

Fig. 1. Usine - Barrage de Strakon
sur l'Elbe (Tchéco-Slovaquie)

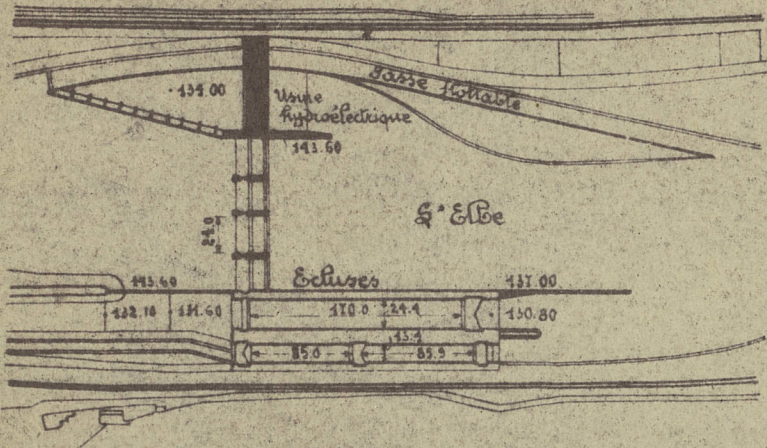


Fig. 2. Usine de
Silla Edel (Suède)

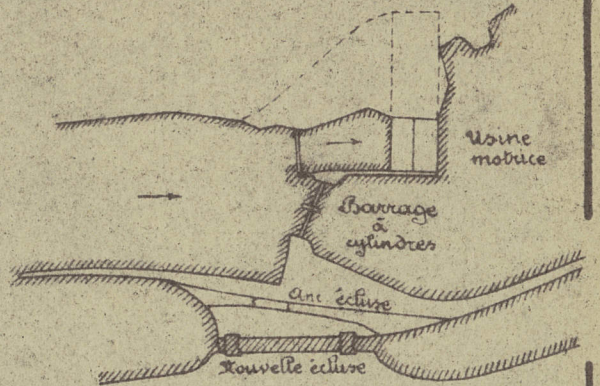


Fig. 3. Usine de Bougny-
Chancy (Rhône)

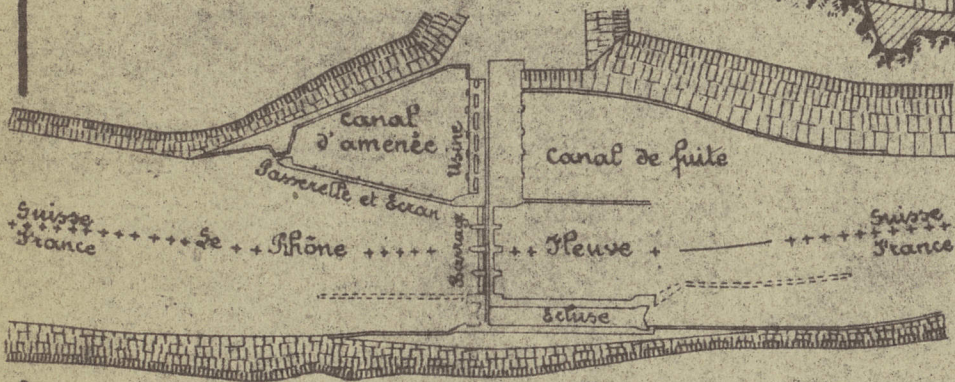
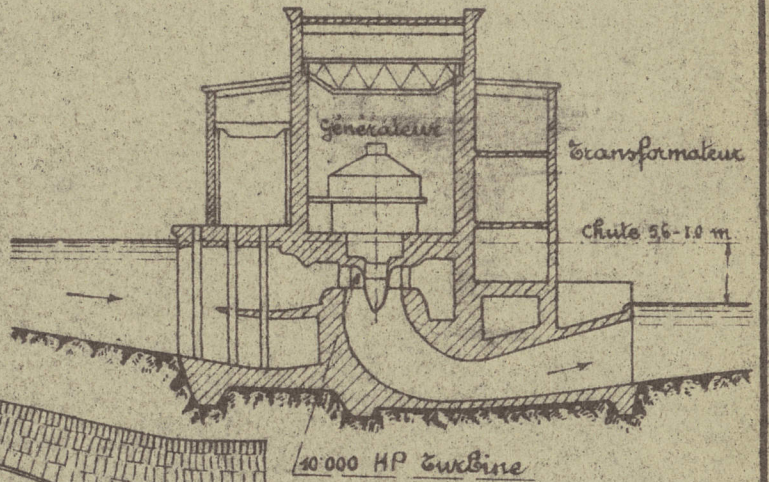
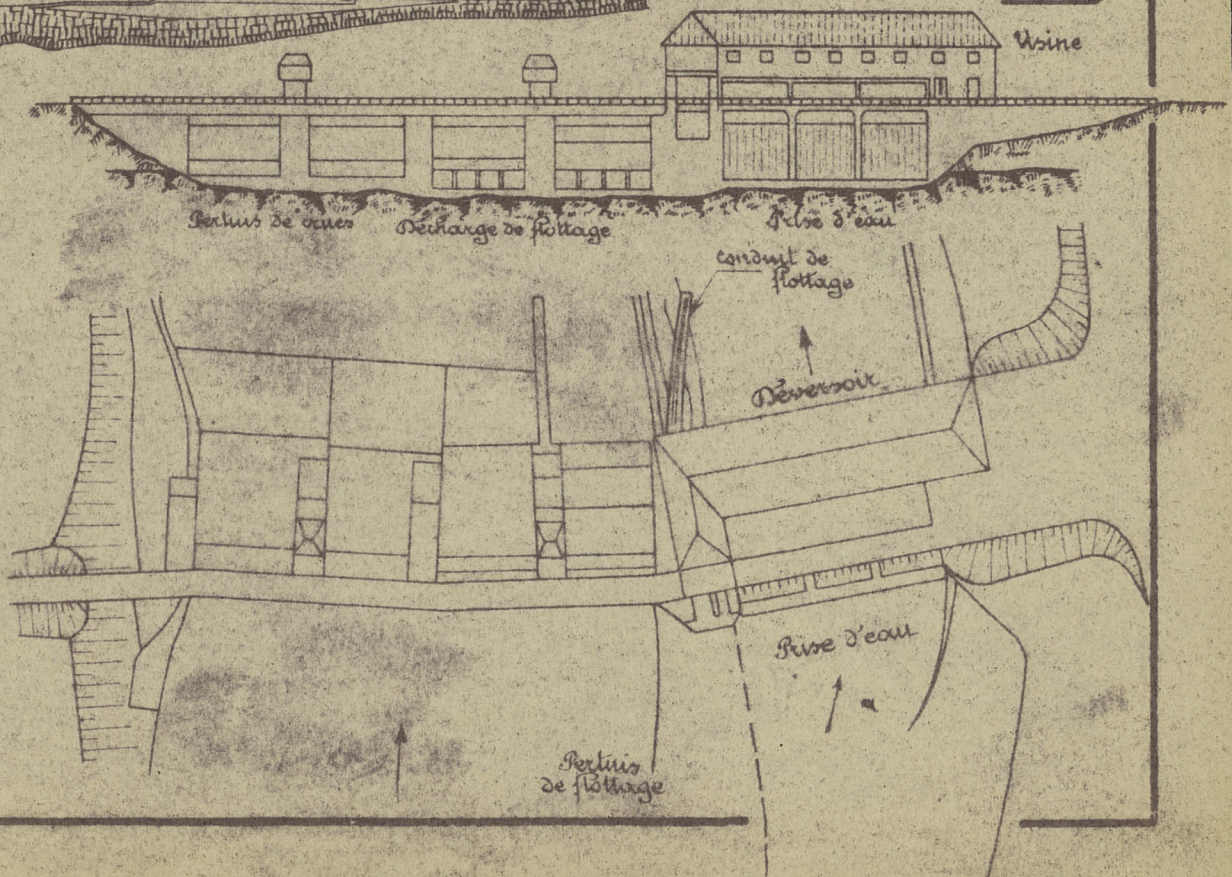


Fig. 4. Usine de
Vorsbovudforsen
(Suède)



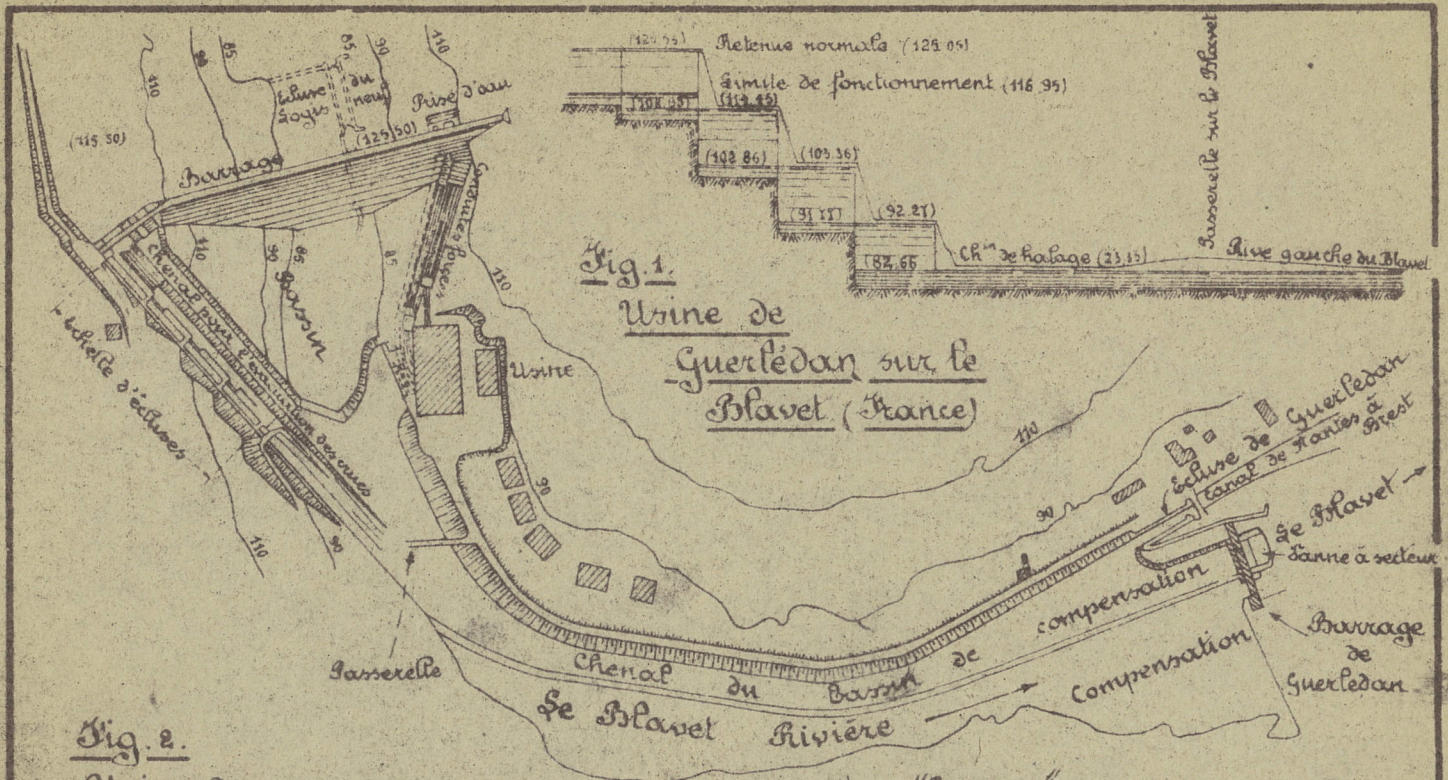


Fig. 2.
Usine de Bernau (Oise)

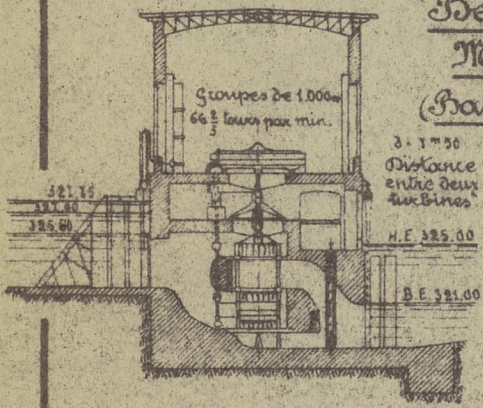


Fig. 3.
Usine de Beaumont-Monteux (Basse-Loire)

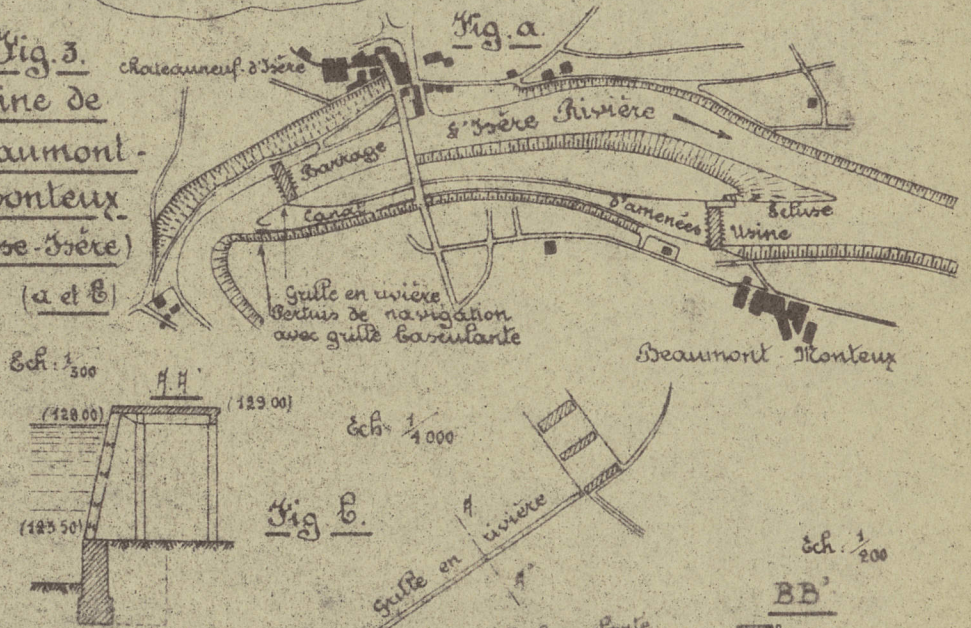
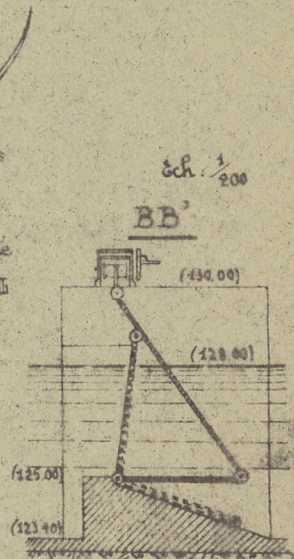
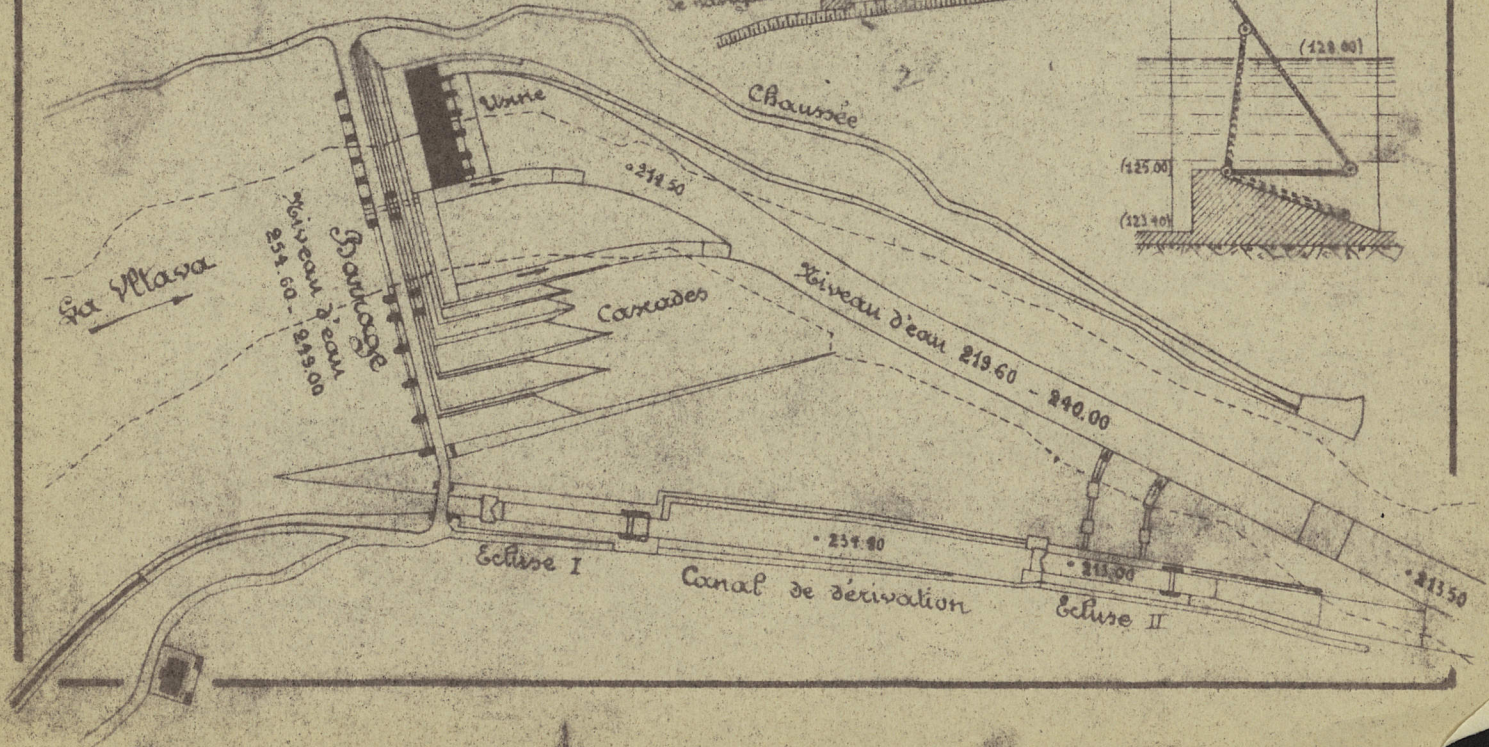


Fig. 4. Usine de Slapy sur la Vltava (Ech. 1/50)



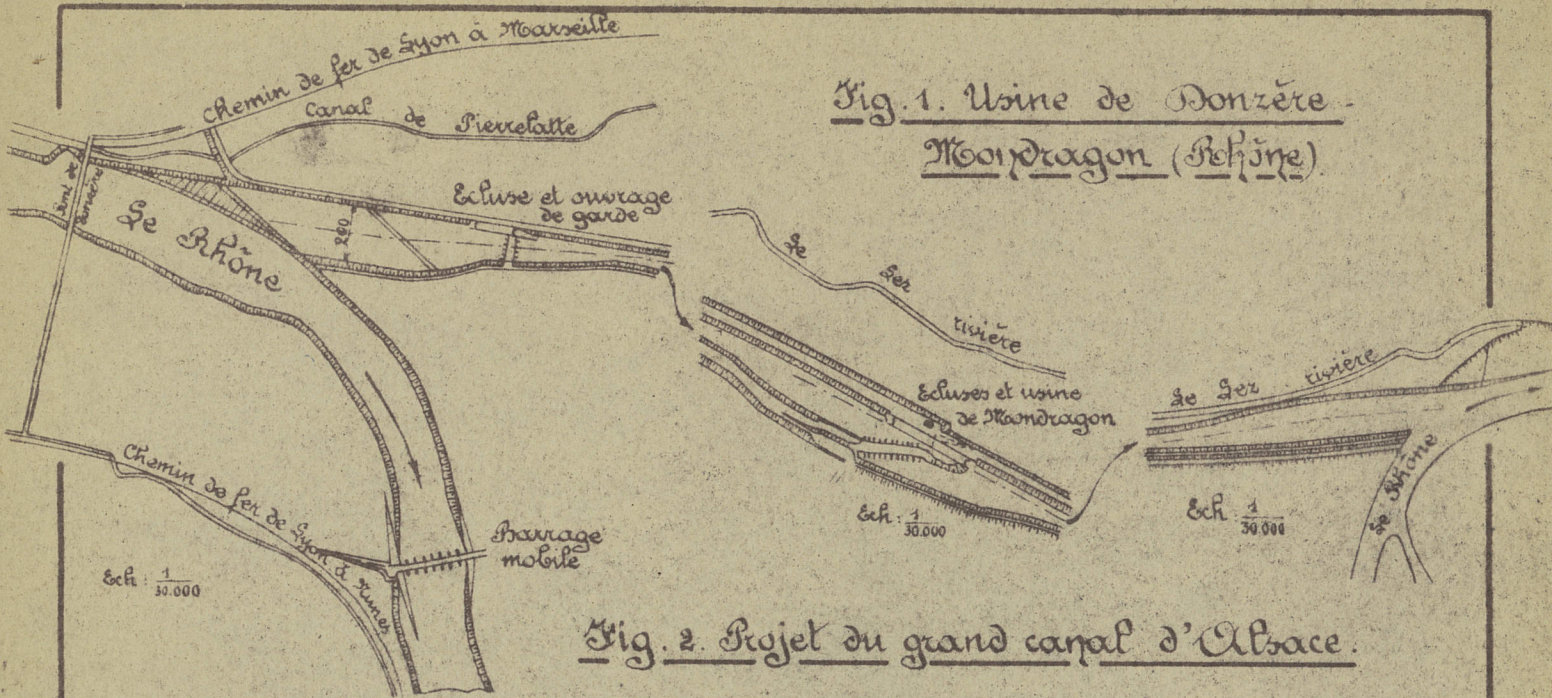


Fig. 2. Projet du grand canal d'Alsace.

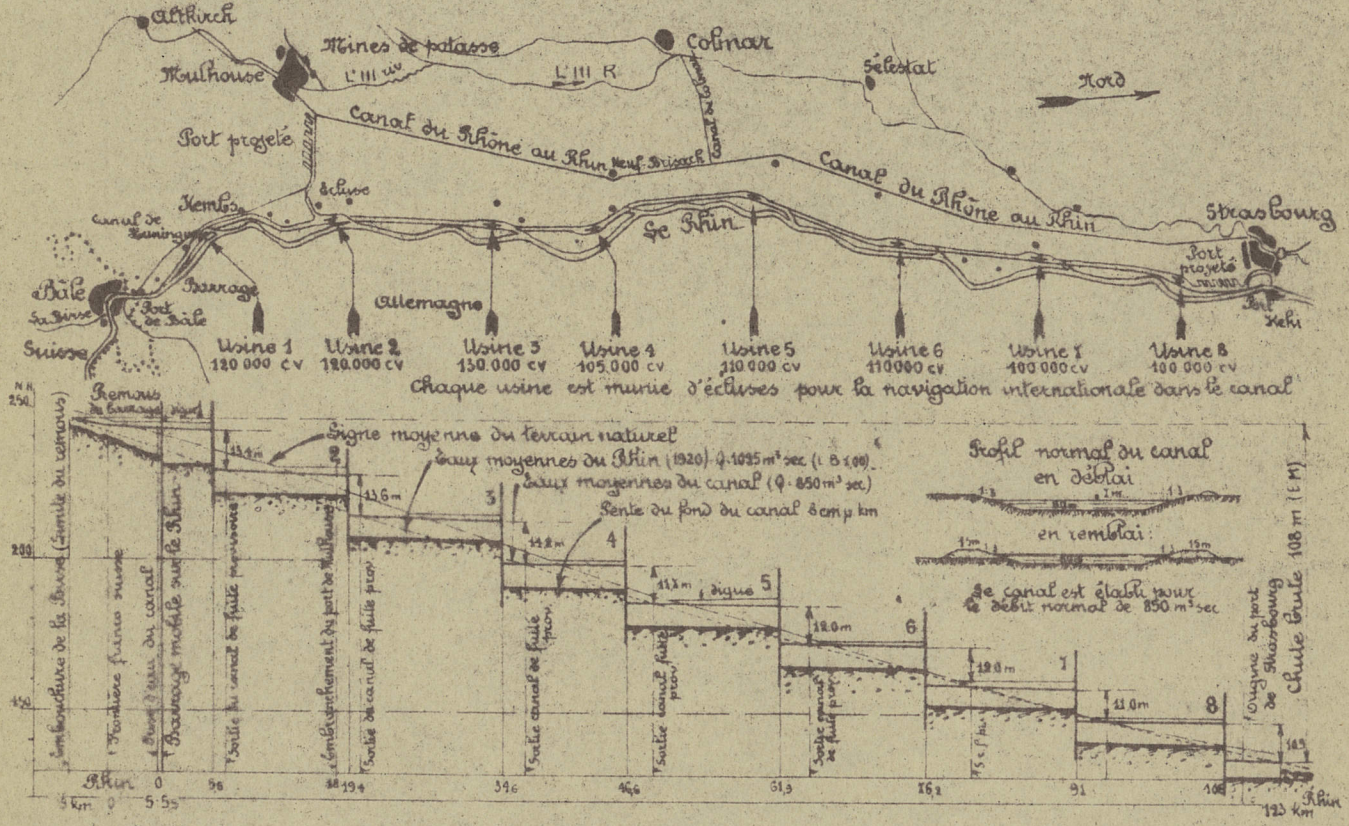


Fig. 3. Dérivation de Jonage (Rhône) avec étang régulateur de 150 hectares

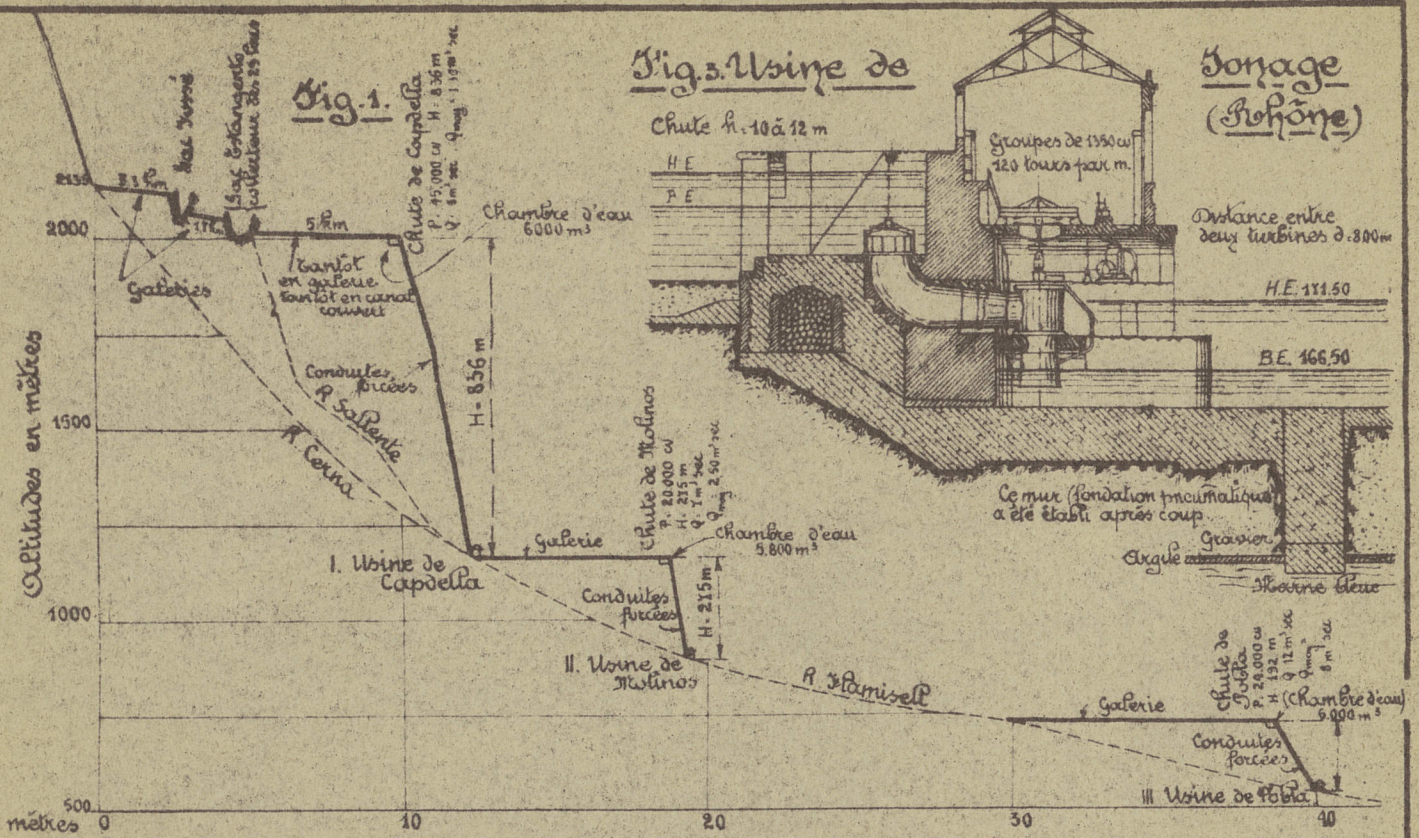


Fig. 2. Usine de

Chute h. 10 à 12 m

Jonage (Pohone)

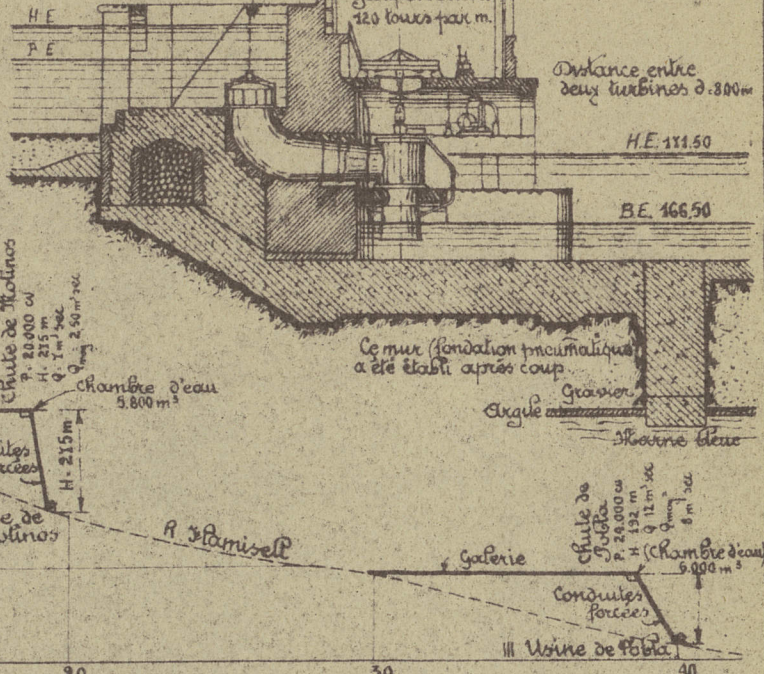


Fig. 4. Usine d'Augst (Pohin)

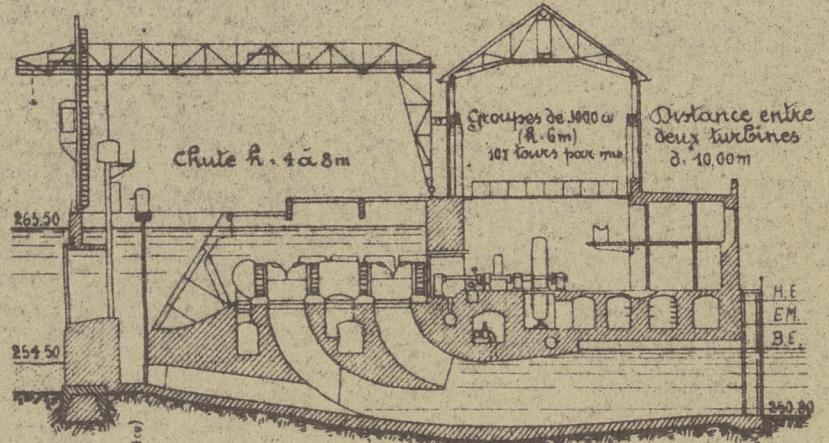


Fig. 1 et 2. Aménagement du bassin Flamisell. Hooguera Ballaresa et du Sègre. (Espagne)

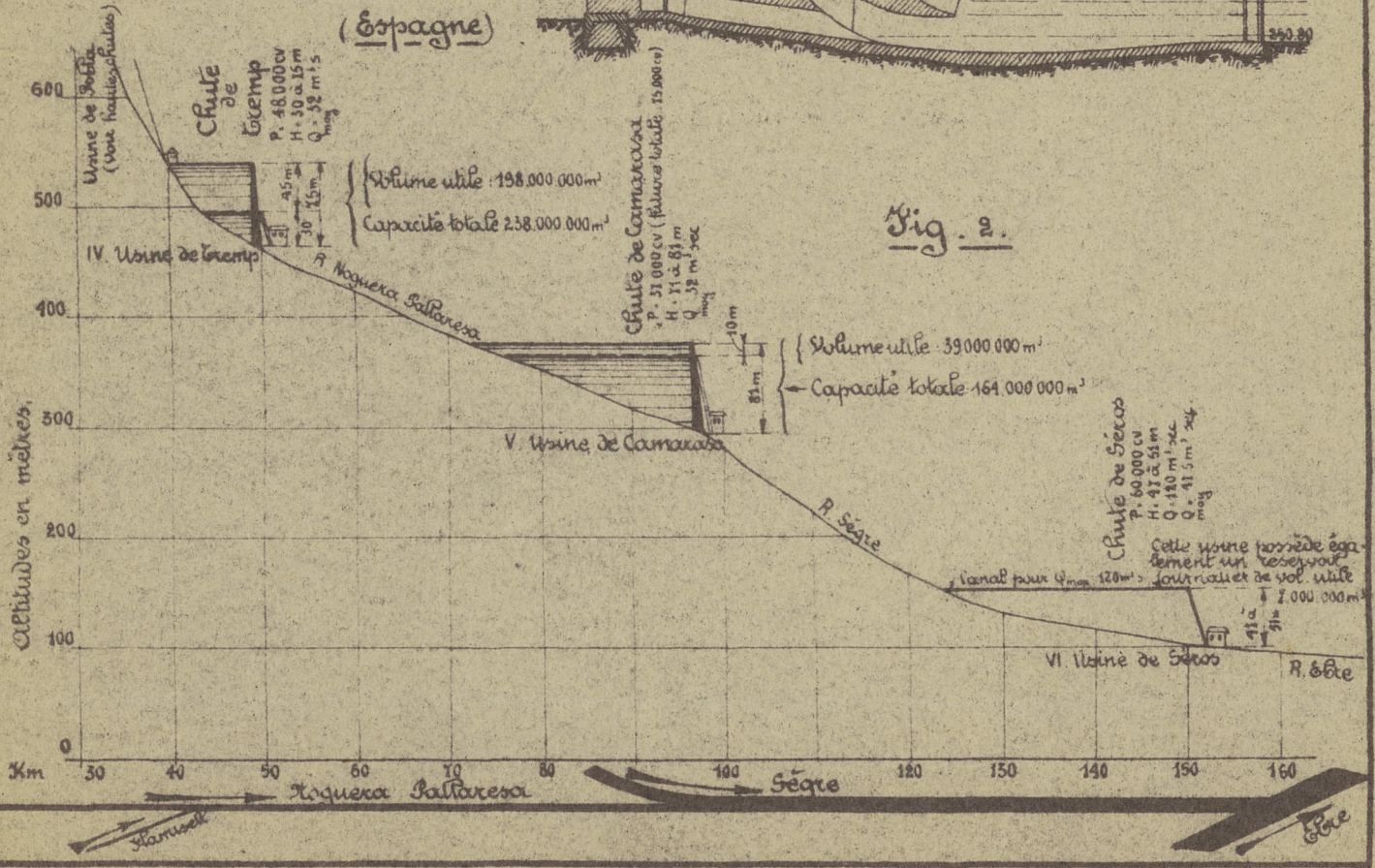


Fig. 2.

Fig. 1. Usine de Coulière

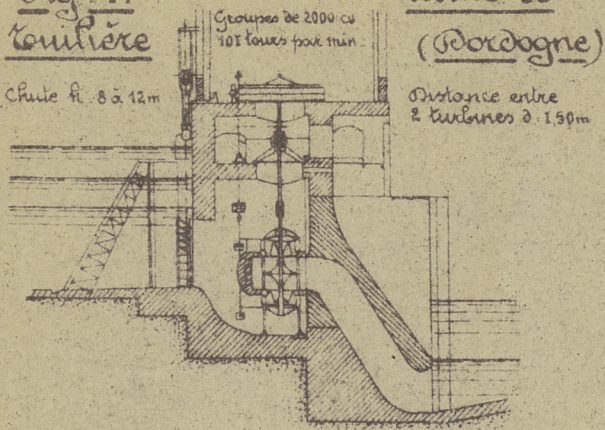


Fig. 2. Usine de Keokuk (É. U. A)

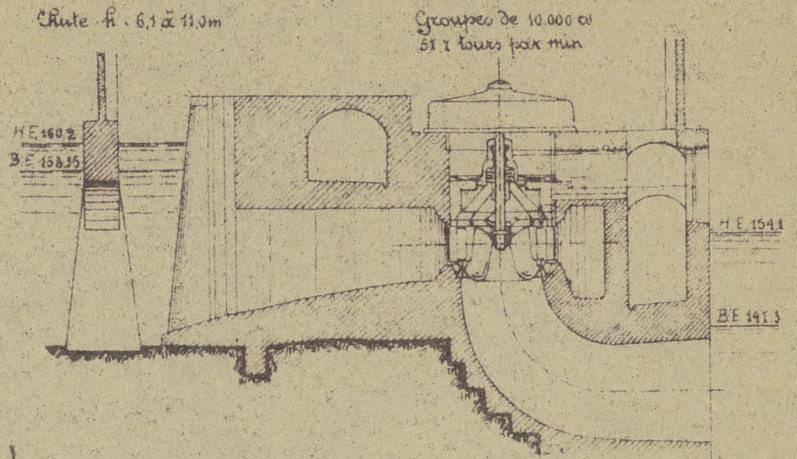
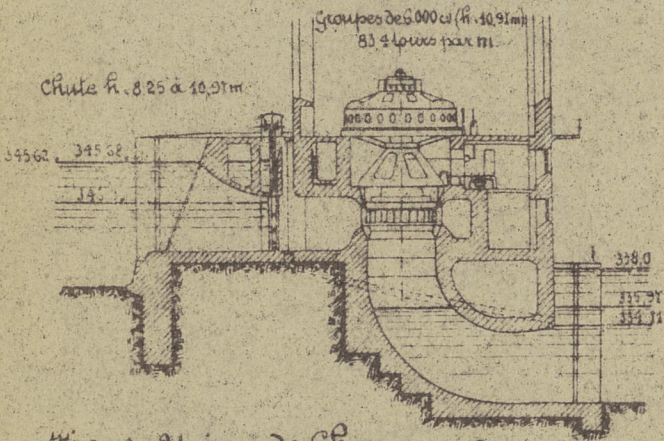


Fig. 3. Usine d'Églisau (Rhin)



Plan

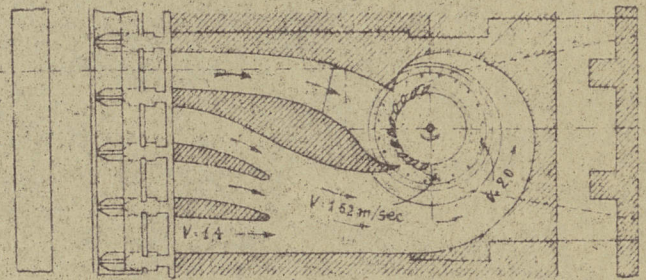


Fig. 4. Usine de Chanay-Buzony (Rhône)

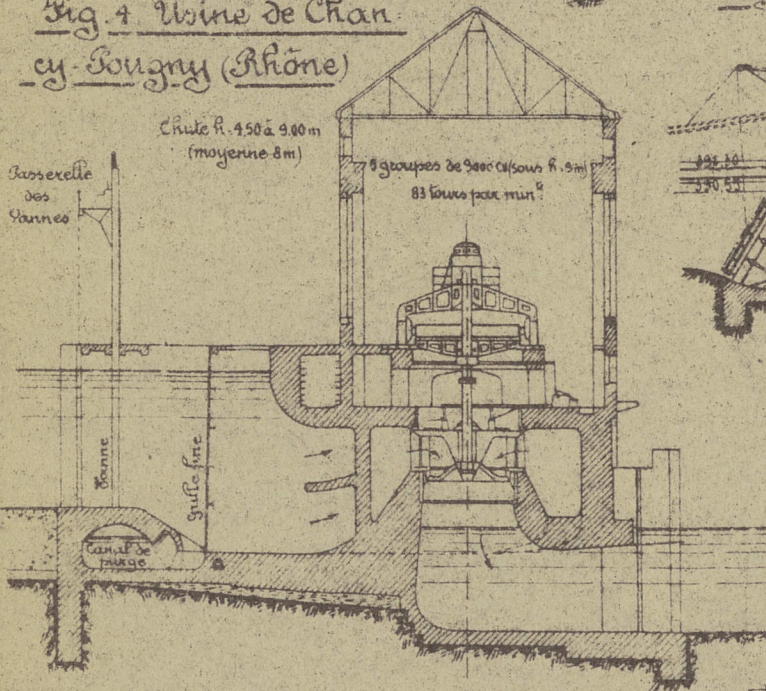


Fig. 5. Usine de Goergen (Aar)

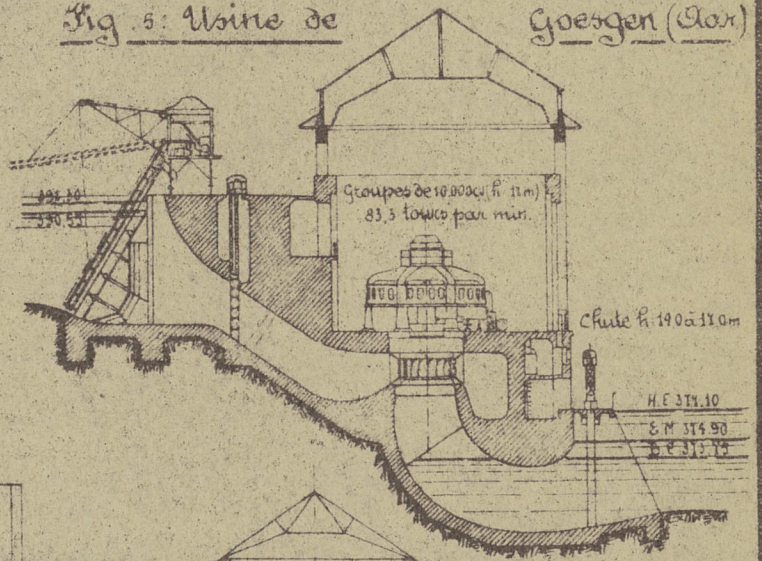


Fig. 6. Projet de l'usine de Kembs (Rhin)

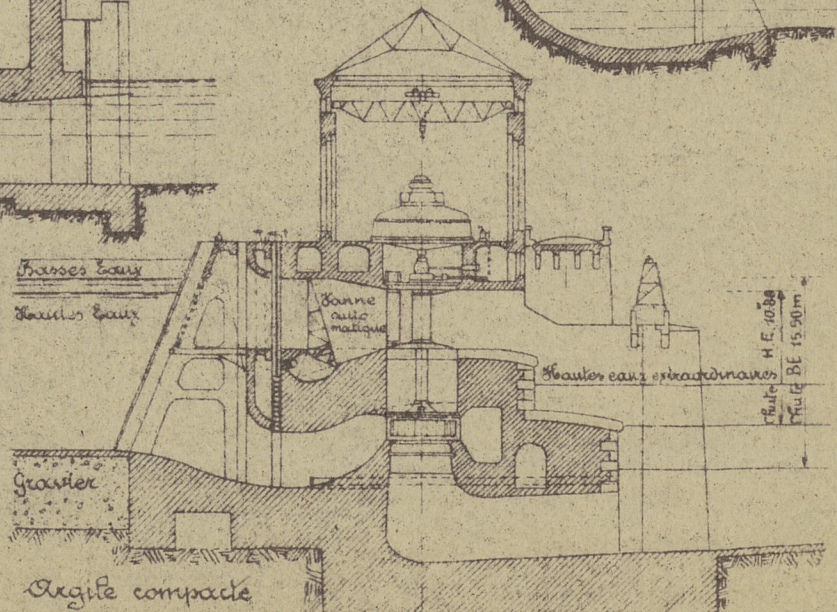


Fig. 2. Usine de Neuhleberg (Aut)

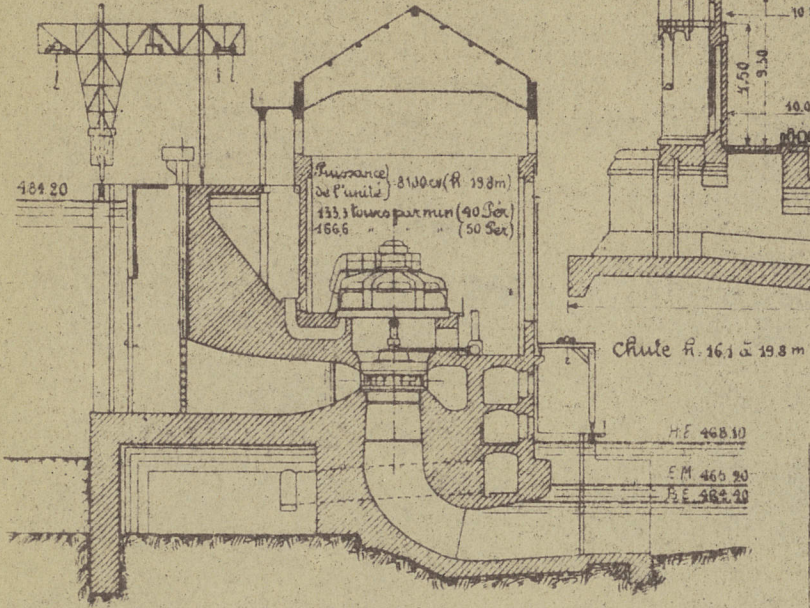


Fig. 1. Usine de Wangen (Aut)

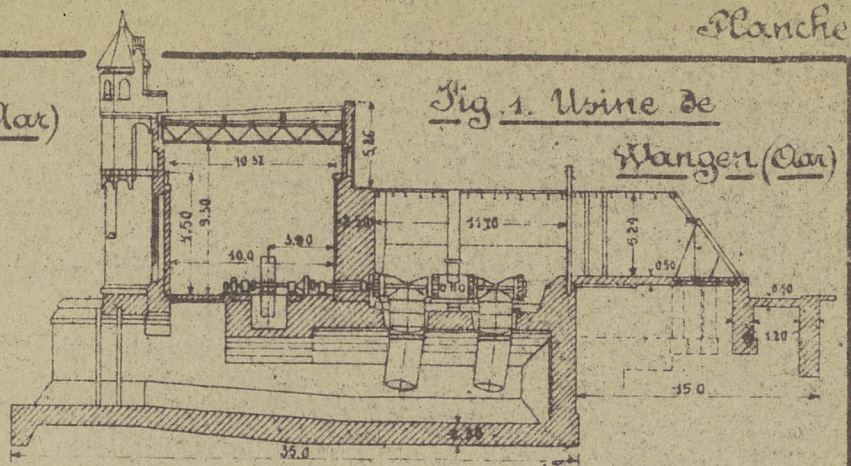


Fig. 3. Usine de Sieben-Baggital (Suisse)

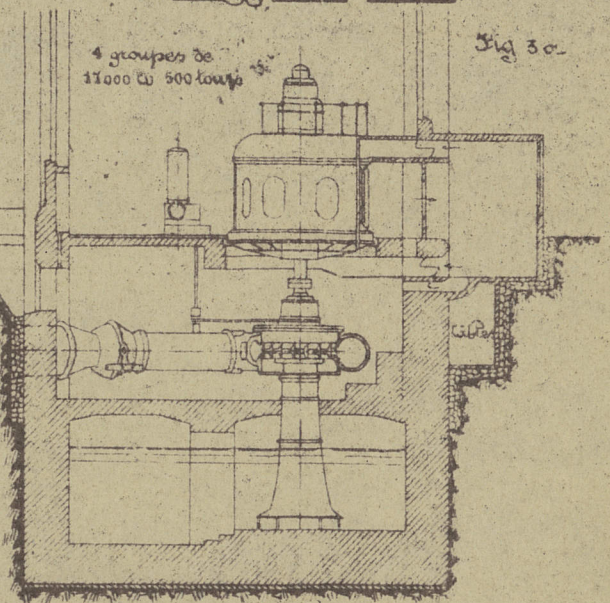


Fig. 4. Usine de Queille (Sioule France)

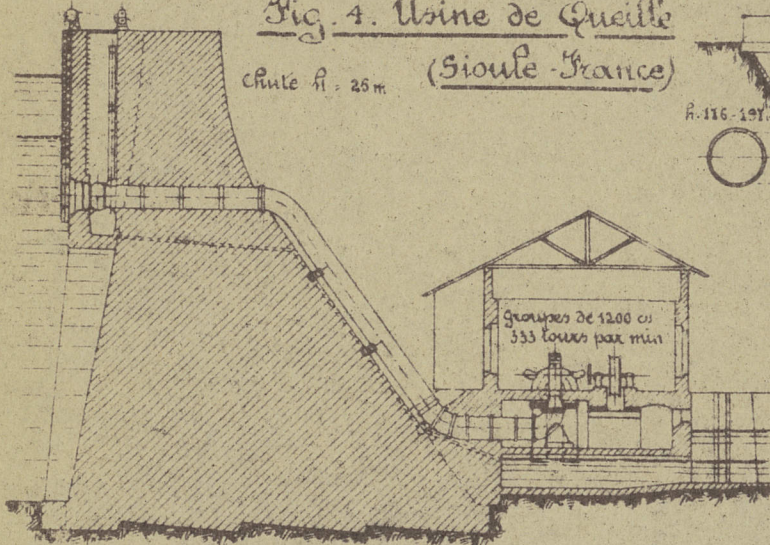


Fig. 3B

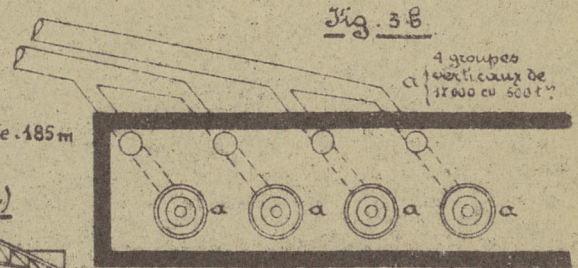


Fig. 5. Usine de Boquilla (Mexique)

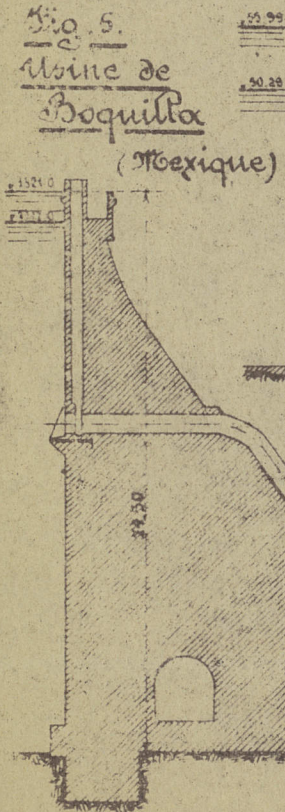


Fig. 6. Usine de Gamma (Norvège)

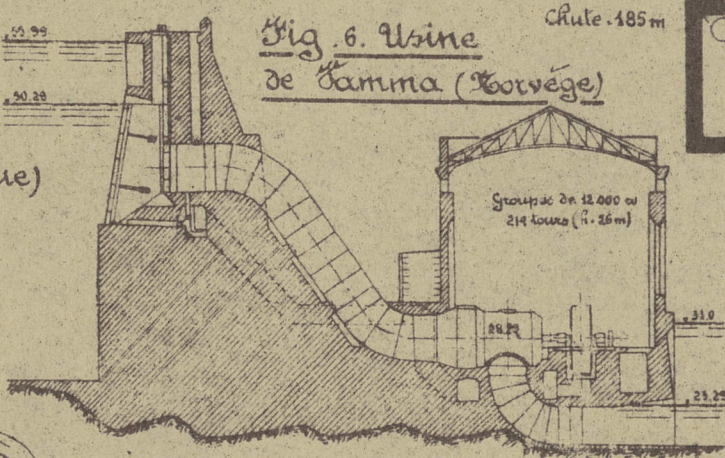


Fig. 7. Usine de la Brillanne (Durance)

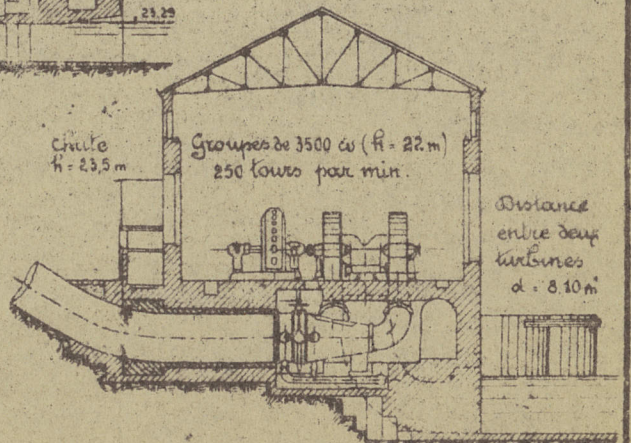


Fig. 1 a. Coupe transversale.

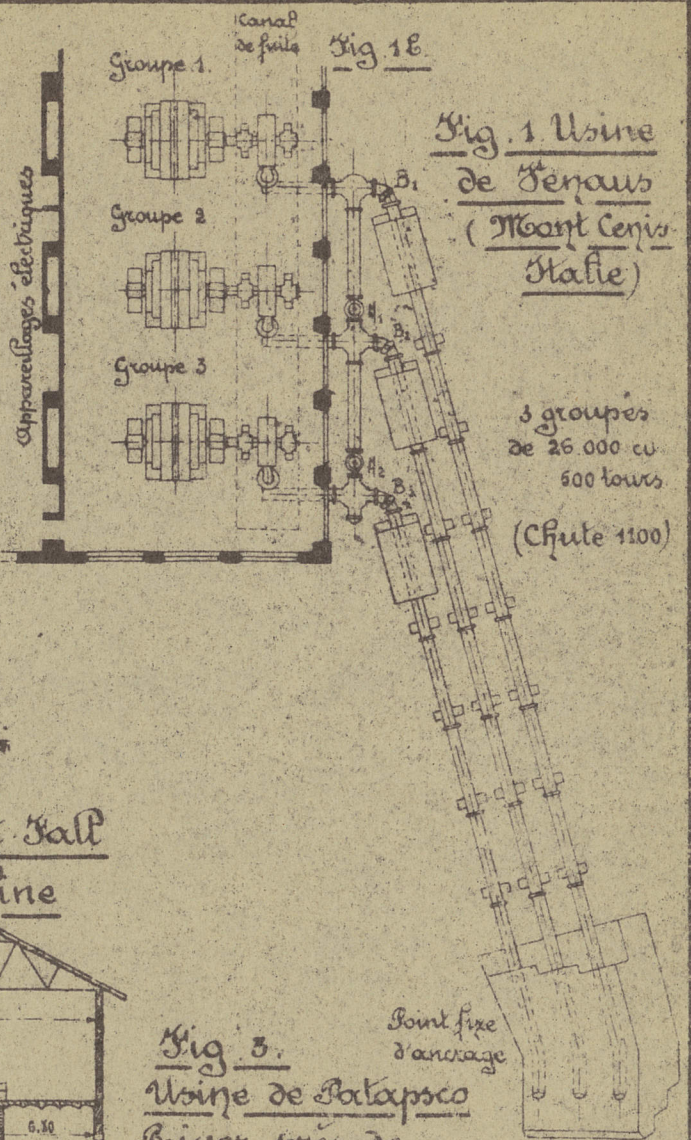
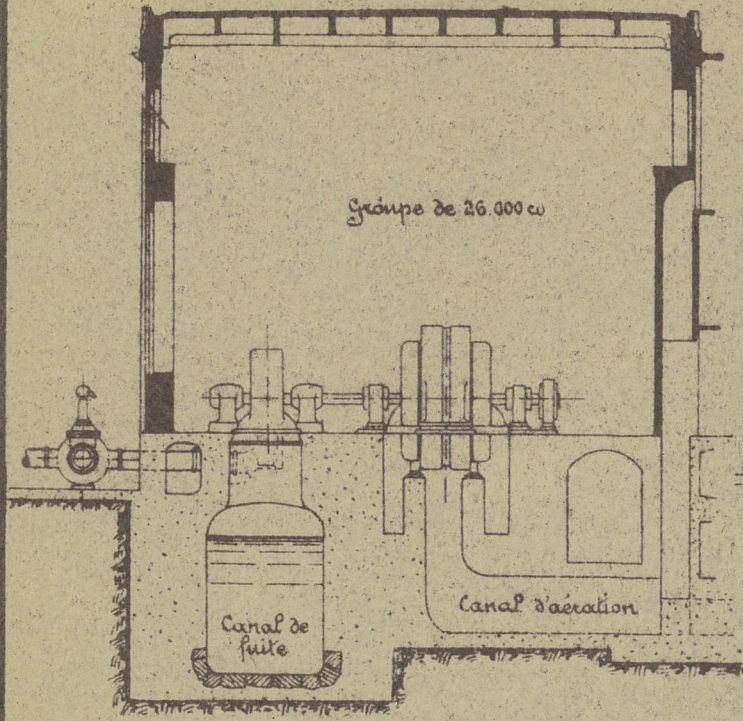


Fig. 2. Usine de Great Fall (Carolina-Powder Caroline du Sud)

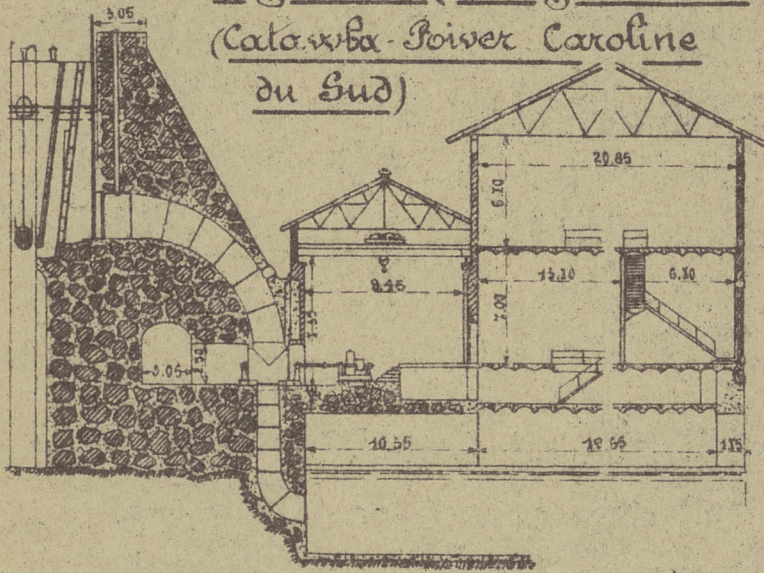


Fig. 3. Usine de Patapsco (Powder près de Baltimore)

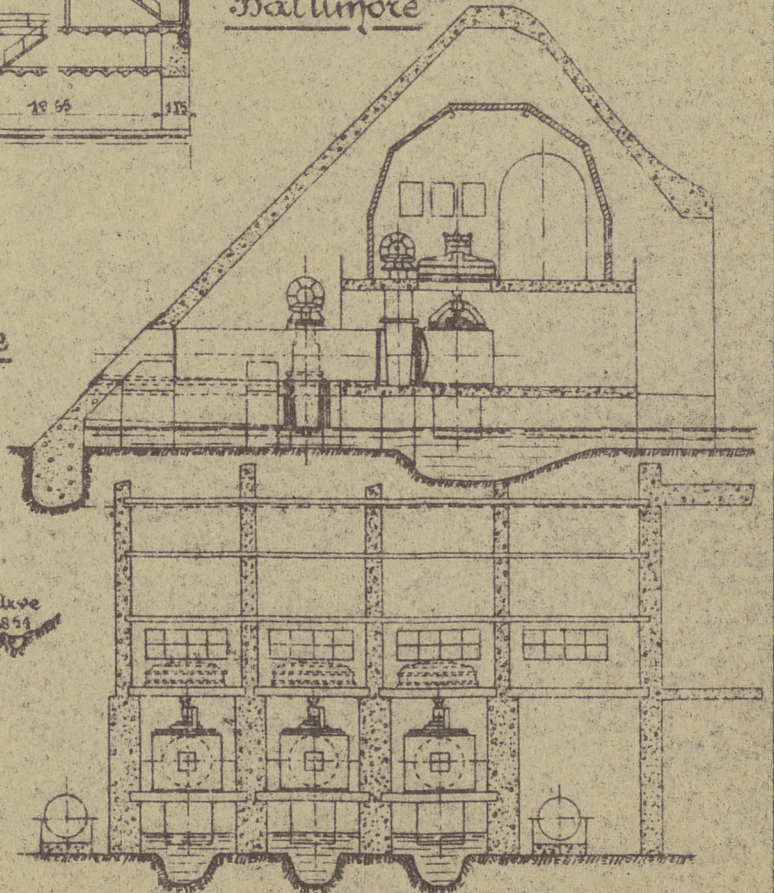
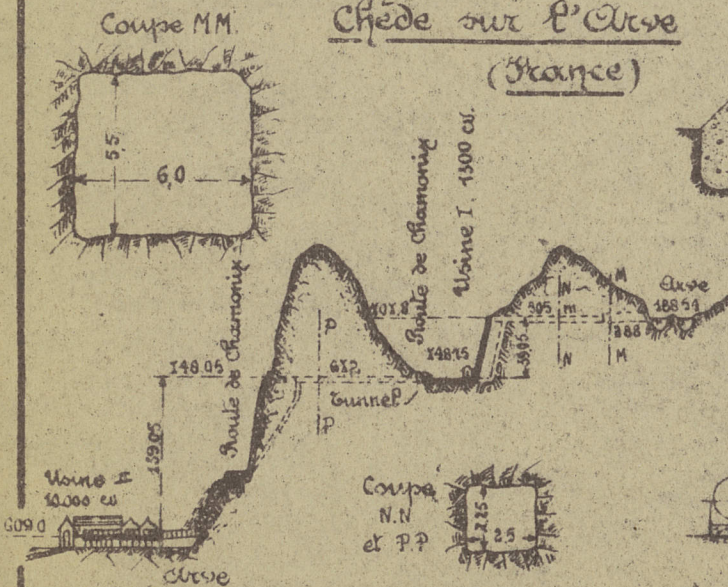


Fig. 4. Usines de Chède sur l'Orve (France)



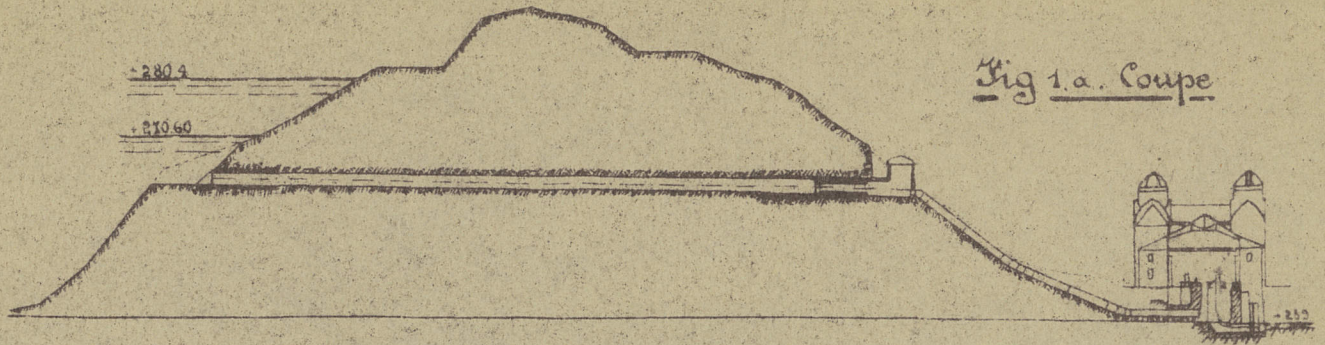


Fig. 1. Usine de Marklissa (Silesie)

Fig. 1 b. Plan

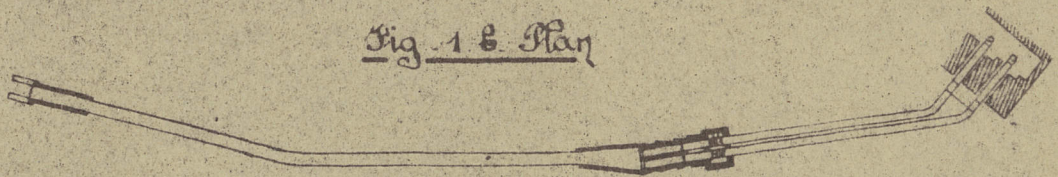


Fig. 2. Usine de Mauer (Silesie)

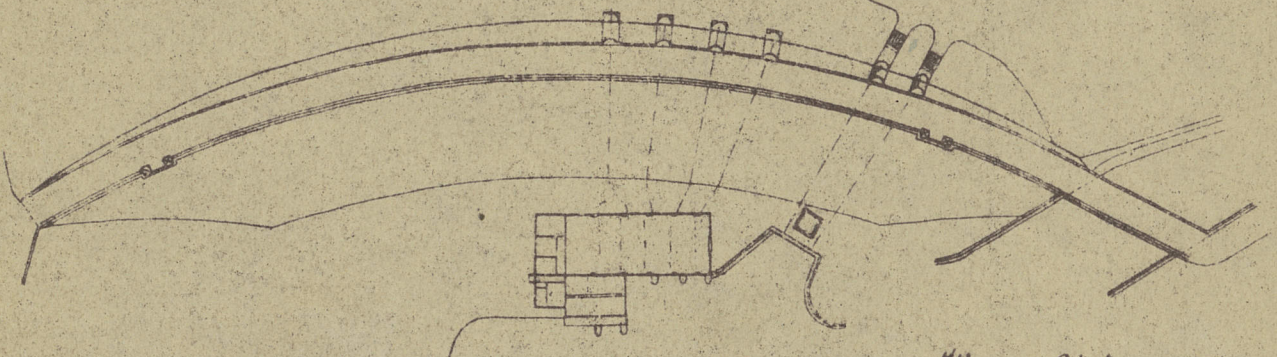
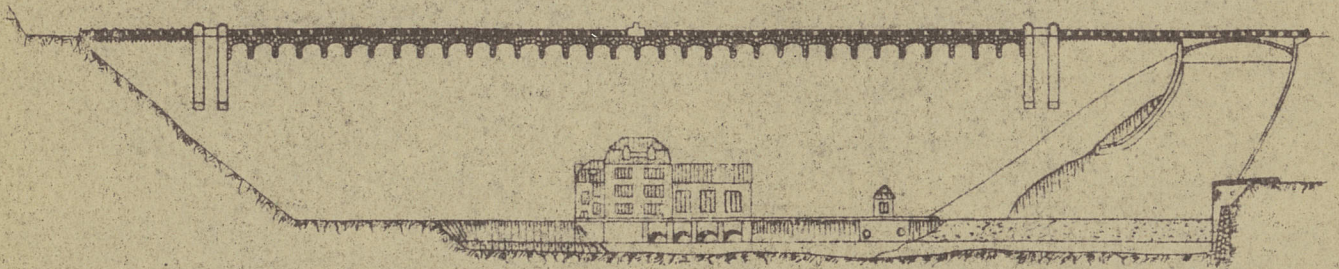


Fig. 3. Usine de Moerano-Bolzano (Italie - Trentin)

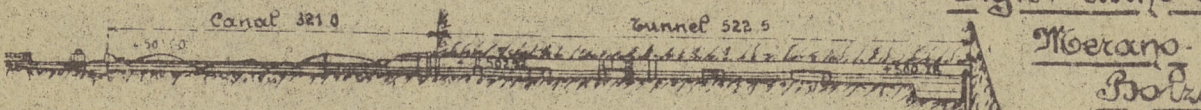


Fig. 4. Usine de Kubel (Urnsch - Suisse)

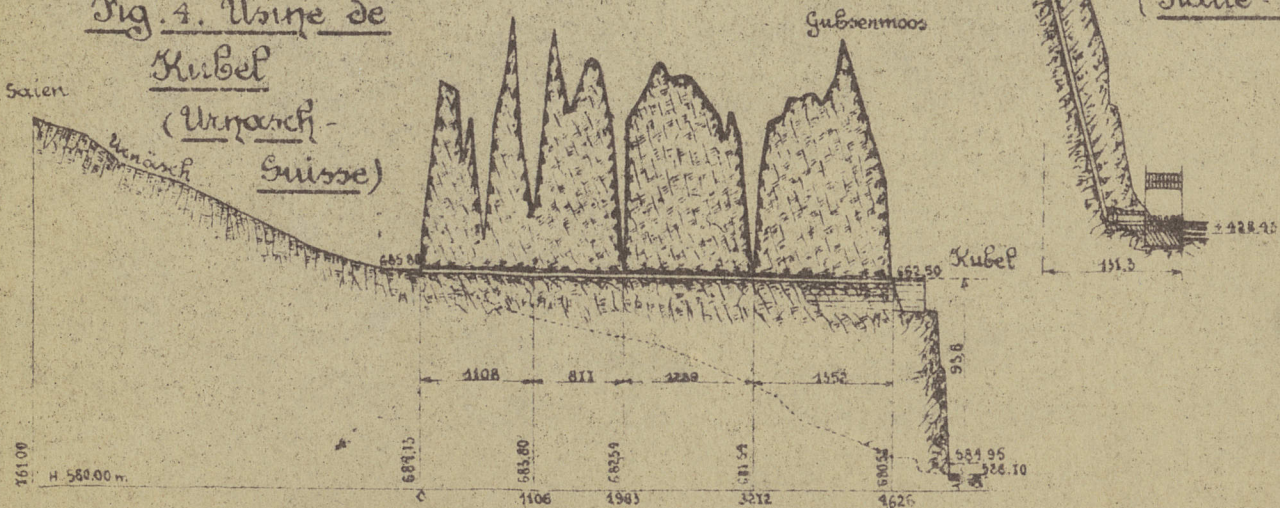


Fig. 1. Usine de Seros
(Espagne)

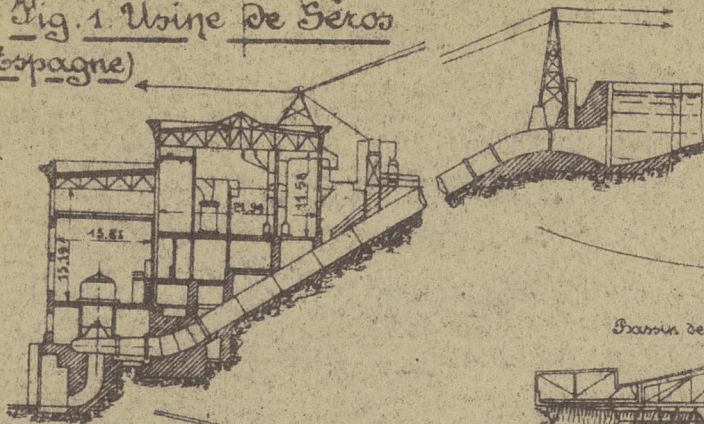


Fig. 2. Usine souterraine de Borjus
(Suède)

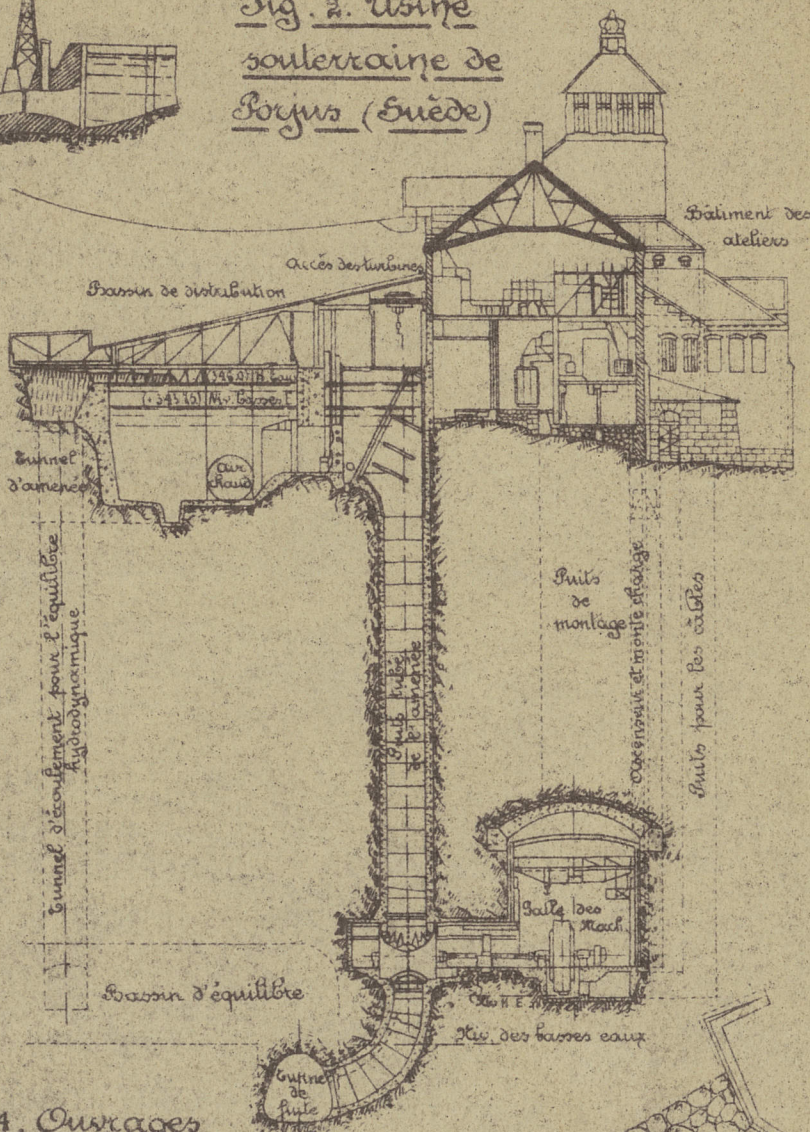


Fig. 3. Usine souterraine de Snogvalmie
(White River)

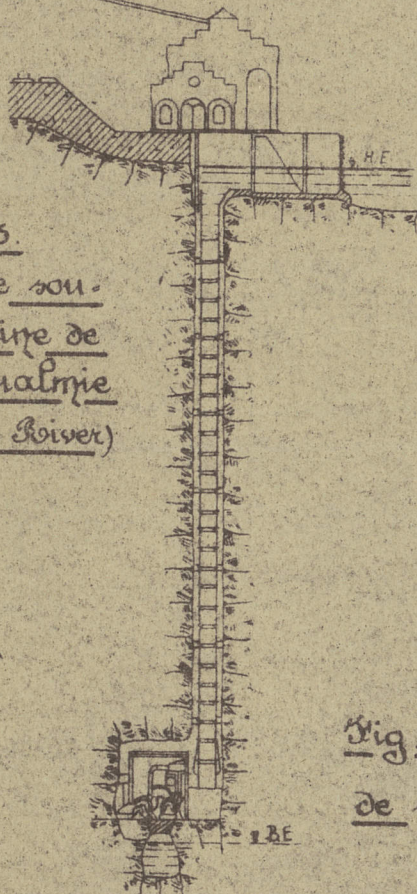
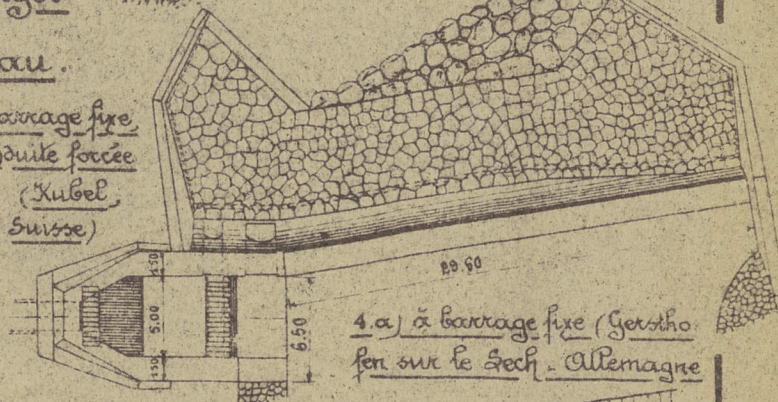
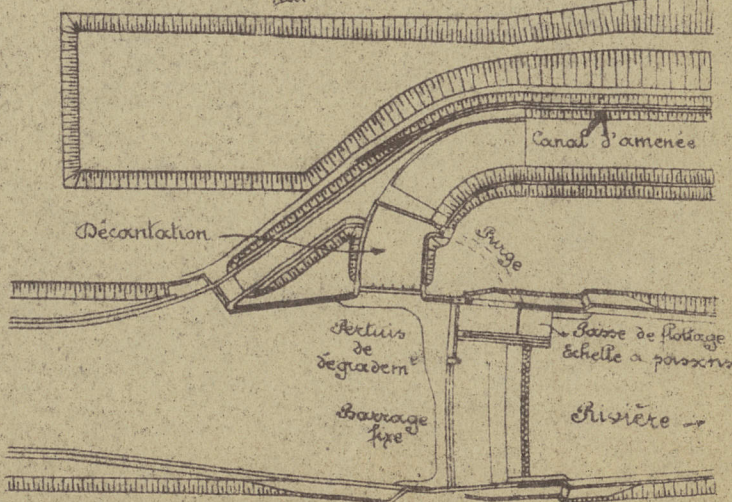


Fig. 4. Ouvrages de prise d'eau.

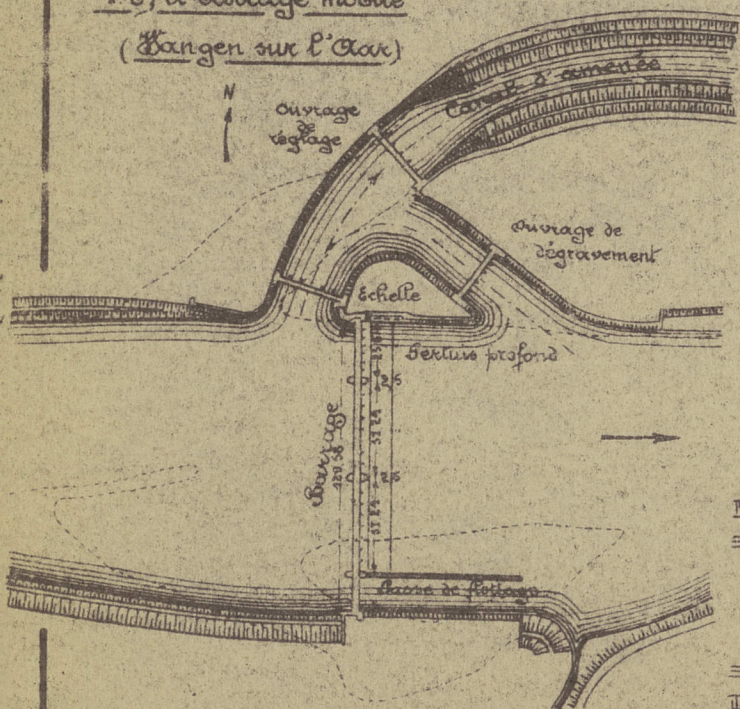
4.c) à barrage fixe pour conduite forcée
(Kubel, Suisse)



4.a) à barrage fixe (Gertho fen sur le Seck, Allemagne)



4.b) à barrage mobile
(Bangen sur l'Os)



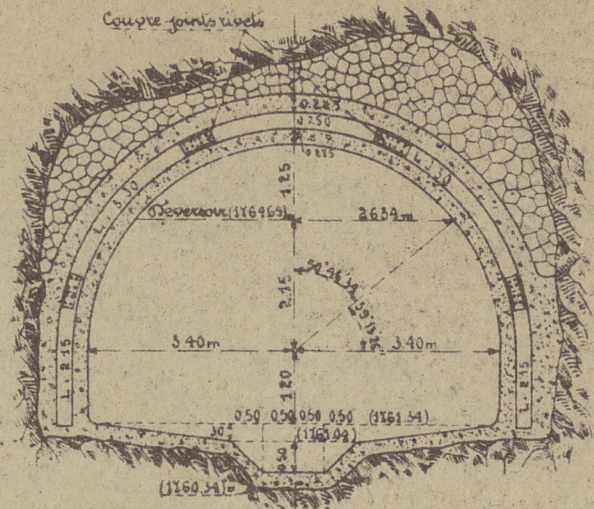
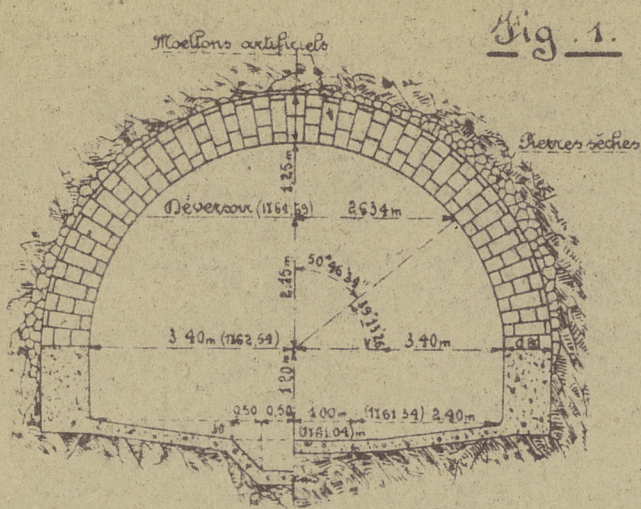
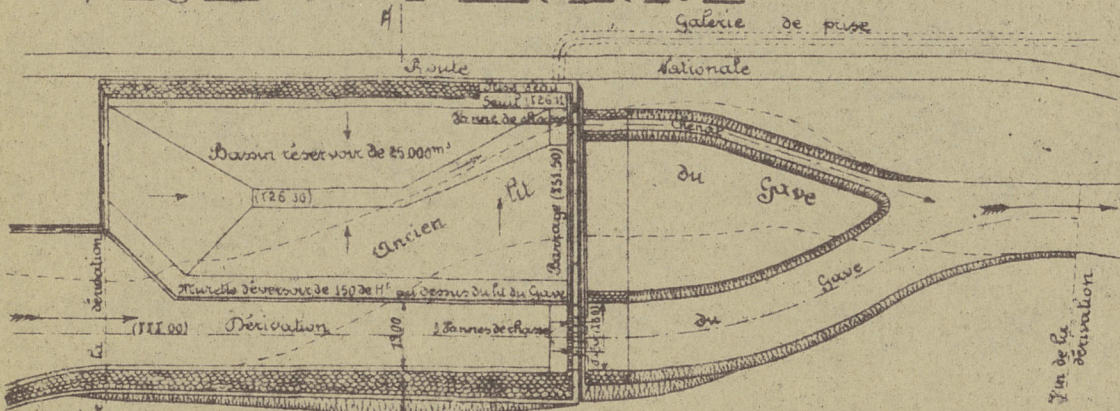
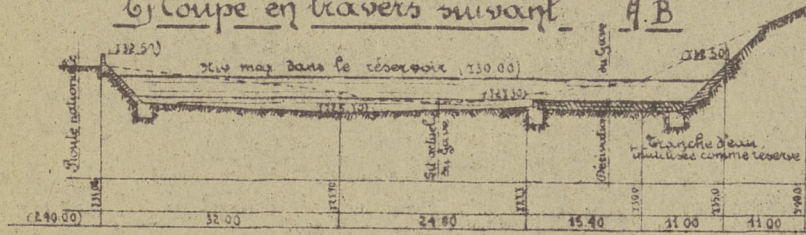


Fig. 2. a) Plan d'ensemble



b) Coupe en travers suivant A.B



Bassins horaires

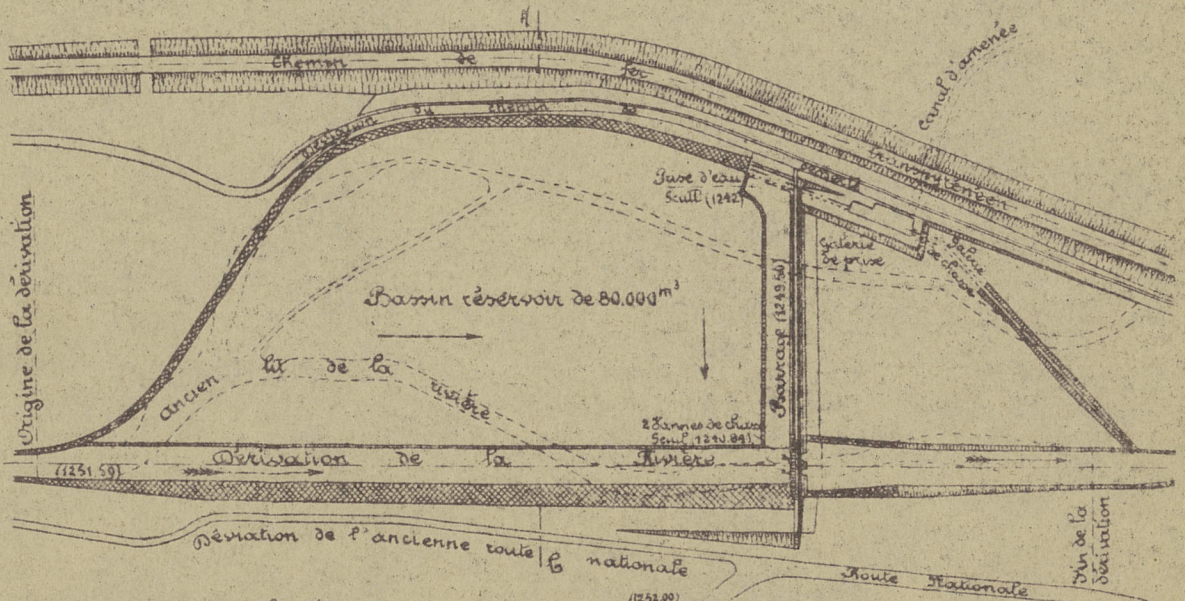
Fig. 1. Usine d'Égel (Pyrénées)

Fig. 2. Gave d'Orrou (Pyrénées)

Fig. 3. Usine de Mœrens (Ariège)

Fig. 3.

a) Plan d'ensemble



b) Coupe suivant A.B

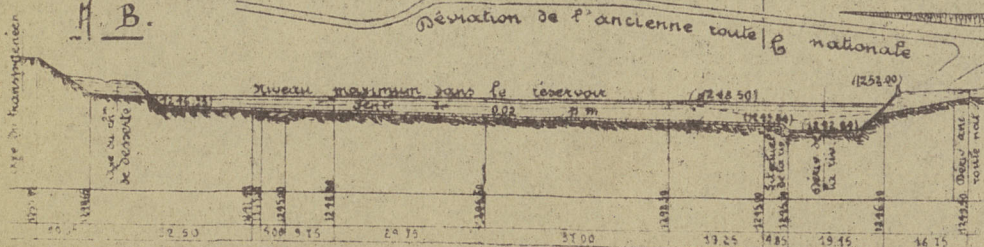


Fig. 1. Cheminées d'équilibre de l'usine de Champ (Saxe)

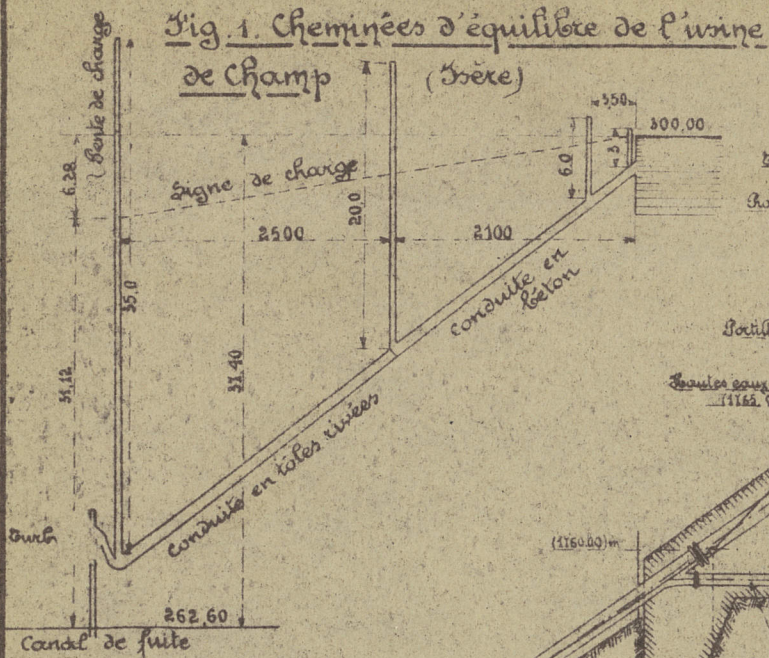
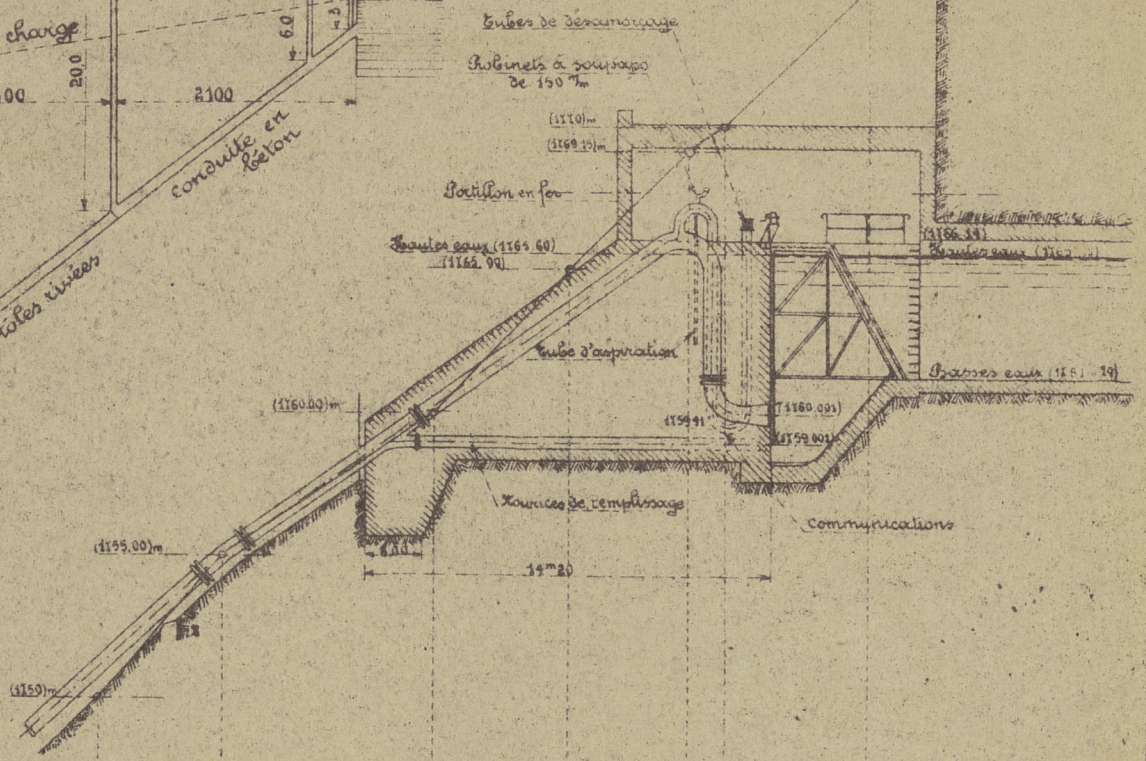
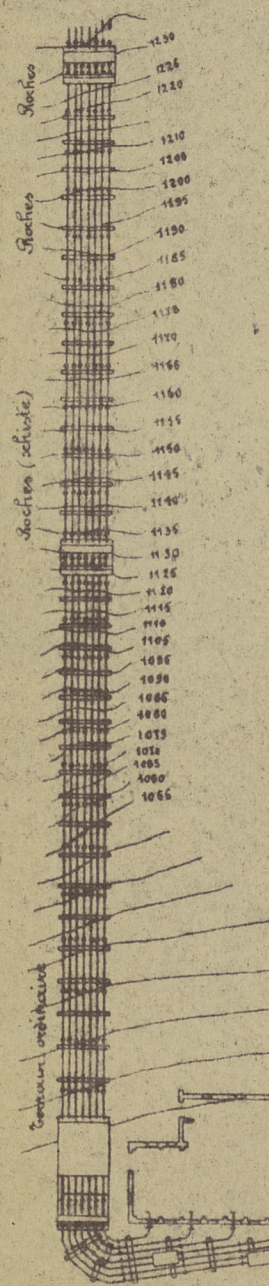


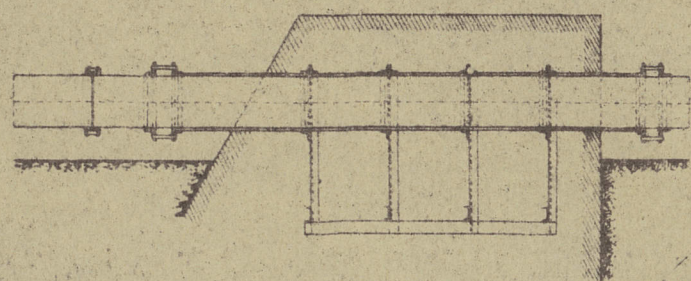
Fig. 2. Chambre de mise en charge de l'usine d'Égel.



3. a) Disposition d'ensemble



3. b) Massif d'ancrage de réglage



3. c) Appui dans les parties à forte inclinaison

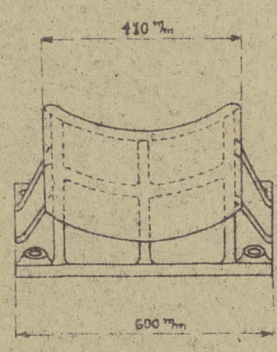
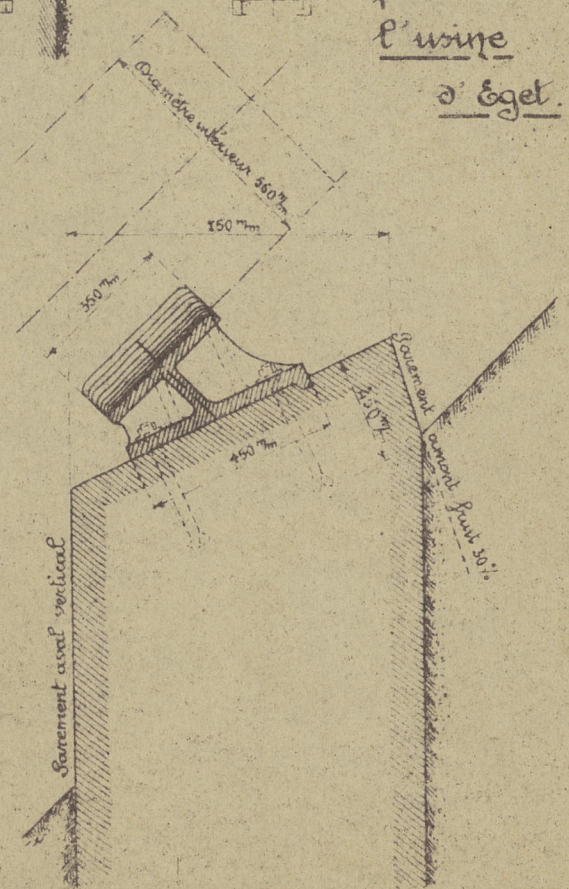


Fig. 3. Conduites forcées de l'usine d'Égel.



Usines du Niagara (d'après Koehlin)

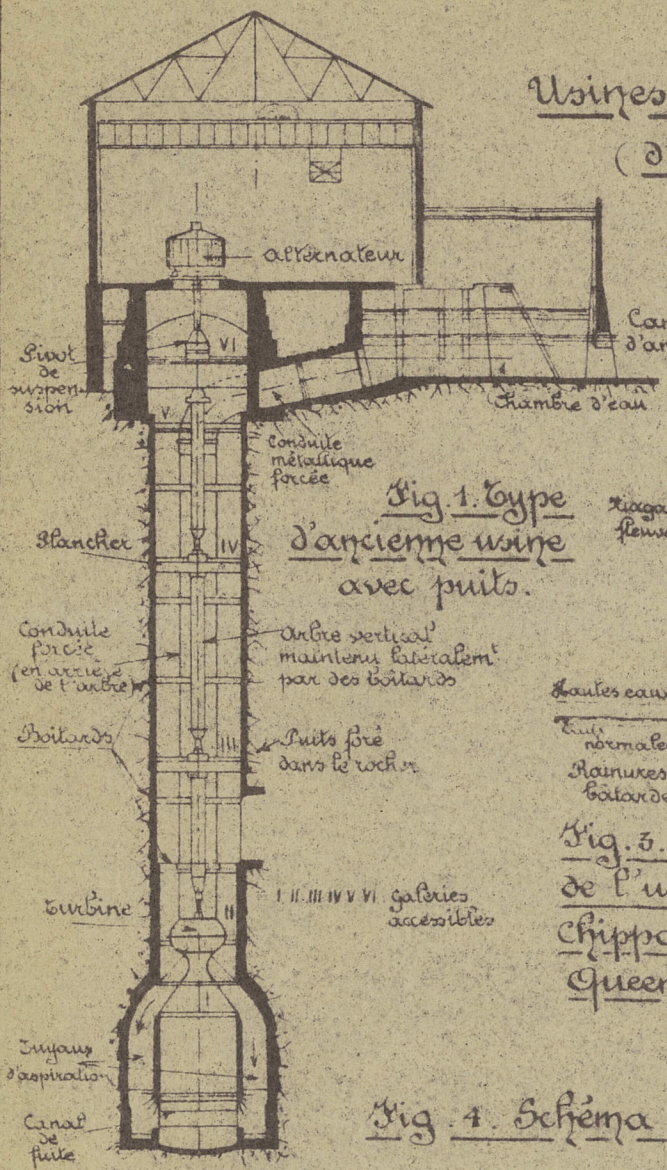


Fig. 1. Type d'ancienne usine avec puits.

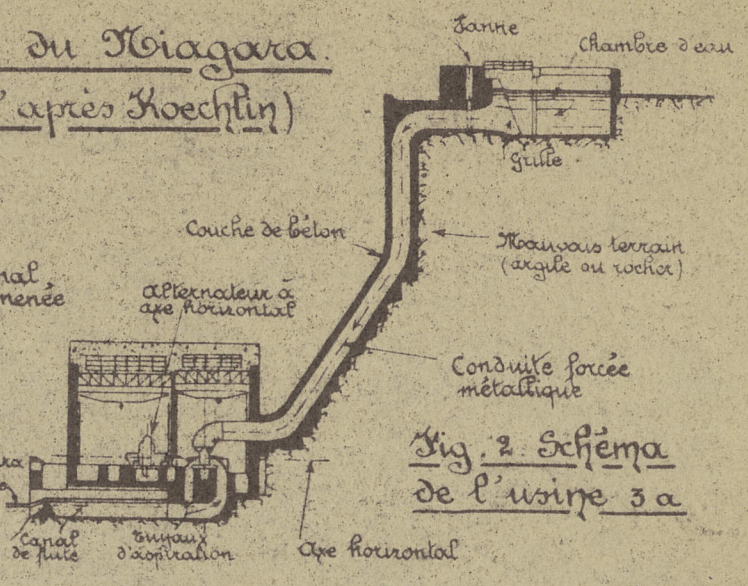


Fig. 2. Schéma de l'usine 3a

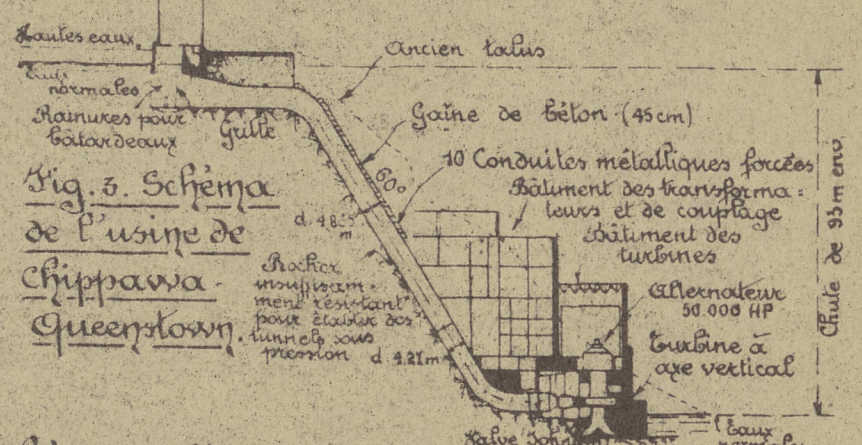


Fig. 3. Schéma de l'usine de Chippawa Queenstown.

Fig. 4. Schéma de l'usine 3c.

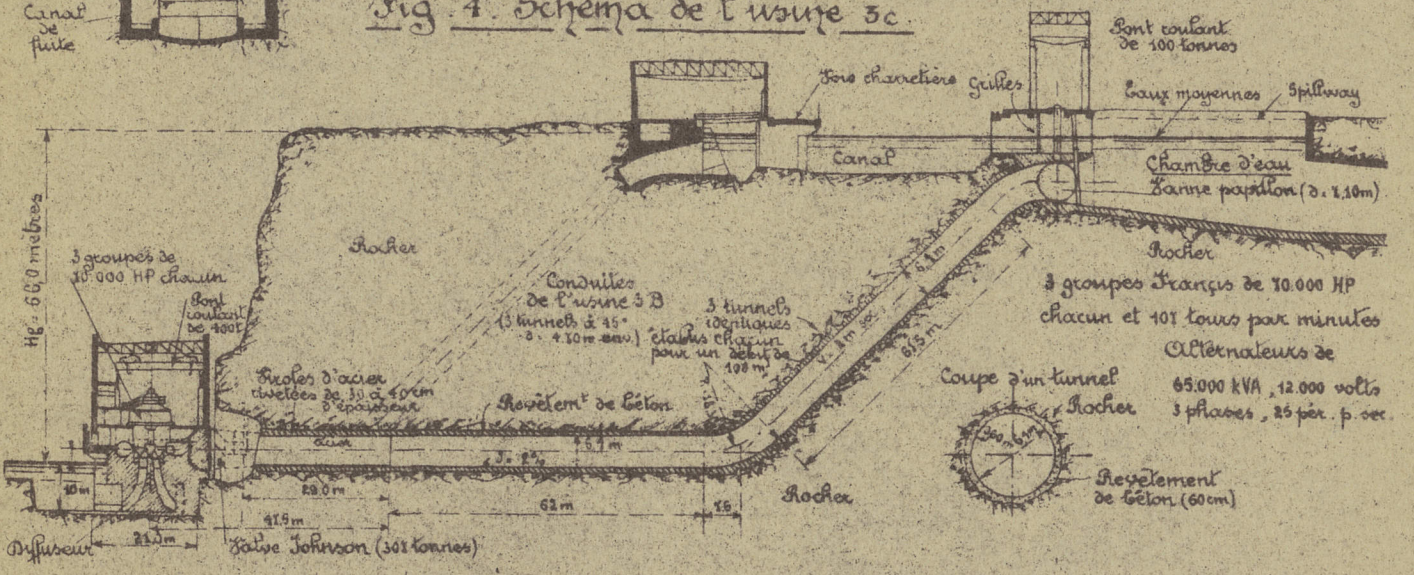


Fig. 5. Projet de l'écluse de Rembs
Grand Canal d'Albace

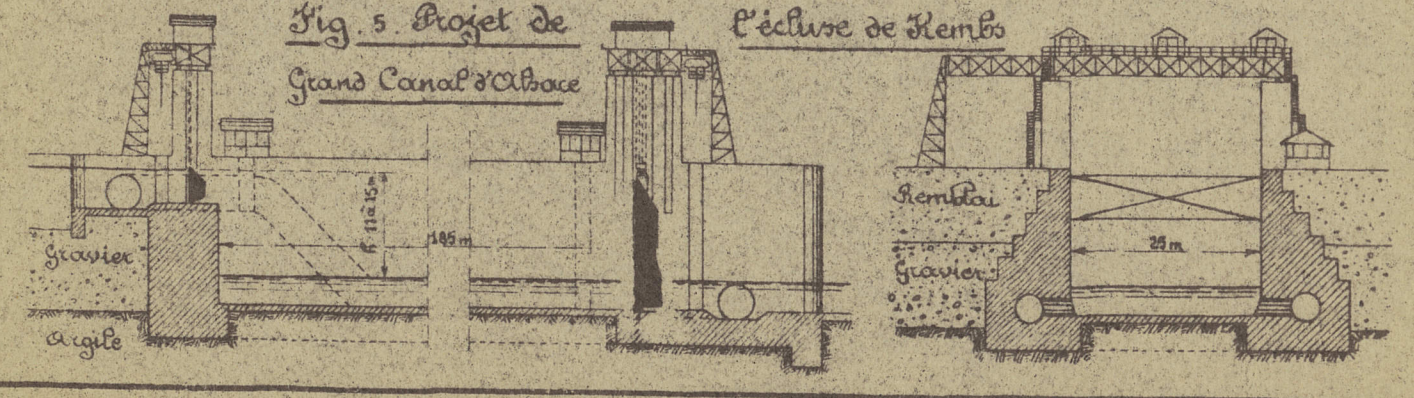
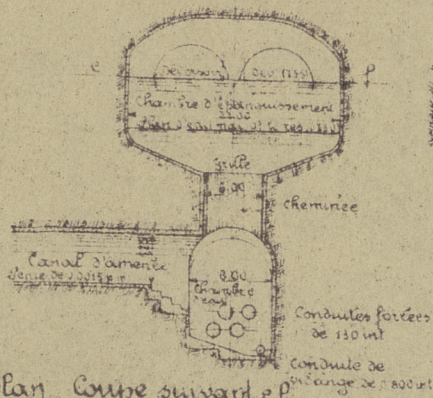
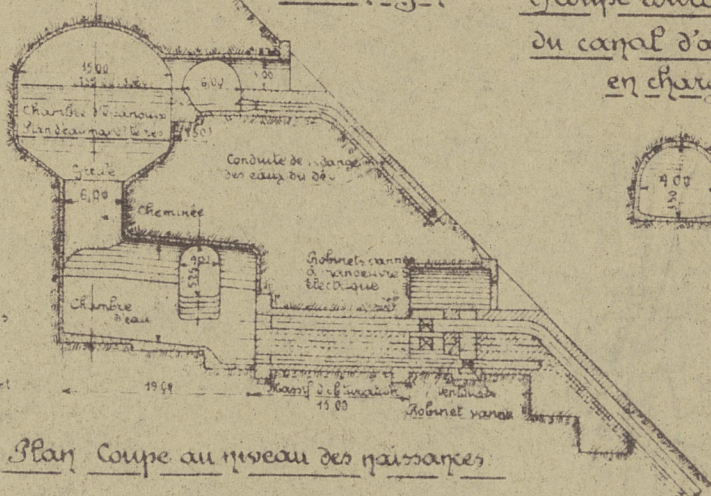


Fig. 1. Chambre d'équilibre en souterrain.

a) Coupe suivant a, b, c, d



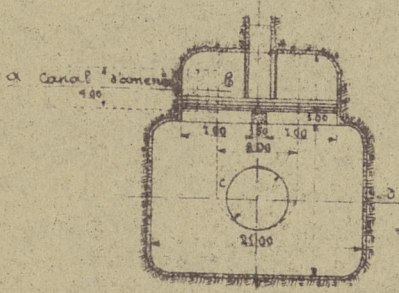
b) Coupe longitudinale suivant g, h



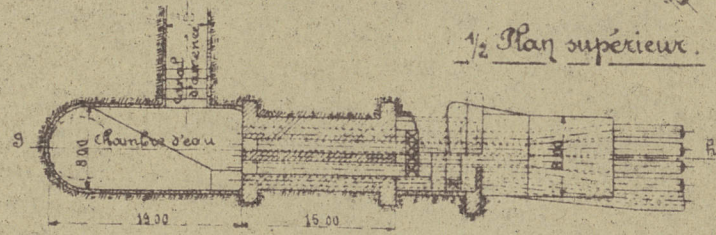
c) Coupe courante du canal d'amenée en charge.



d) Plan Coupe suivant e, f

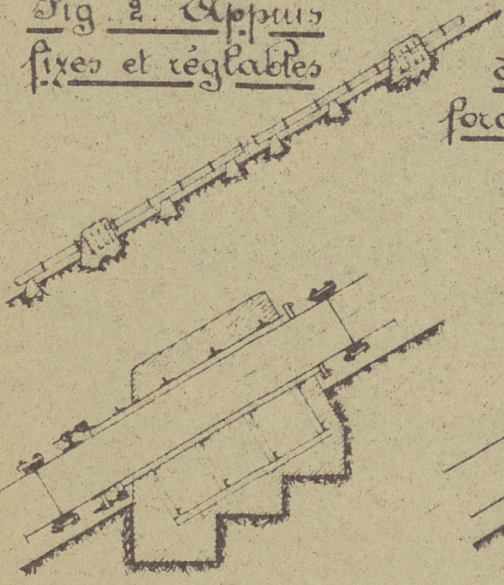


e) Plan Coupe au niveau des naissances



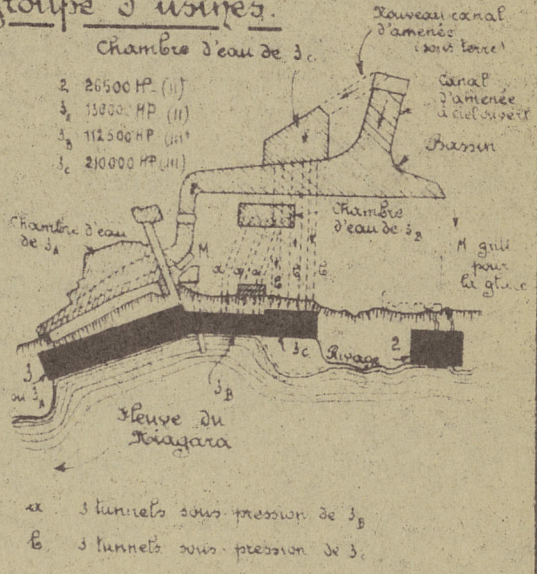
1/2 Plan supérieur.

Fig. 2. Appuis fixes et réglables



des conduites forcées métalliques.

Fig. 3. Disposition d'un groupe d'usines.



a. 3 tunnels sous pression de 3_B
b. 3 tunnels sous pression de 3_C

Fig. 4

Giterne filtrante

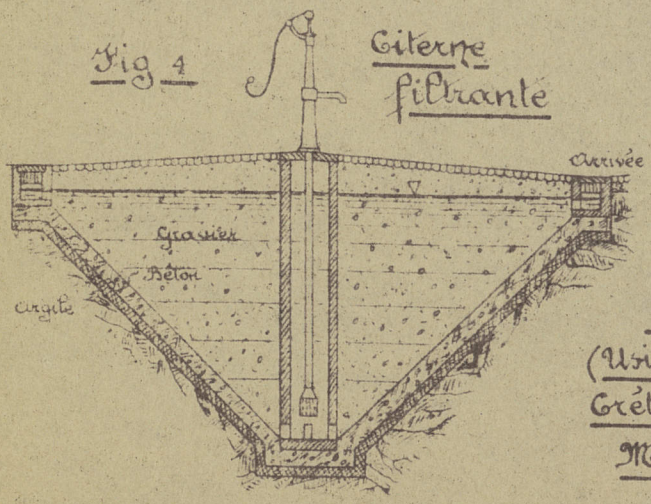


Fig. 5. Prise d'eau dans les cours d'eau :



b) dans un puits artésien (Usine de Gréteil sur Marne)

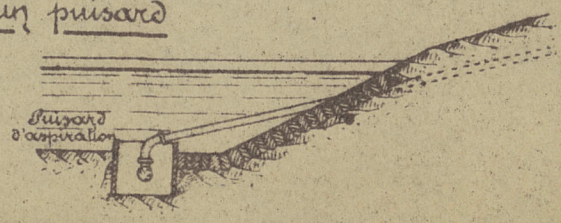


Fig. 1. Prise d'eau du canal du Forez dans la Haute Loire

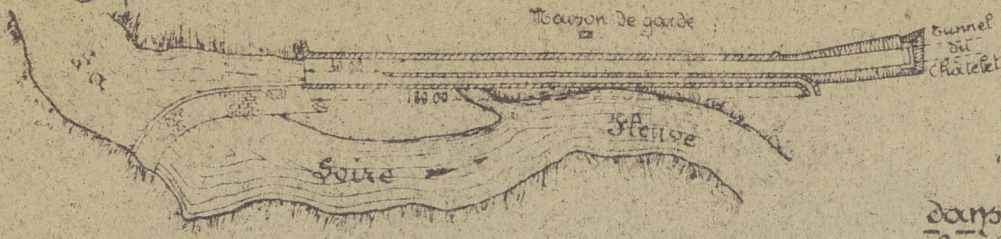
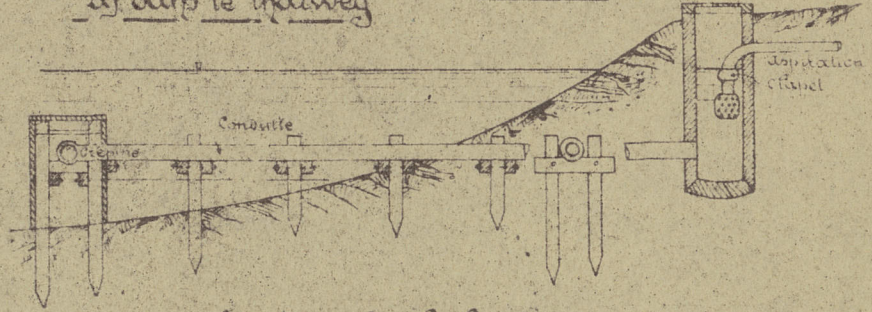
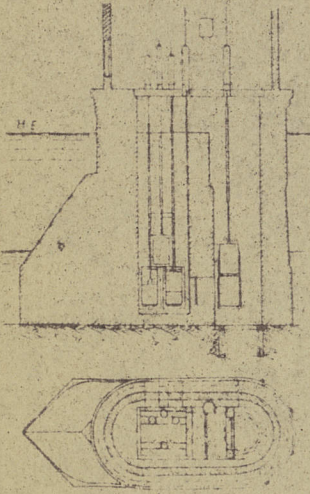


Fig. 2. Prises d'eau dans les cours d'eau ou les lacs.

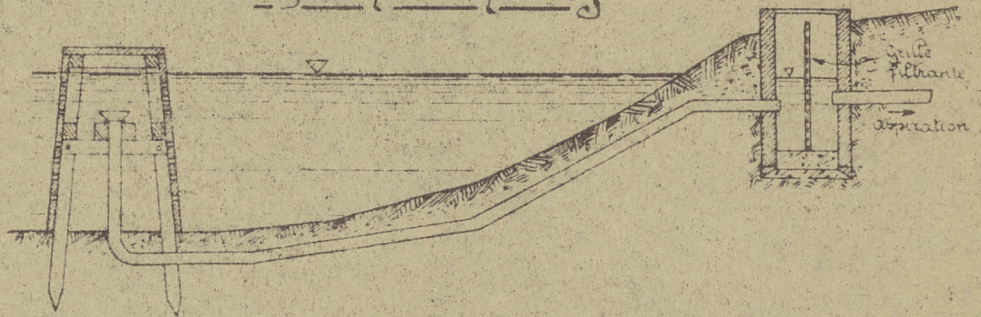
a) dans le thalweg



c) dans une pile



b) dans le thalweg



c) dans le thalweg (Usine d'Ivry)

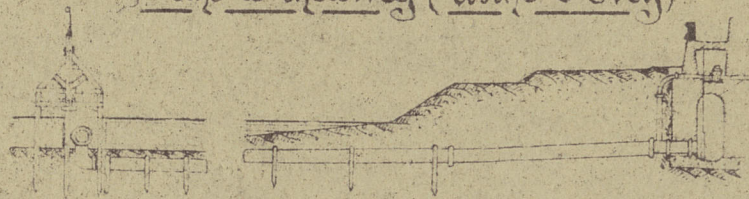
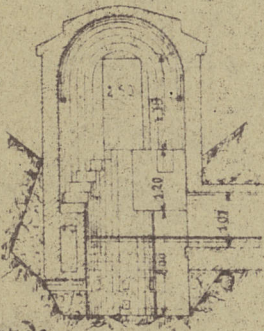
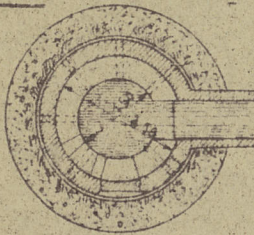


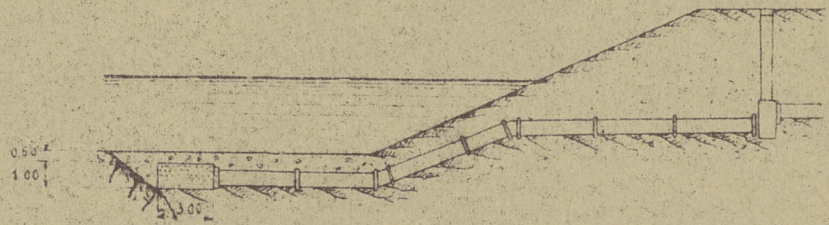
Fig. 4. Cap lage de sources.



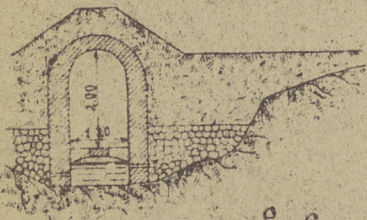
a) Source de la Bouillarde (Sanne)



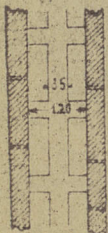
d) sous le fond du lit (Norms sur le Rhin)



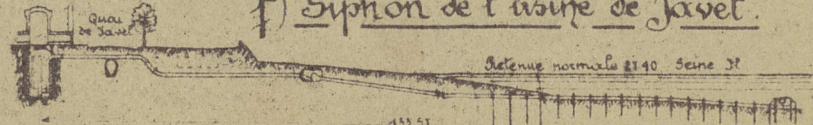
e) sous un crié américain.



b) Source de St. Philibert.



f) Siphon de l'usine de Javel.



Captage de sources.

Fig. 1.

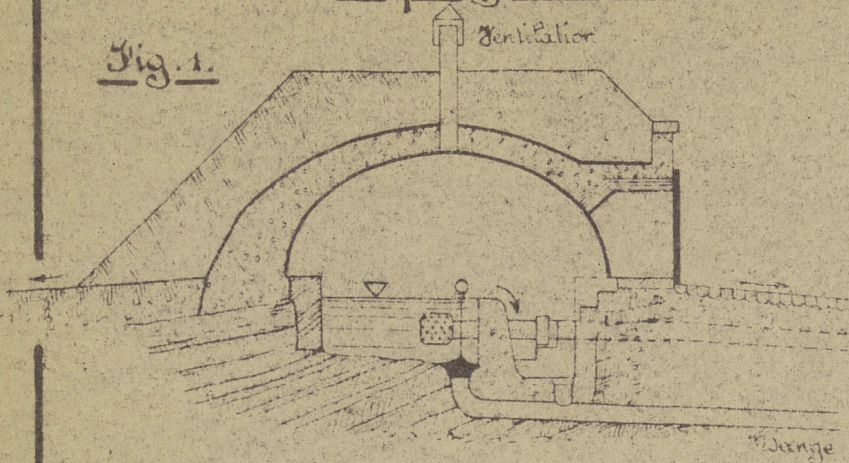


Fig. 2.

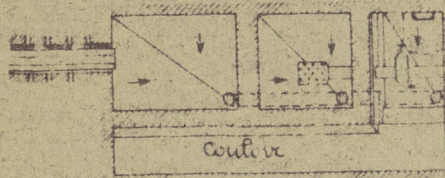
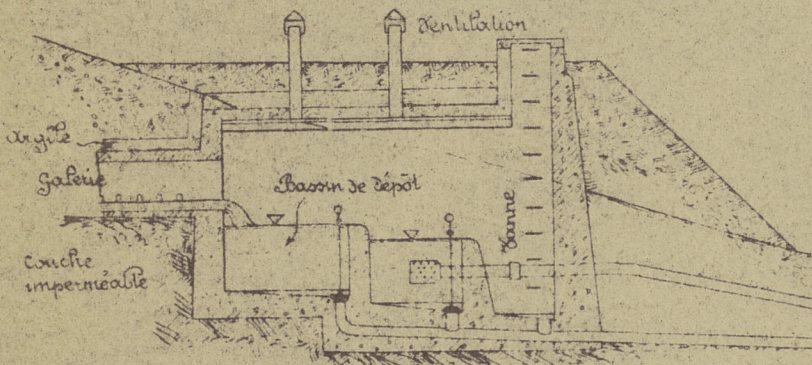


Fig. 5.

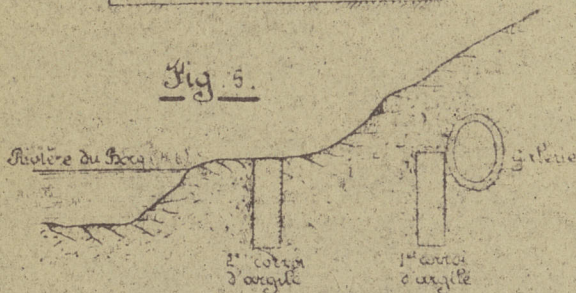


Fig. 4.
Source de Rochefort.

aqueduc principal Bassin de dépôt Cistern à l'origine d'une source

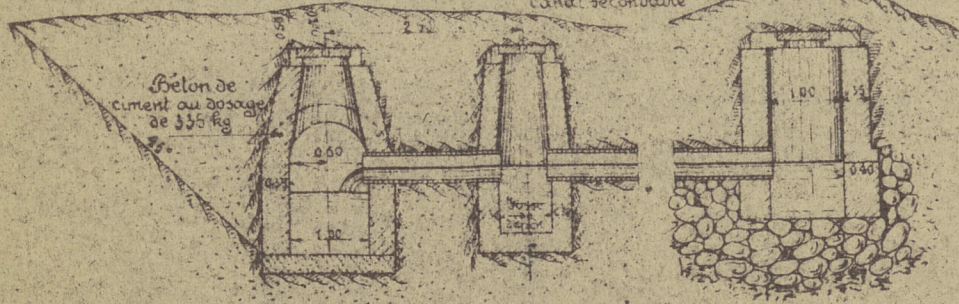


Fig. 5. 6. 7. 8.
Galeries drainantes du Boq.

Fig. 8.

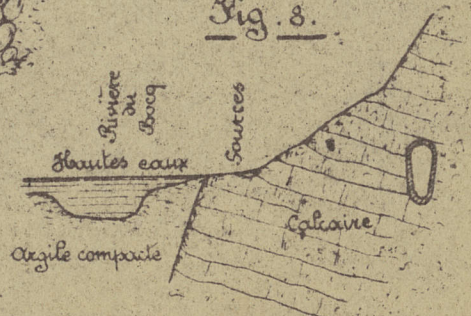
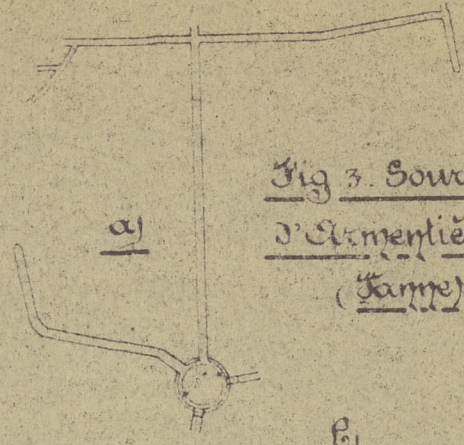
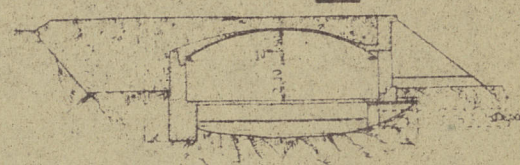


Fig. 3. Source d'Armentières (Fame)



b)



c)

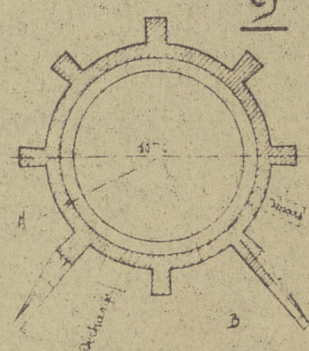
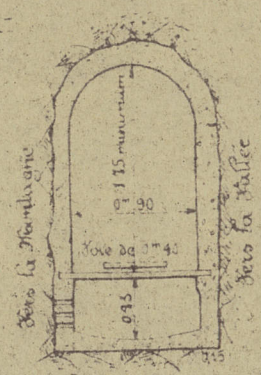
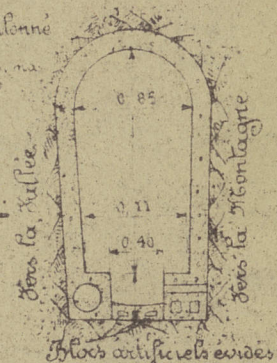


Fig. 6.



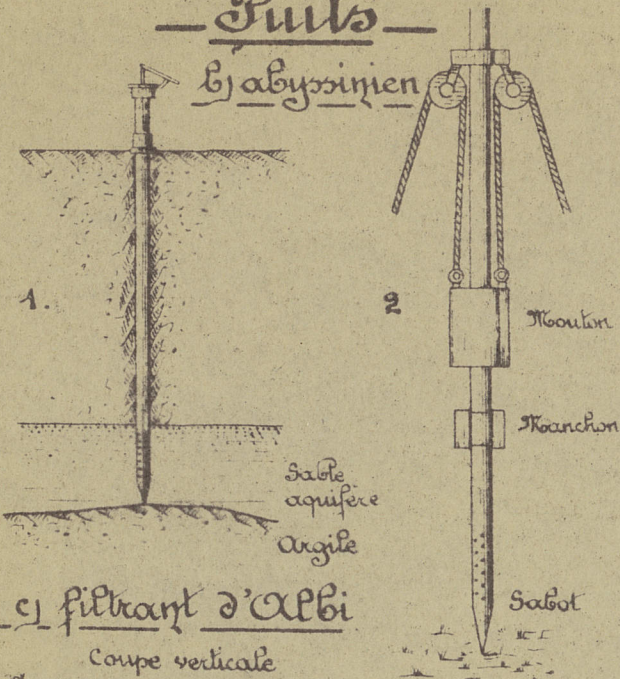
Béton pilonné et lissé
0.15 minimum

Fig. 7.

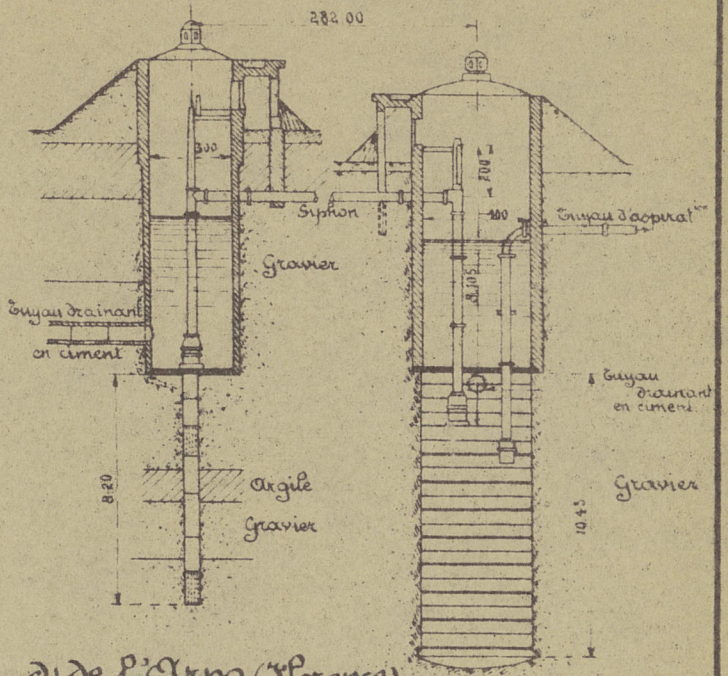


Blocs artificiels encastrés

Puits
abyssinien

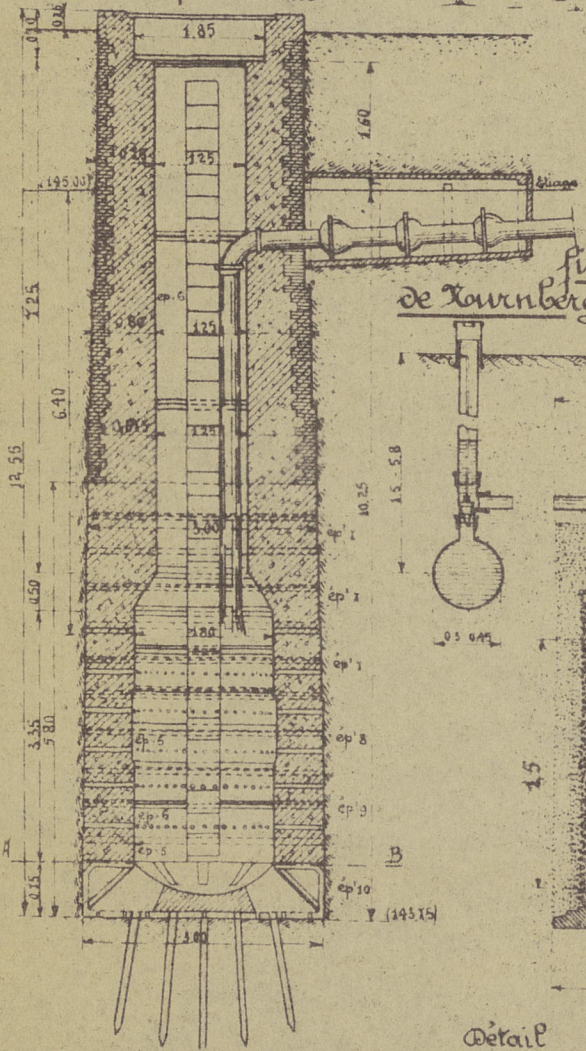


a) de Colmar.

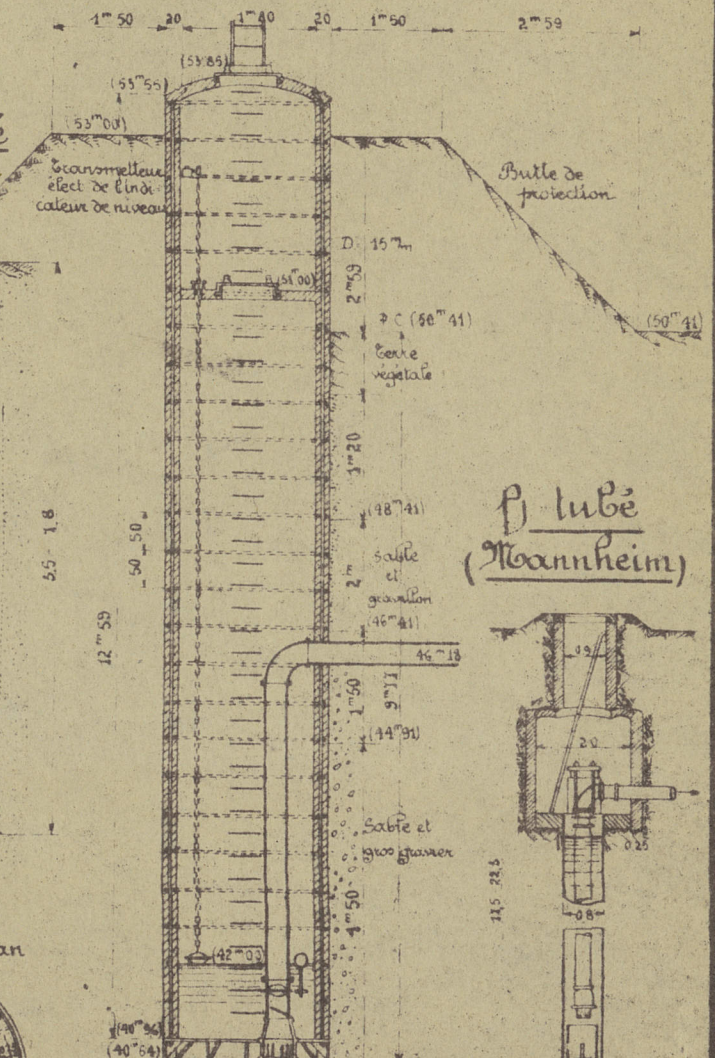


c) filtrant d'Albi

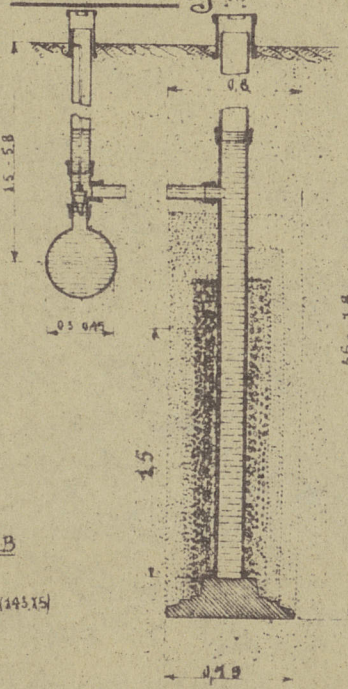
Coupe verticale



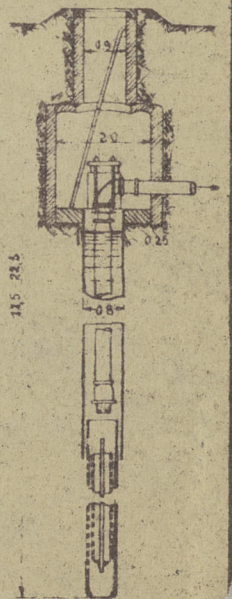
d) de l'Arno (Florence)



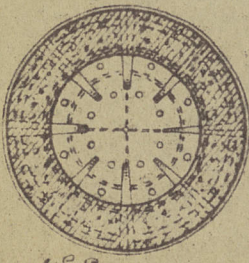
e) tube filtrant de Tournberg



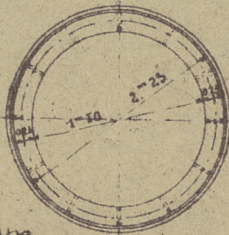
f) tube (Mannheim)



Coupe suivant AB



Détail Plan



Plan

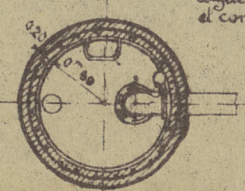
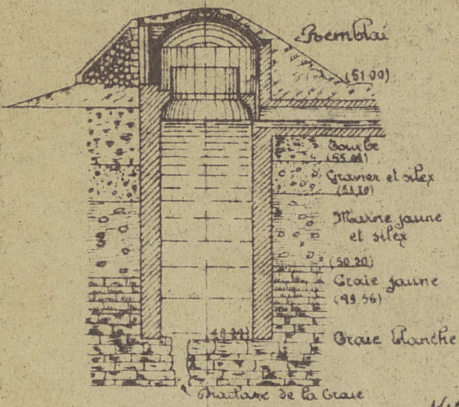


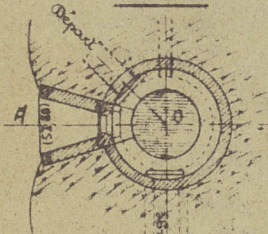
Fig. 1. Source St Thomas (Funain)

Coupe A.B.C du plan.



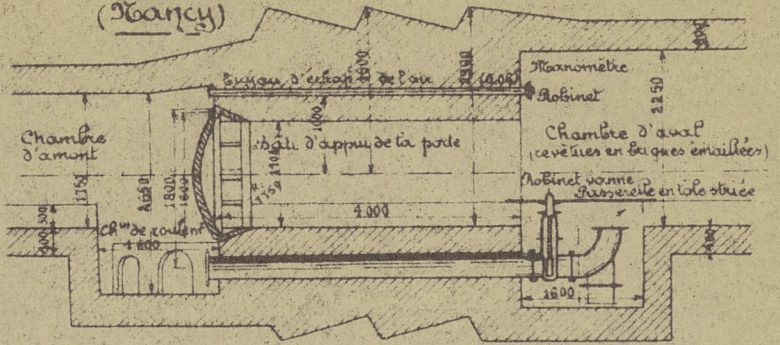
Coupe en long

Plan.



b) Serrement de la galerie de la Haye.

(Nancy)



Plan

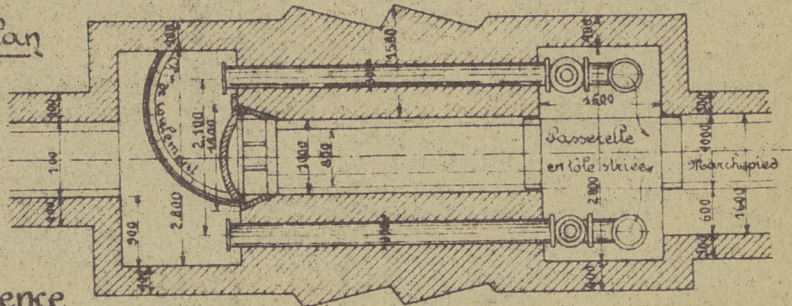
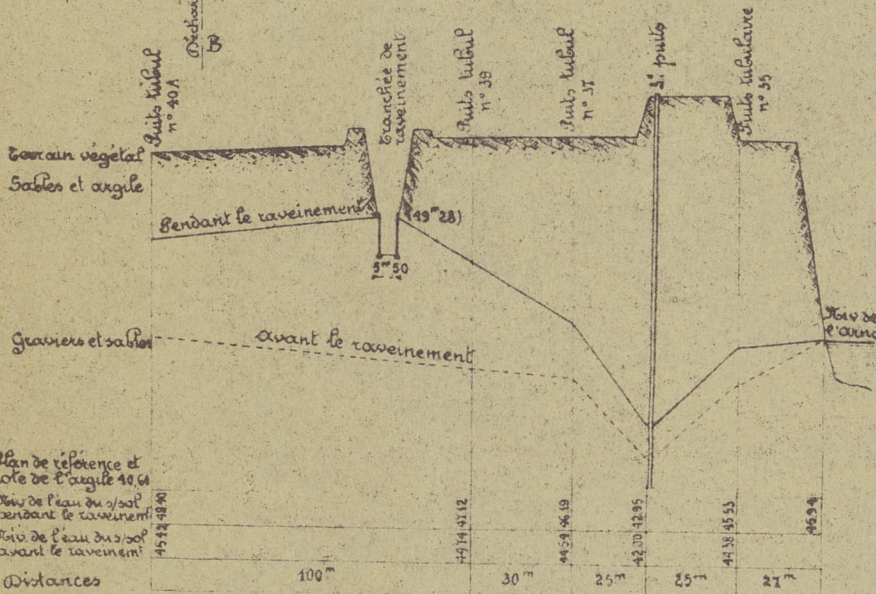


Fig. 2. Bassinement.

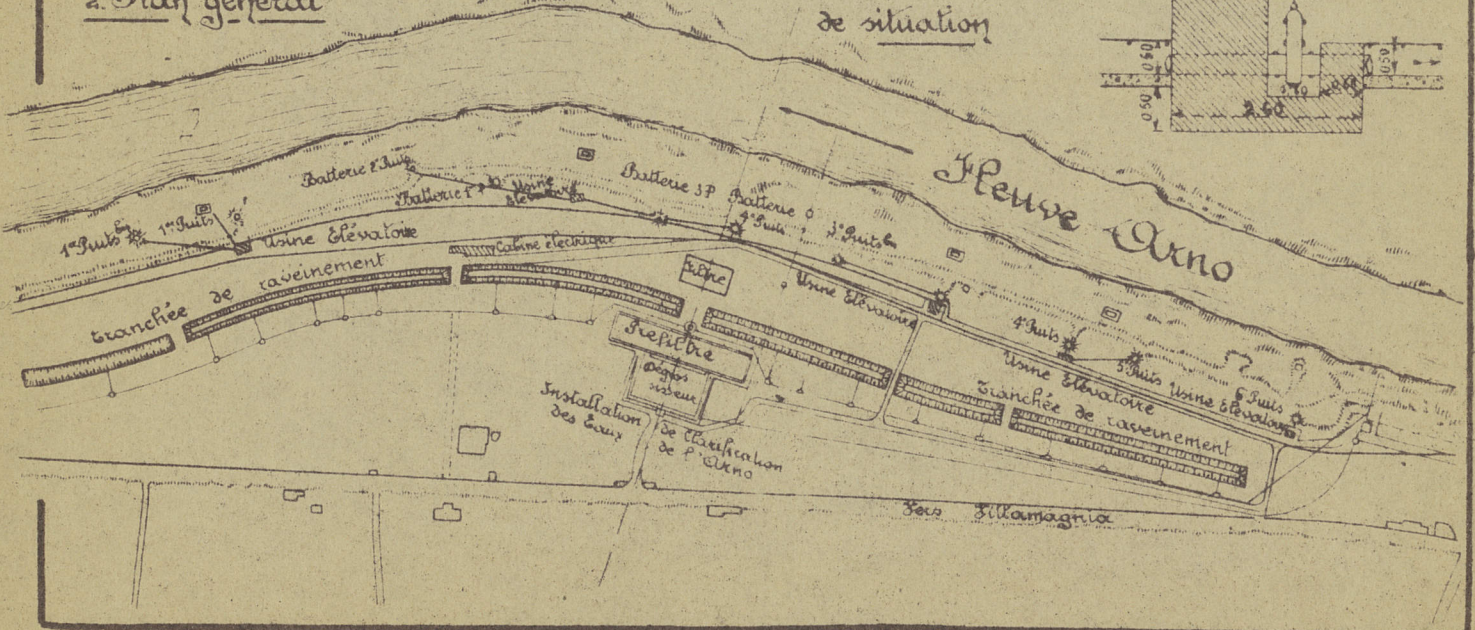
a) Captage de l'Arno à Florence.

1. Influence sur le profil de la nappe.

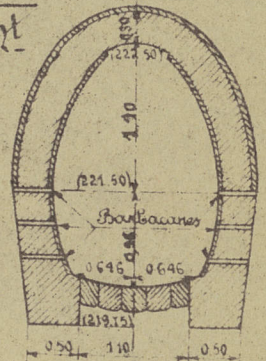


2. Plan général

de situation



c) Galerie de ravinement de Nancy



d) Serrement régulateur des galeries du Bocq.

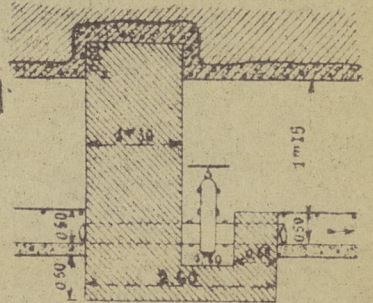


Fig. a.

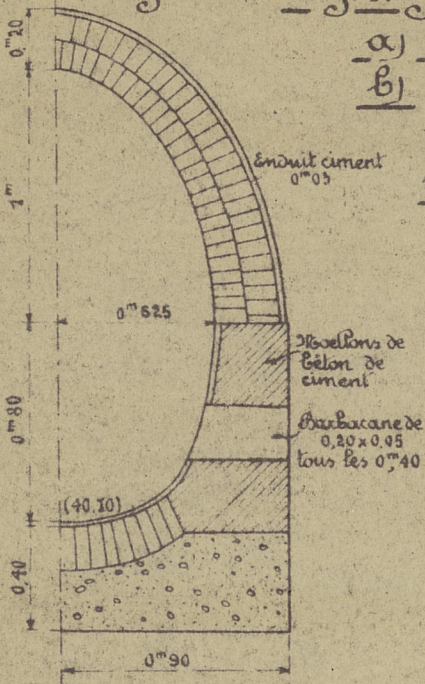


Fig. 1. Galeries drainantes
a) de l'Urno à Florence
b) forêt de Saignes

Fig. b.

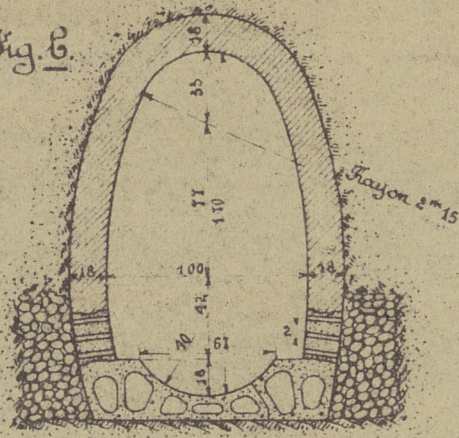
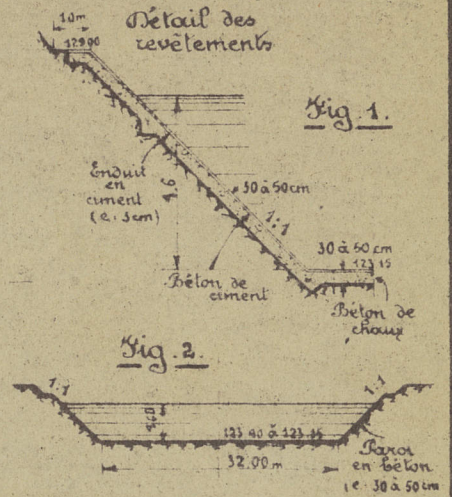
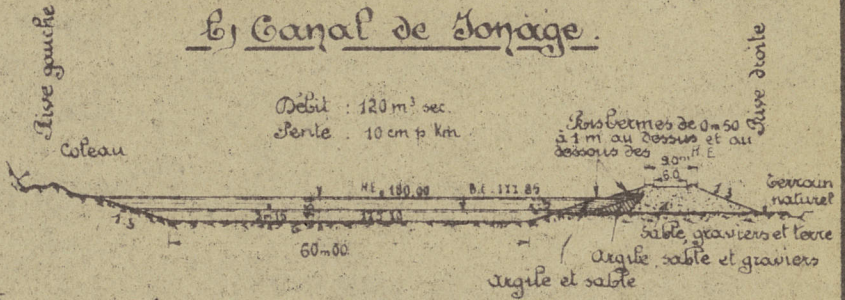
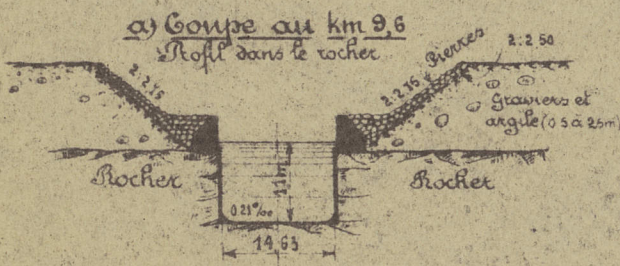


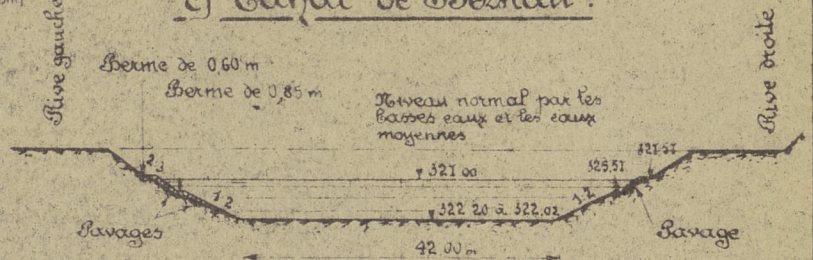
Fig. 2. Canaux et dérivations.
a) Canal de la Brasse
Isère (Beaumont-Mortoux)



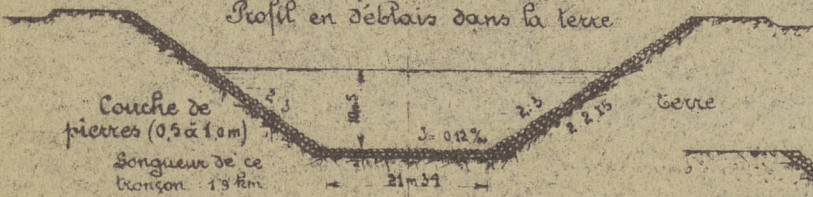
d) Canal de
Chippava-Queenston
(Niagara)



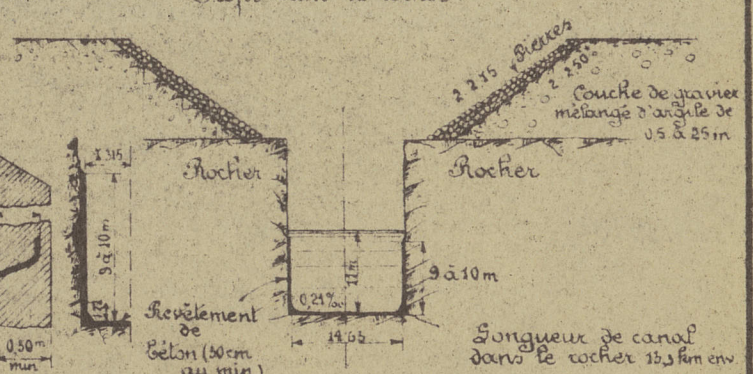
c) Canal de Bernau.



e) Coupe au km 0,6
Profil en déblais dans la terre

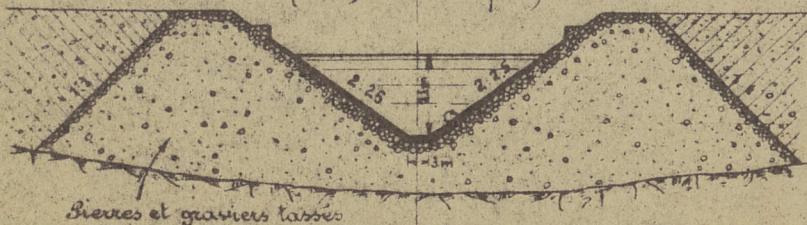


c) Coupe au km 5,0
Profil dans le rocher



d) Coupe au km 10,2

Profil en remblais sur 150m
(tronçon de Whirlpool)



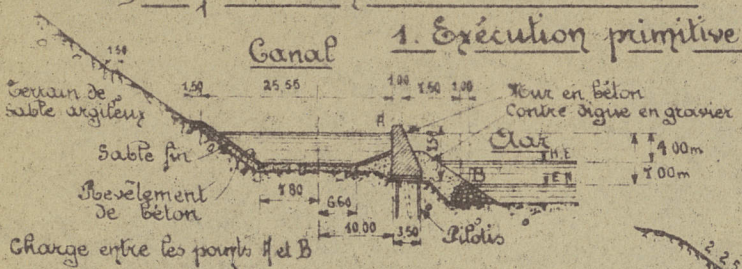
Le tronçon de Whirlpool est établi dans un ancien bras probable du Niagara.

Revetement de béton (n'a été posé qu'après 2 années de tarissement des remblais pierreux).

Pierres et graviers tassés

e) Canal de Wangen sur l'Ar.

1) Profil du canal à côté de l'Ar



2. Exécution nouvelle.

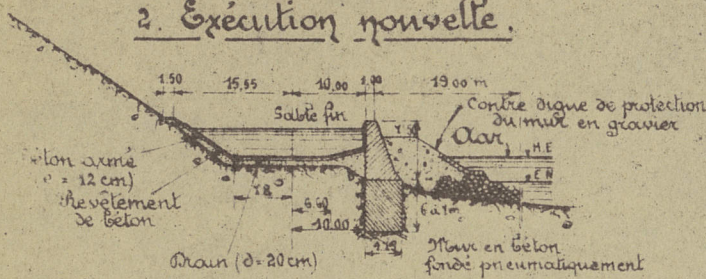
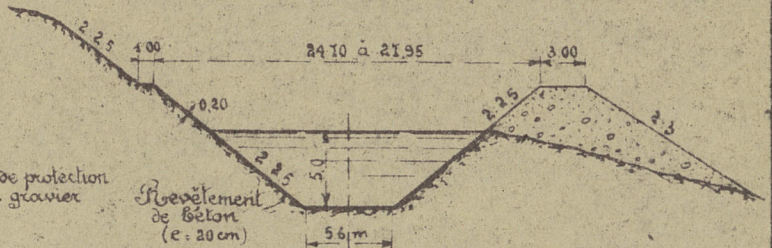


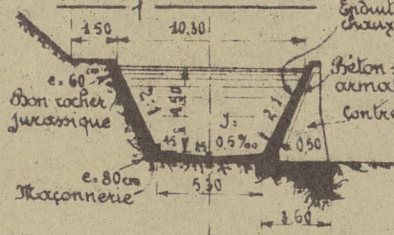
Fig. 1. Canaux et dérivations (suite)

f) Canal de Seros sur le Sègre (Espagne)

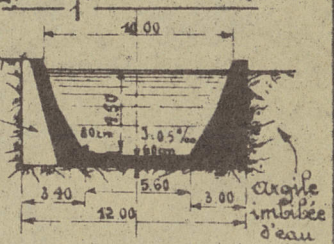


g) Canal de la Prave au lac de Santa Croce (Italie)

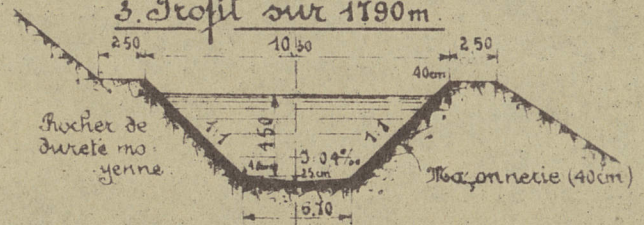
1. Profil sur 1 km



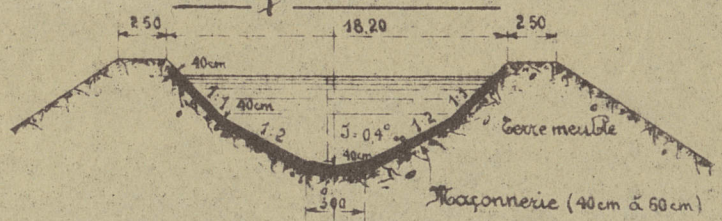
2. Profil sur 400 m



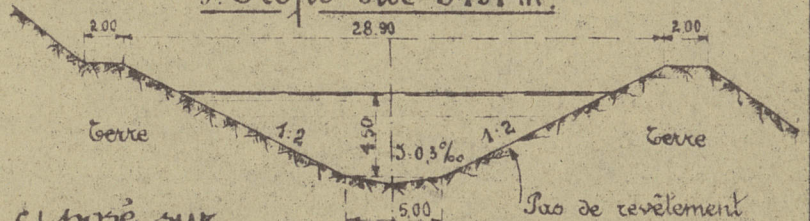
3. Profil sur 1190 m



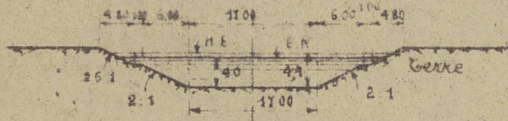
4. Profil sur 440 m



5. Profil sur 3491 m



II Profil normal dans la terre.



III Profil normal revêtu de béton

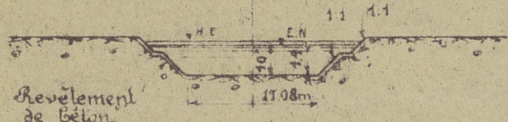
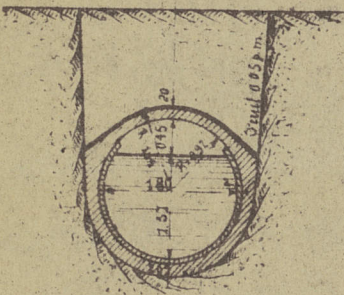


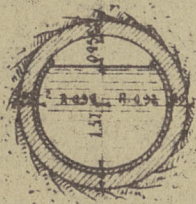
Fig. 2. Aqueducs.

a) de l'Arre (Paris)

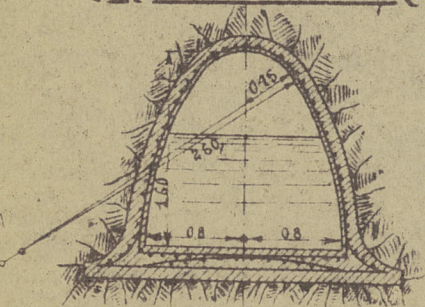
1. Profil exécuté en tranchée



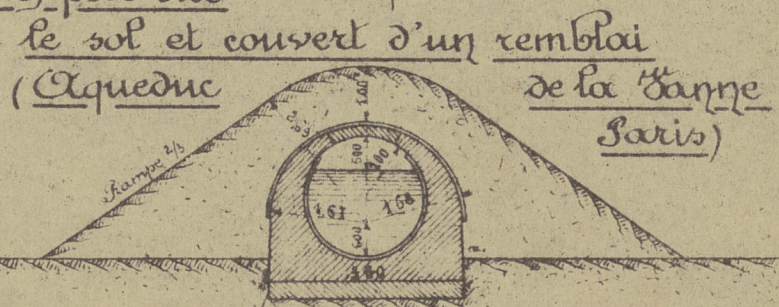
2. Profil exécuté en galerie.



b) en béton armé (mauvais terrain)

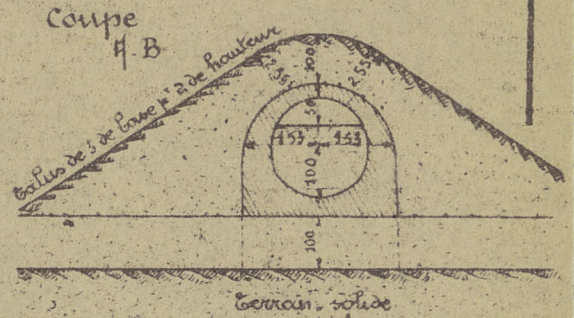
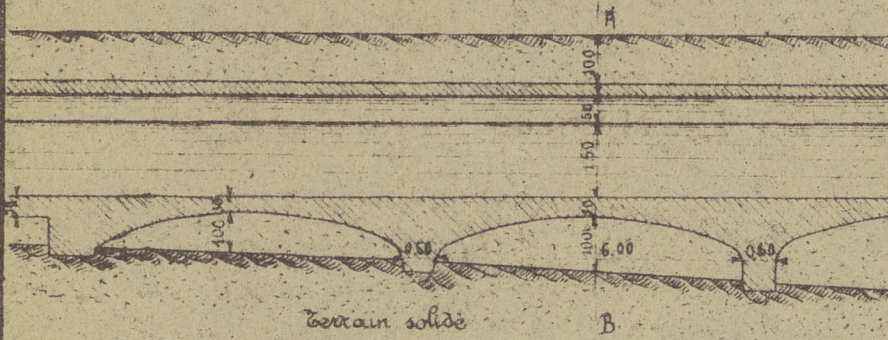


c) posé sur le sol et couvert d'un remblai



(Aqueduc de la Vanne Paris)

Fig. 1. Aqueduc sur arcades.



c) arcades du 2^e aqueduc de Siempe.

b) en bois

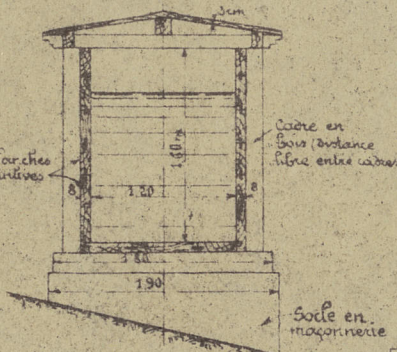
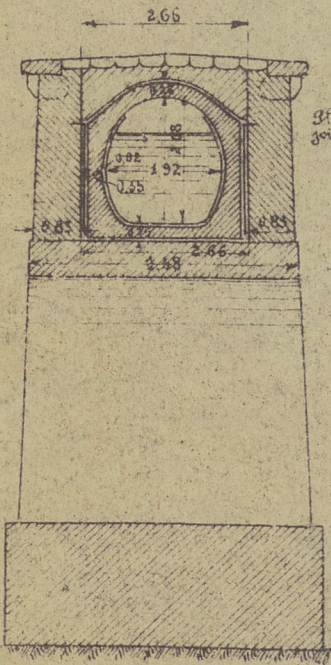
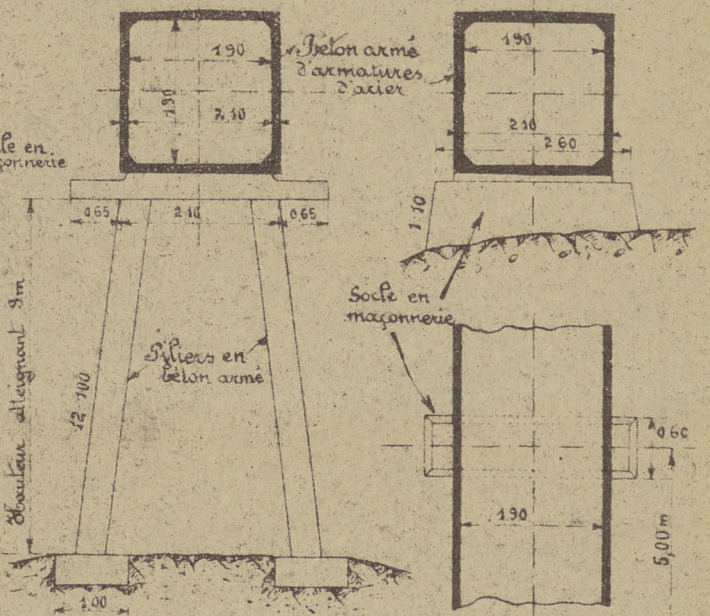


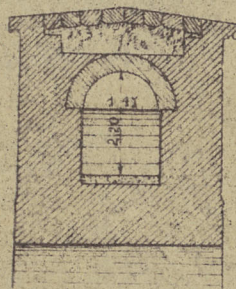
Fig. 2. Ponts-aqueducs.

a) en béton armé.

Ce caisson a été construit pour donner la puissance nécessaire à la construction d'un exploitation de tunnel ou simple. Distance entre piliers ou socles 5 m.

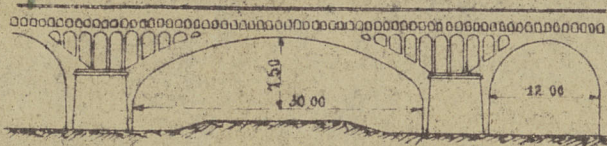


e) Mødding



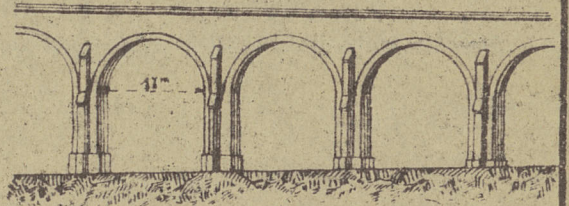
d) Arcades

du Grand Maître (Sarre)

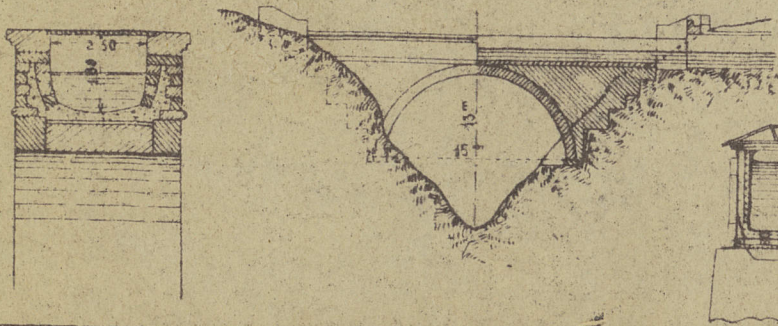


e) Arcades du

Mødding (Siempe)



f) Pont-aqueduc de Blaircain (Glasgow)



g) Pont-aqueduc métallique sur le chemin de fer du Bourbonnais (Saône)

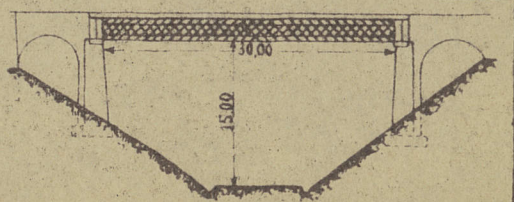


Fig. 1. Soufflet de dilatation du siphon de la Souvière (Canal du Verdon)

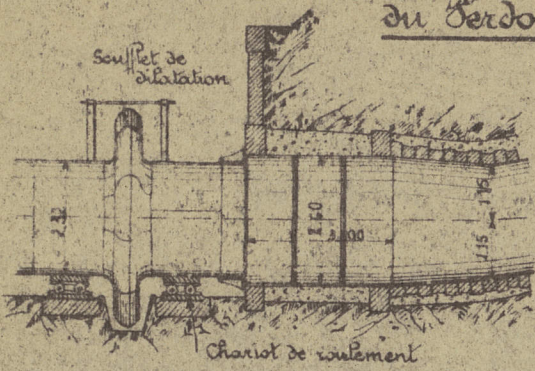


Fig. 3. Siphon du Drac (Grenoble) Fig. a.

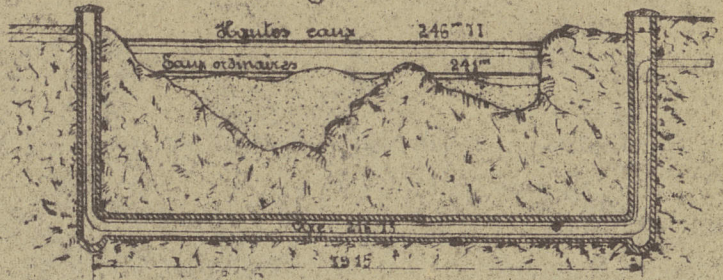


Fig. 2. Siphon de la Trem-passe (Canal du Verdon.)

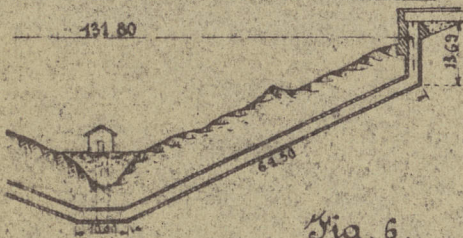


Fig. 4. Têtes de siphons

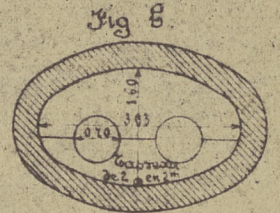
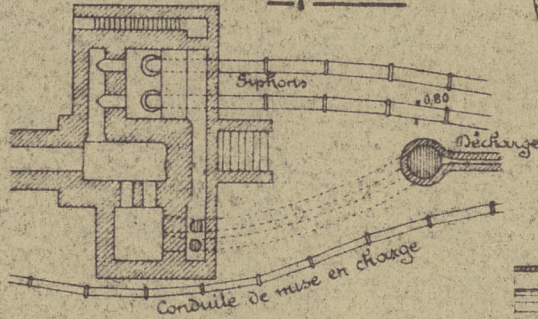
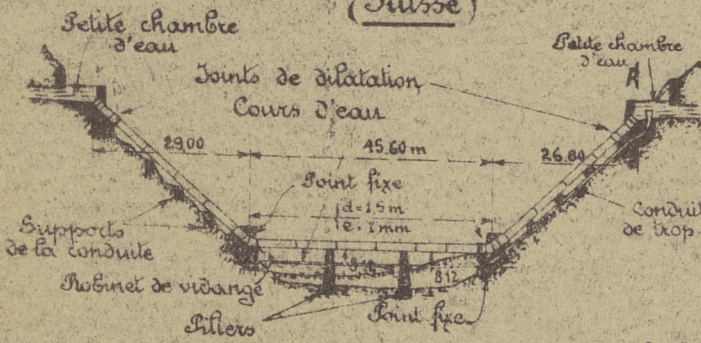


Fig. 5. Tête de siphon (Tanne)

Fig. 6. Siphon de l'usine de Kubel (Suisse)



Détail de H.

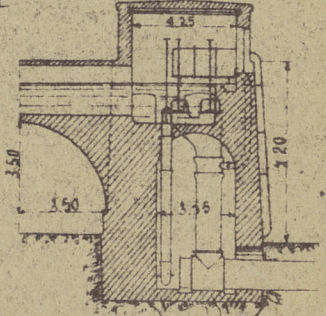
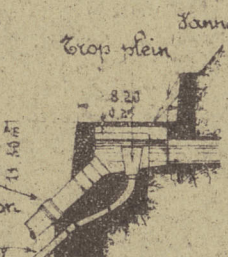
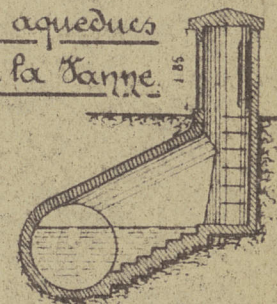


Fig. 7. Regards des aqueducs a) de la Tanne



a) Joints à emboîtement.

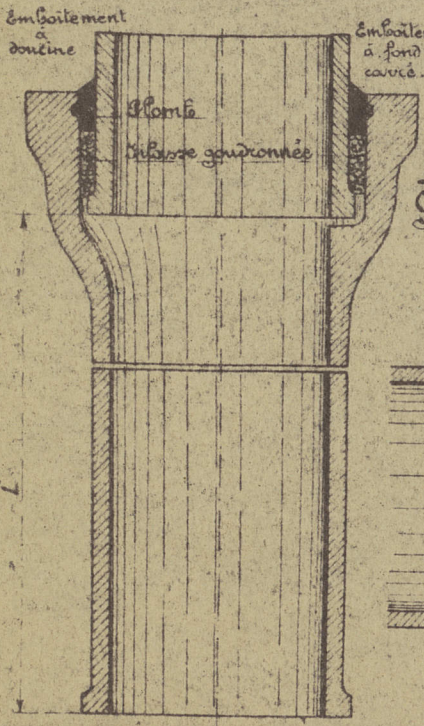
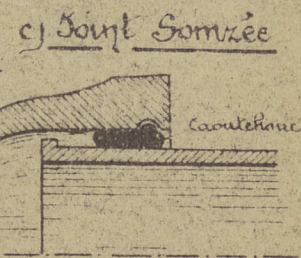
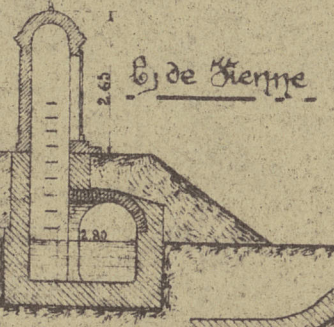
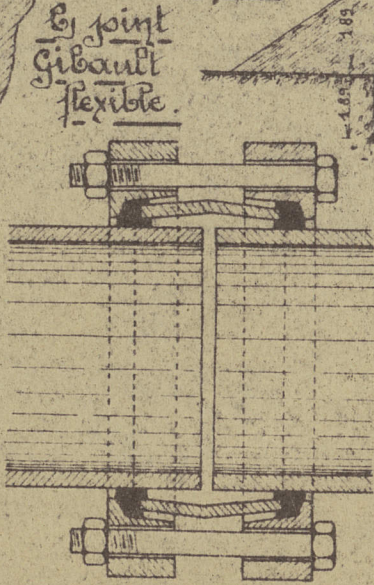
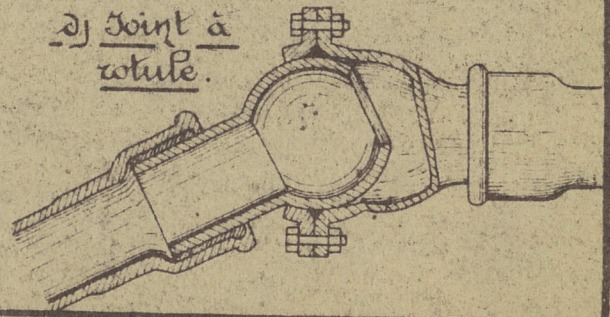


Fig. 8. Tuyaux métalliques.



d) Joint à rotule.



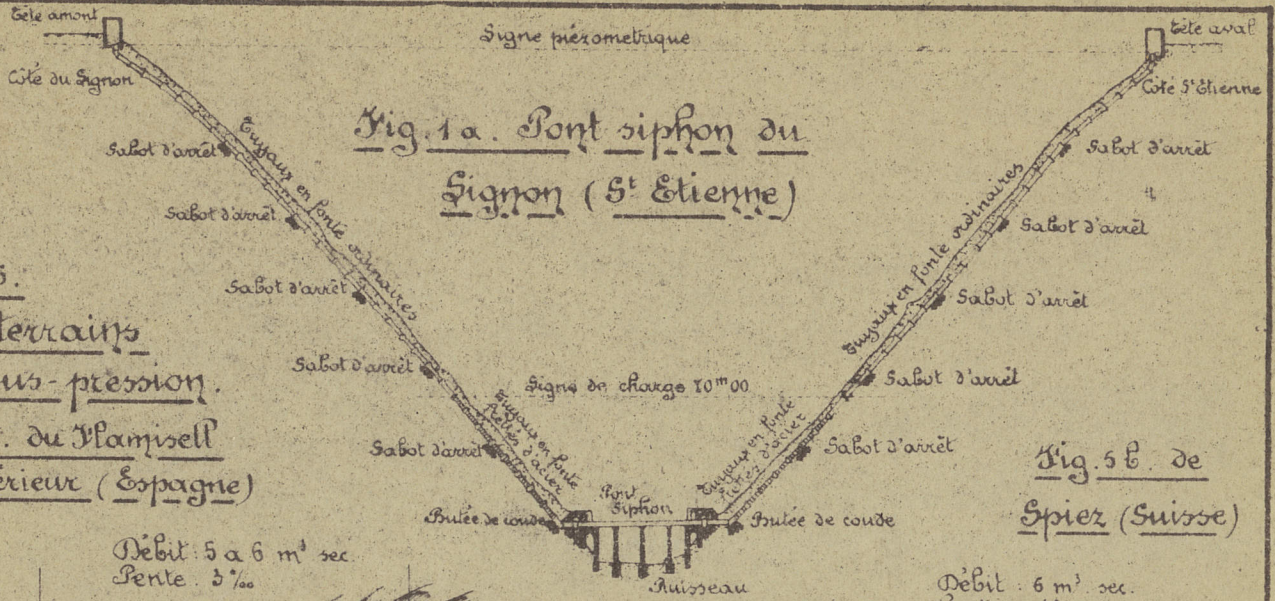


Fig. 5. Souterrains sous-pression.

Fig. 5a. du Flamisell supérieur (Espagne)

Débit: 5 à 6 m³ sec.
Pente: 3‰

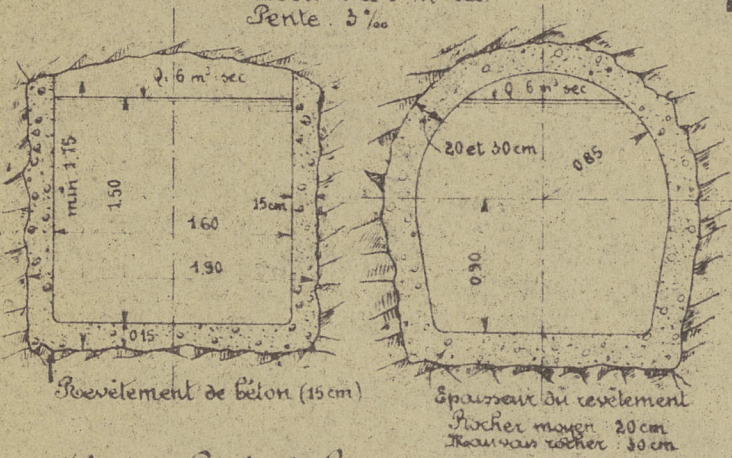


Fig. 5b. de Spiez (Suisse)

Débit: 6 m³ sec.
Pente: 1‰

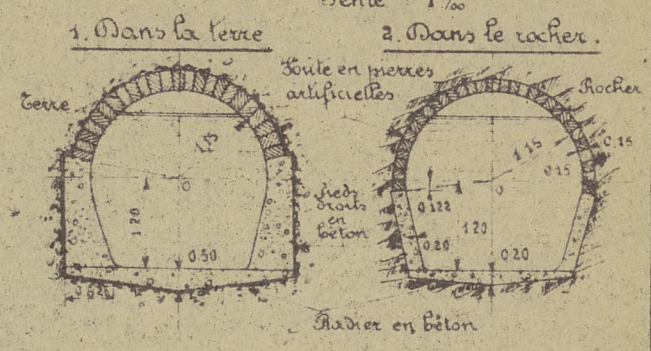


Fig. 2. Pont siphon de Wissahickon (Philadelphie)

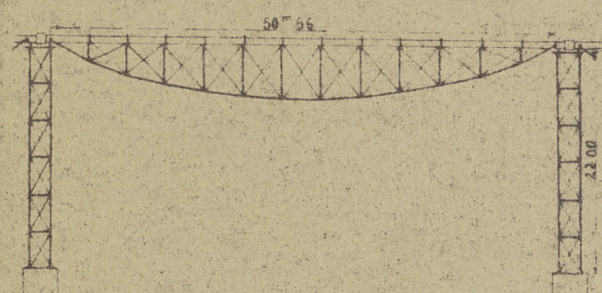


Fig. 1b. tête amont d'un siphon

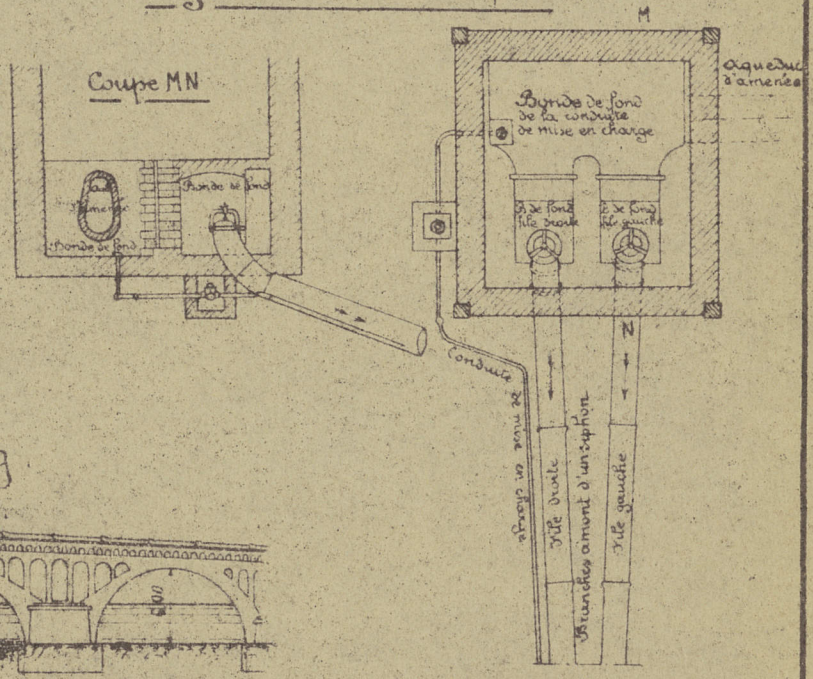


Fig. 3. Pont siphon du Soing

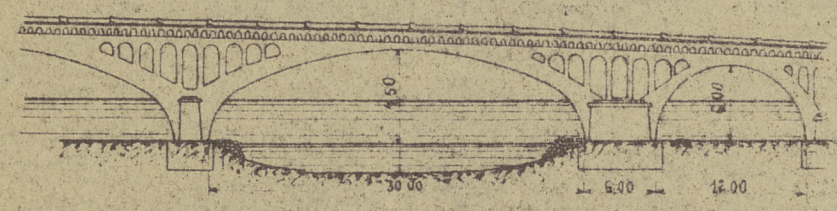


Fig. 4. Pont siphon de Drymen-Bridge (Glasgow)

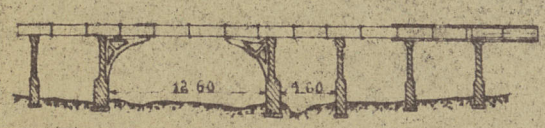
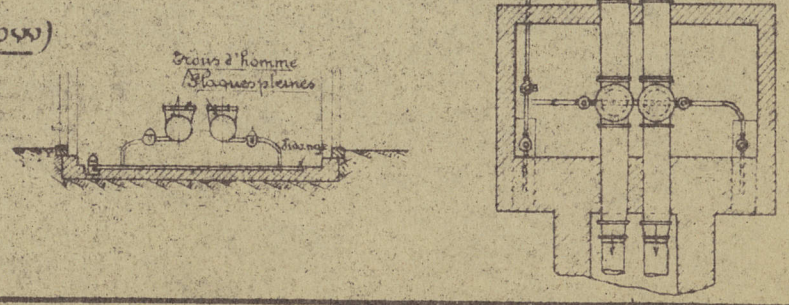


Fig. 1c. Chambre de manoeuvre amont



a) Assemblage par manchon coulé sur place.

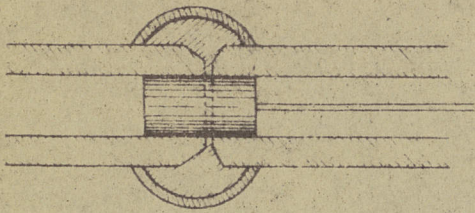


Fig. 1. Tuyaux en béton

c) Joint élastique Bille

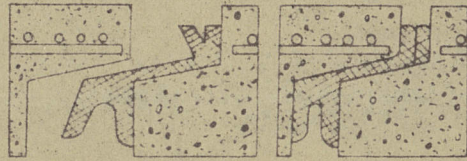
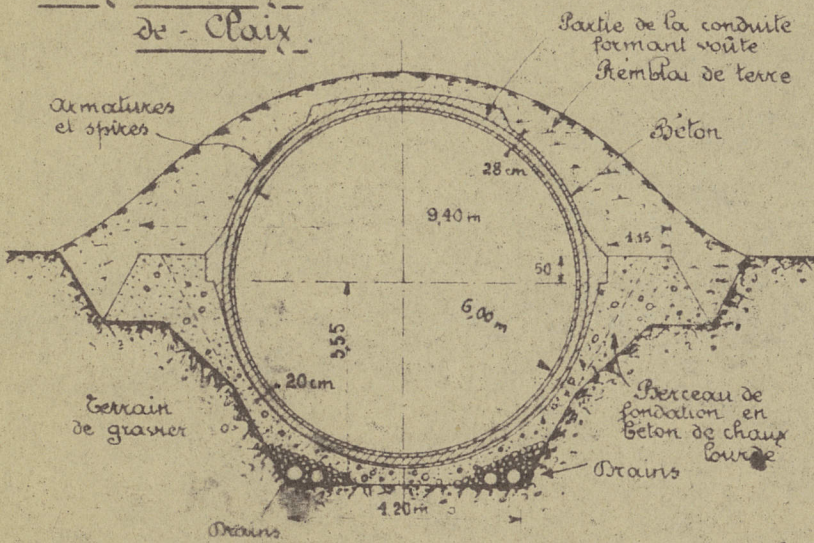


Fig. 2. Conduite forcée en béton armé de pont-de-Chaix



b) Assemblage flexible par manchon rapporté.

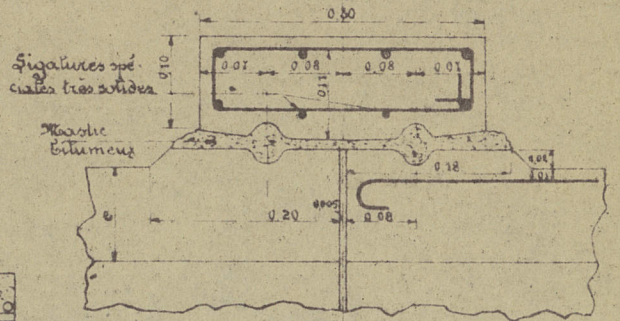
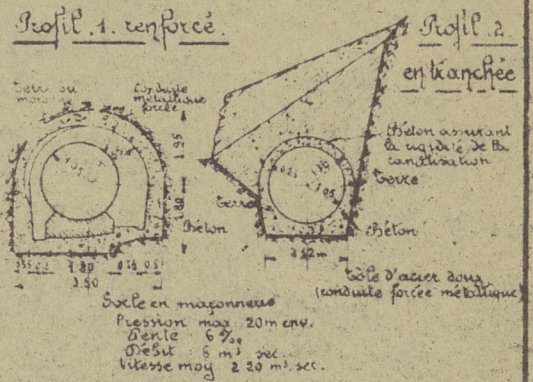
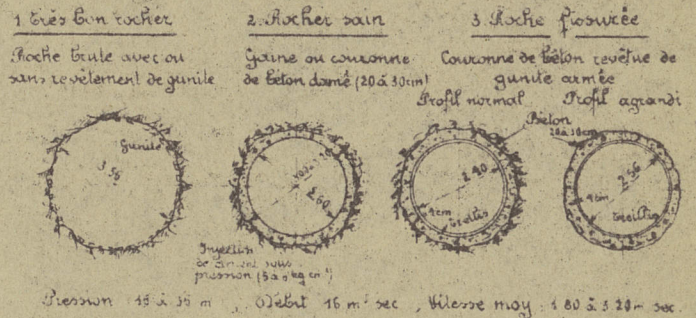


Fig. 3. Tunnel sous pression a) Dixerone (Italie)



b) Teigitzsch (Styrie - Autriche)



d) Joint longitudinal d'une chemise métallique.

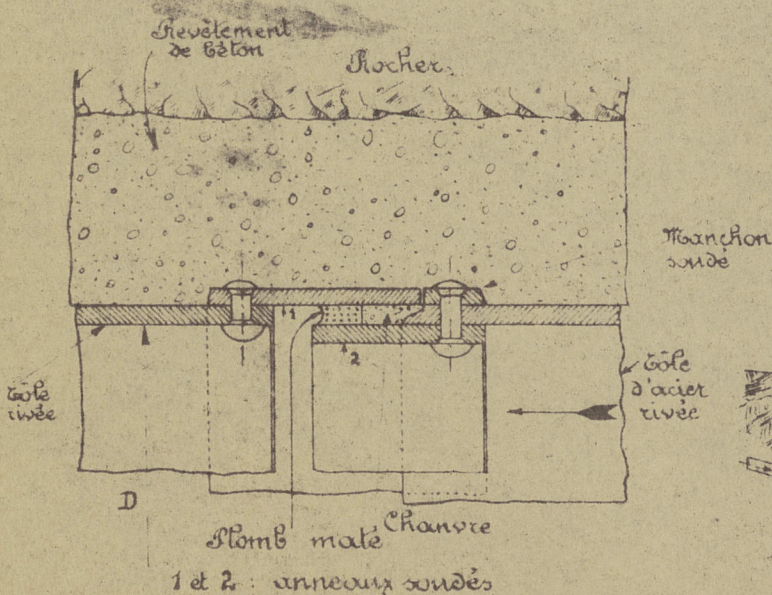


Fig. 4. Chambre de déversement.

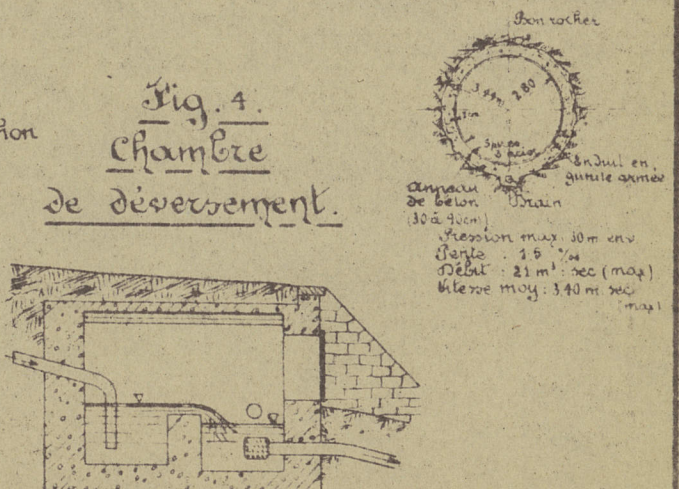


Fig. 1. Station
élevatoire de l'Arno
(Florence)

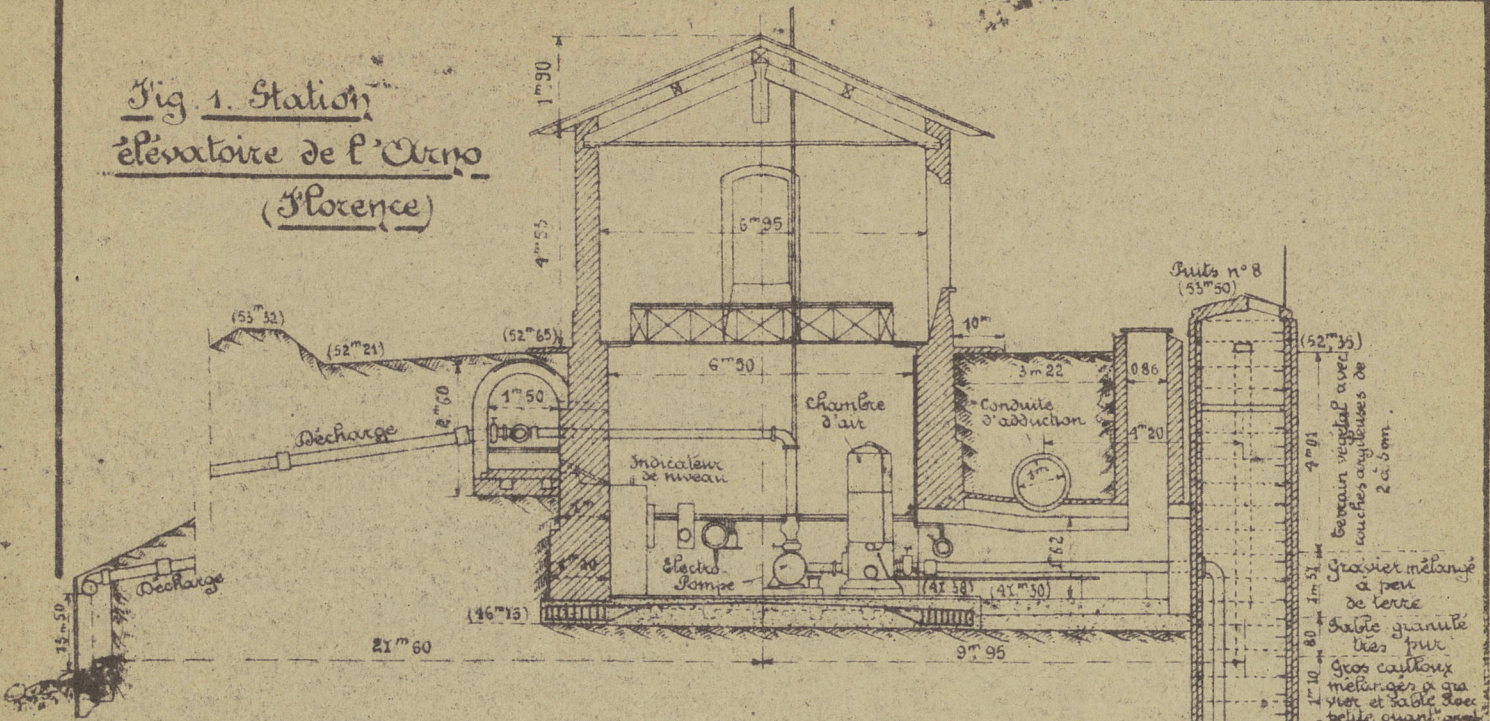


Fig. 2. Réservoirs en déblai à ciel ouvert



Fig. 3. Réservoir
en remblai à
ciel ouvert.

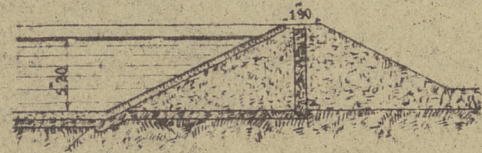


Fig. 4.
Réservoir
souterrain
de Naples
(dans le tuf)

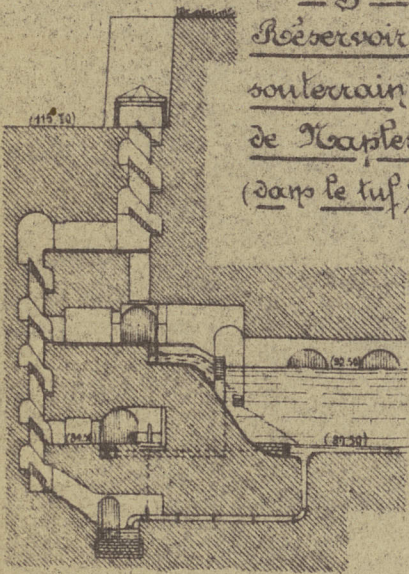


Fig. 5. Réservoir de Lillejuif
fondé sur le gypse.

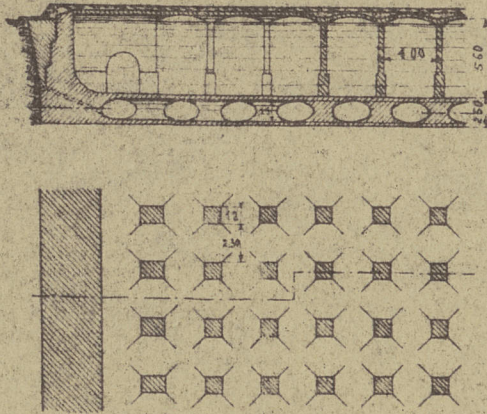


Fig. 6. Réservoir à 3
étages de Montmartre.

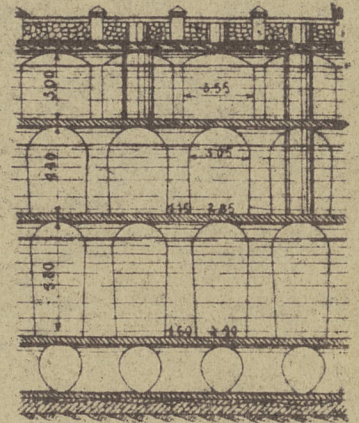


Fig. 7. Réservoir
en tranchée de
Wiesbaden.

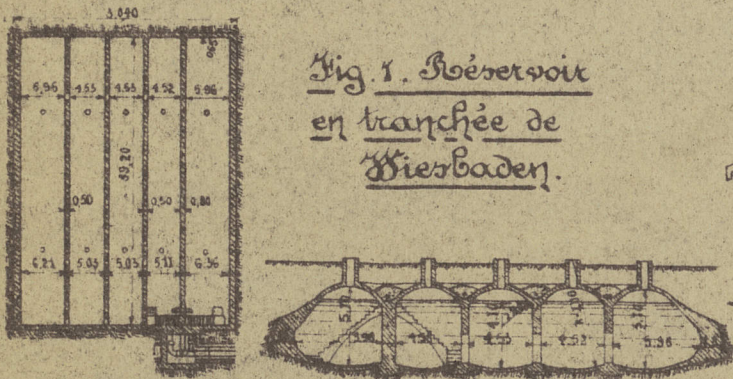


Fig. 8. Réservoir métallique couvert de
Bordeaux.

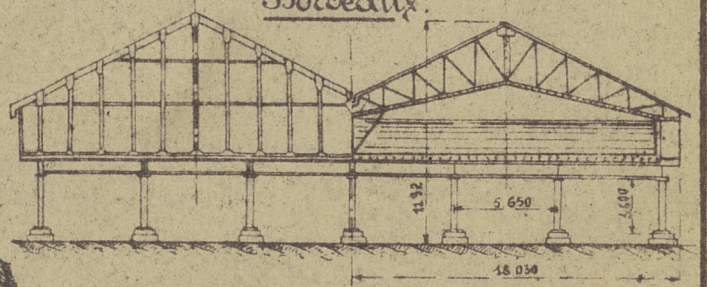


Fig. 1. Réservoir en béton armé de Chatillon

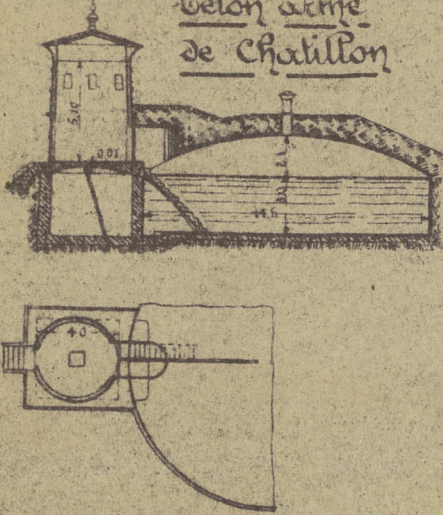


Fig. 2. Réservoir en béton armé de Pforzheim

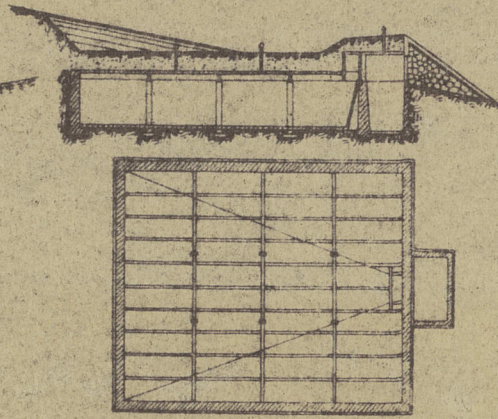


Fig. 3. Réservoir surélevé de Mannheim (château d'eau)

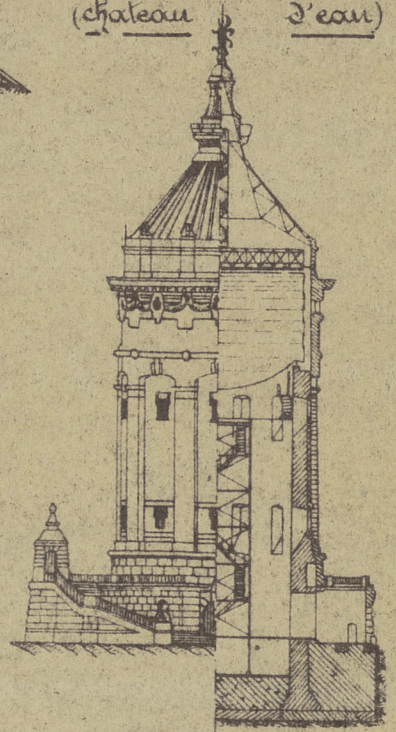


Fig. 4. Disposition générale d'un réservoir métallique surélevé

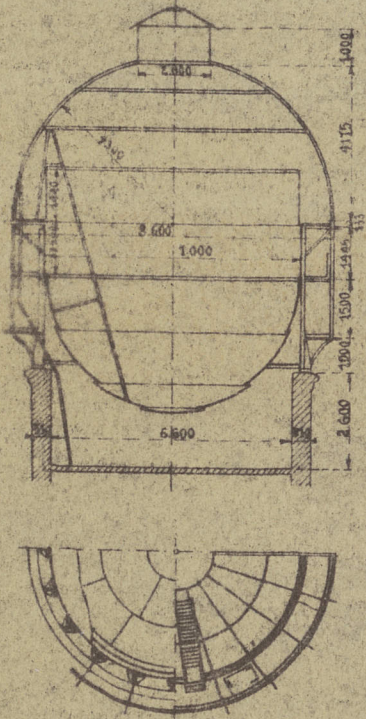


Fig. 5. Arrivées d'eau

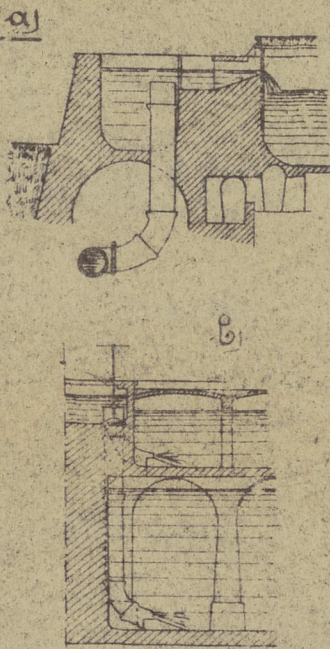
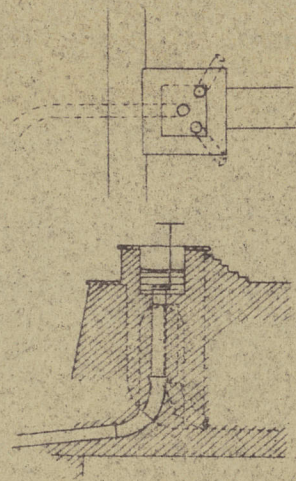


Fig. 6. Répartition de l'eau



a) Schéma de bassin filtrant

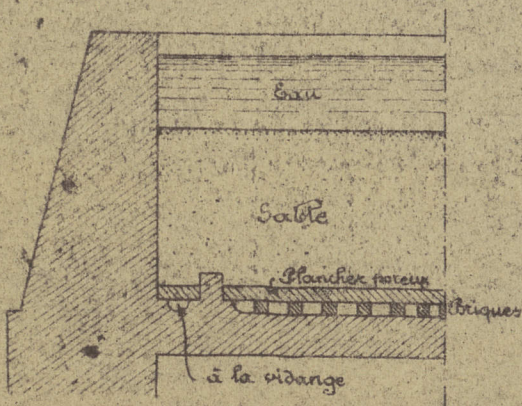


Fig. 7. Filtres. b) Couche filtrante.

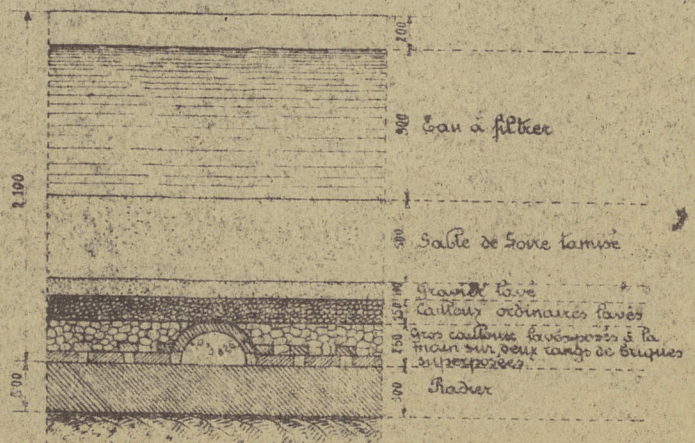


Fig 1 Disposition schematique des filtres de Suresnes.

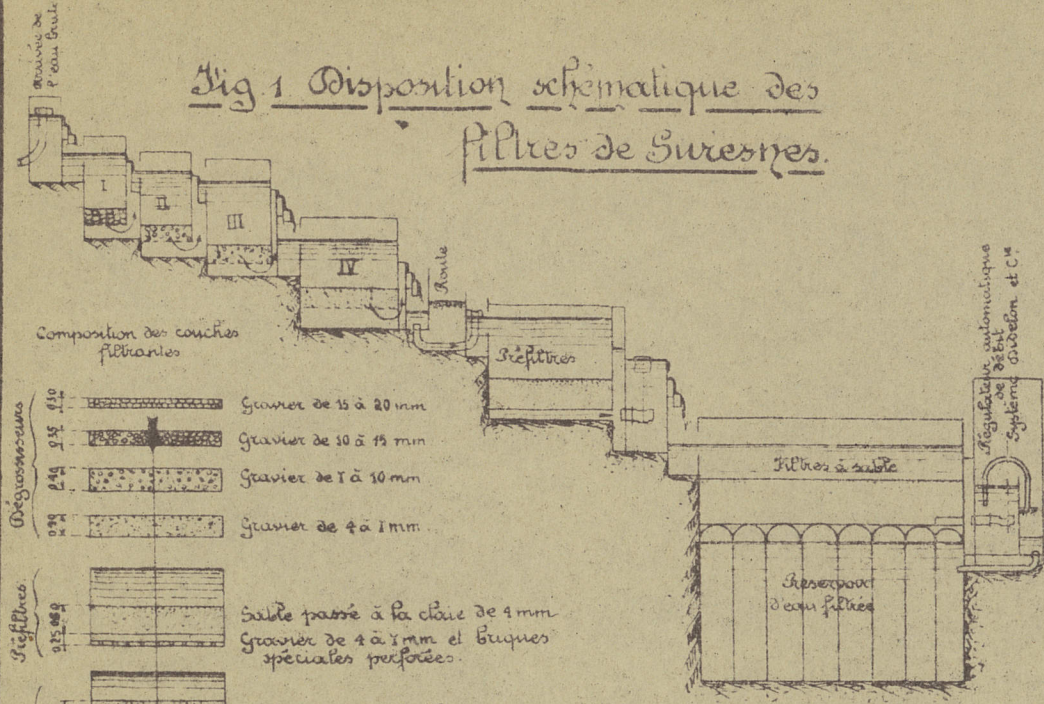


Fig. 1 Profil ovoïde (Paris)

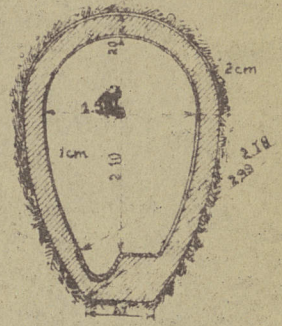


Fig. 5 Profil du collecteur de Königsberg

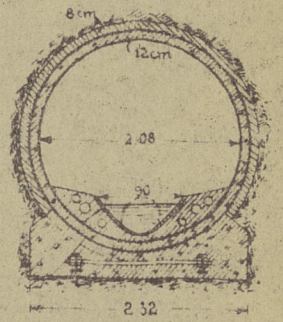


Fig. 2. Etablissement filtrant de Hambourg.

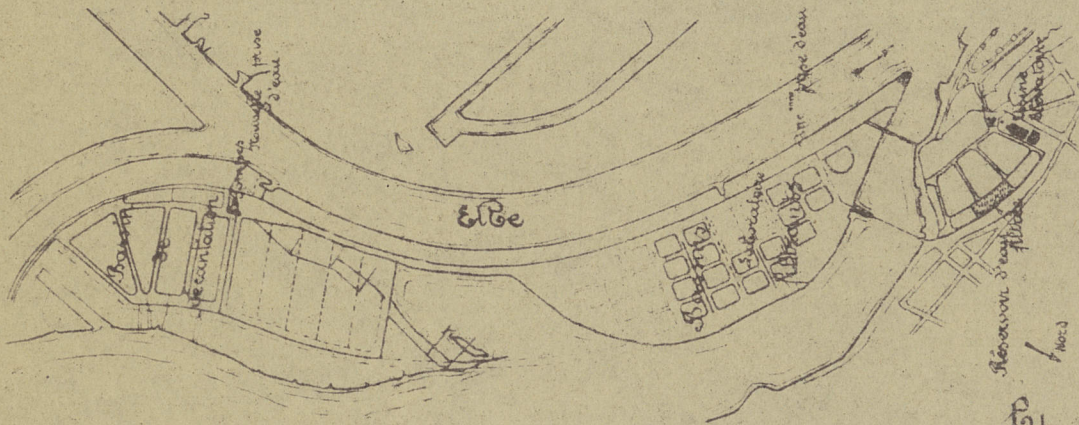


Fig. 6. Puils de visite

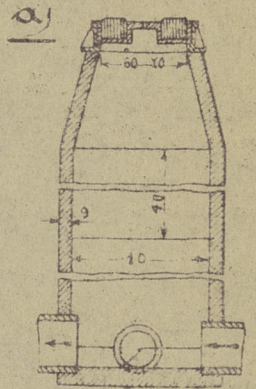


Fig 3 Profil du collecteur de Clichy (Paris)

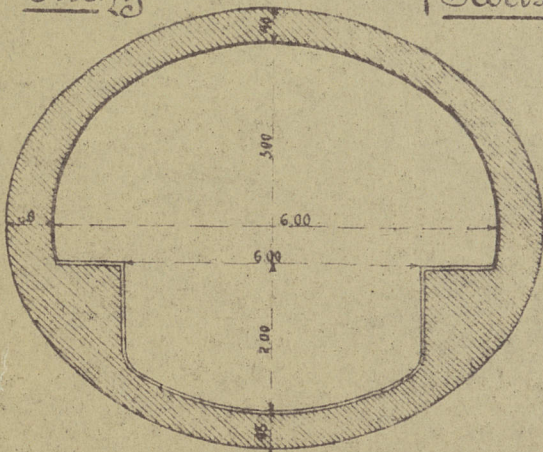
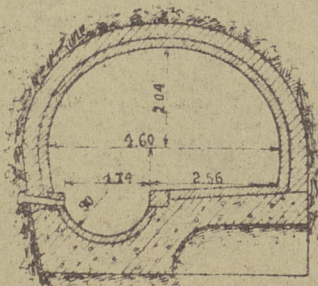
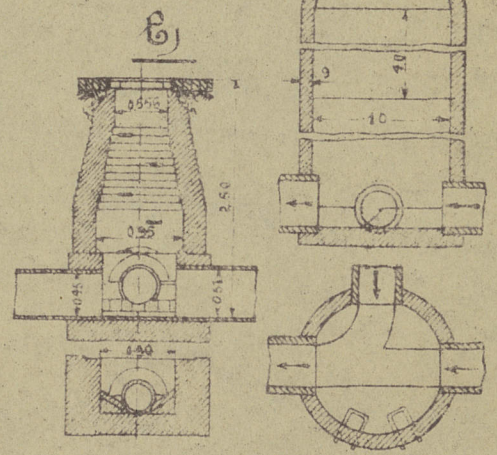
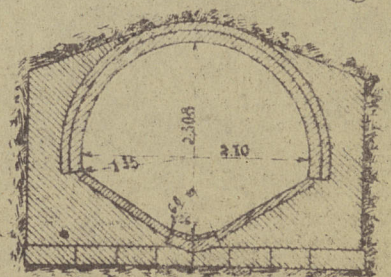


Fig. 4. Profils des collecteurs de

a) Cologne



b) Charlottenbourg



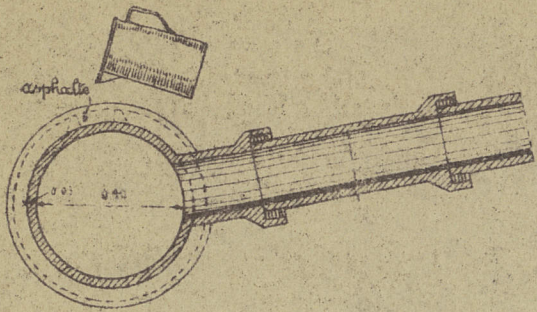


Fig. 1. Égouts élémentaires et raccords

Fig. 2. Raccords d'égouts

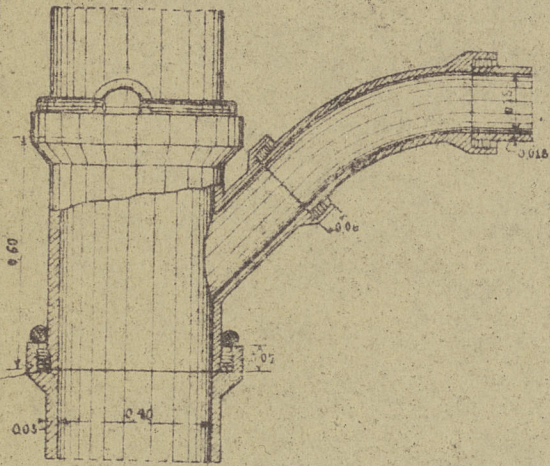
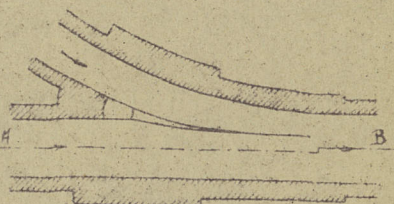
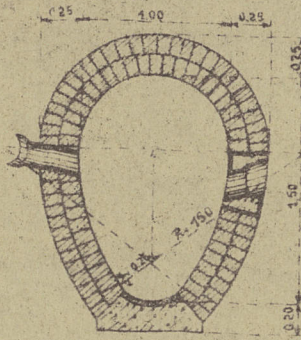
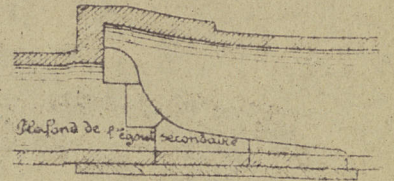


Fig. 3. Déversoir d'orage à grille couchée

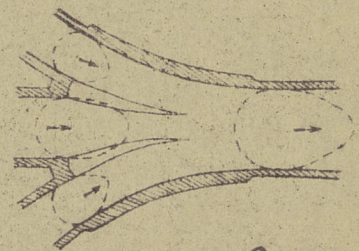


Fig. 6. Couvercle à fermeture auto-clave.

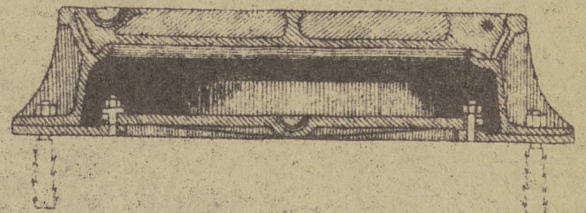
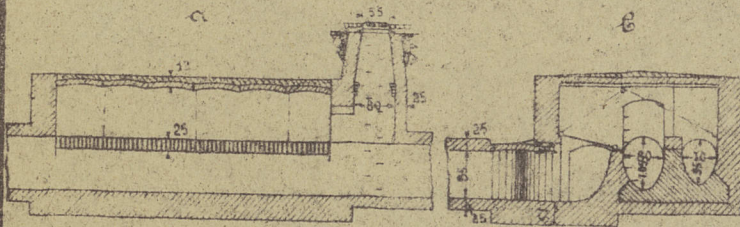


Fig. 4. Déversoirs d'orage à Charlottembourg.

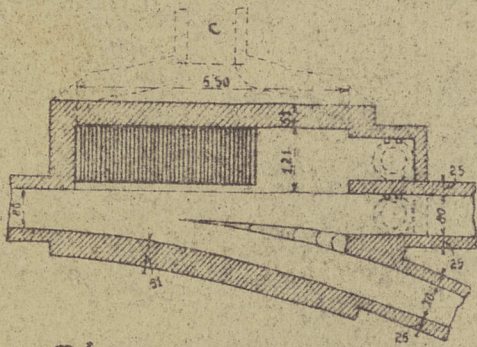


Fig. 5. Déversoir d'orage à écran plongeant

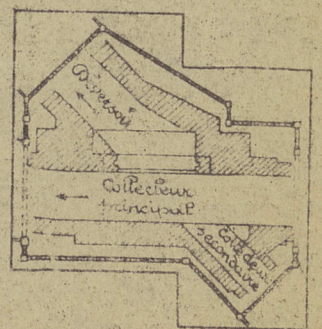
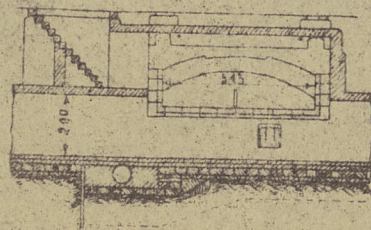
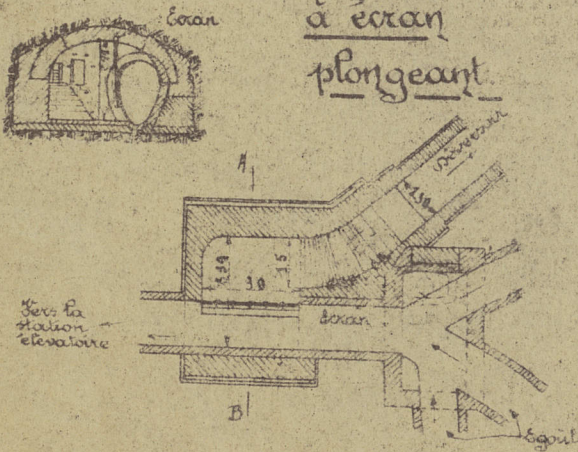
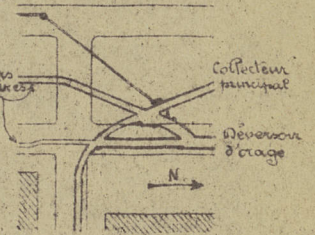
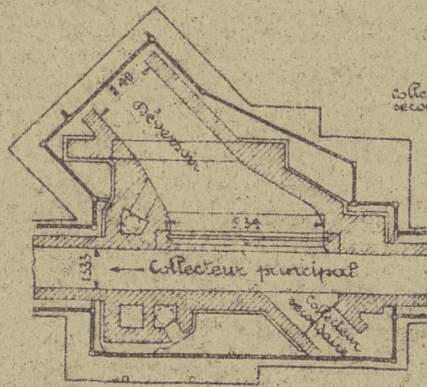


Fig 1. Débouché dans le Bofin du collecteur principal de Cologne

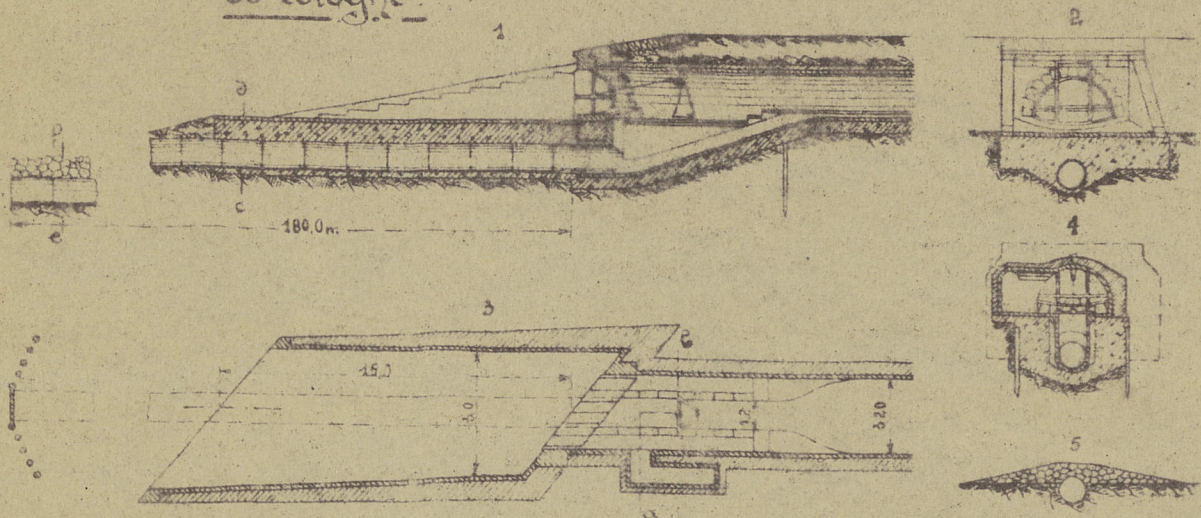


Fig 2 Puits de visite

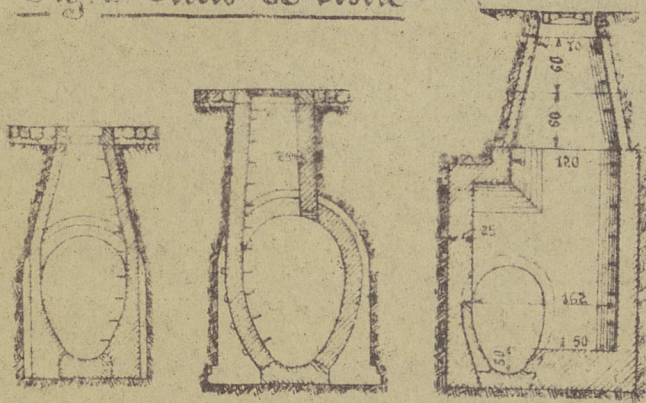


Fig 3 Système séparé

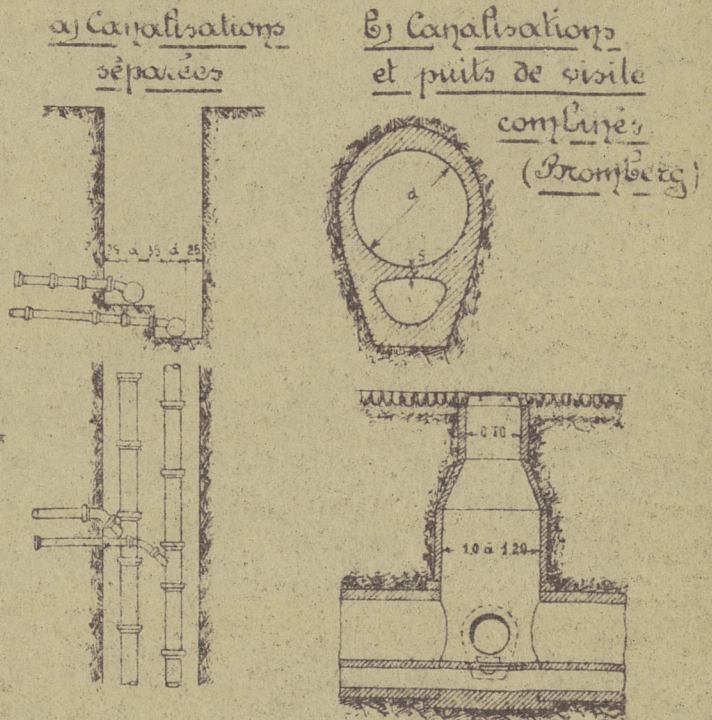


Fig 4 Puits de visite avec clapet de charne

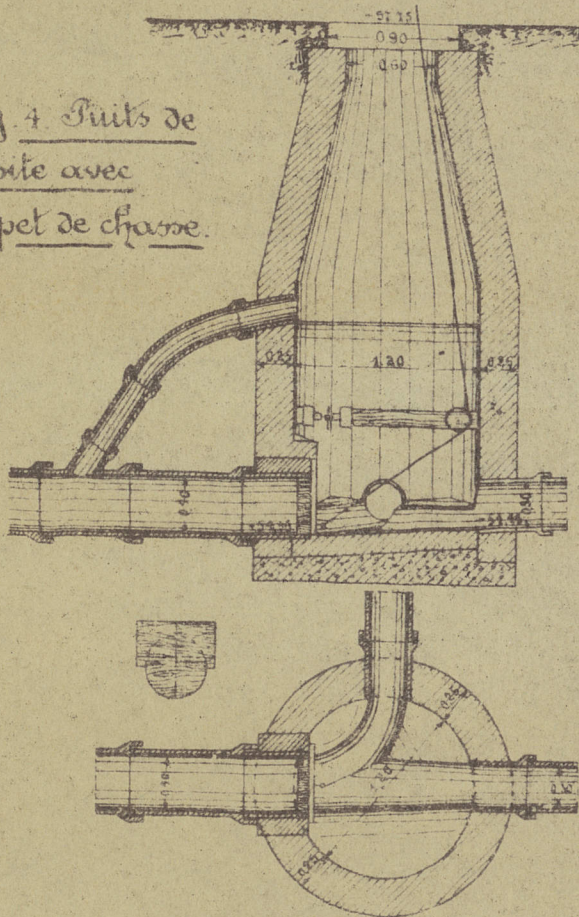
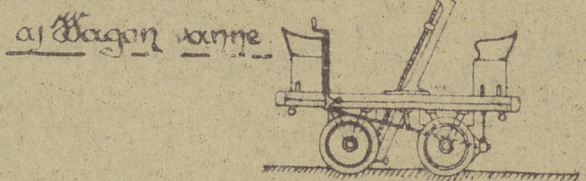


Fig 5 Curage



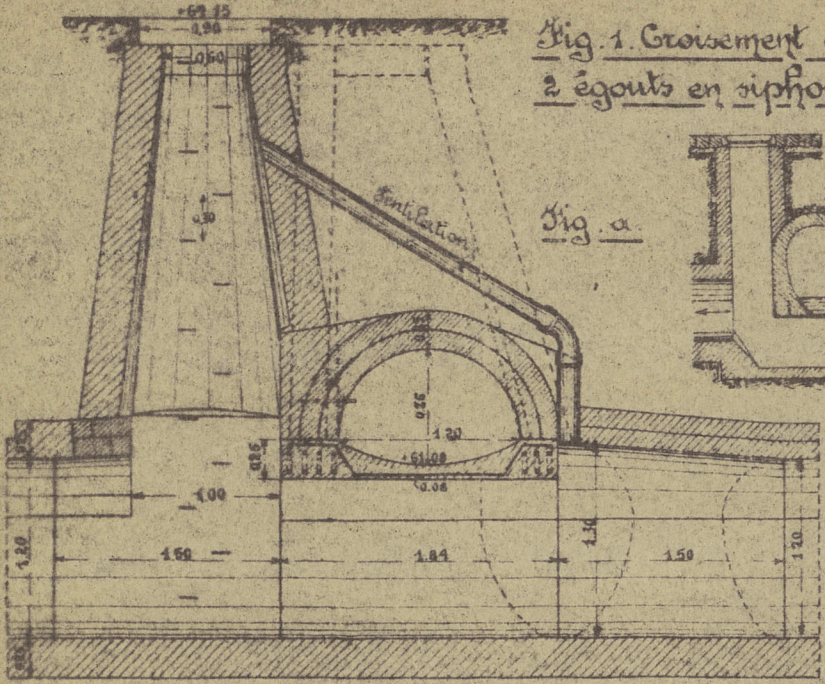


Fig. 1. Croisement de 2 égouts en siphon.

Fig. a

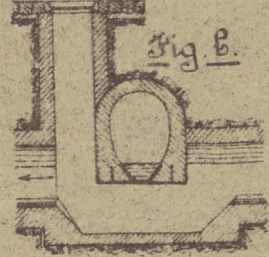


Fig. b

Fig. 2. Cheminée d'équilibre de la conduite de refoulement de Charlottenbourg vers les champs d'épandage.

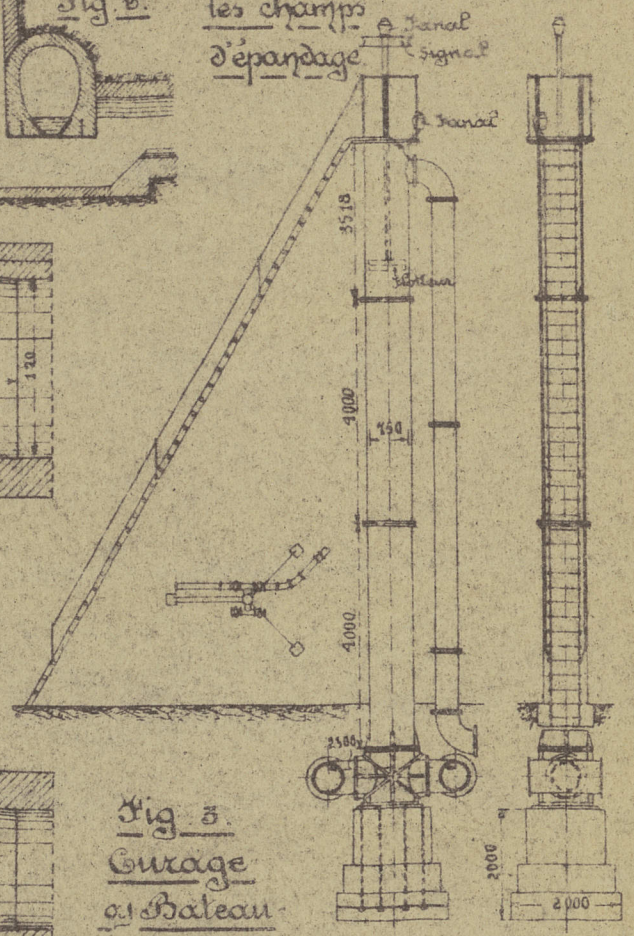


Fig. 3. Ouvrage au bateau.

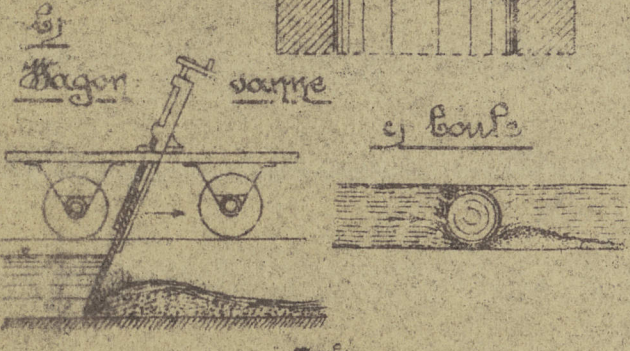
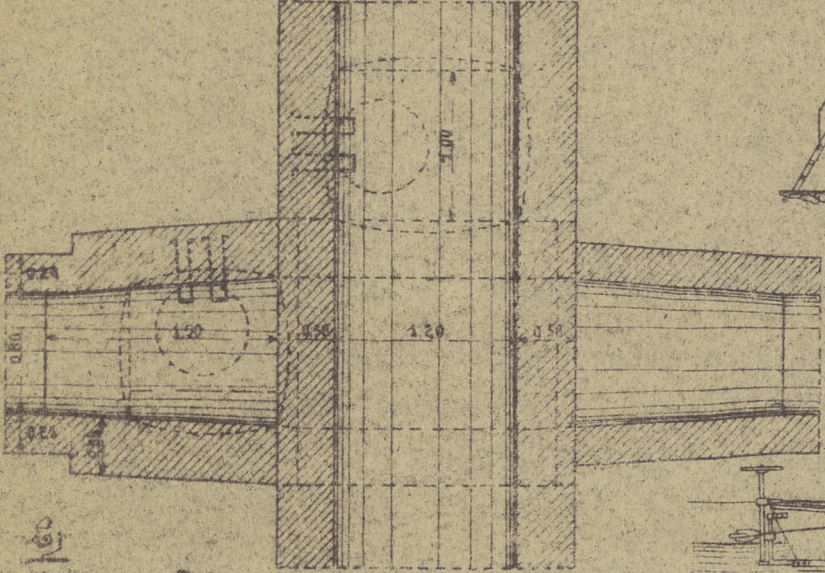
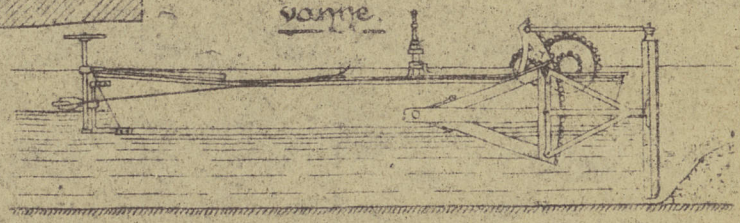
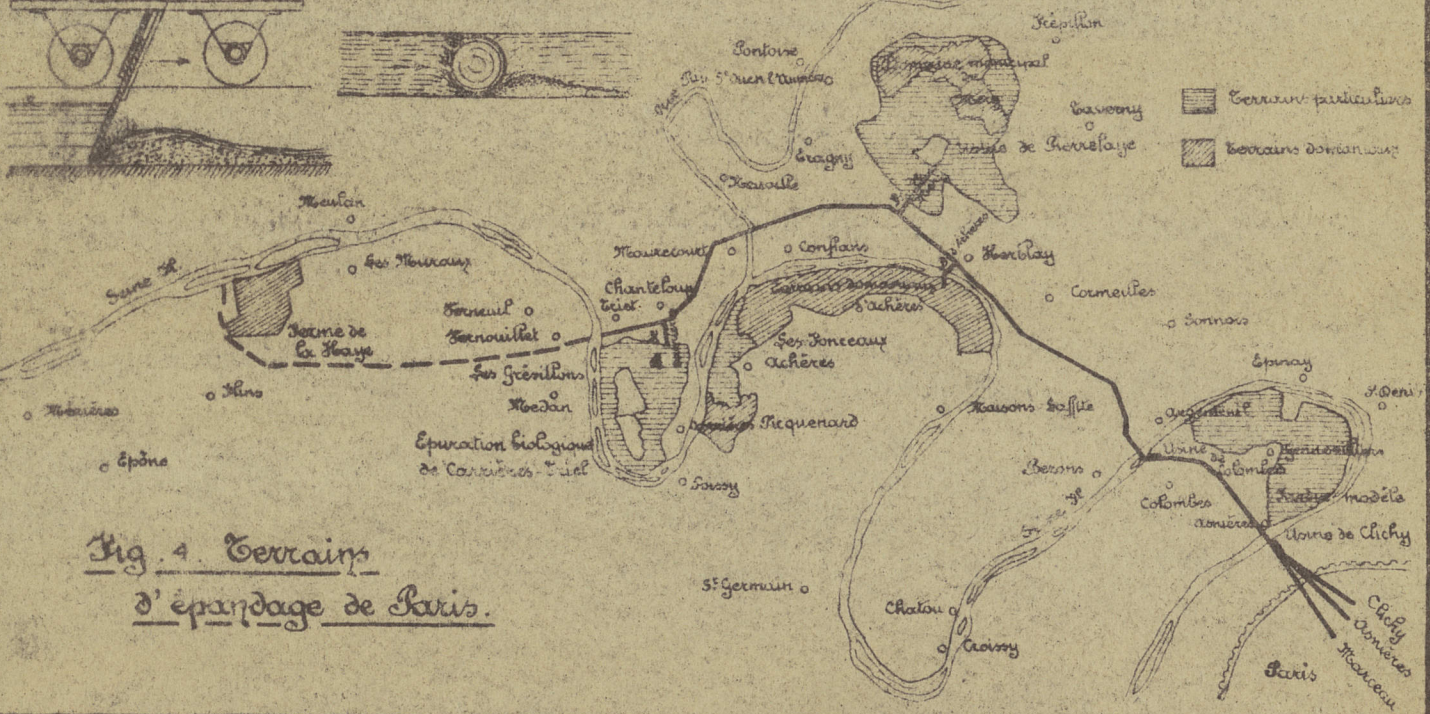


Fig. 4. Terrains d'épandage de Paris.



Terrain particuliers
 Terrains domaniaux

Fig. 1. Drains en poterie - Accordements

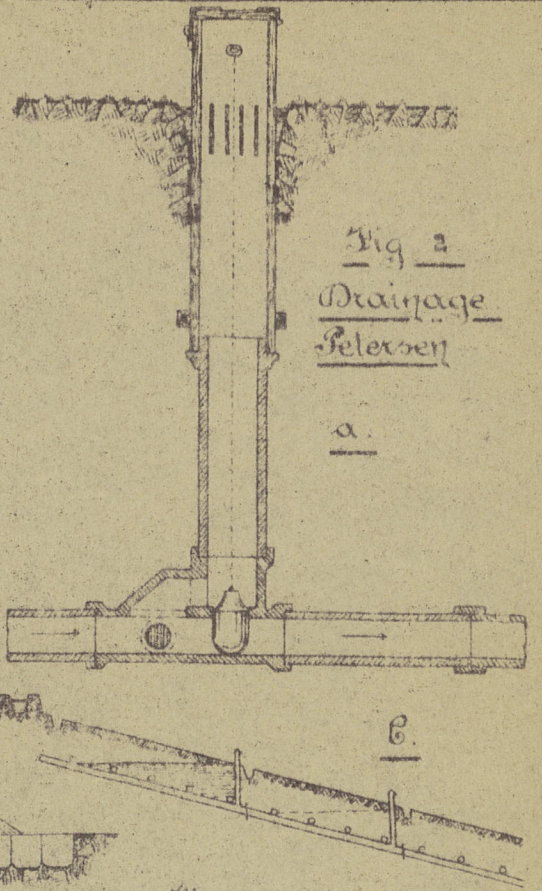
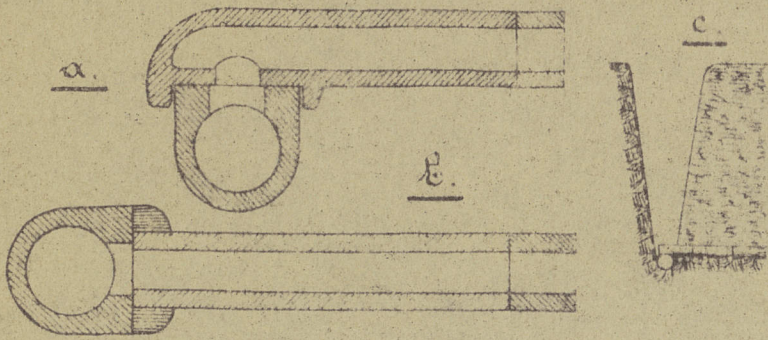


Fig. 3. Têtes de drains

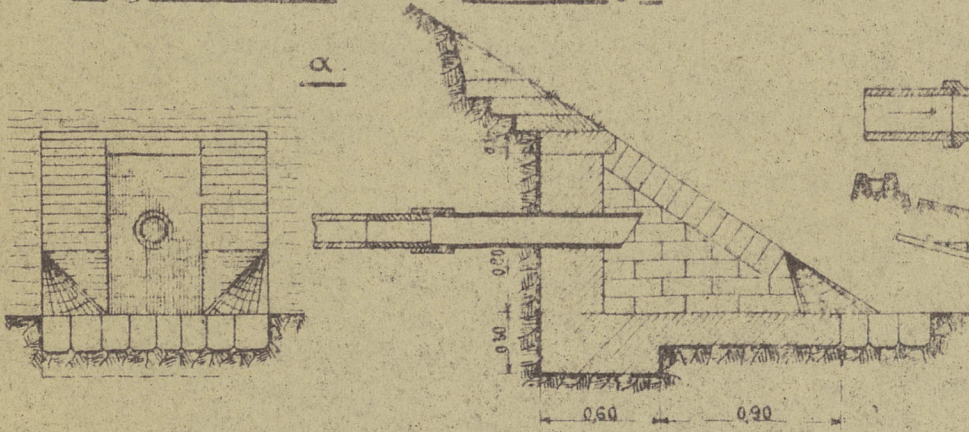


Fig. 4.

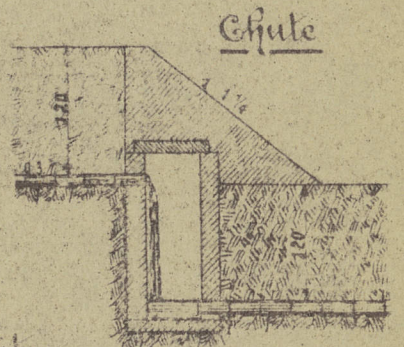
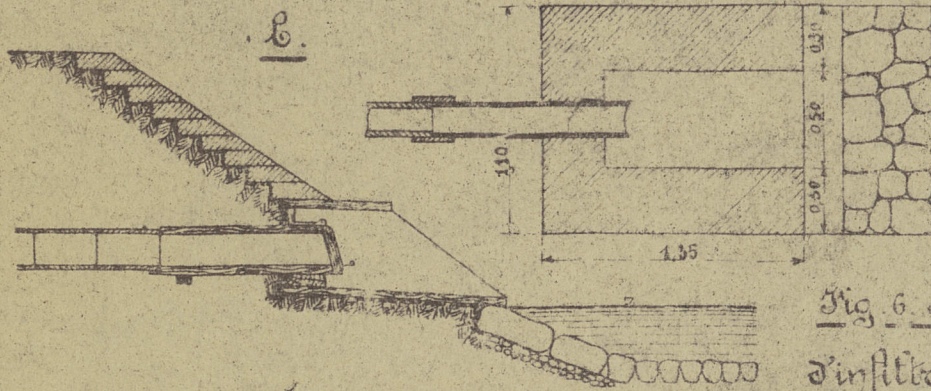


Fig. 6. Puits d'infiltration des eaux de drainage

Fig. 5. Puits collecteur de drains

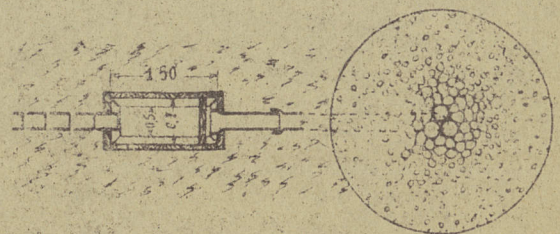
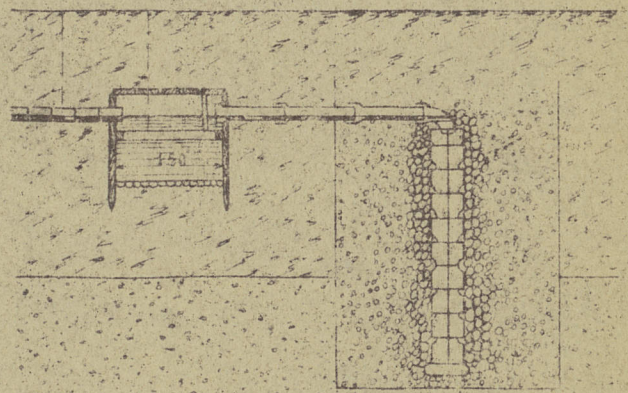
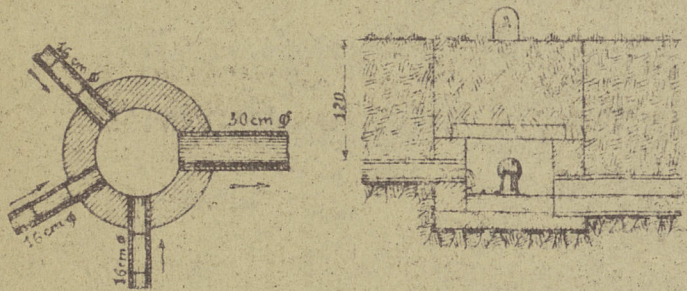


Fig. 1. Coupe longitudinale A.B. (Portes enlevées)

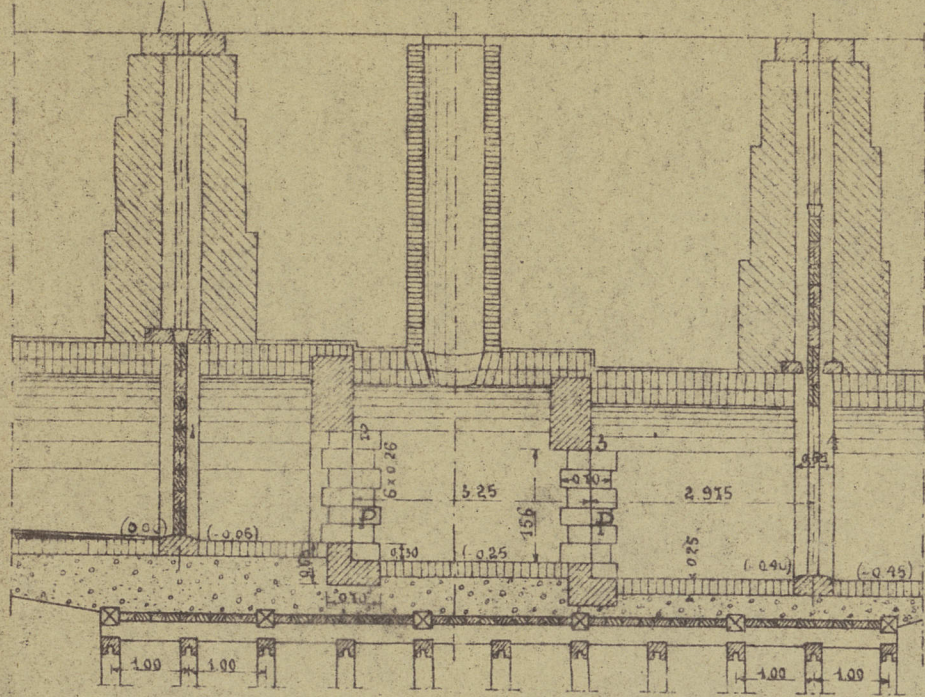
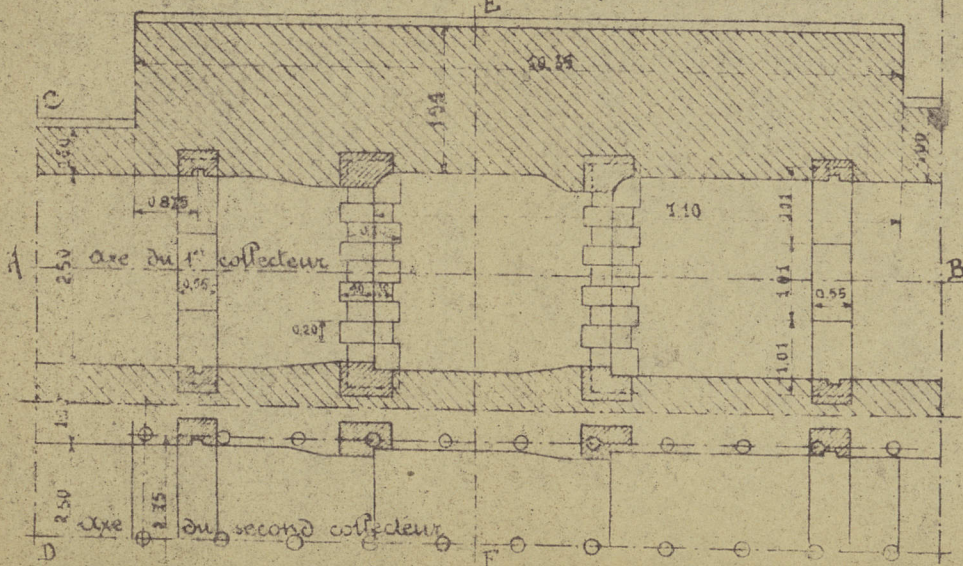
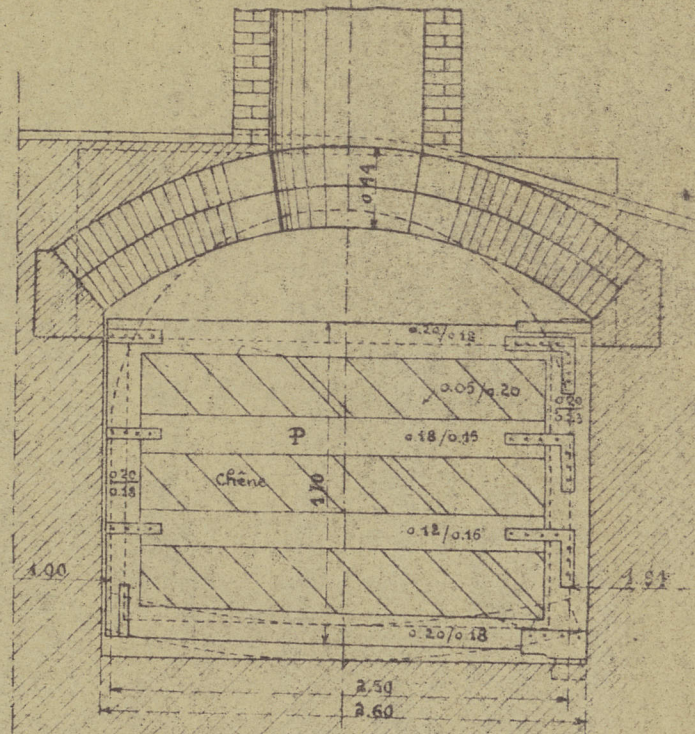


Fig. 2. Plan, appareils de fermeture enlevés.



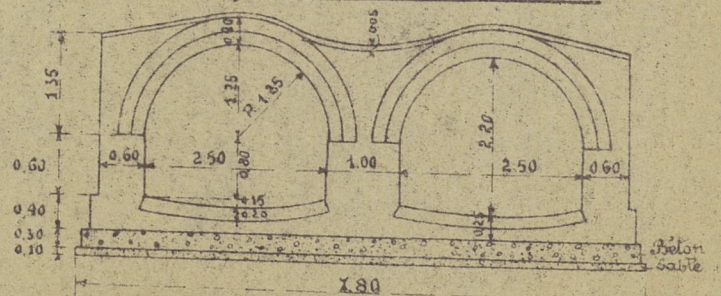
Eclusette
d'évacuation
du
Fosseghyn
(Anvers)

Fig. 5 Coupe transversale E.F.
Porte automobile.



Echelle 0,025 p.m

Fig. 4.
Coupe transversale C.D



Echelle 0,01 p.m

A. R. H. 21

Déversoir à vannes.

Fig. 1.
Elevation de
la tête amont
suisant A.B.C.D.

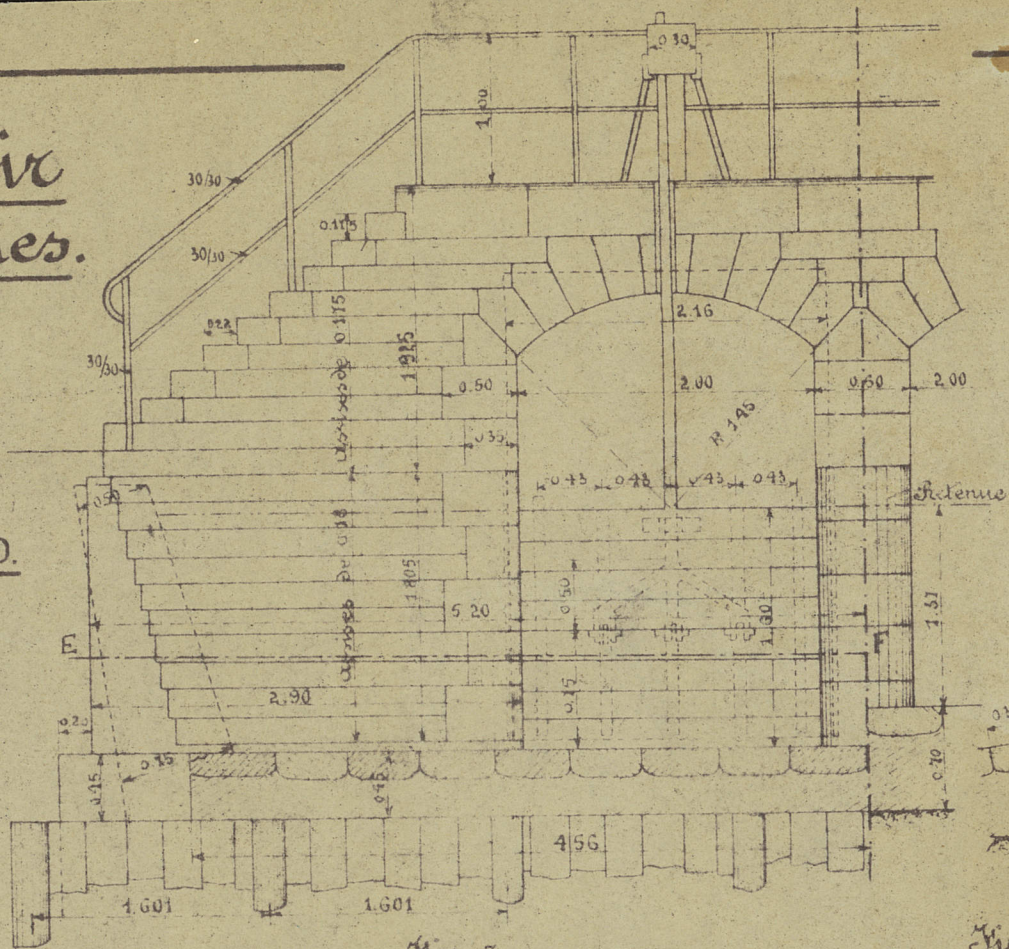


Fig. 3.

Fig. 3.
Coupe
horizontale E.F.

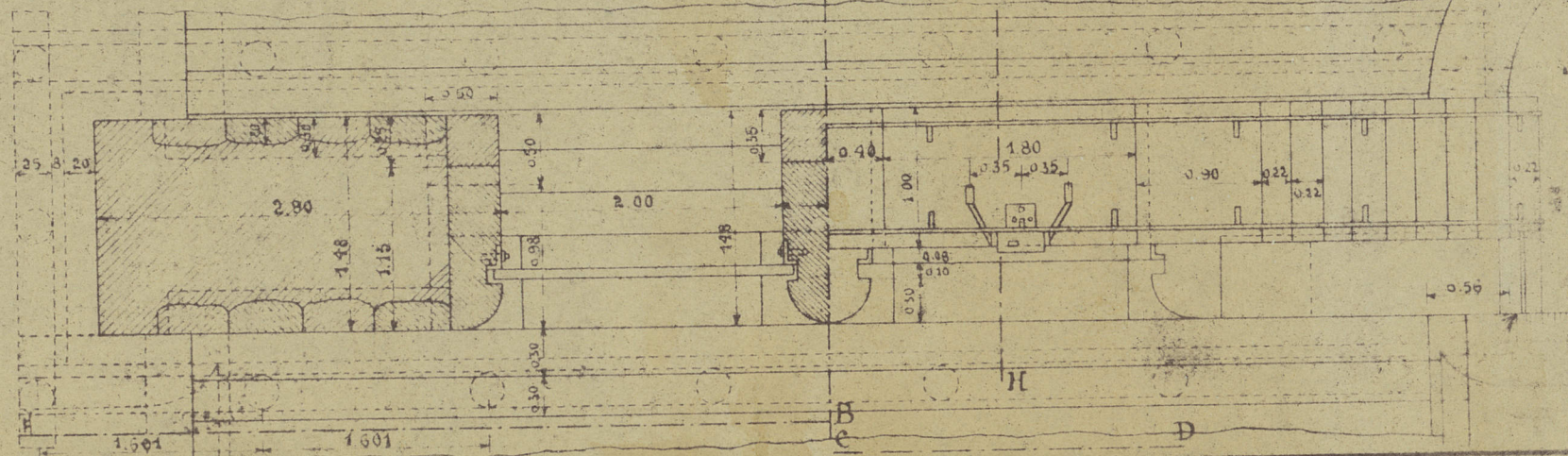


Fig. 4.
Demi-plan.

Fig. 2.
Coupe transversale
suisant G.H.

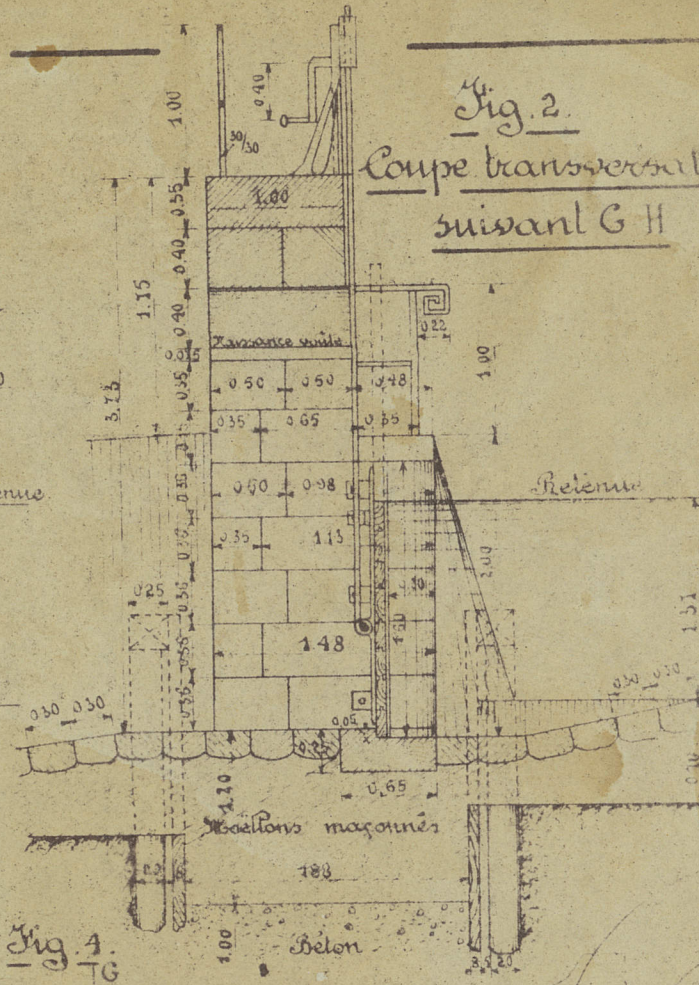


Fig. 4.
T.G.

Fig. a

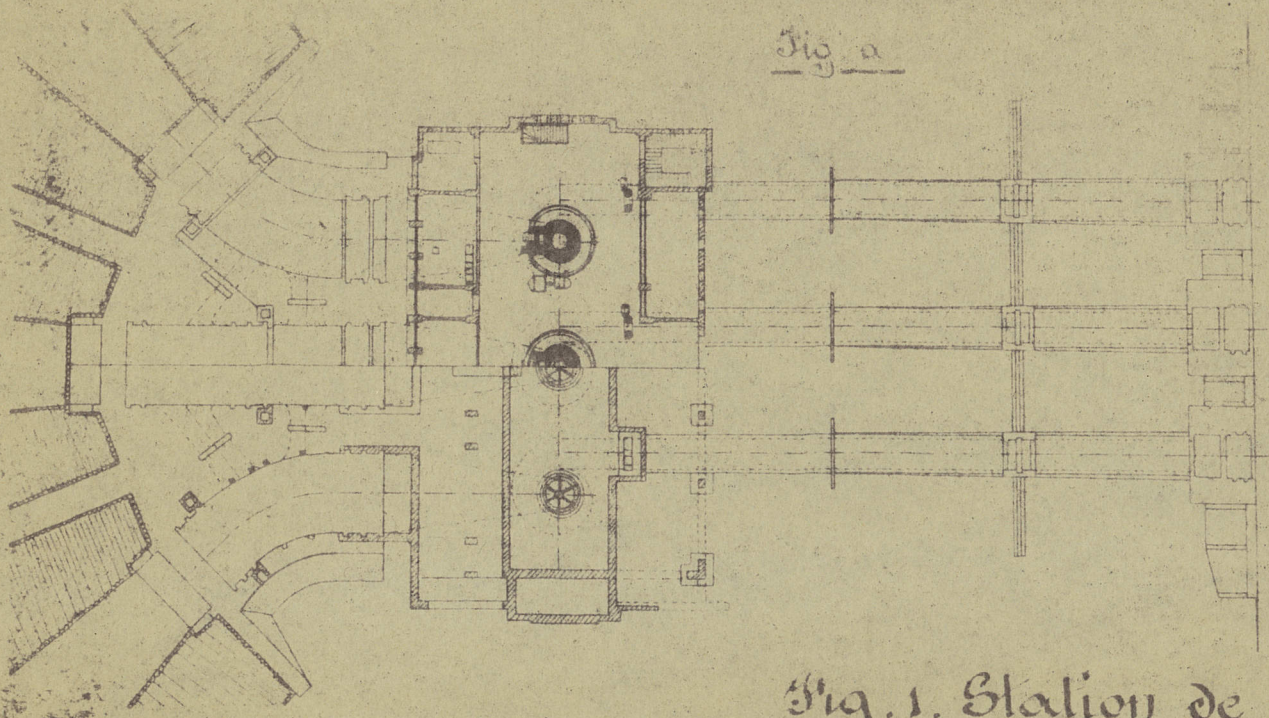


Fig. 1. Station de pompage électrique de Noedemlik. (Zuidervée)

Fig. b

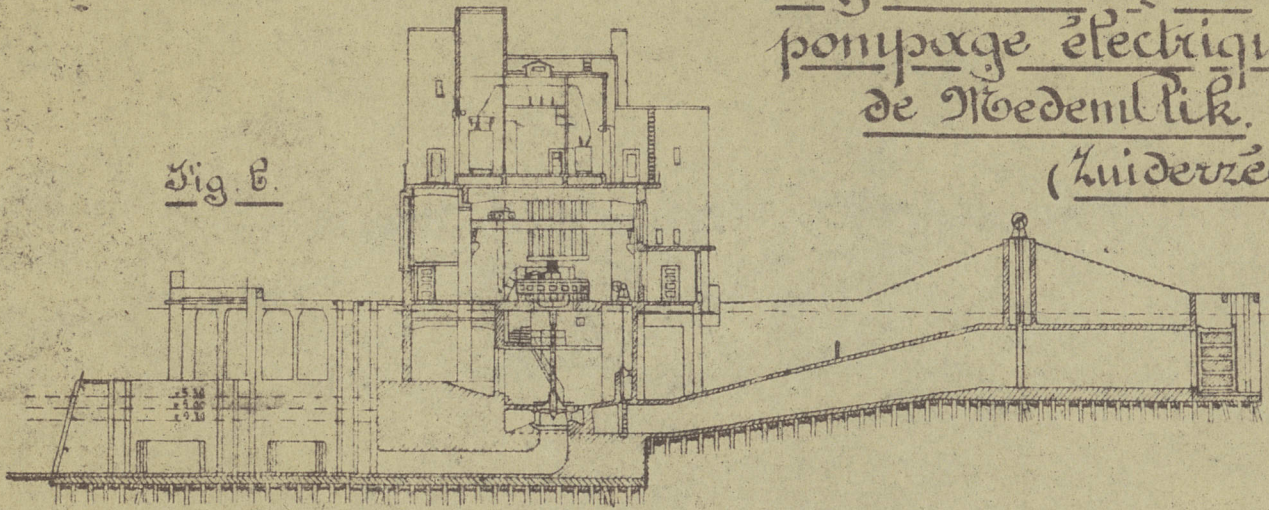


Fig. 1. Coupe longitudinale A B

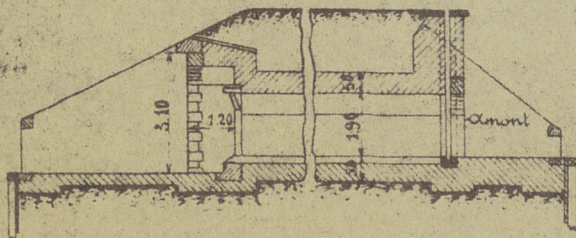


Fig. III. Tête aval

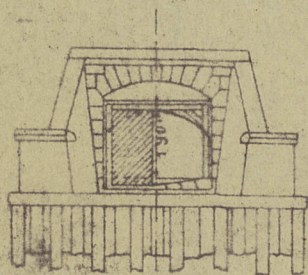


Fig. II. Plan.

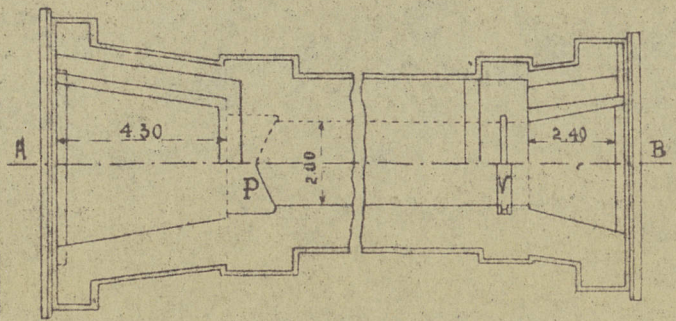


Fig. 4. Tête amont.

Fig. 2. Schéma d'écluse

