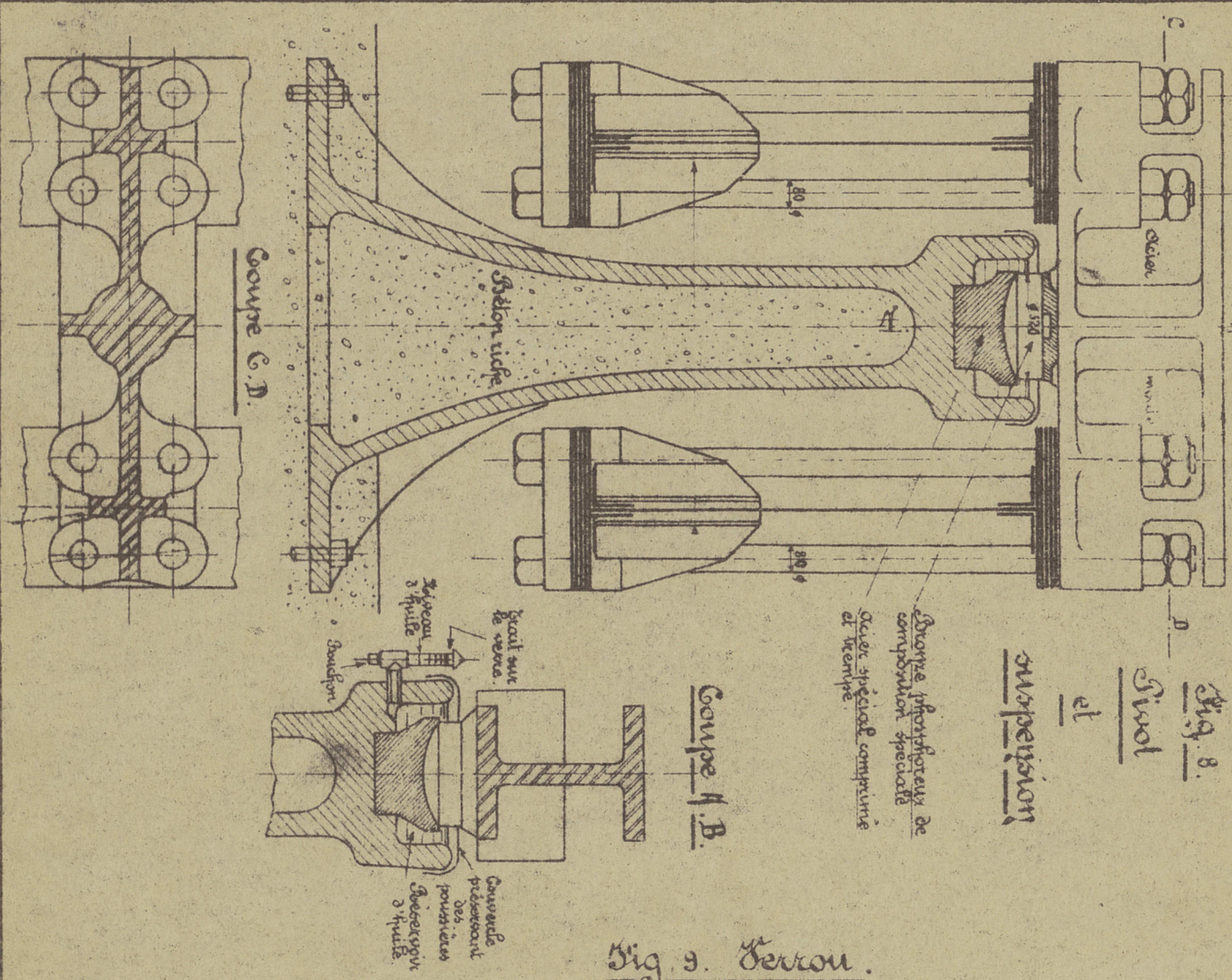
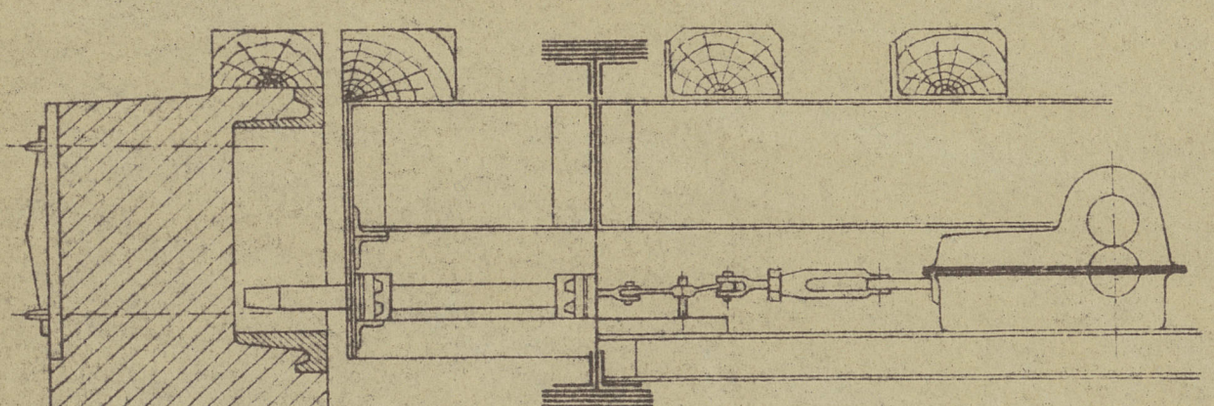
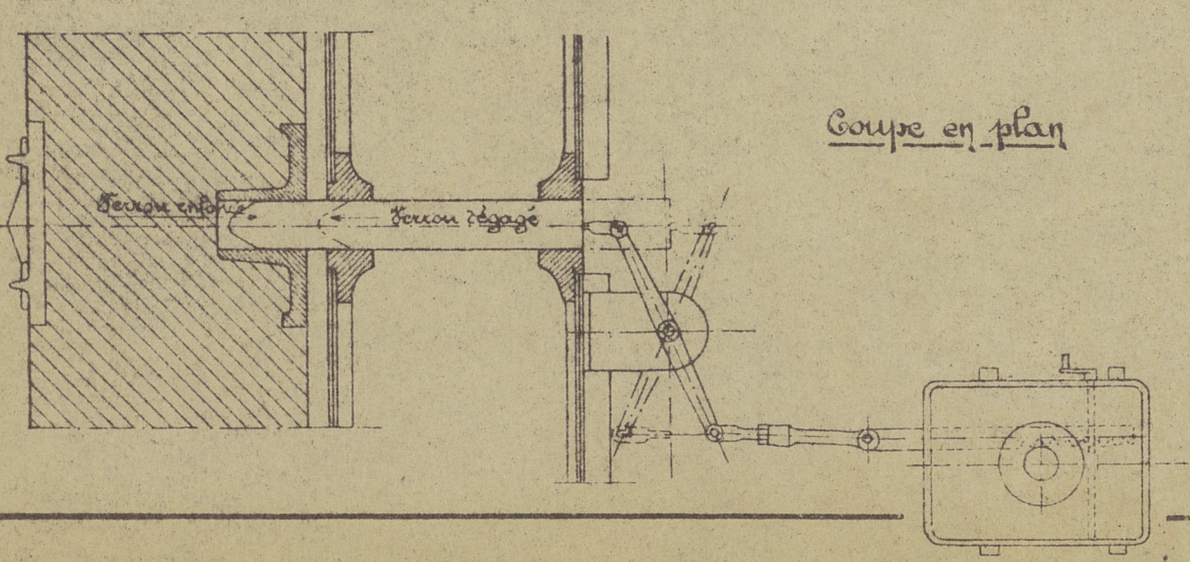

C
D
A
B
Acier
Béton riche
Bronze phosphoreux de composition spéciale
Acier spécial comprimé et trempé
Graisseur à huile
Bouchon
Trou de vers
Couvercle protecteur des poussières
Graisseur à huile
Coupe C.D.
Coupe A.B.
Fig. 8. Pivot et suspension

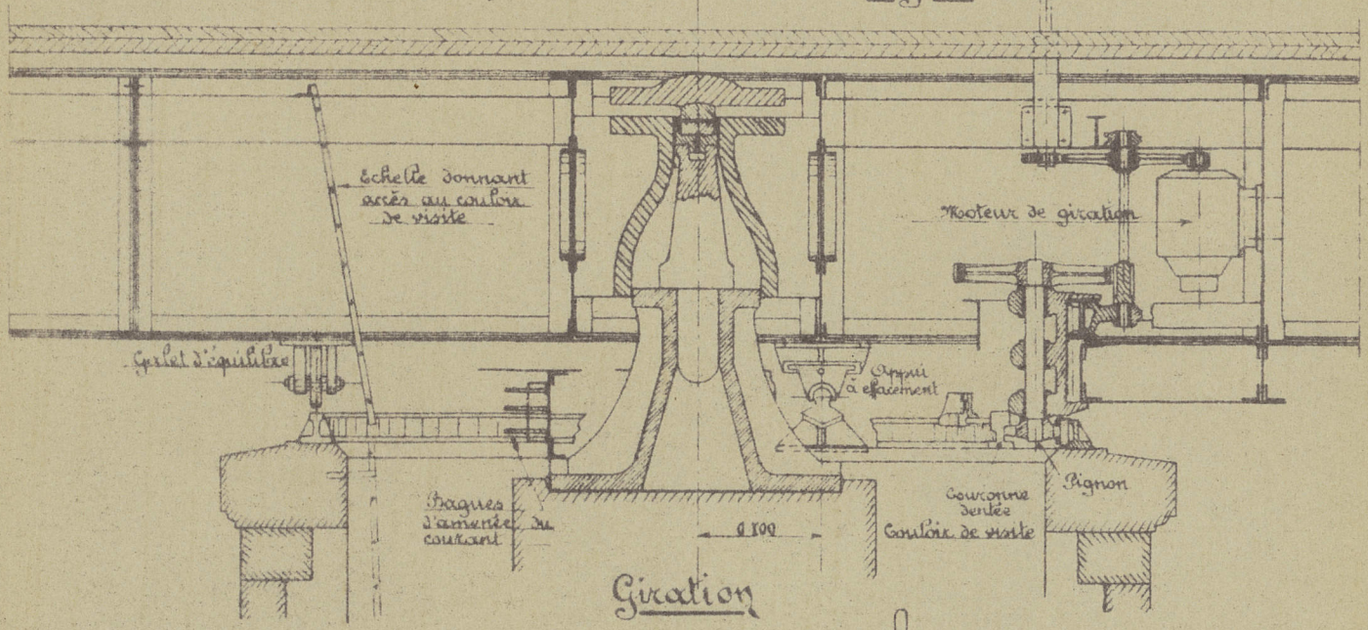
Fig. 9. Verrou.




Verrou enfoncé
Verrou dégagé
Coupe en plan

Types de dispositifs de manoeuvre d'un pont tournant à basculement à pivot.

Fig. 2.



Giration

Fig. 4. Verrou à gâche oscillante.

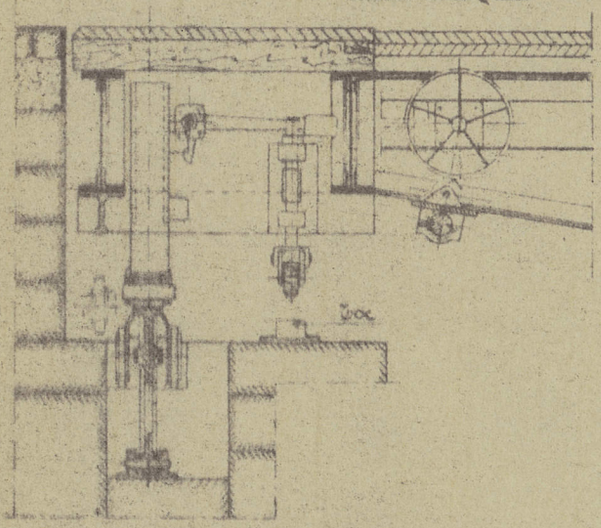


Fig. 1. Calage.

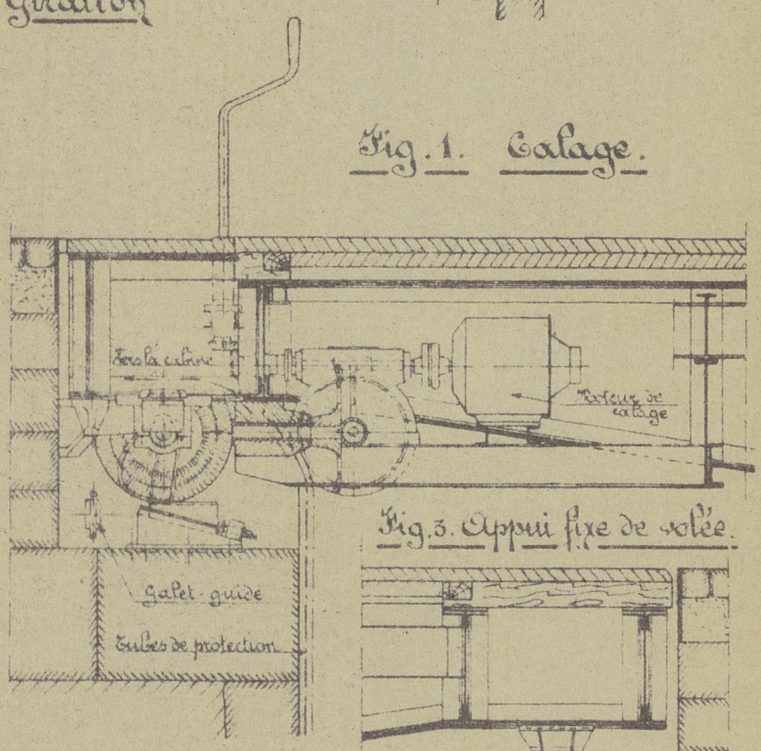


Fig. 3. Appui fixe de volée.

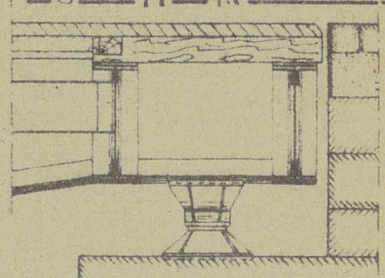
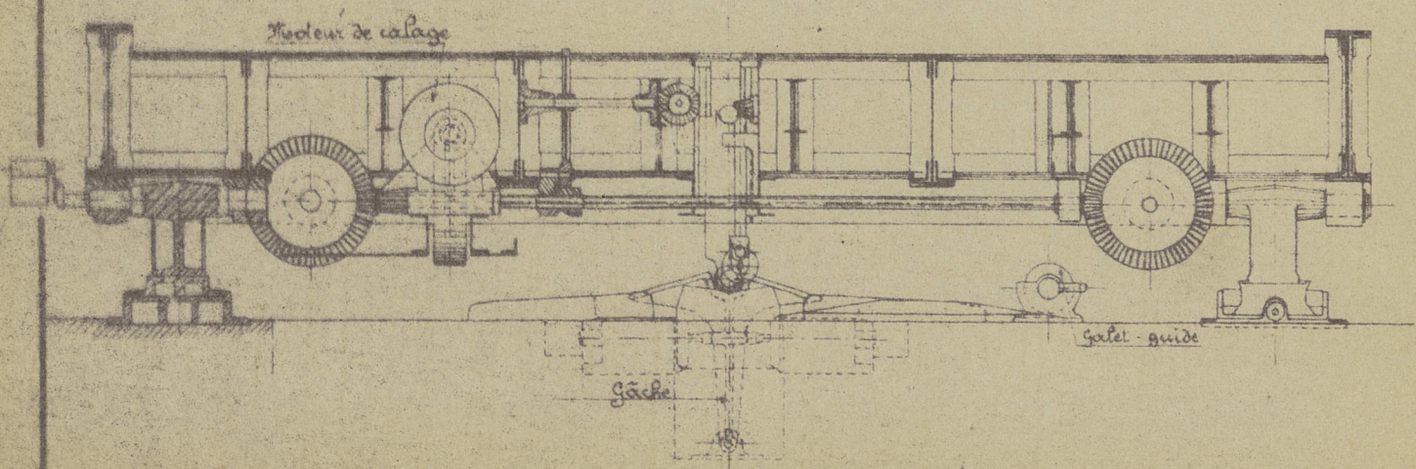


Fig. 5.



Pont rail tournant de Bruges.

Fig. 1. Élévation d'ensemble.

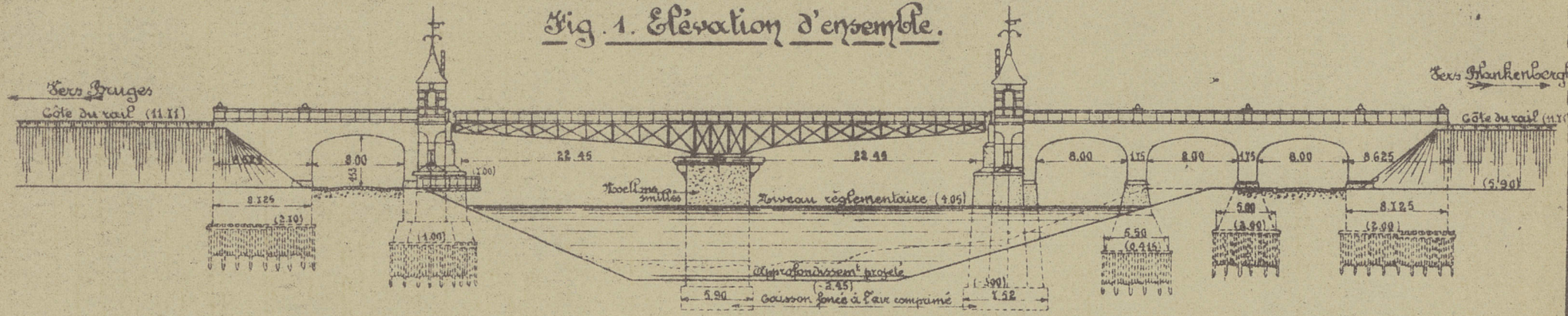


Fig. 2. Coupe transversale du tablier et du pivot.

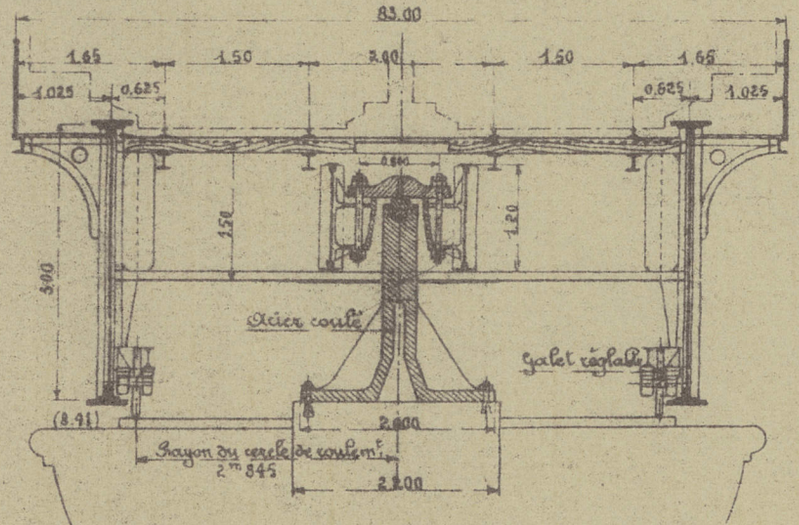


Fig. 3. Plan d'ensemble.

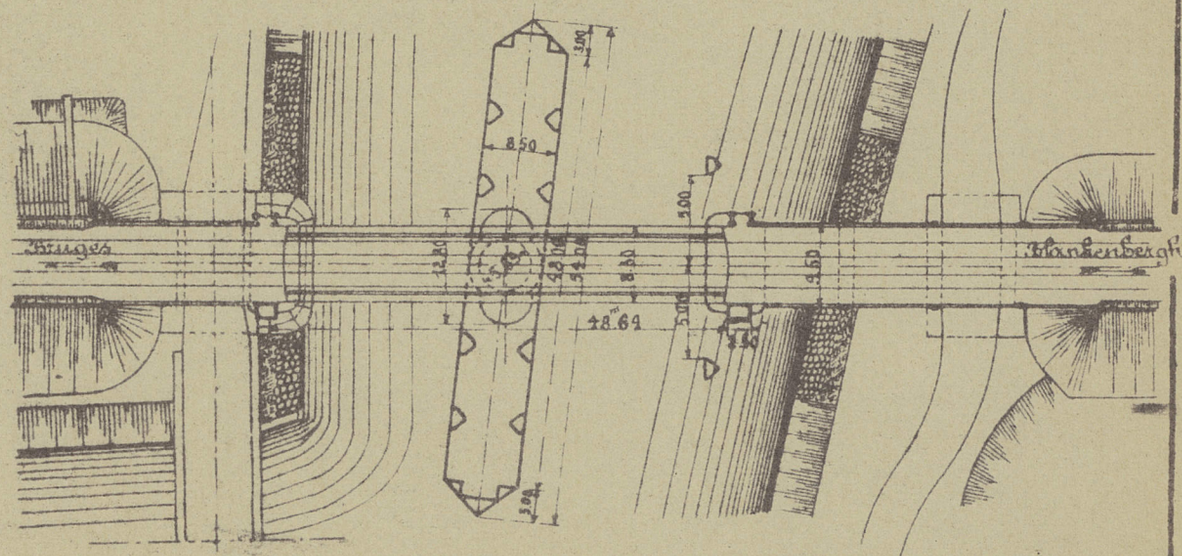


Planche 2

Fig. 1. Sentille à graissage sous pression du pont de Terdonck

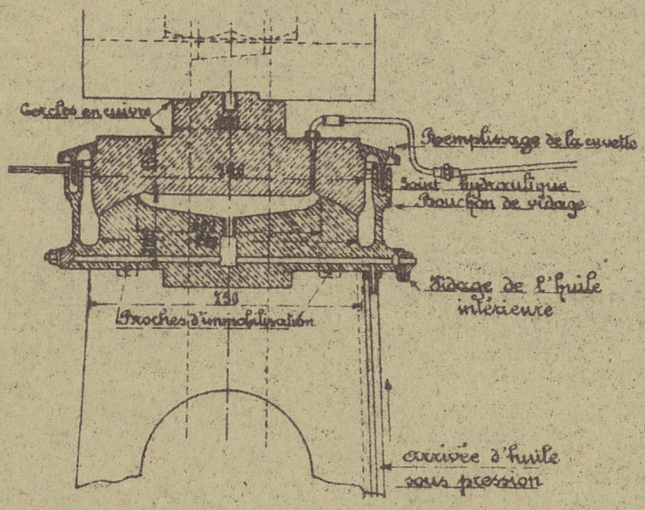


Fig. 2. Pivot à vis (pont sur le Canal grande à Trieste.)

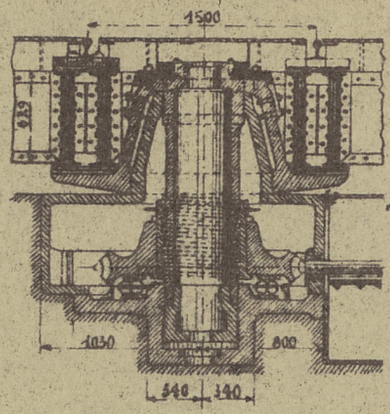


Fig. 4. Pont sur la Hunte à Elsfleth en Allemagne.

Fig. a.

Fig. b.

Fig. 3. Pivot à verin hydraulique (Port de Hambourg)

Fig. a.

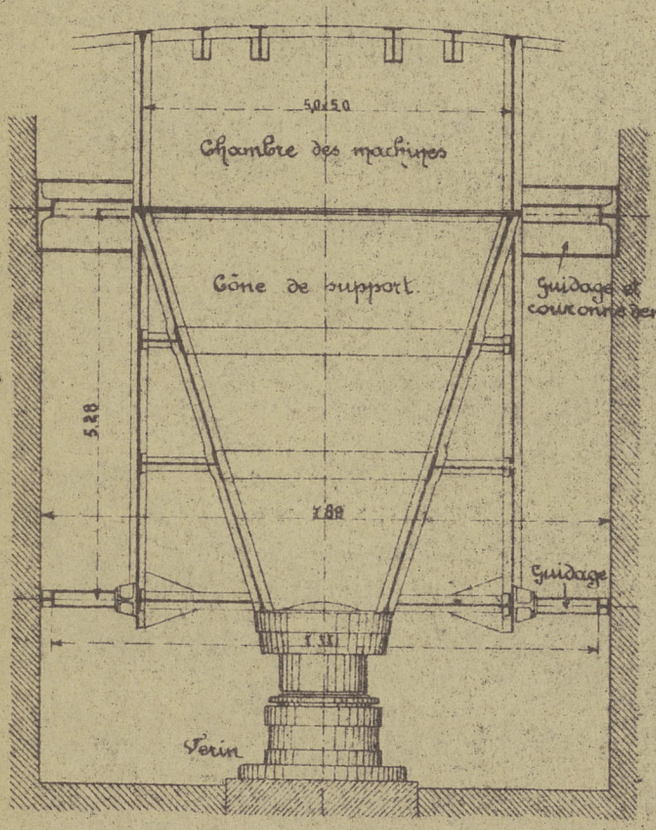


Fig. c.

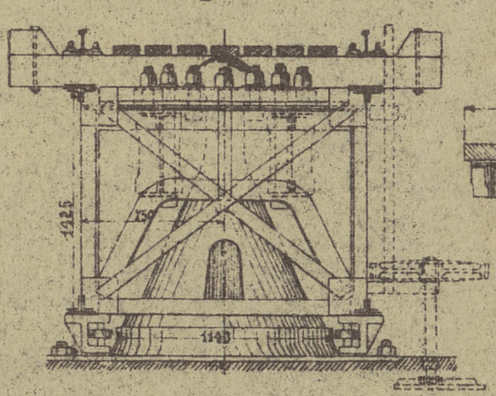
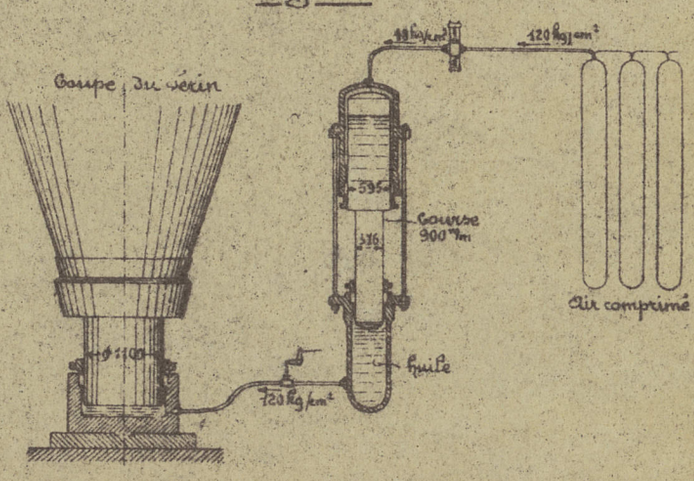


Fig. b.



Pont rail tournant sur couronnes de galets.

Fig. 1. à Aigues-Mortes.

Fig. a.

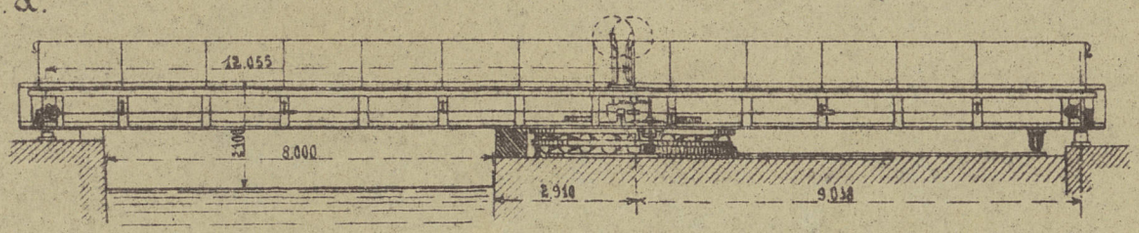


Fig. b.

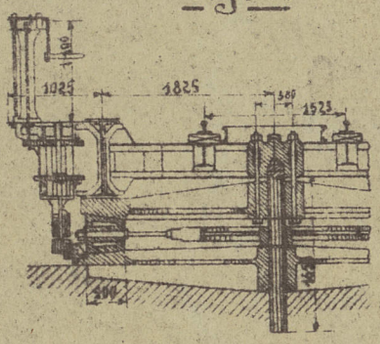


Fig. 2. Sur la Penfeld à Brest.

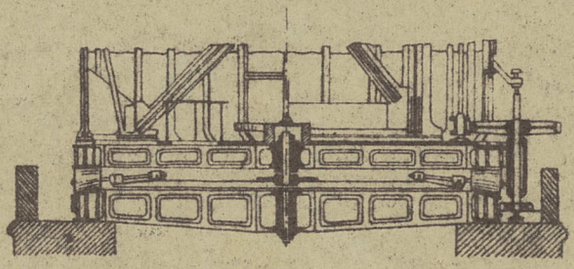
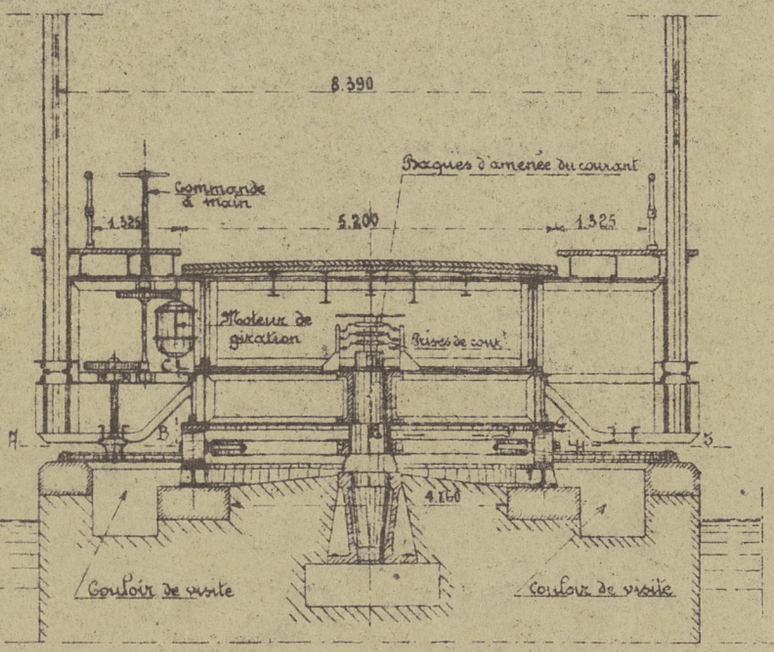
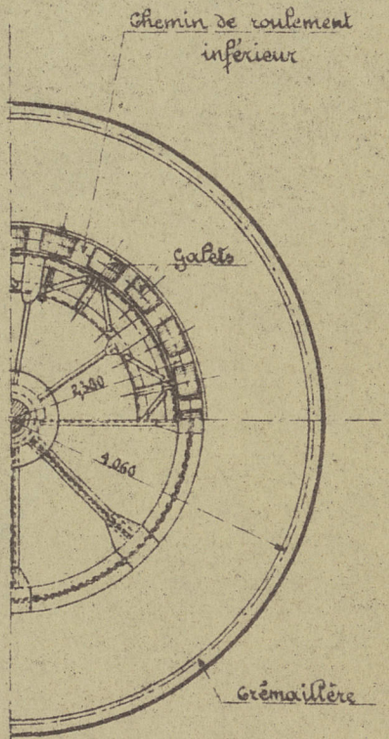


Fig. 3. Type.

Coupe transversale au droit du pivot.



Coupe A B C D E F G H J



Dispositifs de calage et de verrouillage.

Fig. 1. Came.

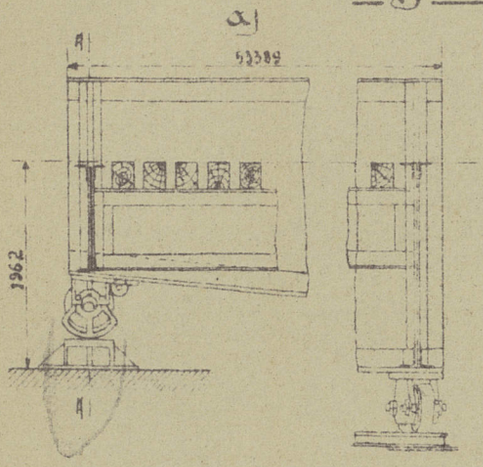


Fig. 2. Verrouil. Tige d'ancrage.

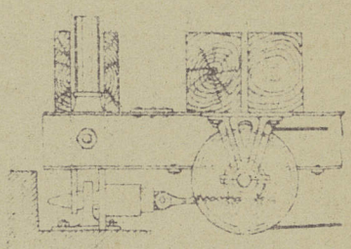


Fig. 3. Coin à rouleaux et verrou glissant

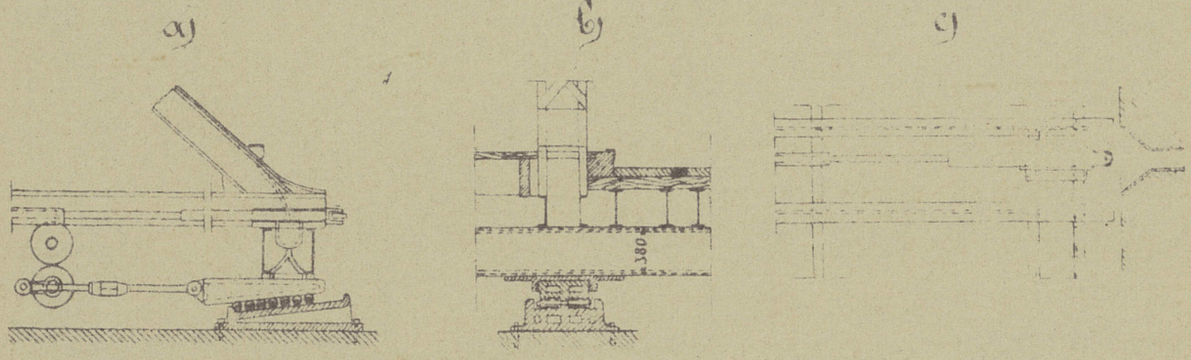


Fig. 4. Calage à vis

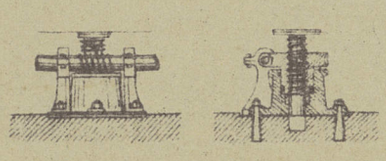


Fig. 5. Coin glissant

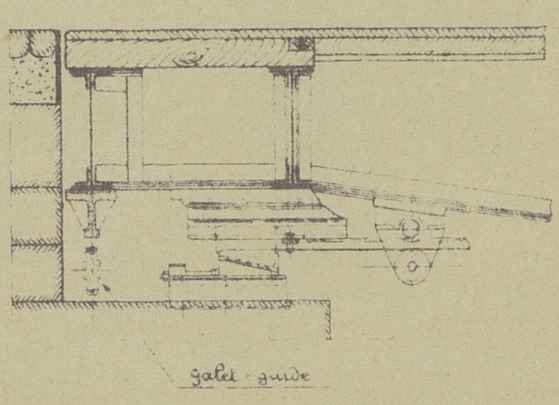
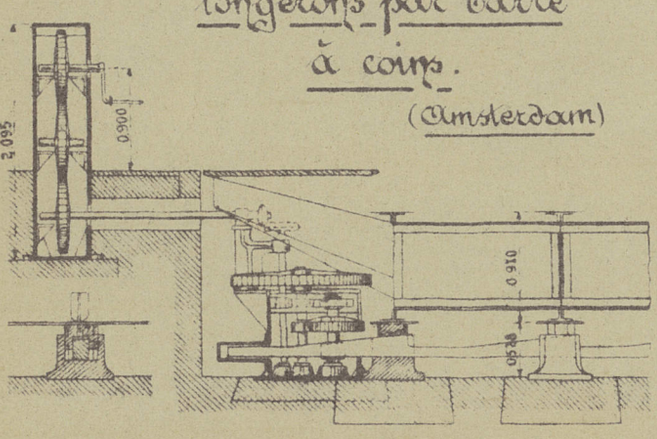


Fig. 6. Calage simultané des longerons par barre à coins.
(Amsterdam)



Double pont tournant de Wilhelmshafen.

Fig. 1. Élévation.

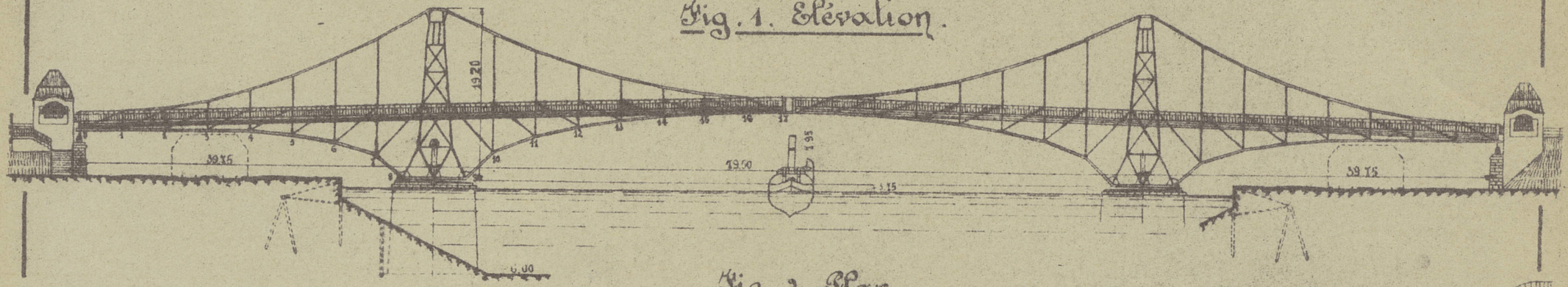


Fig. 2. Plan

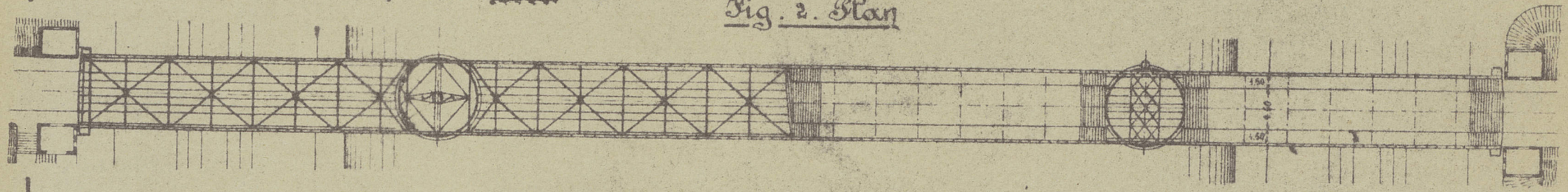


Fig. 3. Coupe transversale

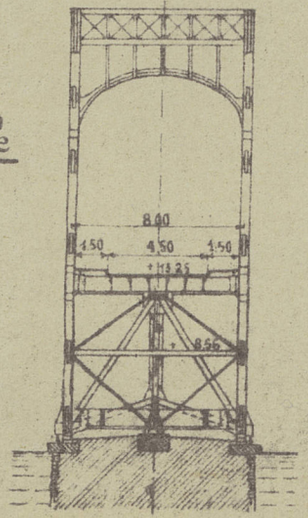


Fig. 4. Calage à vis et amorage de culasse.

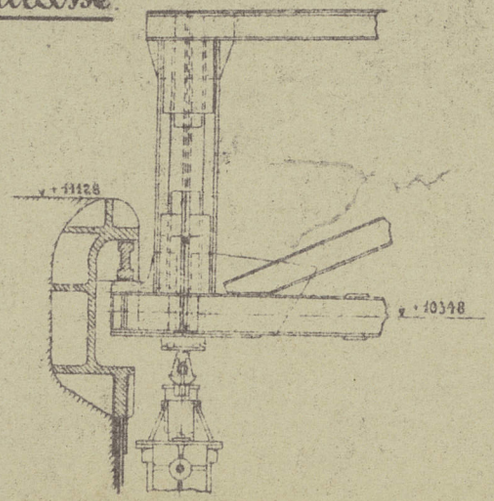


Fig. 5. Verrouillage à la jonction des volées (fragment central)

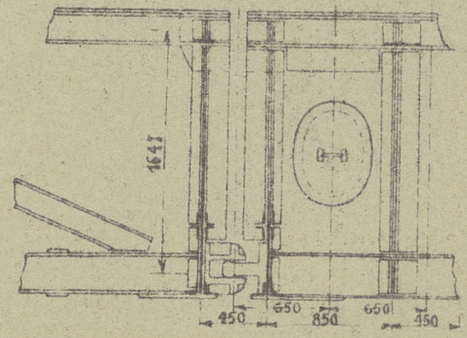


Planche 30