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DE

# L'EXPOSITION UNIVERSELLE

# DE CHICAGO

# 1893

## ATLAS

4ème PARTIE

PARIS

E. BERNARD & Cie ÉDITEURS

LA

# MÉCANIQUE GÉNÉRALE

## A L'EXPOSITION DE CHICAGO

MOTEURS A VAPEUR, A GAZ, A AIR
HYDRAULIQUE, POMPES
GRANDES INSTALLATIONS MÉCANIQUES

PAR

**M. GRILLE**
INGÉNIEUR CIVIL DES MINES

**M. H. FALCONNET**
INGÉNIEUR DES ARTS ET MANUFACTURES

**Collaborateur : M. CRÉPY**
INGÉNIEUR, ANCIEN ÉLÈVE DE L'ÉCOLE POLYTECHNIQUE

**ORGANE**

DES CONGRES INTERNATIONAUX TENUS A CHICAGO EN 1893

SOUS LA PRÉSIDENCE DE

**MM. O. CHANUTE & E.-L. CORTHELL**

PARIS
E. BERNARD & C^IE^, IMPRIMEURS-ÉDITEURS
**53 ter, quai des Grands-Augustins, 53 ter**

1894

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120 Coupe en travers de la rue Adams. — Coupe en travers de la rue Dearborn. — Plan du croisement des rues Adams et Dearborn.

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# MACHINE ALLIS.

*3000 Chevaux.*

Fig. 1. Vue de Côté.

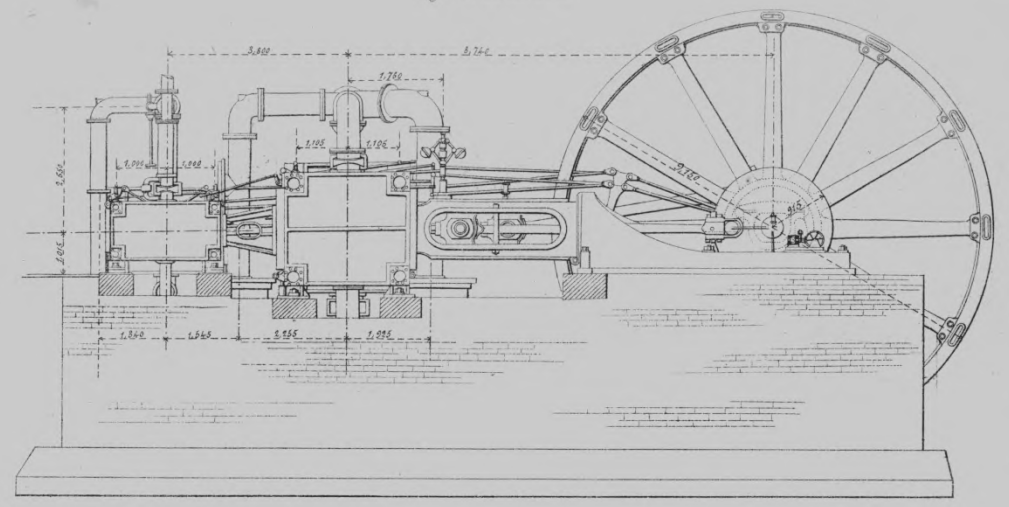


Fig. 2. Plan.

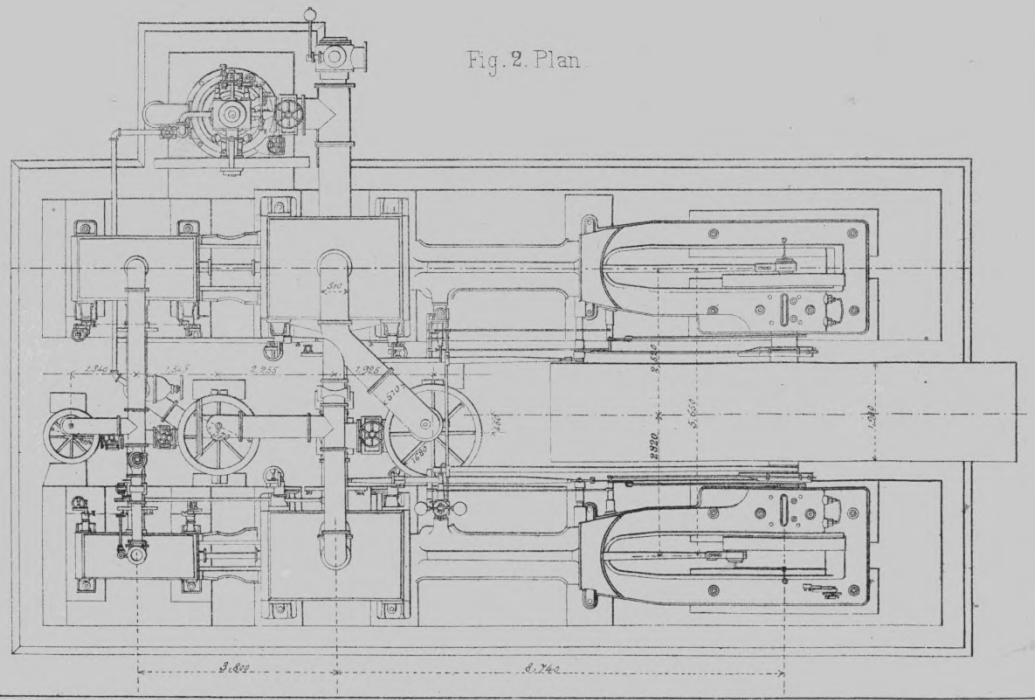


Fig. 3.
Distribution des Cylindres
à basse pression
*Echelle 1/50.*

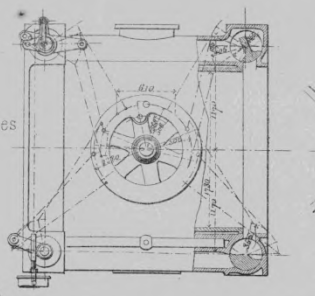


Fig. 4.
Vue de Côté
de la Distribution

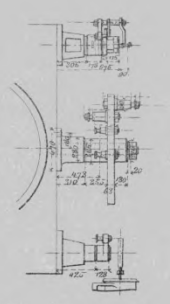
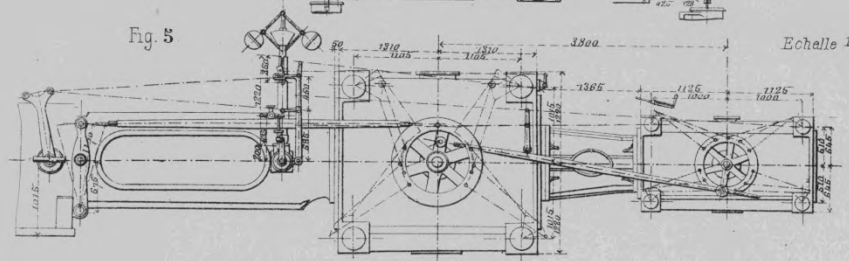


Fig. 5



*Echelle 1/60.*

*Fig. 5 et 6.* Distribution des Cylindres à haute pression et 2e intermédiaire.

Fig. 6

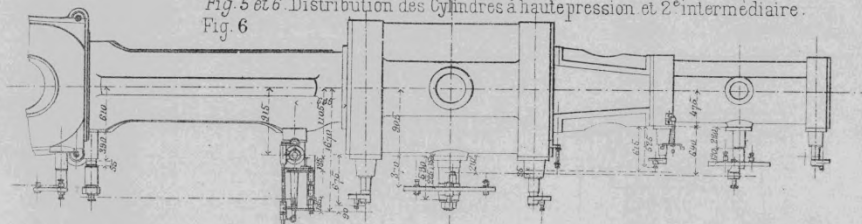


*Fig. 7 et 8.* Distribution des Cylindres à basse pression et 1re intermédiaire.

Fig. 7

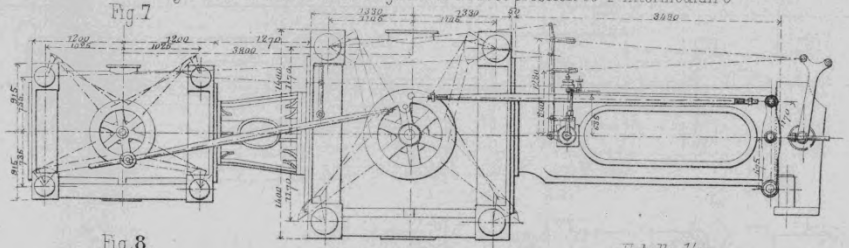
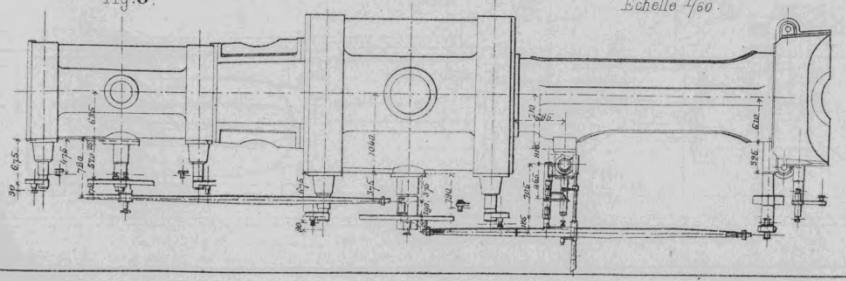


Fig. 8.

*Echelle 1/60.*



# Machine à triple expansion
## DE MM. FRASERS ET CHALMERS A CHICAGO

Fig. 1. Vue de Côté
*Echelle 1/100.*

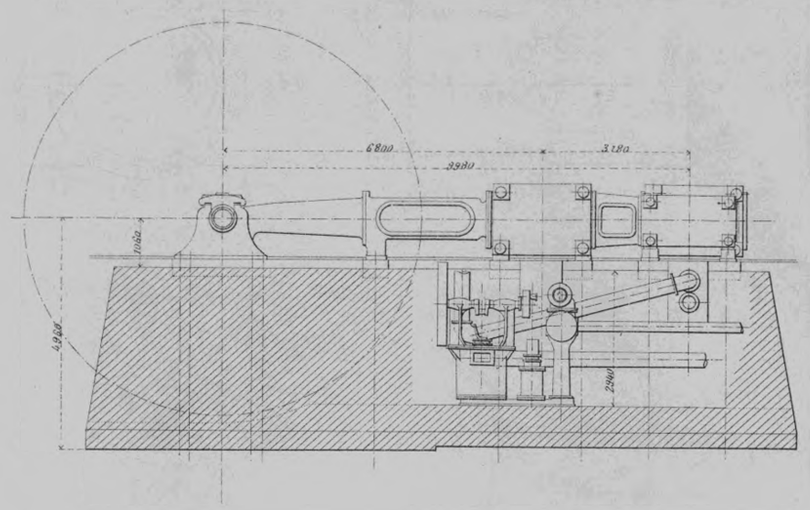
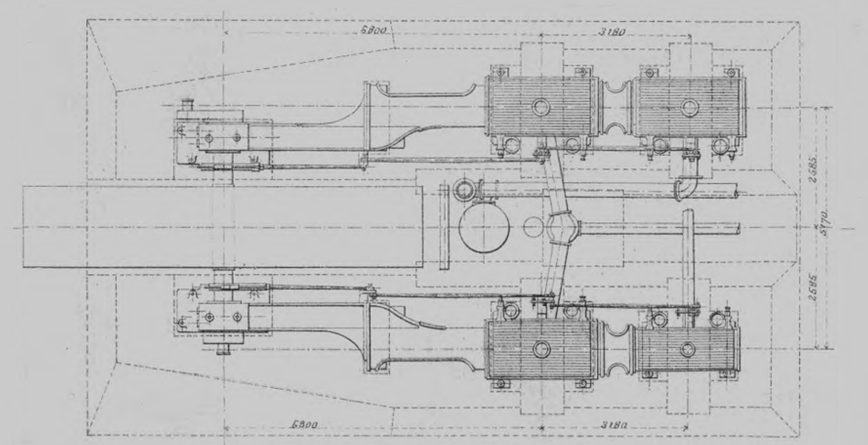


Fig. 2. Plan
*(Echelle 1/100*



*(Fig 3 à 9)* Cylindre à basse pression. *(Ech 1/30)*.

Fig. 3.

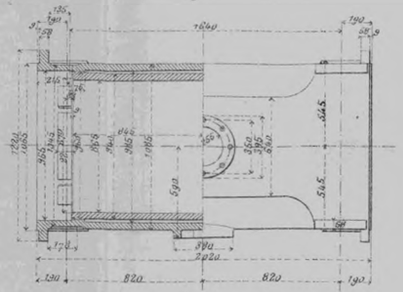


Fig. 4.

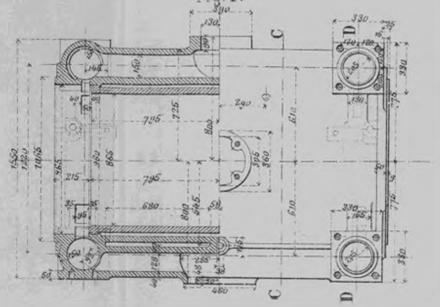
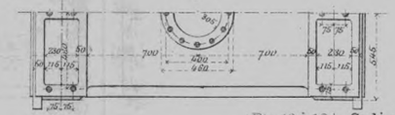


Fig. 5.



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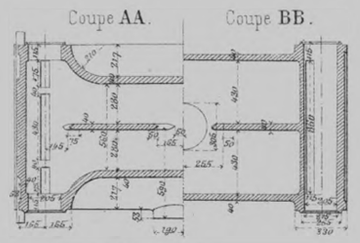
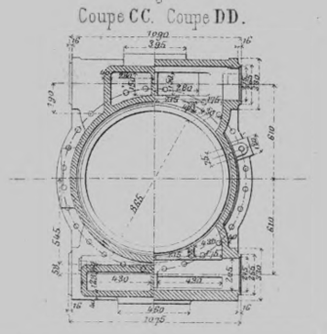



Fig. 7.

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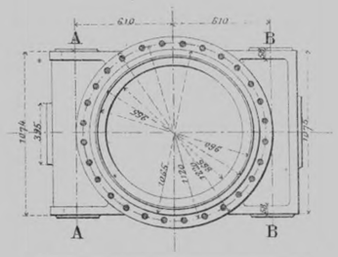
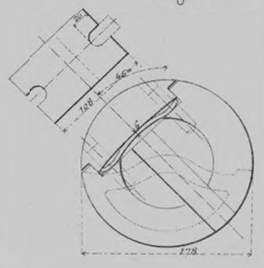


*(Fig. 17 et 18)* Tiroir.
*(Echelle 1/15)*

Fig. 17.



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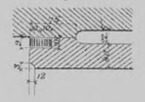


*(Fig. 10 à 16)*. Cylindre à haute pression. *(Ech. 1/30)*.

Fig. 15.

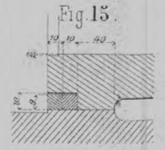
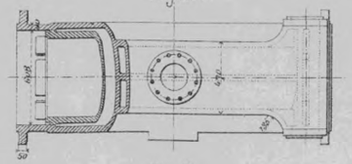


Fig. 10.



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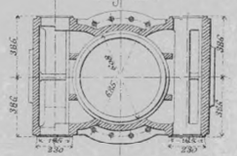

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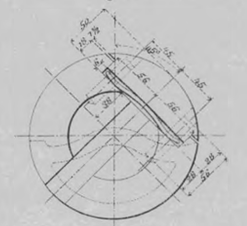
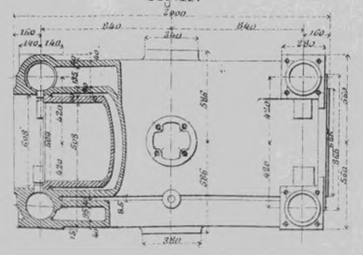


Fig. 13.

Fig. 11.



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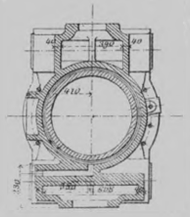

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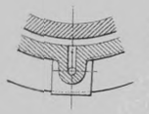

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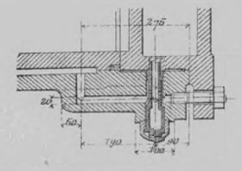


# Machine à triple expansion.

## DE MM. FRASERS ET CHALMERS A CHICAGO.

Distribution extérieure.

Fig. 1.

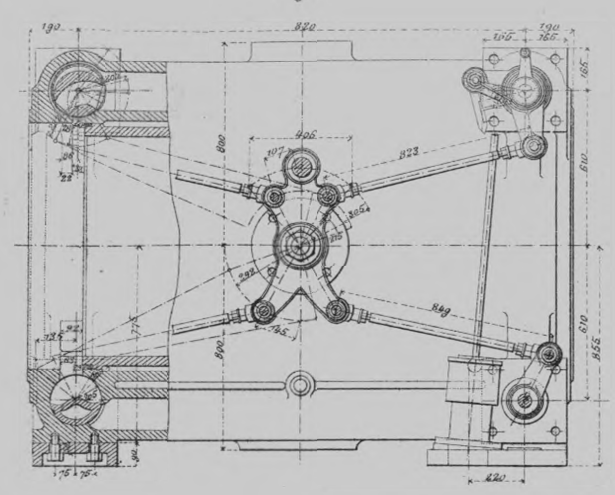
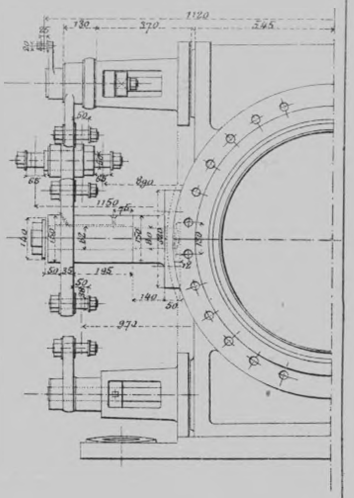


Fig. 2.



**Bâti.**

*Echelle* $\frac{1}{30}$

Fig. 3.

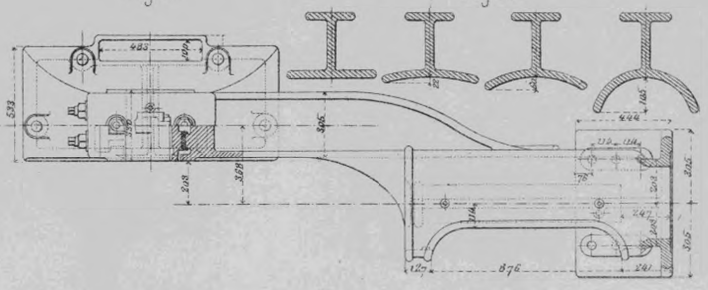


Fig. 7.

Fig. 6.

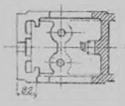


Fig. 5.

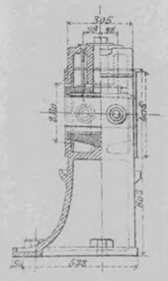
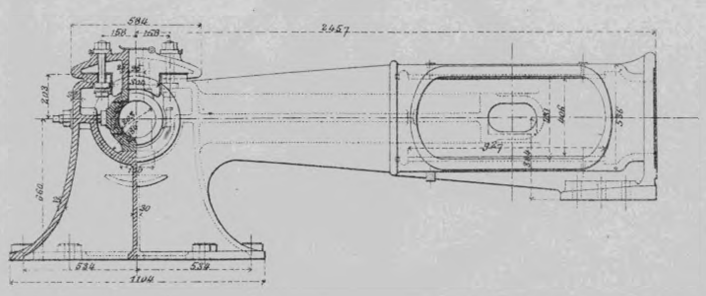


Fig. 4.



# MACHINE A VAPEUR DES FORGES DU PHENIX

à San-Francisco.

Valve d'admission.

Fig.7.


Fig.8.

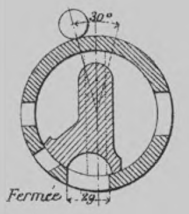



Fig.5.

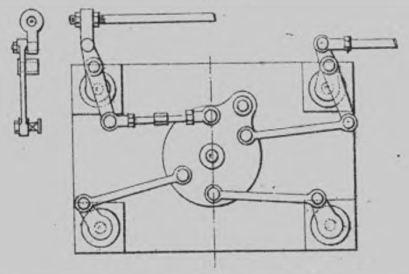


Fig.6.

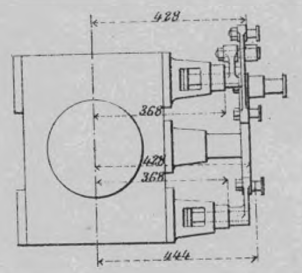



Fig.9.

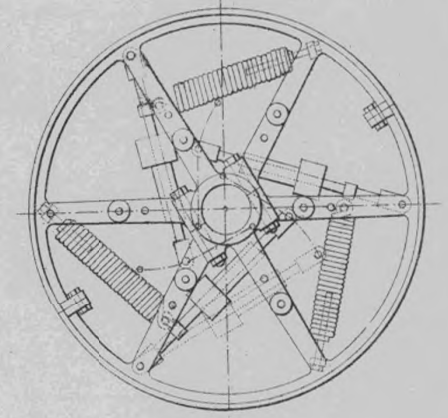


Fig.1.

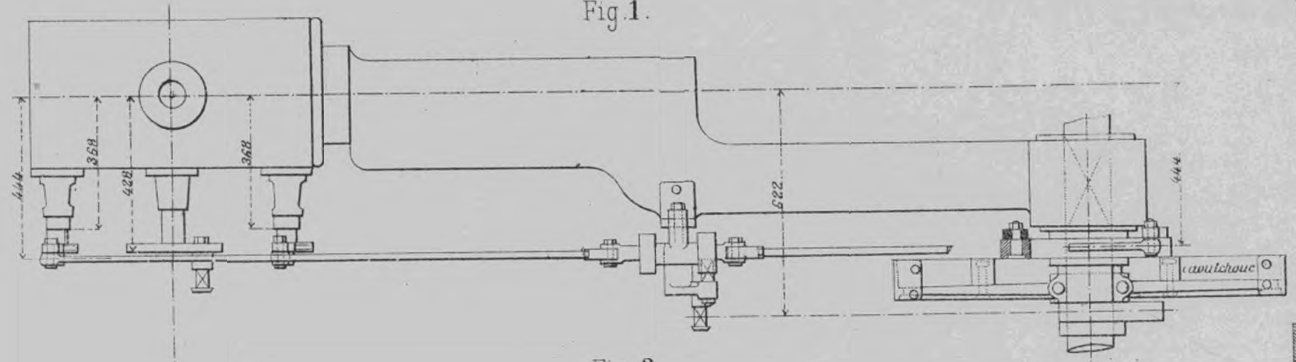



Fig.10.

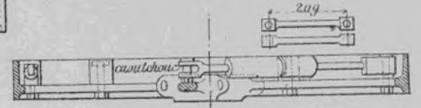



Fig.2.

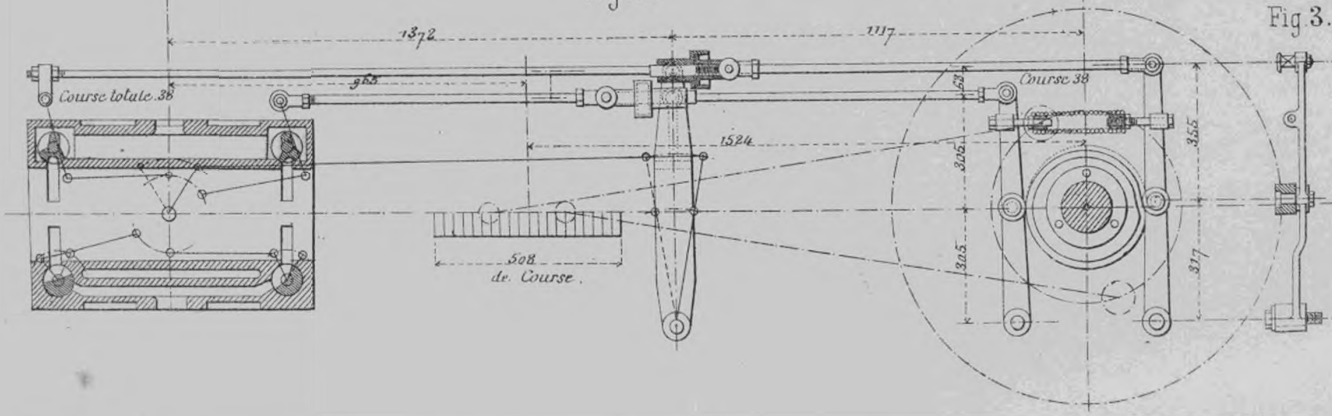
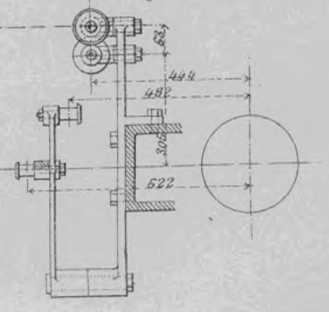



Fig.3.



Fig.4.



## ATELIERS DE CONSTRUCTION JOHN ABELL A TORONTO *( CANADA.)*

### MACHINE TANDEM COMPOUND A CONDENSATION .

Fig. 1. Vue de côté et Coupe partielle
de la machine du rechauffeur d'eau d'alimentation et du condenseur

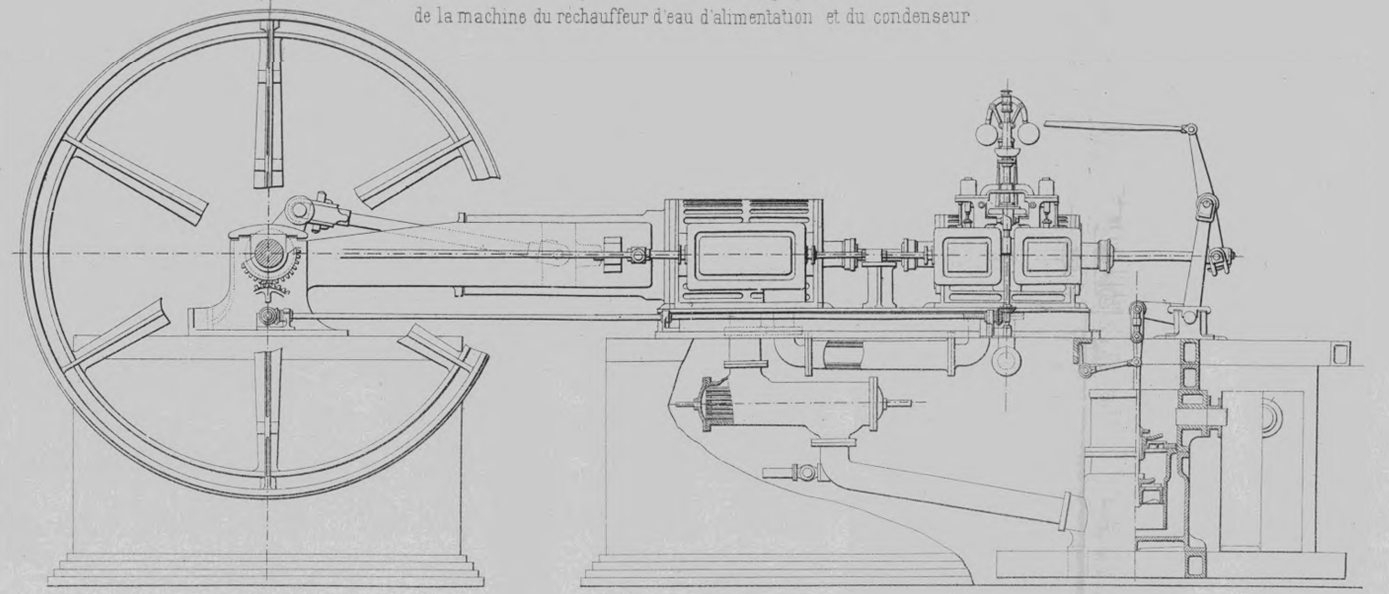


Fig. 2. Plan et Coupe partielle de la machine

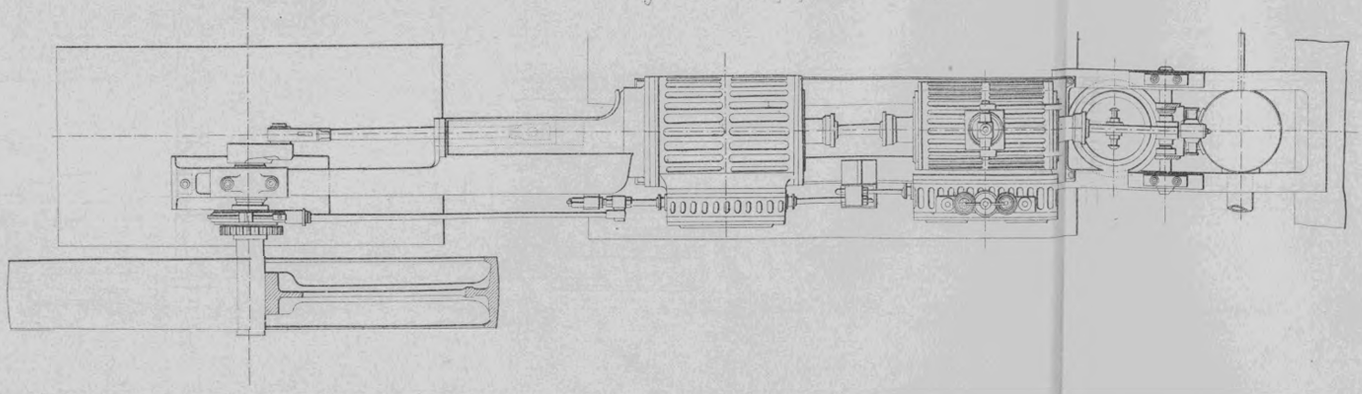


Fig. 5. ½ Coupe par le tiroir à basse pression

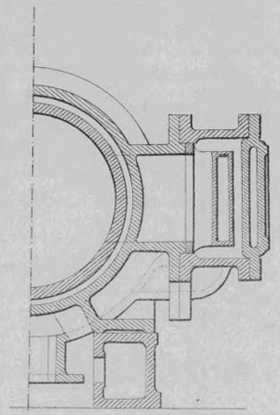


Fig. 3. Tiroir. *( Basse pression.)*

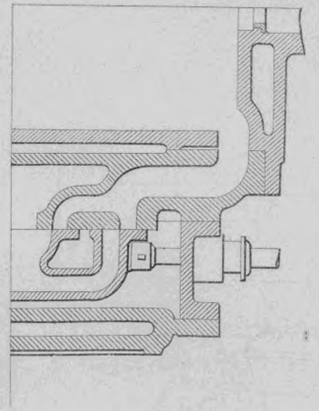


Fig. 6. Demi-Coupe
par la soupape d'expansion.

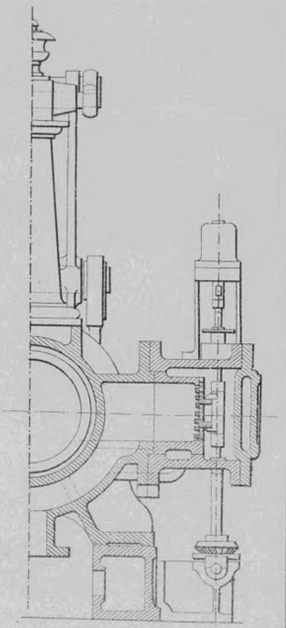
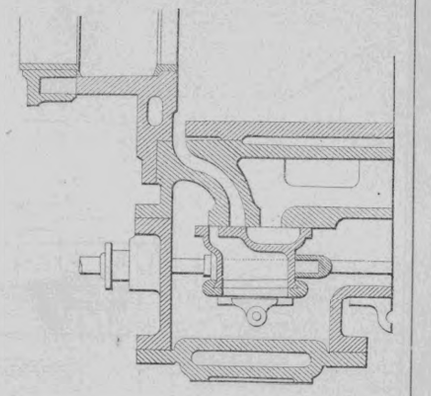


Fig. 4. Tiroir *( Haute pression.)*



# MACHINE MAC INTOSH AND SEYMOUR.

*200 Chevaux*

Fig. 4.

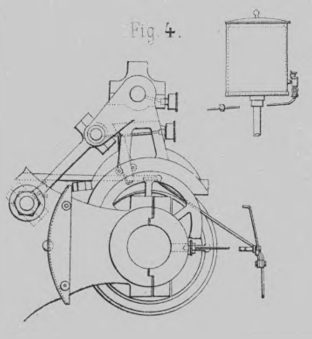


Fig. 1.

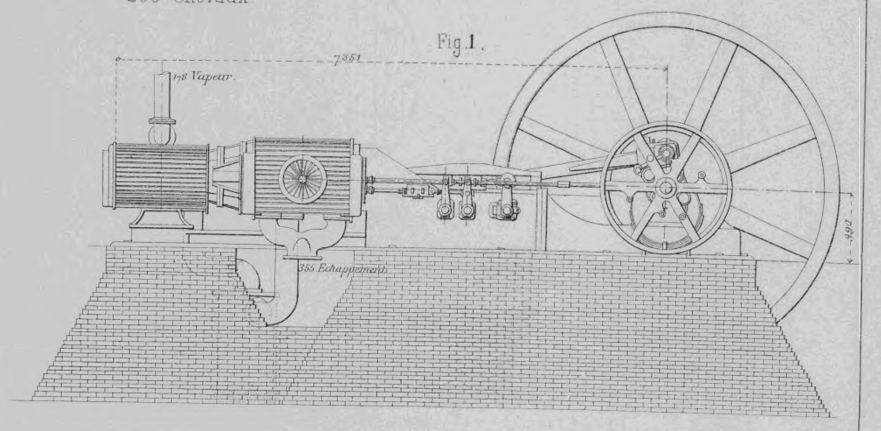



Fig. 5.

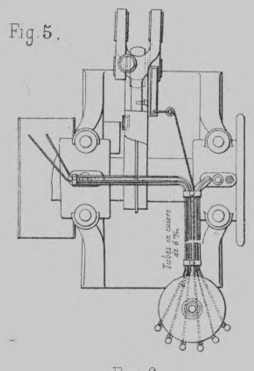


Fig. 2.

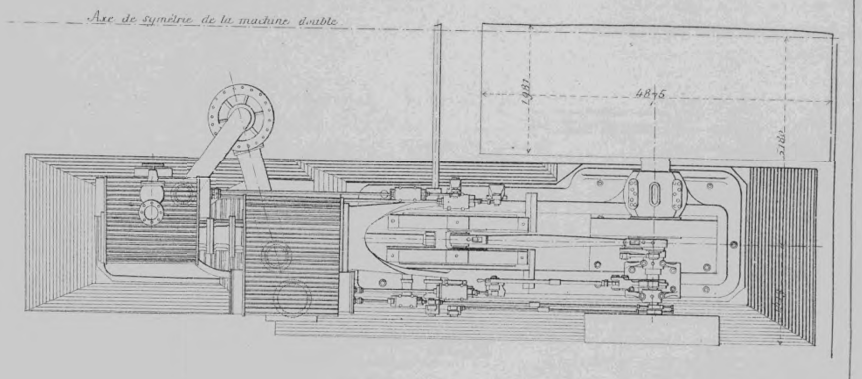



Fig. 6.

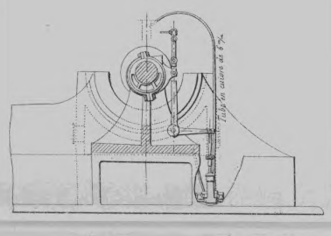


Fig. 3.

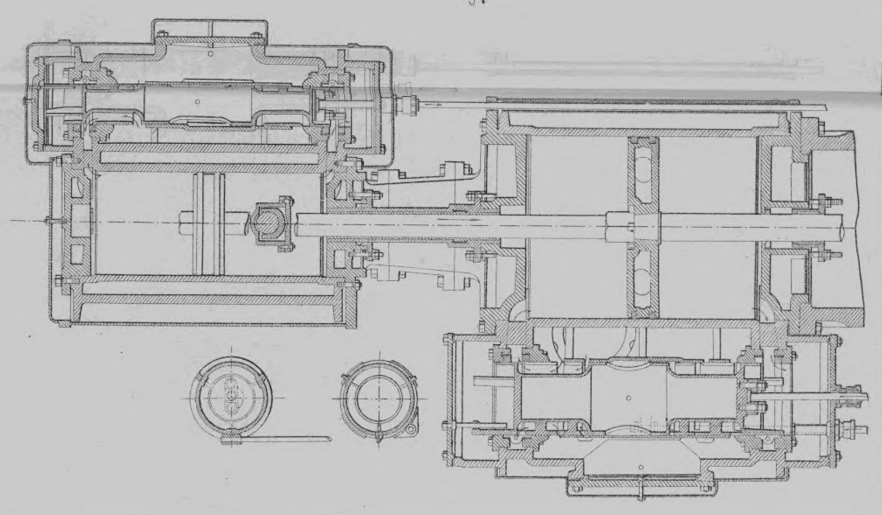


Fig. 7.

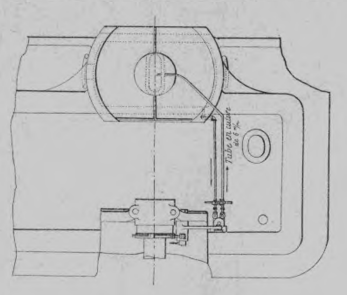


Fig. 8.

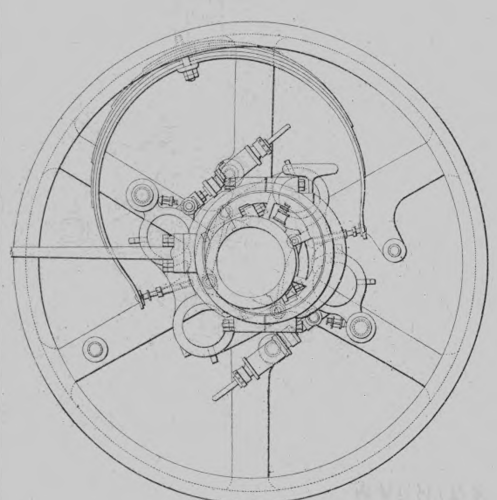


Fig. 9

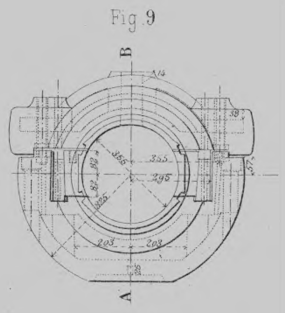



Fig. 10.

Section AB.

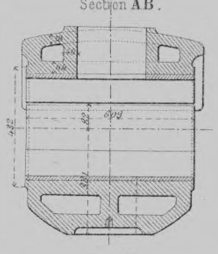


Fig. 11.

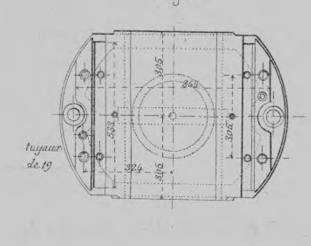
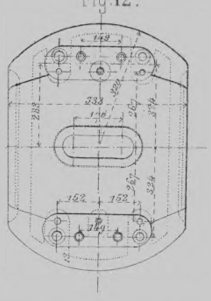



Fig. 12.



# MACHINES WESTINGHOUSE COMPOUND.

Fig. 1.

Installation de 4 machines Westinghouse marchant à condensation dans la grande halle.

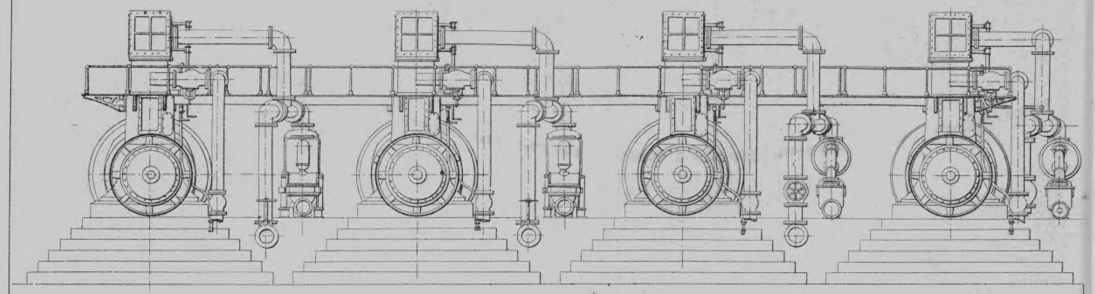


Fig. 2.

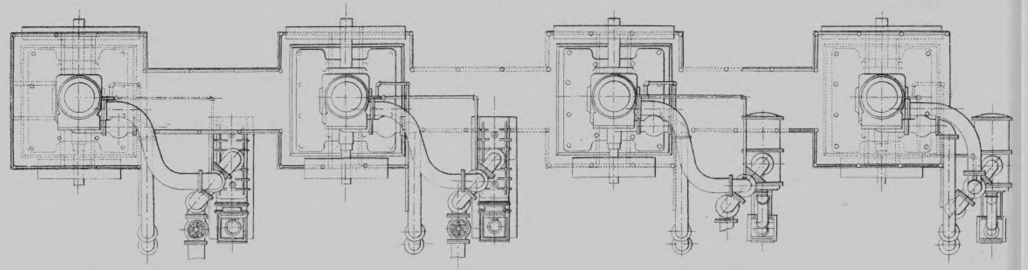


Fig. 3. Vues de Côté Fig. 4.

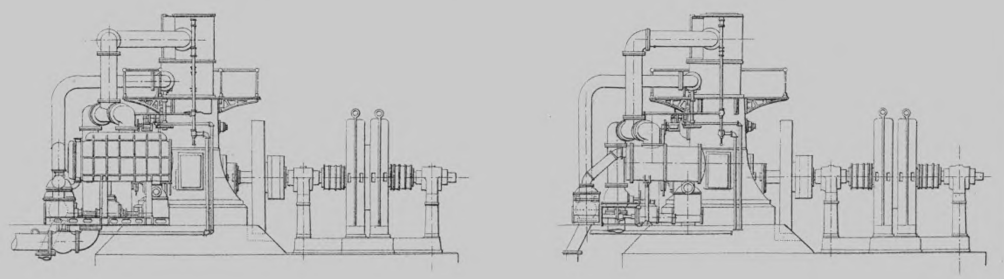
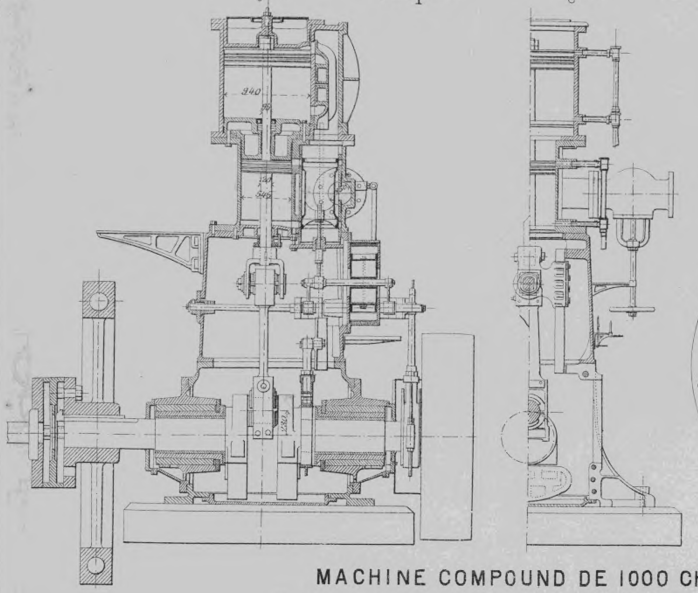
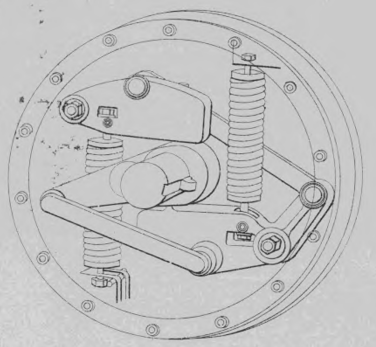


Fig. 5. Coupes. Fig. 6.



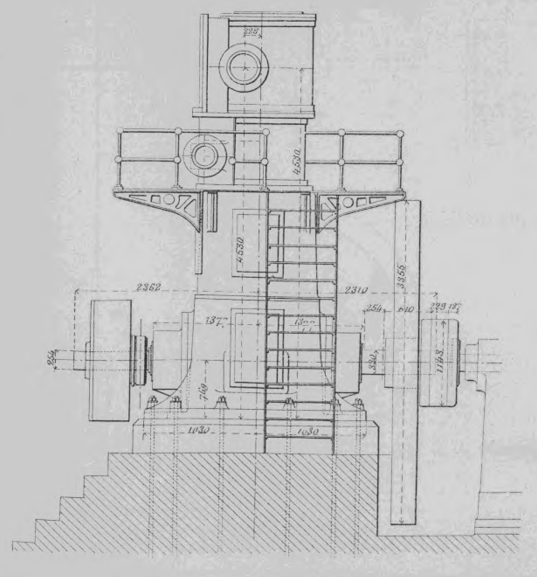
Régulateur automatique.

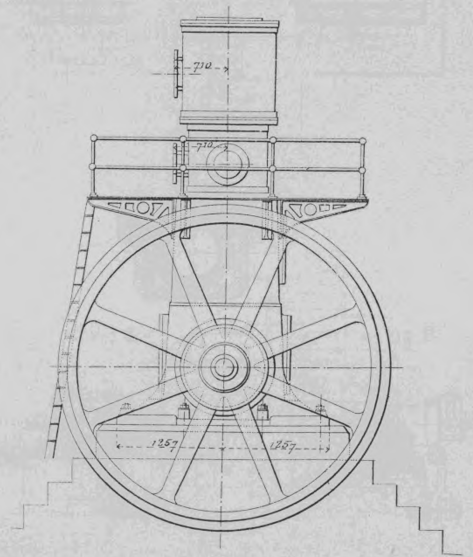
Fig. 9.



## MACHINE COMPOUND DE 1000 CHEVAUX.

Fig. 7. *à Echappement libre.* Fig. 8.





# MACHINE DE LA BALL ENGINE Co

Fig. 1.

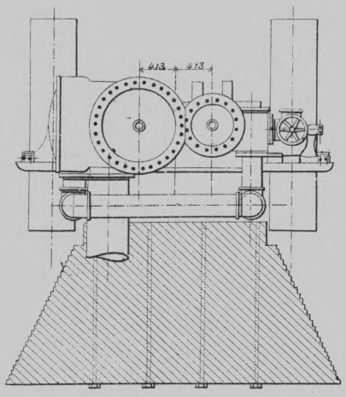


Fig. 2.

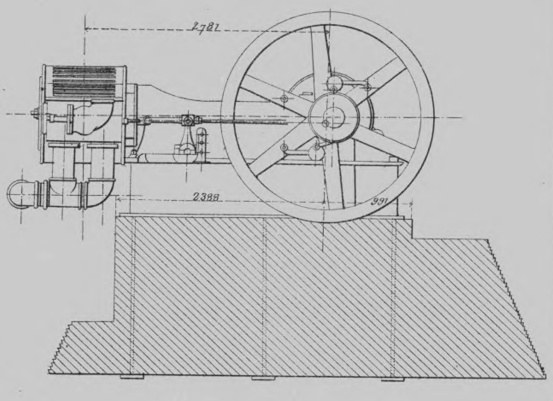



Fig. 3.

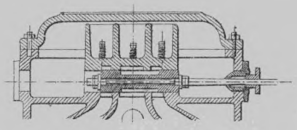


Fig. 4.

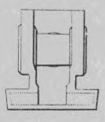


Fig. 5.

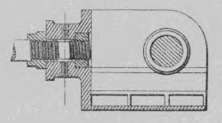


Fig. 7.

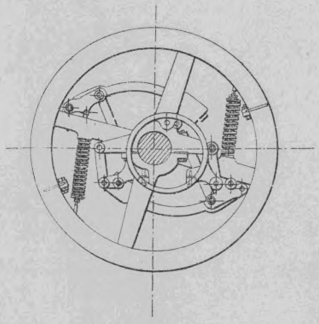


Fig. 6

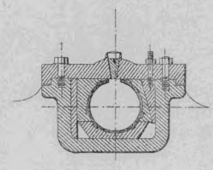


Fig. 8.

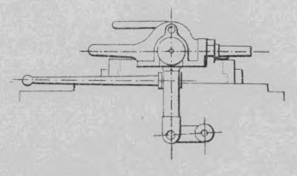
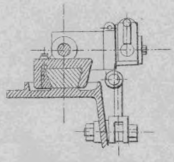


Fig. 9



## MACHINE DE LA BALL ENGINE Cº."

Fig.1.

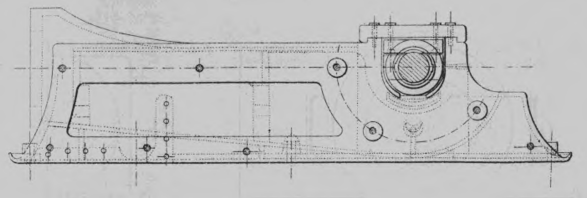


Fig.2.

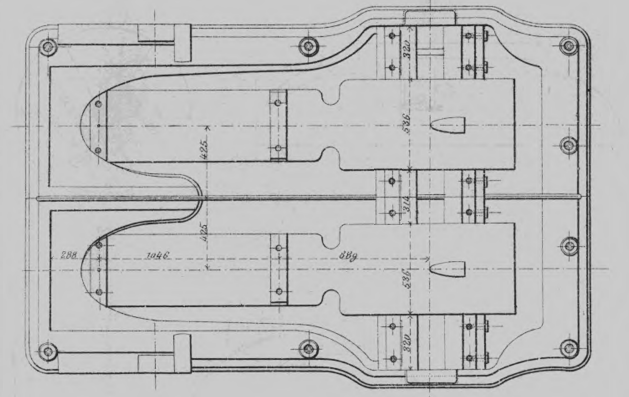


Fig.3.

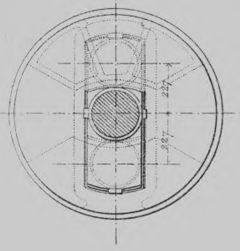


Fig.4.

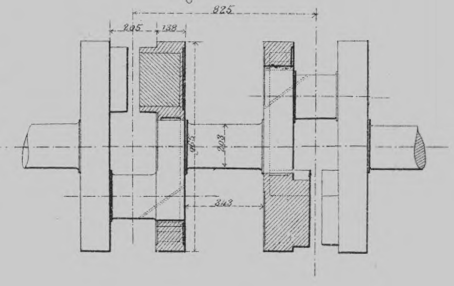


Fig.5.

Fig.6.

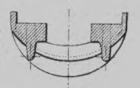


Fig.7.

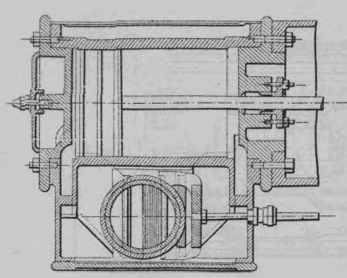


Fig.8.

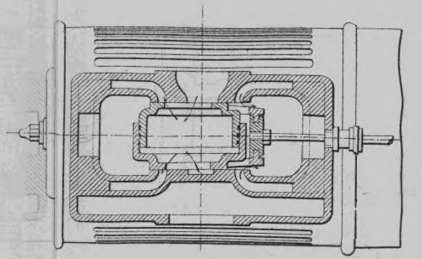


Fig.9.

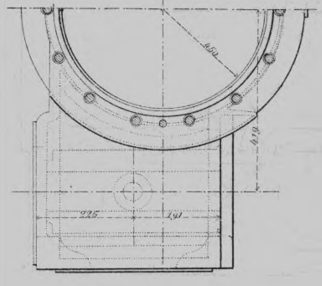


Fig.10.

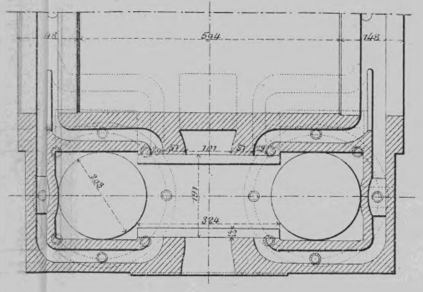


Fig.11.

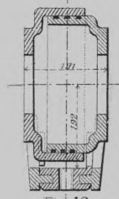


Fig.12.

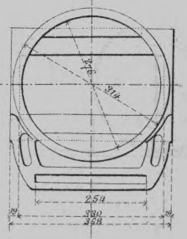


Fig.13.

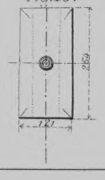


Fig.14.

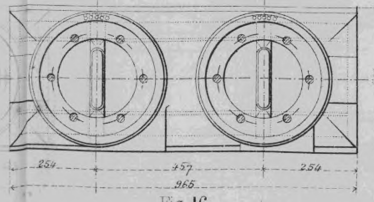
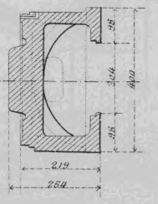


Fig.15.



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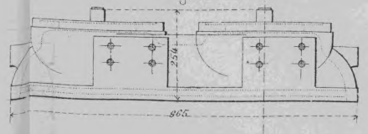

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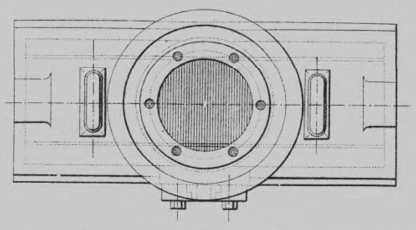

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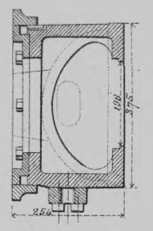

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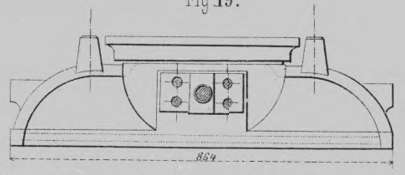

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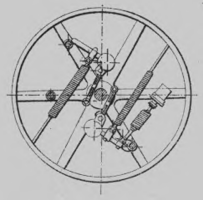

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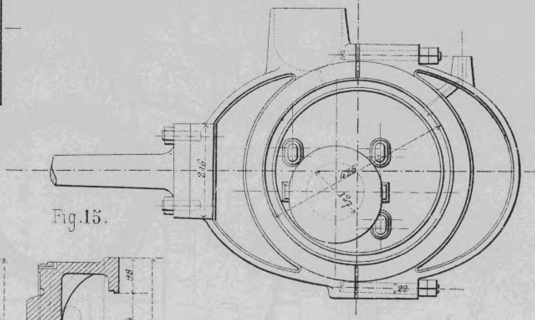

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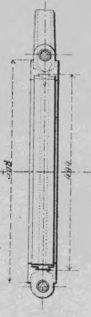

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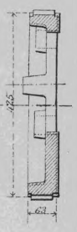
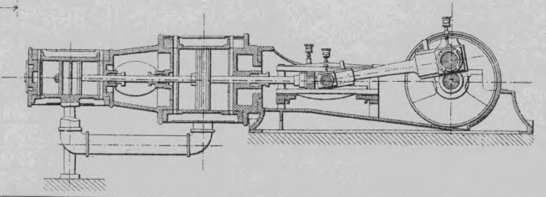


Fig.20.



# MACHINE BALL ET WOOD

## Distribution dans le Cylindre à haute pression.

Fig. 1.

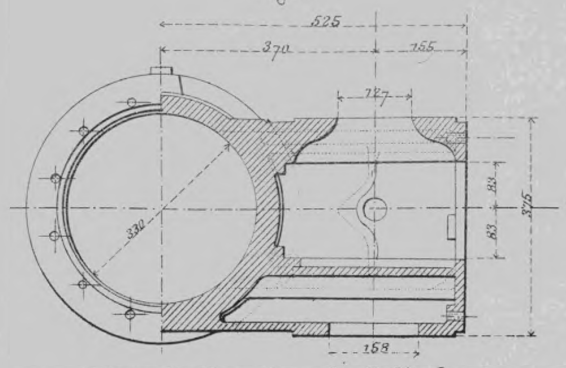
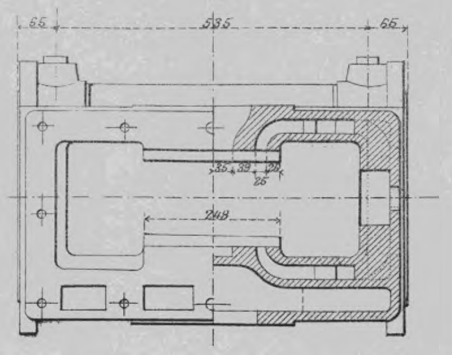



Fig. 2.




## Distribution dans le Cylindre à basse pression.

Fig. 4.

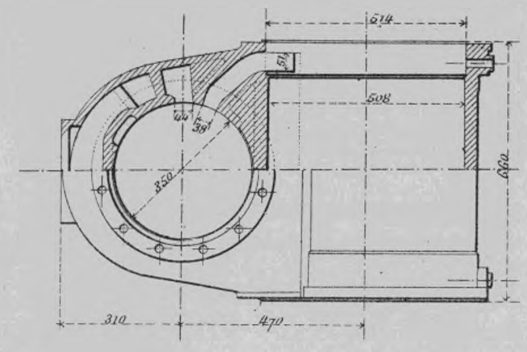



Fig. 3.

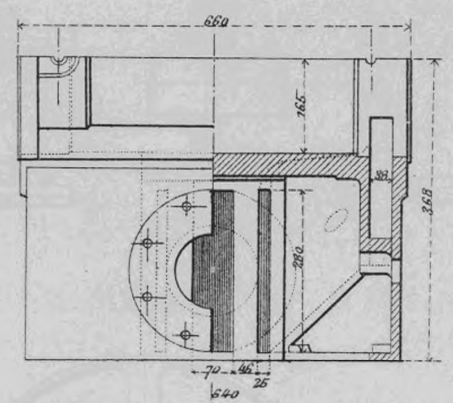
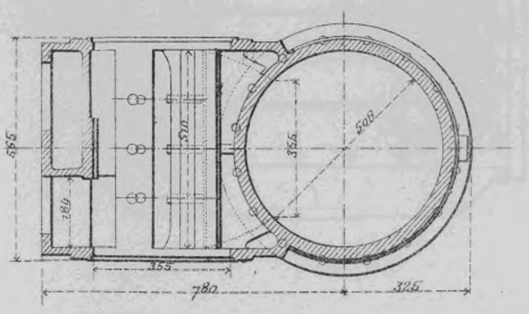



Fig. 5.

Fig. 9. Tiroir circulaire. Fig. 10.



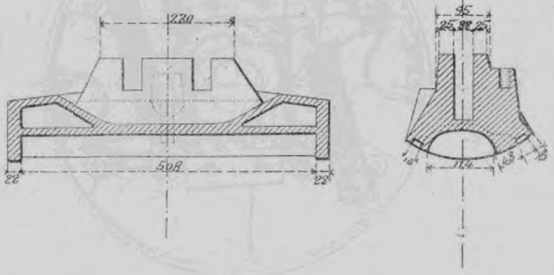




Fig. 6.

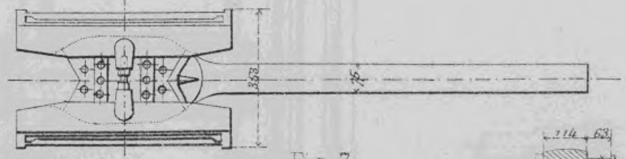
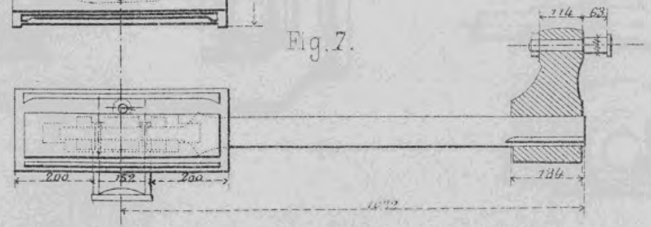
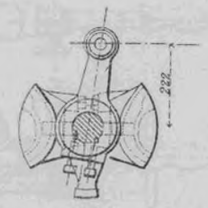



Fig. 8.

Fig. 7.



# MACHINE BUCKEYE.

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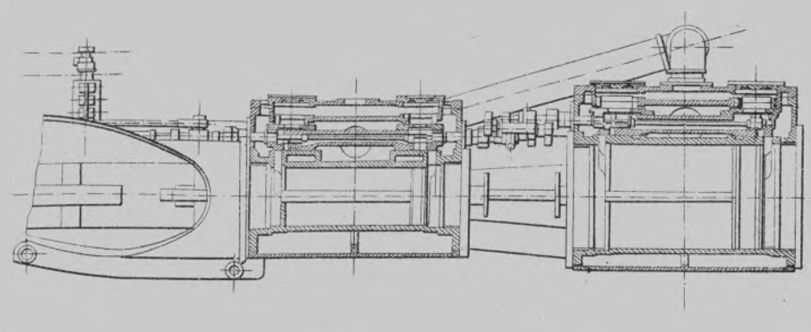


Fig.2.

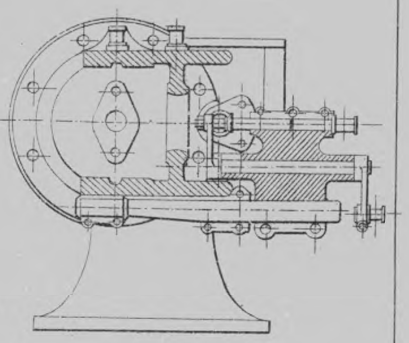


Fig.3.

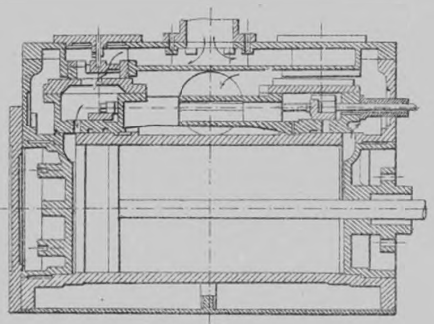


Fig.4.

Fig.6.

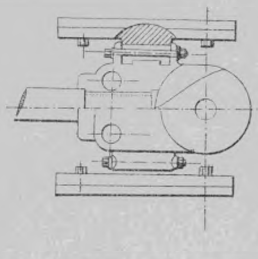
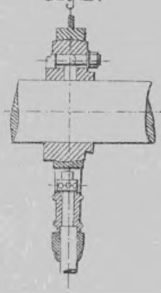


Fig.7.



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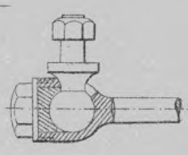
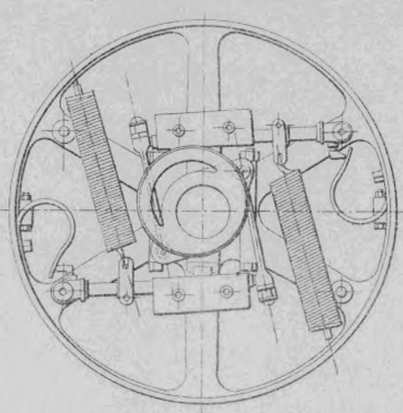


Fig.9.



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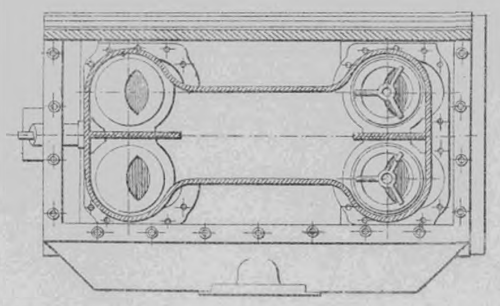

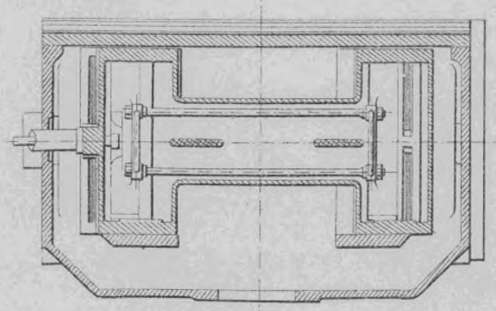

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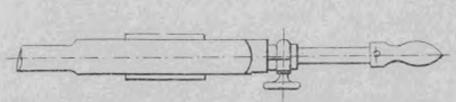

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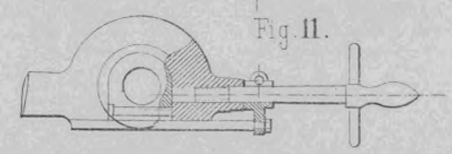


## MACHINE DES FORGES D'ERIÉ CITY.

*135 Chevaux.*

Fig.1.

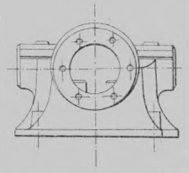
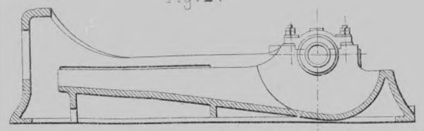
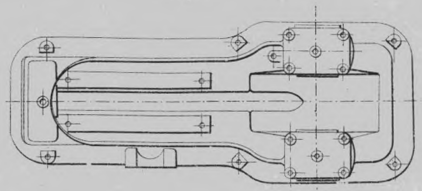


Fig.2.



Distribution.

Fig.3.



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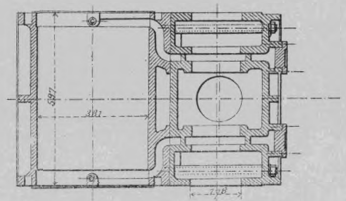


Fig.5.

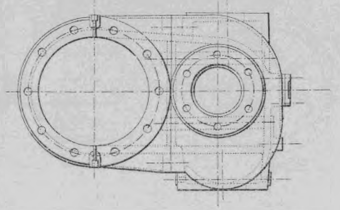


Fig.6.

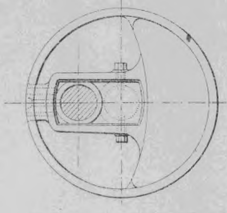
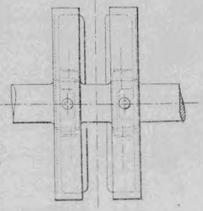
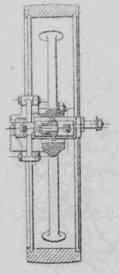


Fig.7.



Régulateur

Fig.10.



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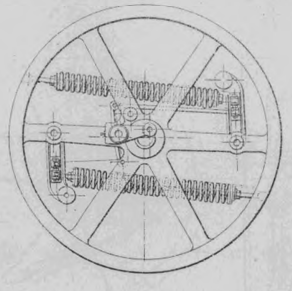


Fig.8.

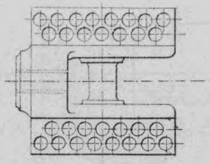
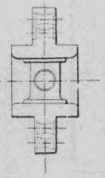


Fig.9.





## MACHINE DES FORGES D'ERIÉ CITY.

*100 Chevaux*

Fig.1.

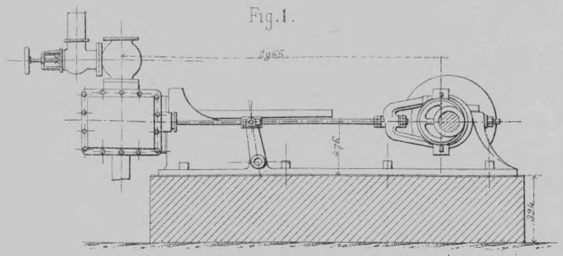
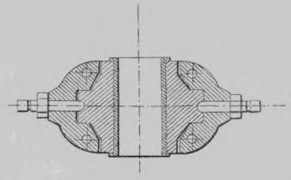


Fig.4.



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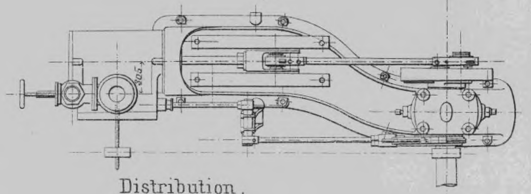

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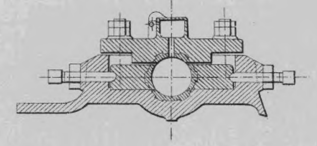


Distribution.

Fig.3.

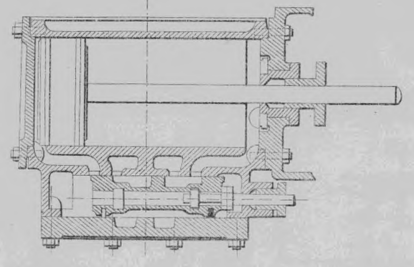


Fig.6.

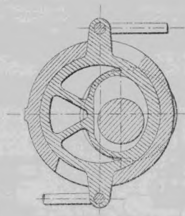


Fig.7.

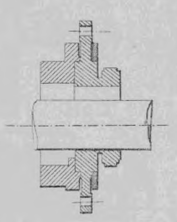


Fig.8.

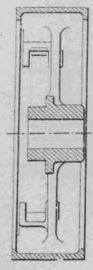
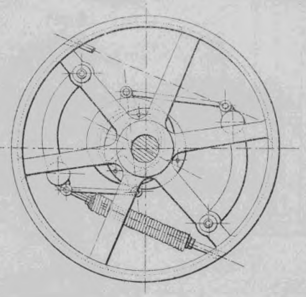


Fig.9.



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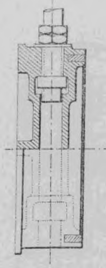
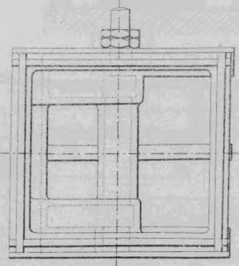


Fig.11.



# MACHINES IDE

250 Chevaux.

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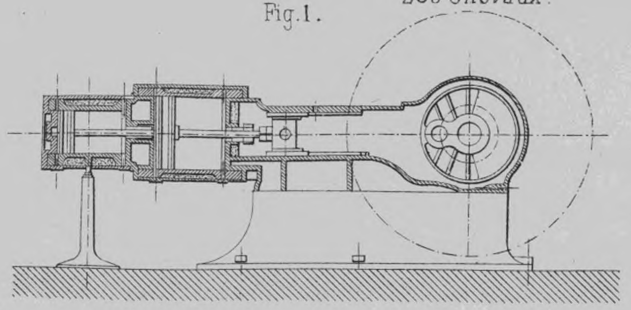

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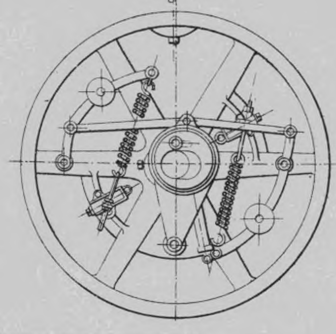
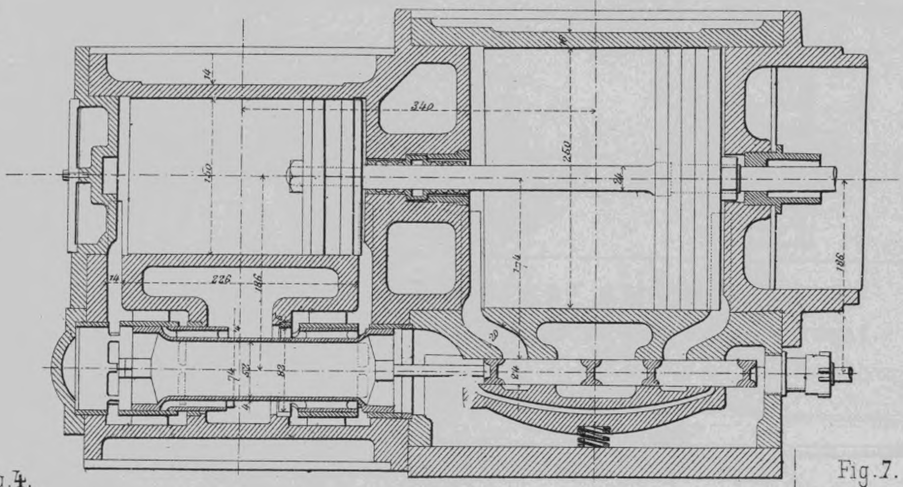


Fig.3.



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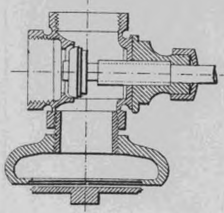

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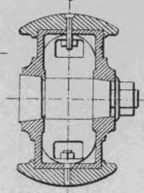


Fig.6.

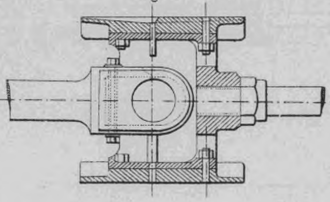


Fig.7.

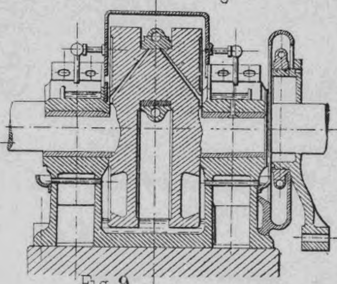


Fig.8.

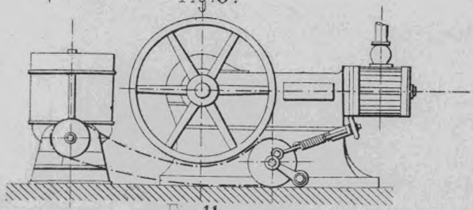


Fig.9.

125 Chevaux

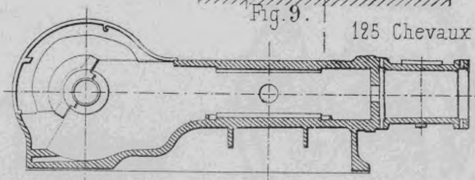
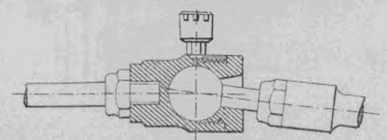


Fig.11.



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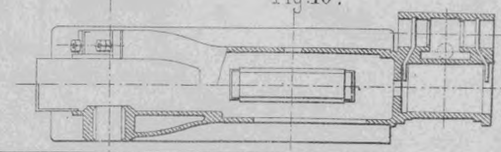


## ATELIERS DE LA FONDERIE D'HARRISBURG.

Fig. 5.

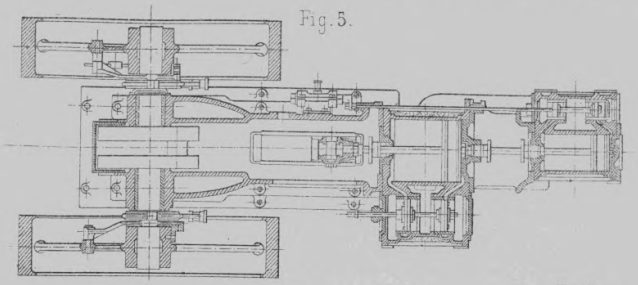


Fig. 6.

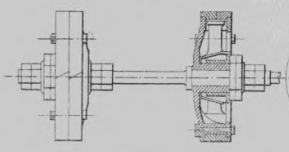


Fig. 7.

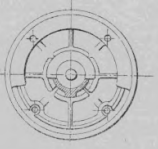
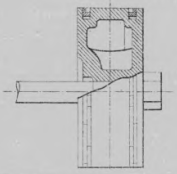


Fig. 8.



## MACHINE A GRANDE VITESSE AMÉRICAINE.

Cie de Constructions mécaniques Américaine. Bound-Brook (New Jersey.).

Fig. 1. Vue générale montrant les détails

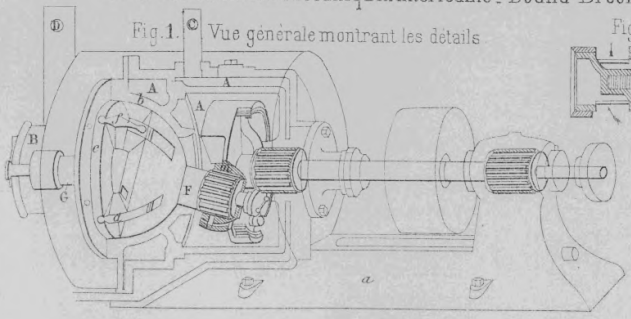



Fig. 3. Coupe des Valves.

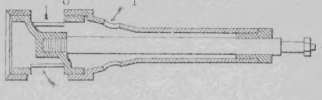


Fig. 4 Régulateur.

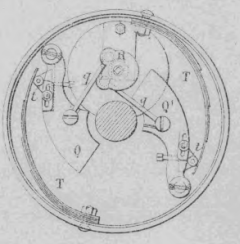
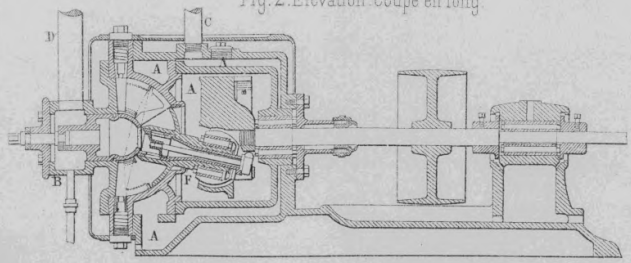



Fig. 2. Elévation Coupe en long.



# MACHINES DES FORGES DU PHÉNIX. MEADVILLE.

Fig. 1.

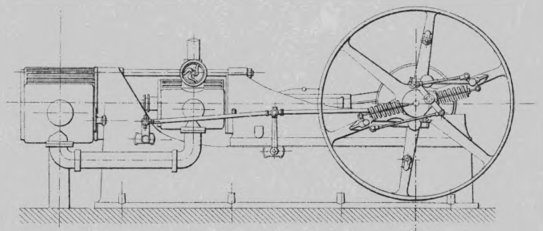


Fig. 2.

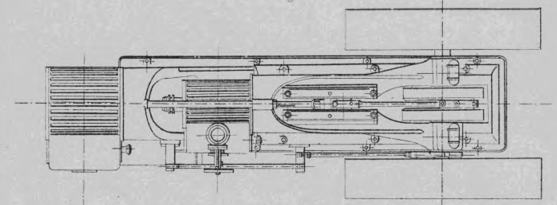


Fig. 3.

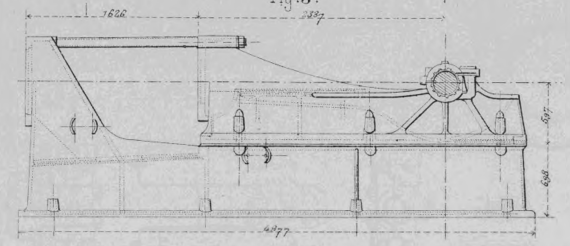


Fig. 5.

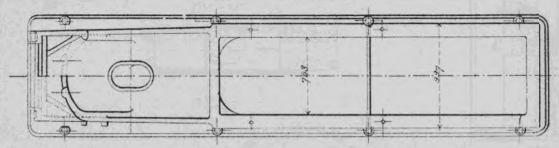


Fig. 7.

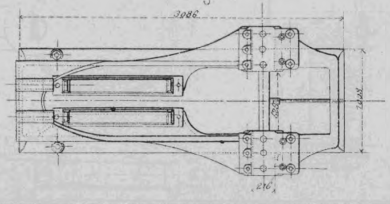


Fig. 9.

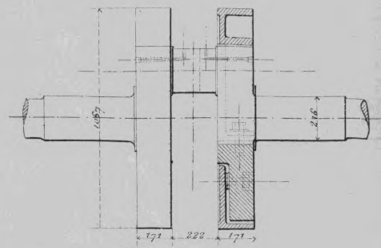


Fig. 10.

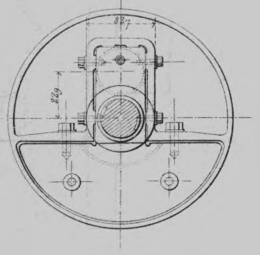


Fig. 11.

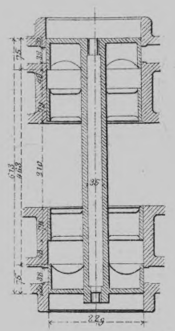
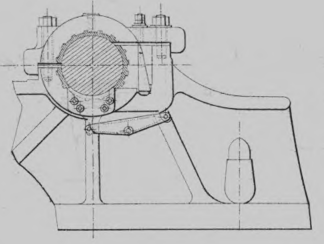


Fig. 18.



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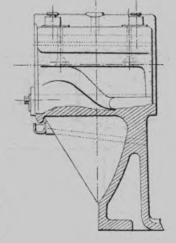

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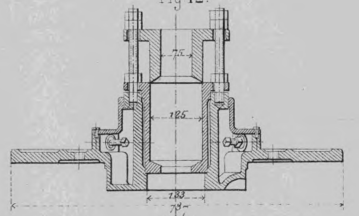

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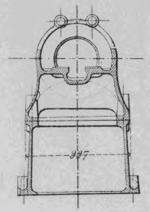
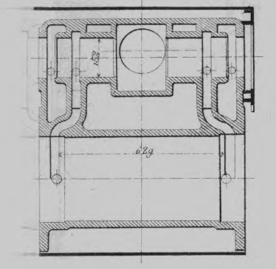


Fig. 13.



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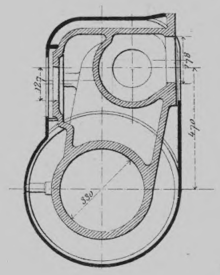

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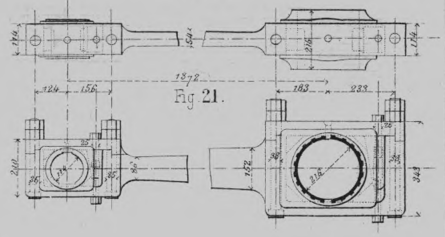
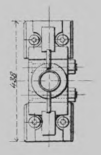


Fig. 21.

Fig. 23.



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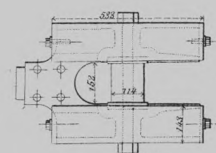

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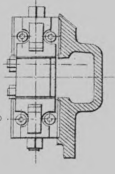

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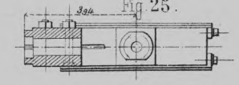


Fig. 6.

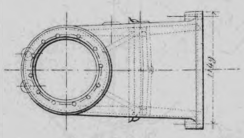


Fig. 8.

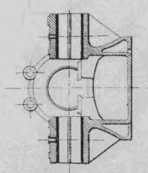


Fig. 15.

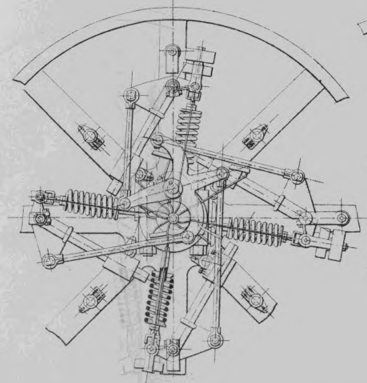
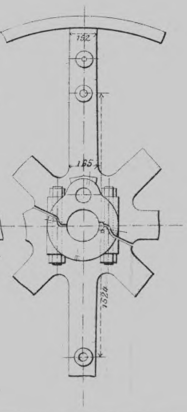


Fig. 16.



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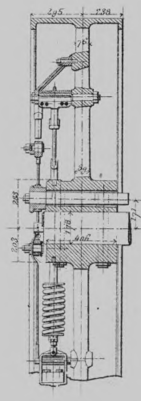

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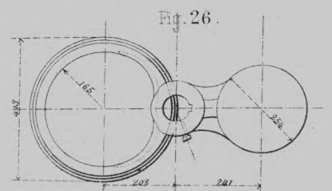

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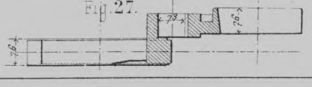


# MACHINE A VAPEUR RUSSELL.

Fig.1.

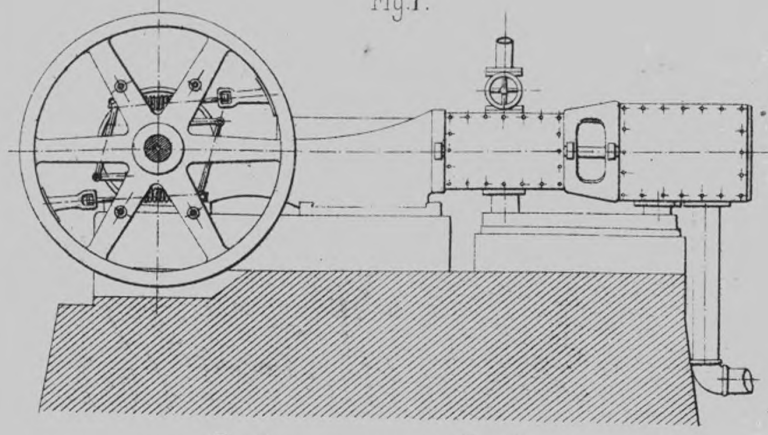


Fig.6.

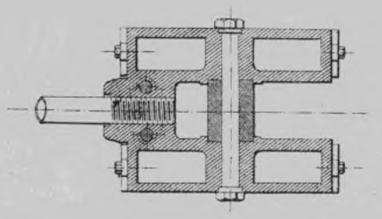


Fig.7.

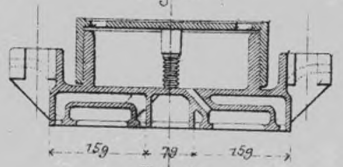



Fig.2.

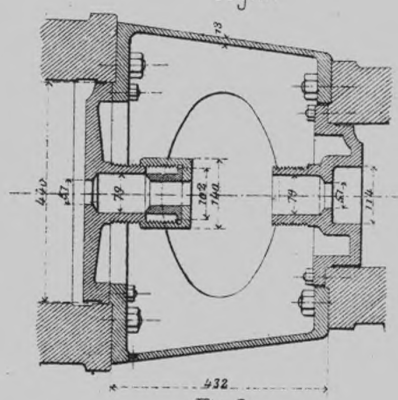



Fig.3.

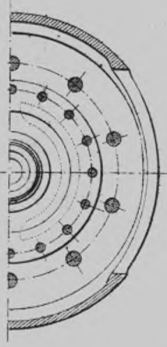


Fig.9.

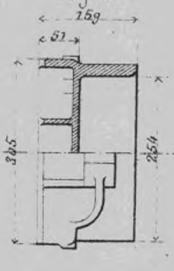



Fig.8.

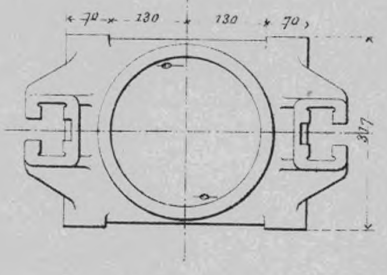



Fig.4.

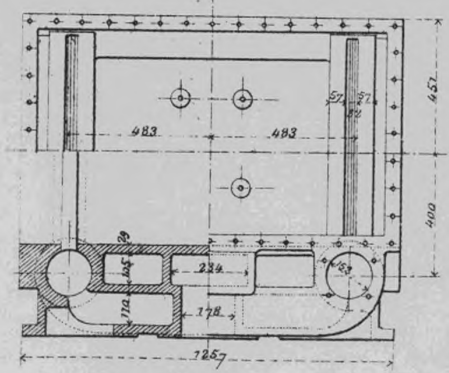



Fig.5.

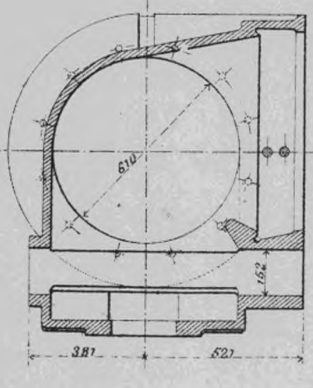



Fig.10.

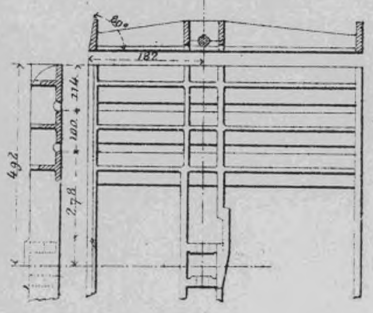



Fig.12.

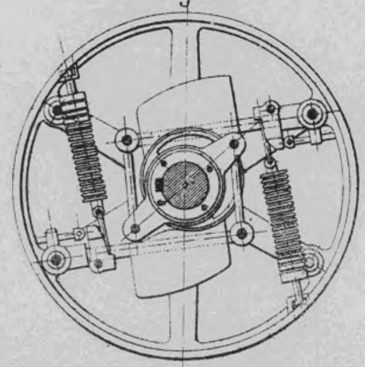


Fig.13. Fig.14. Fig.15.

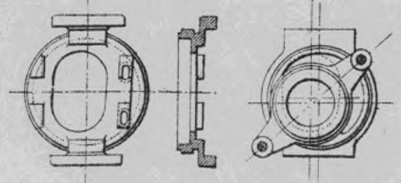
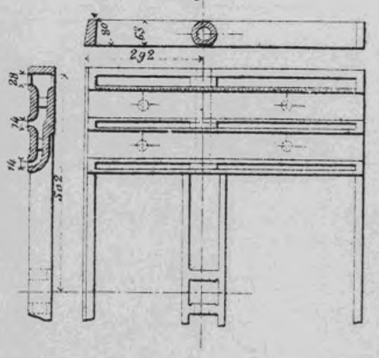


Fig.11.



## MACHINE A VAPEUR RUSSELL

*de Massillon. Ohio.*

Machine de 600 Chevaux.

Fig.1.

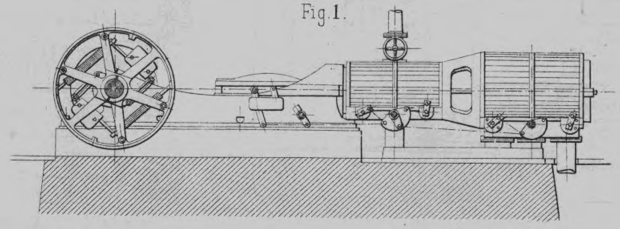
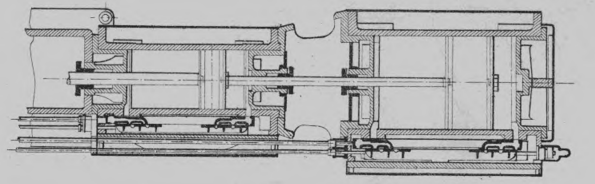
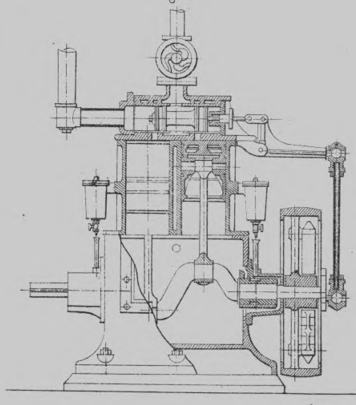


Fig.2.



Pompe à air indépendante.

Fig.1.



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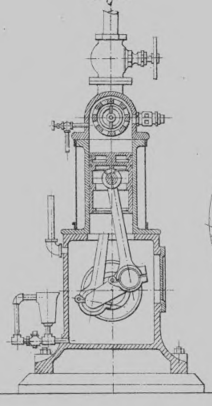
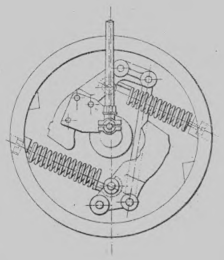


Fig.3





## ATELIERS DE CONSTRUCTION WESTON

Machine à un cylindre.

Fig.1.

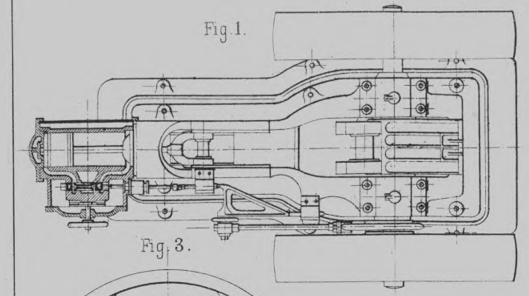


Fig.2.

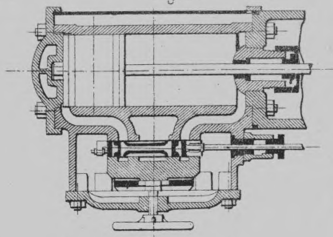


Fig.3.

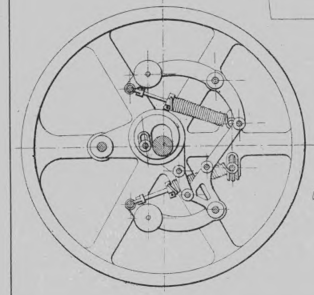


Fig.4.

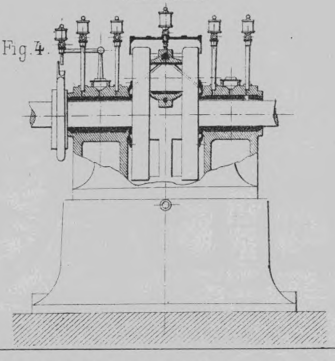
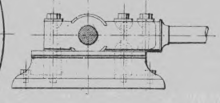


Fig.5.



## ATELIERS DE CONSTRUCTION WILLIAMS.

Fig.3.

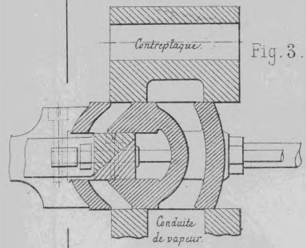



Fig.1.

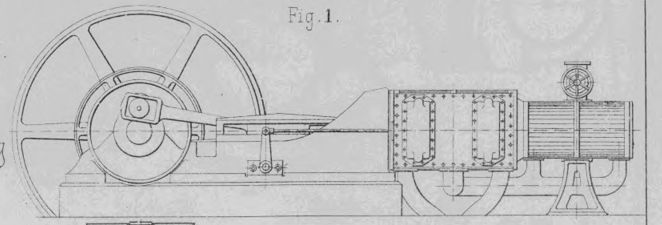


Fig.4.

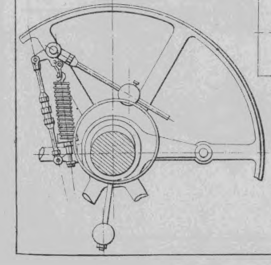
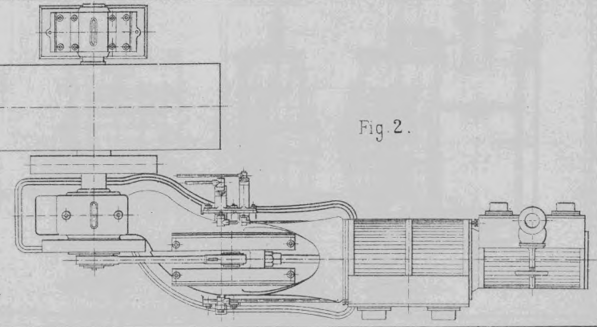


Fig.2.



# MACHINES WOODBURY.

Fig. 1.

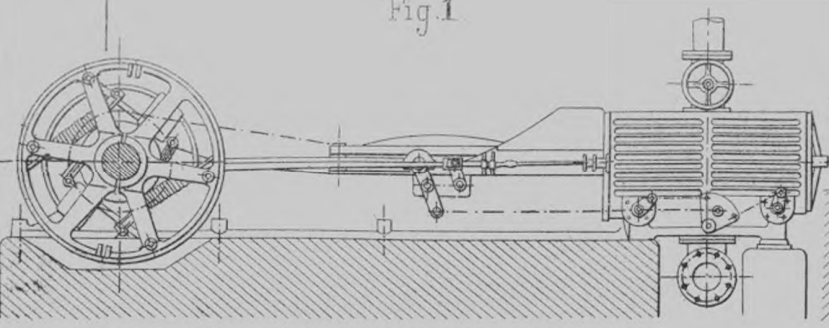


Fig. 2.

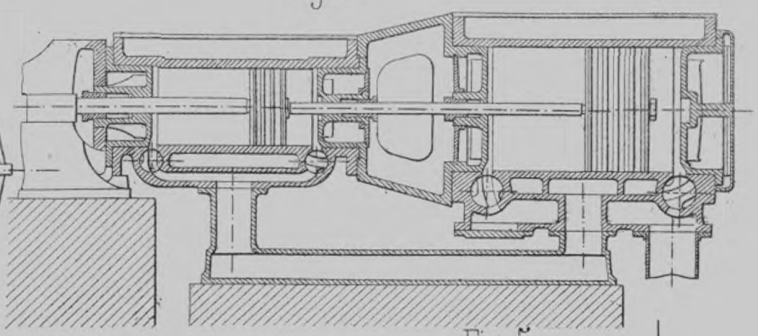


Fig. 3.

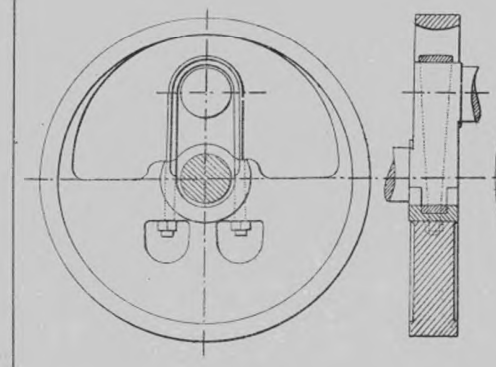


Fig. 4.

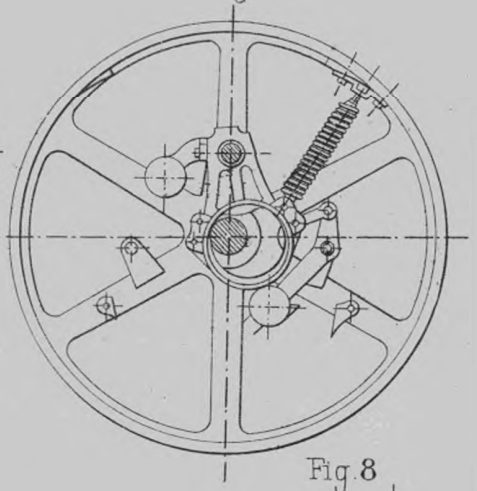


Fig. 5.

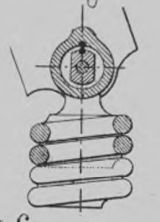


Fig. 6.

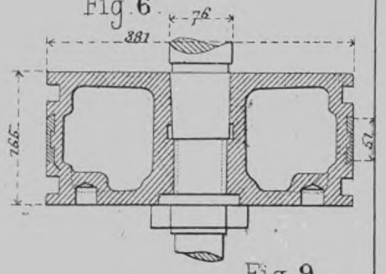



Fig. 7.

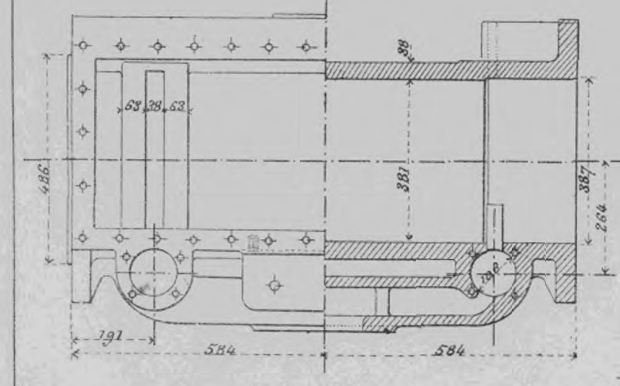



Fig. 8.

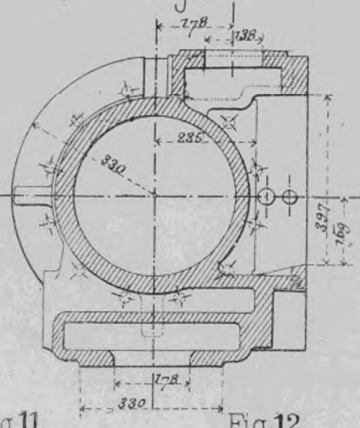



Fig. 9.

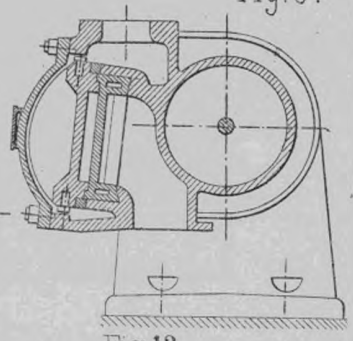


Fig. 10.

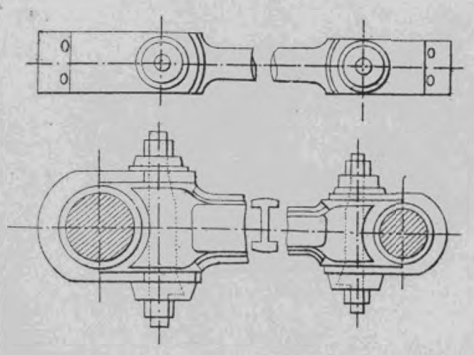


Fig. 11.

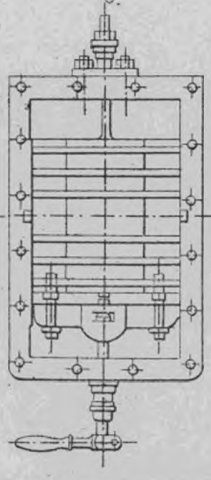


Fig. 12.

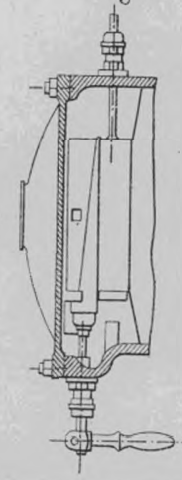
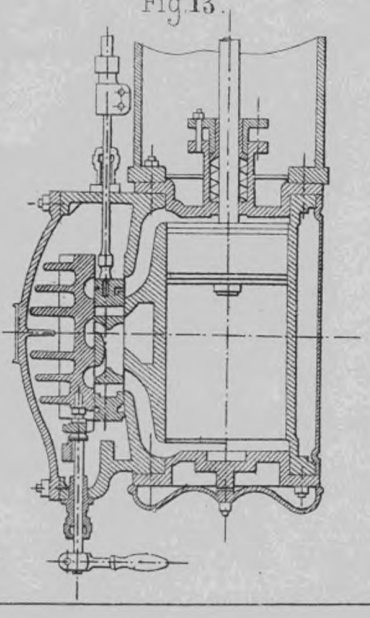
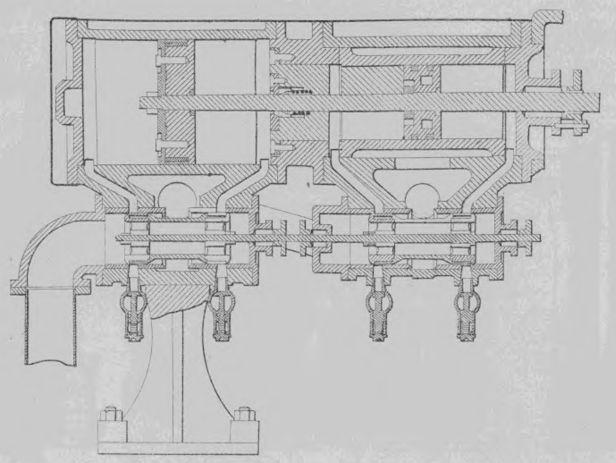


Fig. 13.



# MACHINE TAYLOR.



# MACHINE ROBB-ARMSTRONG.

Fig. 1.

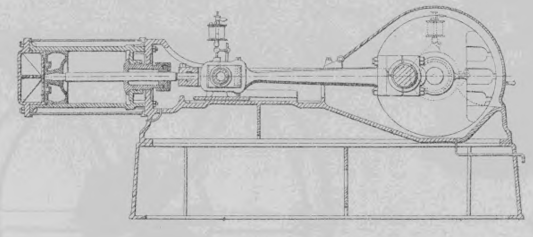


Fig. 2.

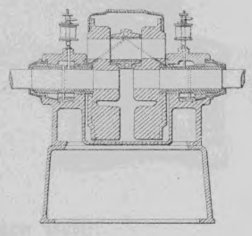
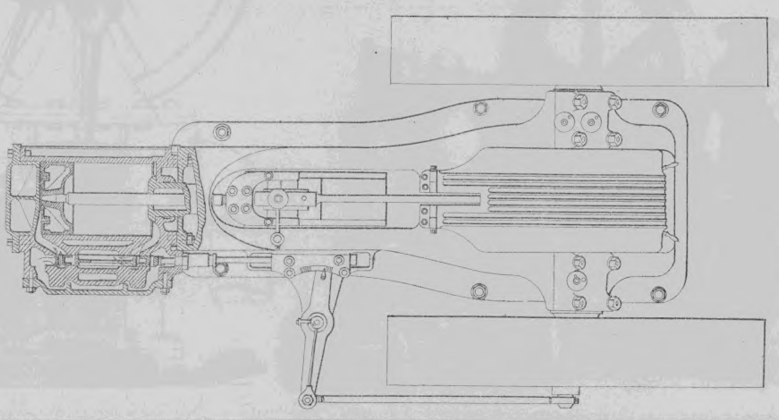


Fig. 3.



# CONDENSEUR CONOVER

Fig. 4. Commande des soupapes.

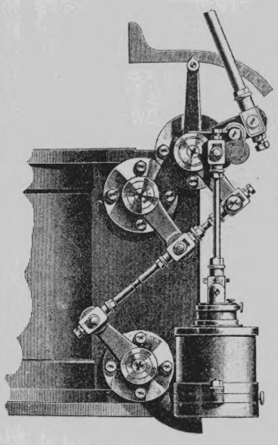
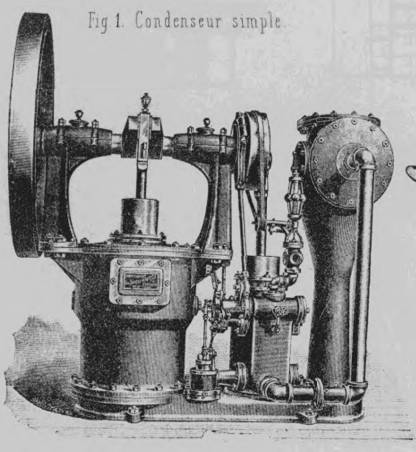


Fig. 1. Condenseur simple.



Alimentateur de la chaudière
Fig. 6.

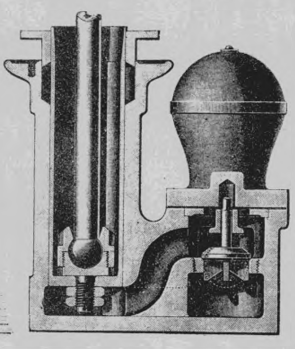


Fig. 3. Coupe du moteur.

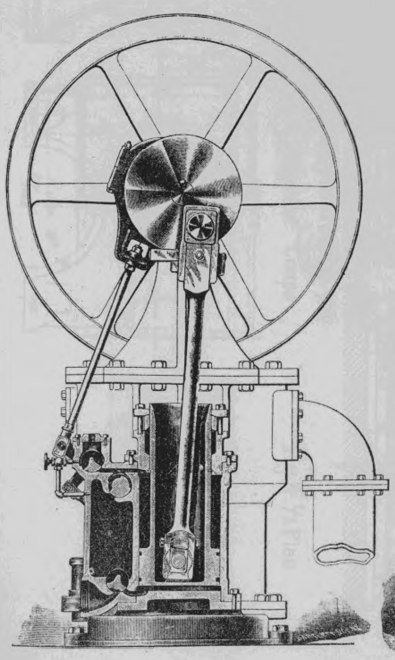


Fig. 5.

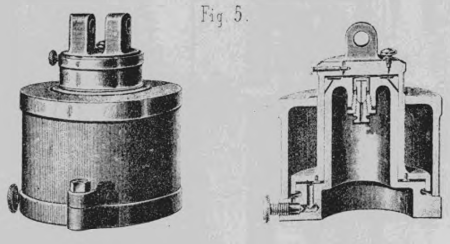
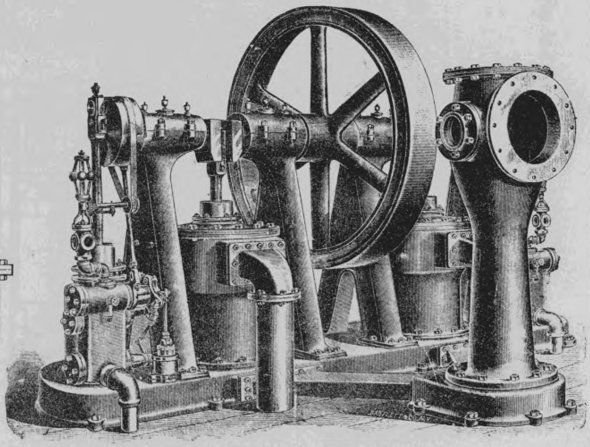


Fig. 2. Condenseur double.



# COMPRESSEURS RAND

(Fig 1 et 2) Compresseur Rand de la mine Chapin.
(Echelle 1/275.)

Fig. 1. Elévation.

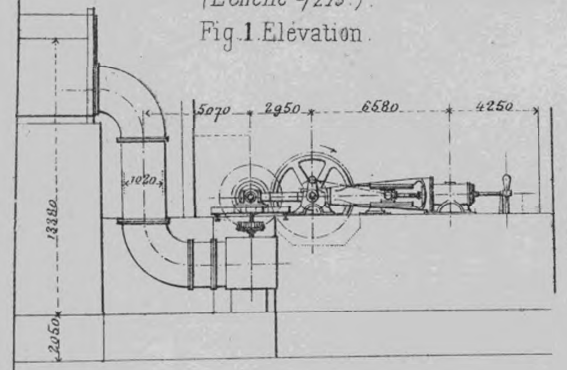



Fig. 2. Plan.

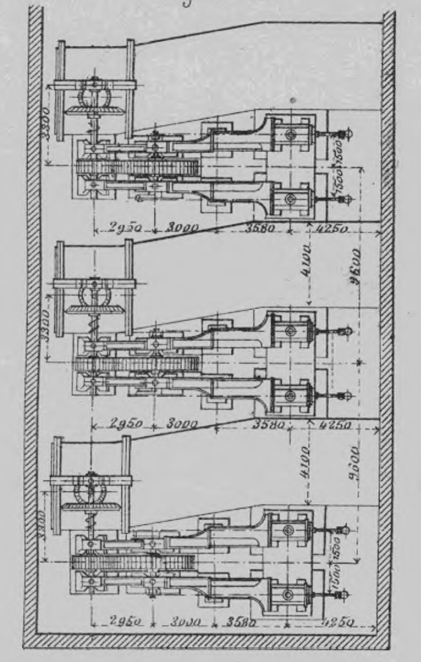



Fig. 3. Vue en bout. (Echelle 1/100)

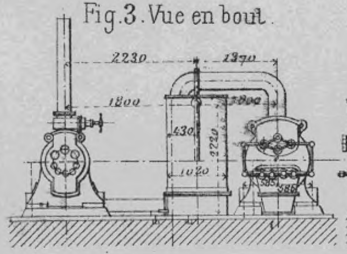



Fig. 3 à 9. Compresseur Rand.
(Nouveau modèle.)

Fig. 4. Elévation.

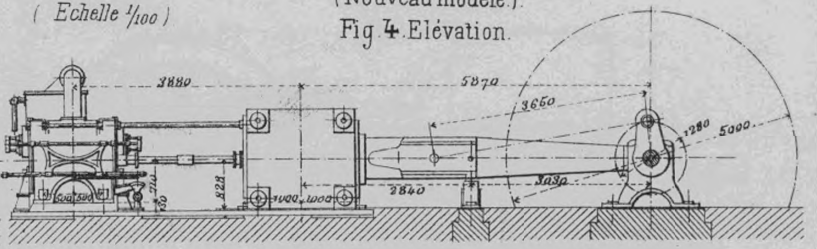



Fig. 5. (Echelle 1/25)

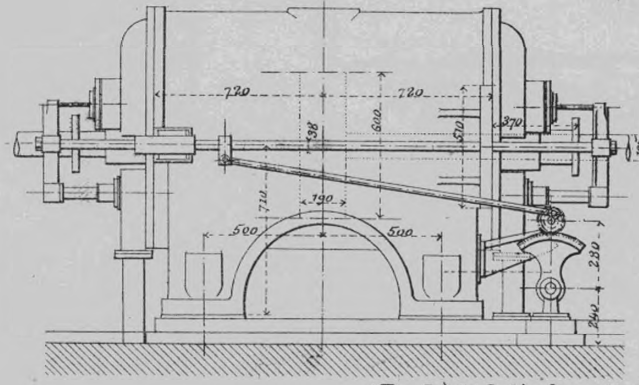
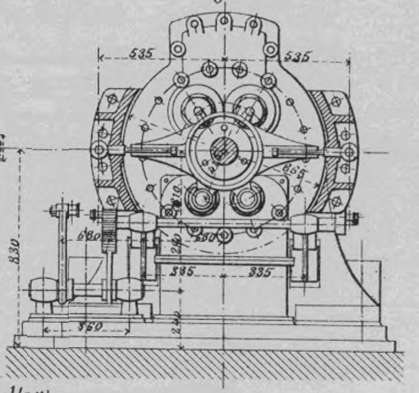



Fig. 6.




(Fig. 7 à 9) Cylindre. (Ech. 1/25)

Fig. 7. Vue de bout.

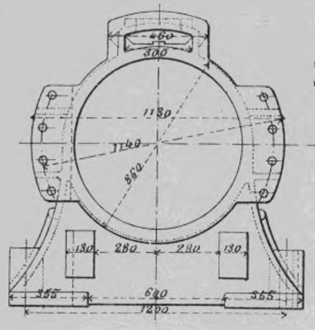



Fig. 8. Elévation Coupe.

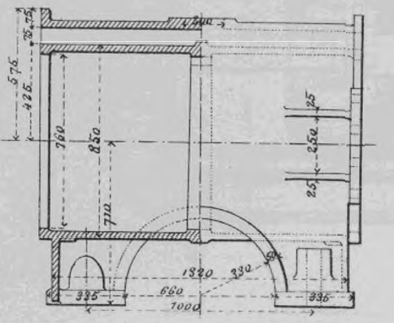
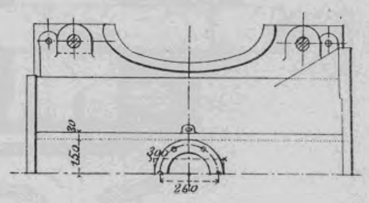



Fig. 9. 1/2 Plan.



(Fig. 1 et 2)

# COMPRESSEUR INGERSOLL (Fig. 3 et 4) Chicago. (Sm des Mines).

Fig. 1. Elévation.

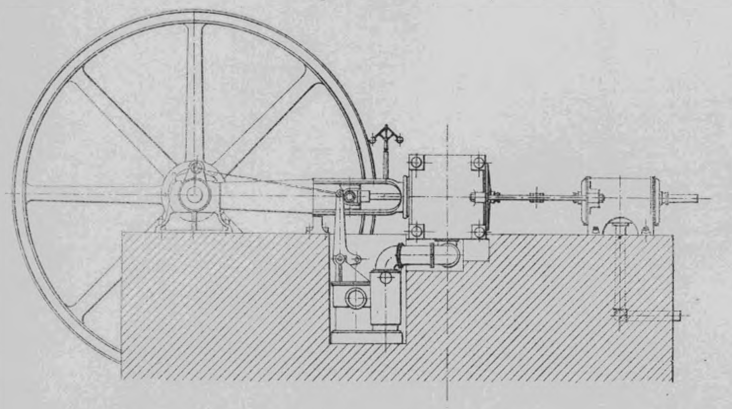


Fig. 2. Plan.

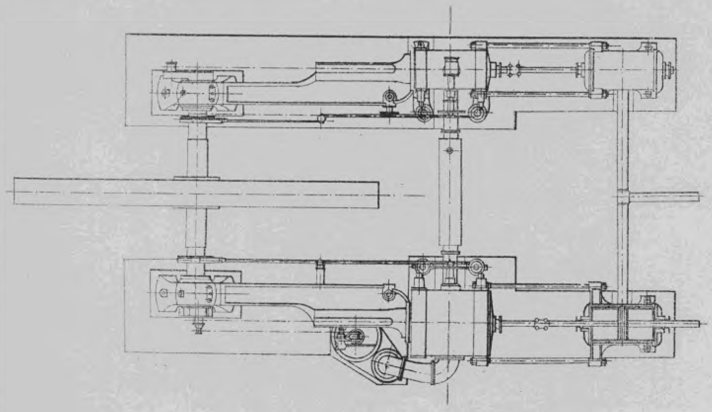


Fig. 3. Elévation.

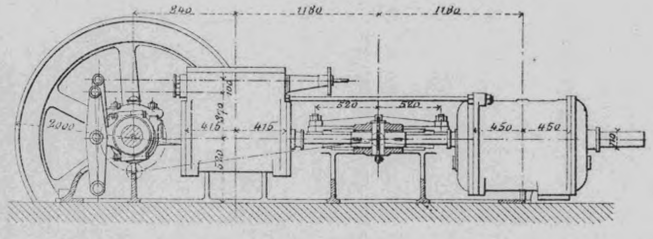



Fig. 4. Plan.

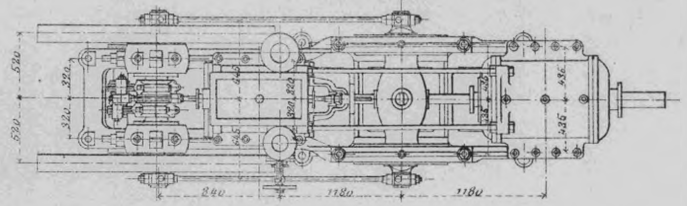
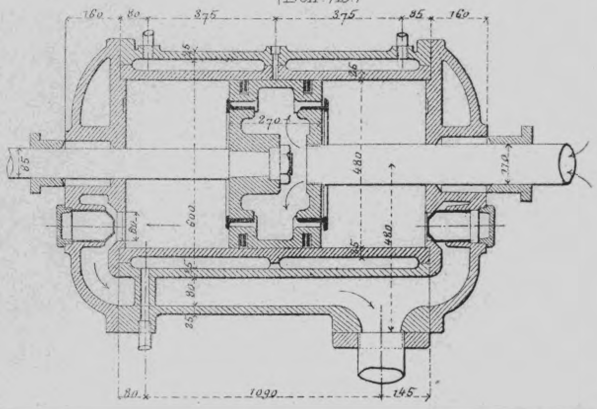



Fig. 5. Modèle récent.
(Ech. 1/15.)



# COMPRESSEURS.

*Fig. 1 à 15.* Compresseur Eckart.

Fig. 1. Vue de Côté. *(Echelle 1/50.)*

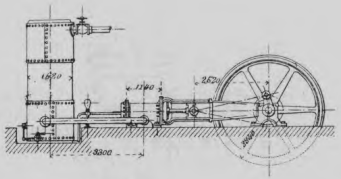


Fig. 2. Coupe. Fig. 3. Vue en bout.

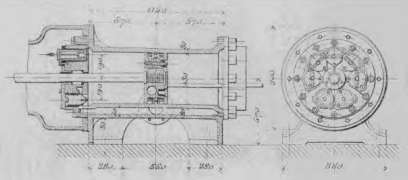


Fig. 4.

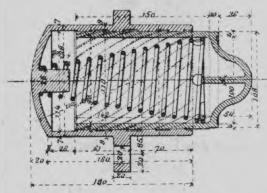


Fig. 5.

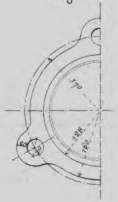


Fig. 6. Coupe AB.

Fig. 7.

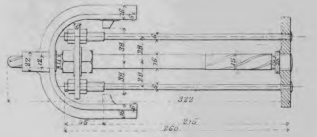


Fig. 8.

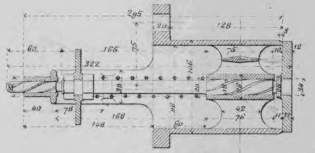


Fig. 9.

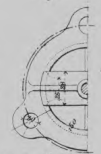


Fig. 10. Coupe CD.

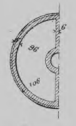


Fig. 11. *(Ech. 1/10.)*

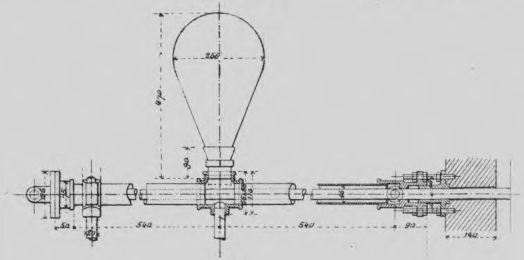


*Fig. 4 à 10.* *(Echelle 1/25.)*

Fig. 12.

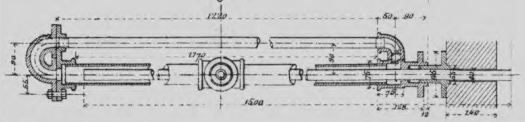


Fig. 13. *(Echelle 1/6.)*

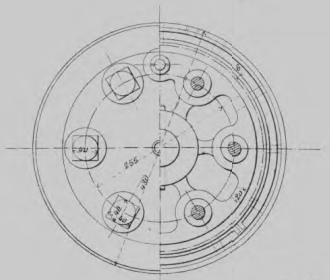


Fig. 14.

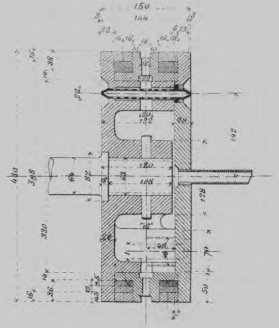


Fig. 15. *(Echelle 1/8.)*

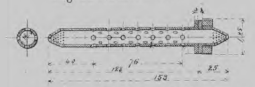


*Fig. 16 et 17.* **Compresseur de la Cie de Norwalk.**

Fig. 16.

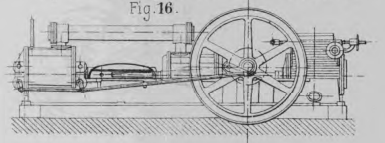


Fig. 17.

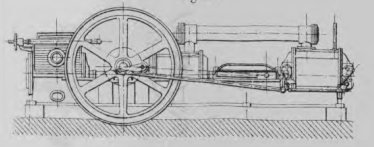


*Fig. 18 et 19.* **Compresseur des Forges de Risdon.**
Mines d'Argent de l'Utah et de la Névada.

Fig. 18. *(Echelle 1/50.)*

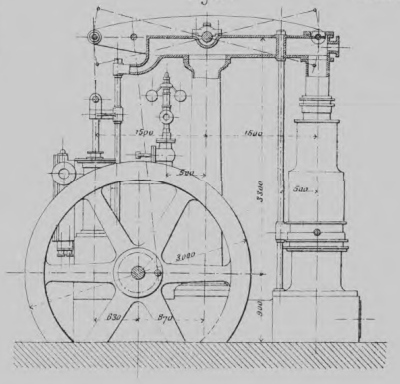


Fig. 19.

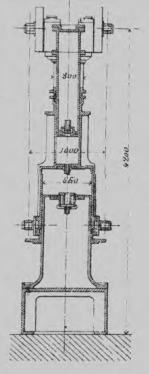


Fig. 1. Elévation

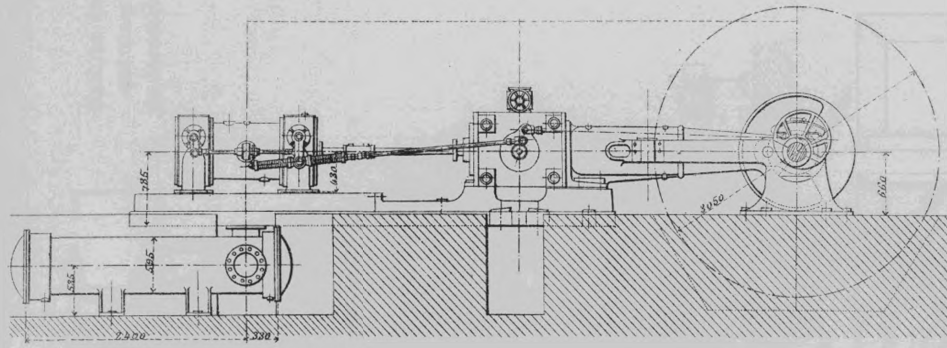


Fig. 3. Coupe transversale

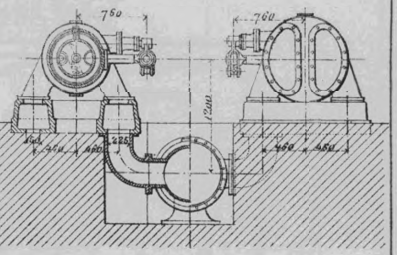
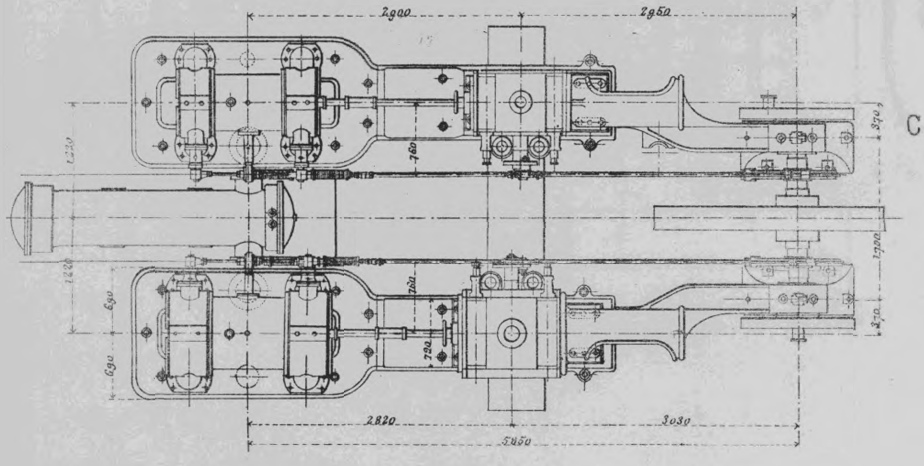


Fig. 2. Plan

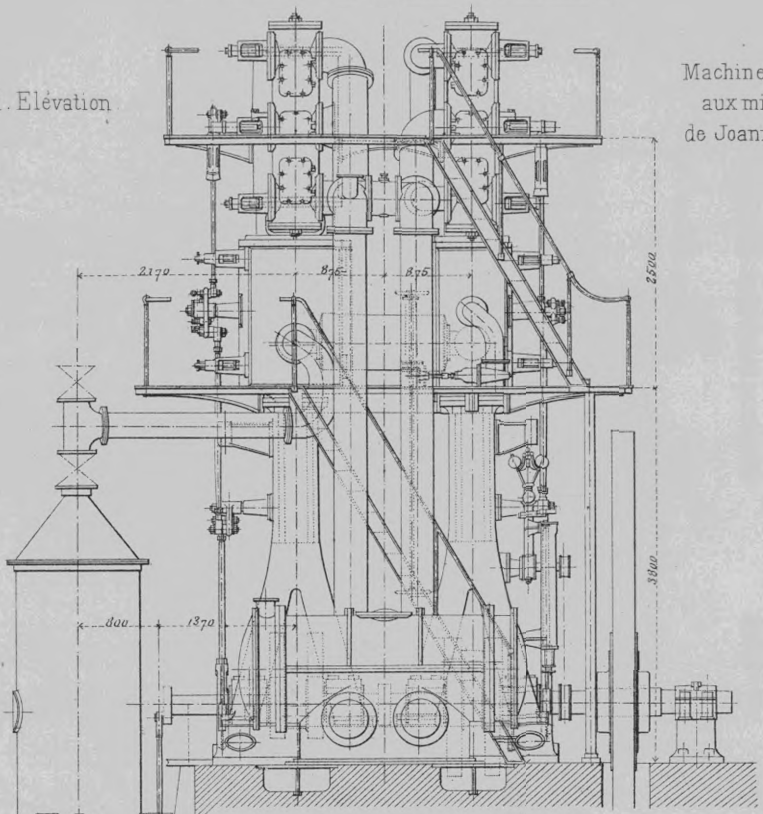


## Compresseurs à grande vitesse
## FRASER ET CHALMERS
## A CHICAGO

*(Echelle 1/50.)*

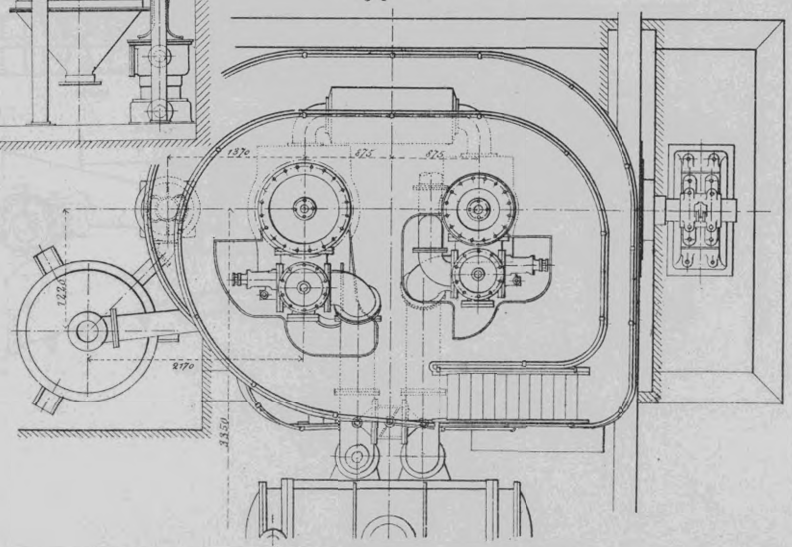
# Compresseur
## FRASER ET CHALMERS A CHICAGO

Fig. 1. Elévation




Machine destinée aux mines d'Or de Joannesburg.

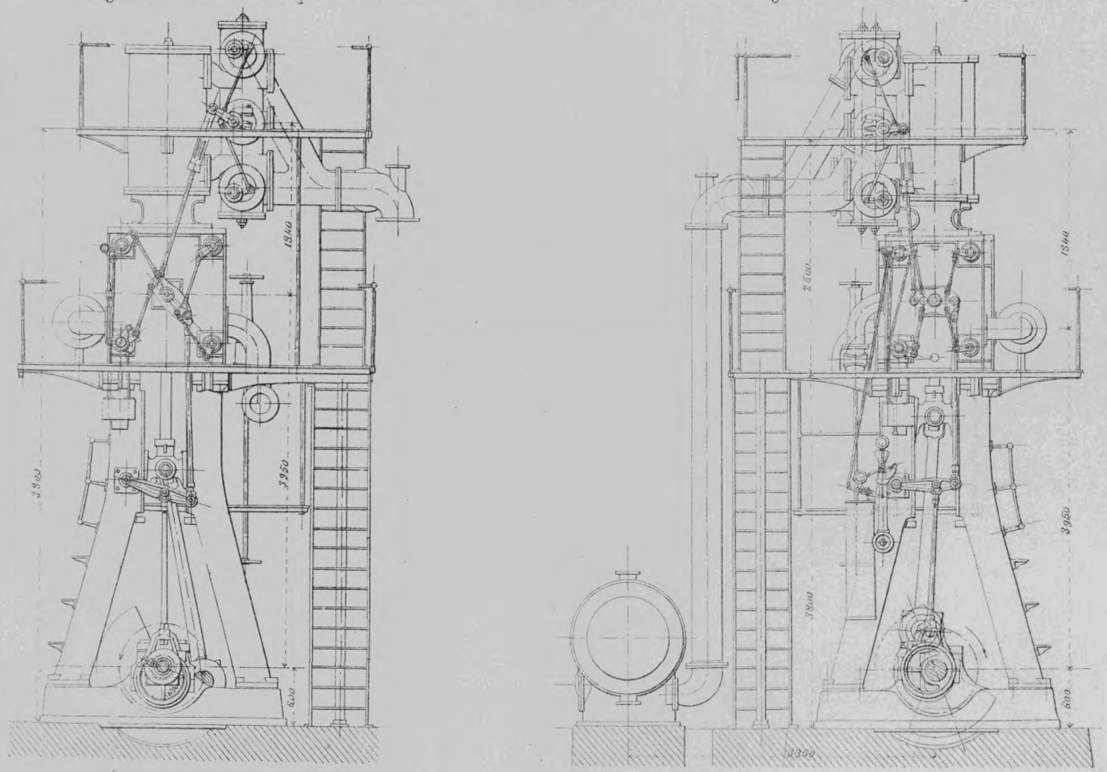
Fig. 2. Plan



# Compresseur
## FRASER ET CHALMERS A CHICAGO.

destiné aux mines d'Or de Joannesburg.

Fig. 1. Côté de la basse pression. *Echelle 1/50.* Fig. 2. Côté de la haute pression.



# COMPRESSEUR FRASER ET CHALMERS.

## Mines de Johannesburg.

*(Fig 1 et 2).* Tiroir.

*(Echelle 1/8.)*

Fig. 1. Coupe verticale.

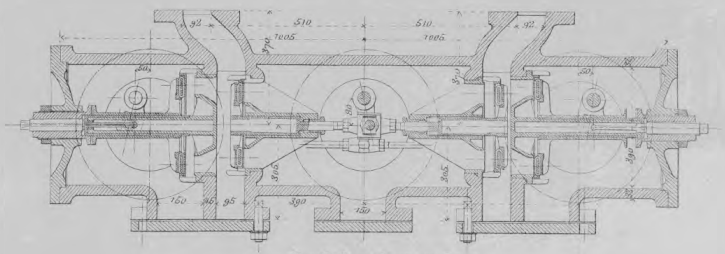
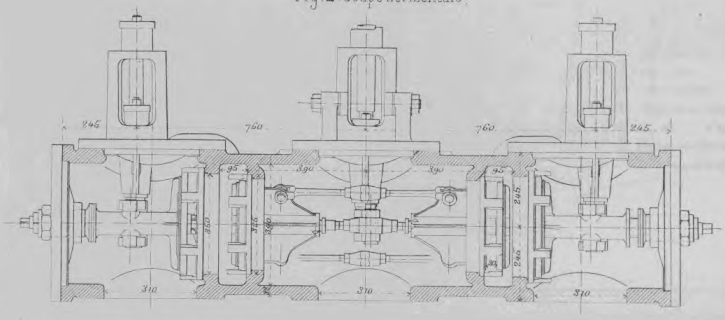


Fig. 2. Coupe horizontale.



Cylindres et Tuyauterie.

Fig. 3. Coupe verticale.

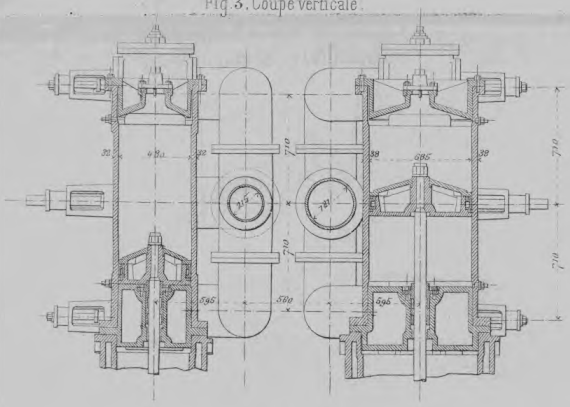


Fig. 4. Plan.

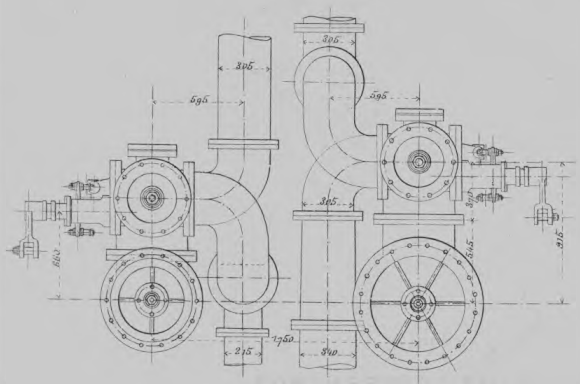
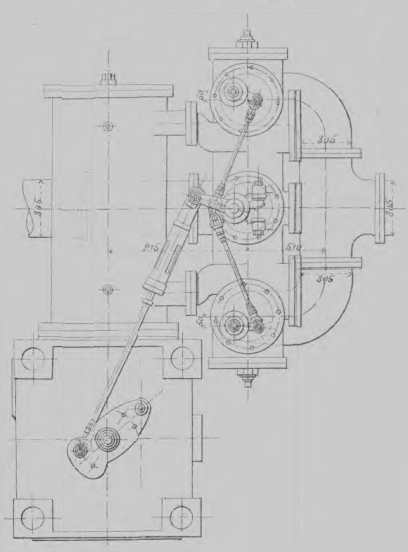


Fig. 5. Distribution

*(Echelle 1/25).*



# Compresseur
## FRASER ET CHALMERS A CHICAGO.
avec Condenseur à surface.

*Echelle 1/100.*

Fig. 1. Elévation de face.

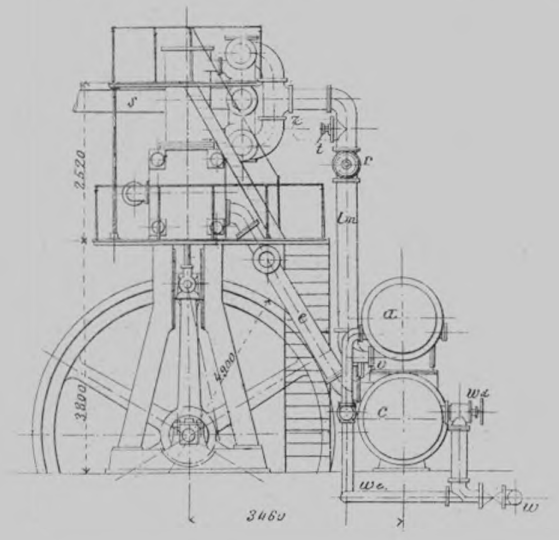



Fig. 2. Elévation de côté.

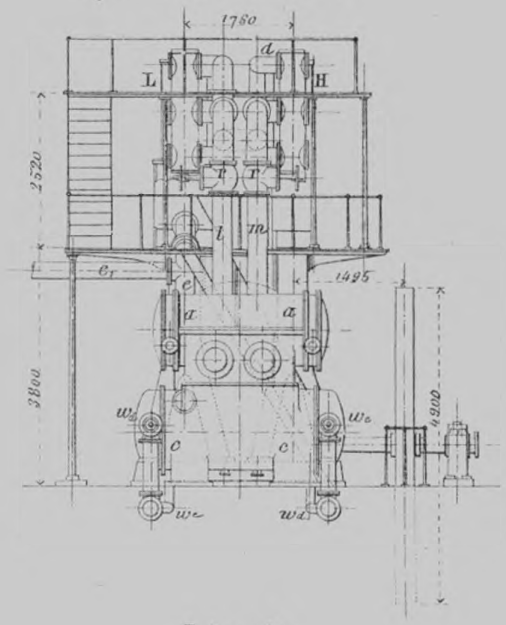
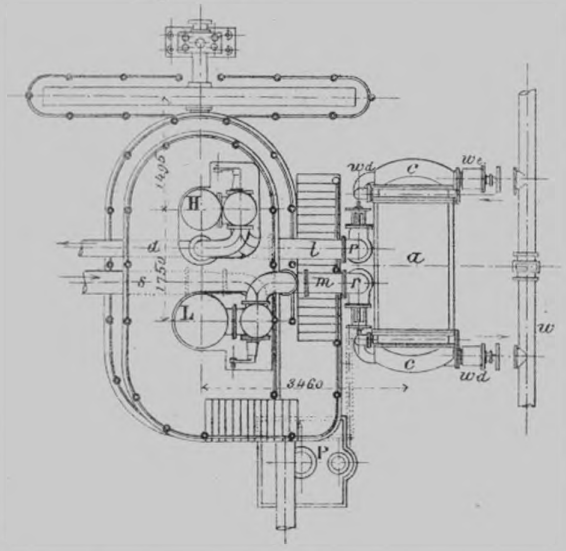



Fig. 3. Plan




Légende :

| | |
|---|---|
| *c* Condenseur. | *l* Tuyau de trop plein de l'air |
| *a* Refroidisseur d'air | *v* Soupape de sûreté. |
| *w* Conduite d'eau | *r*, *z* Distributeur et Refroidisseur d'air. |
| *wd*, *we* Soupape dans la conduite d'eau. | *t* Thermomètre. |
| *e* Echappement de vapeur | **L** Compresseur à basse pression |
| *e*1 Echappement de sûreté. | **H** ___ d° ___ à haute pression |
| *s* Aspiration. | **P** Pompe indépendante pour le Condenseur et le refroidisseur d'air |
| *d* Refoulement. | |

# MOTEUR A GAZ NATIONAL METER Co

Fig. 1.

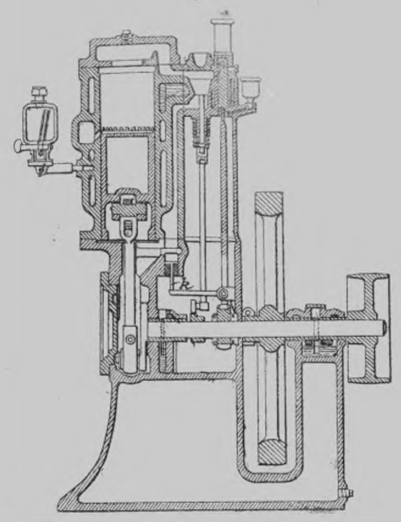


Fig. 2

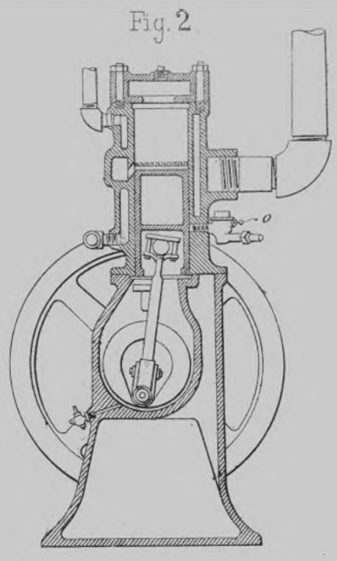
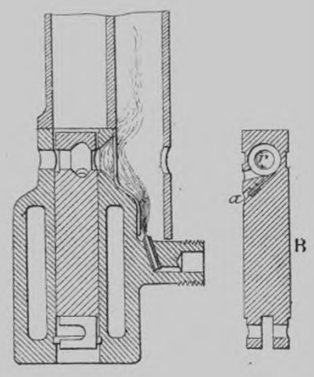


Fig. 3




# MOTEUR A GAZ SINTZ.

Fig. 7.

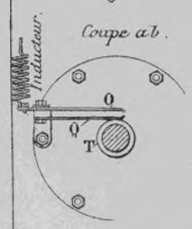



Fig. 4.




Fig. 6.

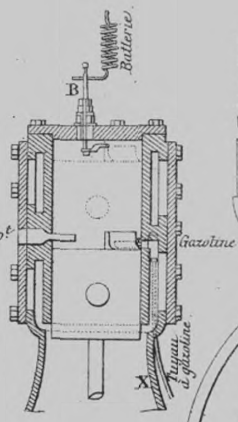
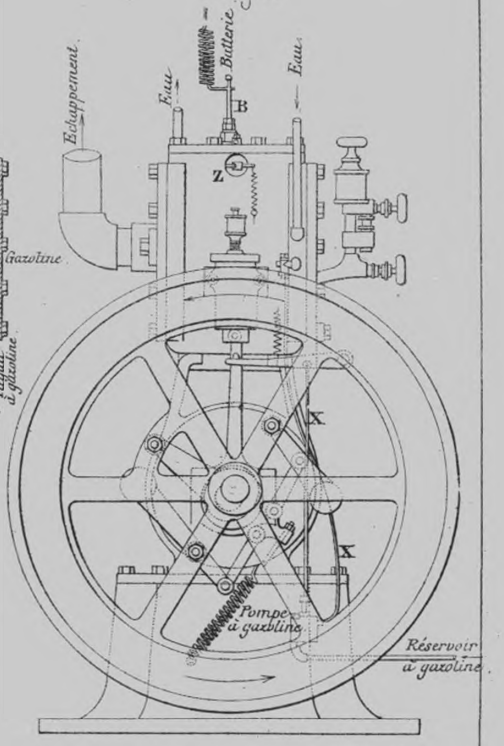



Fig. 5.



# MOTEURS A GAZ.

*Fig. 1 et 2.* **Moteur à gaz White et Middleton.**

Fig. 1. Ensemble

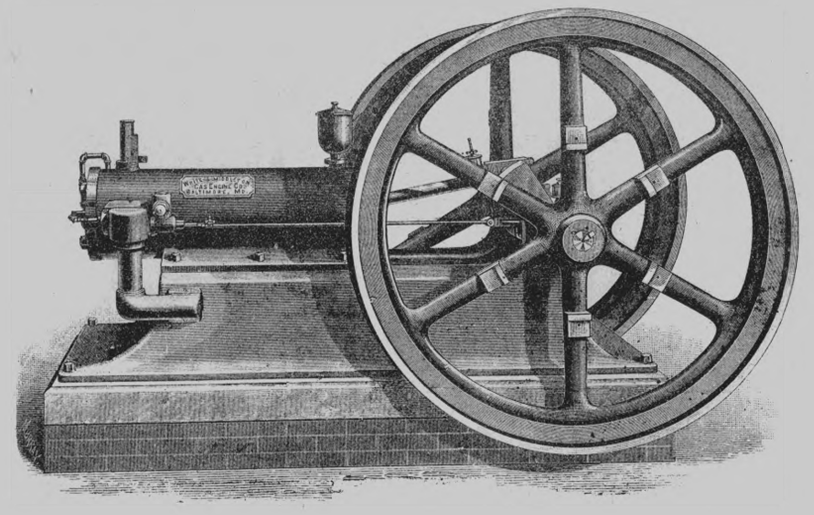


Fig. 2. Coupe horizontale.

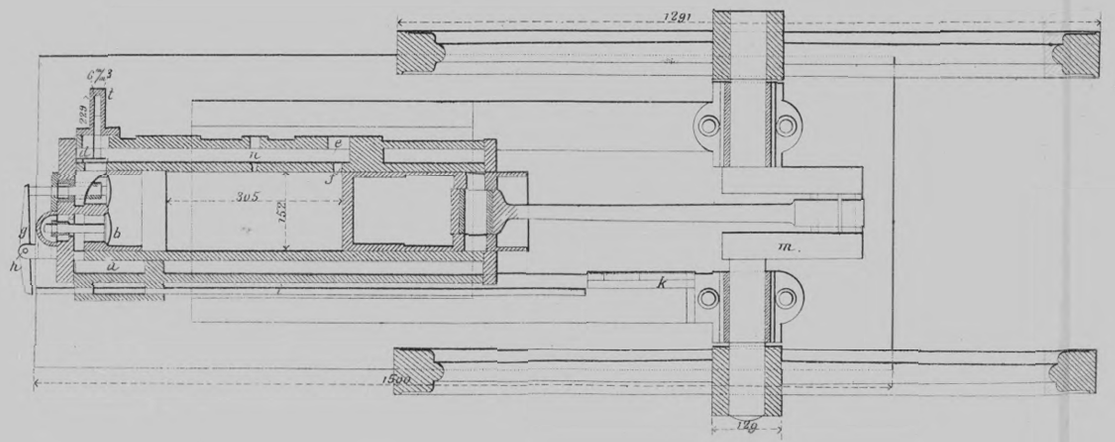



*Fig. 3 et 4.* **Moteur à gaz Backus.**

Fig. 3. Ensemble

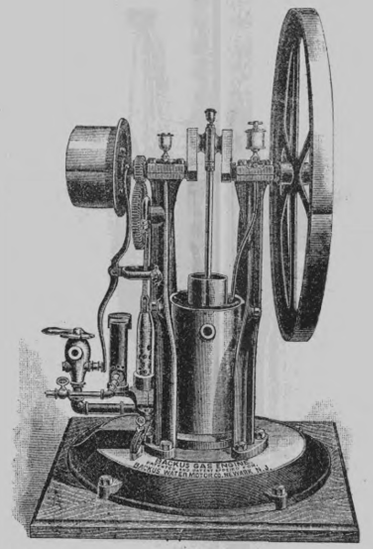


Fig. 4. Coupe.

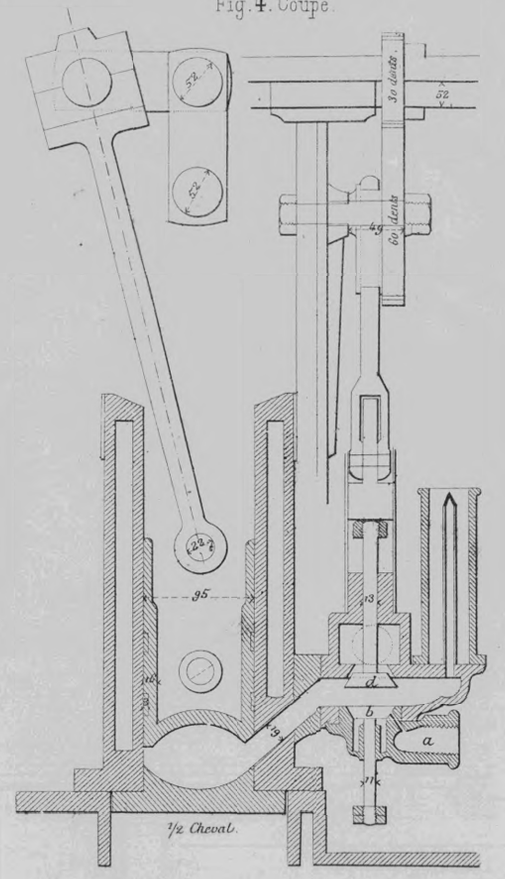



*Fig. 5 et 6.* **Moteur à gaz Roots.**

Fig. 5. Ensemble

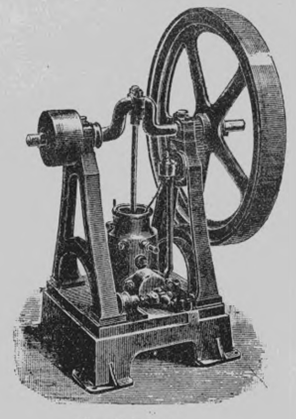


Fig. 6. Coupe

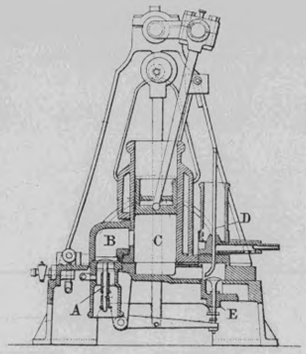



Fig. 7. **Moteur à gaz Sintz pour bateaux.**

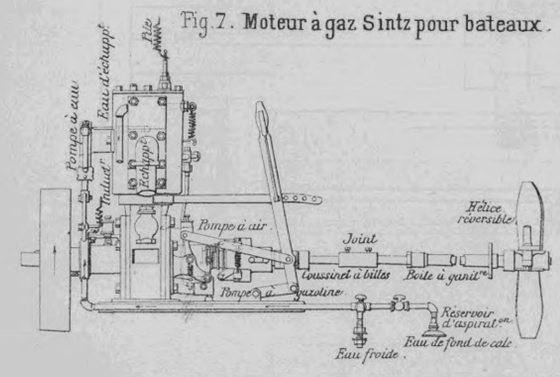
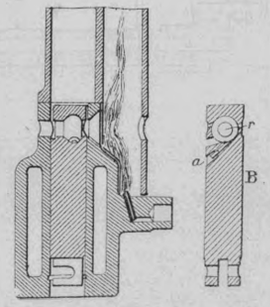



Fig. 8.



# MOTEURS A PÉTROLE.

*(Fig 1 à 5)* **Moteur à pétrole horizontal Roots.**

Fig. 1.

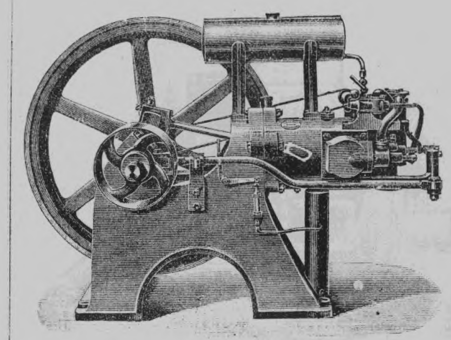


Fig. 2.

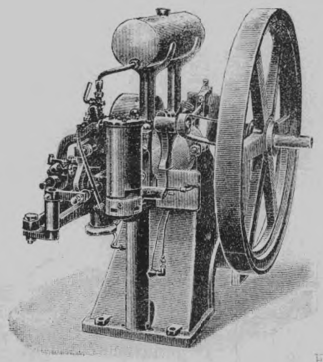


Fig. 3 Vue de bout

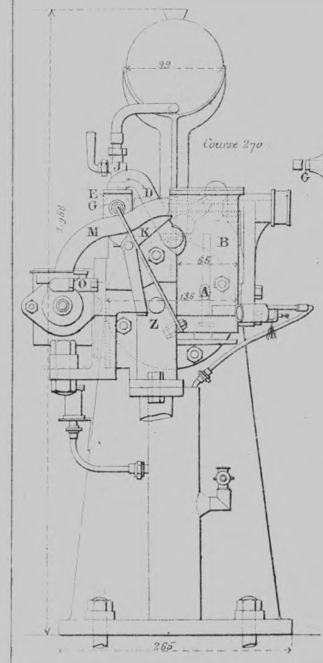


Fig. 4 Diagramme du Vaporisateur et de l'admission d'air

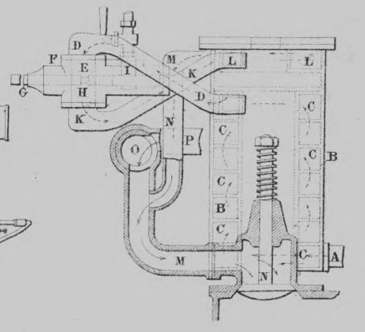
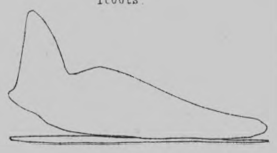


Fig. 5. Diagramme du moteur à pétrole Roots



*(Fig. 6 à 8)* **Moteur à pétrole Nobel.**

Fig. 6. Coupe transv.le

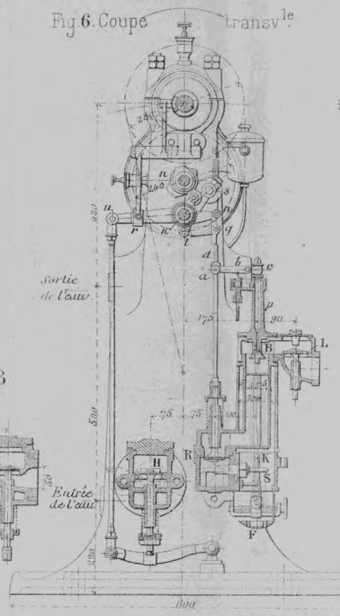


Fig. 7. Coupe longitudinale

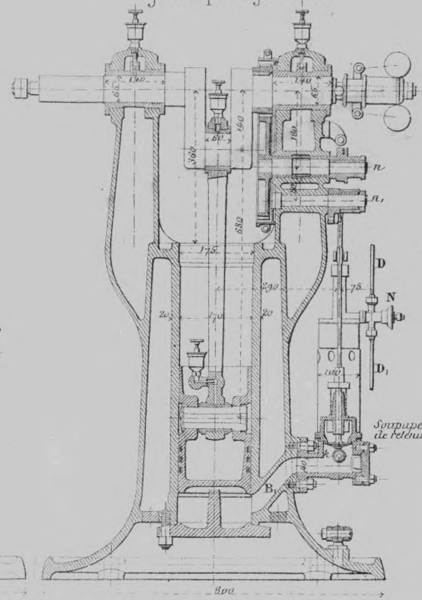
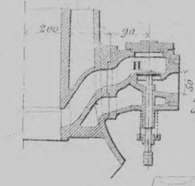


Fig. 8



*(Fig. 9 et 10)* **Moteur à pétrole Lewis.**

Fig. 9.

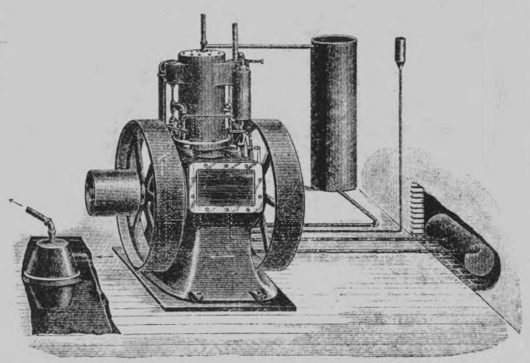
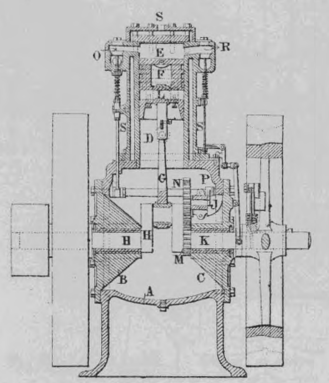


Fig. 10. Coupe.



*(Fig. 11 à 15)* **Moteur à naphte. Gas Engine and Power C°**

Fig. 11.

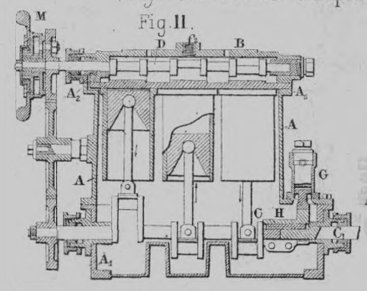


Fig. 12.

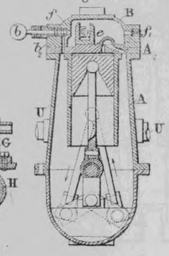


Fig. 14.

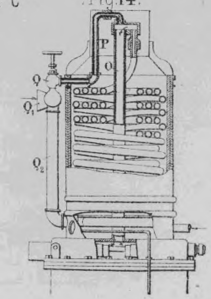


Fig. 15.

Fig. 13.

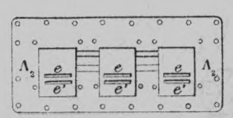
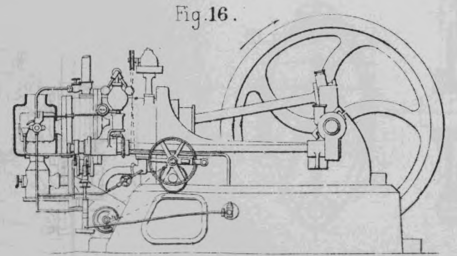


Fig. 16.



*(Fig. 16 à 18)* **Moteur à pétrole Hornsby.**

Fig. 17.

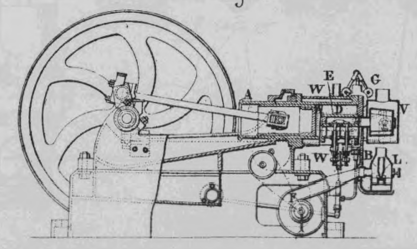
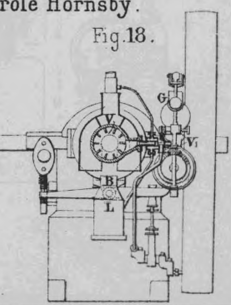


Fig. 18.



# POMPE GASKILL.

Fig. 1.

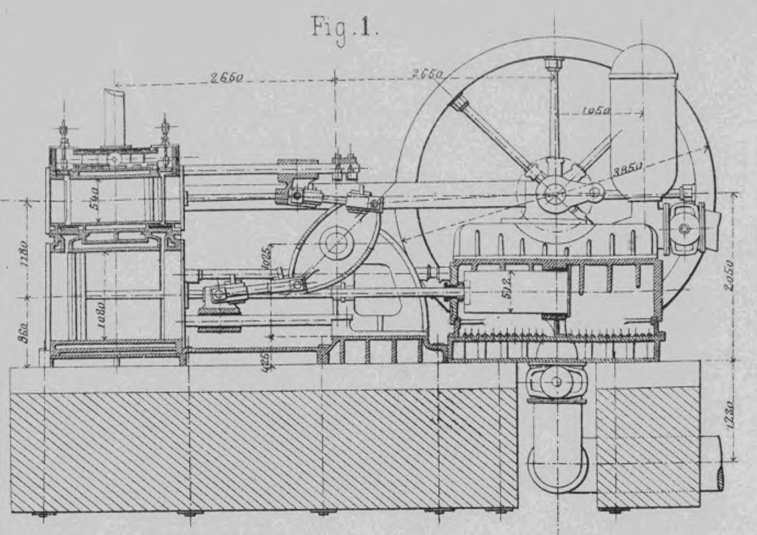


Fig. 2.

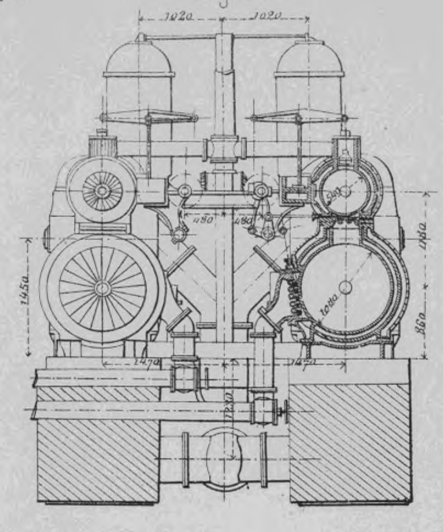


Fig. 4.

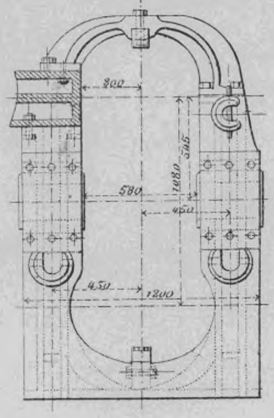


Fig. 5

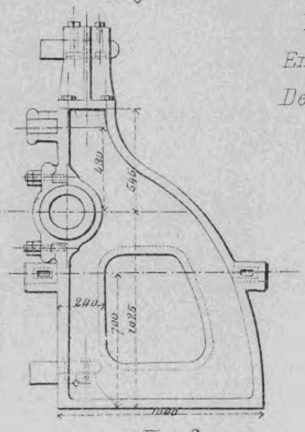


Fig. 3.

Echelles :
*Ensemble* 1/10
*Détails* ..... 1/30.

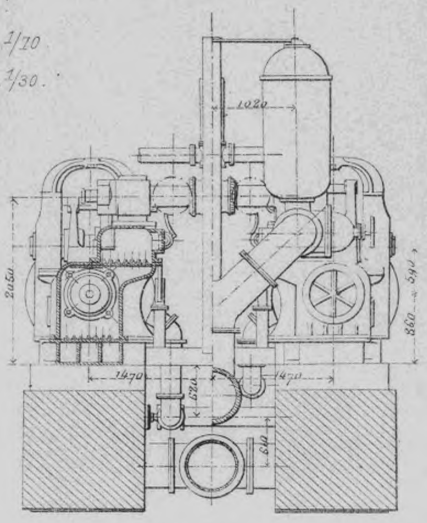


Fig. 6.

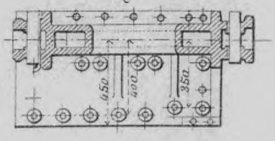


Fig. 7.
*Balancier*

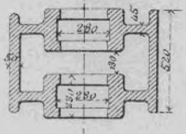


Fig. 8.

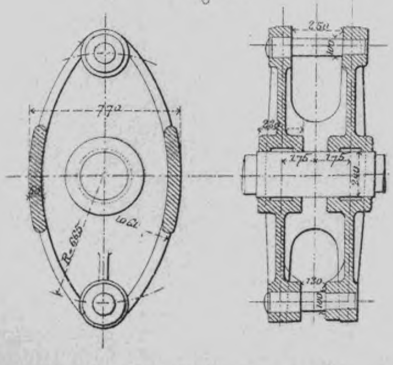
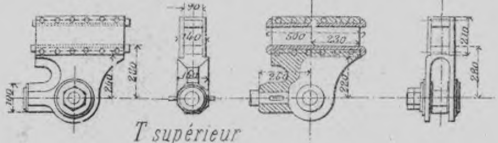


Fig. 9. Fig. 10. Fig. 11. Fig. 12.



*T supérieur*

Fig. 15.
*Soupape de pompe*

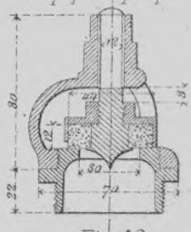
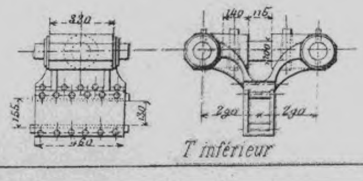


Fig. 13. Fig. 14.



*T inférieur*

Fig. 16.

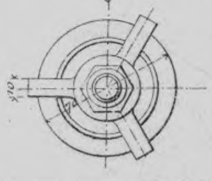


Fig. 1.

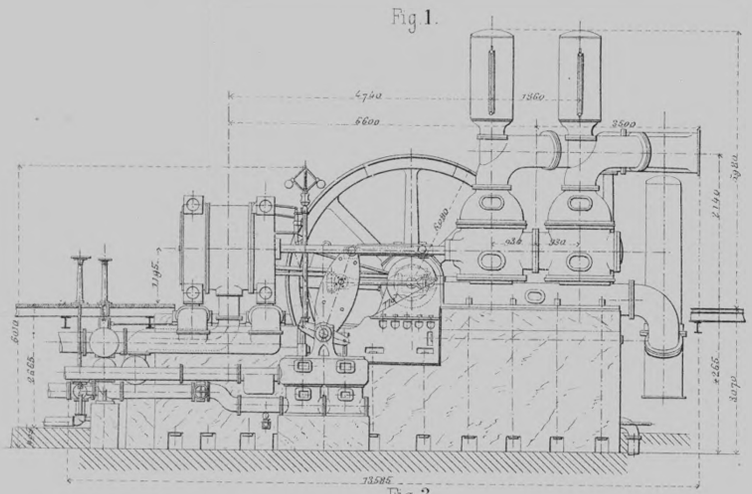


Fig. 2.

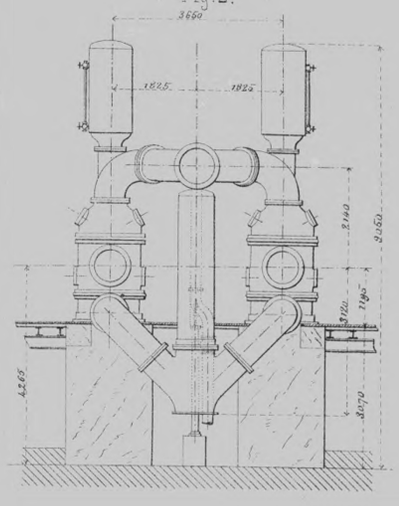
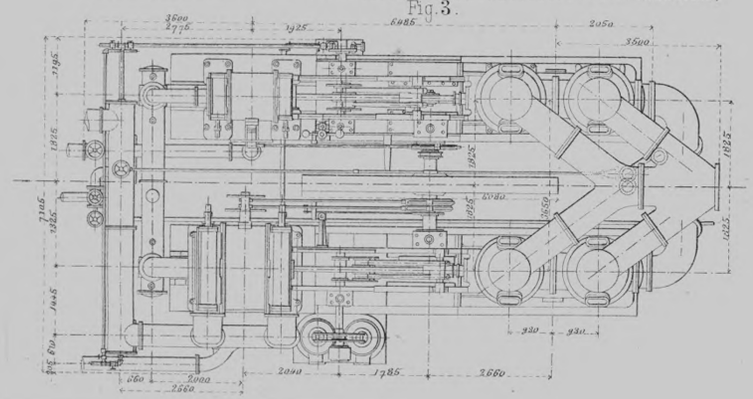


Fig. 3.



# POMPES

## DES ATELIERS DE CONSTRUCTION

Geo. F. **BLAKE** à Boston.

---

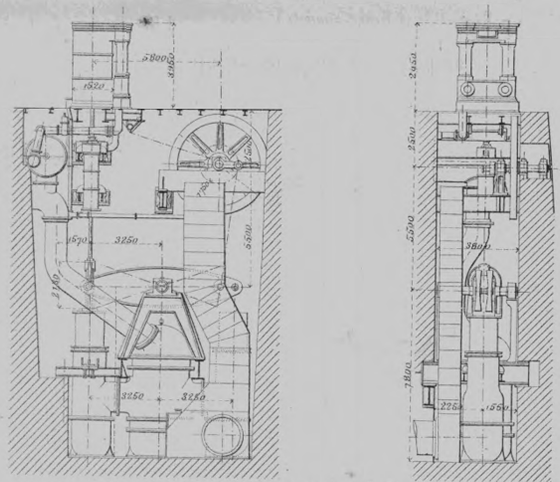
Usine des eaux de Newton, Mass.

*( Echelle 1/100. )*

---

Usine de St. Louis. Pompe.

Fig. 1. *( Echelle 1/200. )* Fig. 2.

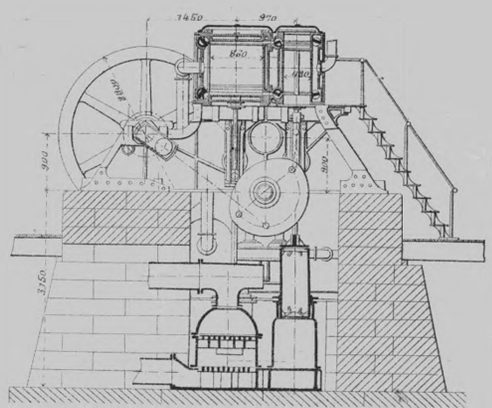


Pompe **HOLLY** à 3 Cylindres.

Pompe . **HOLLY**.

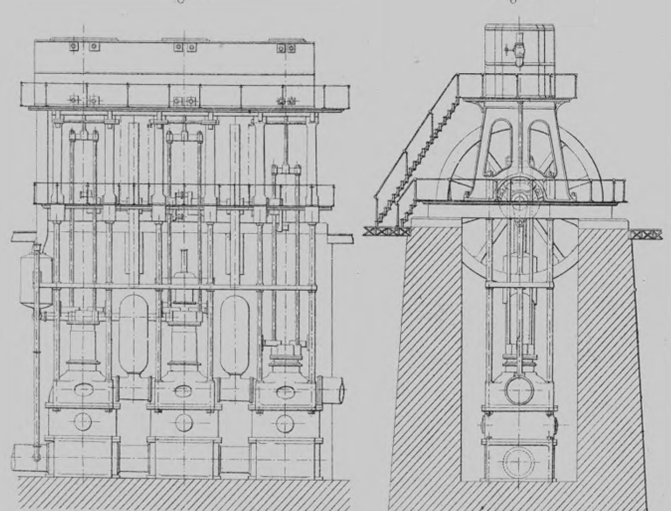
*( Echelle 1/70 )*

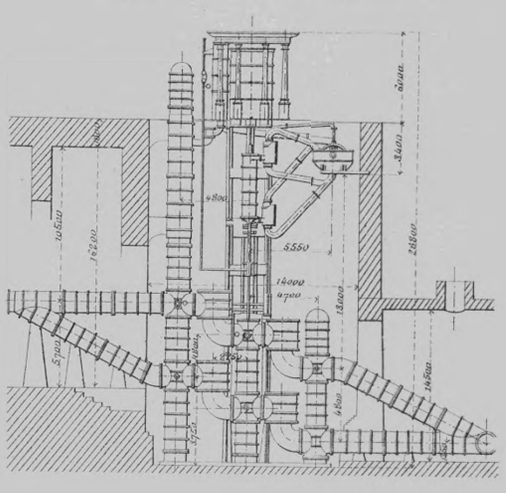
Fig. 3.



Pompe **SHIELDS**. Usine de Cincinnati.

Fig. 4. Fig. 5. Fig. 6. *( Echelle 1/300 )*





# POMPES ALLIS.

Usine de Chicago.

*Echelle 1/84.*

Fig.1.

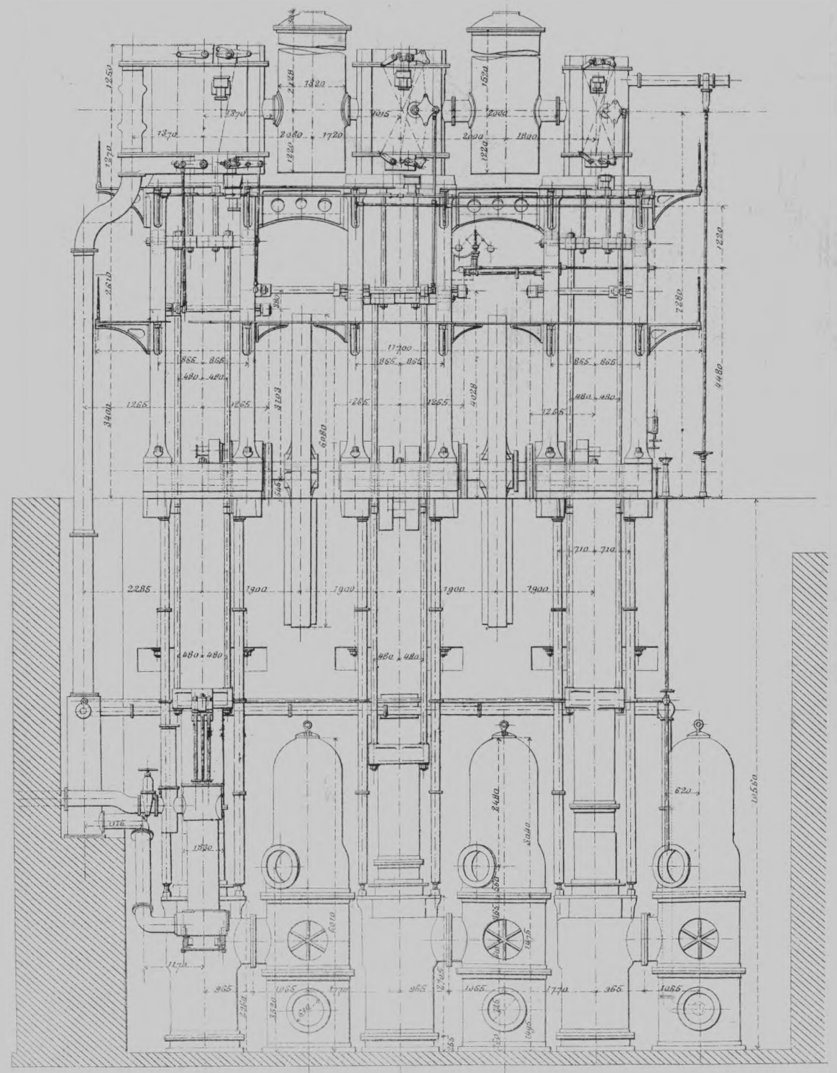


Fig.2.

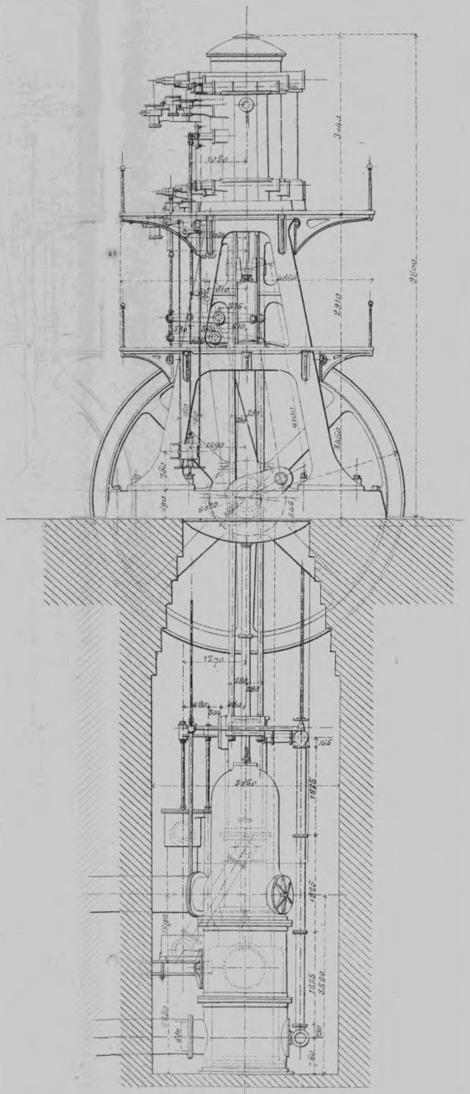


Fig.3. Soupapes des pompes.

*Echelle 1/4.*

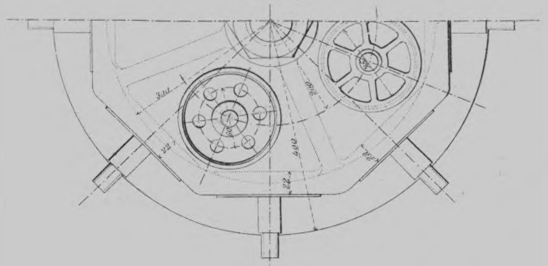
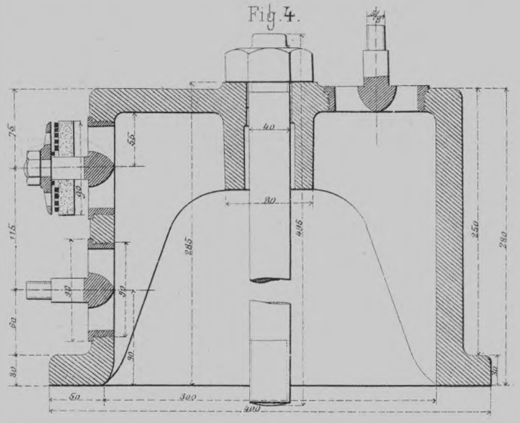


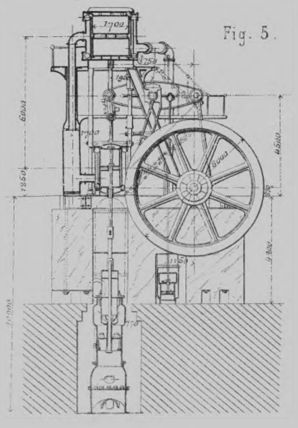
Fig.4.



Pompe verticale Allis.

*Echelle 1/200.*

Fig. 5.



# POMPE A TRIPLE EXPANSION.

## pour le Service des Eaux de Boston.

(LEAVITT)

Fig. 1.

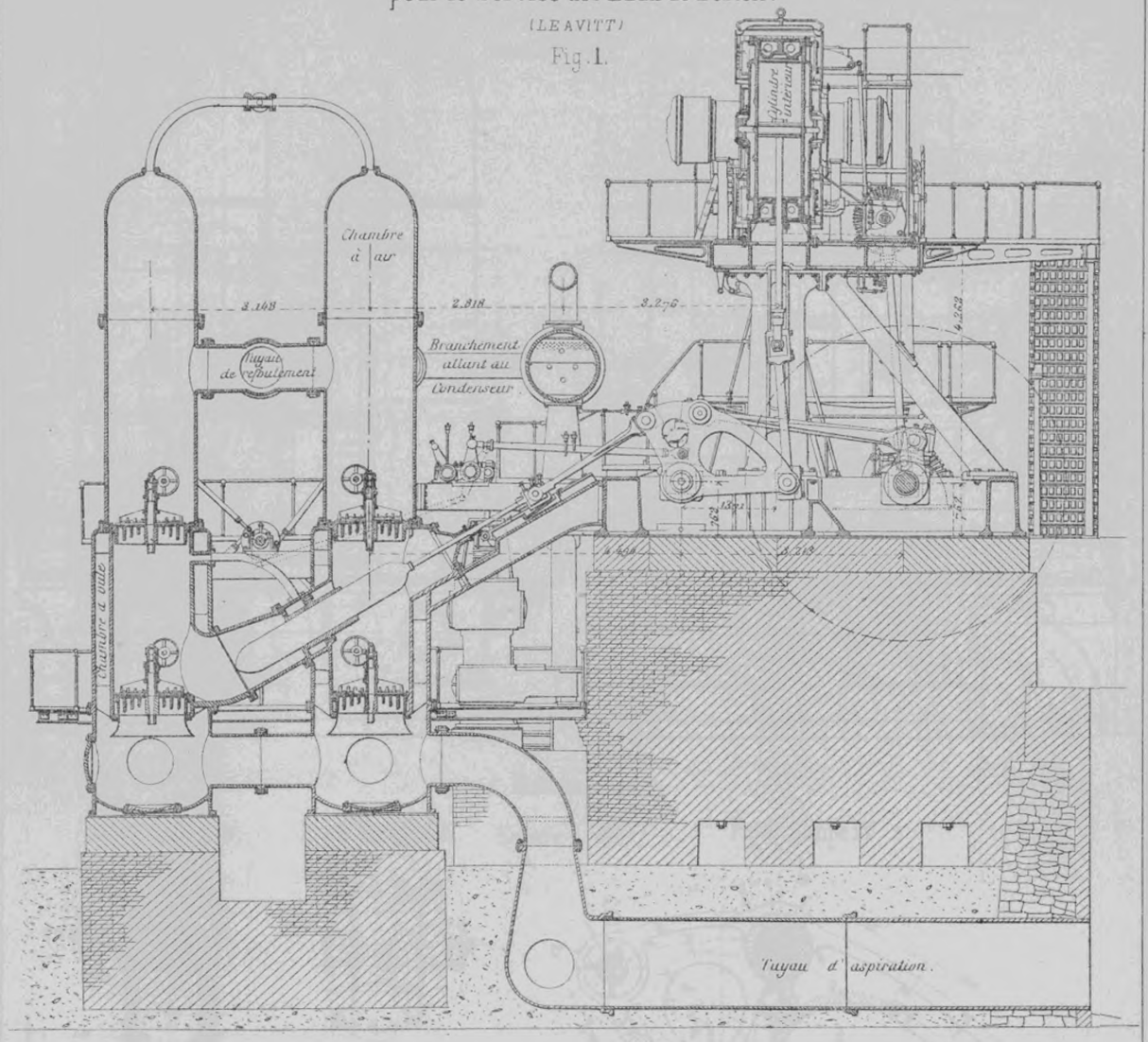
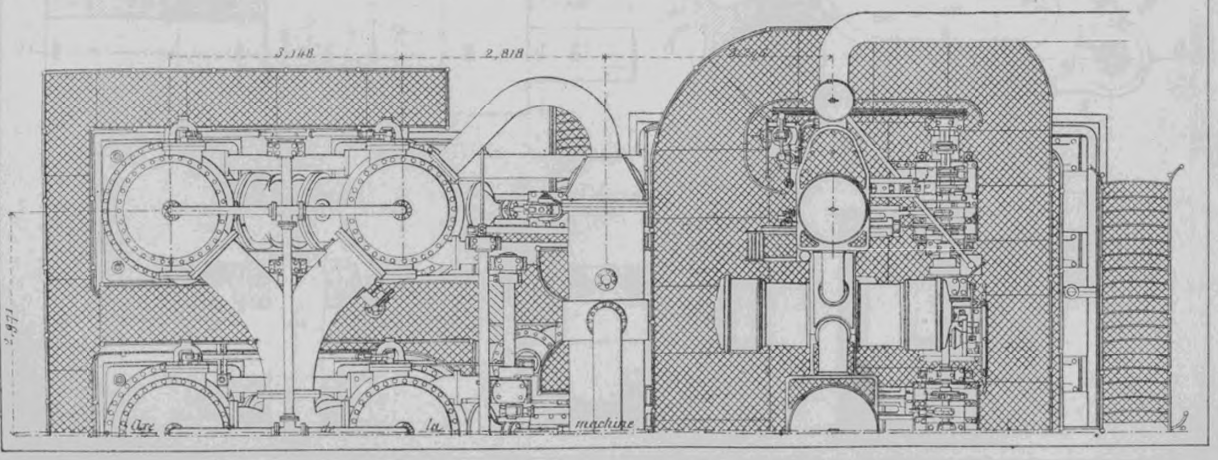



Fig. 2. Coupe et 1/2 Plan de la machine



# POMPE LEAVITT.

(Service des Eaux de Boston).

Echelle 1/80

Fig. 1. Vue de côté de la pompe.

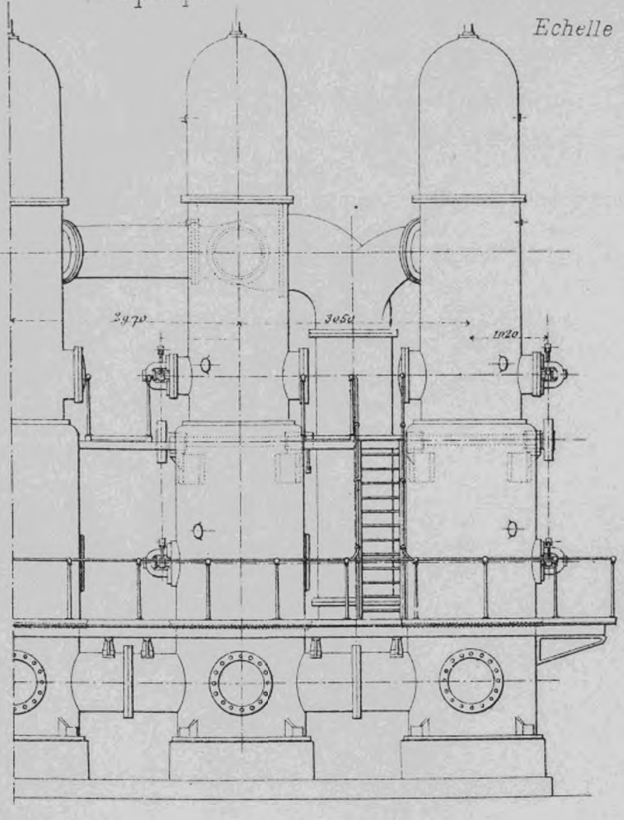
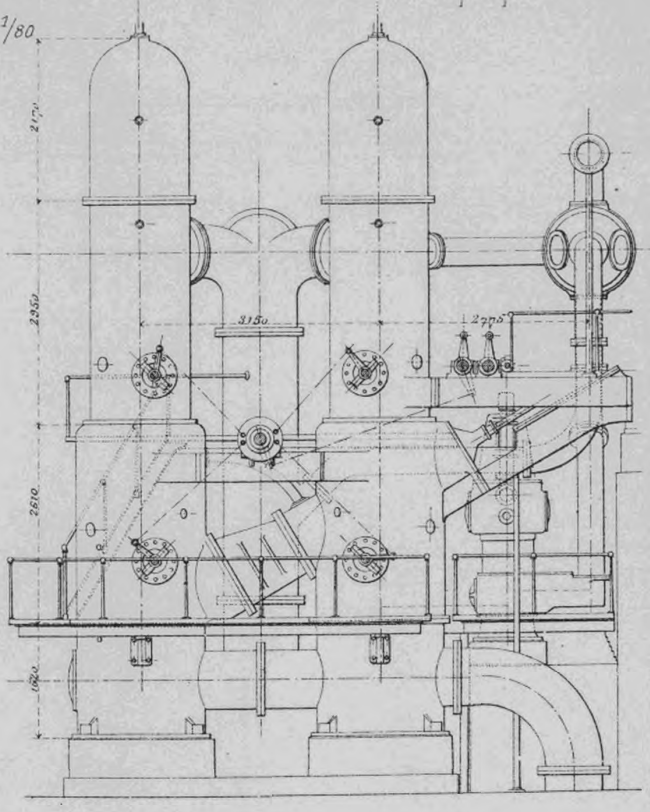
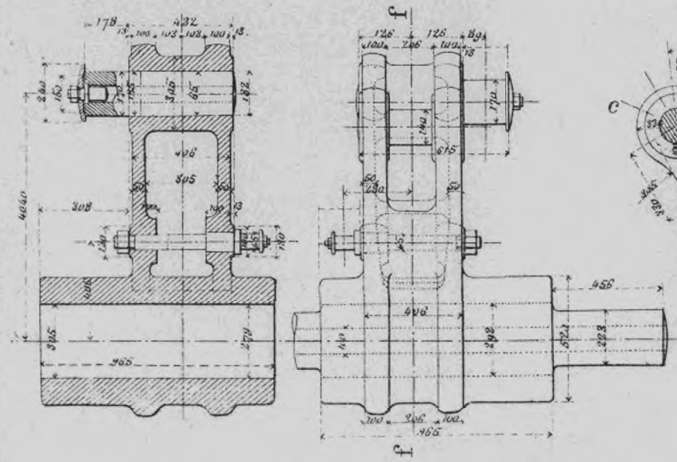


Fig. 2. Vue de derrière de la pompe.



## Balancier

Fig. 3. Coupe ee. Fig. 4. Coupe dd. Echelle (1/25) Fig. 5. Coupe ff.



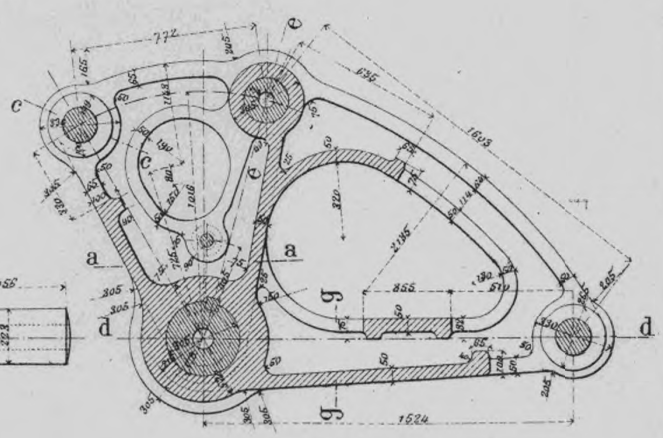


Fig. 6. Coupe cc.

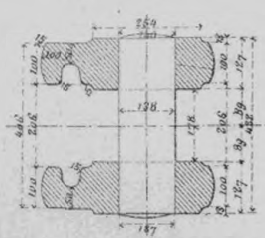


Fig. 7. Coupe gg.

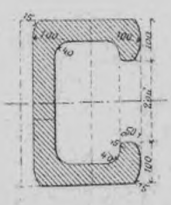
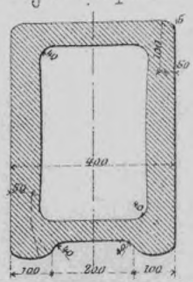


Fig. 8. Coupe aa.



# POMPE A INCENDIE.

*HALE*

Fig. 1.

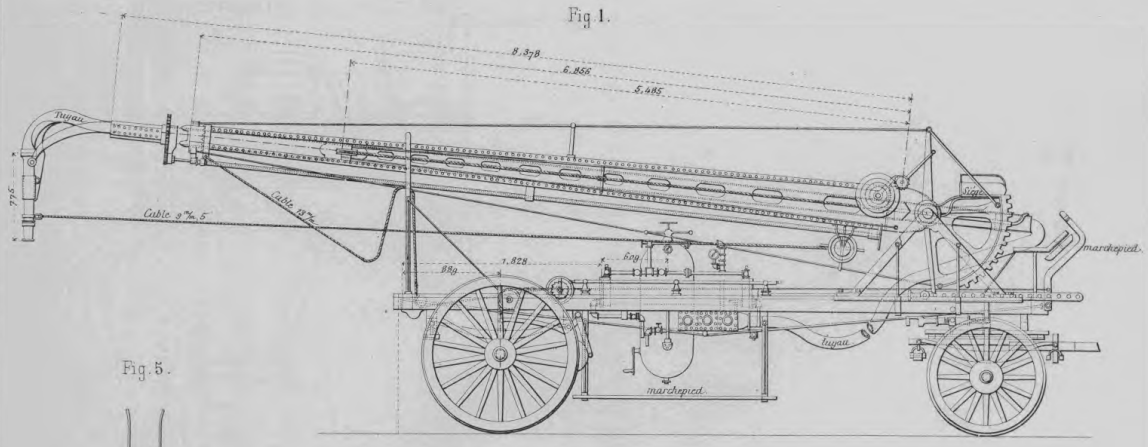



Fig. 5.

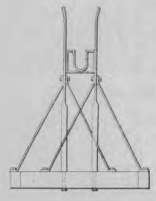


Fig. 2.

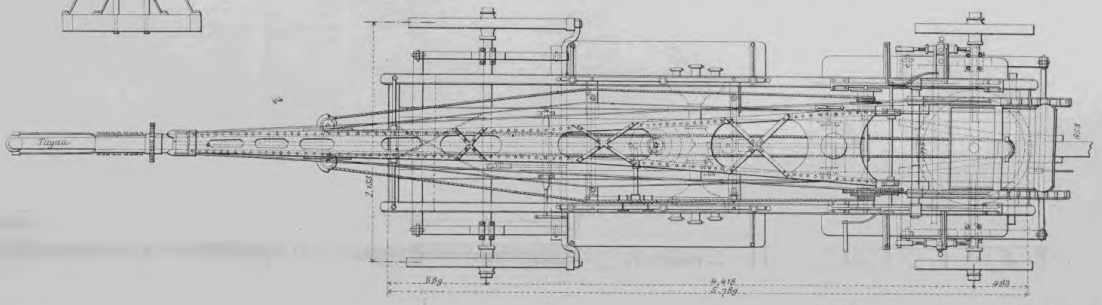



Fig. 3.

Fig. 4.

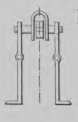


Fig. 6.




Fig. 8.

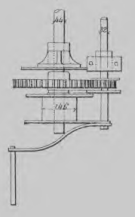


Fig. 9.

Fig. 7.

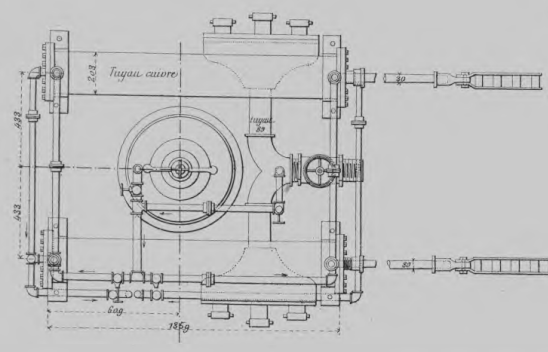



Fig. 10.

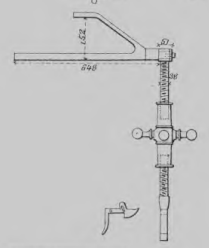


Fig. 11.

## Pompes suspendues. *Fig. 1 à 8*

*Echelle 1/20*

Fig. 1. Vue de côté

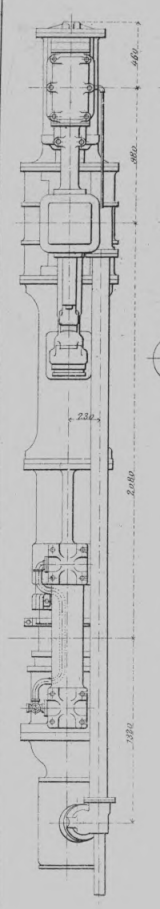


Fig. 4. Coupe en travers

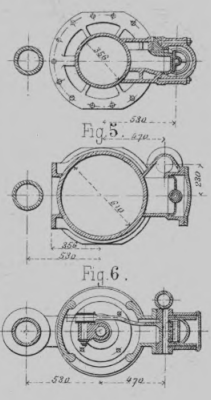


Fig. 2. Coupe en long

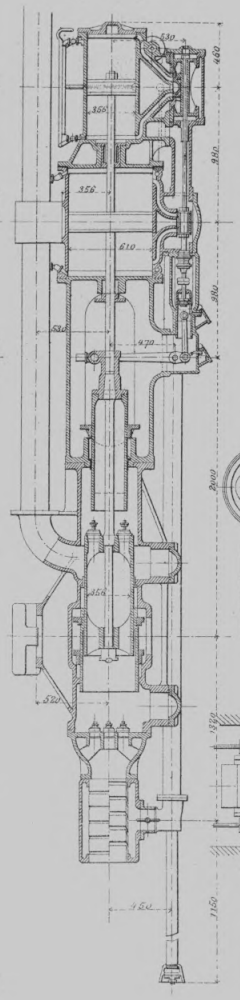


Fig. 3.

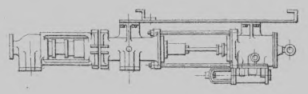


Fig. 5.

Fig. 6.

Fig. 7.

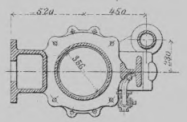
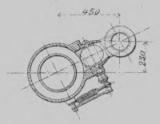


Fig. 8.



## POMPE D'ÉPUISEMENT DU PUITS MEXICAN-UNION.

*Fig. 9 et 10. Echelle 1/100*

Fig. 9.

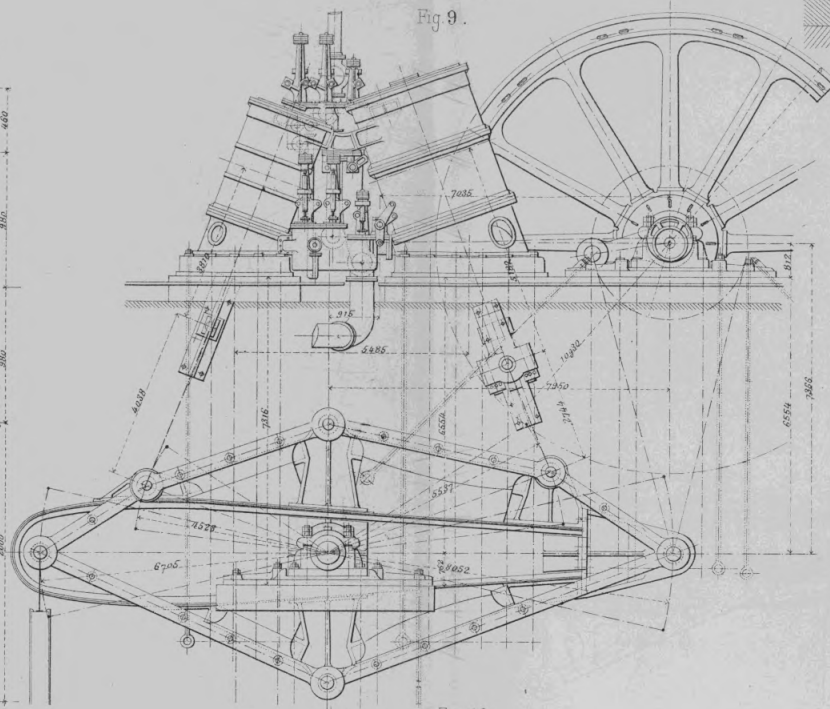


Fig. 10.

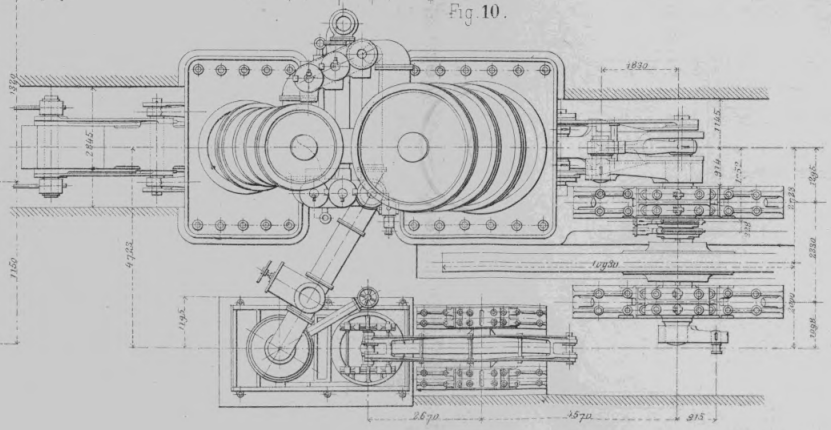


Fig. 11. Puits **OPHIR**.

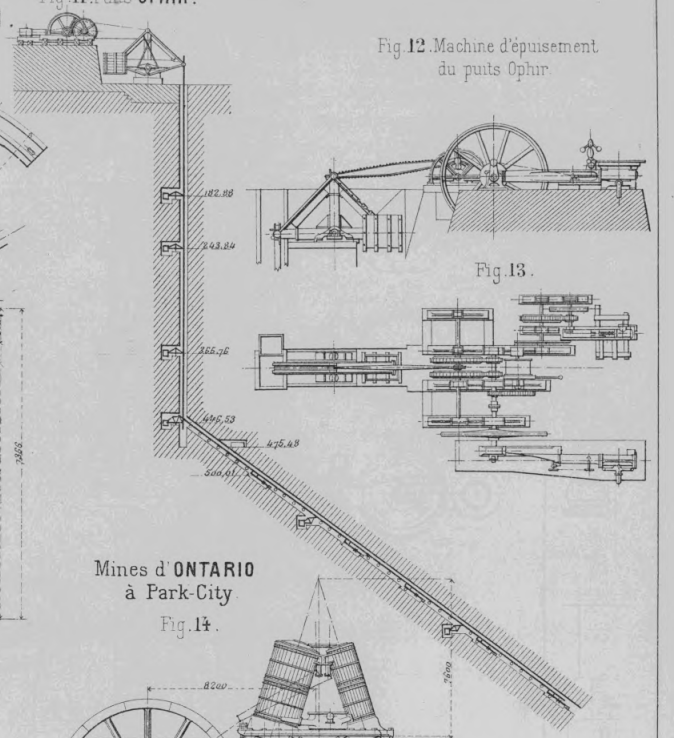


Fig. 12. Machine d'épuisement du puits Ophir

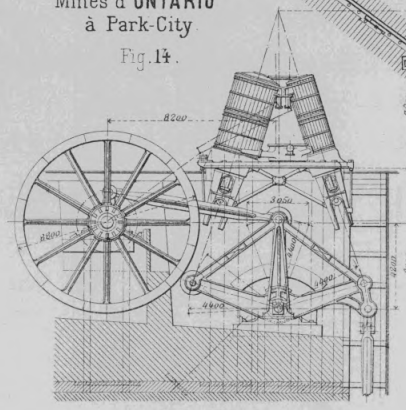


Fig. 13.



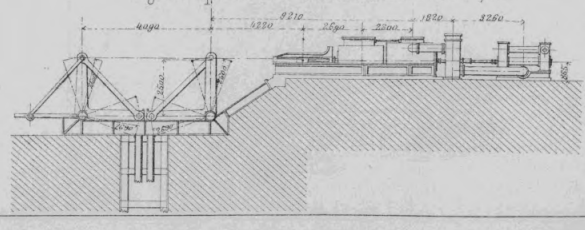
Mines d'**ONTARIO** à Park-City

Fig. 14.



*Echelle 1/200*

Fig. 15. Epuisement. Mines **ALTA**. *Echelle 1/200*.



# ÉPUISEMENT DES MINES (YELLOW-JACKET).

*Fig. 1 à 4. Echelle 1/40.*

Fig. 1. Elévation.

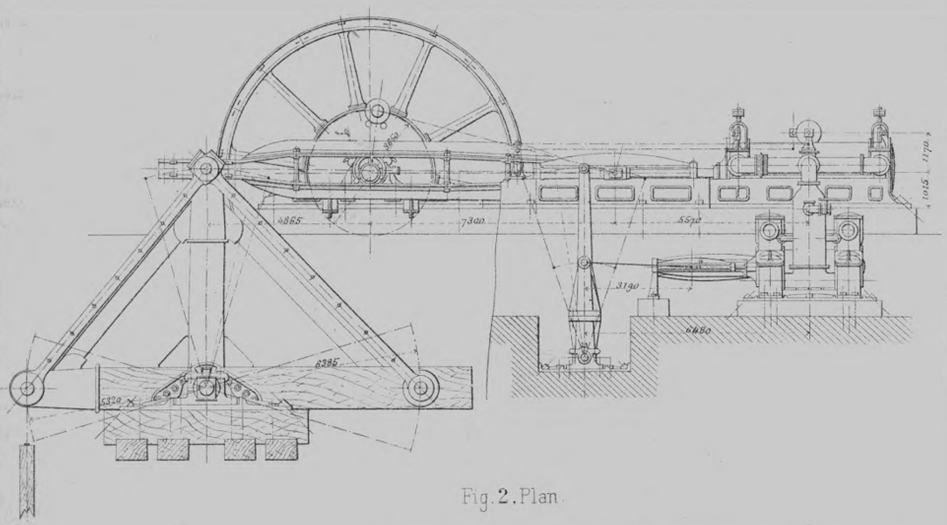


Fig. 2. Plan.

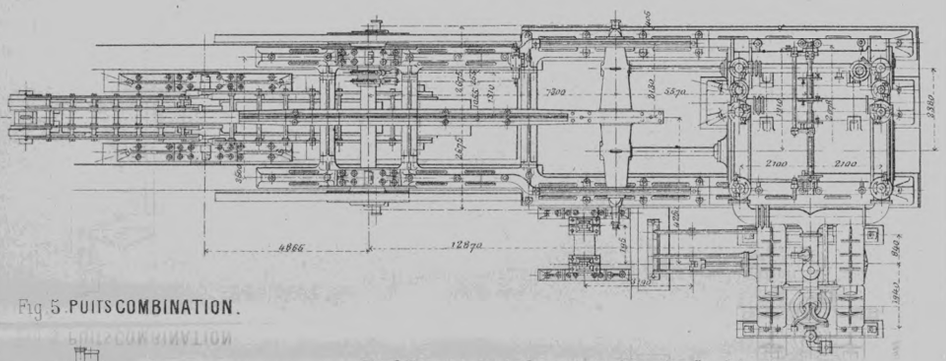


Fig. 3.

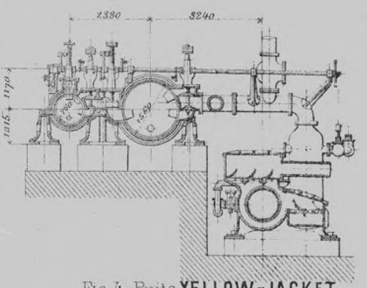


Fig. 4. Puits YELLOW-JACKET

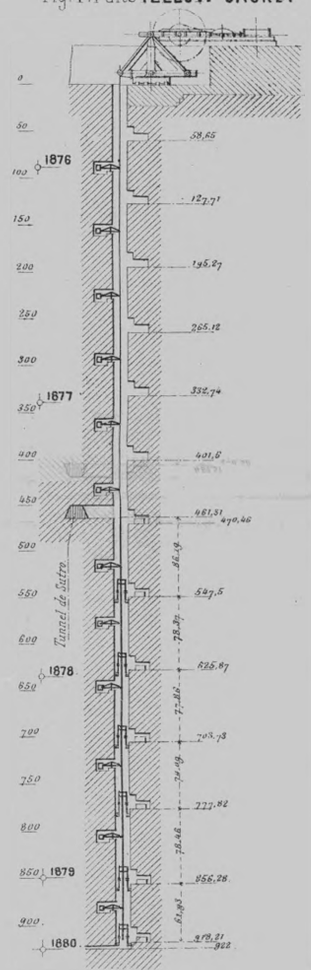



Fig. 5. PUITS COMBINATION.

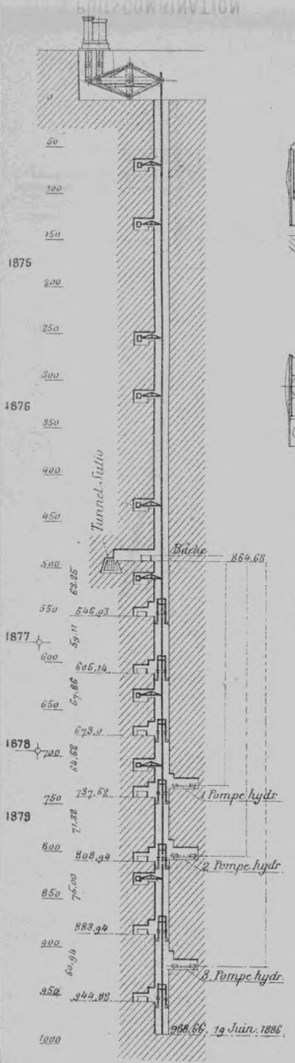



Fig. 6. Pompe principale au jour du puits Combination.

*Echelle 1/150.*

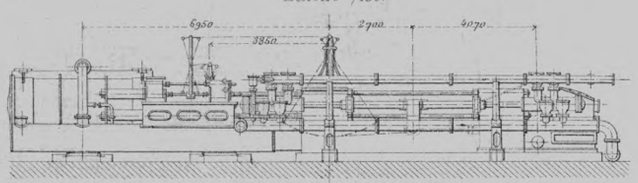


Fig. 7.

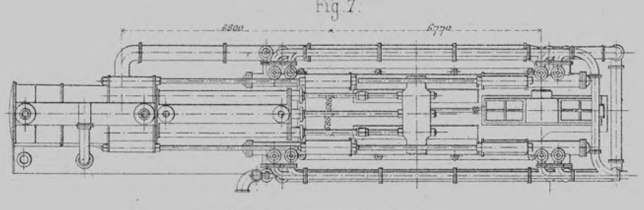


Fig. 8. Pompe souterraine hydraulique

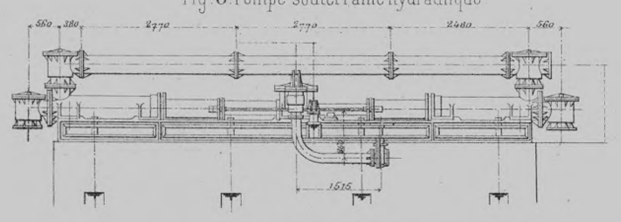


Fig. 9. Machine d'extraction hydraul.

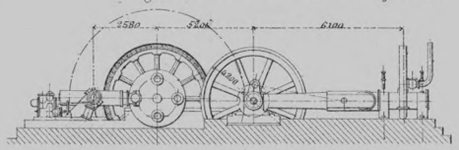


Fig. 10.

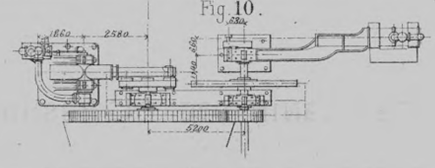


Fig. 11. Epuisement, Mine BELCHER.

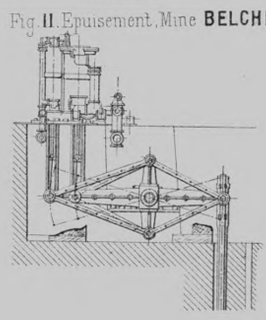
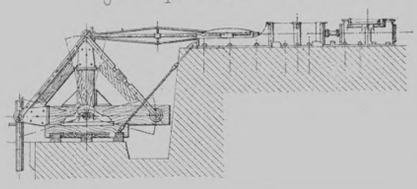


Fig. 12. Epuisement. Puits C et C



# ÉPUISEMENT DES MINES DE CHAPIN.

Pompe Allis.

Balancier. (Fig. 2 à 9.)

Fig. 1. Ensemble Ech 1/200.

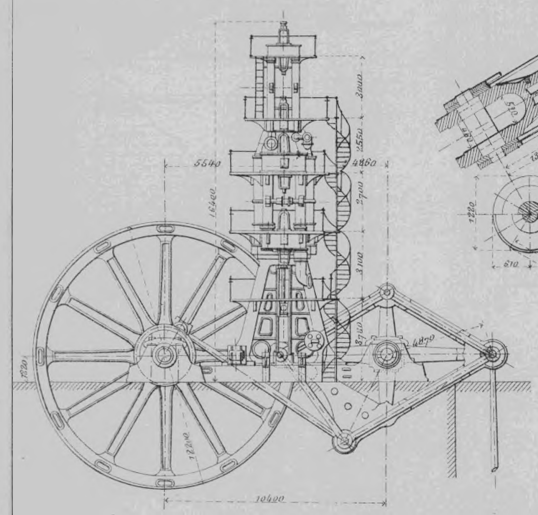


Fig. 5.

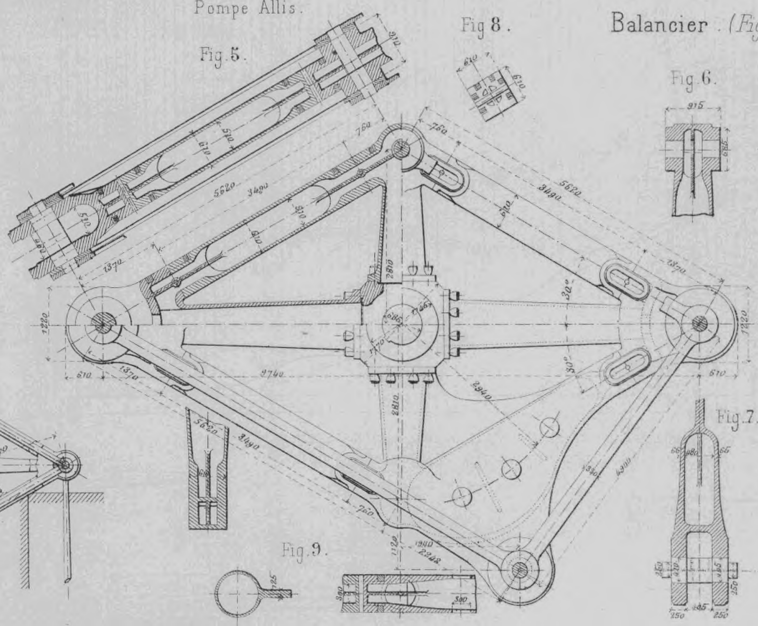


Fig. 8.



Fig. 6.



Fig. 4.

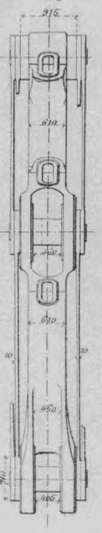


Fig. 7.



Fig. 9.



Fig. 3.

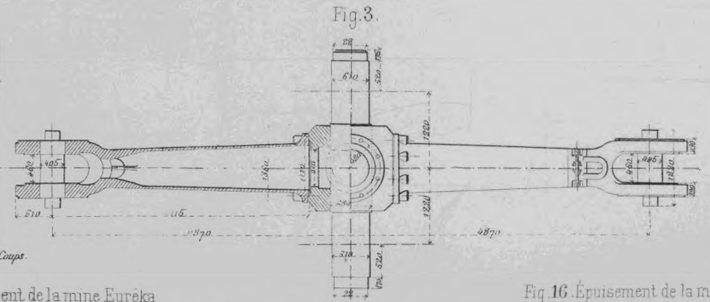


Fig. 10. Pompe foulante de la mine Eureka.

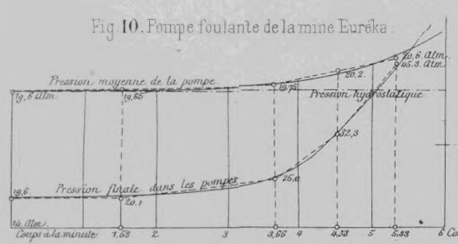



Fig. 11. Epuisement de la mine Eureka.
Pompe foulante.

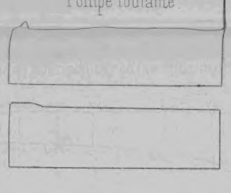


Fig. 12. Epuisement de la mine Eureka.
Pompe motrice.

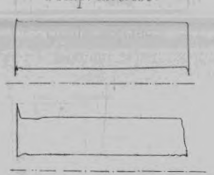


Fig. 13. Epuisement de la mine Eureka.
Machine hydraulique d'extraction.

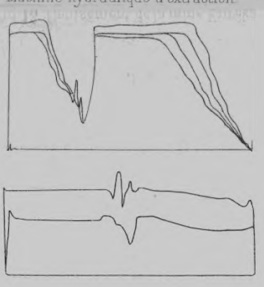


Fig. 16. Epuisement de la mine de Belcher.

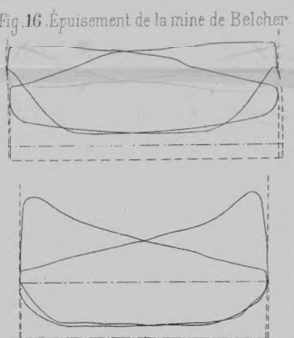
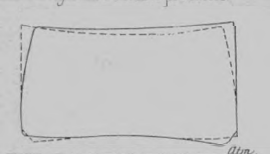


Fig. 14. Epuisement de la mine Eureka.
Cylindre à haute pression.




Cylindre à basse pression.

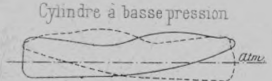
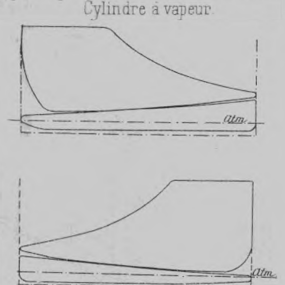



Fig. 15. Epuisement du Puits Yellow-Jacket.
Cylindre à vapeur.



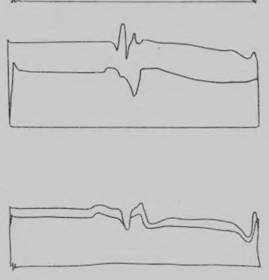



Fig. 17. Epuisement de la mine de Belcher.
Pompe à air.

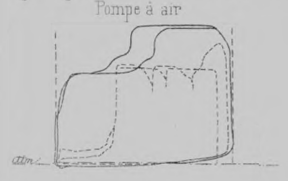



Fig. 18. Diagrammes des vitesses à compression variable.
Puits de l'Union Mexicaine.

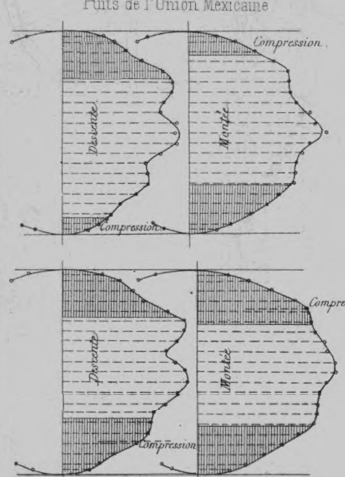
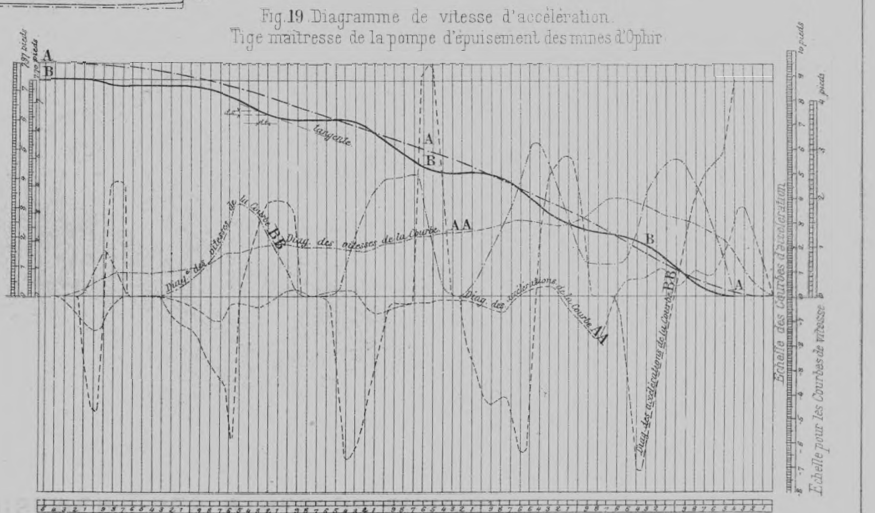



Fig. 19. Diagramme de vitesse d'accélération.
Tige maîtresse de la pompe d'épuisement des mines d'Ophir.



# MACHINES D'ÉPUISEMENT

## DE LA Cie BOSTON & MONTANA

Butte City

Fig. 3. Plan.

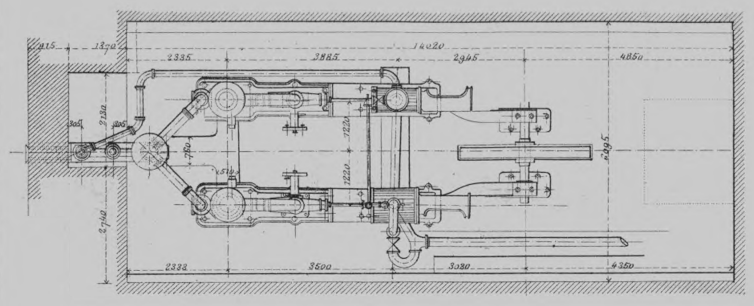


Fig. 6.

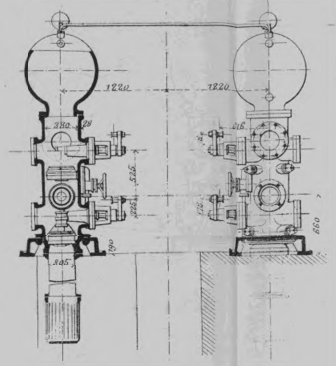
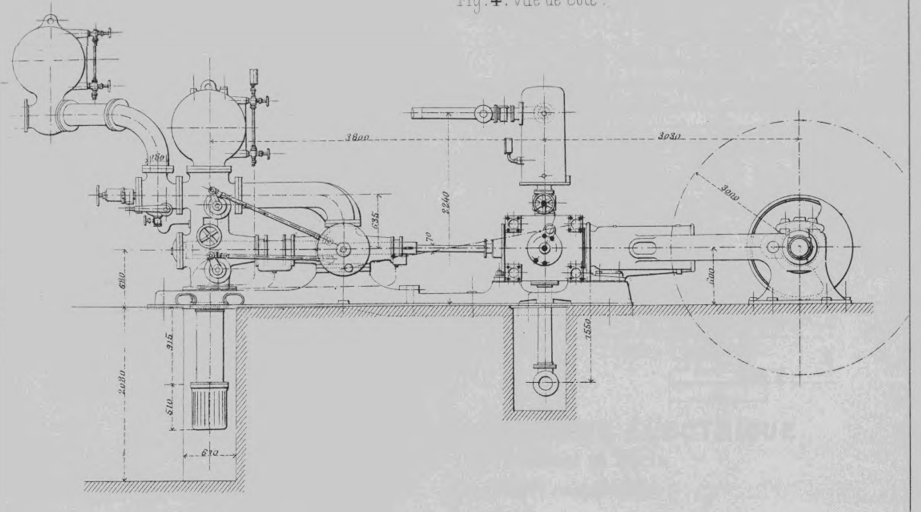


Fig. 4. Vue de Côté.



*Echelles*

*Fig. 1. 2 et 3 : 1/100*

*Fig. 4. 5 et 6 : 1/50*

Fig. 2. Coupe en long.

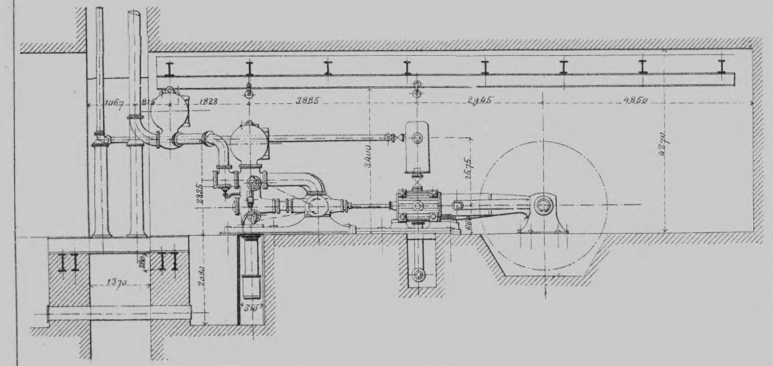


Fig. 1. Coupe en travers.

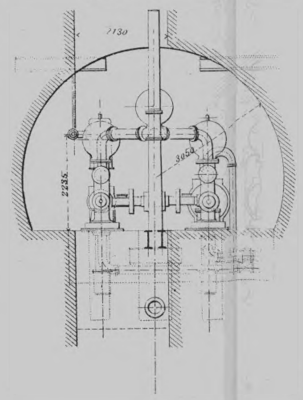
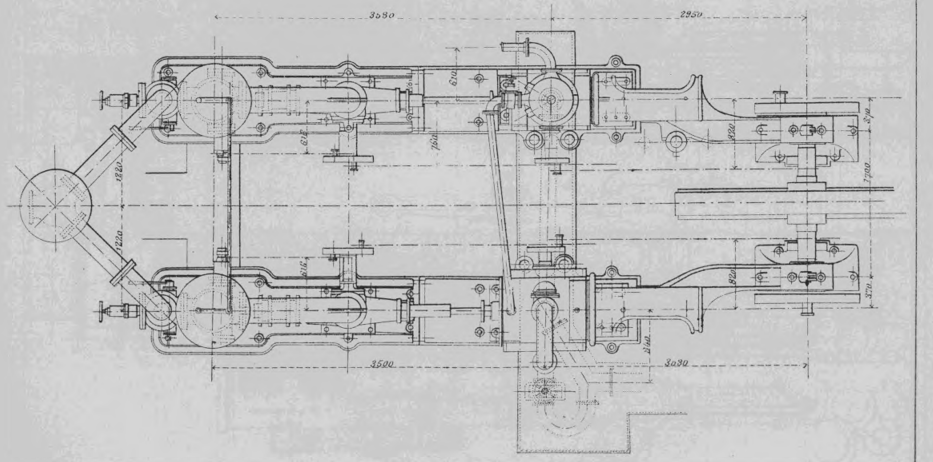


Fig. 5. Plan.



# EPUISEMENT PAR MACHINE ÉLECTRIQUE

## de la G.F. Blake. Cº

Fig. 1. (Echelle 1/65)

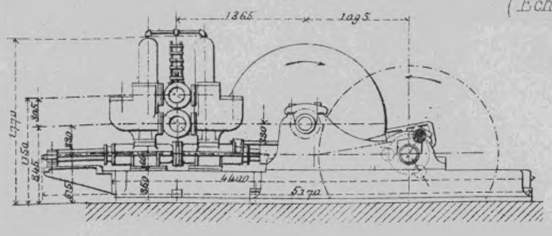


Fig. 2.

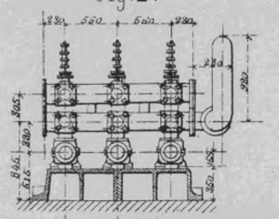


Fig. 3.

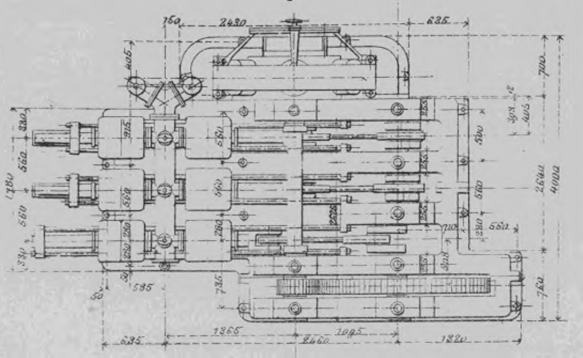
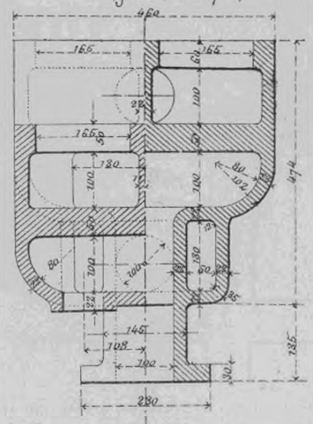


Fig. 4. (Ech. 1/10)



# EPUISEMENT PAR MACHINE ÉLECTRIQUE

## des Usines de Calumet et Hécla.

Fig. 1. (Echelle 1/30).

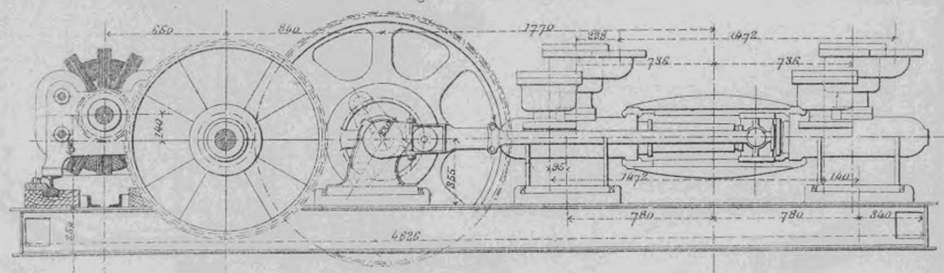


Fig. 3. (Ech. 1/3).

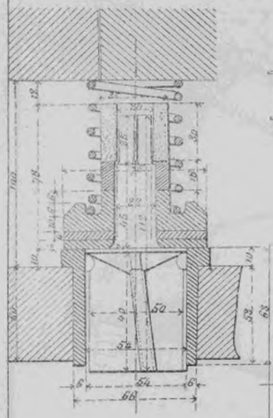
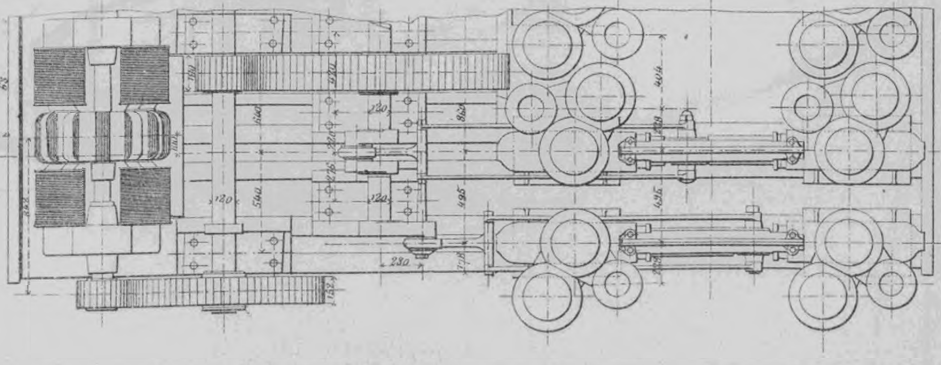


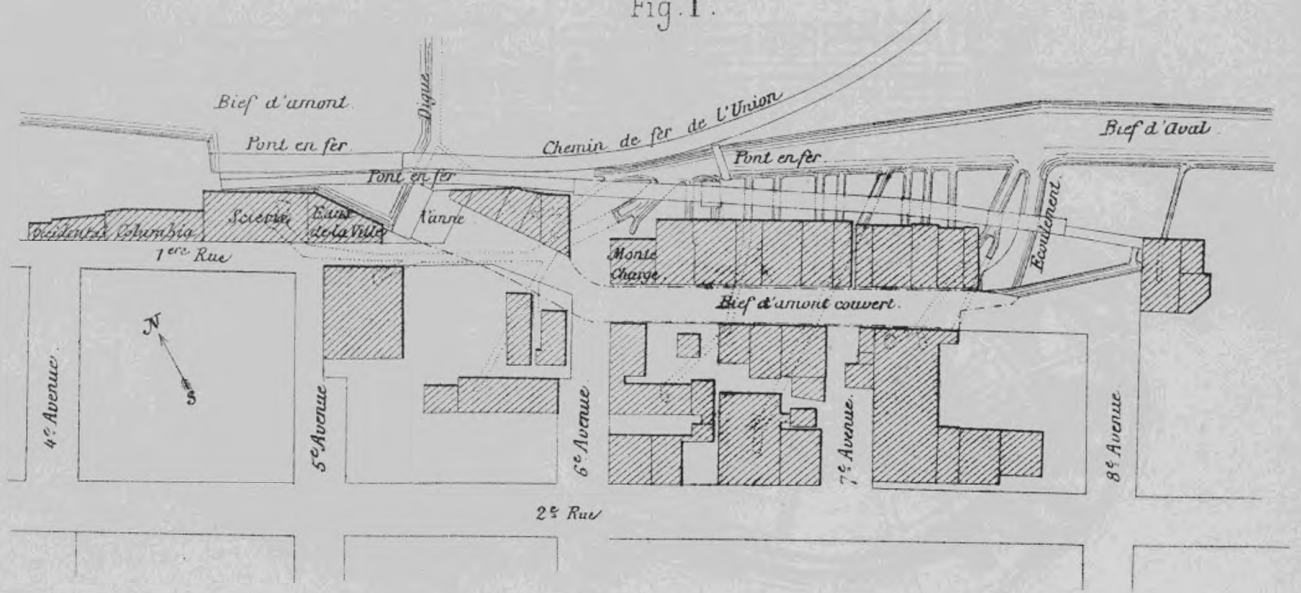
Fig. 2. (Echelle 1/30).



## Moulins à Minnéapolis.

(Echelle 1/3000)

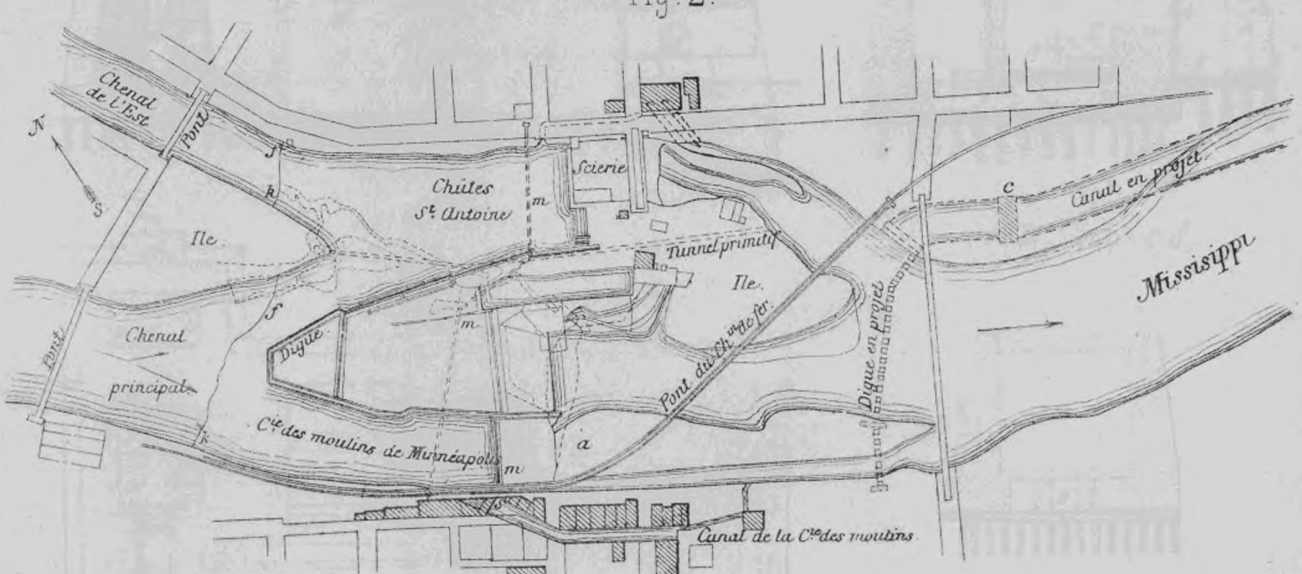
Fig. 1.




## Chutes St Antoine sur le haut Missisipi près Minnéapolis.

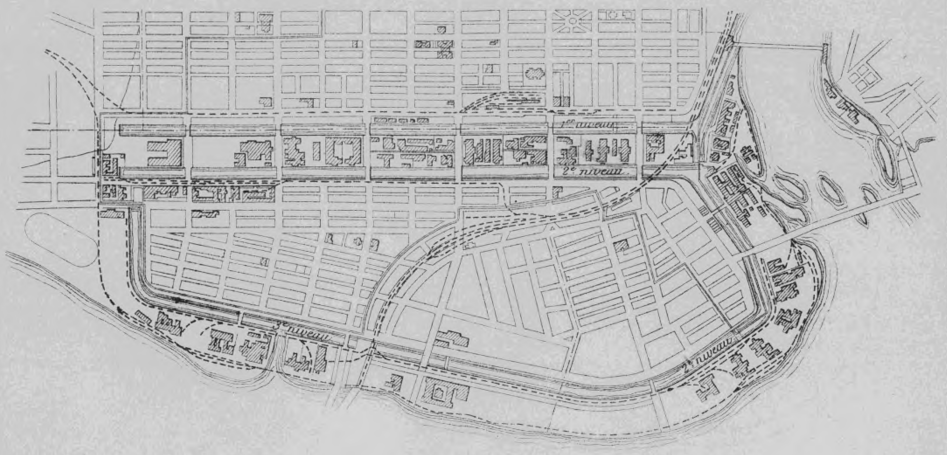
(Echelle 1/8600)

Fig. 2.



## Plan de Holyoke.

Fig. 1.




## Laboratoire d'essai de Holyoke.

Fig. 2. Coupe EF.

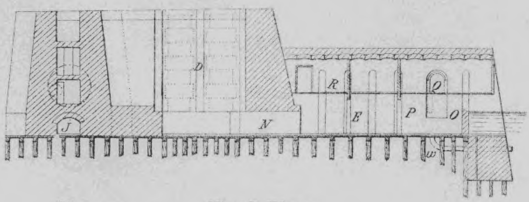



Fig. 3. Plan.

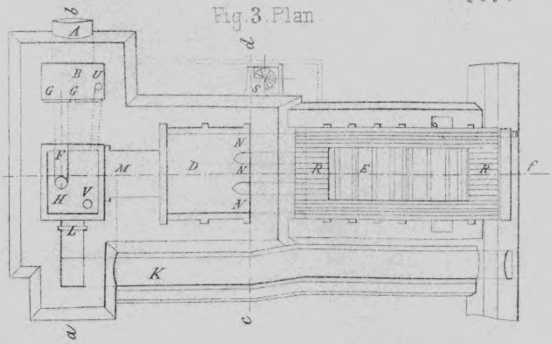



Fig. 4. Coupe *a b*.

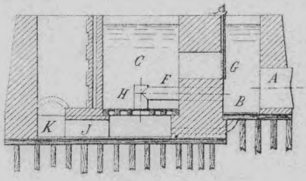
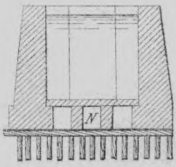



Fig. 5. Coupe *c d*.



# UTILISATION DES CHUTES DU NIAGARA

Fig. 1. Plan général.

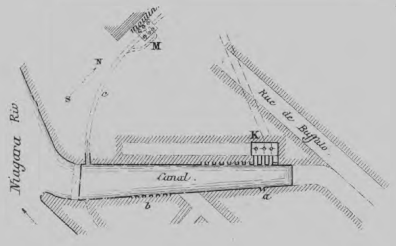



Fig. 2.

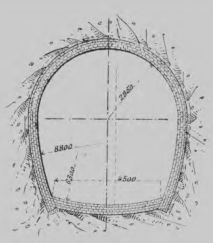


Fig. 3.

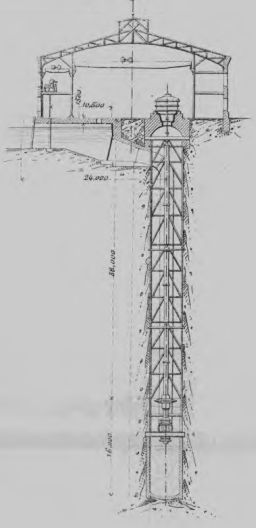


Fig. 4.

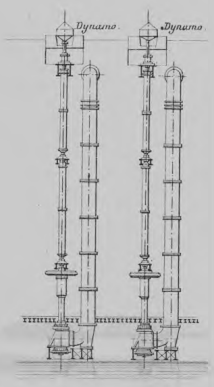



Fig. 5.

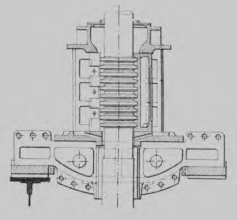


Fig. 6.

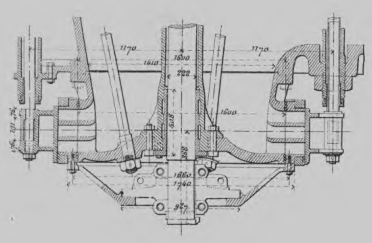


Fig. 8.

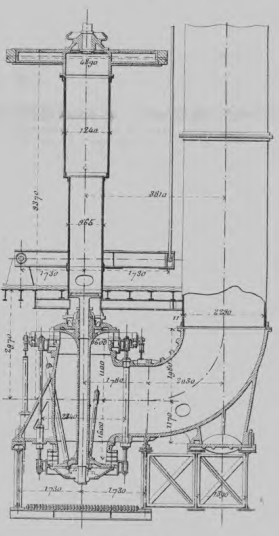


Fig. 7

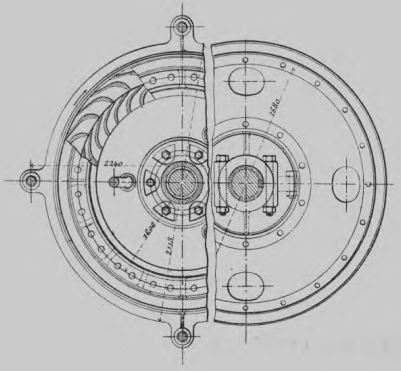
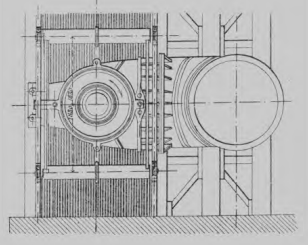


Fig. 9.



# TURBINES

Fig. 1. *(Echelle 1/350)*

Turbines **Victor**. Cie générale d'Électricité de Portland

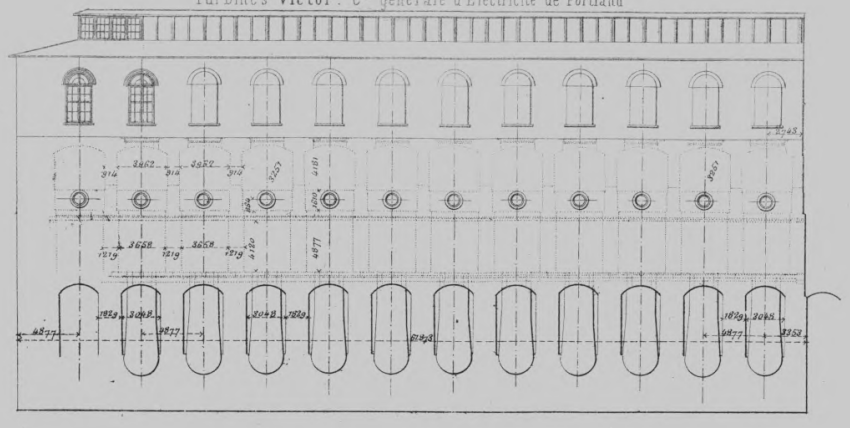


Fig. 2. Turbine **Victor**, horizontale. Vannage à Cylindre.
*(Echelle 1/40)*

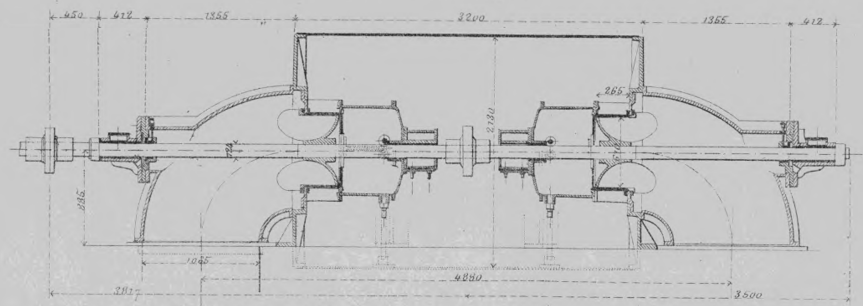


Fig. 3. Turbine **Victor**, horizontale, double Vannage à registre *(Ech 1/40)*

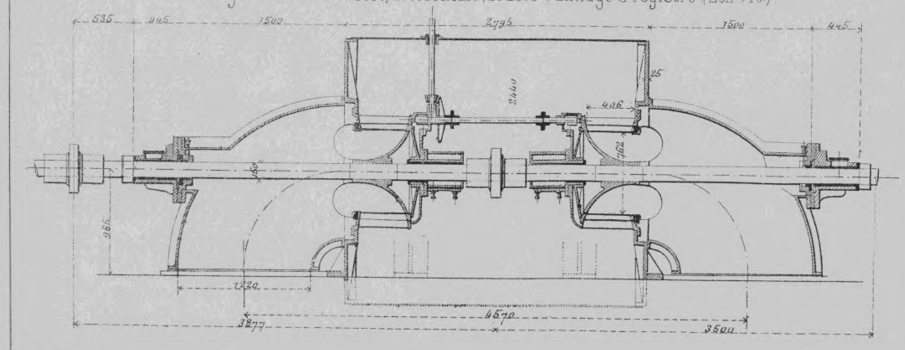


Fig. 4. Turbine **Victor**.
*(Echelle 1/200)*

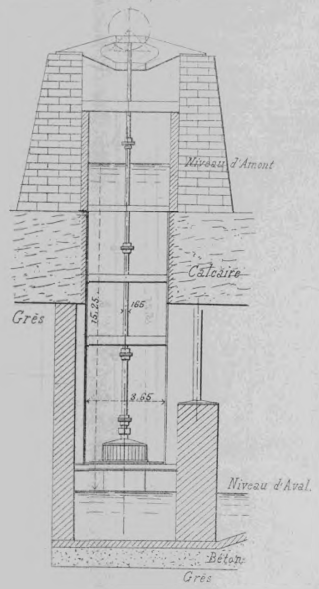



Fig. 5. 2 Turbines **Hercule**.
*(Echelle 1/200)*

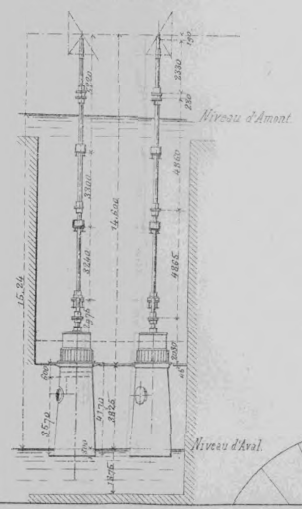
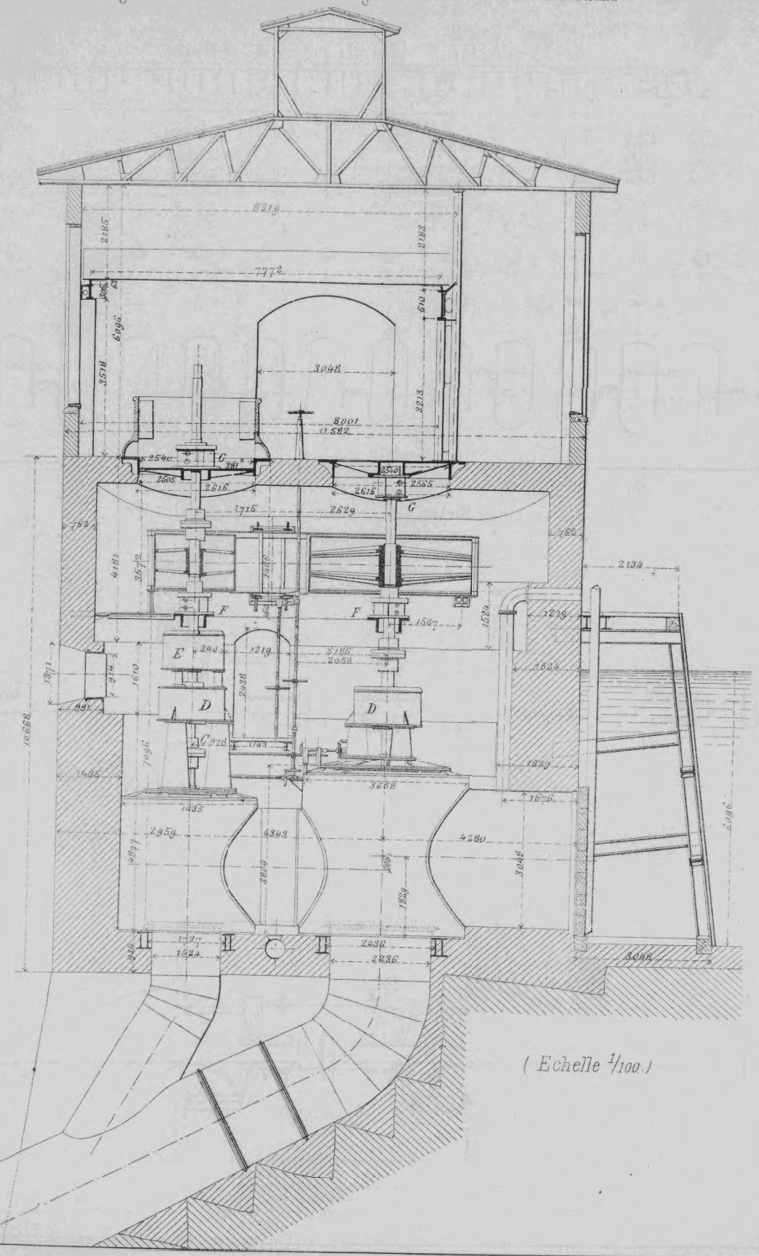



Fig. 6. Turbines **Victor**. Cie générale d'Electricité de Portland



*( Echelle 1/100 )*

# TURBINES

*(Fig 1 et 2.)* **Amoskeag. C° Manchester.**

Fig 1. Coupe transversale

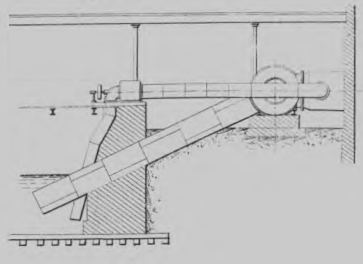


Fig 2. Coupe longitudinale

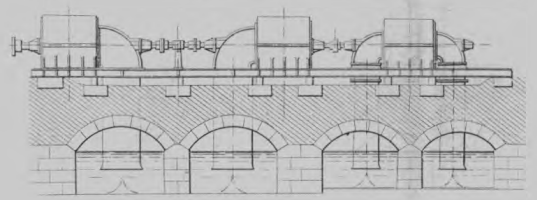


Fig 3. Collet de la partie supre
*(Ech 1/25)*

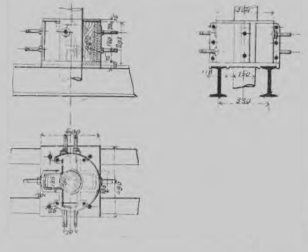


Fig 4. Pivot supérieur
*(Ech 1/25)*

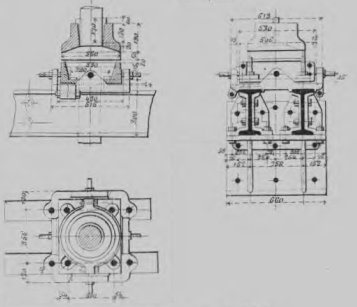


Fig 11. Turbine **Wilson et C°.**
*(Ech 1/25)*

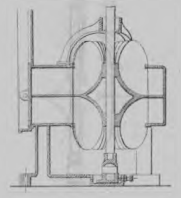


Fig 12. *(Ech 1/50.)*

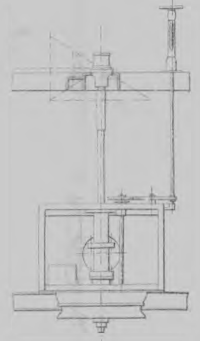


Fig 8. Turbine **Leffel.**

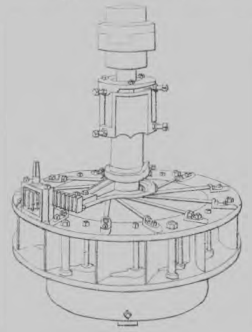


Fig 9. Turbine **Leffel.**

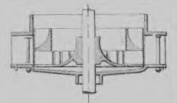


Fig 10. Turbine **Sanford.**
*(Ech 1/20)*

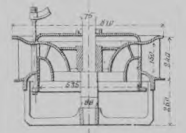
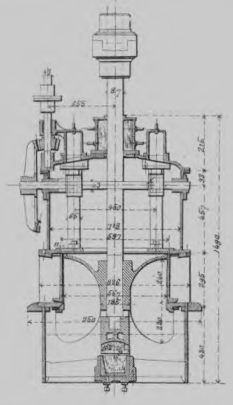


Fig 5. Turbine a Vannage cylindrique
*(Ech 1/20)*



*(Fig. 6 et 7.)* **Régulateur** des Turbines Victor.
Fig. **6**. *(Ech 2/10)*

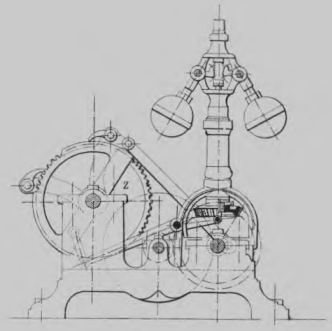
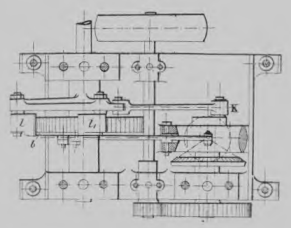


Fig 7.



Ancien modèle de Turbine **Victor** *(Fig 13 à 15)*.
Fig. **13**.

Fig 14.

Fig 15.

*Fig 1 à 8.* **ROUE PELTON**

Fig.1.

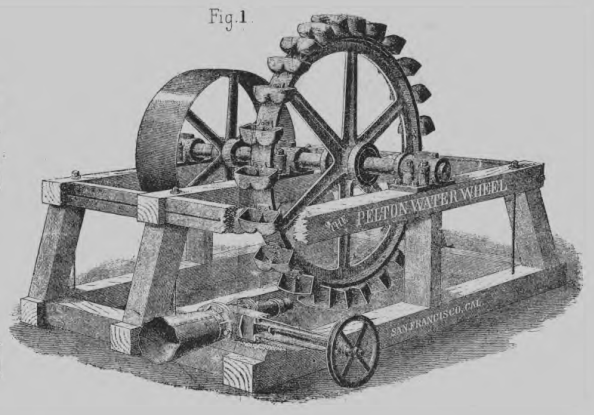



Fig.2.

Fig.3.

Fig.8.

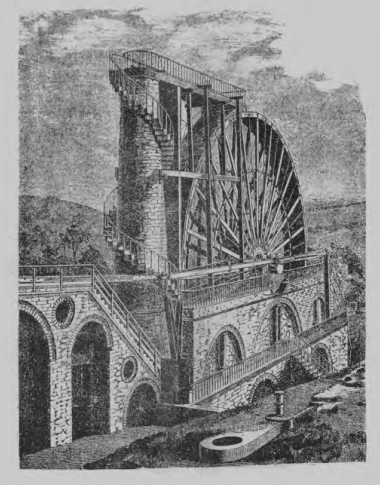


Fig.9. **TURBINE DE LAVAL**

*grandeur naturelle.*

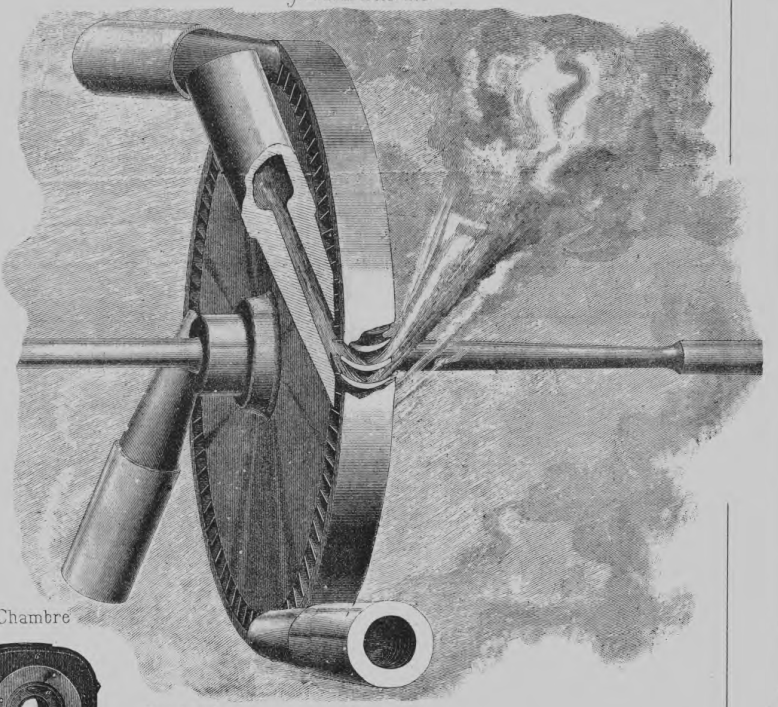


Fig.4.

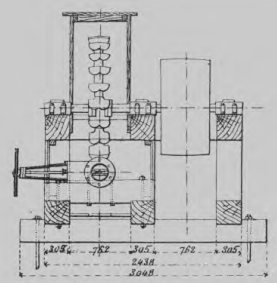


Fig.6

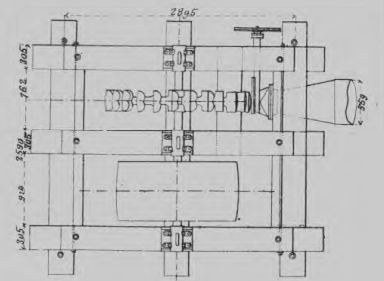


Fig.11. Coupe verticale de la Turbine et des engrenages.

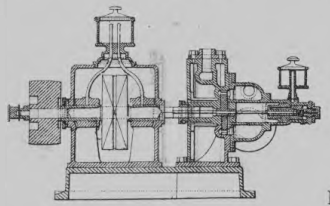


Fig.13 Chambre

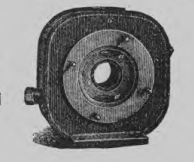


Fig.16. Ajutage.

Fig.10. Turbine à vapeur et Dynamo. Duplex.

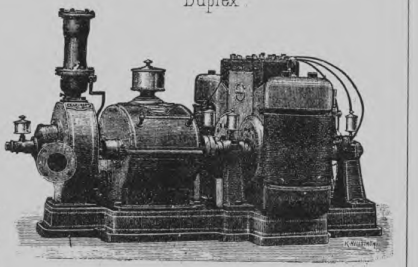


Fig.5.

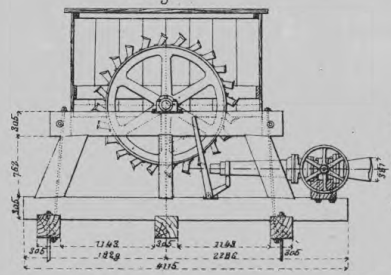


Fig.7.

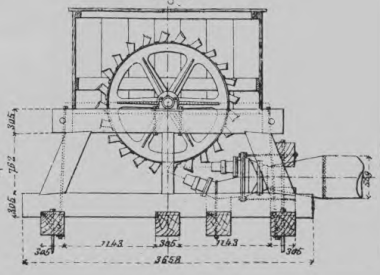


Fig.12 Coupe horizontale.

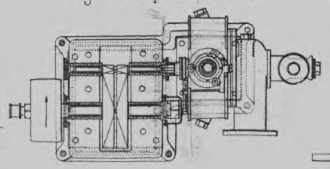


Fig.14. Roue d'engrenage.

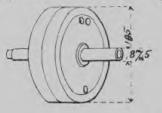


Fig.15. Régulateur.

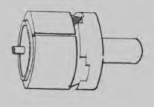
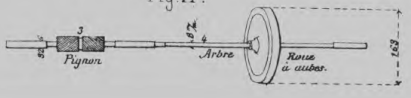


Fig.17.



# MINES DE CALUMET-HÉCLA

## STATION SUPERIOR.

Fig. 1. Disposition générale des machines.

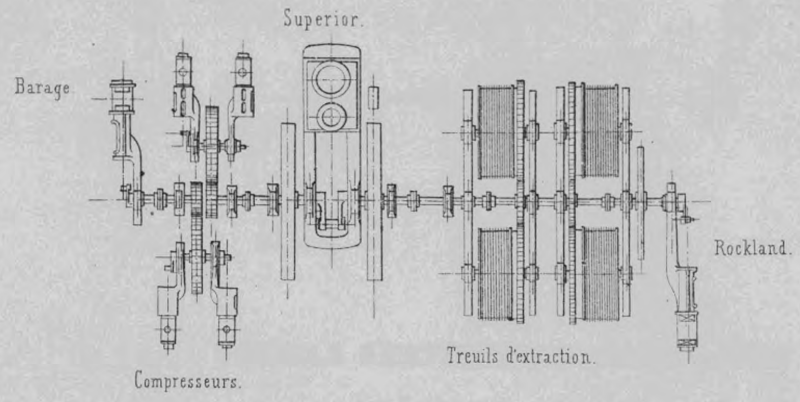
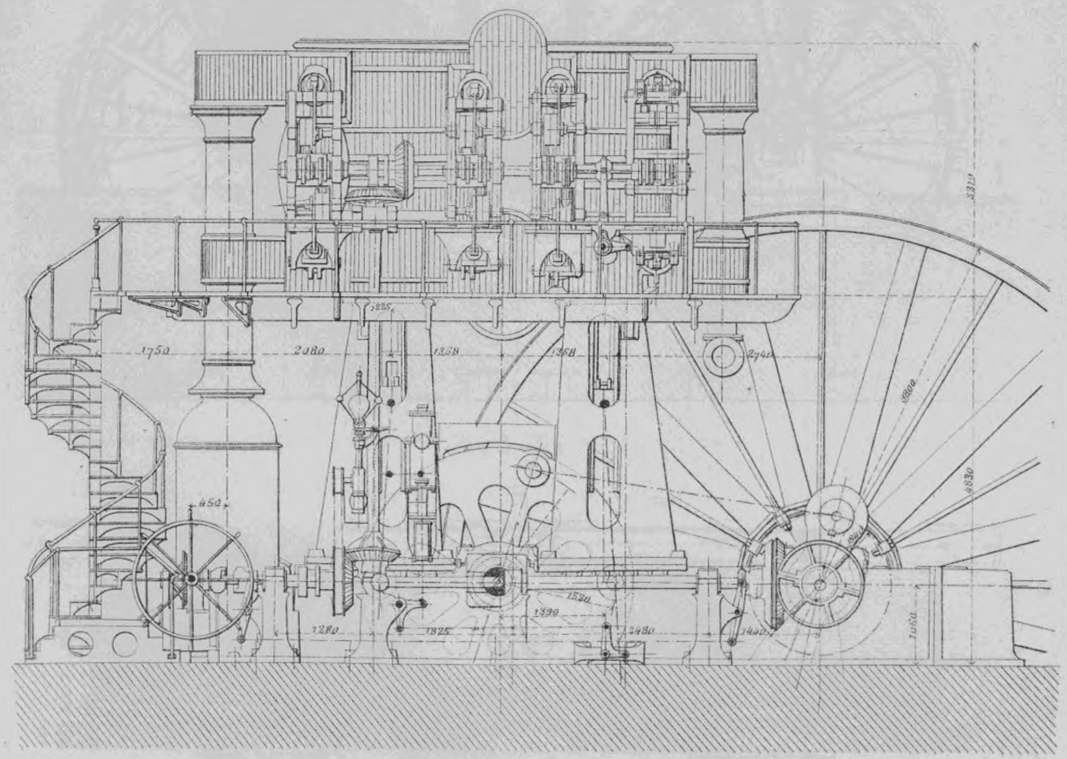



Fig. 2. MACHINE DE 5000 CHEVAUX.

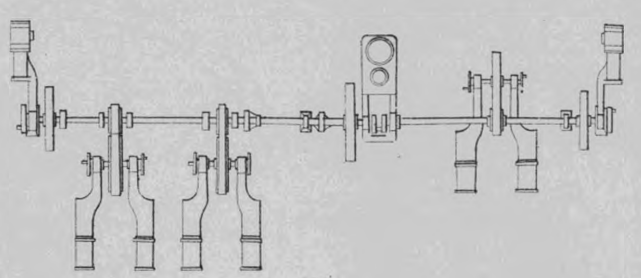
*Echelle 1/70.*



# MINES DE CALUMET-HÉCLA.

## STATION HÉCLA.

Fig. 1. Disposition générale des machines.



## (Fig. 2 et 3.) TREUILS D'EXTRACTION STATION HÉCLA.

Fig. 2. Elévation

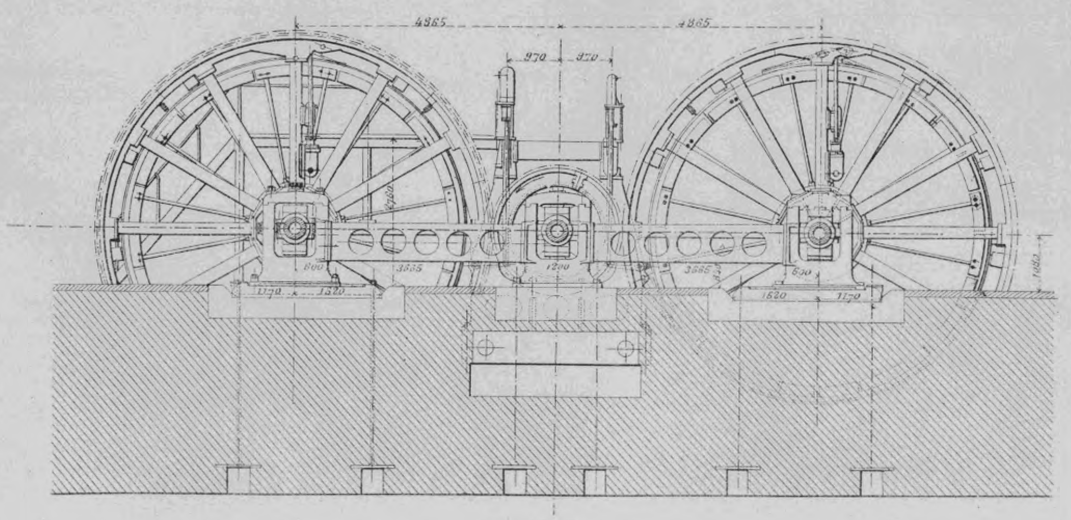
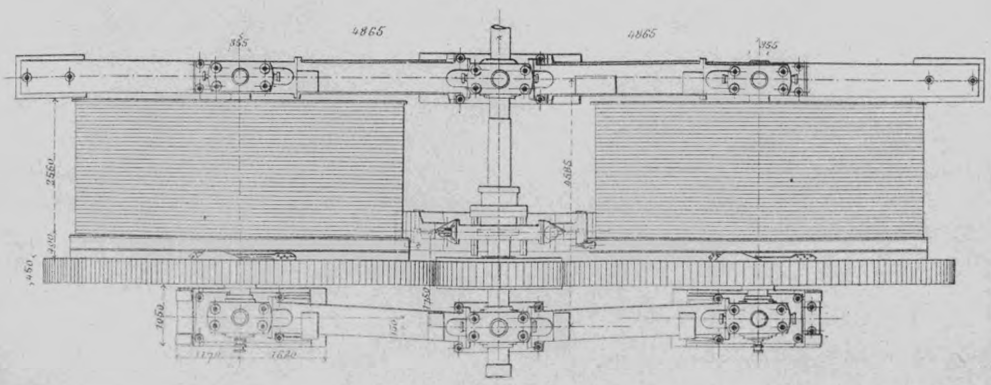



Fig. 3. Plan



## MINES CALUMET HÉCLA.

Compresseur Leavitt.

Fig. 1. Coupe longitudinale *(Ech. 1/70)*

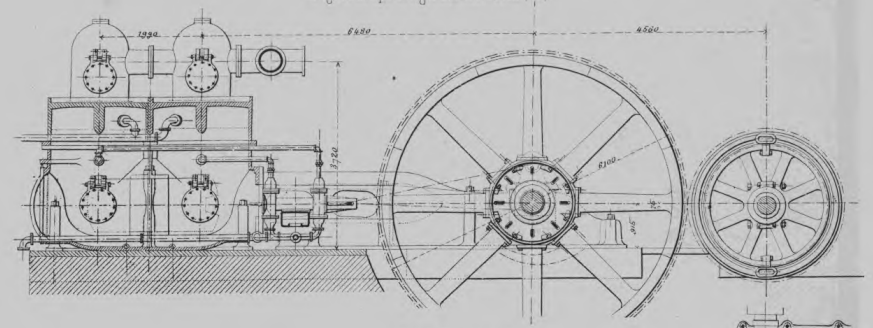


Fig. 2. Vue latérale *(Ech. 1/70)*

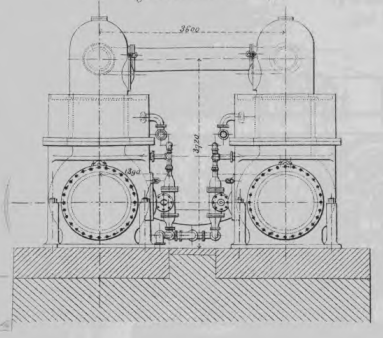


*Fig. 4 et 5.* **Boite à soupapes.** *(Ech. 1/40)*

Fig. 4.

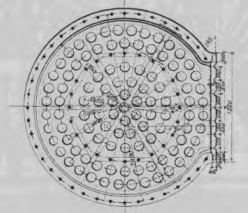


Fig. 5.

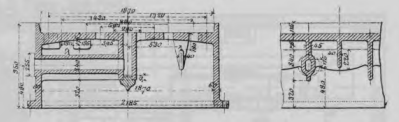


Fig. 3. Plan *(Ech. 1/70)*

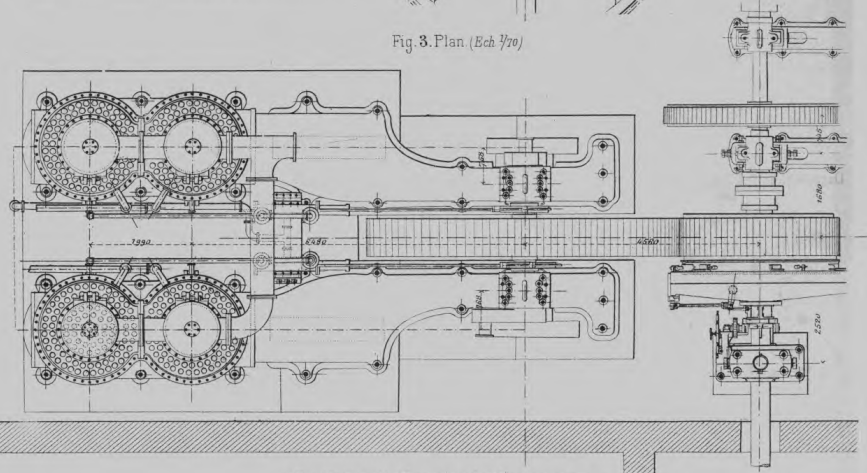


*Fig. 9, 10 et 11.* **Cylindre du Compresseur.** *(Ech. 1/50.)*

*Fig. 6, 7 et 8.*

**Disposition des Soupapes.**

Fig. 6. *(Ech. 1/10)*

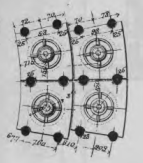


Fig. 9. Coupe transversale

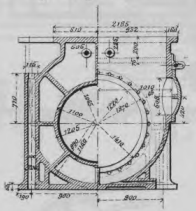


Fig. 10. Coupe longitudinale

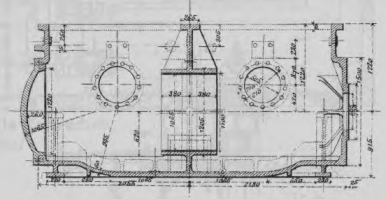


Fig. 7. *(Ech. 1/5)*

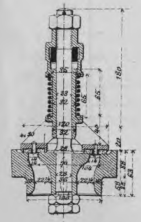


Fig. 8. *(Ech. 1/5)*

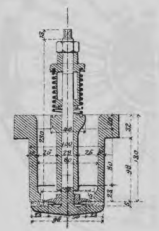


Fig. 11. Plan.

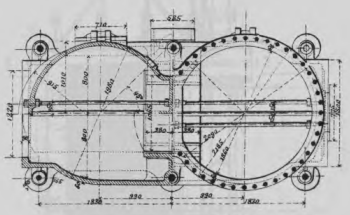


*Fig. 12, 13 et 14.* **Plongeur du Compresseur.**

Fig. 12. *(Ech. 1/30.)*

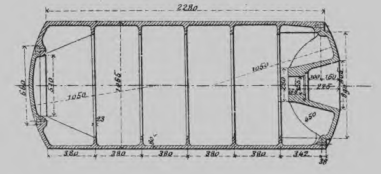


Fig. 13. *(Ech. 1/30)*

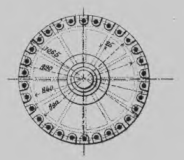
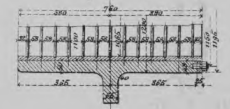


Fig. 14. *(Ech. 1/15)*



## MINES CALUMET-HÉCLA

Station Hancock.

Fig. 1. Machine. (Ech. 1/80.)

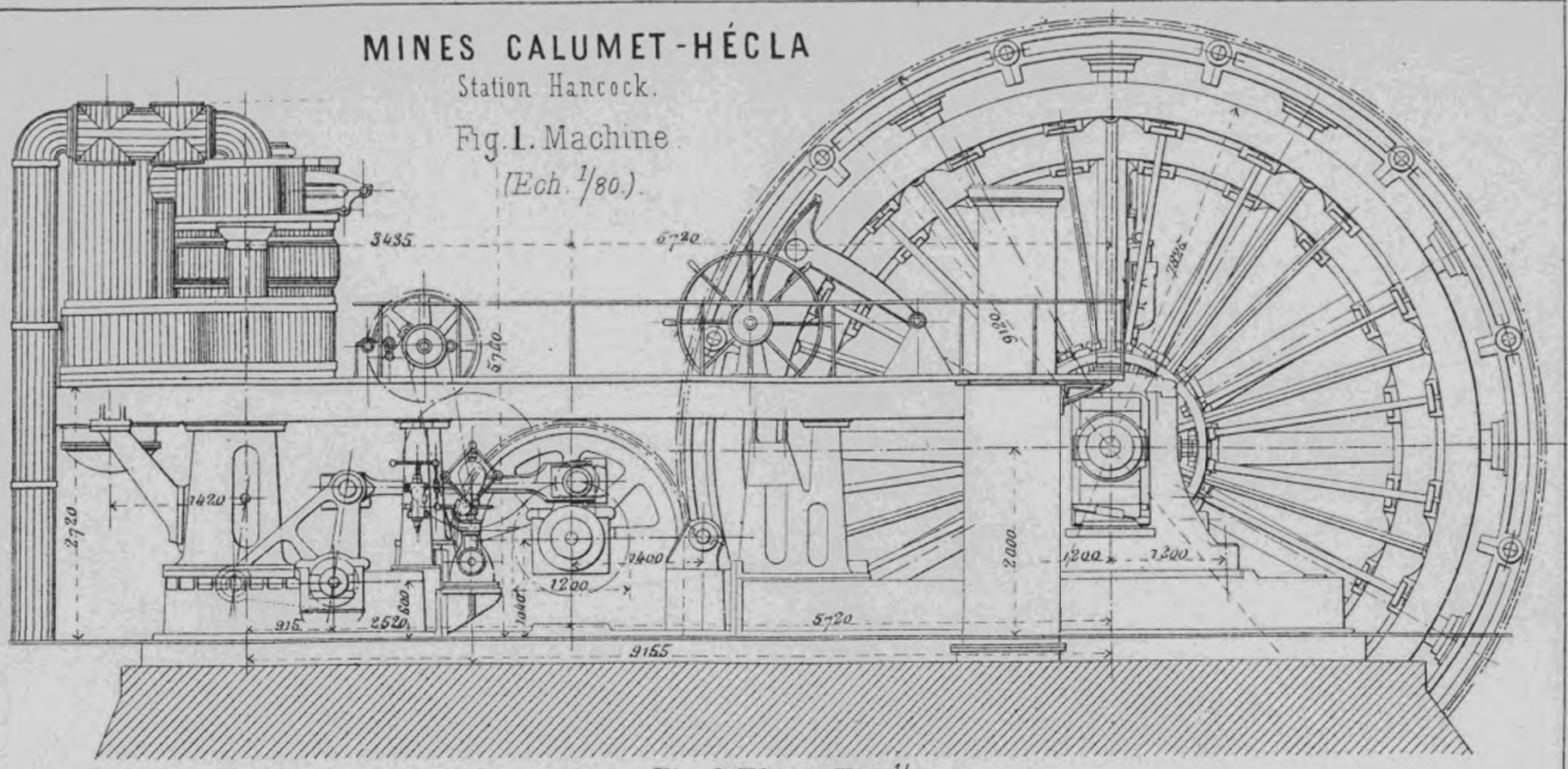



Fig. 2. Plan. (Ech. 1/200)

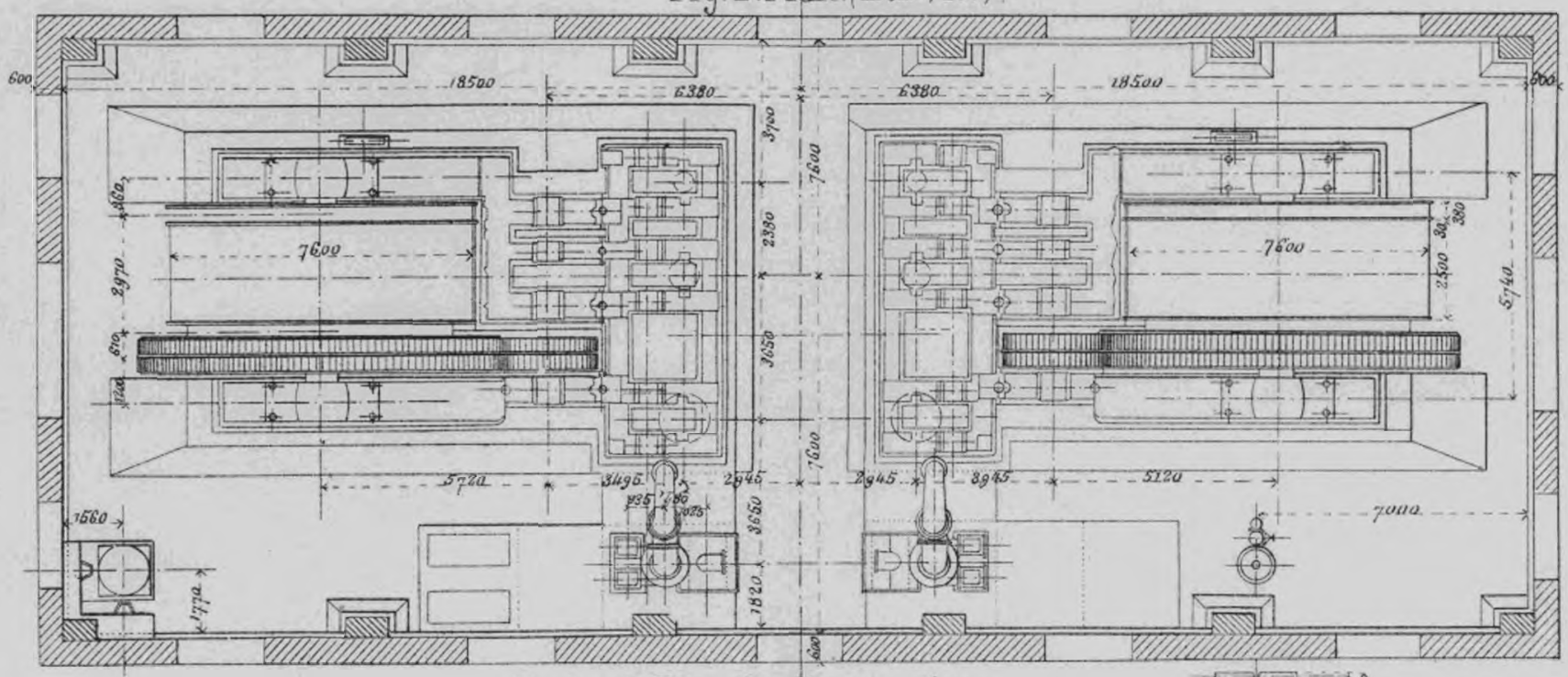



Fig. 3 et 4. Treuils d'extraction. (Ech. 1/80)

Fig. 3.

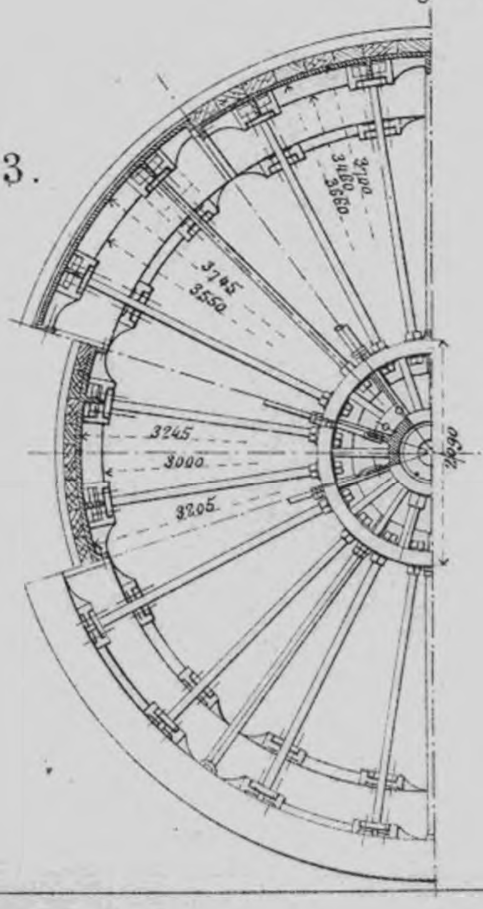
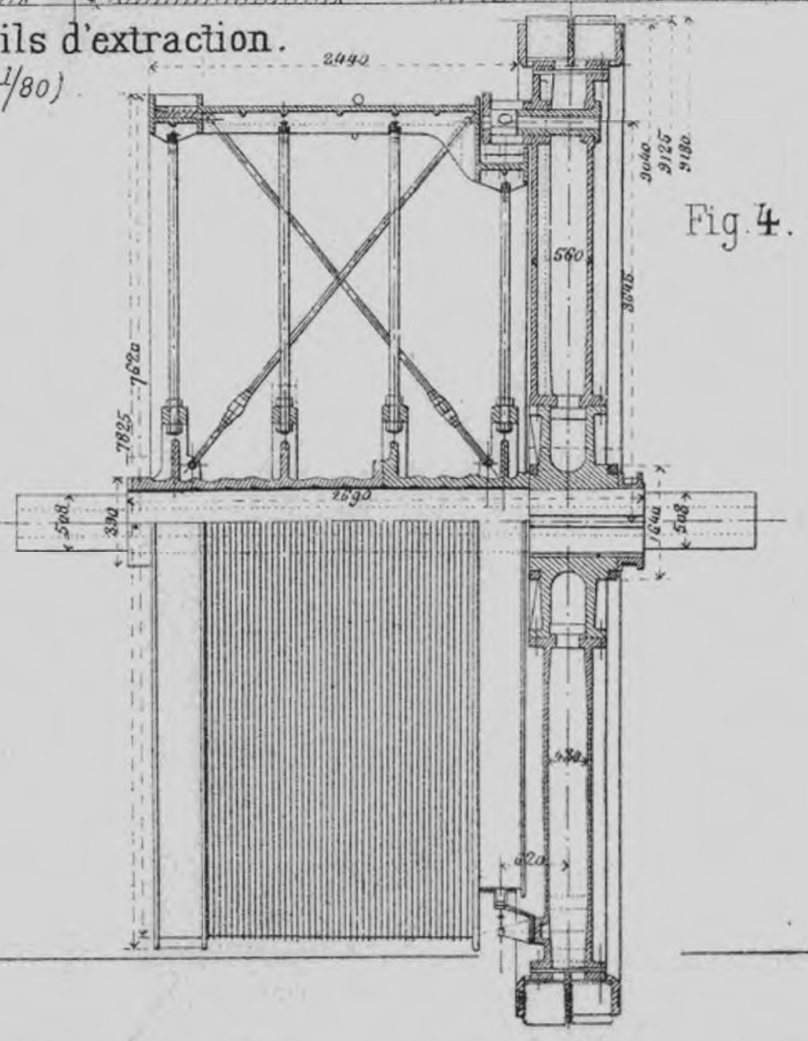



Fig. 4.



# STATION RED-JACKET.

## MACHINES D'EXTRACTION "MINONG" ET "SISCOWIT"

*Echelle 1/80.*

Fig. 1.

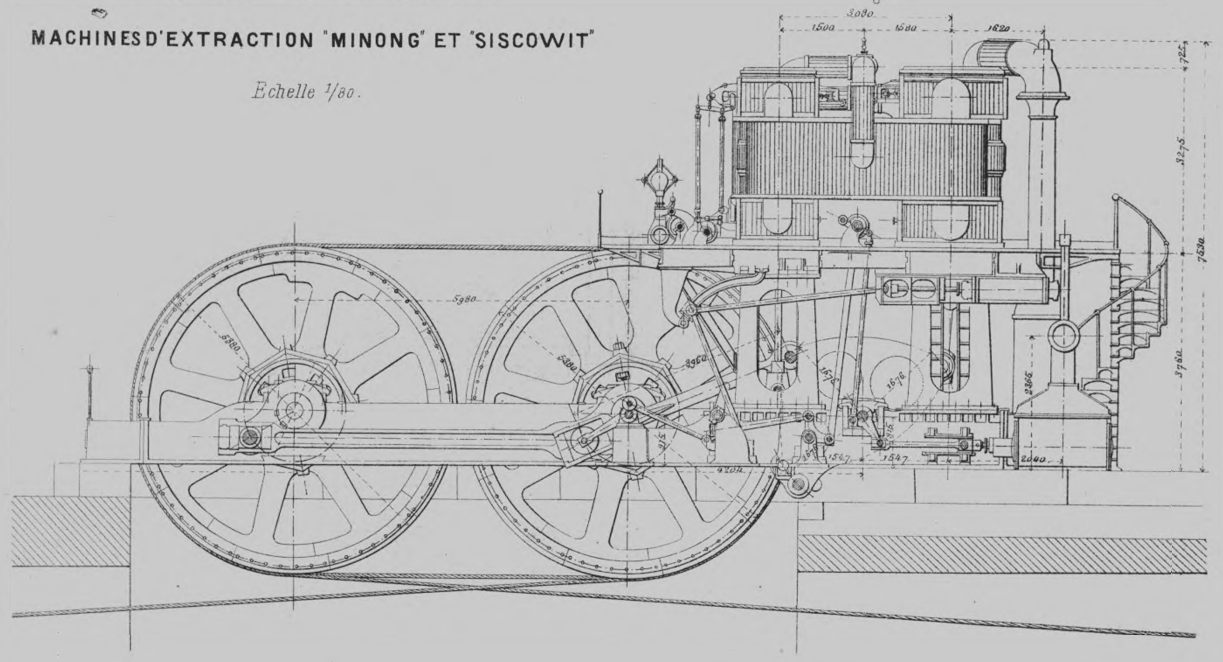


Fig. 2.

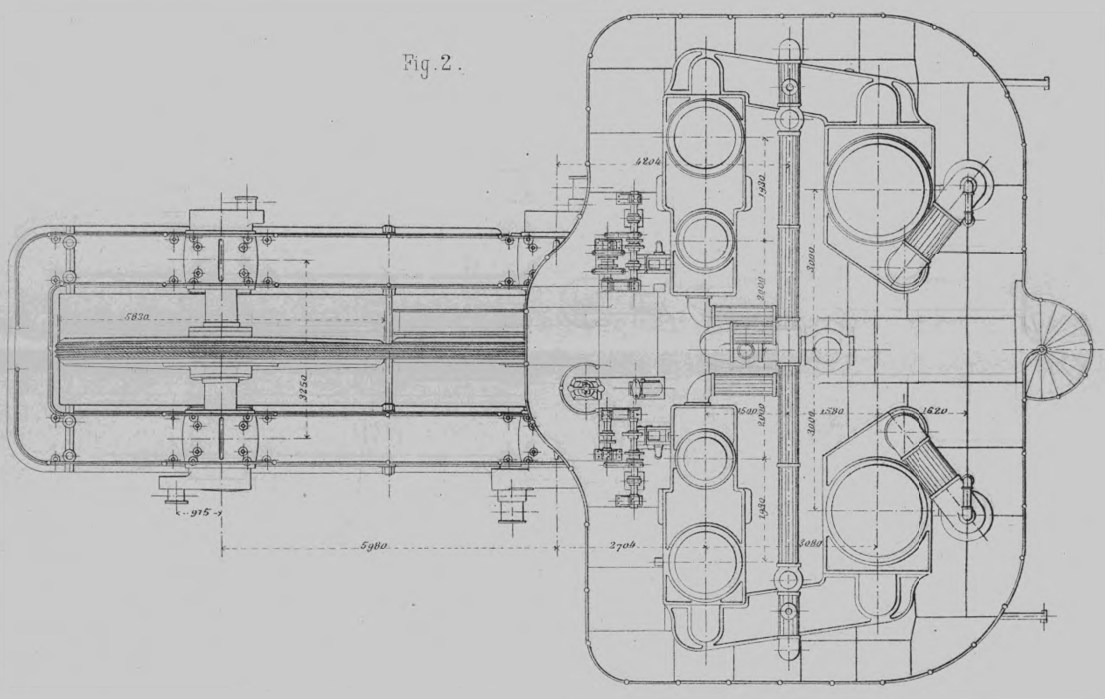
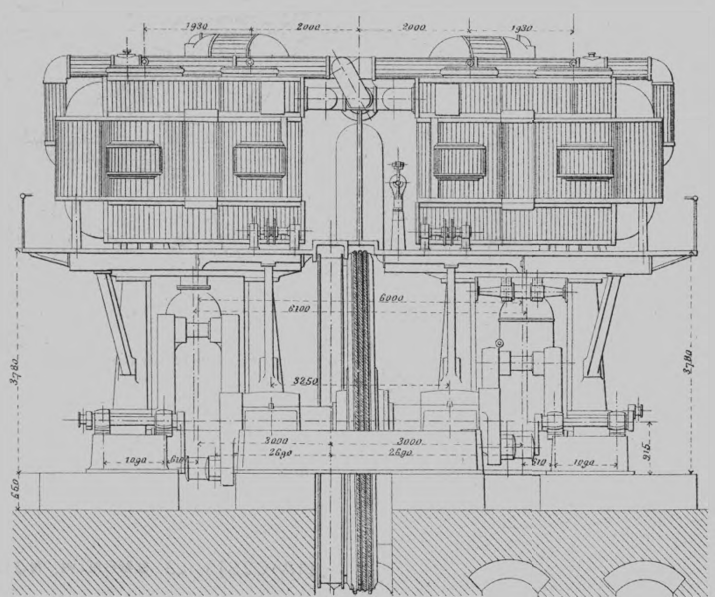


Fig. 3.

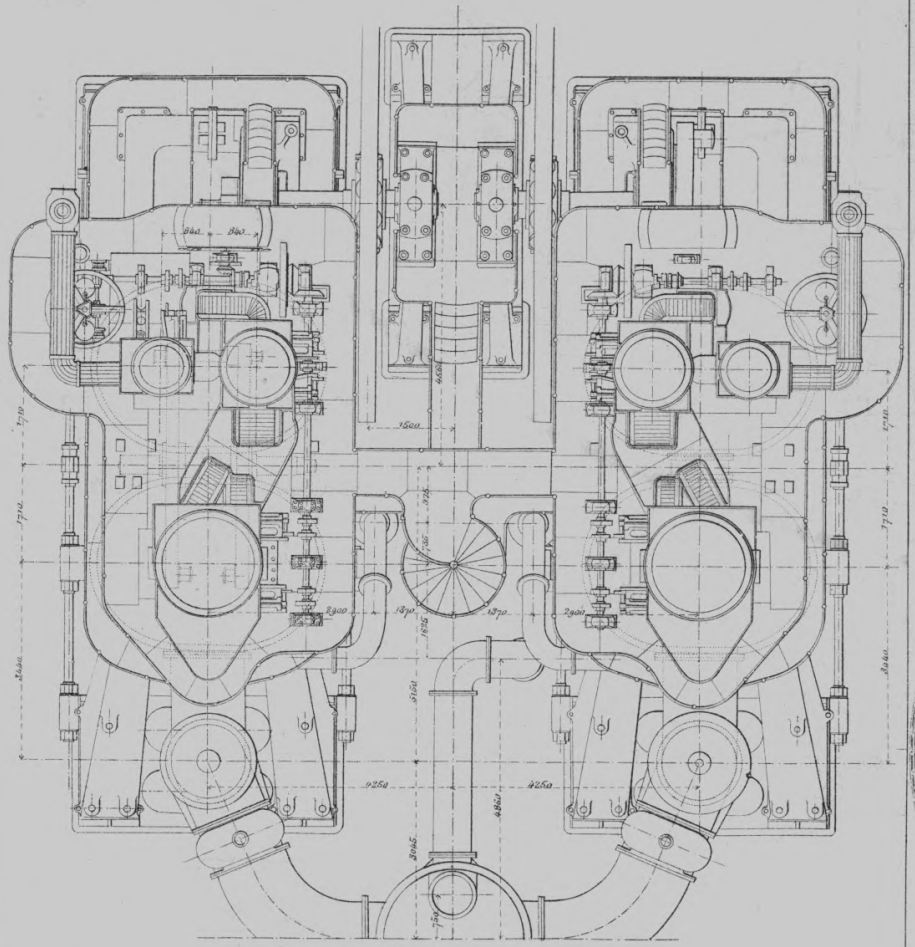


## POMPES „MICHIGAN" ET „WINNIPEG".

### MINES CALUMET ET HÉCLA

*Echelle 1/25*

Fig. 3. Plan.



## MOULINS A PILONS.

### INSTALLATIONS HYDRAULIQUES.

*Echelle : Fig. 1 et 2 - 1/200*
*— d° — Fig. 3 et 4 - 1/125*

Fig. 4.

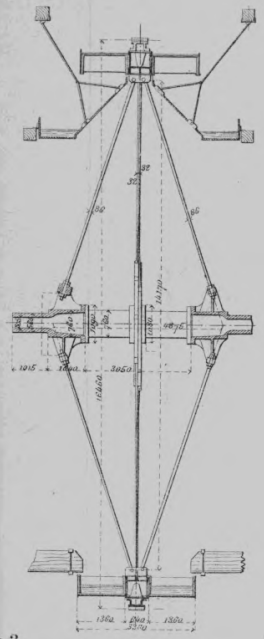


Fig. 1. Coupe transversale

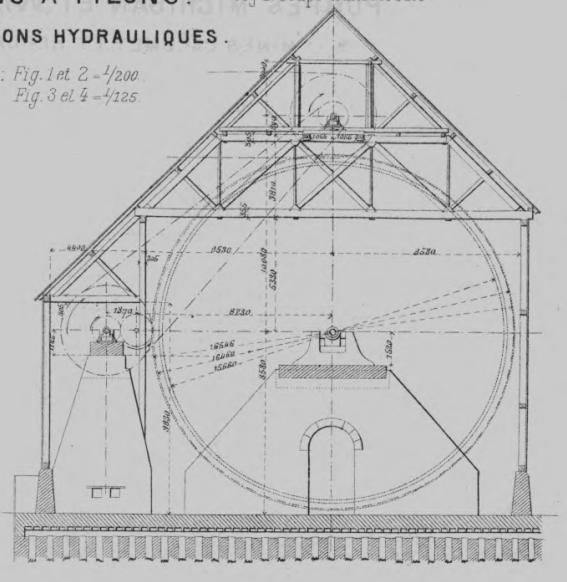


Fig. 3.

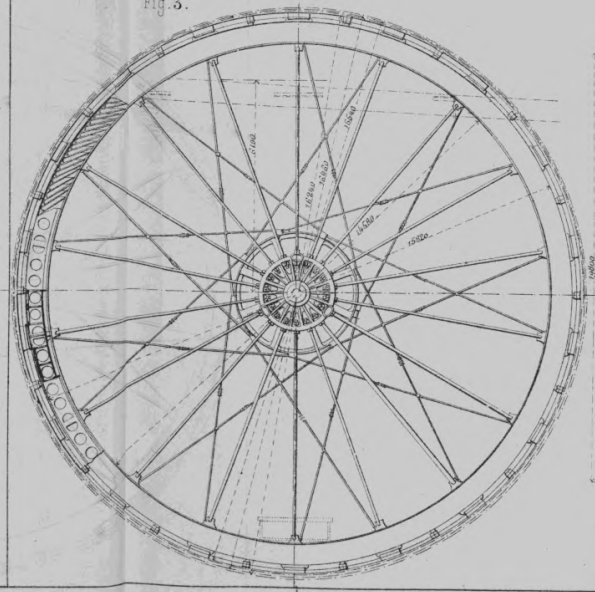
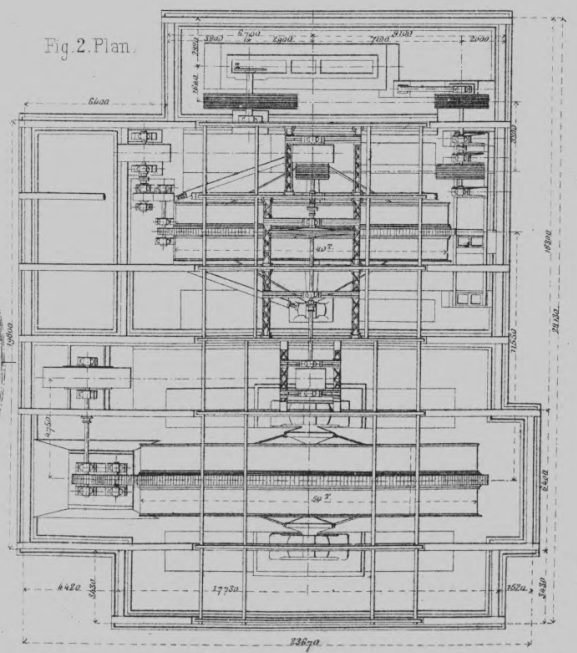


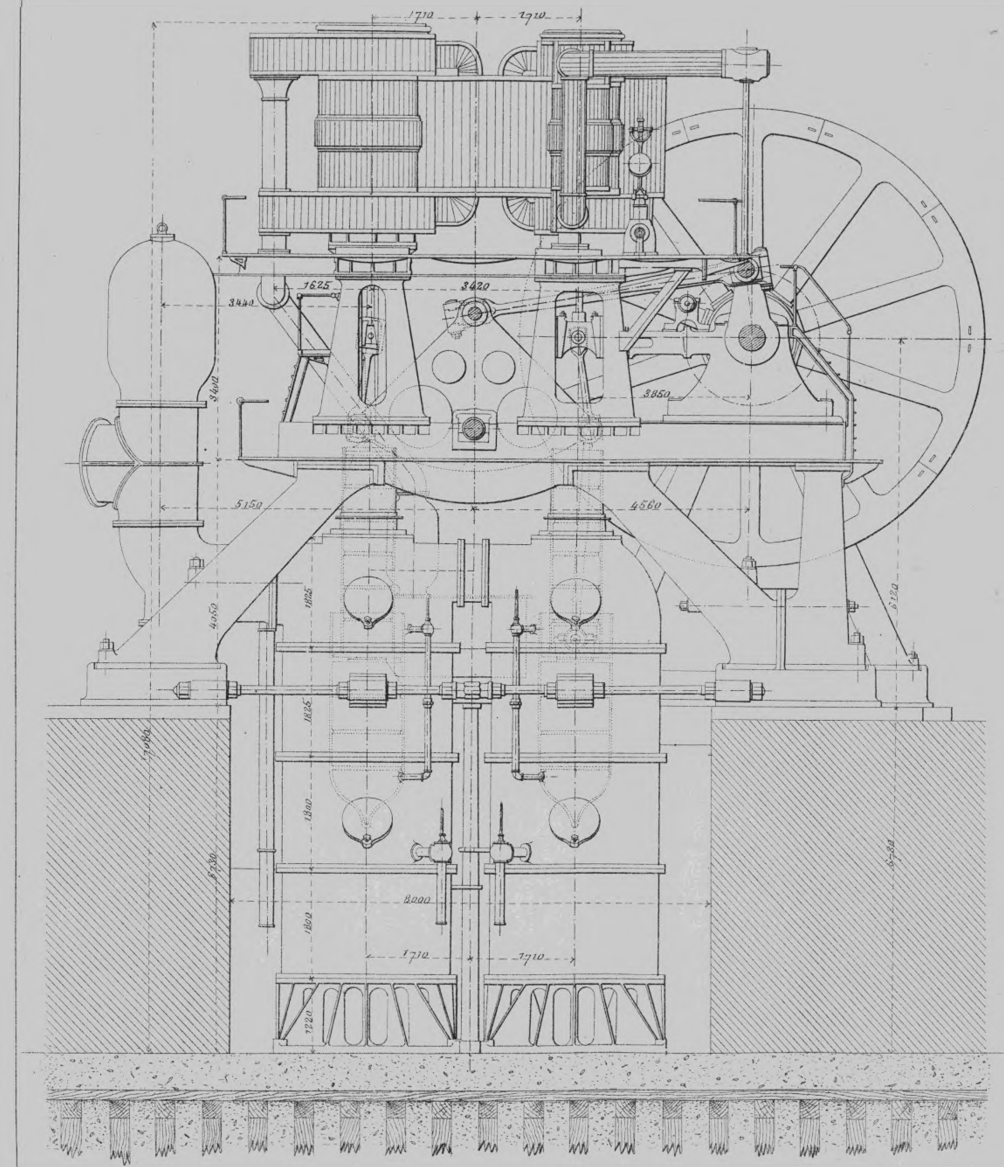
Fig. 2. Plan.



# POMPES „MICHIGAN" ET „WINNIPEG".

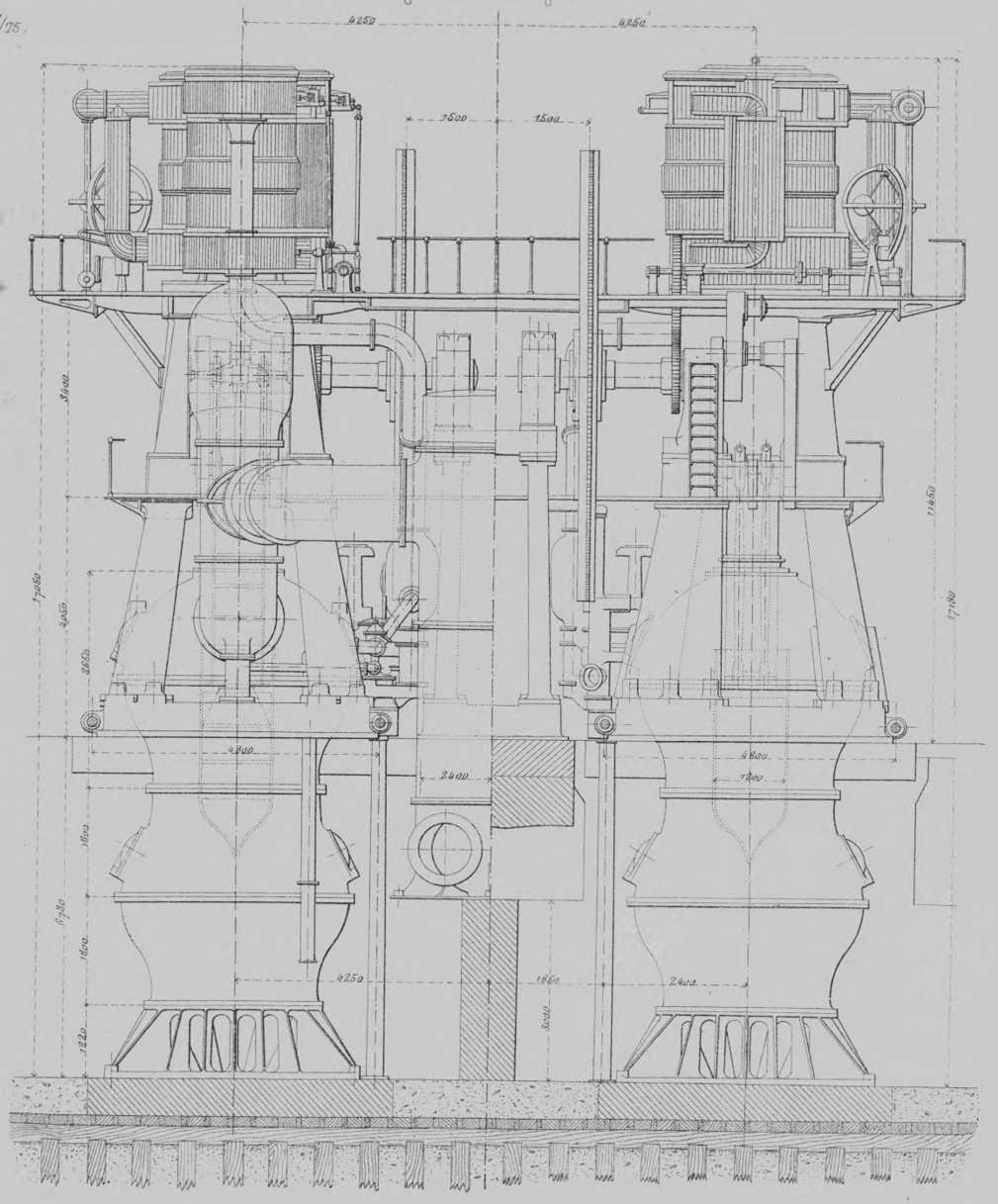
## MINES CALUMET ET HÉCLA.

Fig. 1. Élévation transversale




Échelle 1/75.

Fig. 2. Élévation longitudinale



# CHEMIN DE FER FUNICULAIRE DE CHICAGO.

Station de l'Avenue de Milwaukee.

Fig.1. Coupe (*Ech.* 1/250).

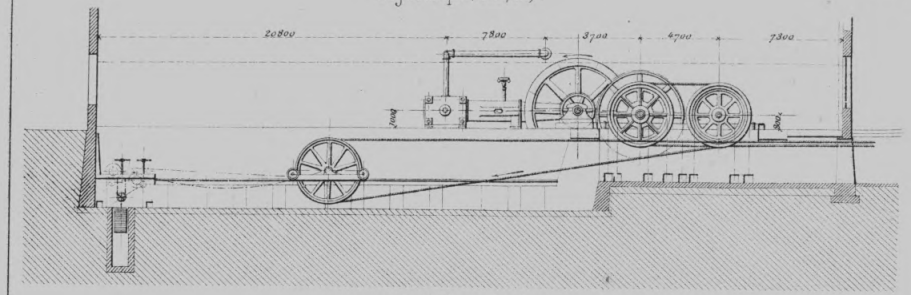


Fig.2. Coupe (*Ech.* 1/250).

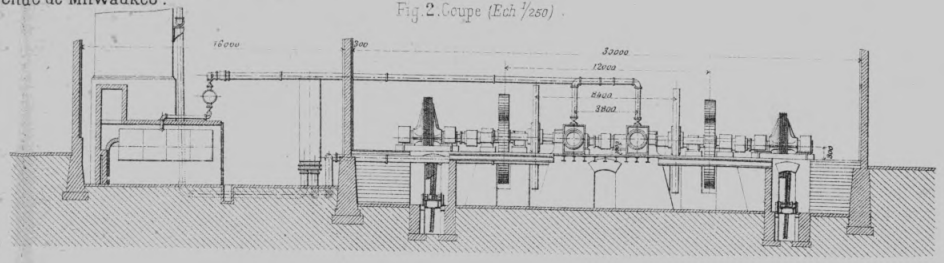
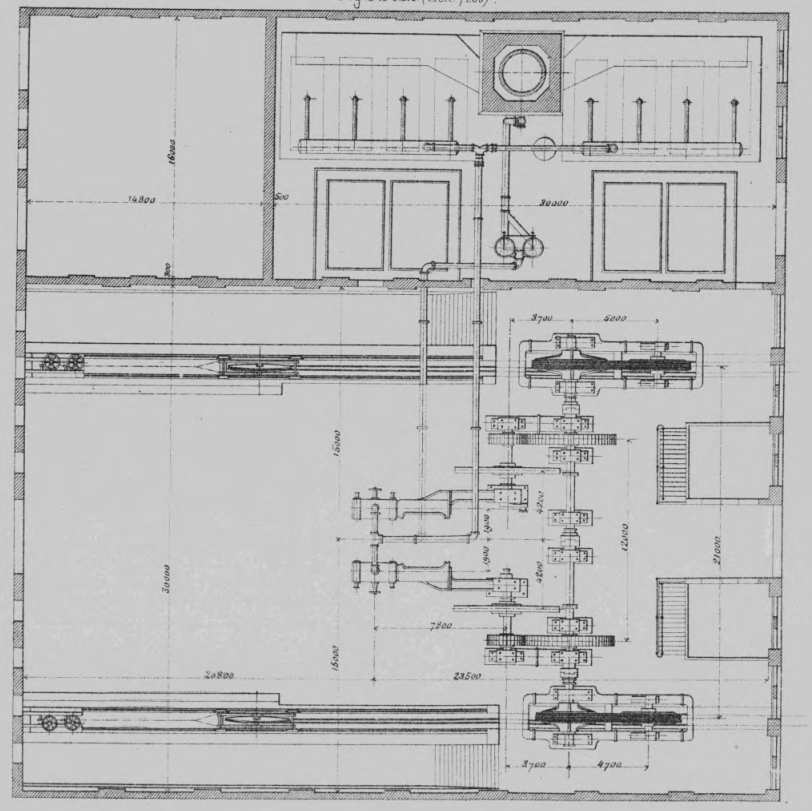


Fig.3. Plan (*Ech.* 1/250).



Passage des câbles dans la station.

Fig.4. (*Ech.* 1/200).

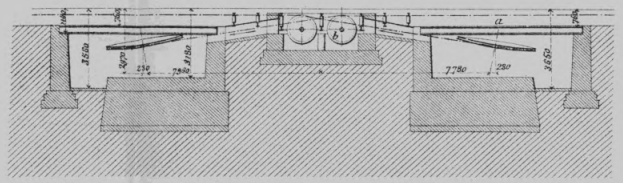


Fig.5. (*Ech.* 1/200).

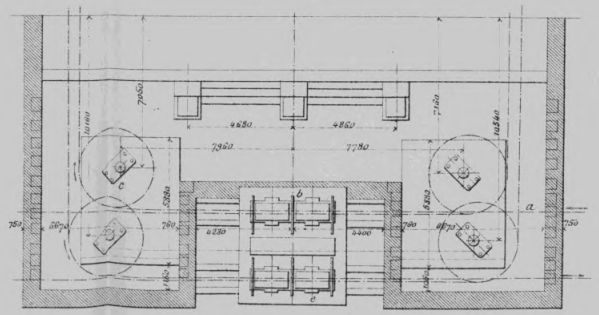


Fig.6. (*Ech.* 1/200).

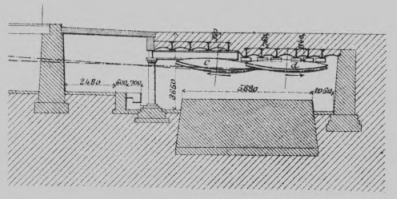


Fig.7. (*Ech.* 1/15).

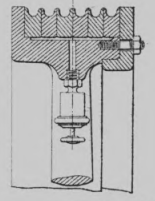


Fig.8. (*Ech.* 1/100).

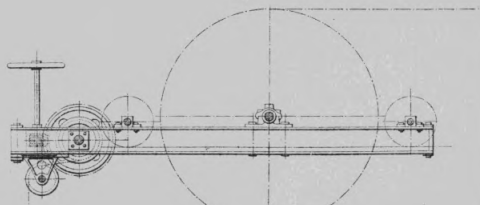
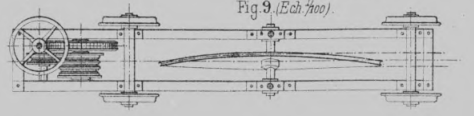


Fig.9. (*Ech.* 1/100).



# CHEMIN DE FER FUNICULAIRE DE CHICAGO.

Fig. 1. (Ech. 1/20)

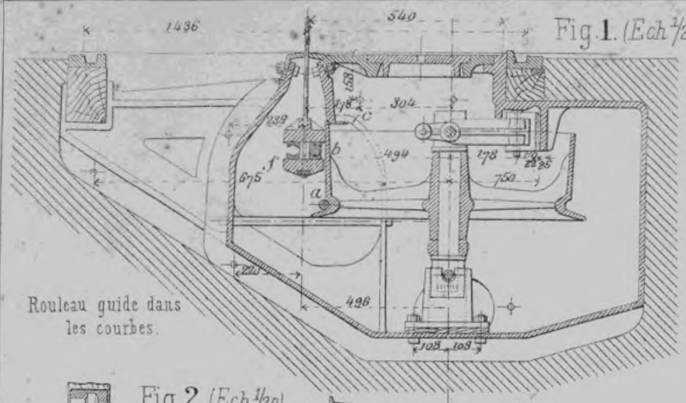
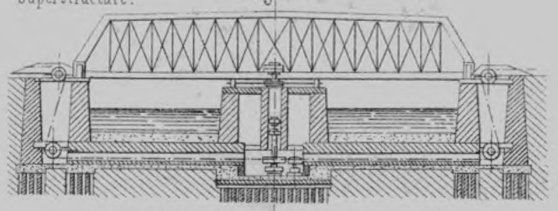



Fig. 3.

Superstructure.



Passage des Ponts tournants. – Fig. 3 et 4.

Fig. 2. (Ech. 1/20)

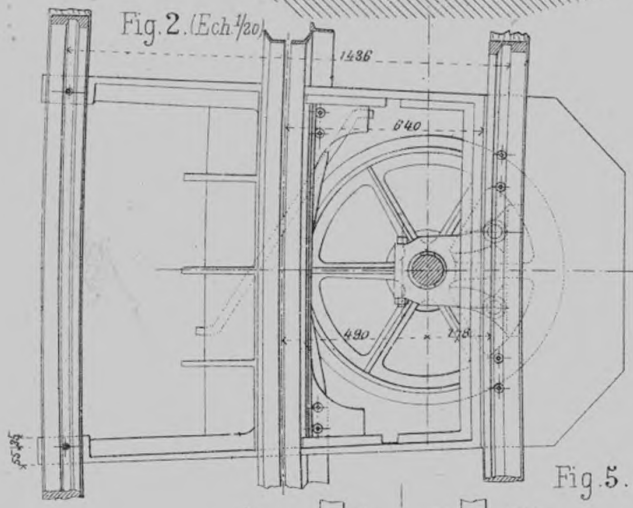



Fig. 4.

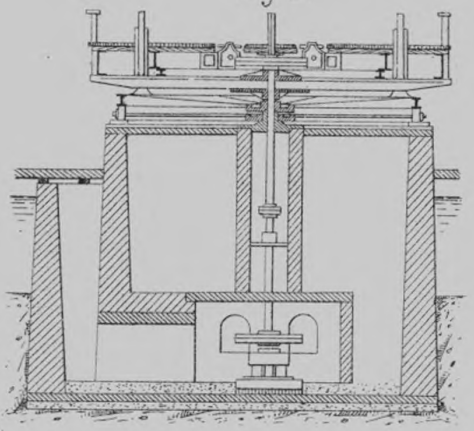


Fig. 5. (Ech. 1/20).

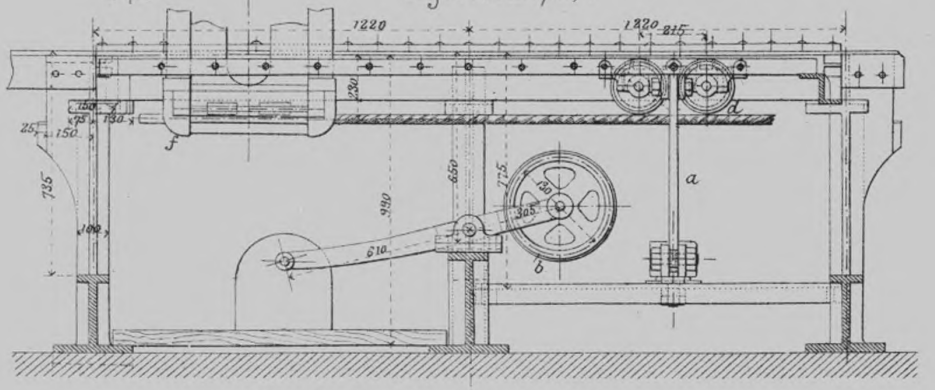
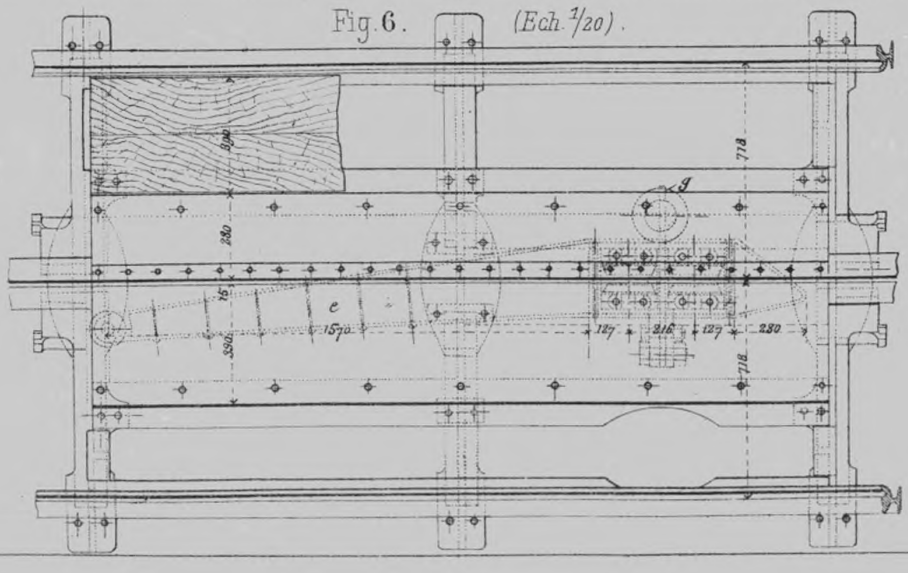



Fig. 6. (Ech. 1/20).



## CHEMIN DE FER FUNICULAIRE DE CHICAGO.

*Fig. 1 à 5.* Station de Blue Island.

Fig. 1. *(Ech. 1/300)*.

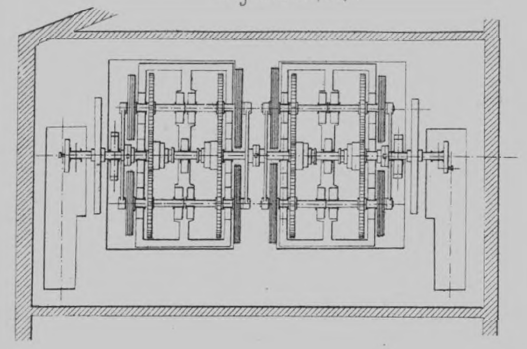


Fig. 2. *(Ech. 1/300)*.

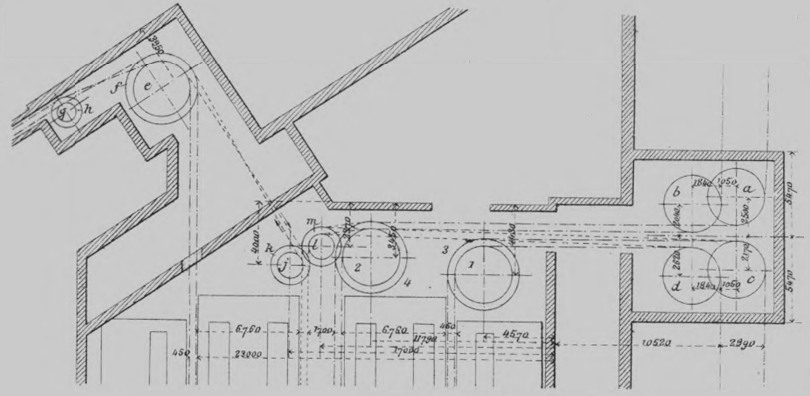


Fig. 3. *(Ech. 1/200)*.

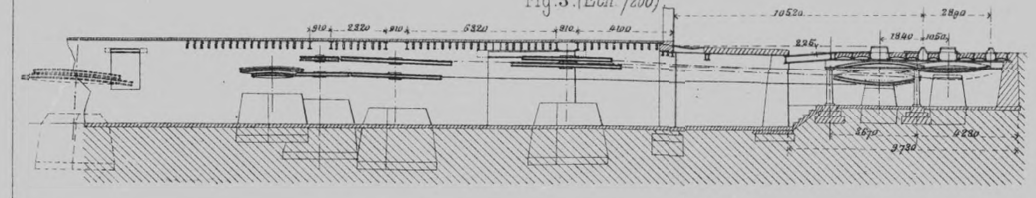


Fig. 4. *(Ech. 1/200)*.

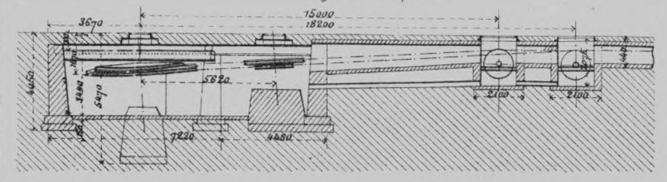


Fig. 5. *(Ech. 1/200)*.

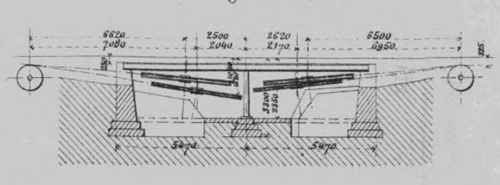


Fig. 8. Tunnel. *(Ech. 1/3000)*.

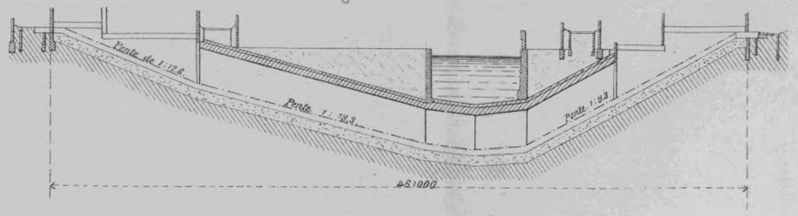


Fig. 10. *(Ech. 1/40.)*.

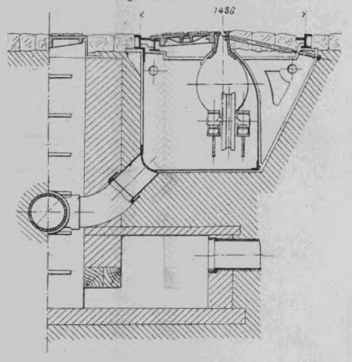


Fig. 11. *(Ech. 1/40)*.

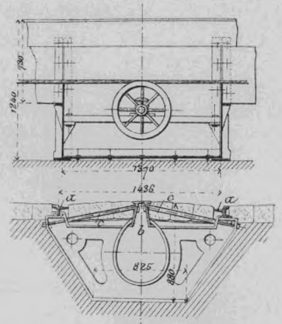


Fig. 12. *(Ech. 1/40)*.

Chemin de fer funiculaire de Cleveland.

Fig. 9. Changement de vitesse. *(Ech. 1/200)*.

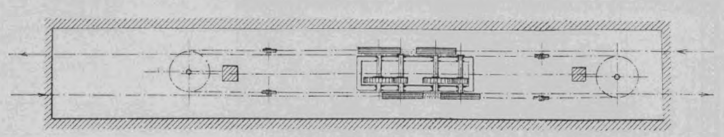


Fig. 13. *(Ech. 1/20)*.

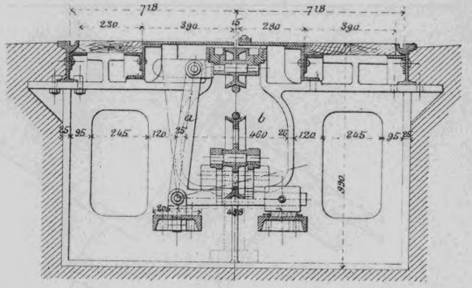


*Fig. 6 et 7.* Station de la Rue Van Buren.

Fig. 6. *(Ech. 1/300)*.

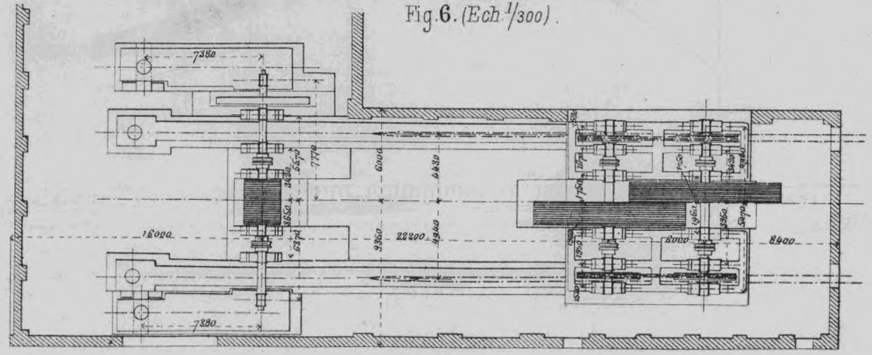


Fig. 7. *(Ech. 1/300)*.

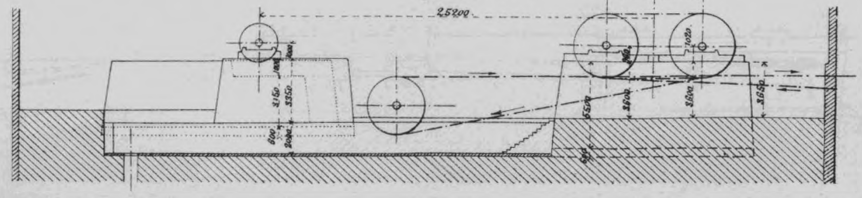


Fig. 1. Bifurcation et parcours d'une rampe au moyen d'un Cable auxiliaire. (Ech. 1/20.)

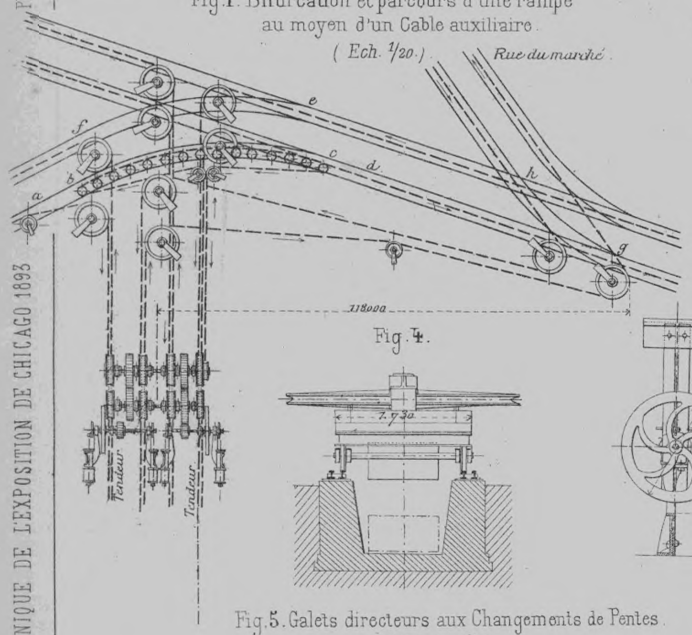



Fig. 4.



Fig. 5. Galets directeurs aux Changements de Pentes. (Echelle 1/48)

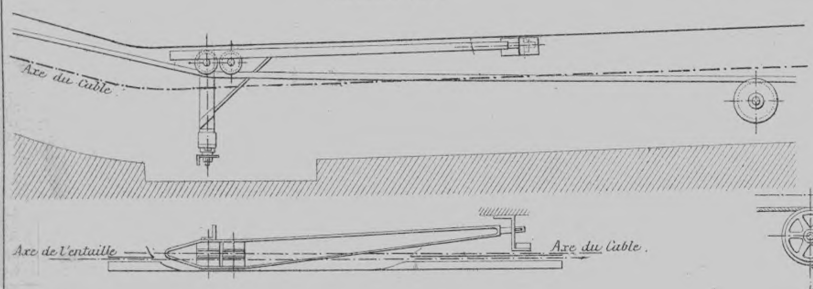



Fig. 2. Tramways de San Francisco.

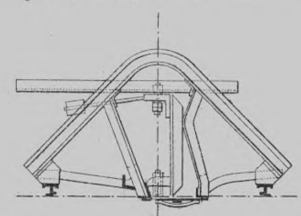


Fig. 3. Tramways de Los Angeles. Traverse.

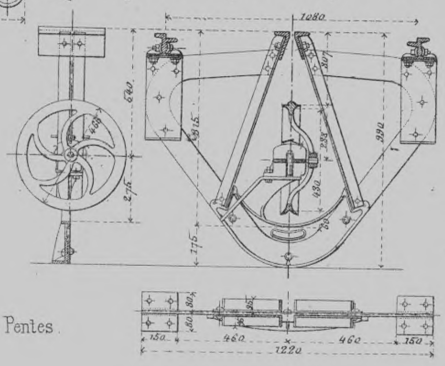


Fig. 4. Chariot tendeur Californien. Echelle 1/20

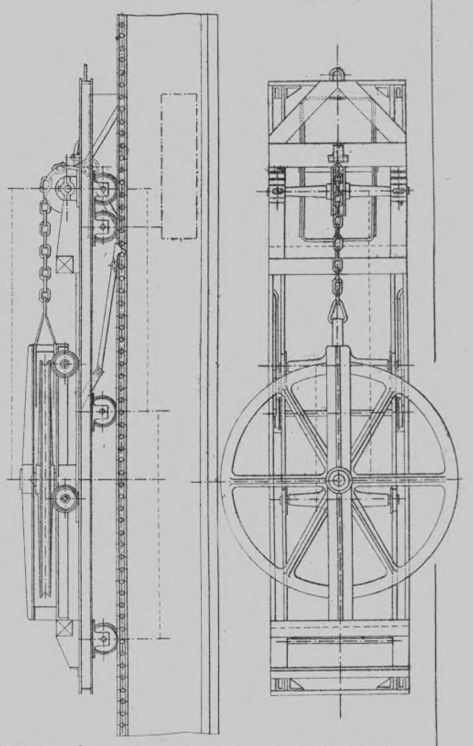
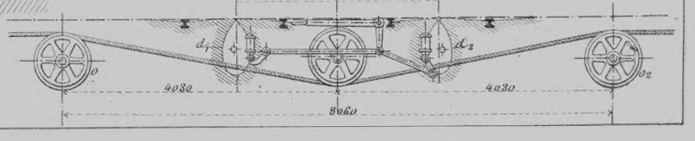


Fig. 6. Galets de pression aux Croisements. (Ech. 1/20)





Tramways de San Francisco.

Fig. 1. Superstructure ancienne. (Echelle 1/20.)

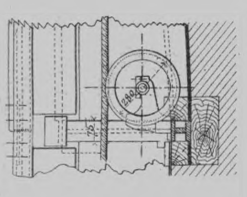


Fig. 2. Superstructure ancienne (Echelle 1/20.)

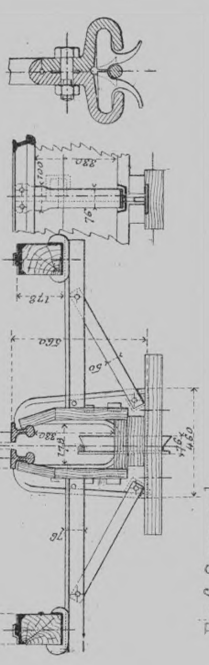


Fig. 3. Crampons. Echelle 1/20



Fig. 4. Ancienne machinerie. (Echelle 1/200.)

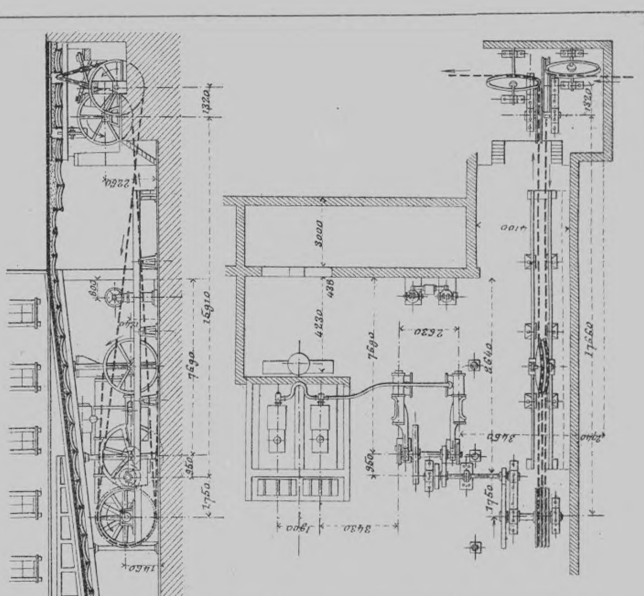


Fig. 5. Galets appuis du Cable. Echelle 1/2.

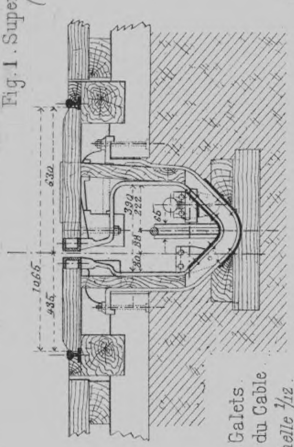
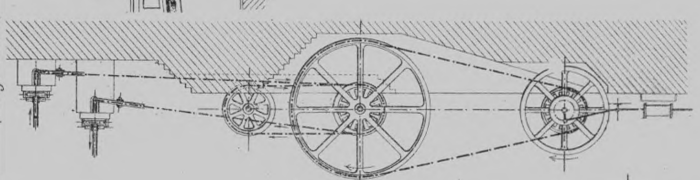
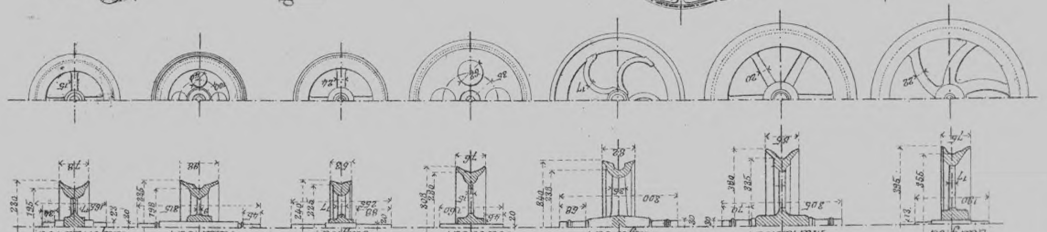


Fig. 6. Commande du mouvement du Cable (Clay Street.)





# STATION CENTRALE

## *du Funiculaire de los Angeles* (Californie).

Fig. 1. Coupe GH. *Echelle 1/300.* Fig. 2. Vue de Côté

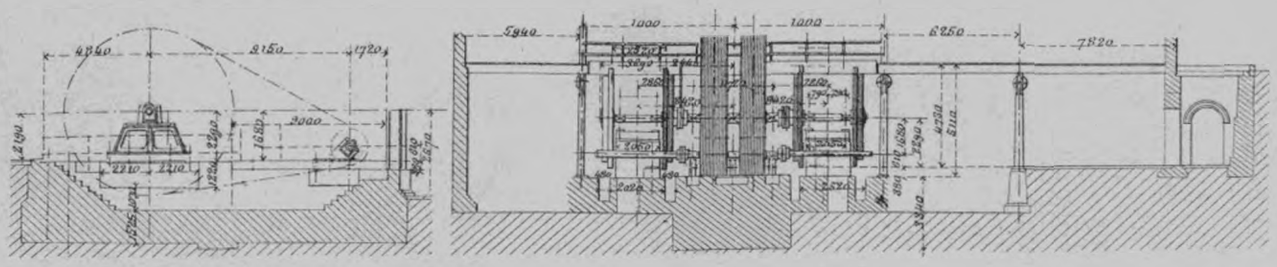


Fig. 3. Bâtiment des machines et chaudières.

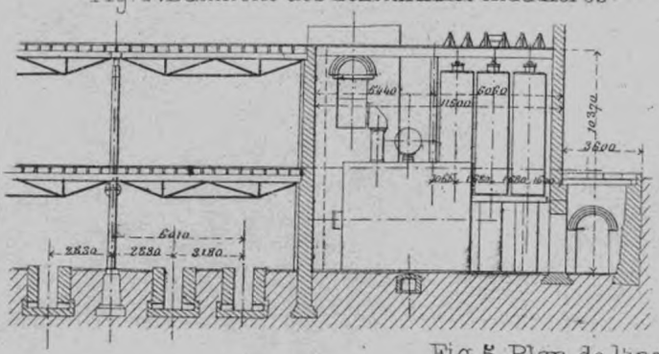


Fig. 4. Coupe EF.

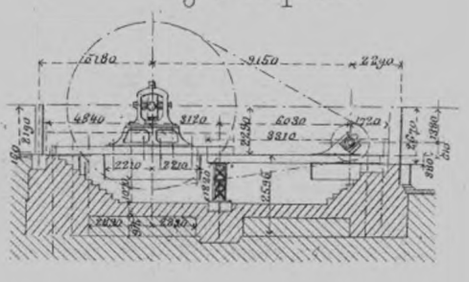


Fig. 5. Plan de l'installation

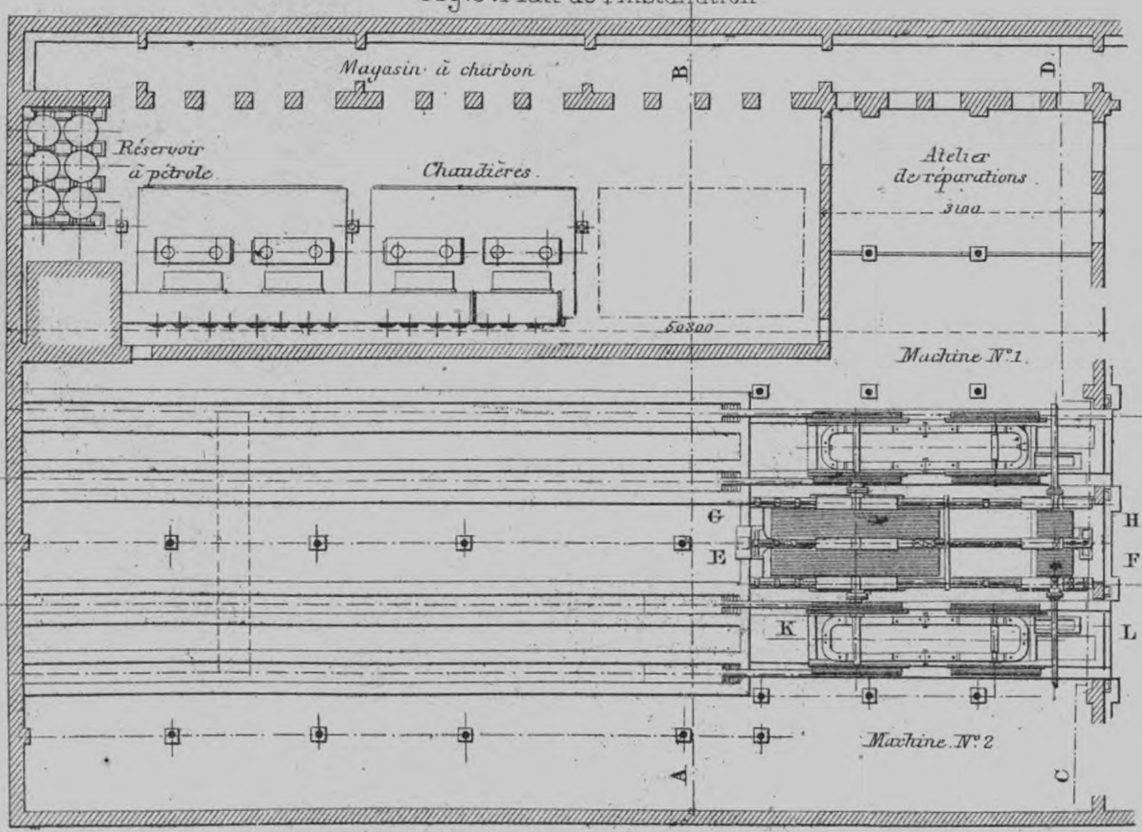



Fig. 6. Commande des Cables Coupe KL.

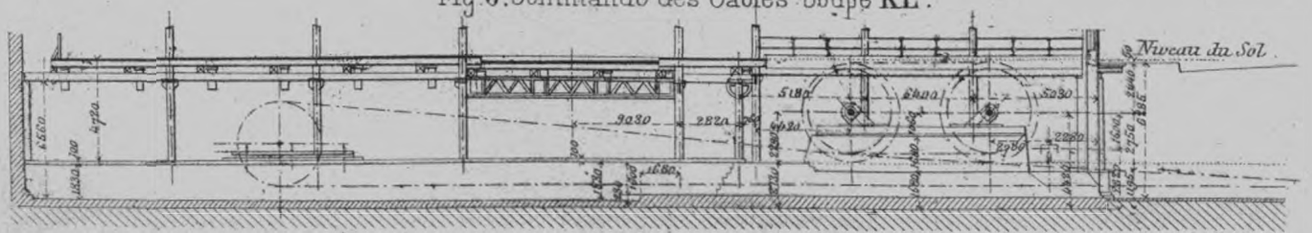


Fig. 1 et 2. Installation mécanique d'un grand édifice. (1/200).
Dispositions théoriques.

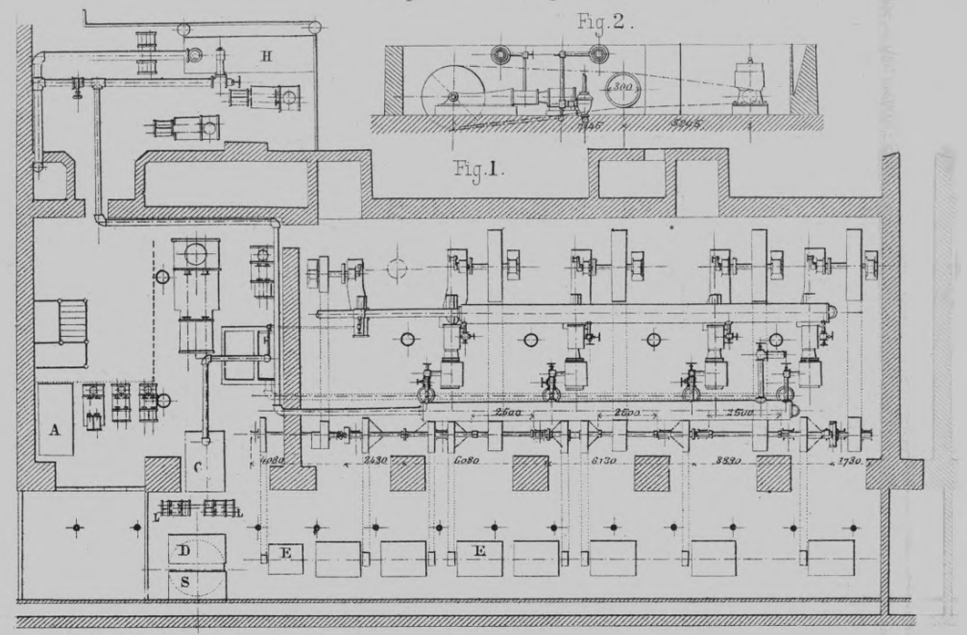



Fig. 2.




Fig. 1.

Fig. 3. Hôtel de l'Auditorium.
Installation des machines.
(Ech. 1/200).

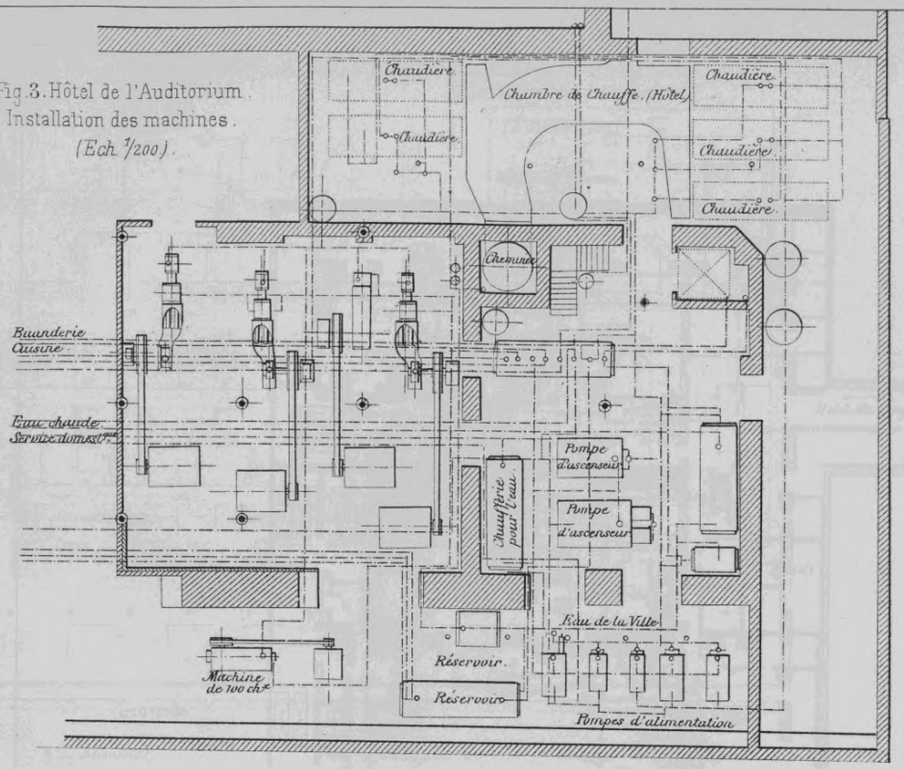
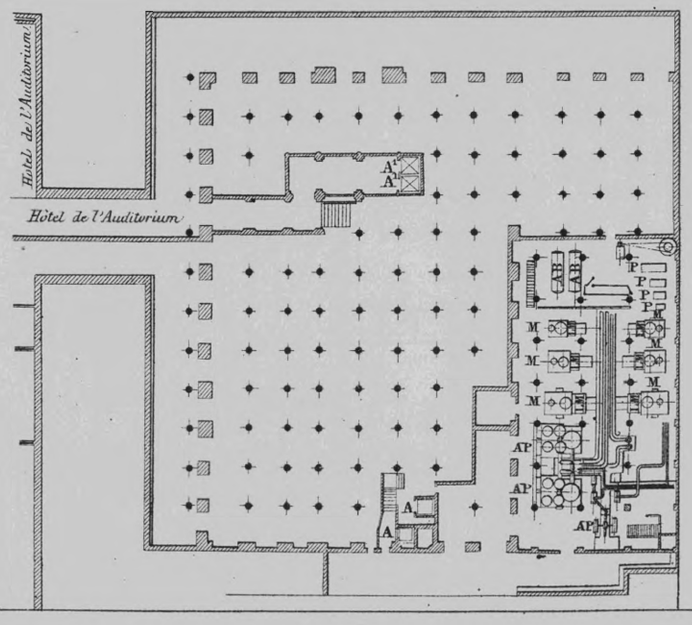



Fig. 4. Plan de l'Hôtel du Congrès. (1/500).




Légende :

A. *Ascenseurs*
AP. *Pompe pour ascenseur*
AB. *Réservoirs de la vapeur*
M. *Moteurs*
LM. *Machines pour la production de la vapeur*
P. *Pompes*

Fig. 5. Pompes des Ascenseurs de l'Hôtel du Congrès (1/100).

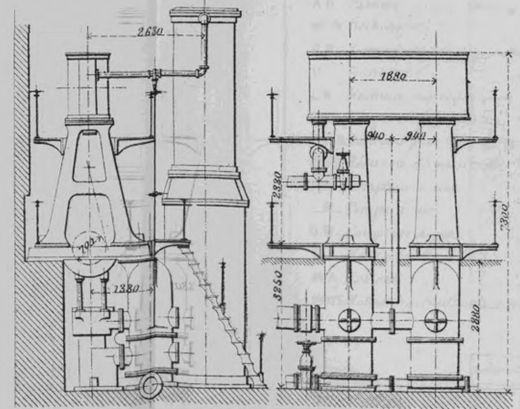
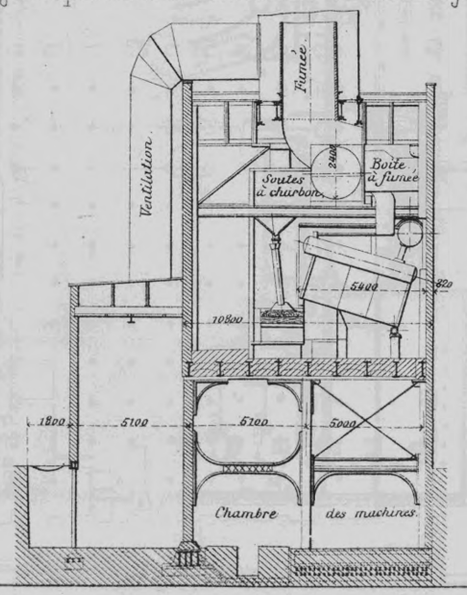
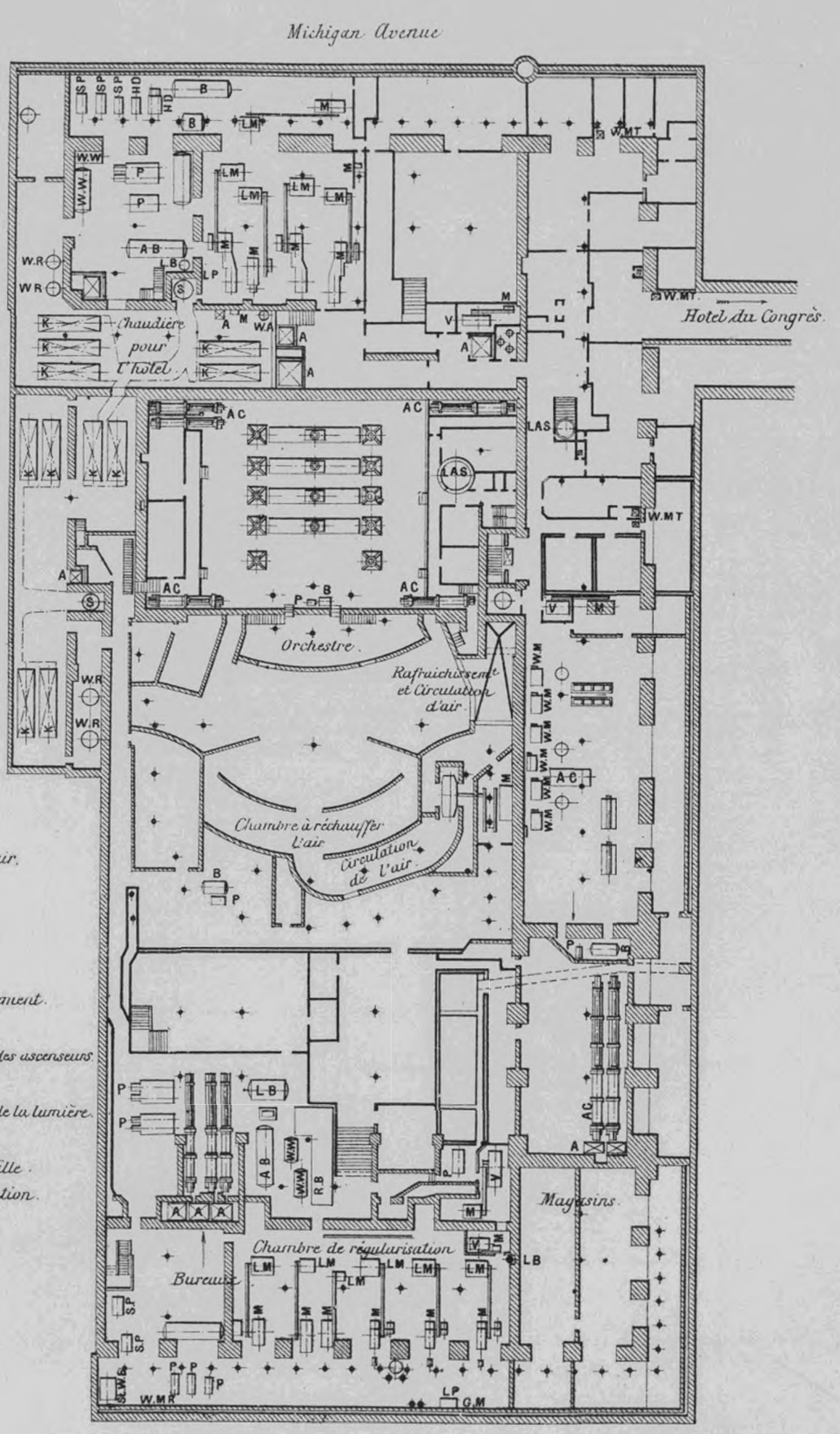



Fig. 6. Coupe de la Chambre des machines de l'Hôtel du Congrès. (1/200).



# Plan de l'Auditorium.

*(Échelle 1/600).*




Légende :

A — *Ascenseurs.*
K — *Chaudière.*
S — *Cheminée.*
AC — *Cylindre d'ascenseur.*
LAS — *Conduite d'évacuation de l'air.*
M — *Moteurs*
WR. *Filtres*
P — *Pompes.*
LB — *Réservoir d'air*
AB — *Réservoir à vapeur d'échappement.*
WW *Réchauffeur d'eau*
RB — *Réservoir pour l'eau qui vient des ascenseurs*
V — *Ventilateurs.*
LM — *Machines pour la production de la lumière.*
SP — *Pompes d'alimentation.*
St.W.B *Réservoir pour l'eau de la Ville.*
S.W.B *Réservoir d'eau d'alimentation.*
WMR *Compteur à eau.*
L.P — *Pompe à air*
G.M — *Compteur à gaz.*
P — *Réservoir d'eau*
WA *Robinet*
WMT *Moteur hydraulique.*

# STATION PABST.

Fig. 1. Plan général de la Station centrale Pabst à Milwaukee. (Ech. 1/6000).

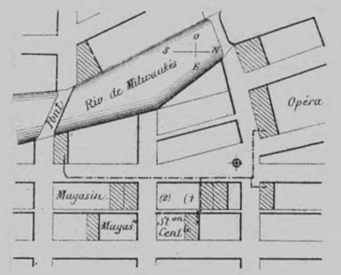



Fig. 2. Salle des machines et dispositions générales de la Station centrale. (Ech. 1/200).

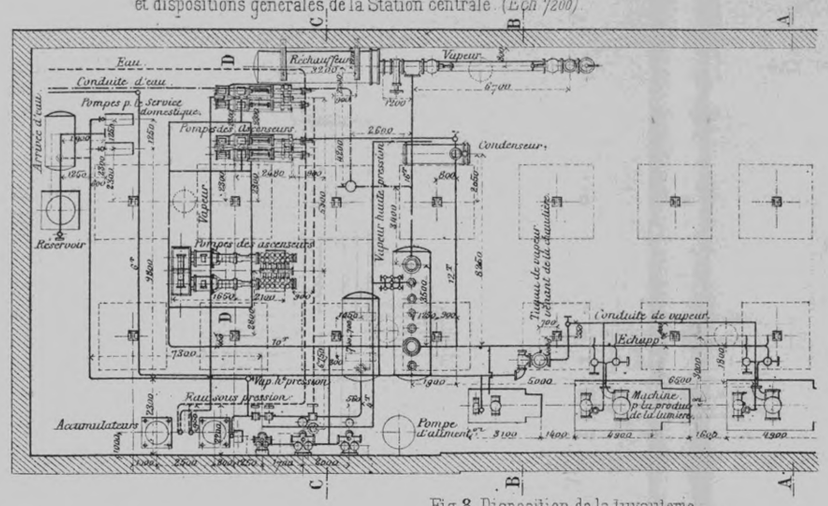



Fig. 10. Croisement des tuyaux. (Ech. 1/100)

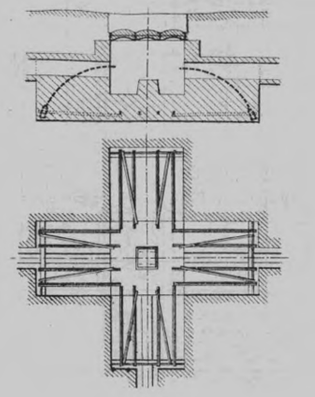


Fig. 3. Salle des machines et tuyauterie. (Ech. 1/200).

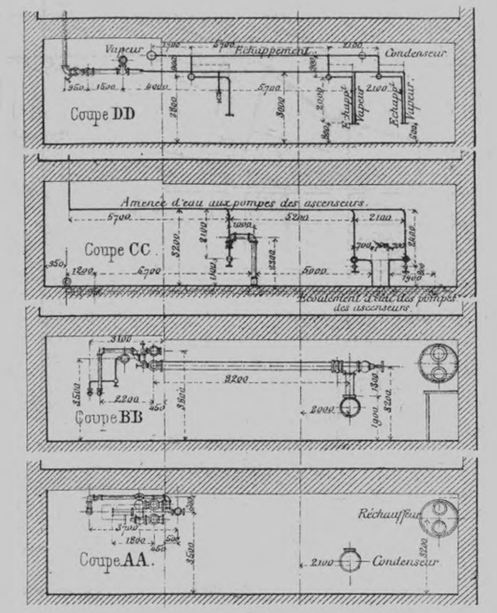



Fig. 13. Accumulateur. (Ech. 1/25).

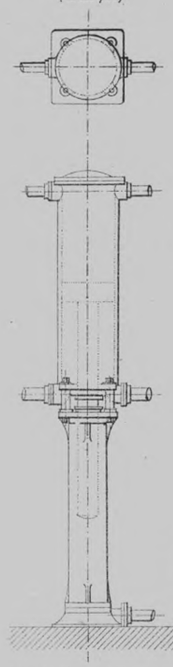
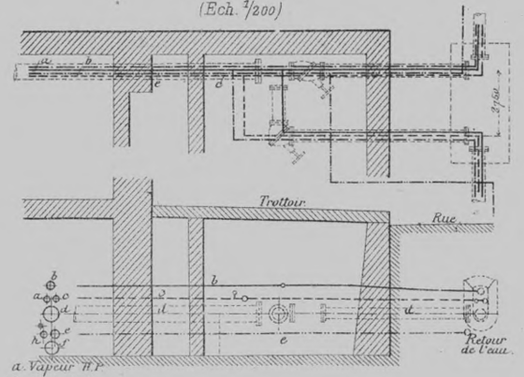


Fig. 7. Tuyaux entre la Station centrale et la Distribution. (Ech. 1/200)




a. Vapeur H.P.
b. Eau H.P.
c. Retour de la vapeur.
d. Vapeur d'échappement.
e. Retour de l'ascenseur.
f. Canalisation.
h. Tuyau d'aspiration.

Fig. 8. Disposition de la tuyauterie au départ de la distribution (Ech 1/40)

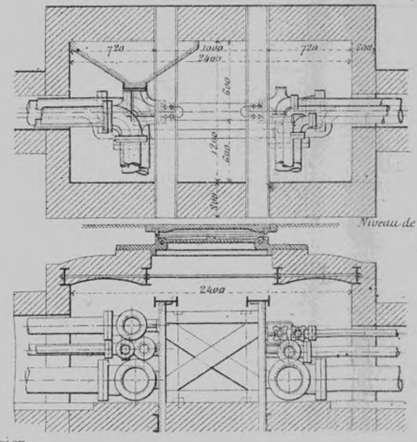
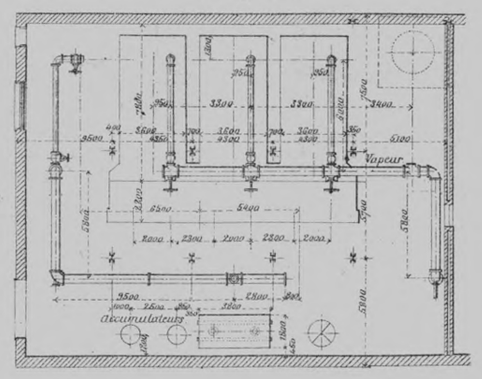



Fig. 4. Plan de la Chambre de chauffe avec tuyauterie.



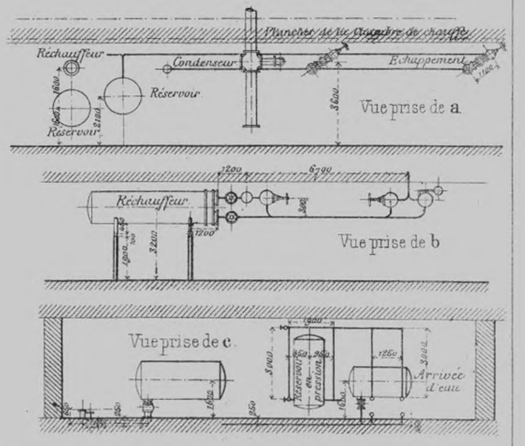




Fig. 9. Consolidation des coudes des tuyaux. (Ech. 1/20)

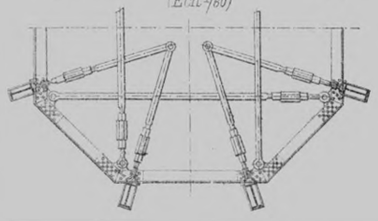


Fig. 5. Conduite d'eau à h^te pression. Joint a dilatation. (Ech. 1/5).

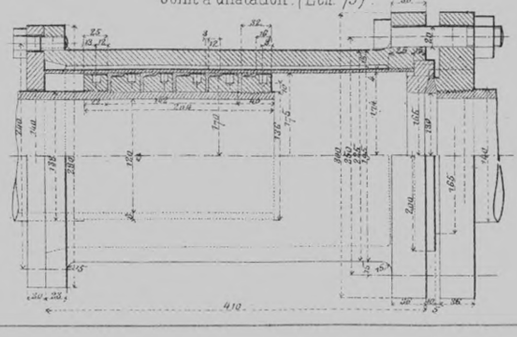


Fig. 6. (Ech. 1/200).

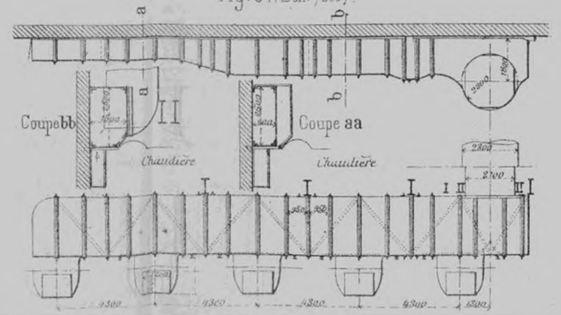
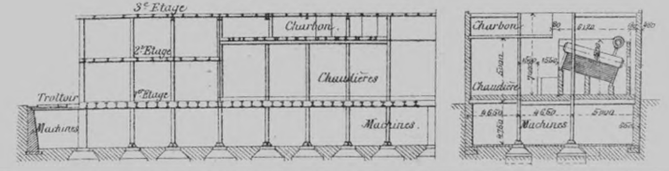



Fig. 12. Coupe par la maison où se trouve la Station Pabst. (1/400).



# STATION CENTRALE DES TRAMWAYS DE BOSTON.

Fig. 1.

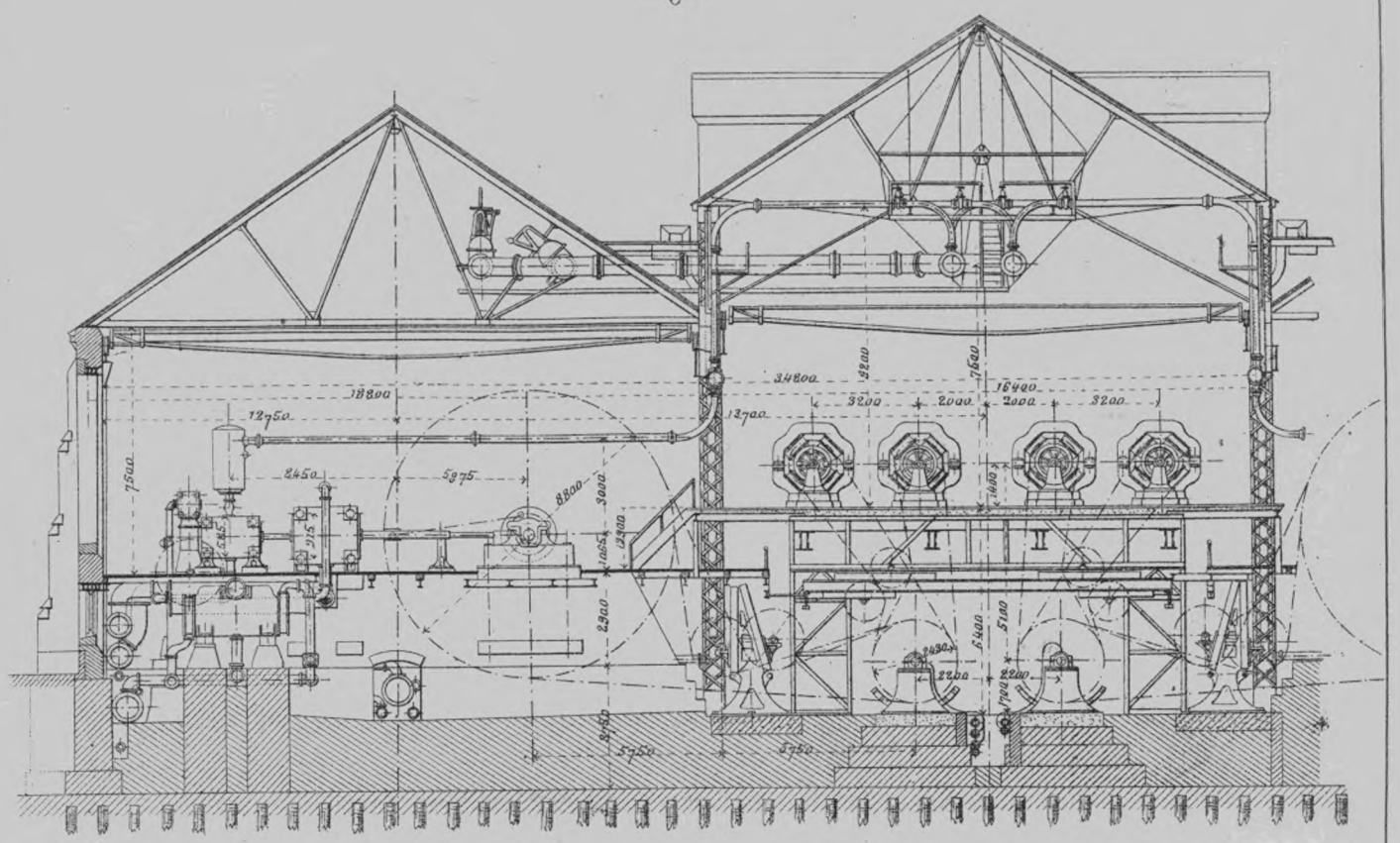
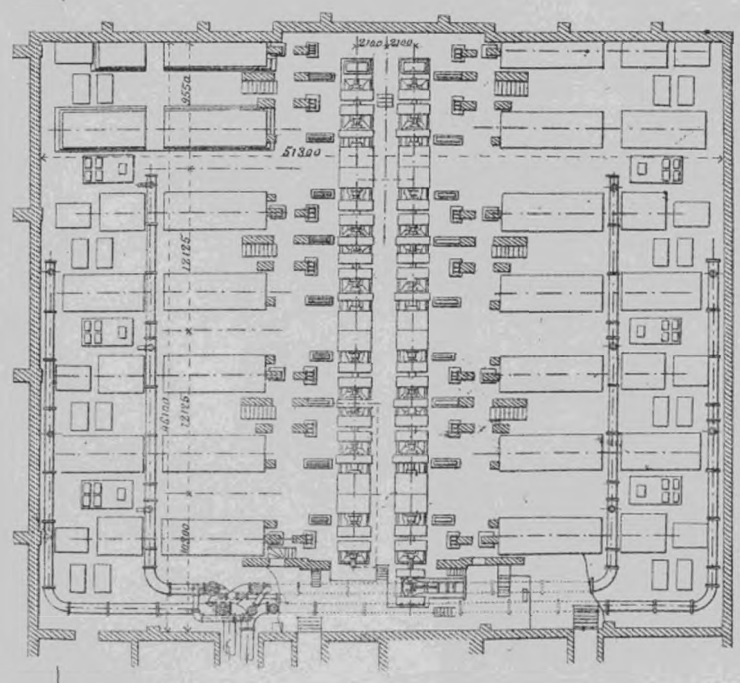
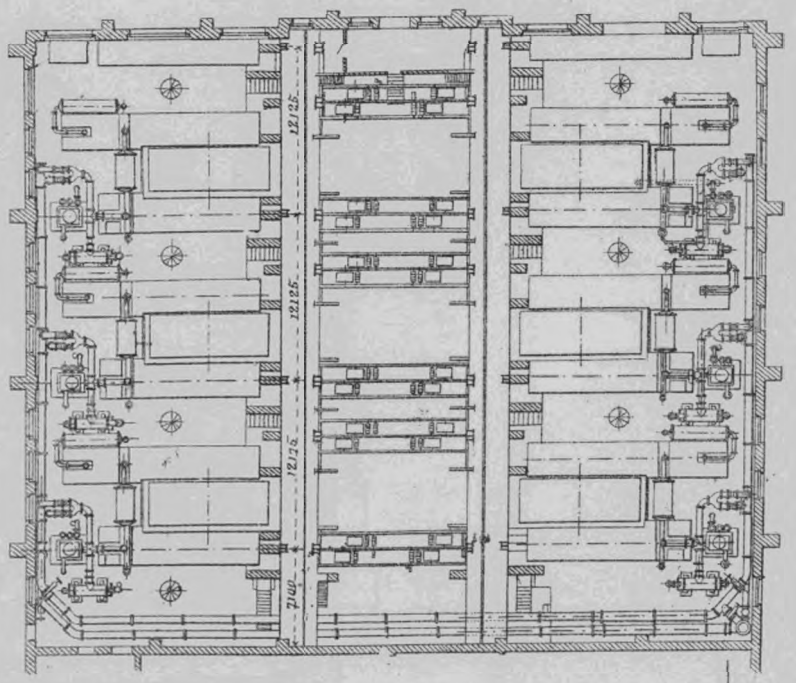



Fig. 2. *(Echelle 1/500.)* Fig. 3.

Plan du Sous Sol et transmissions principales.

Plan du Rez-de-Chaussée et Tuyauterie



# STATION CENTRALE DES TRAMWAYS DE BOSTON

Fig. 4. Coupe de la Chambre de Chauffe

(Echelle 1/200)

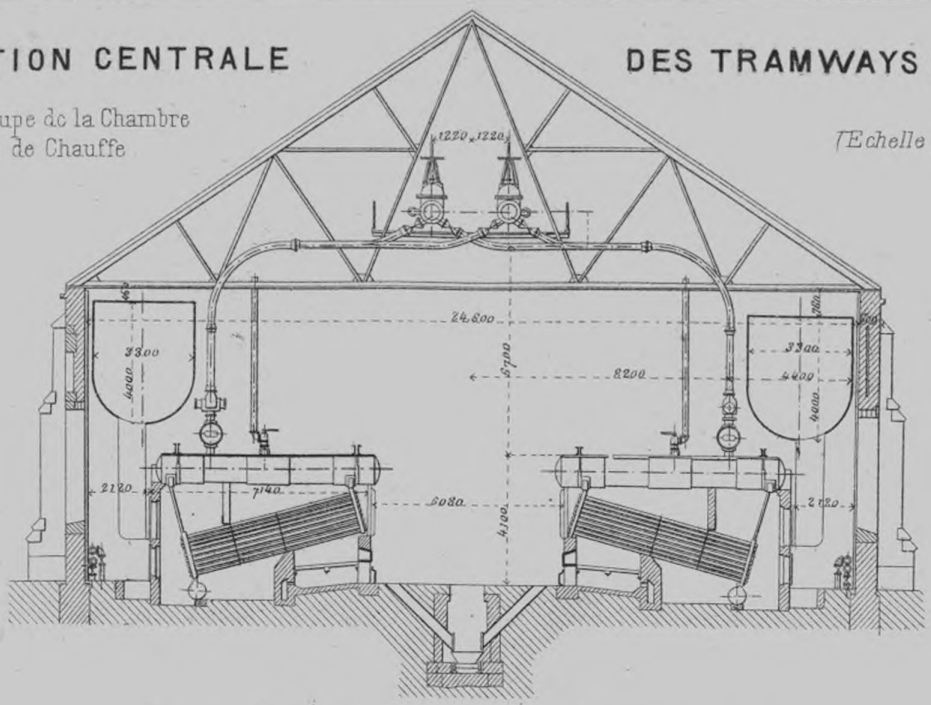



Fig. 5. Coupe en long par la transmission

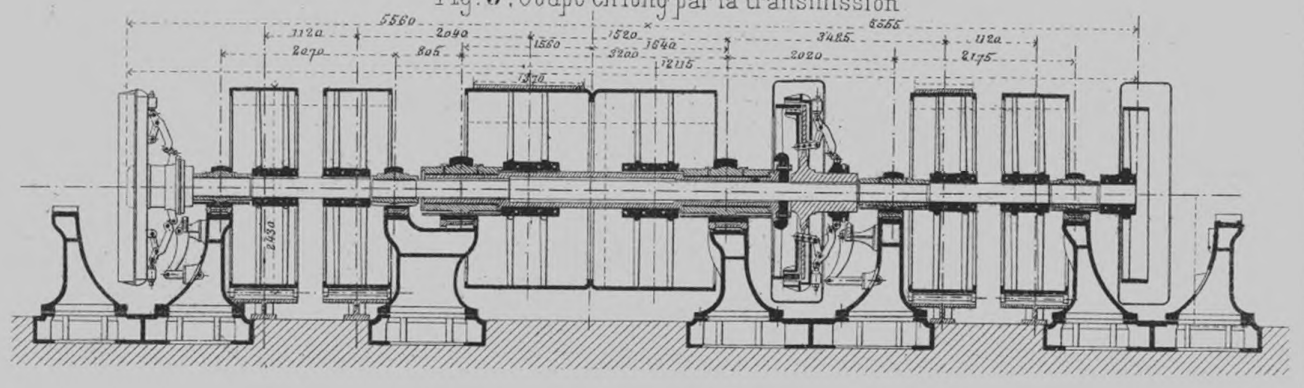



Fig. 6. (Echelle 1/200.)

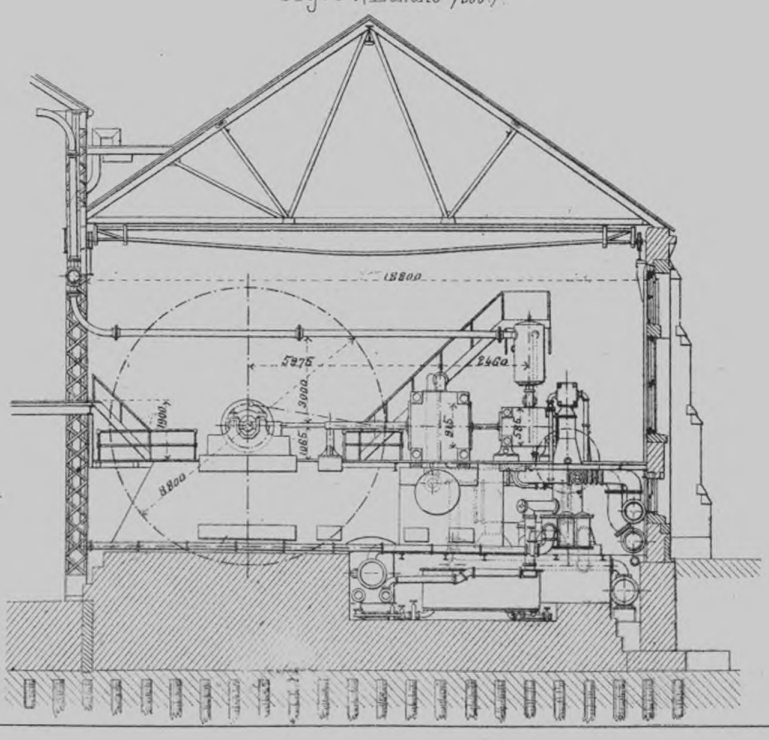


*Fig. 1, 2 et 3.* **Distribution d'eau chaude à Boston.**

Fig. 1. Coupe de l'Egoût *(Ech 1/25)*

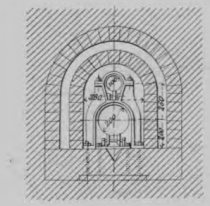
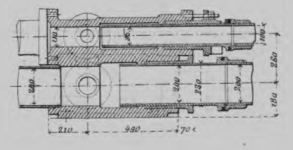


Fig. 2. Joint à dilatation. *(Echelle 1/20)*.



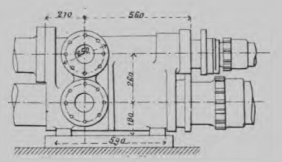


Fig. 3. Valve de retenue *(Ech 1/20)*

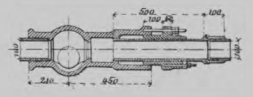


*Fig. 4, 5 et 6.* **Compagnie Arc Electrique.**

Fig. 4. Plan des Chambres de chauffe et des Machines *(Ech 1/250)*

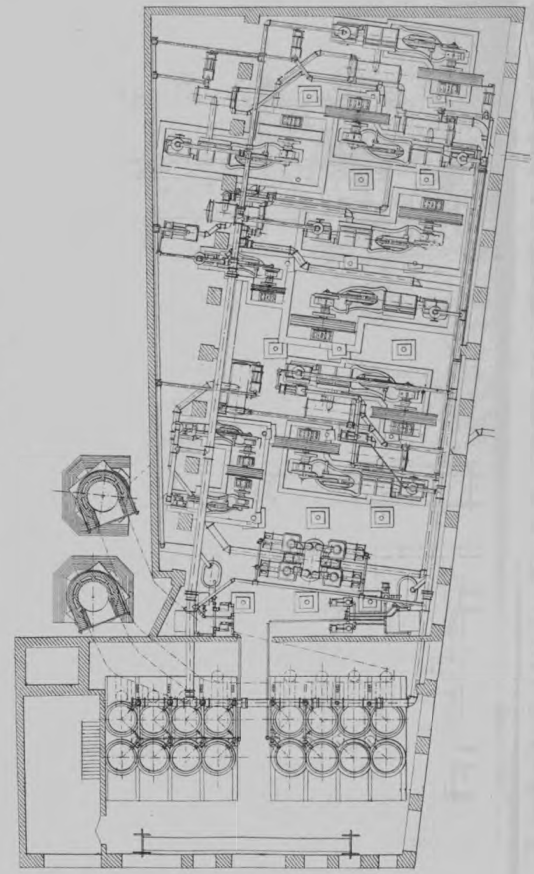


Fig. 5. Coupe par la Chambre aux machines. *(Echelle 1/250)*

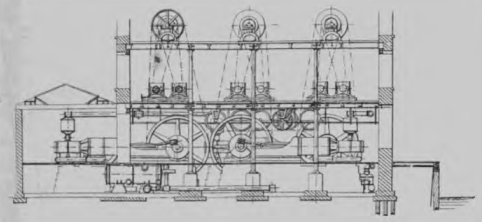


Fig. 6. Coupe par la Chambre de chauffe. Chaudières Manning *(Ech 1/140)*

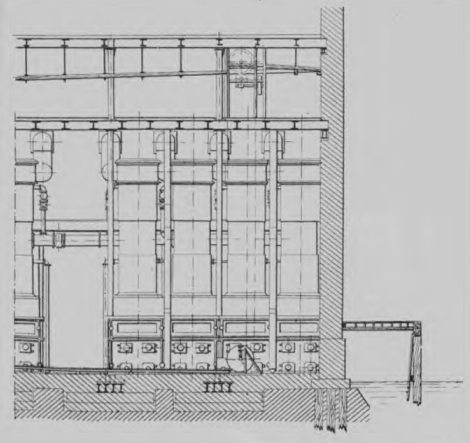
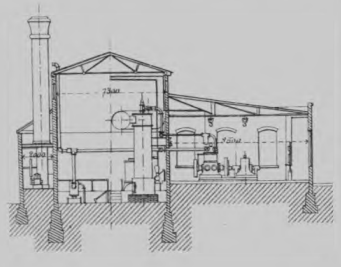
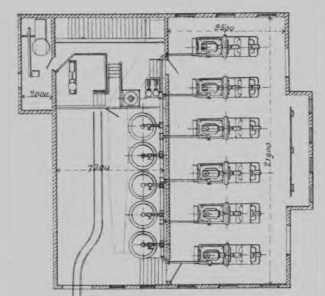


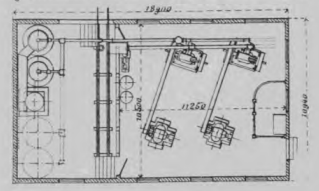
Fig. 7. **Station centrale à Newhaven.**





**Station centrale à Sacco.**

Fig. 8. Plan de la Salle des machines. *(Ech. 1/250)*



# NOUVELLE USINE D'ÉCLAIRAGE ELECTRIQUE EDISON A BOSTON.

Fig. 1. Coupe longitudinale.
*(Echelle 1/600)*

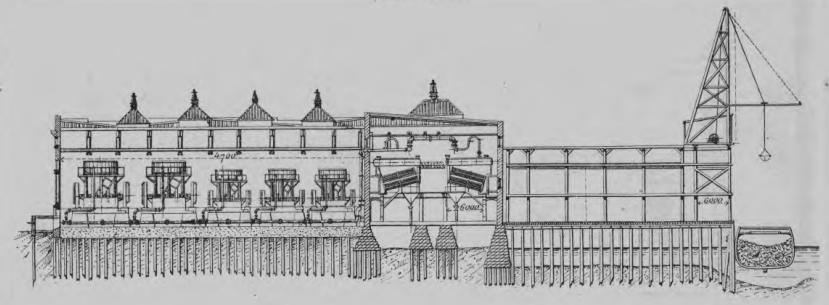


Fig. 3. Coupe transversale par la Chambre des machines.
*(Echelle 1/300)*

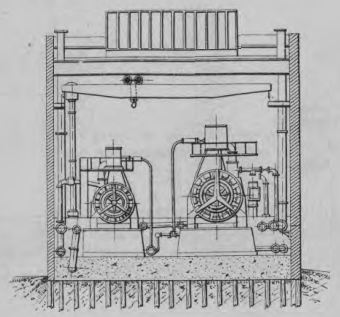


Fig. 4. Coupe en long par la Chambre de Chauffe.
*(Echelle 1/300)*

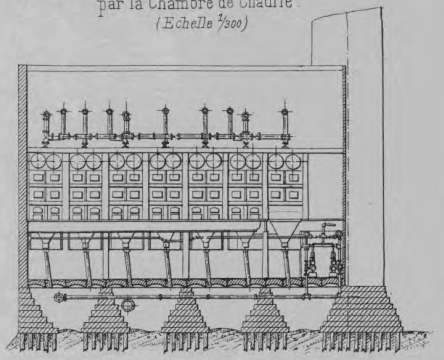
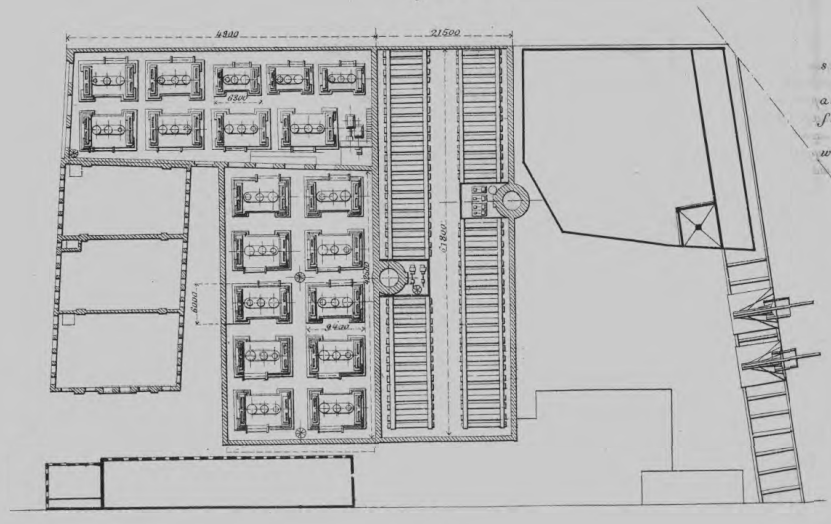


Fig. 2. Plan.



*s. Tuyau d'aspiration de l'eau froide*
*a. Echappement de l'eau.*
*f. Echappement libre de la vapeur.*
*w. Echappement de l'eau chaude*

Fig. 5. Plan de la Chambre des machines *(Ech. 1/300)*

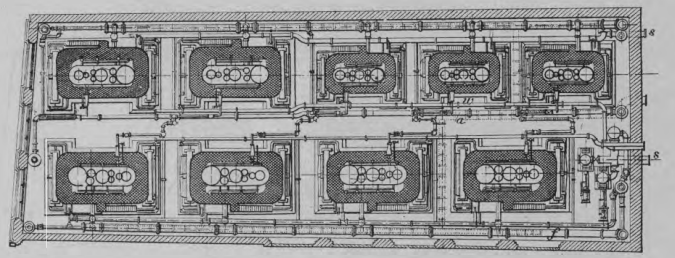
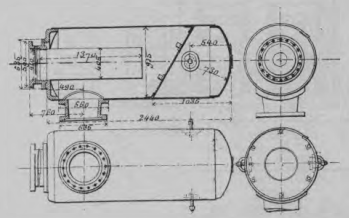


Fig. 6. Purgeur. *(Echelle 1/50)*



(Fig. 1 à 3.) Filtre de la National Water Purifying Cº

Fig. 1.

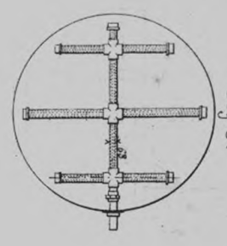


Fig. 3.

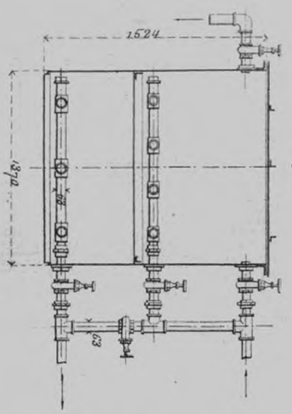
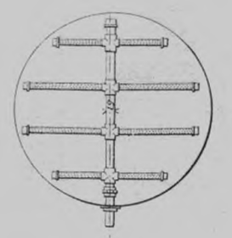



Fig. 2.



(Fig. 4 à 8.) Appareils pour la manutention de la glace.

Fig. 4.

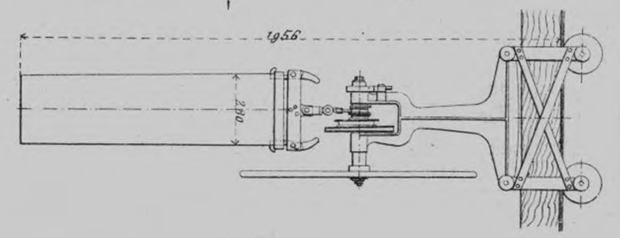



Fig. 5.

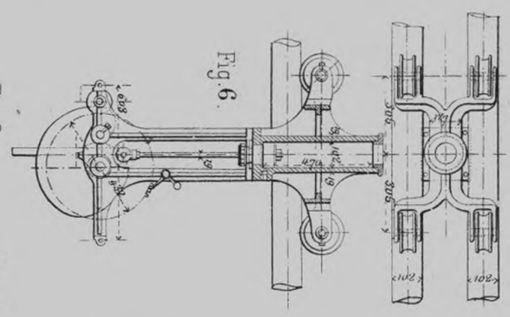



Fig. 6.

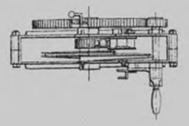


Fig. 7.

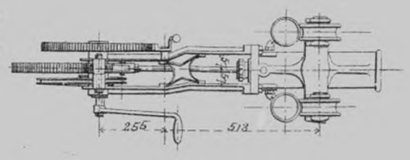



Fig. 8.

(Fig. 9 et 10.) Appareil pour le démoulage.

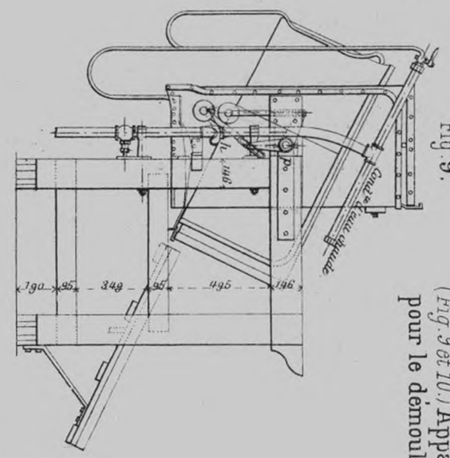



Fig. 9.

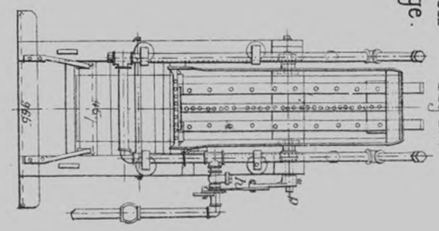
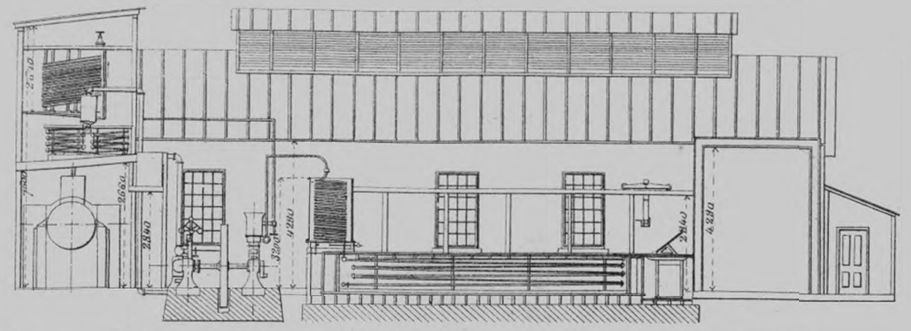



Fig. 10.



Fabrique de glace de la Hercules Iron Works.

Fig. 1.



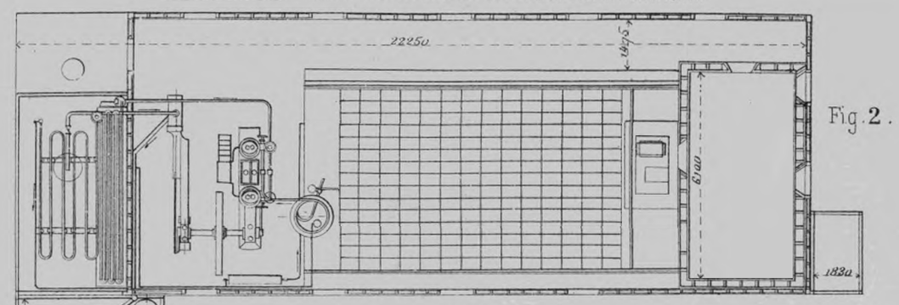




Fig. 2.

(Fig. 3 à 6.) Installation de la Brasserie Bush à Stᵗ Louis.

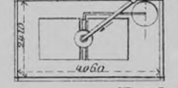



Fig. 3.




Fig. 4.

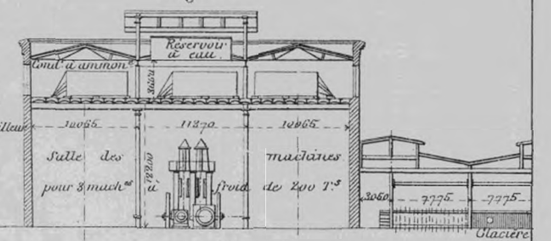



Fig. 5.

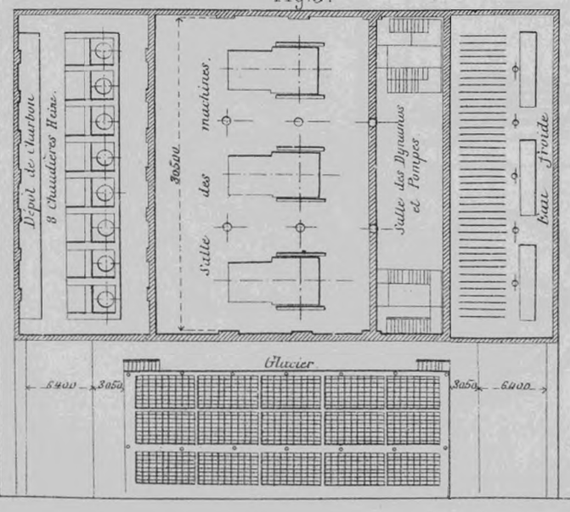
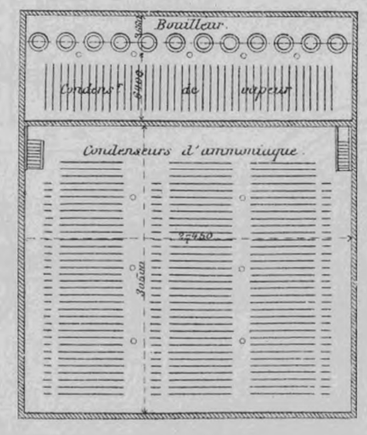



Fig. 6.



# INSTALLATION DE LA BRASSERIE BUSH.

Fig. 1.

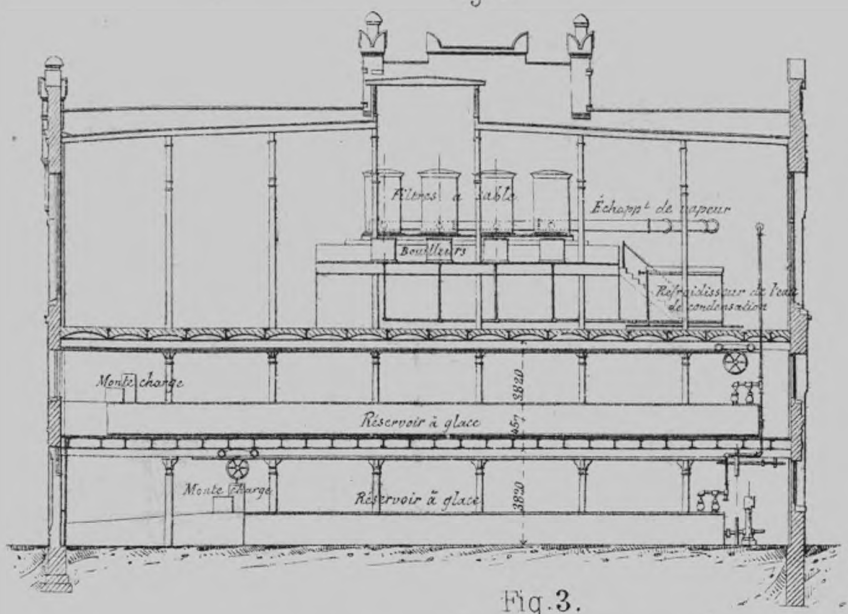



Fig. 2.

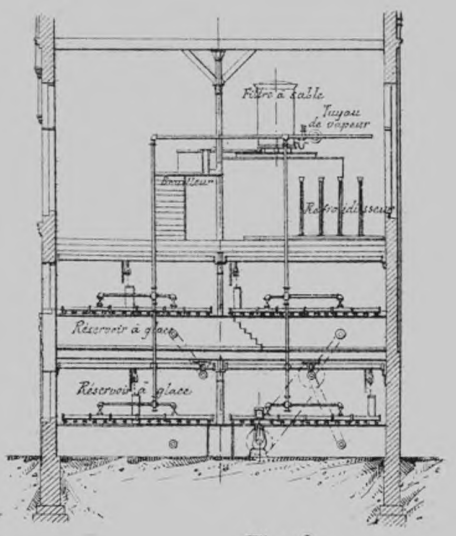



Fig. 3.

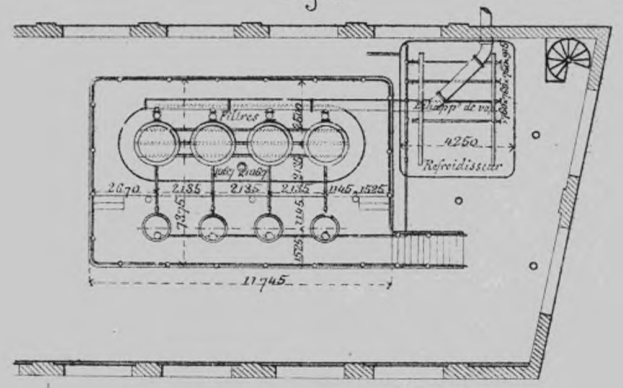



Fig. 6.

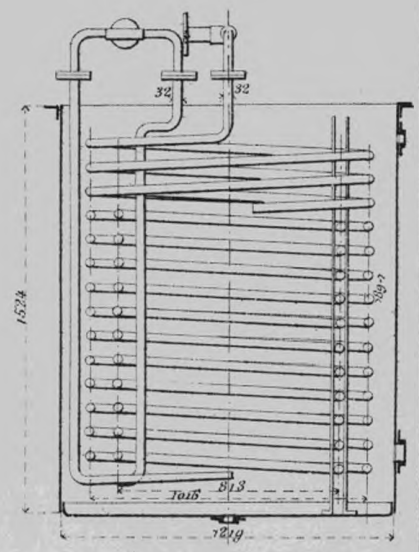



Fig. 4.

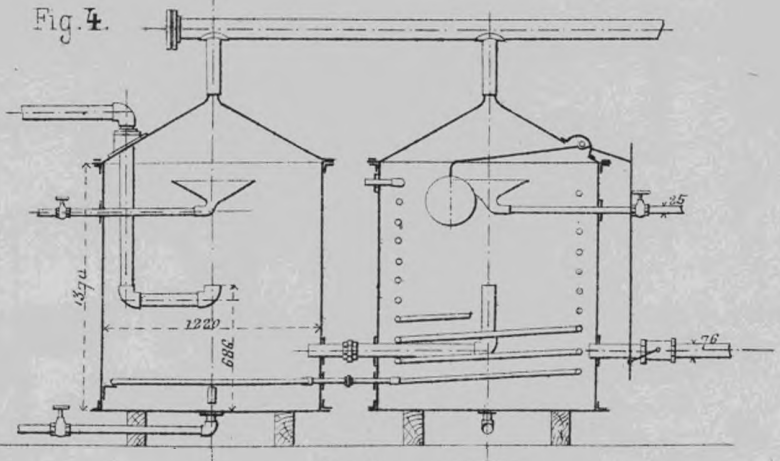



Fig. 5.

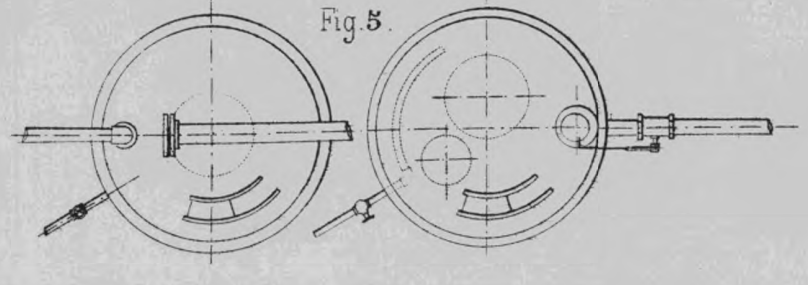
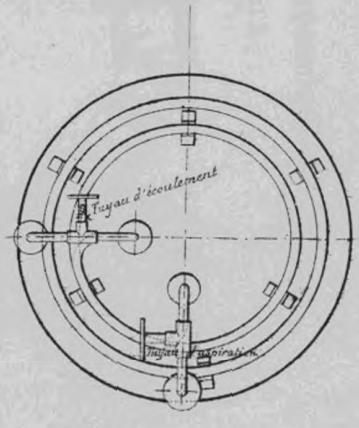


Fig. 7.



## Viaduc New-York_New Jersey.

Fig.1.

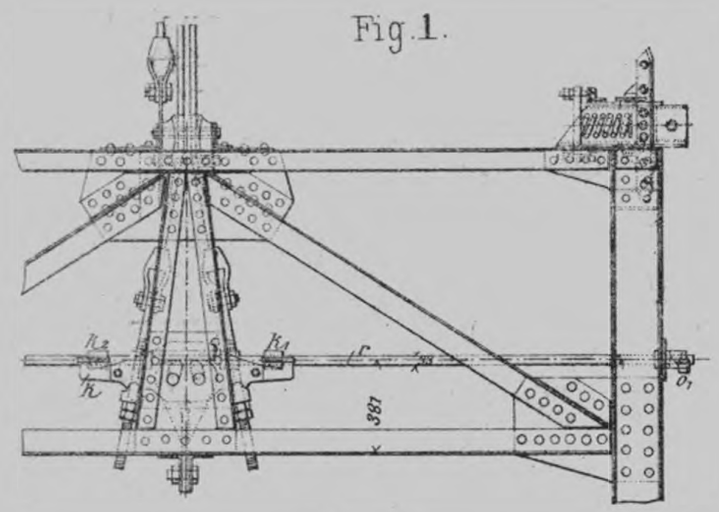



Fig.2.

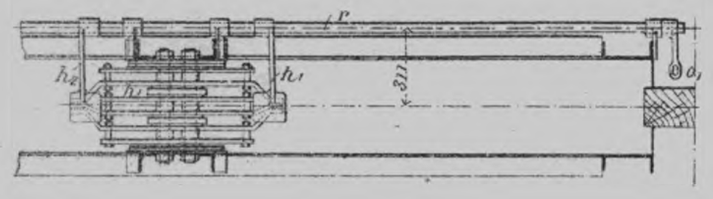



Fig.3.

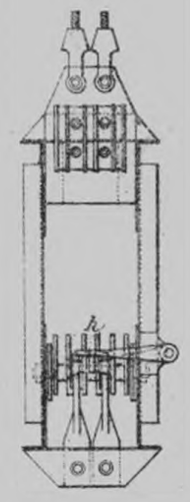



Fig.4.

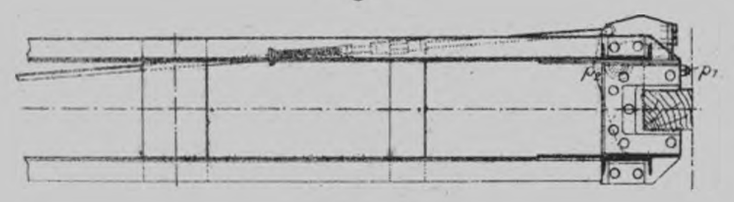



Fig.5.

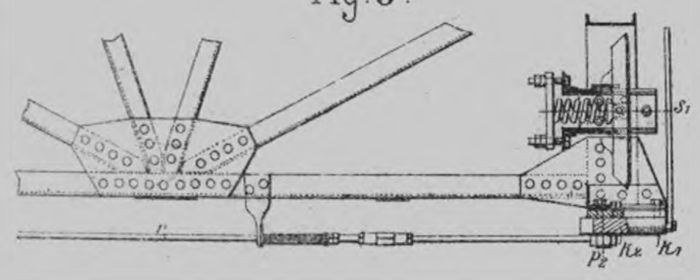
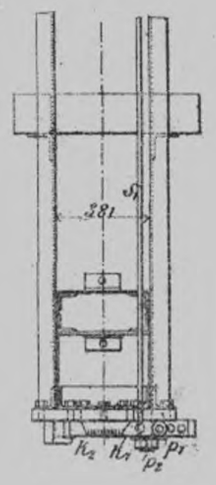



Fig.6.




## Ascenseurs du Temple maçonnique à Chicago.

Fig.1.

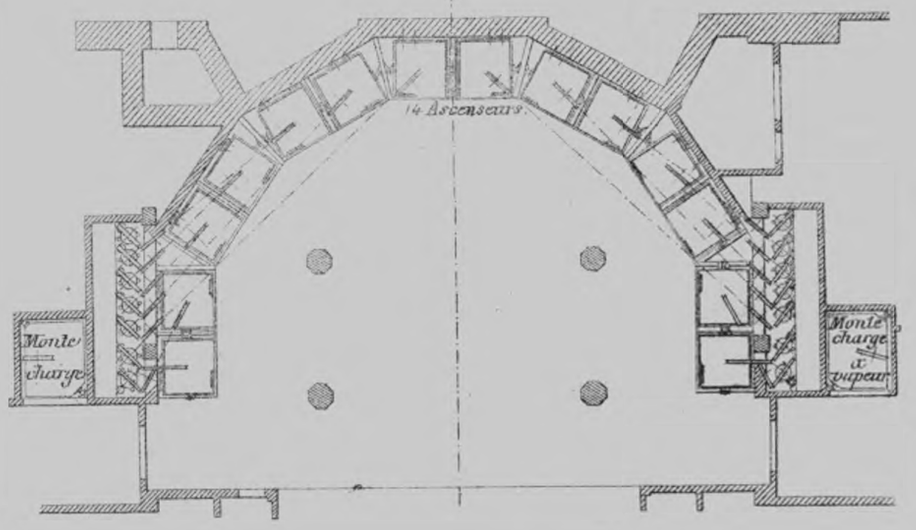
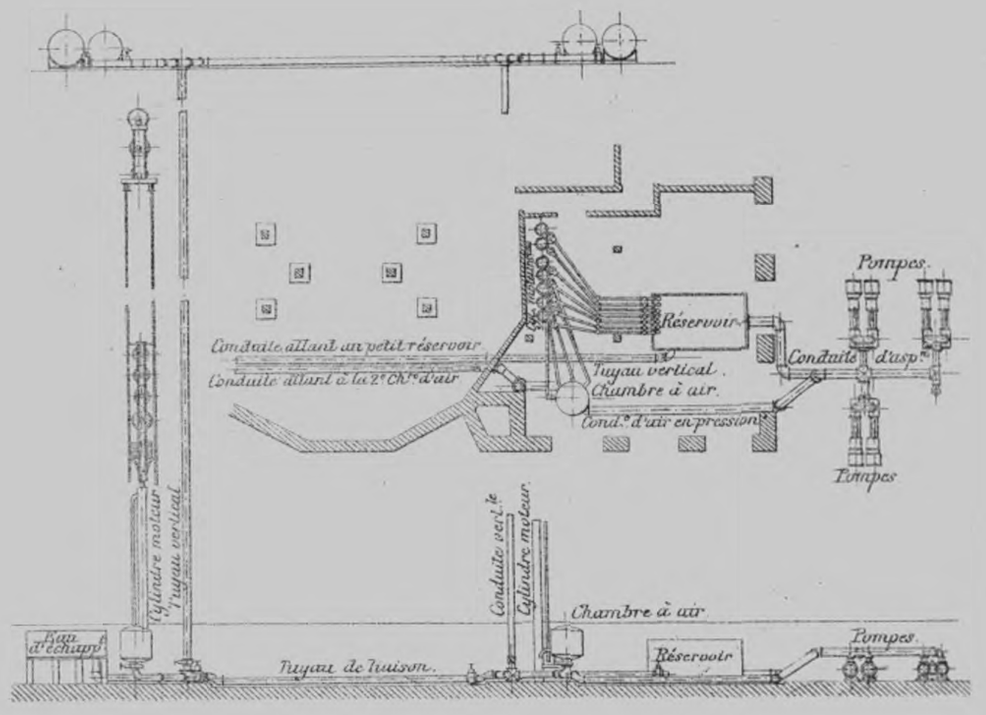



Fig.2.



# ASCENSEURS.

*Fig. 1 à 6.* Ascenseur de la Crane Elevator Co., de Chicago.

Fig.1.

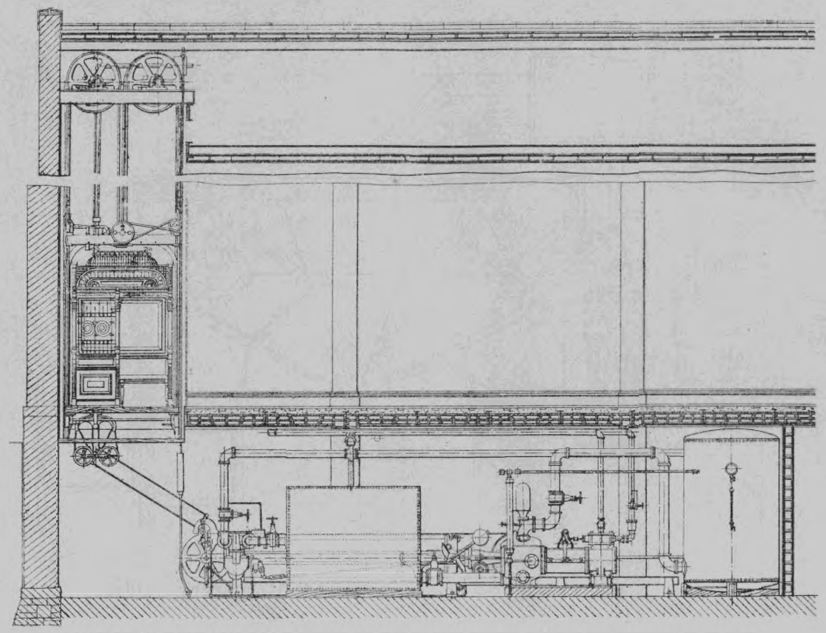


Fig.4.

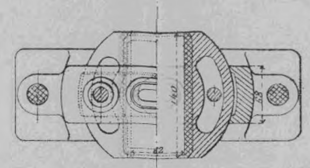


Fig.5.

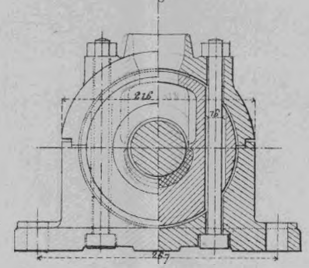


Fig.6.

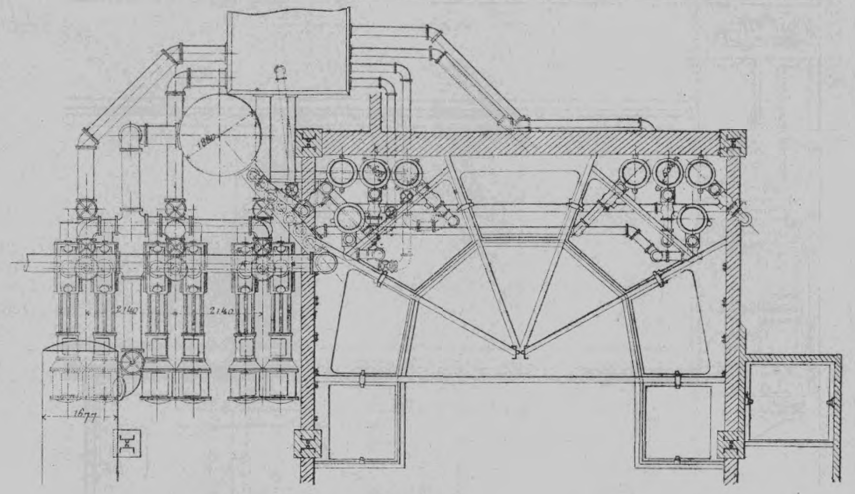


Fig 8 Ascenseur Hale Otis.

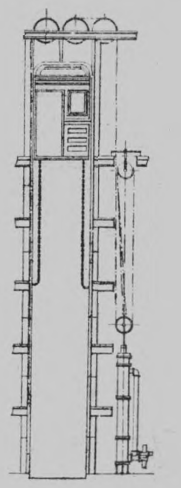


Fig.2.

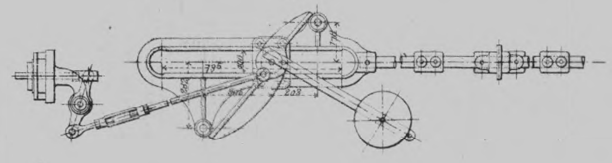


Fig.3.

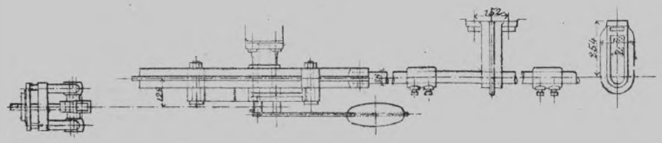
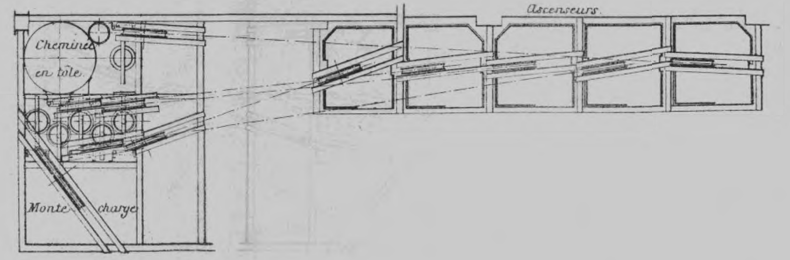


Fig.7. Colombus Building Ascenseurs.



# ASCENSEURS.

*Fig 1 et 2.* **Cylindre d'un Ascenseur à haute pression Reynolds.**

Fig 1. Coupe.

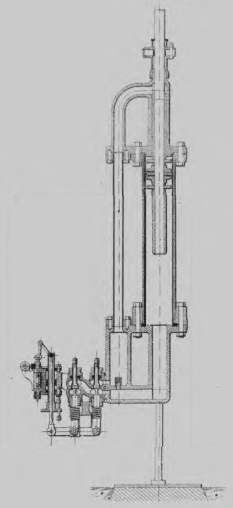


Fig 2. Elévation de face.

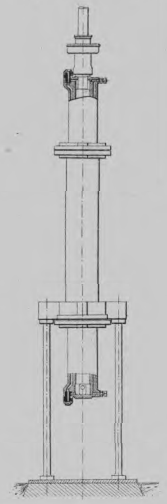


*Fig 3 à 5.* **Cylindre.**

Fig 3. Vue de bout.

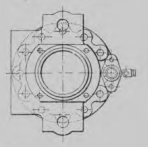


Fig 4. Coupe longitudinale.

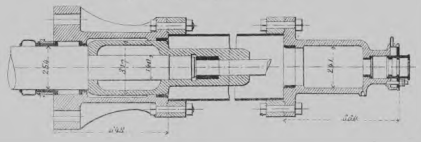


Fig 5. Plan.

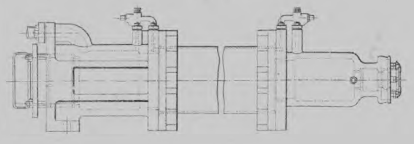


*Fig 3 à 9.* **Ascenseur à haute pression Reynolds à piston plongeur.**

Fig 6. Plan.

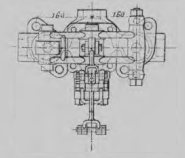


*Fig. 6 à 8.* **Distribution.**

Fig 7. Coupe.

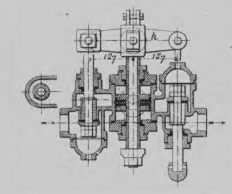


Fig 8. Vue de face.

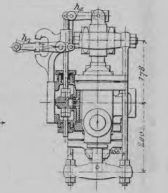


Fig 10. Coupe.

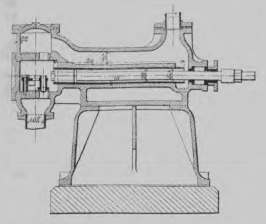


Fig 11. Plan.

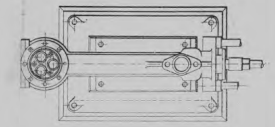


Fig 12. Coupe.

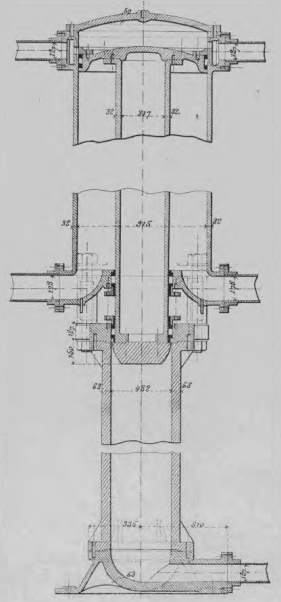


Fig 9. Accumulateur à poids.

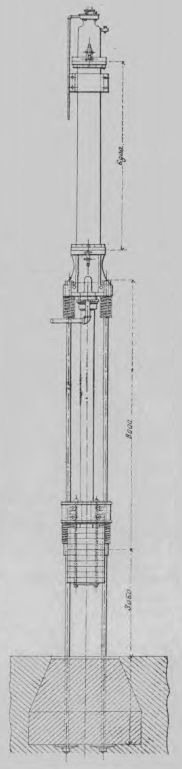


Fig 13. Coupe.

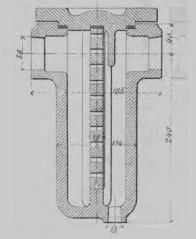


Fig 14. Elévation.

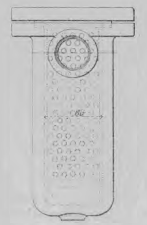


Fig 15. Coupe longitudinale.

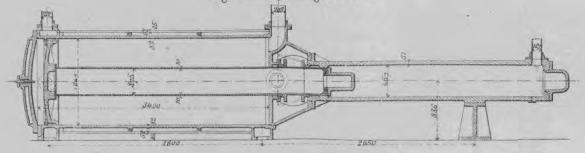
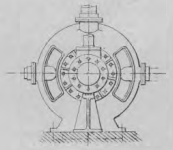


Fig 16. Vue de bout.



# ASCENSEURS ÉLECTRIQUES.

*Fig. 1 à 10.* **Ascenseurs électriques Otis.**

Fig. 1

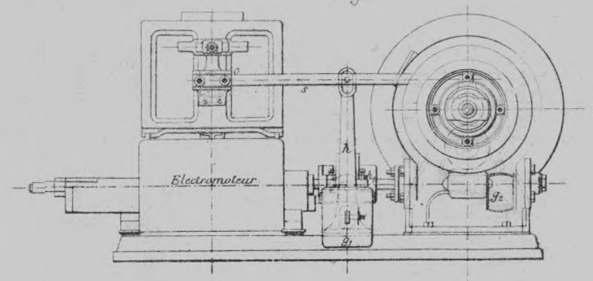



Fig. 2.

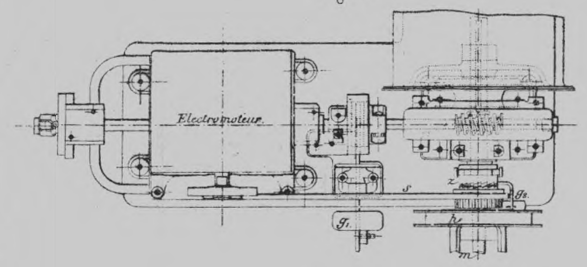



Fig. 4.

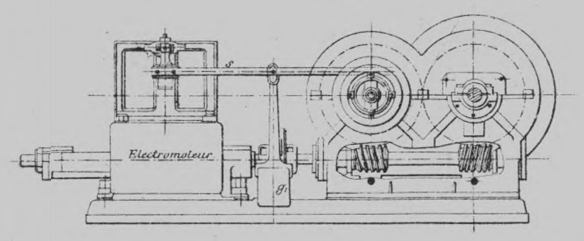



Fig. 5.

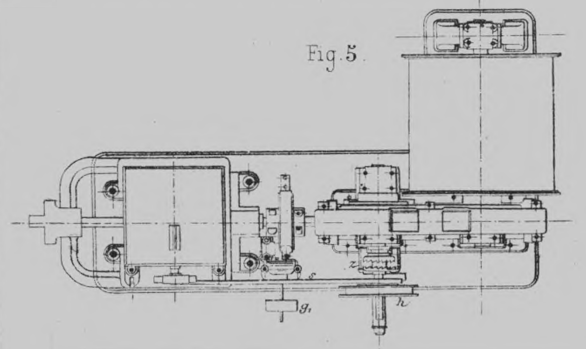


Fig. 3.

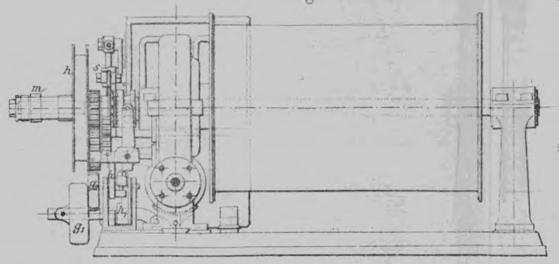


Fig. 14.

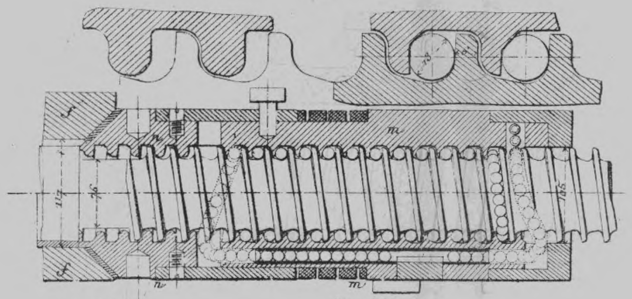


Fig. 6.

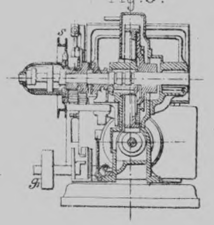
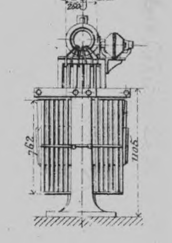


Fig. 12



Ascenseur électrique Moore et Wyman.

Fig. 18.

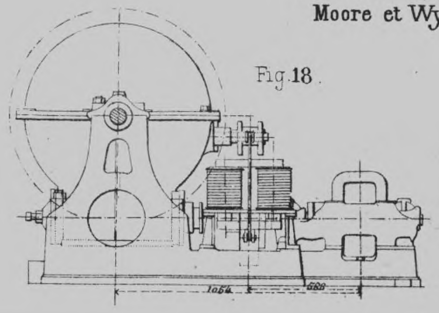


Fig. 19.

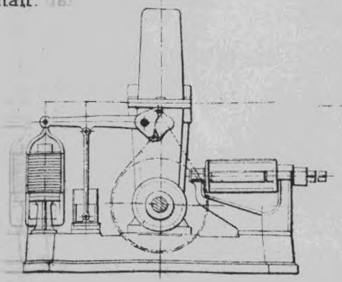


Fig. 7.

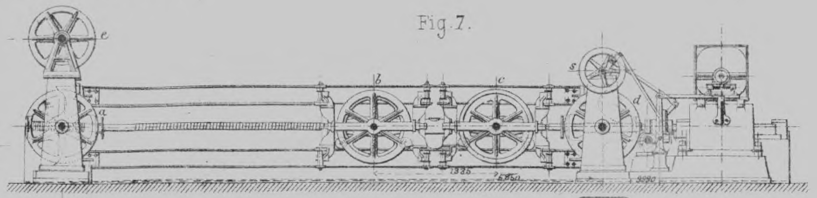


Fig. 8.

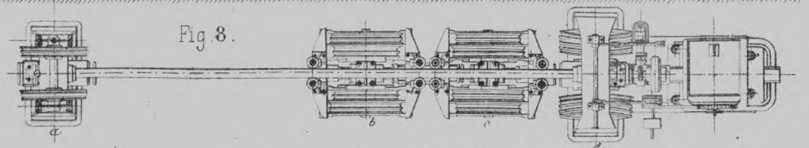


*Fig. 11 à 17.* **Ascenseur électrique Sprague.**

Fig. 9.

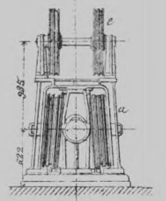


Fig. 10.

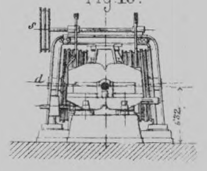


Fig. 15.

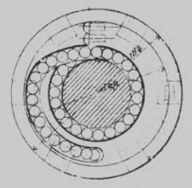


Fig. 16.

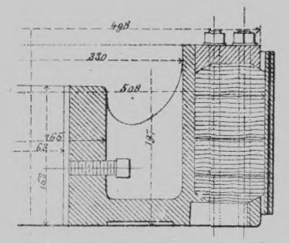


Fig. 11

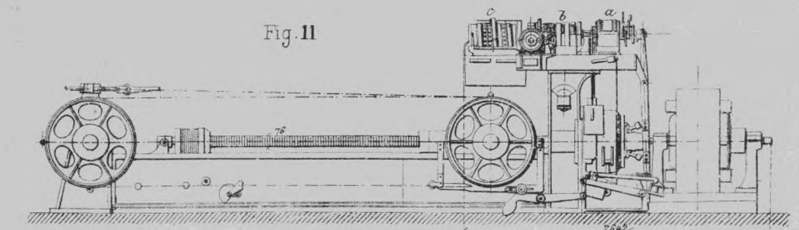


Fig. 13.

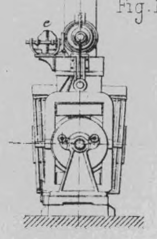
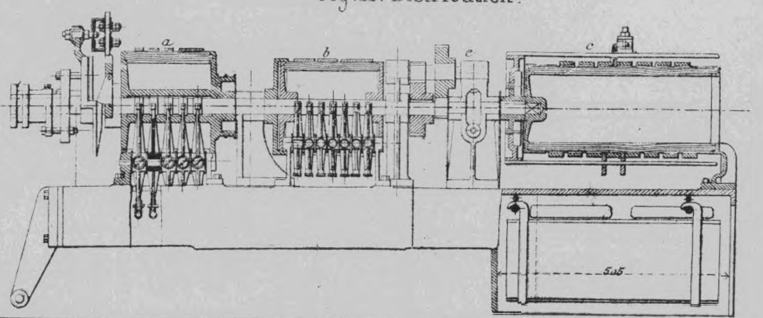


Fig. 17. Distribution.



# EXCAVATEUR A VAPEUR.

**Bucyrus Steam Shovel And Dredge Company.**

*(Fig 1 à 5)*

Fig. 1. Elévation

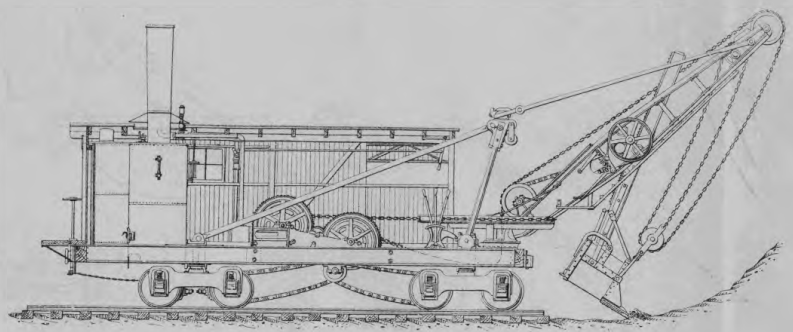


Fig. 2. Elévation vue de bout

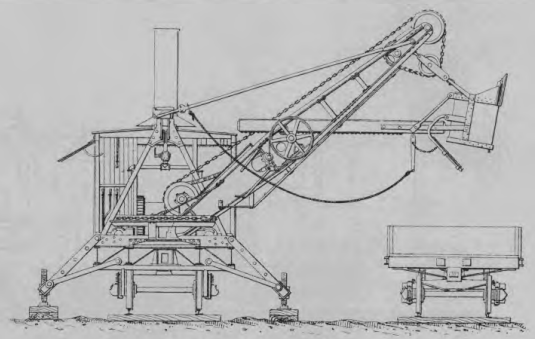


Fig. 3. Plan

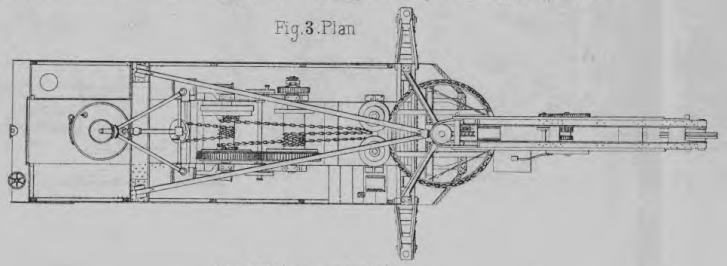


Fig. 4. Détails

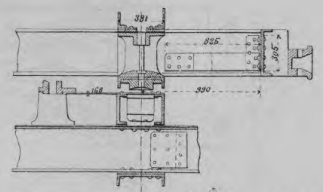


*Fig. 6 et 7.* **Ascenseur Reno.**

Fig. 6. Elévation de côté.

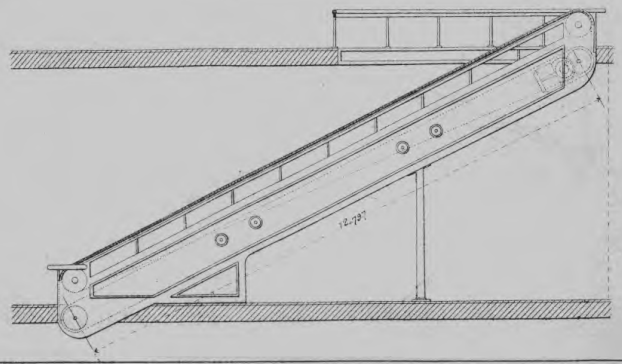


Fig. 7. Détails.

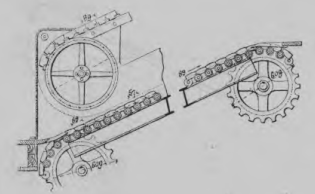
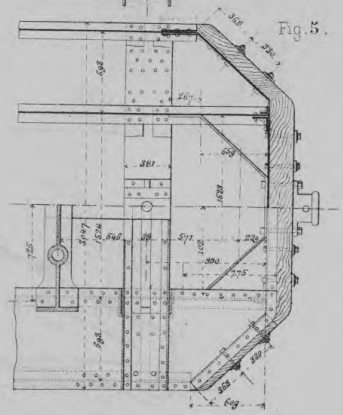


Fig. 5.



## Cabestans et Treuils à vapeur Hyde.

*Fig. 1 à 13.*

Fig.1.

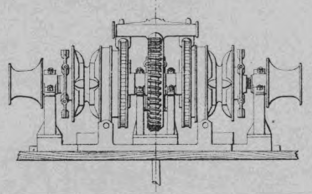
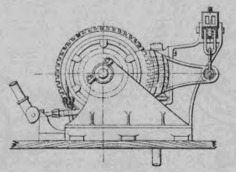
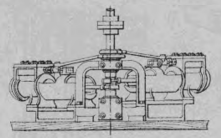


Fig.2.





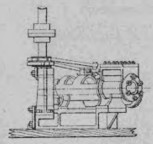


Fig.4.

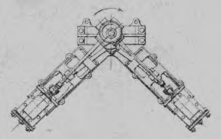


Fig.3.

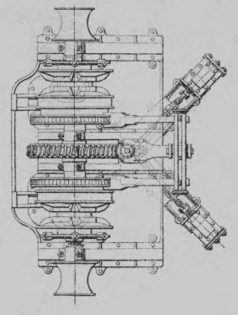


Fig.11.

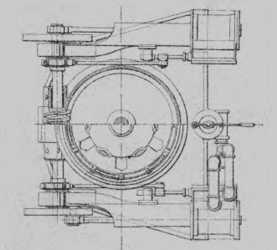


Fig.10.

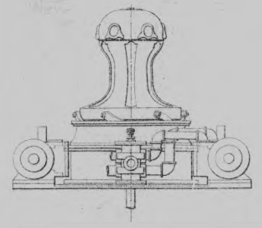


Fig.9.

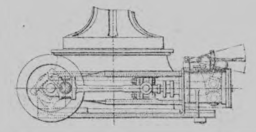


Fig.7.

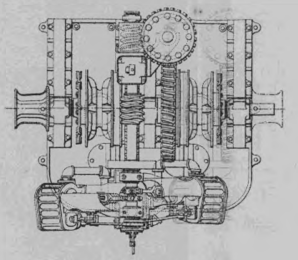


Fig.6.

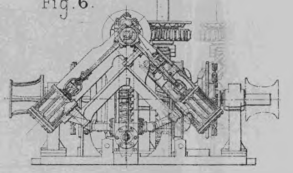


Fig.12.

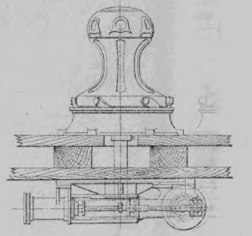
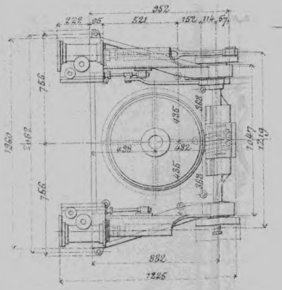


Fig.13.



## Lubrificateur pour Cylindre de locomotive et frein à air.

*Fig. 14 à 16.*

Fig.8.

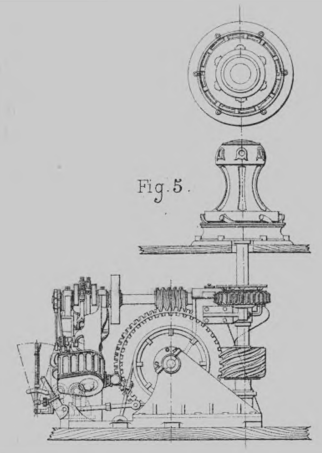


Fig.5.

Fig.14. Coupe CD

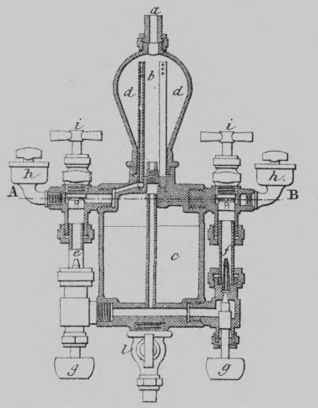


Fig.15. Coupe EF.

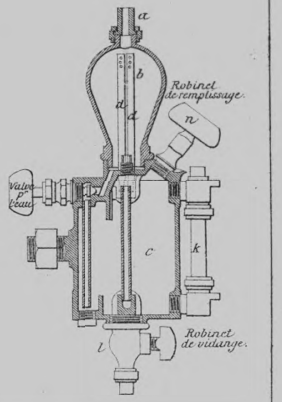



Fig.17. Injecteur.

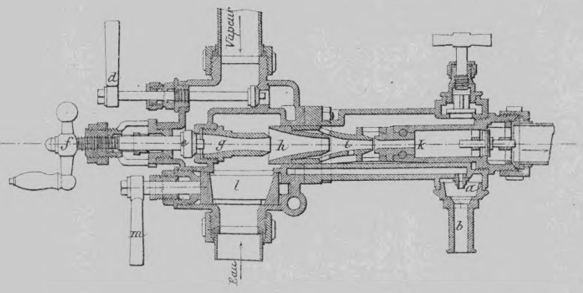



Fig.16. Coupe AB

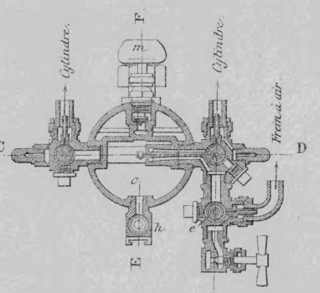


*Fig.1 à 5.* **Bigue hydraulique de 80 tonnes de MM. George Russell And. Co.**

Fig.1.

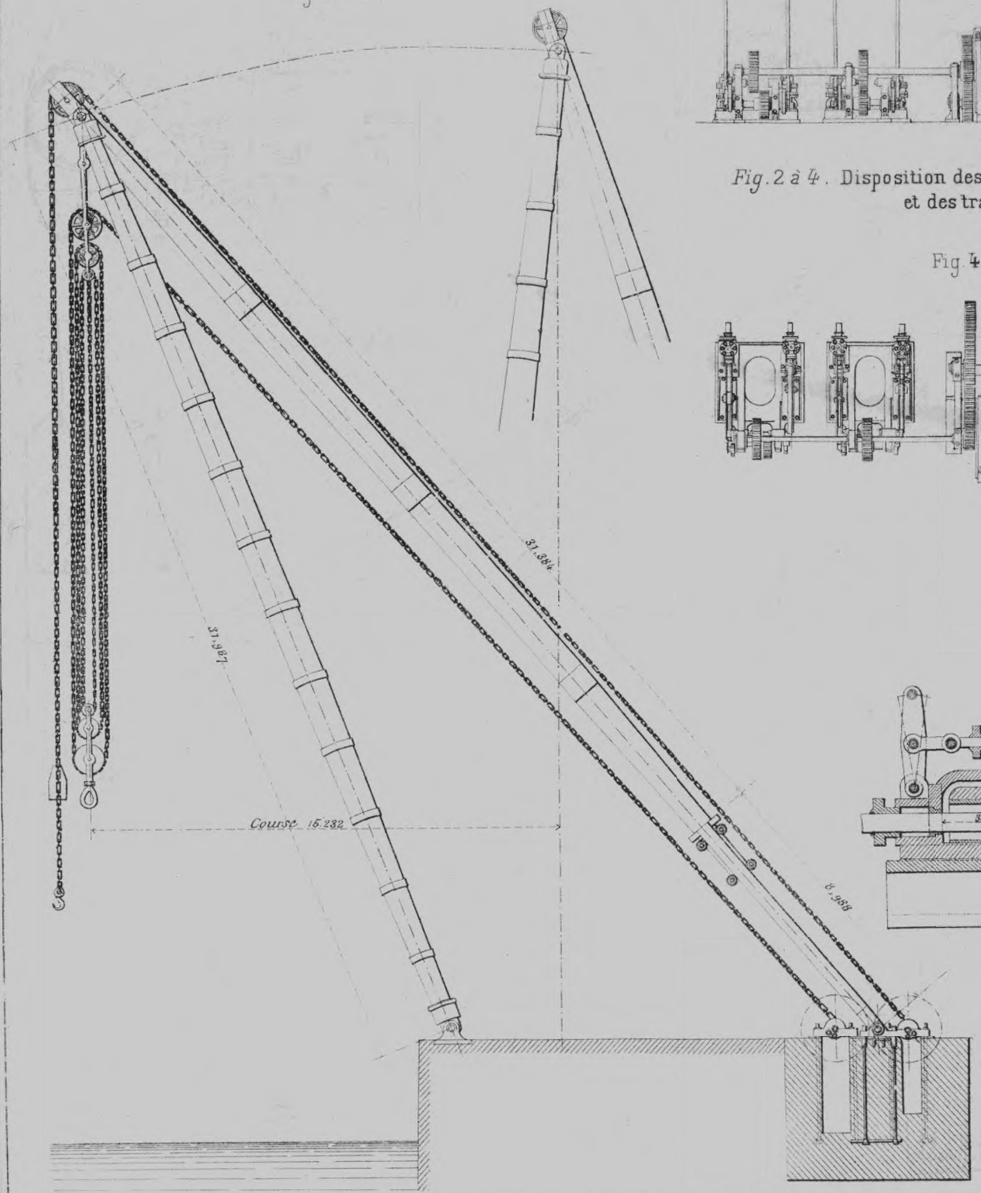



Fig.2. Vue de face.

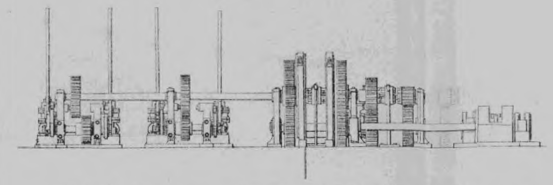


Fig.3. Vue de bout.

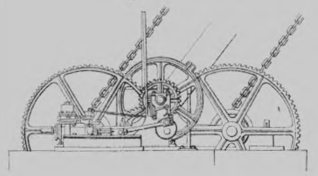


*Fig.2 à 4.* **Disposition des machines hydrauliques et des transmissions.**

Fig.4 Plan.




Fig.5.

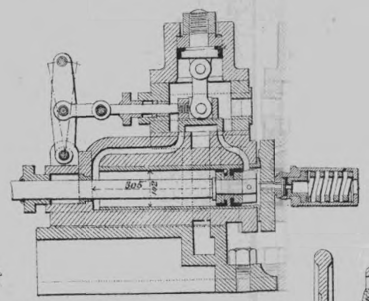



*Fig.6 à 11.* **Grue à vapeur de 7 tonnes.**
**des Ateliers de Construction mécanique Yale et Towne.**

Fig.8. Plan.

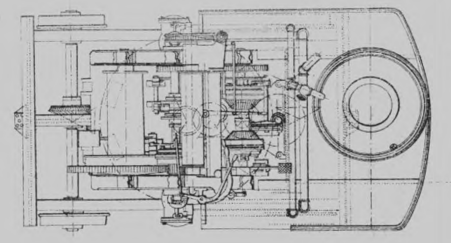


Fig.6. Elévation.

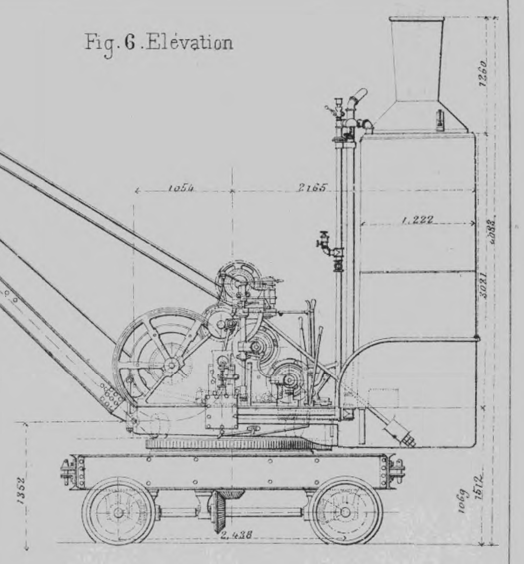



Fig.7. Vue de bout.

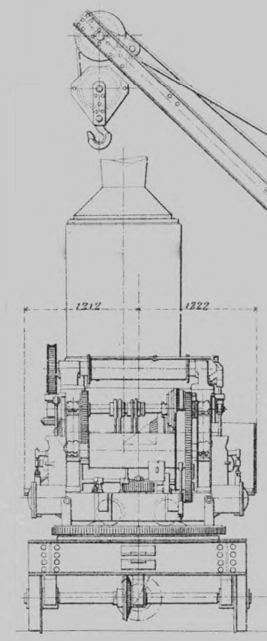



Fig.9.

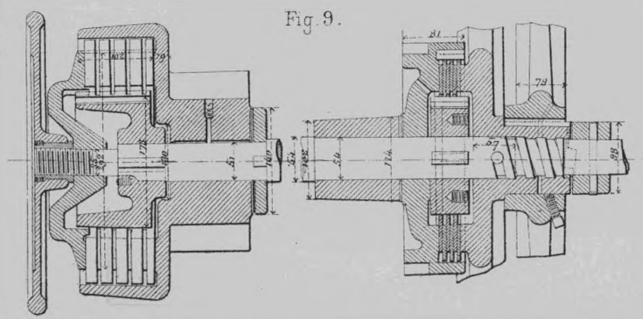


Fig.10.

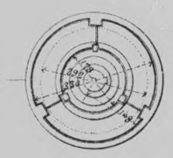


Fig.11.

# WAGON DÉVERSEUR.

Construit par les Ateliers Thacher à New-York.

Fig. 1.

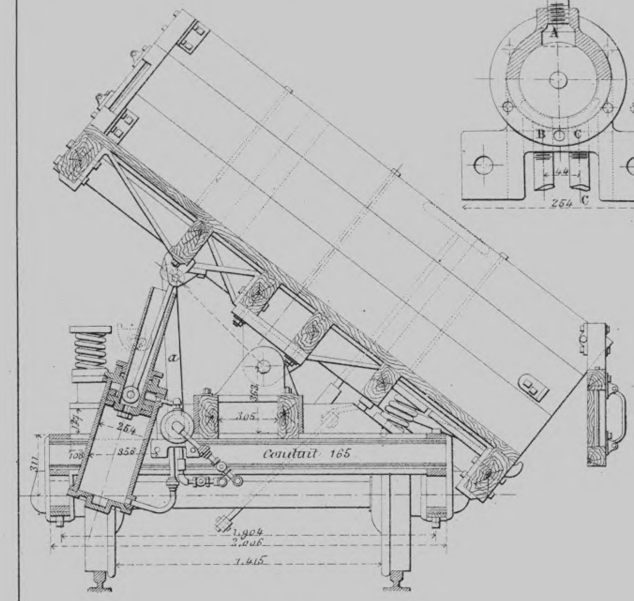



Fig. 2.




Fig. 3.

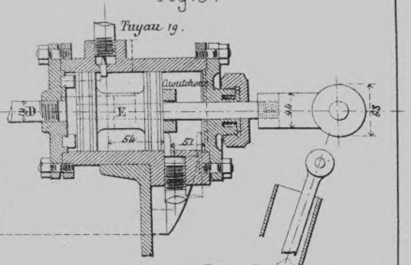



Fig. 4.

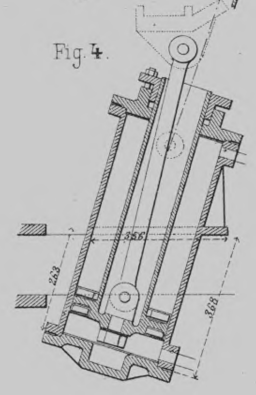



Fig. 5.

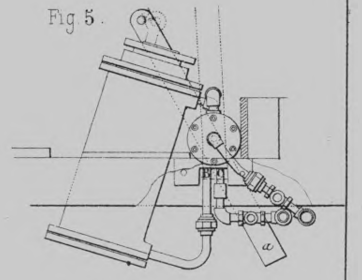



Fig. 6.

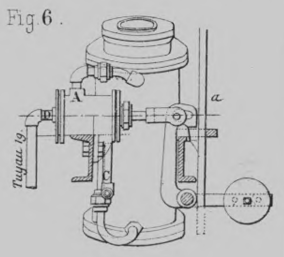
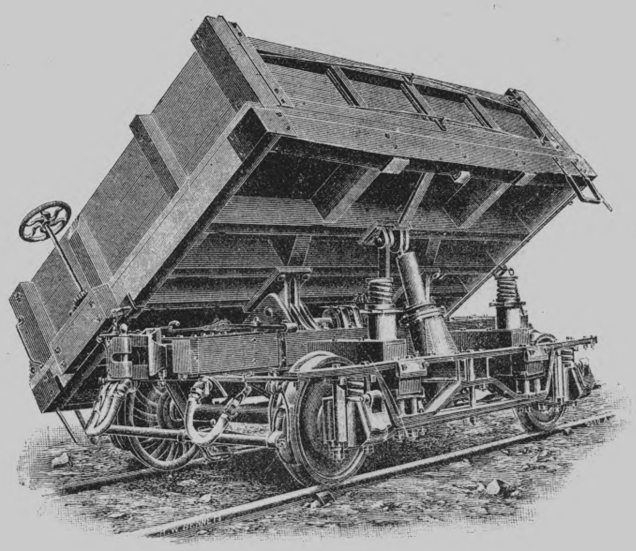



Fig. 7.



# ROUE FERRIS.

Fig. 1. Vue d'ensemble.

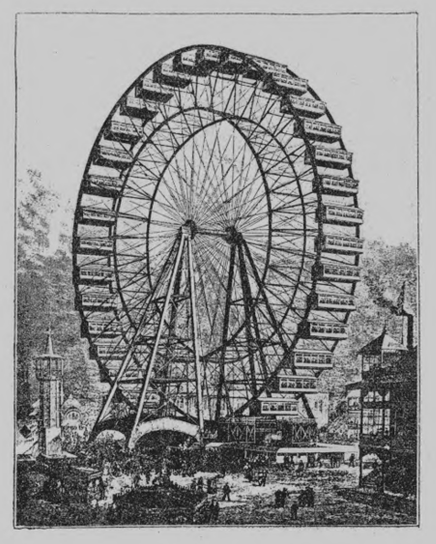


Fig. 2. Elévation.

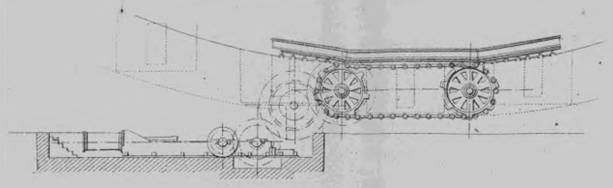


Fig. 9. Arbre.

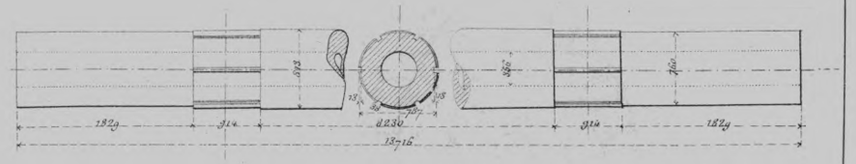


*Fig. 2 et 3*
**Ensemble de la machinerie.**

Fig. 3. Plan.

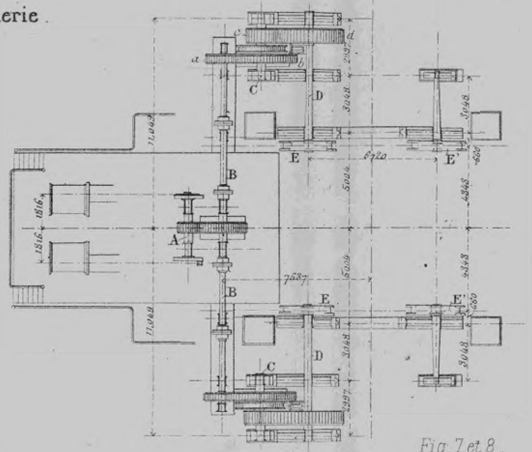


*Fig. 10 et 11.* **Pylone.**

Fig. 10.

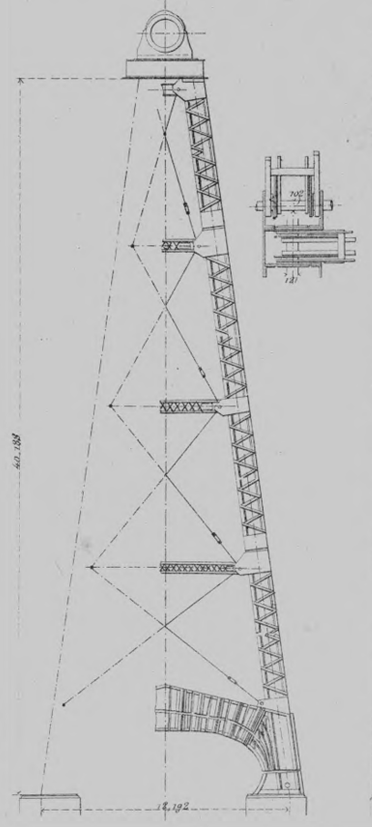


Fig. 11.

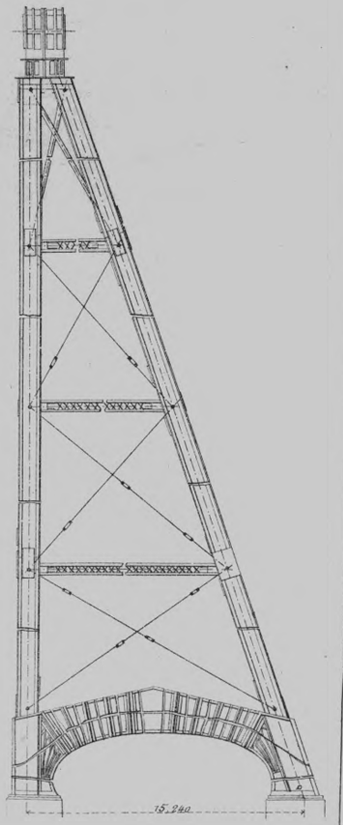


Fig. 4. Plan.

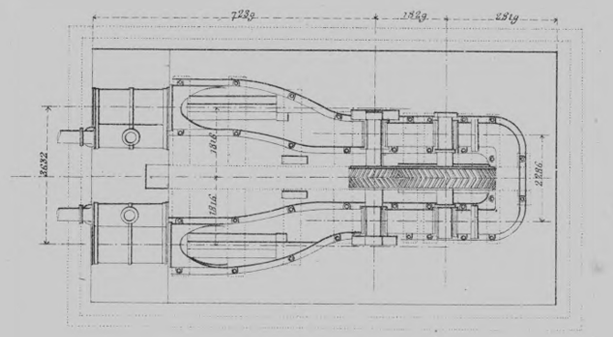


*Fig. 4. 5. 6.*
**Machine de la Roue Ferris.**

*Fig. 7 et 8.*
**Palier.**

Fig. 7. Elévation.

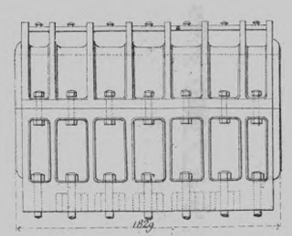


Fig. 8. Coupe.

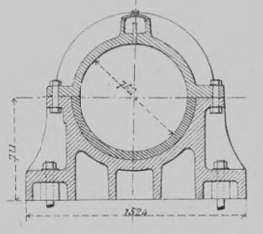


Fig. 5. Elévation.

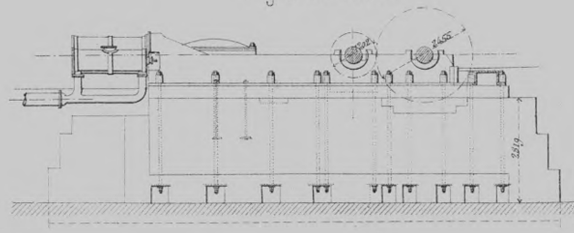
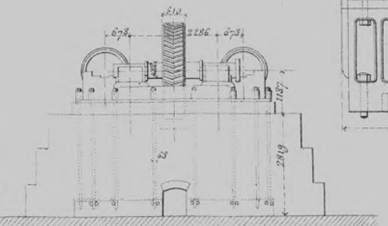


Fig. 6. Vue de bout.



*Diamètre de la roue* ..... 76m,115
*Nombre de voitures* ..... 36
*id.* *de places* ..... 1440

# MARTEAU PILON DE 125 TONNES.

des Forges de Bethlehem.

Fig. 1.

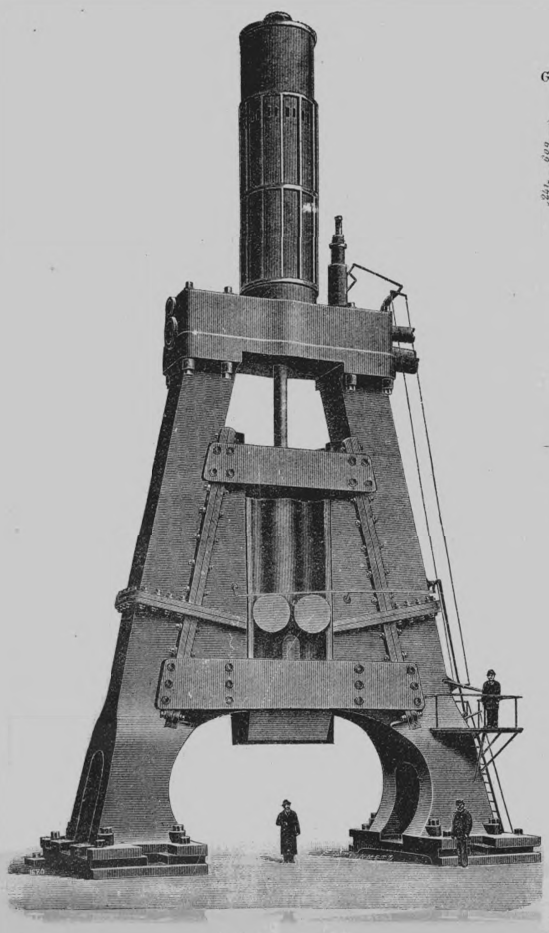


Fig. 2.

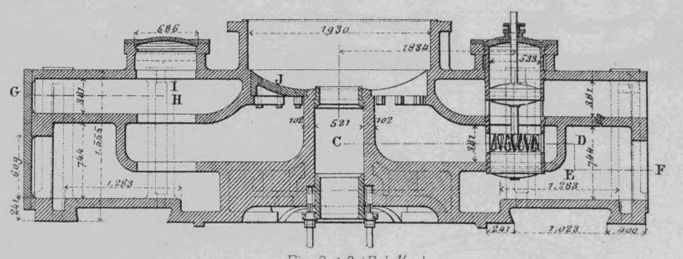


Fig. 2 et 3. (Ech. 1/50).

Fig. 3.

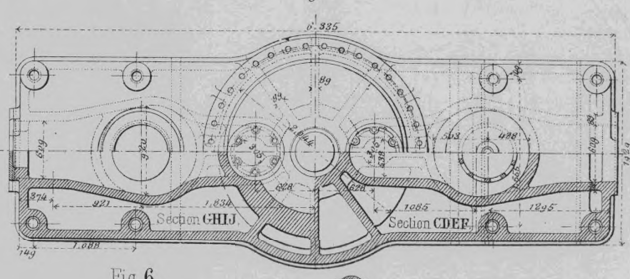



Fig. 6.

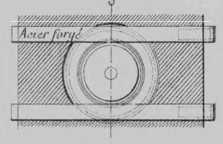



Fig. 7.

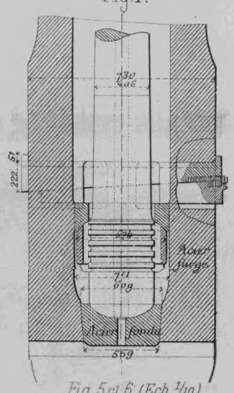



Fig. 5 et 6. (Ech. 1/10).

Fig. 4.

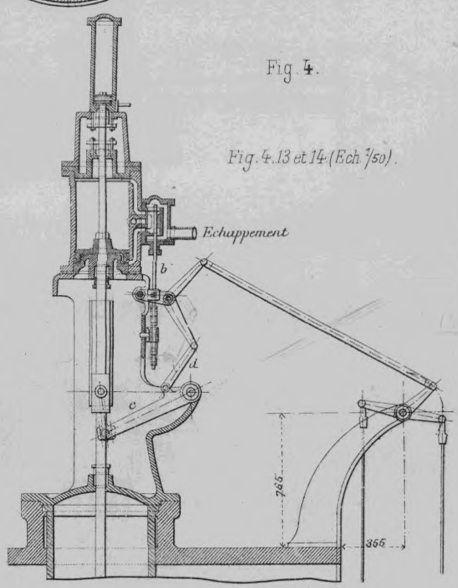



Fig. 4. 13 et 14. (Ech. 1/50).

Fig. 7.

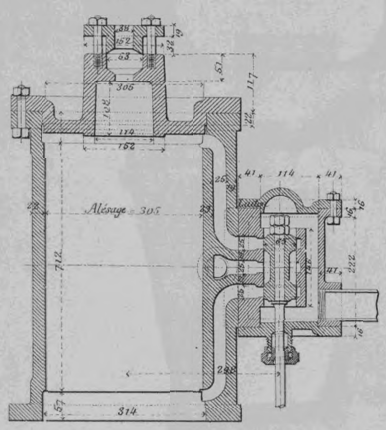



Fig. 9.

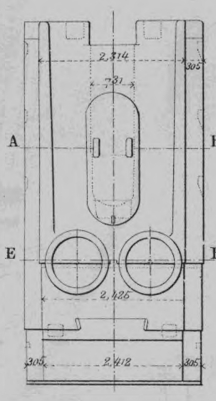


Fig. 10.

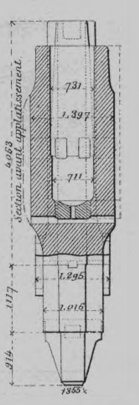



Fig. 13.

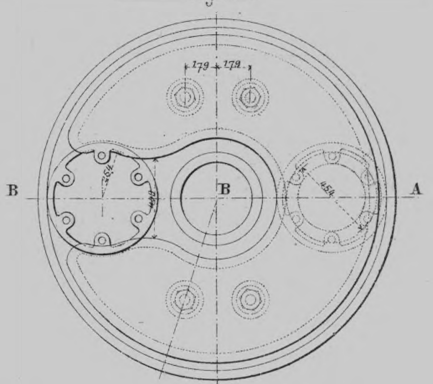


Fig. 8.

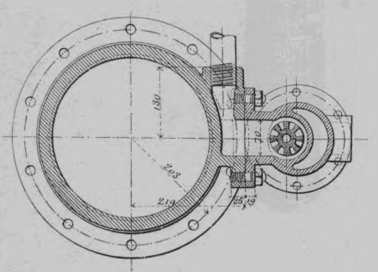


Fig. 7 et 8. (Ech. 1/10).

Fig. 11.
Section EF.

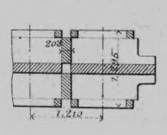


Fig. 12.
Section AB.

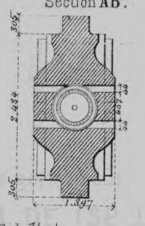


Fig. 14.

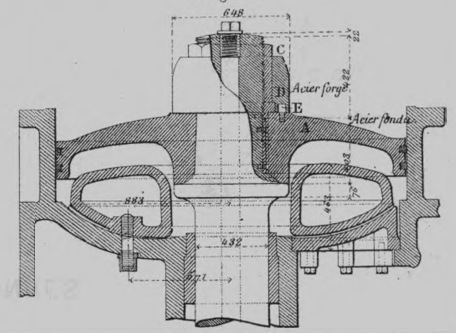



Fig. 9. 10, 11 et 12. (Ech. 1/10).

# TRANSMISSIONS ET VOLANTS.

Fig. 1. Transmission de la Jackson Refrigerator Co
Echelle ($\frac{1}{30}$)

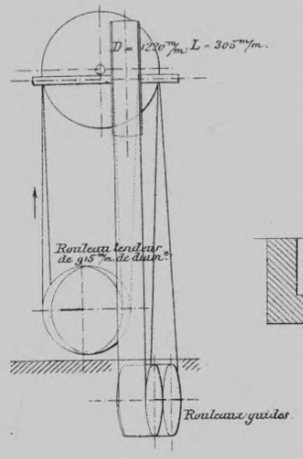



Fig. 2. Transmission de la Steel et Johnson Mfg. Co.
Echelle $\frac{1}{30}$

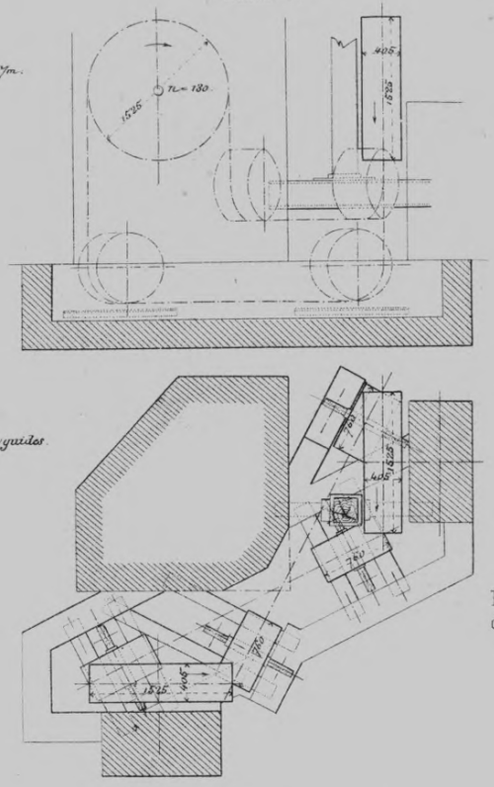



Fig. 5. Transmission de la Cie Amoskeag Manchester.
Echelle ($\frac{1}{100}$)

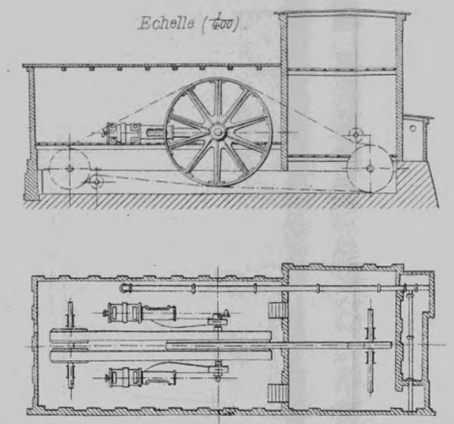


Fig. 8 et 9. Volant de la Cie Amoskeag Manchester.
Echelle $\frac{1}{30}$

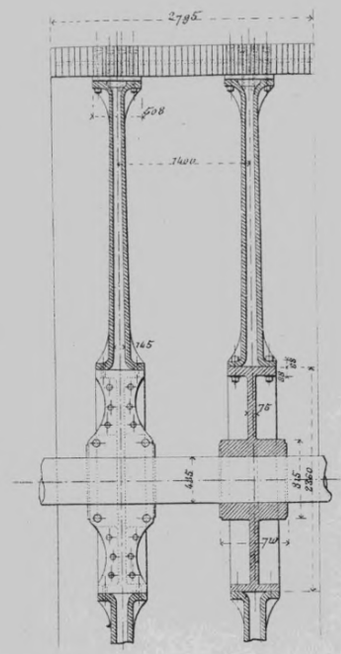



Fig. 8. Jante du Volant de la Cie Amoskeag Manchester.
Echelle ($\frac{1}{30}$)

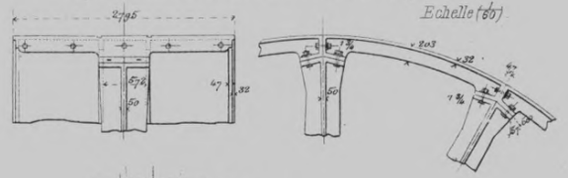



Fig. 9
Echelle $\frac{1}{30}$

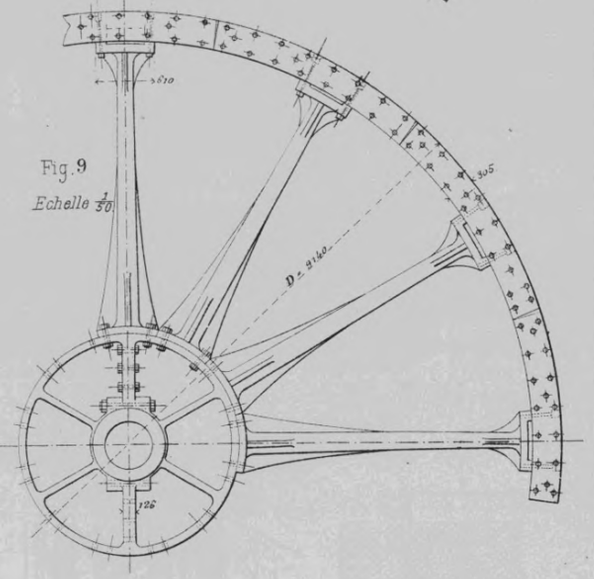



Fig. 7. Transmission Amour's Grain Elevator Co.
Ech. $\frac{1}{300}$

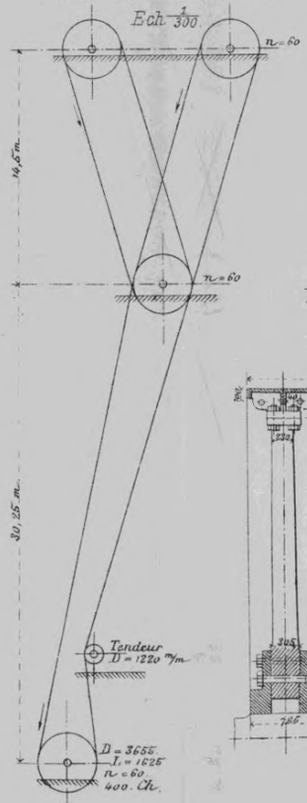



Fig. 6. Transmission du moulin Washburn.
Echelle $\frac{1}{300}$

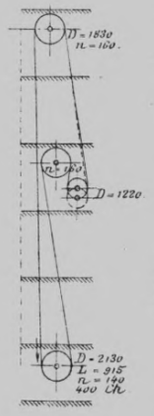



Fig. 3 et 4. Transmission du moulin de l'Anchor; Minneapolis

Fig. 3.

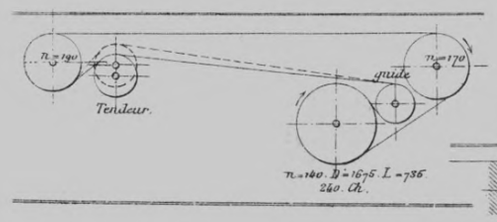



Fig. 4.

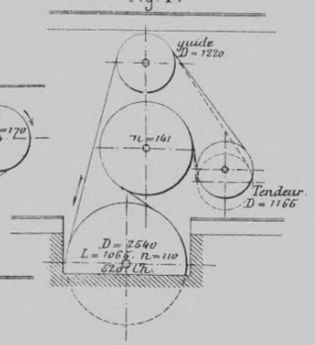



Fig. 10. Volant de la Cie Américaine des Cables; Cleveland
Echelle $\frac{1}{30}$

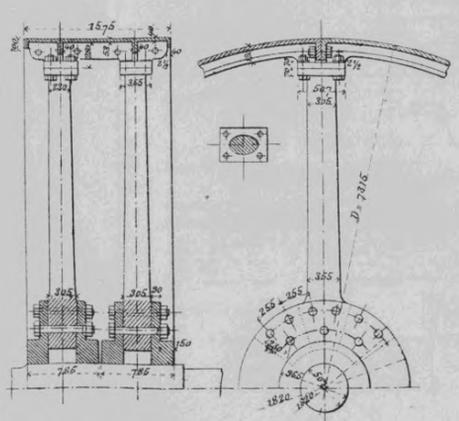



Fig. 11. Volant de la Cie de Construction Walker; Cleveland

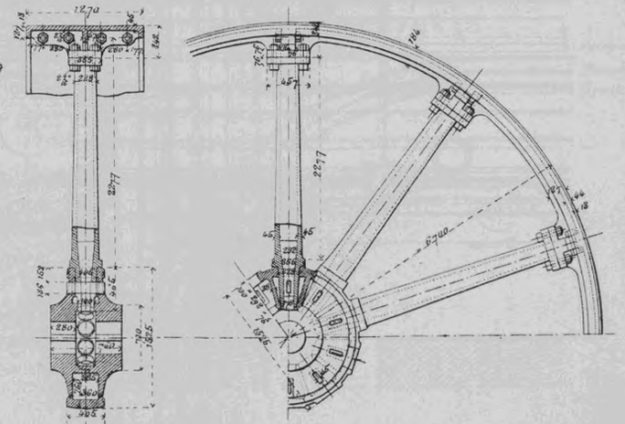


Fig. 1. Coupe en travers de la Rue Adams.

(Echelle 1/150.)

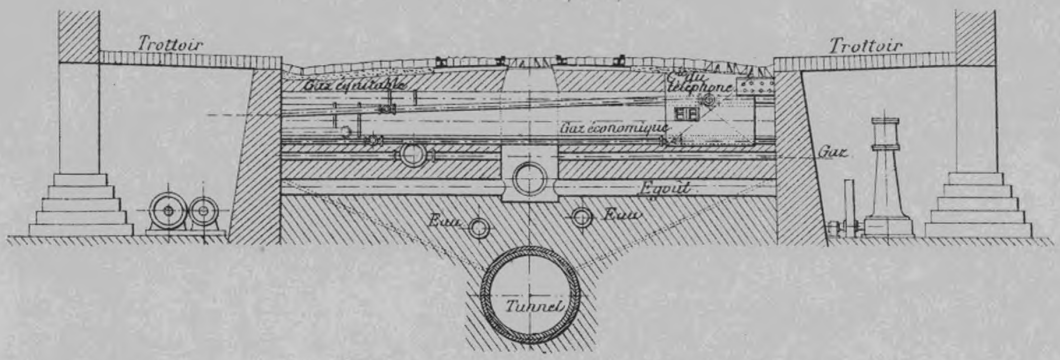



Fig. 2. Coupe en travers de la Rue Dearboru.

(Echelle 1/150.)

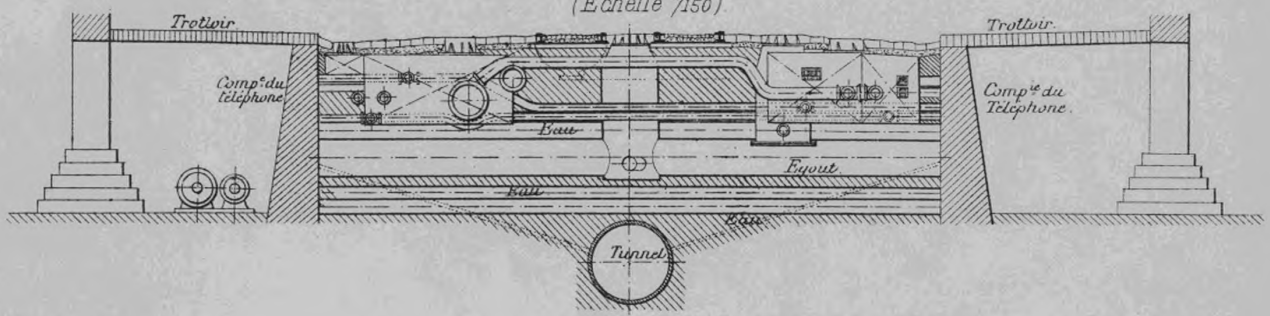



Fig. 3. Plan du croisement des rues Adams et Dearboru.

(Echelle 1/250.)