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DIE NEUEN WASSERHALTUNGS-MASCHINEN

AUF DEN

DECHEN-SCHÄCHTEN BEI SAARBRÜCKEN,

DER

TIEFBAU-ANLAGE ZU RÜDERSDORF

UND DER

FERDINANDS-GRUBE BEI KATTOWITZ

VON

A. HÖRMANN,

PROFESSOR UND LEHRER DER MASCHINENKUNDE
AN DER KÖNIGL. BERG-AKADEMIE
ZU BERLIN



ATLAS

XXIX TAFELN IN DOPPELFOLIO

1912. 1500.

BERLIN

VERLAG VON ERNST & KORN
(GROPIUSSCHE BUCH- UND KUNSTHANDLUNG)

1874



100275 N/1

Ins. 23917.

INHALT.

Wasserhaltungsmaschinen-Anlage der Königl. Steinkohlengrube Dechen bei Saarbrücken.

Tafel I—XVIII.

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- II—VII. Doppeltwirkende 150pferdige Ehrhardt'sche Balancier-Wasserhaltungsmaschine und zwar:
 - II. Hauptansicht.
 - III. Vorderansicht und Grundrifs.
 - IV. Ventilkasten.
 - V. Dampfcylinder und Steuerung.
 - VI. Condensator und Katarakte.
 - VII. Luftpumpe und Kesselspeisepumpe.
- VIII—XIV. Einfachwirkende 150 pferdige Woolf'sche Balancier - Wasserhaltungsmaschine und zwar
 - VIII. Hauptansicht.
 - IX. Vorderansicht.
 - X. Grundrifs.
 - XI. Ventilkasten.
 - XII. Steuerung und Katarakte.
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- XV. Pumpe und Pumpengestänge der doppeltwirkenden Ehrhardt'schen Maschine.
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- XVII. 28zöllige Druckpumpe der einfachwirkenden Woolf'schen Maschine.
- XVIII. Die Schachtgestänge der beiden 28zölligen Druckpumpen für die Ehrhardt'sche und für die einfachwirkende Woolf'sche Maschine.

Wasserhaltungsmaschinen-Anlage für den Tiefbauschacht der fiscalischen Steinbrüche zu Rüdersdorf.

Tafel XIX—XXIII.

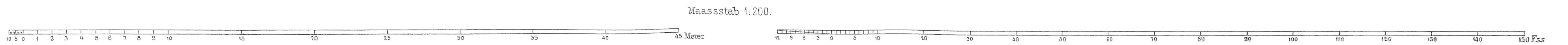
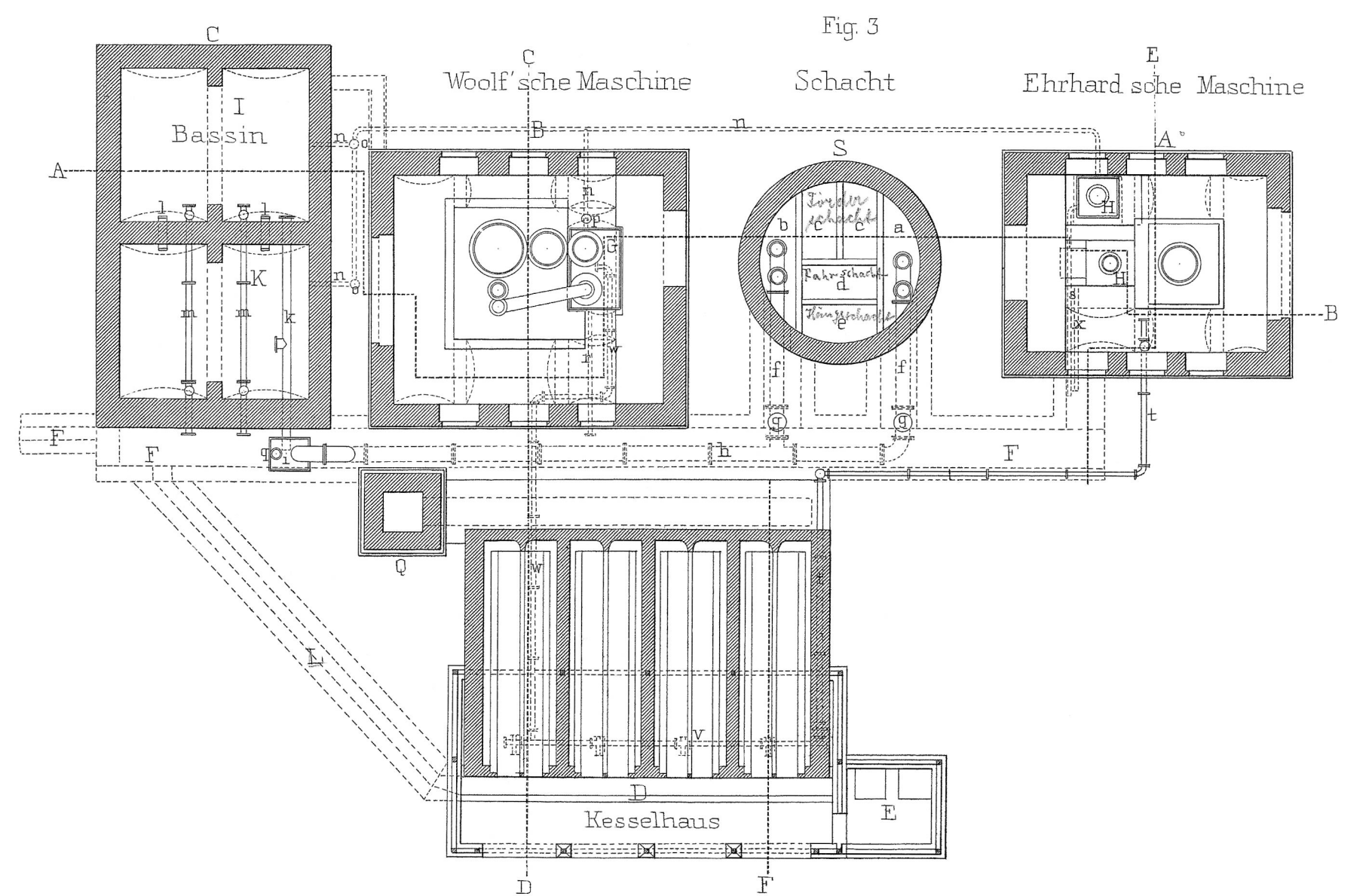
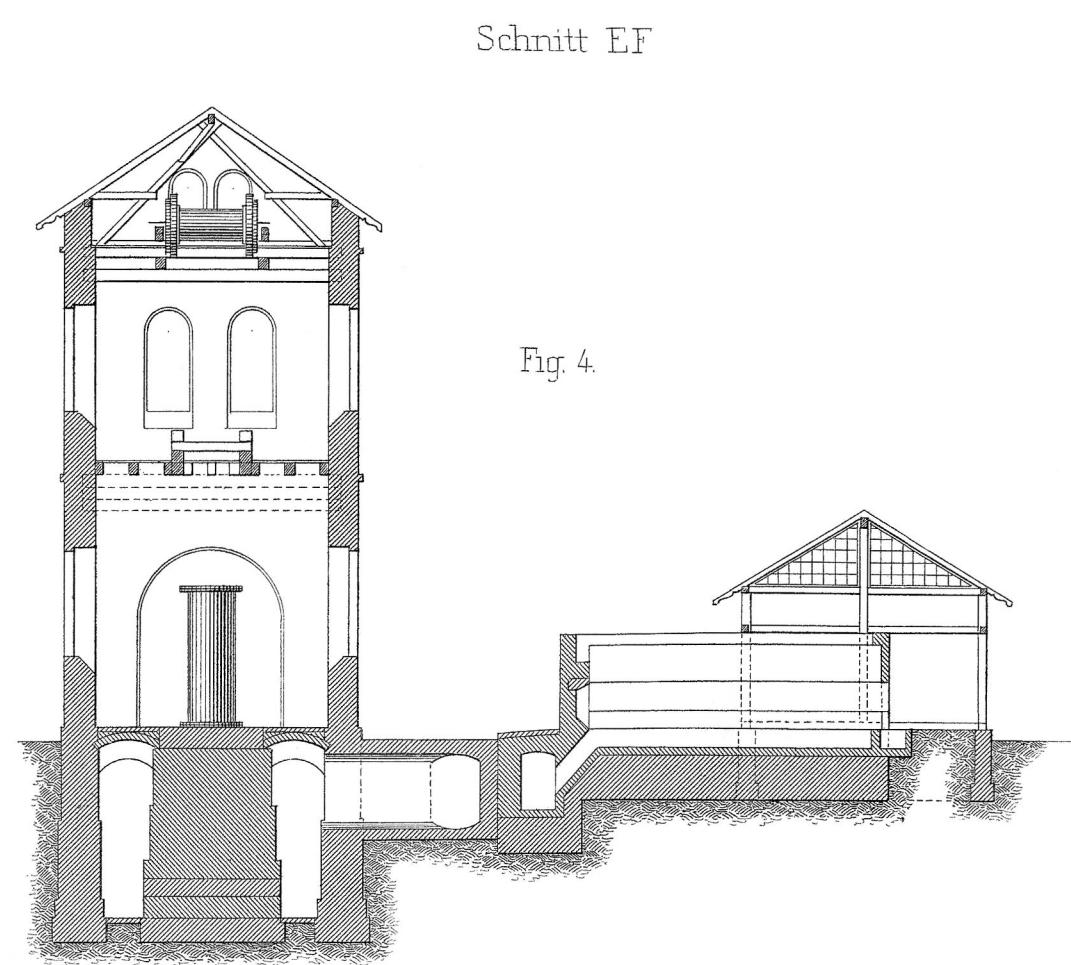
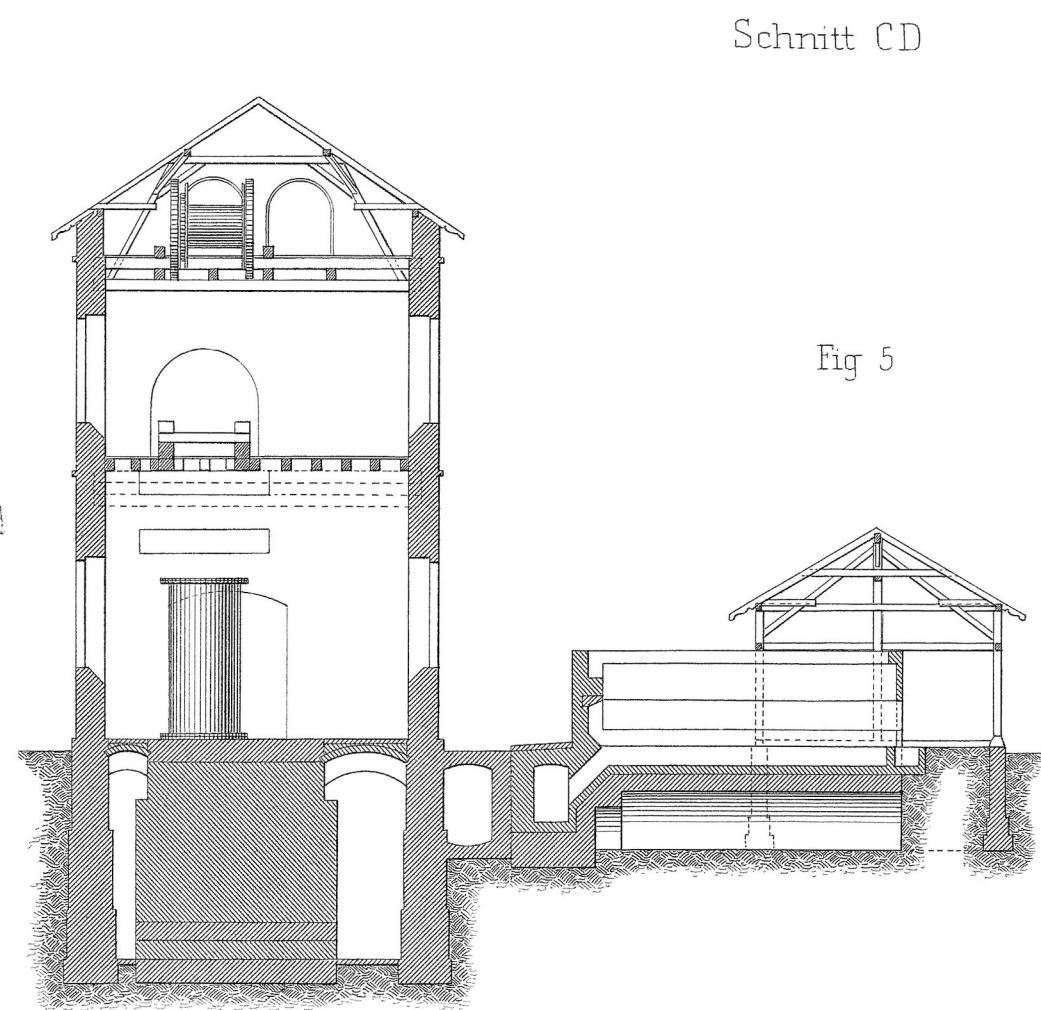
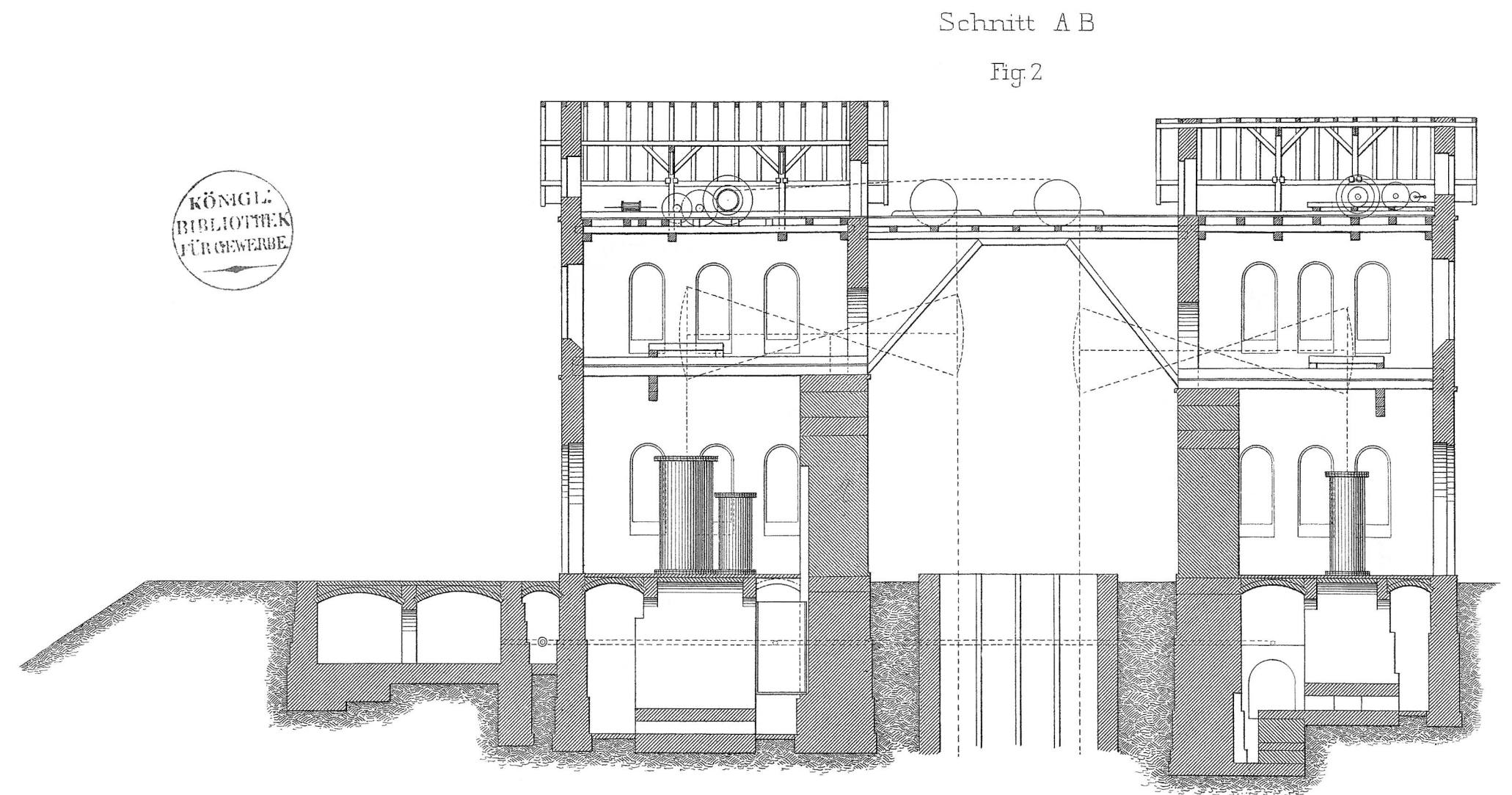
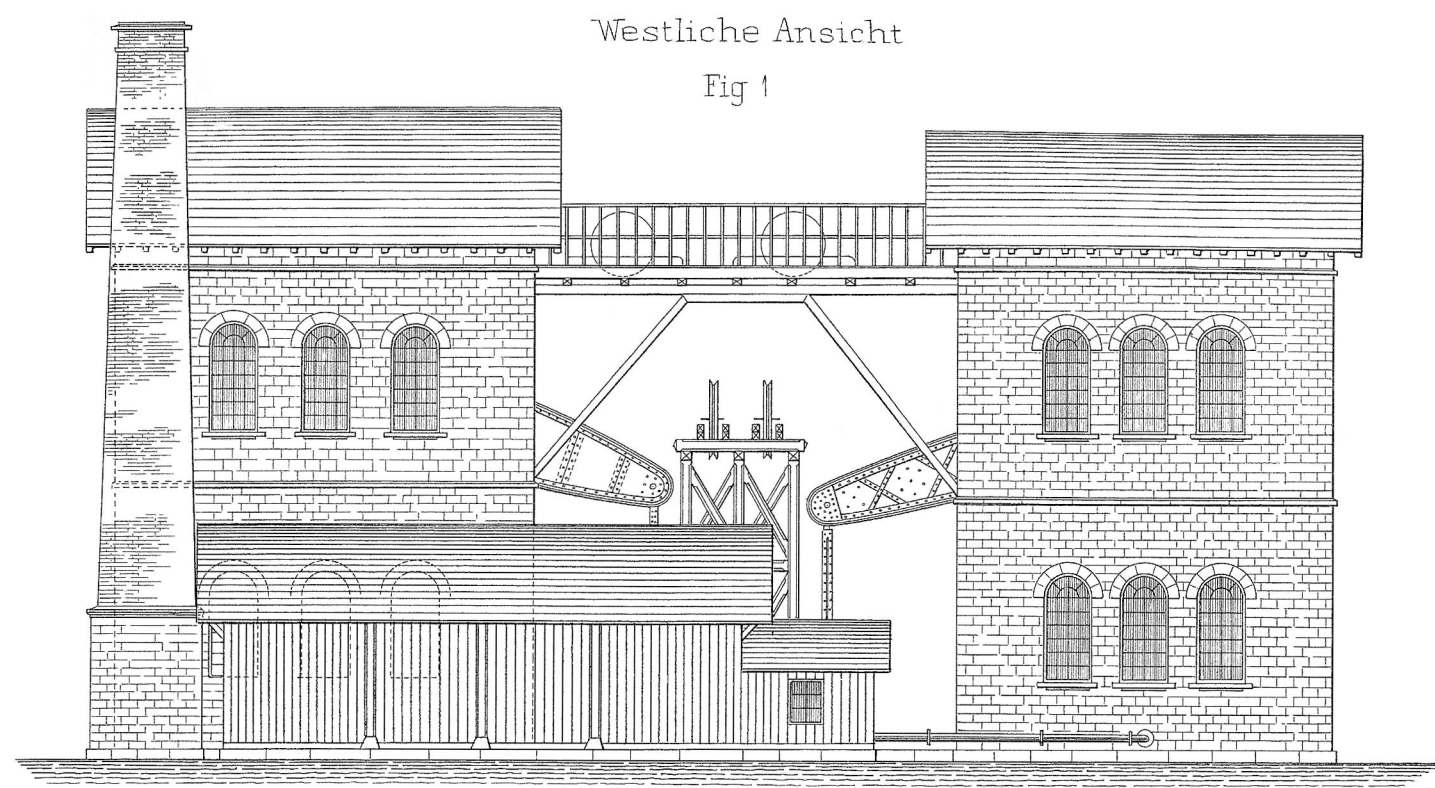
- XIX. Dispositionsplan der einen Pumpe im Schacht.
- XX—XXII. Doppeltwirkende 88 pferdige Woolf'sche Wasserhaltungsmaschine und zwar
 - XX. Hauptansicht und Querschnitte der Maschine.
 - XXI. Horizontalschnitte der Maschine und Darstellung der Steuerung.
 - XXII. Ventile und Ventilkasten.
- XXIII. Detailzeichnung der Grubenpumpe und der Stollenpumpe.

Wasserhaltungsmaschinen-Anlage der Ferdinandsgrube bei Kattowitz.

Tafel XXIV—XXIX.

- XXIV. Disposition der Saug- und Drucksätze im Schacht.
 - XXV—XXVII. Rotirende doppeltwirkende 700pferdige Woolf'sche Wasserhaltungsmaschine und zwar
 - XXV. Hauptansicht und Horizontalschnitt.
 - XXVI. Schieber, Schieberkasten und Dampfcylinder.
 - XXVII. Evacuations-Dampfmaschine und Aufstellung der Condensatoren.
 - XXVIII. Oberster Saugsatz.
 - XXIX. Druck- und Saugpumpe.
-

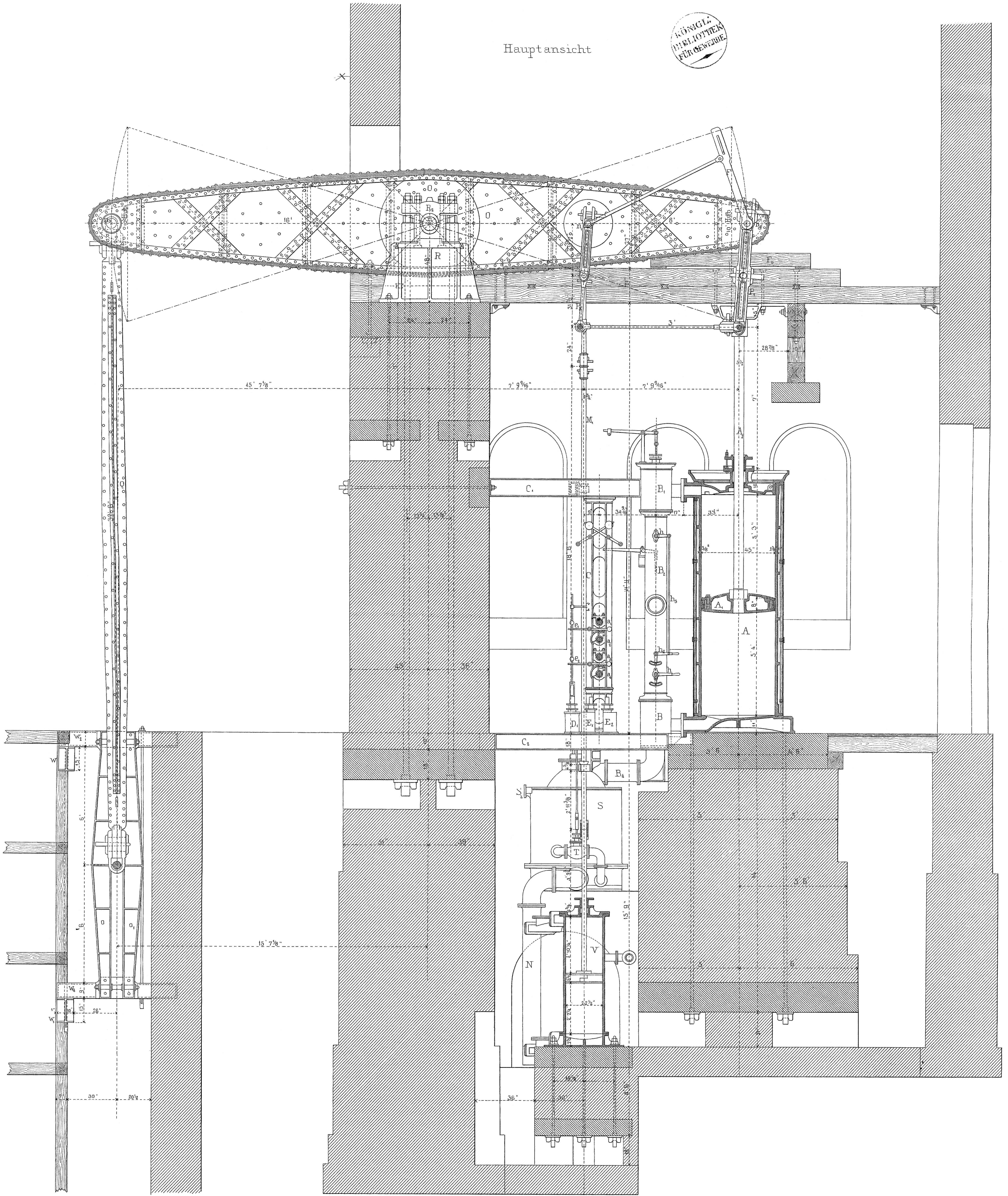
Maschinen und Kesselgebäude



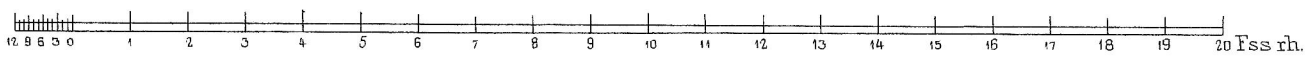
Doppeltwirkende 150 pferdige Ehrhard'sche Balancier-Wasserhaltungsmaschine der Königl. Steinkohlengrube Dechen bei Saarbrücken.

Taf II bis VII.

Hauptansicht



Maaßstab 1:40.



Grundriss

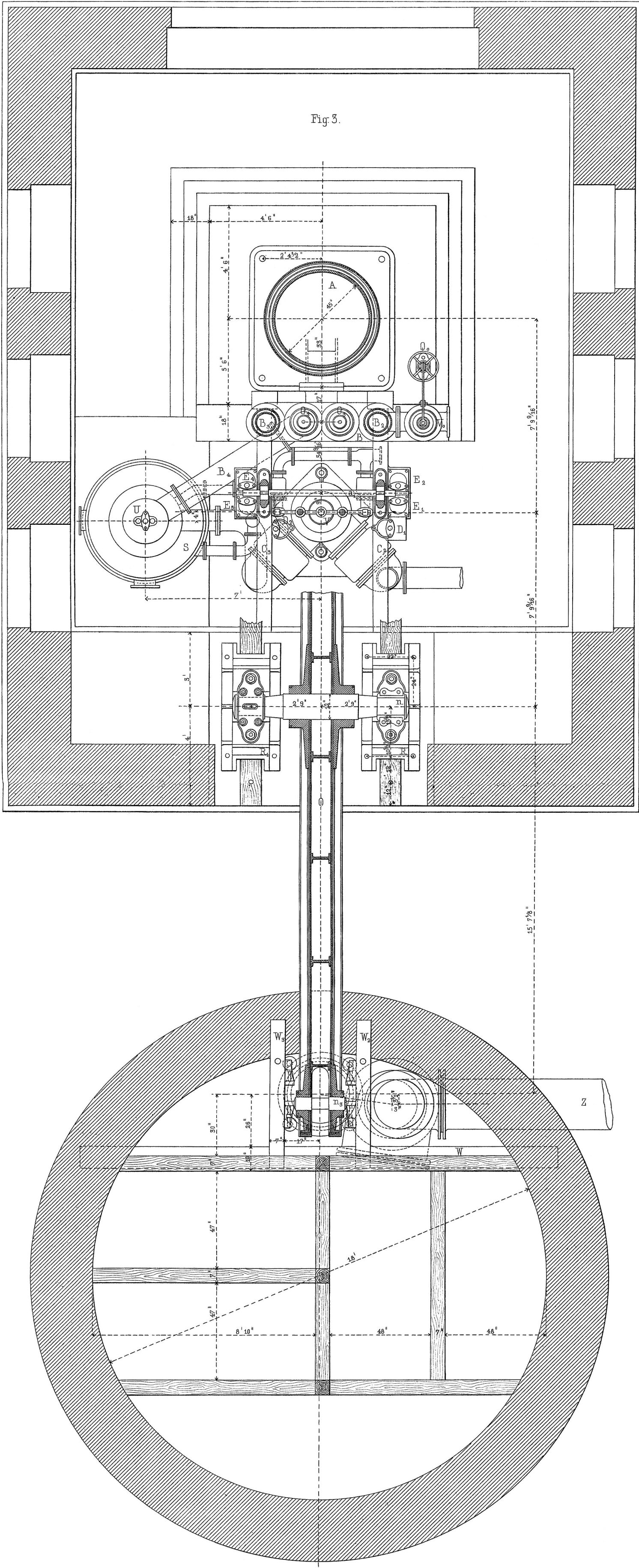


Fig. 5.

Ansicht.

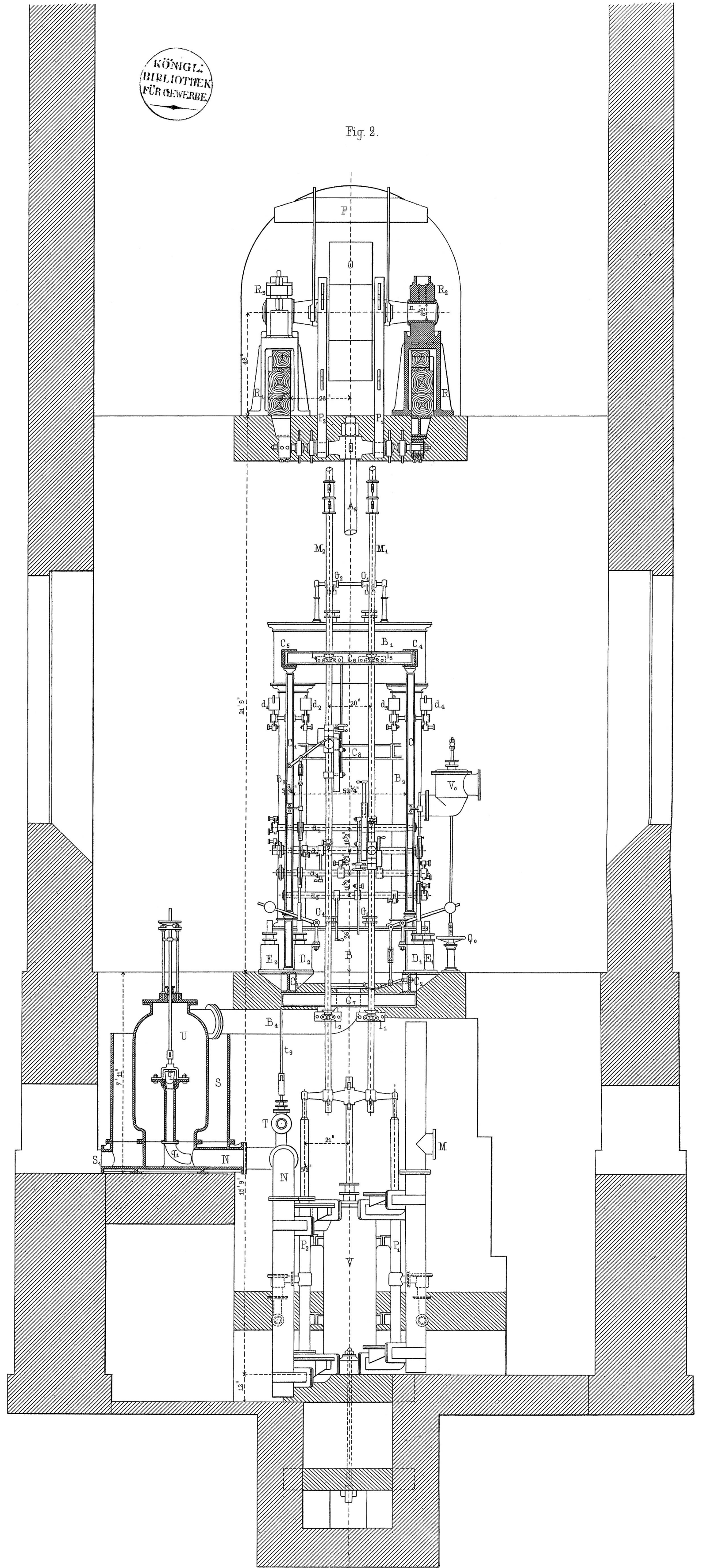
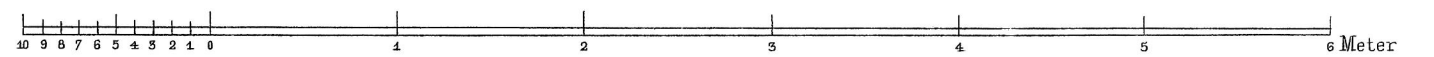
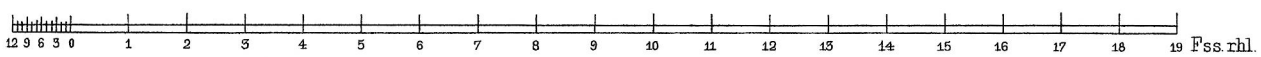
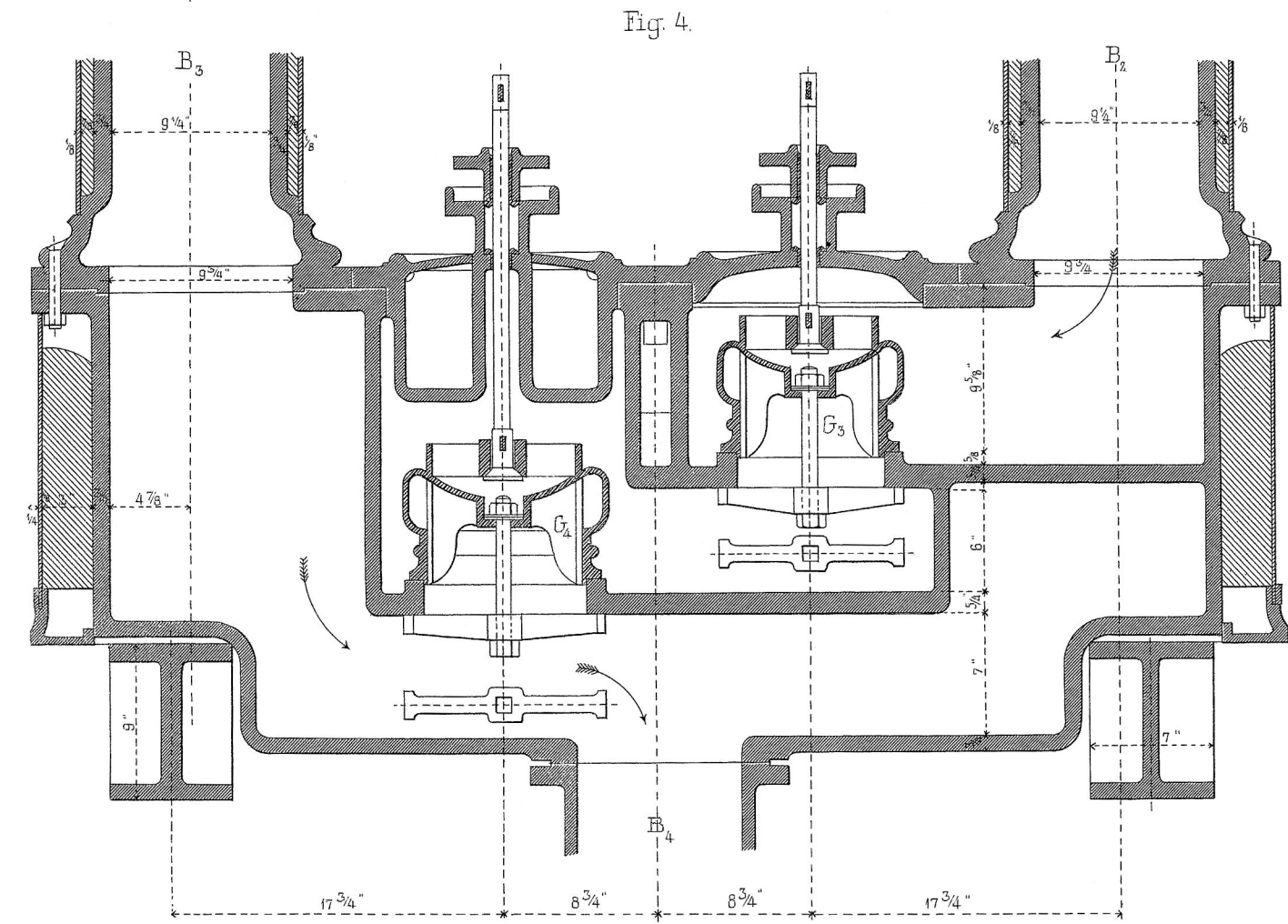
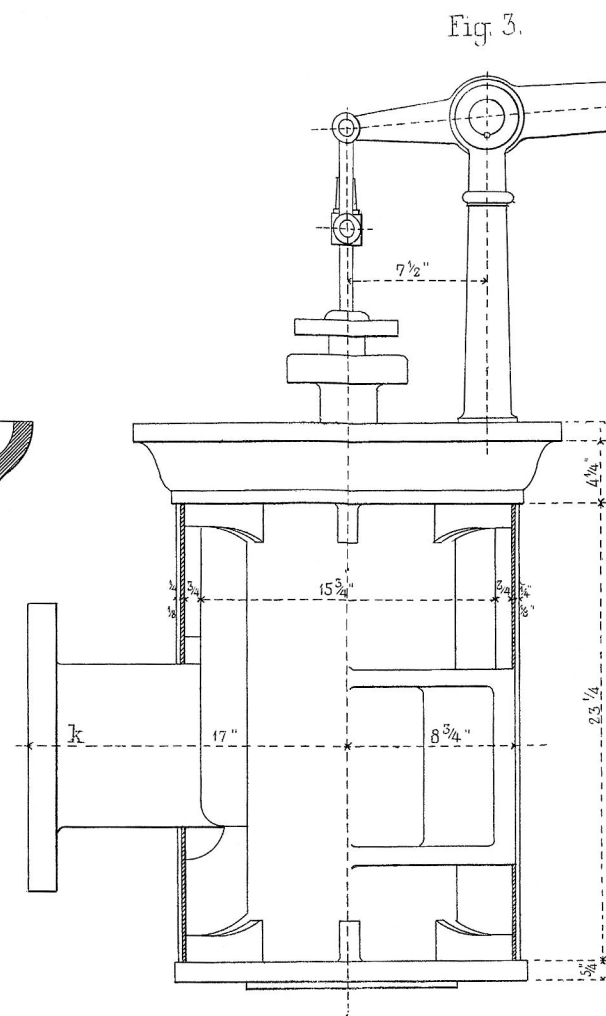
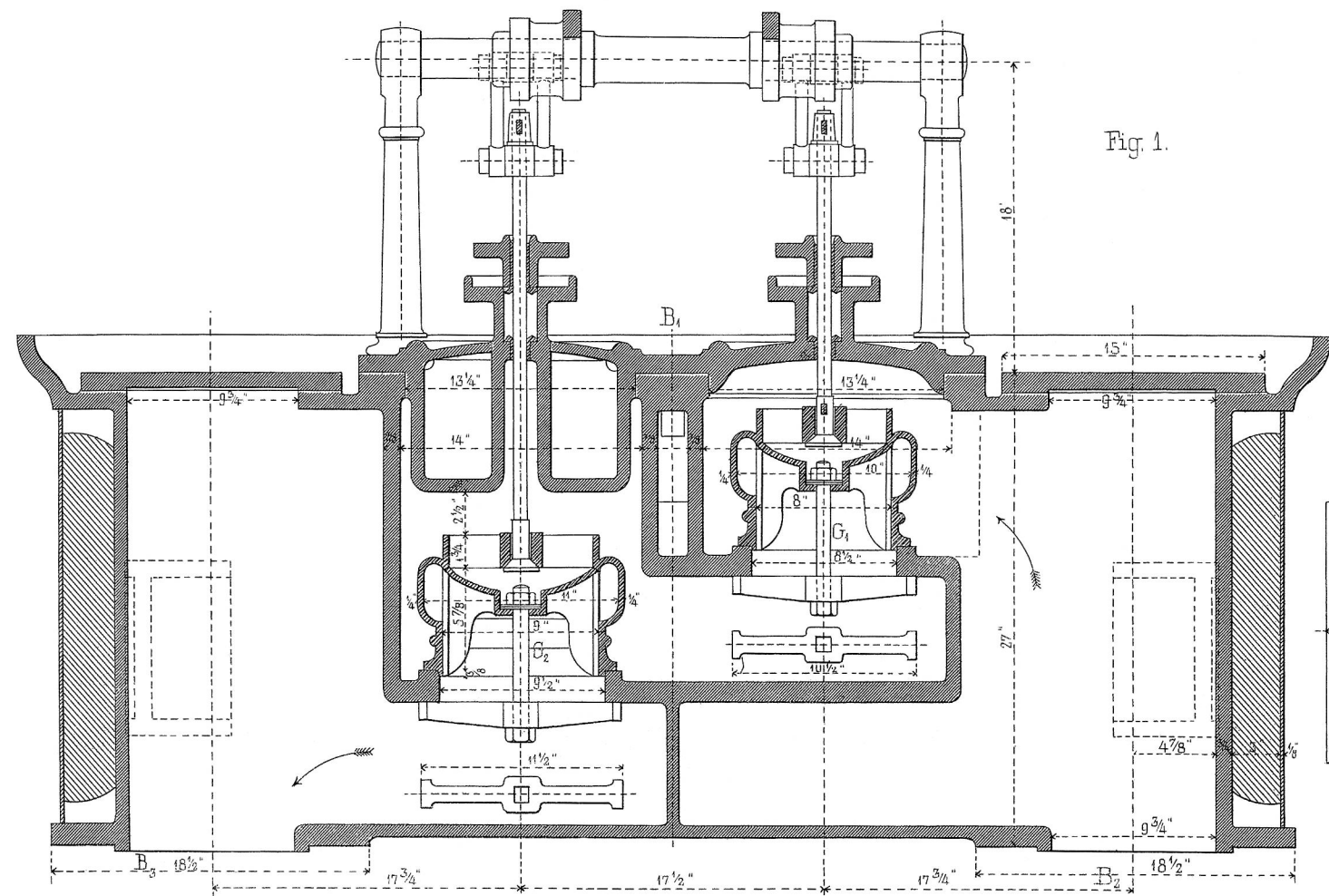


Fig. 2.

Maafstab 1:40





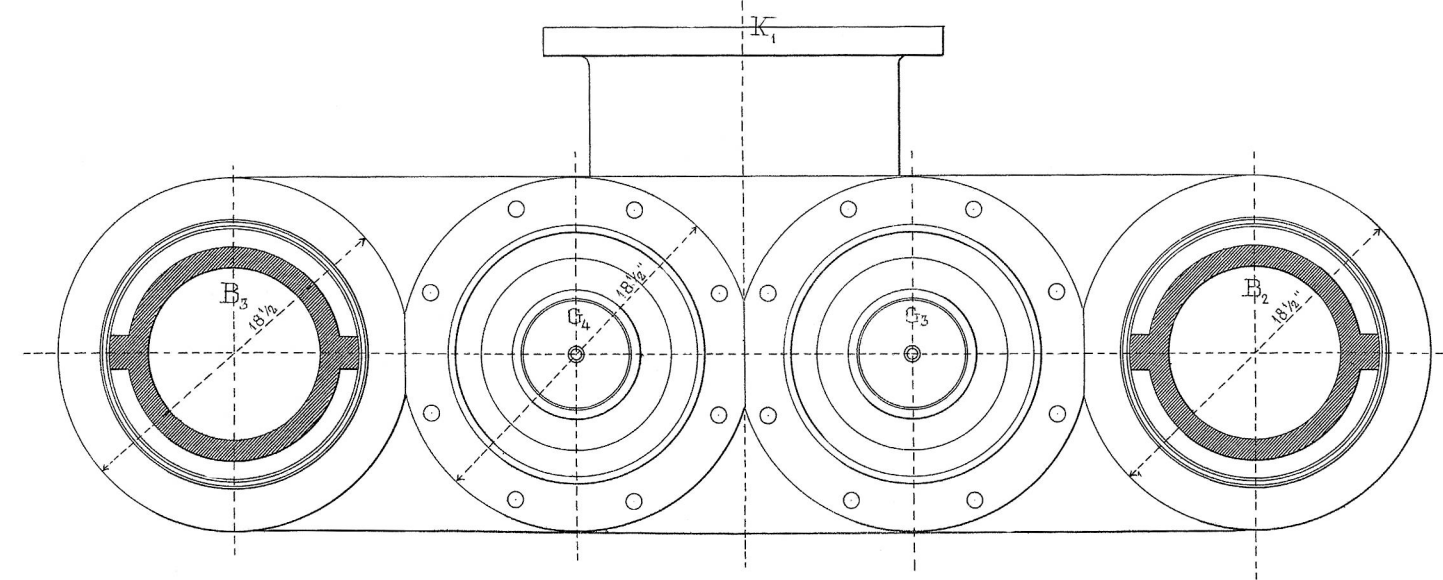
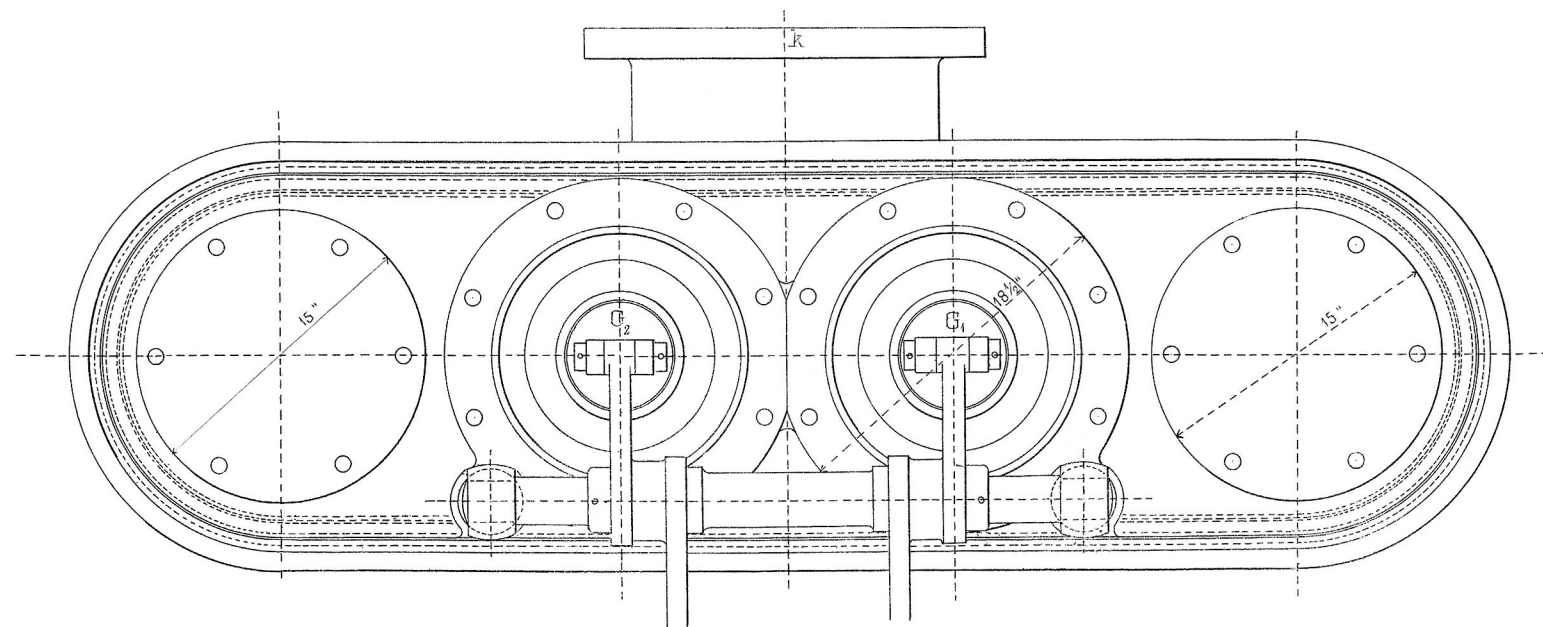
Oberer -

Ventilkasten

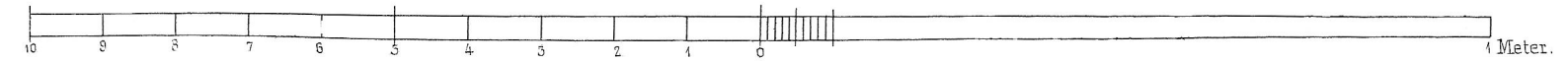
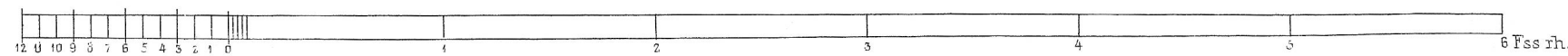
Unterer -

Fig. 2.

Fig. 5.



Maasstab 1:10.



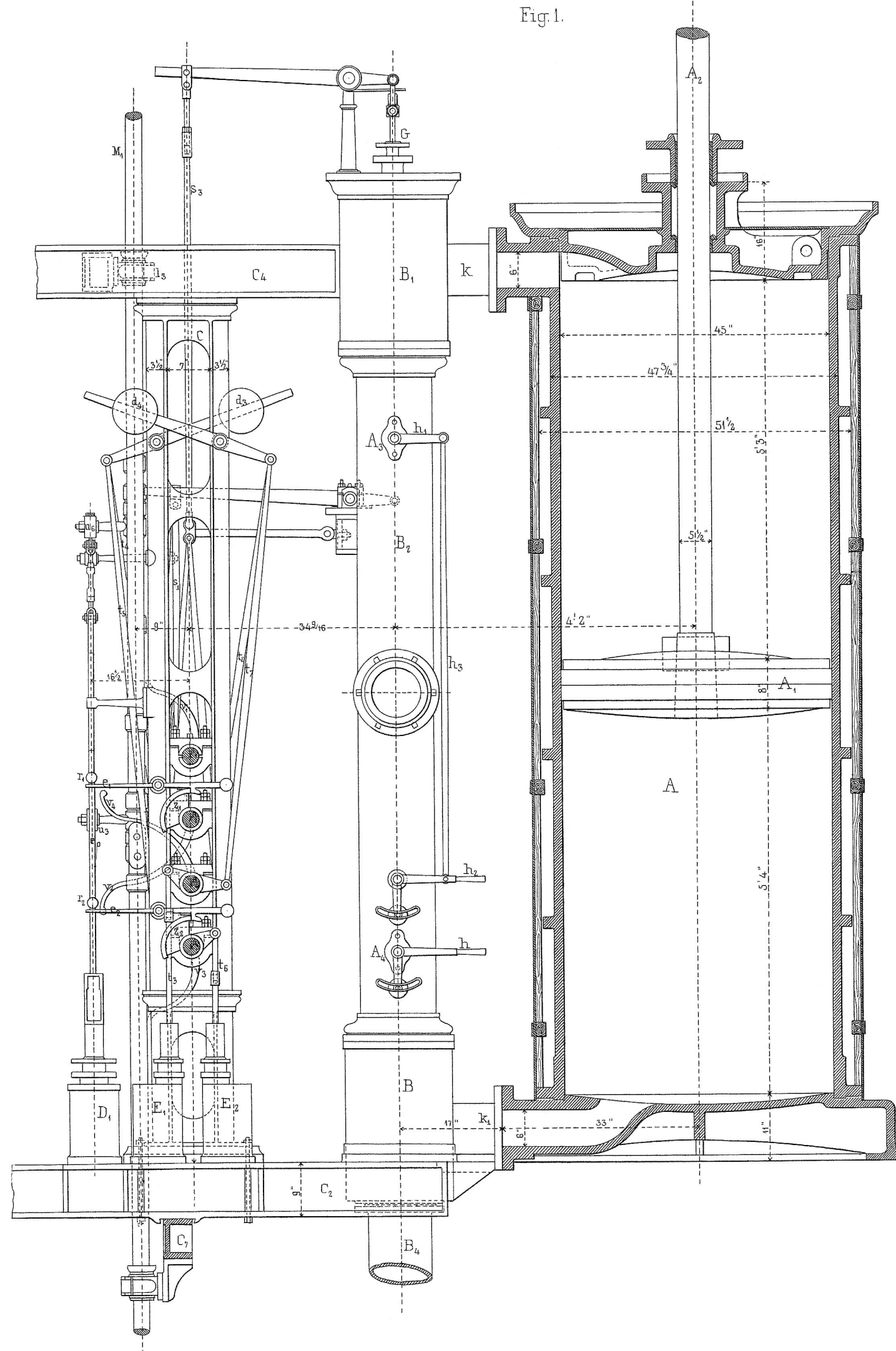


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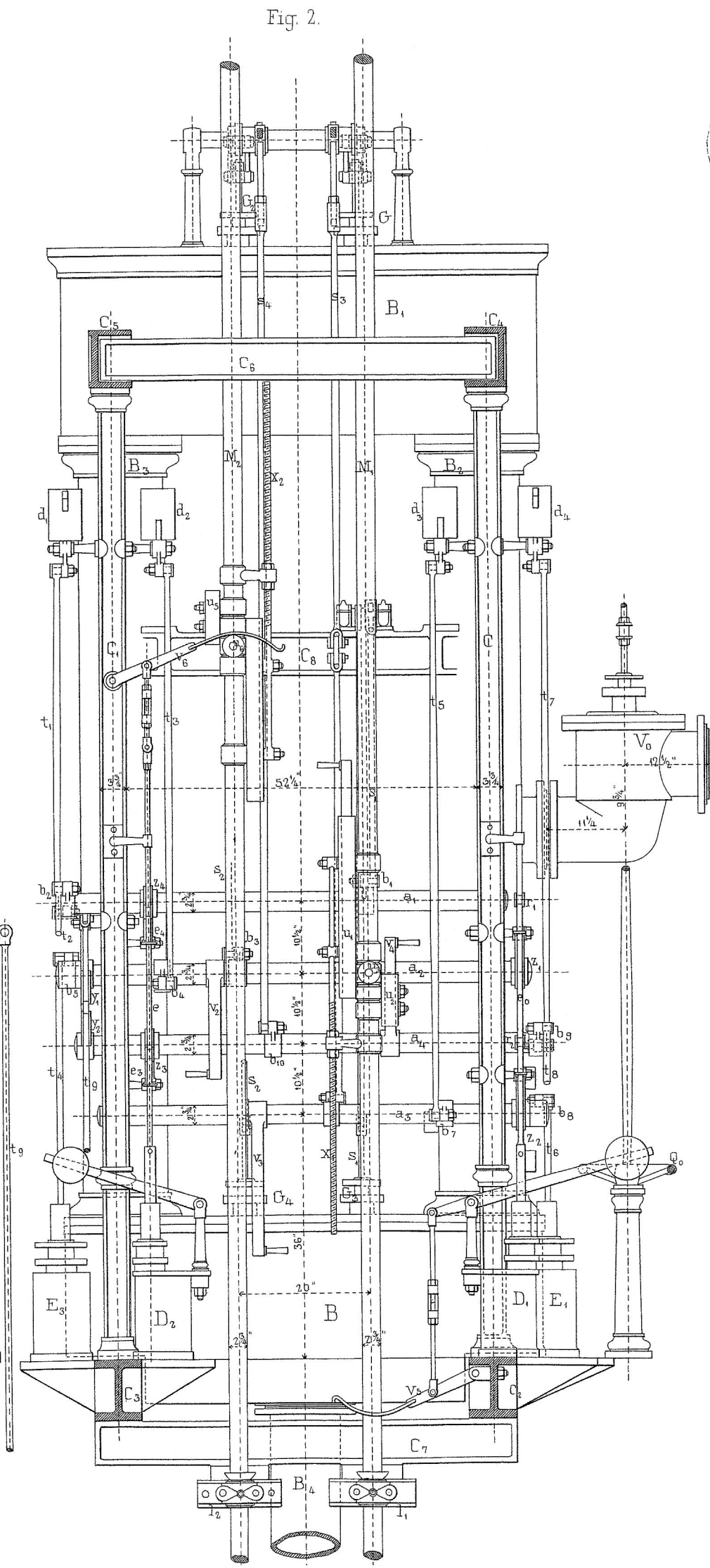


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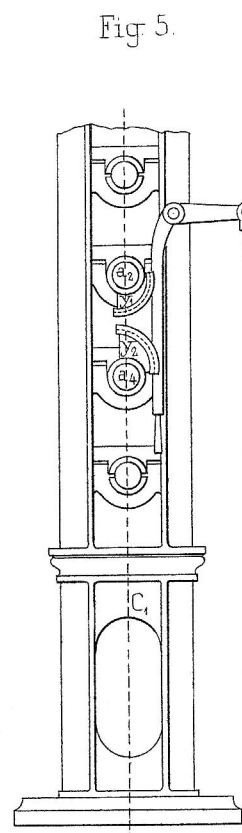


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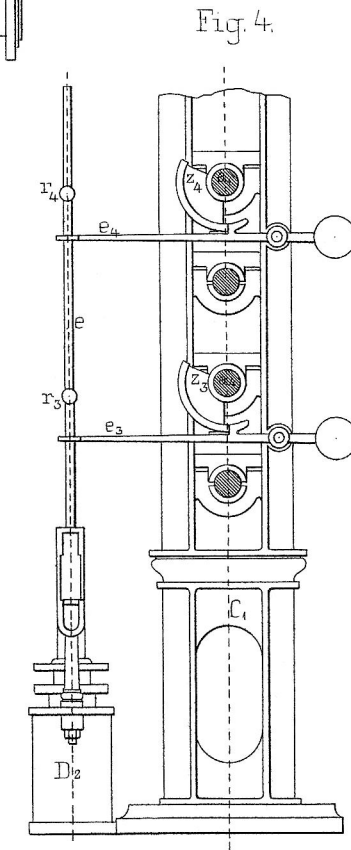


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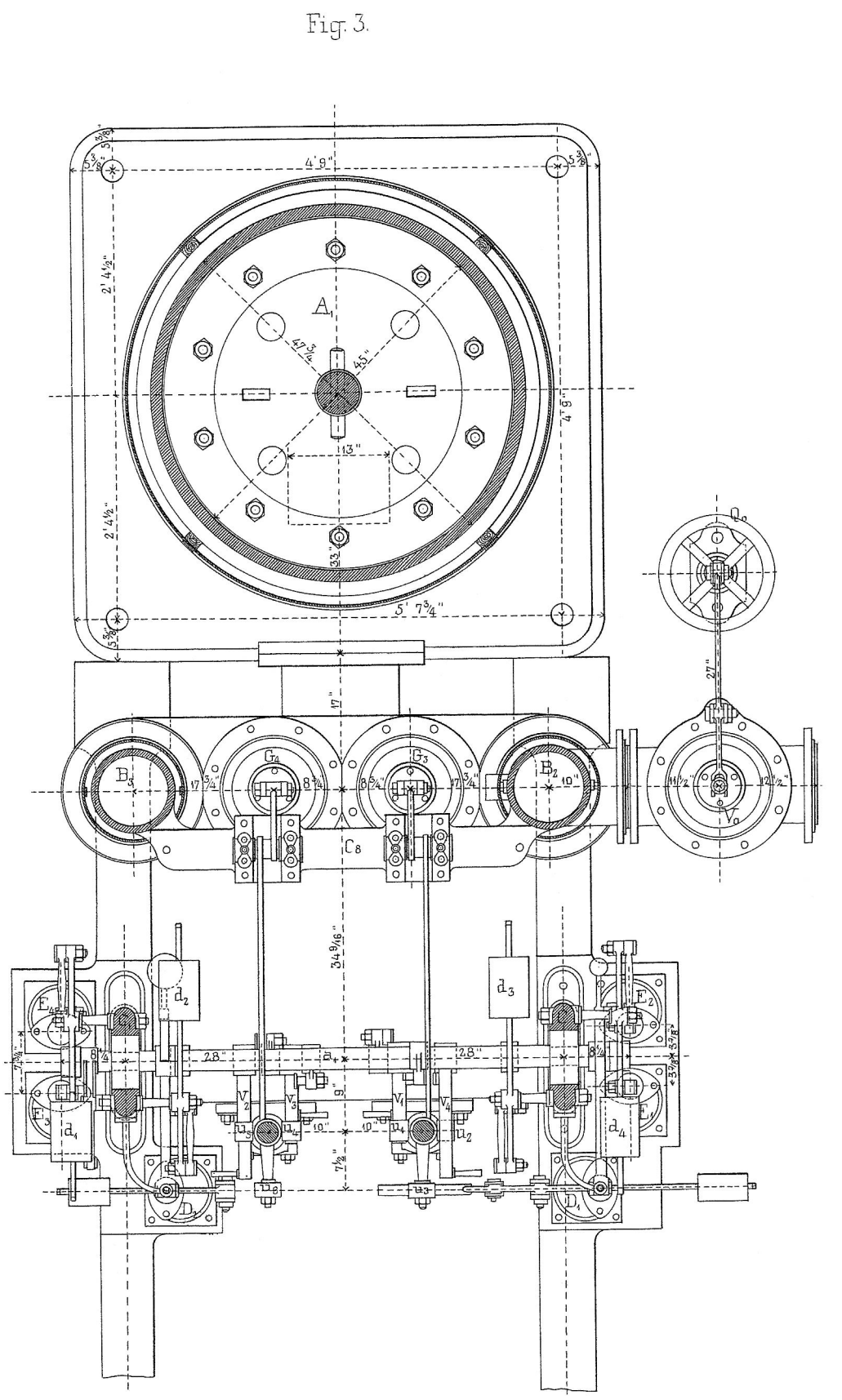
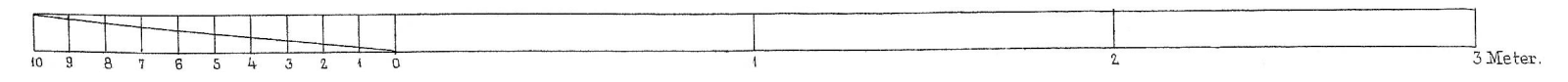
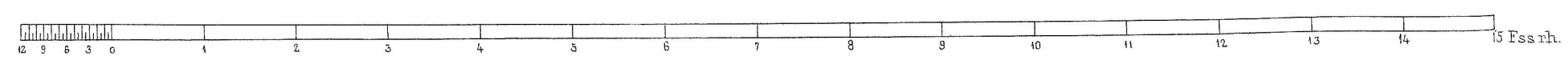
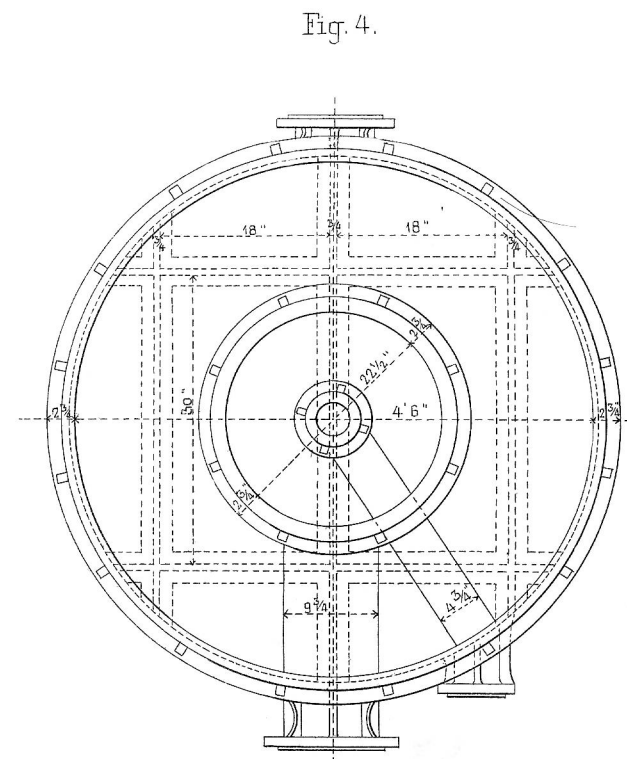
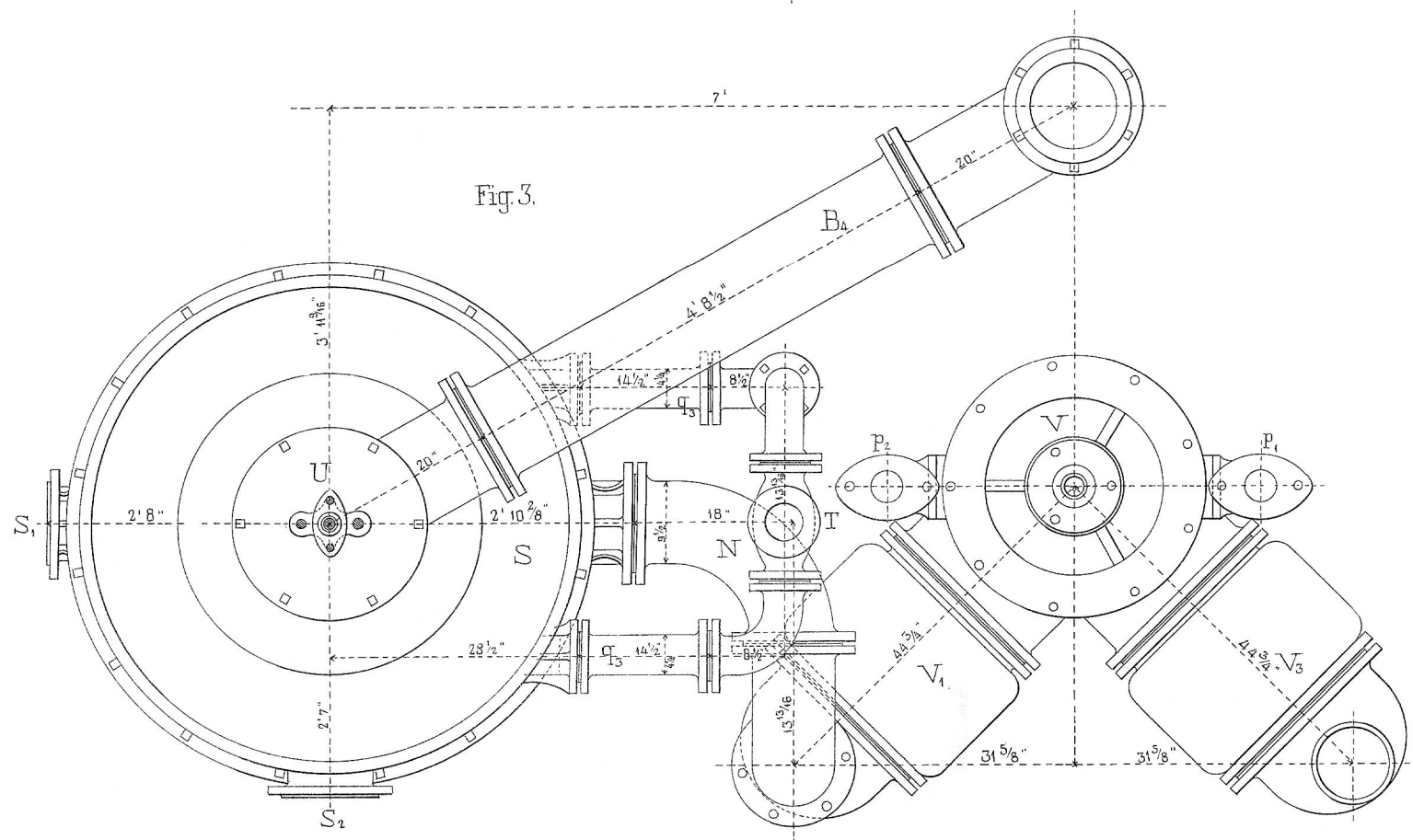
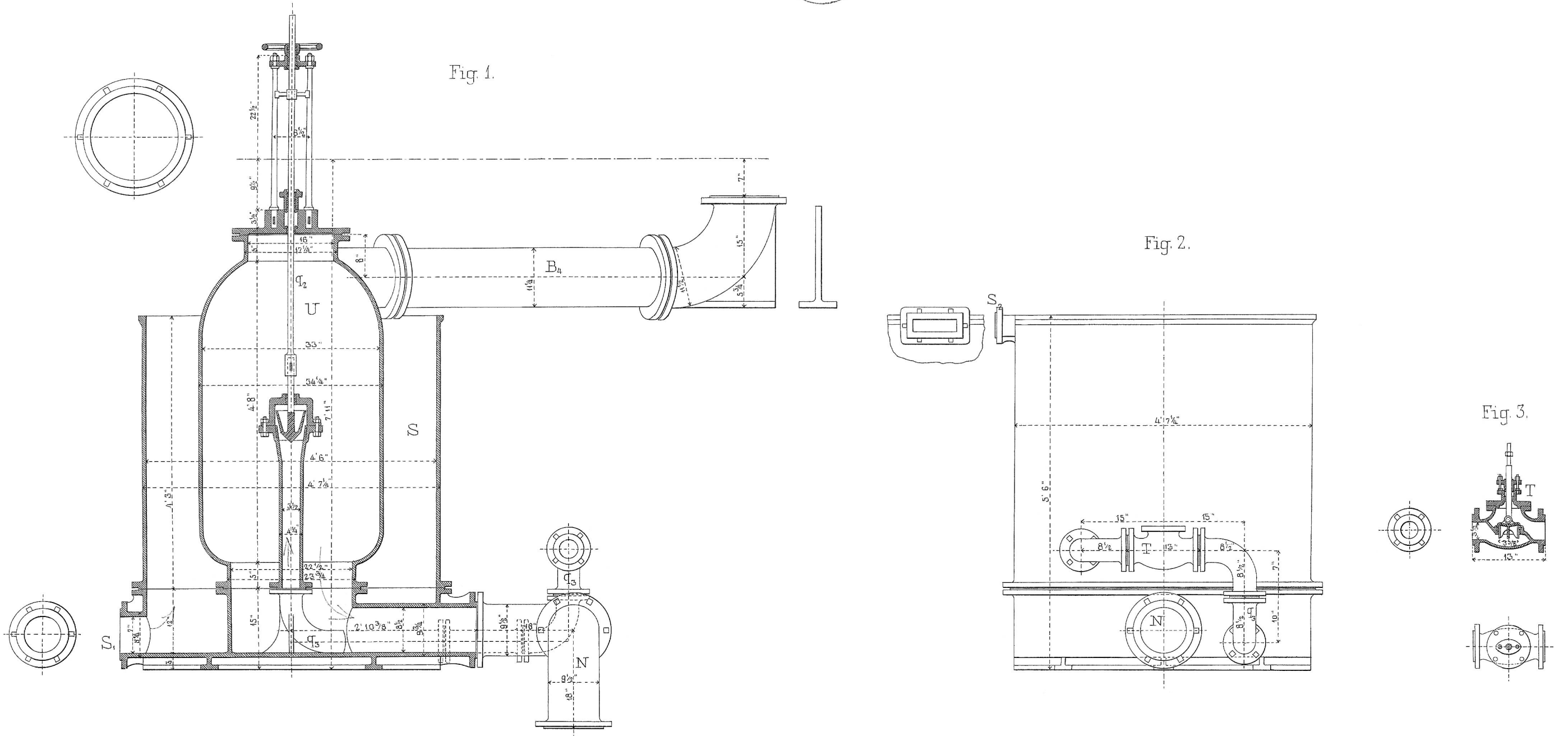


Fig. 3.

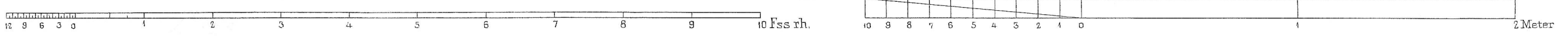
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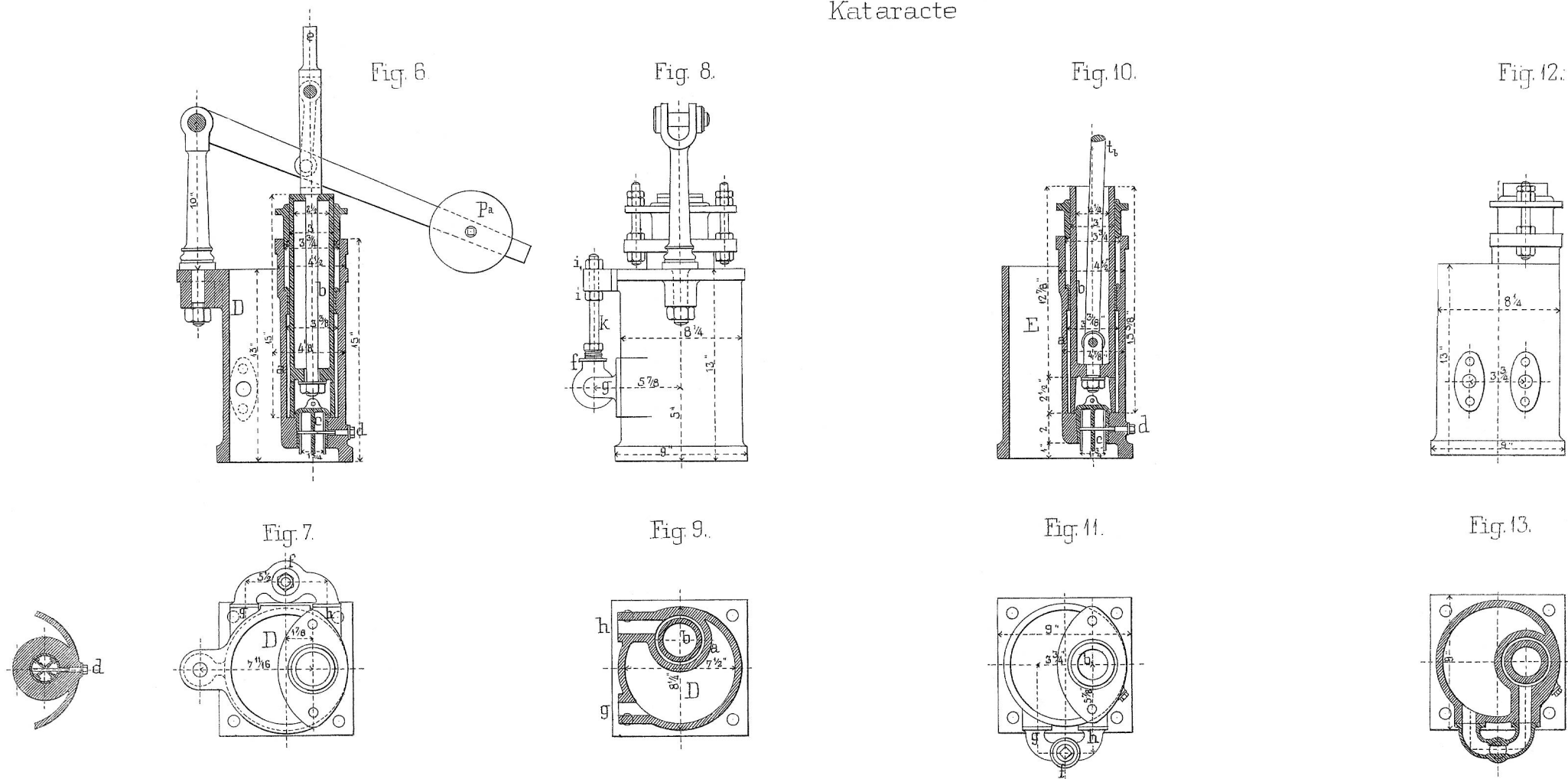
Condensator zur doppeltwirkenden Ehrhard'schen Maschine.



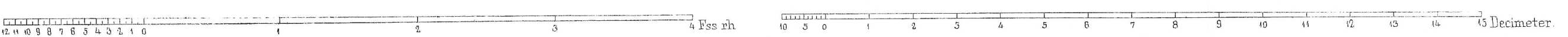
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Kataracte

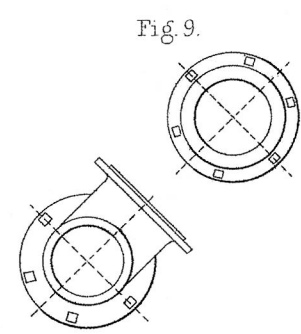
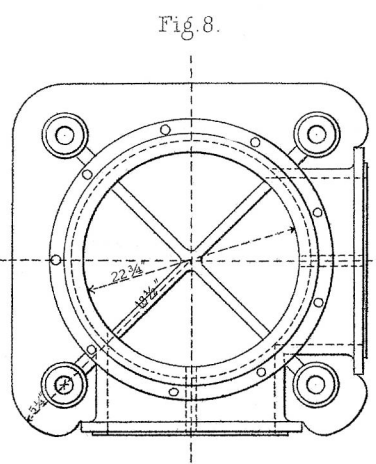
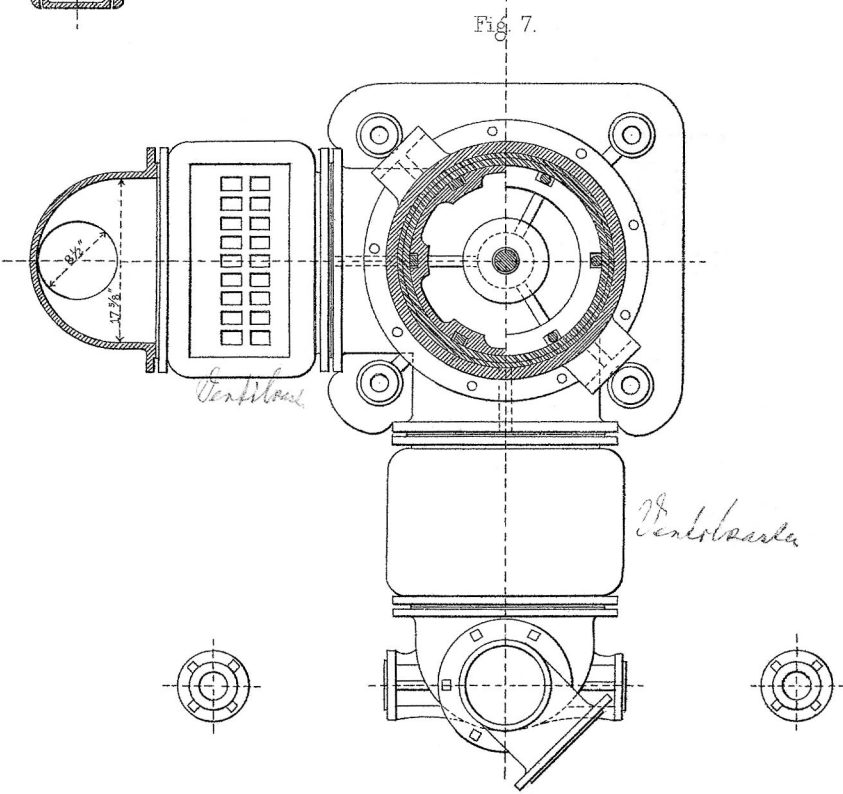
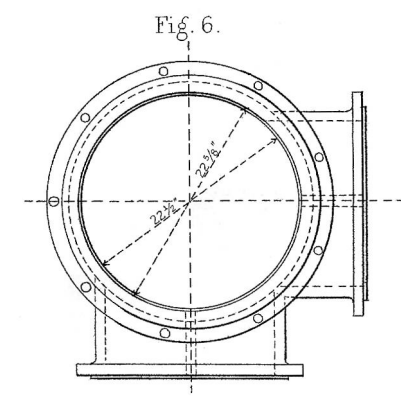
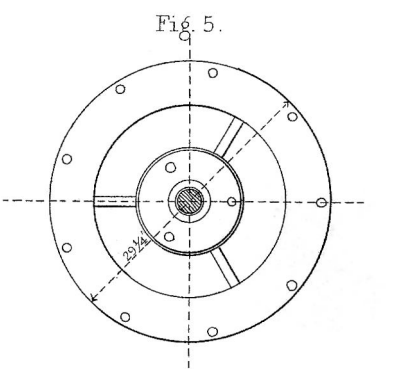
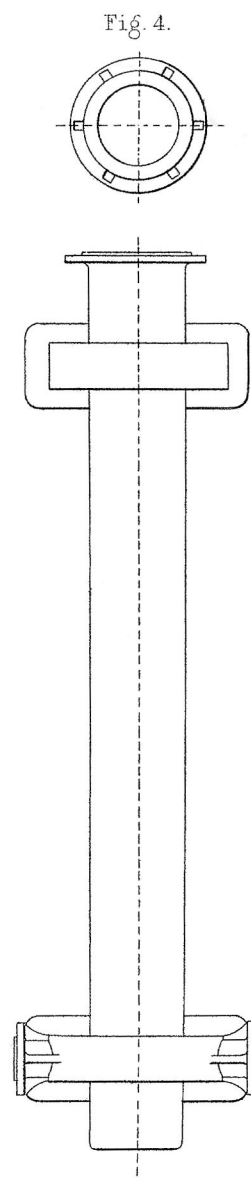
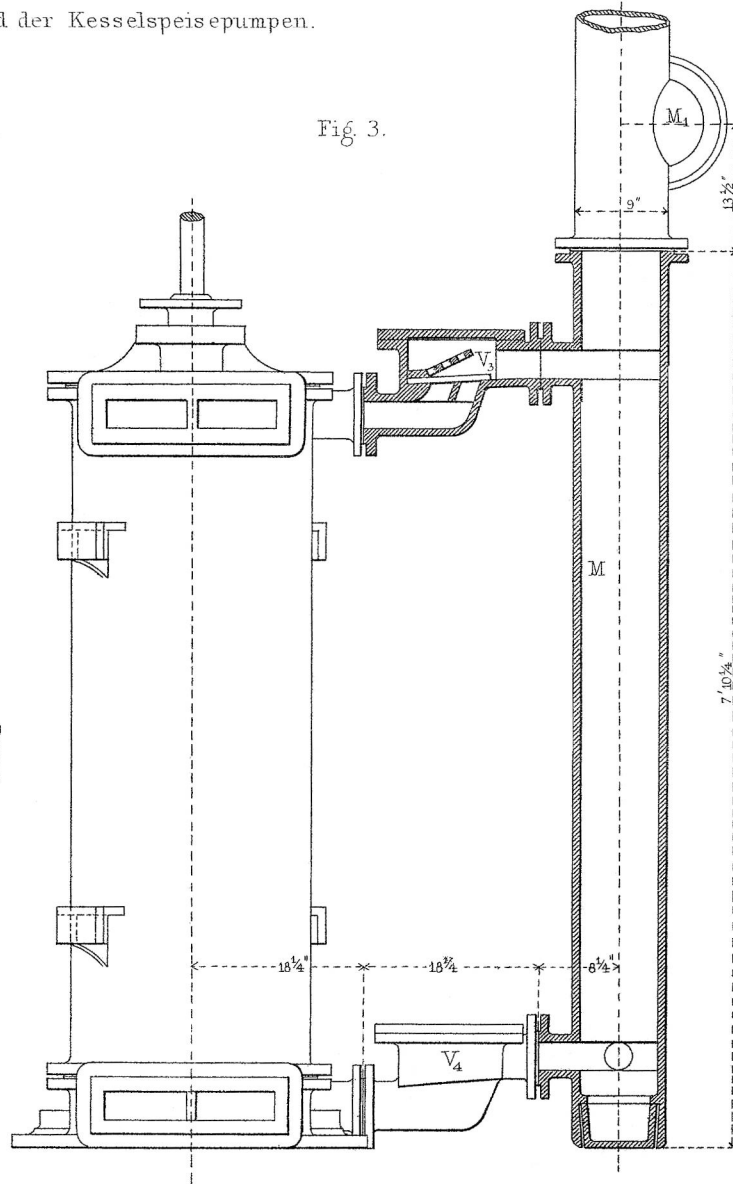
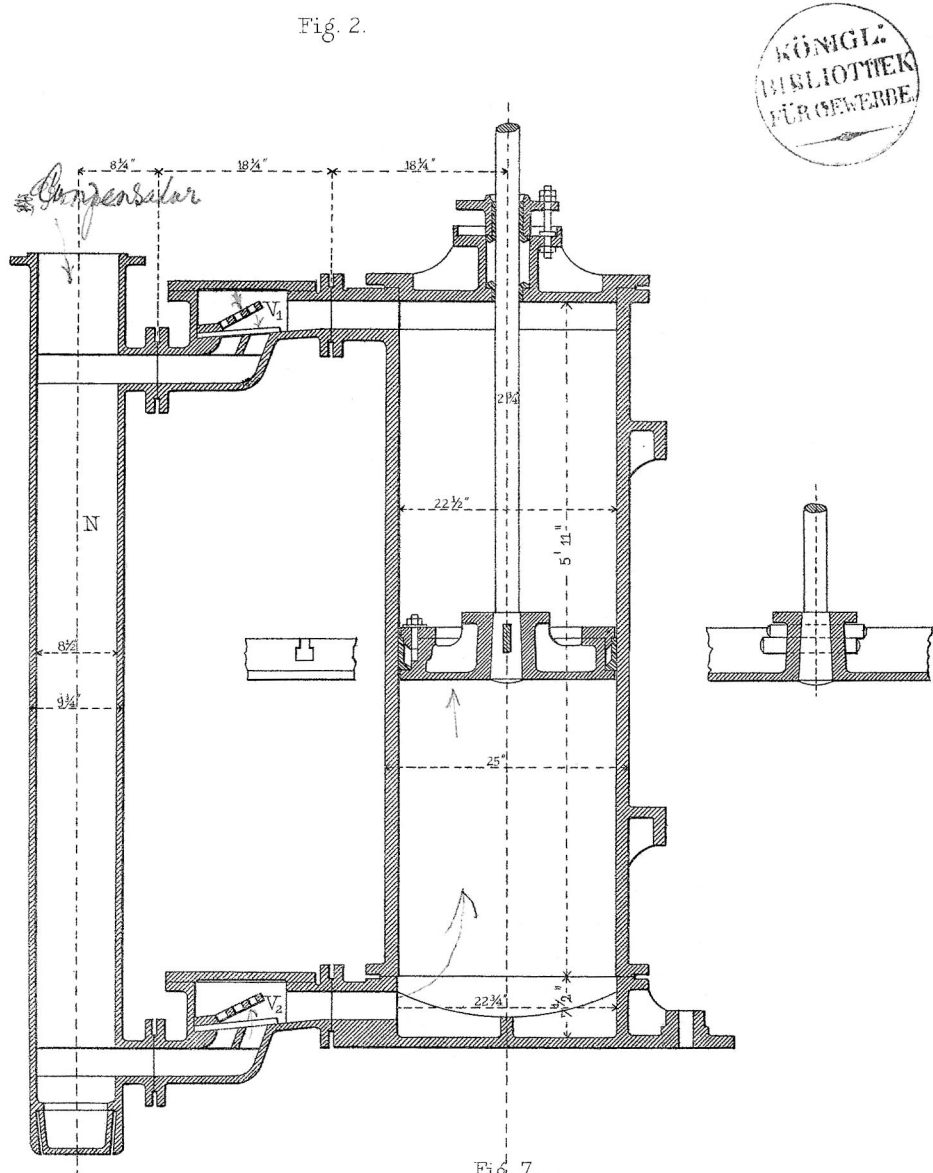
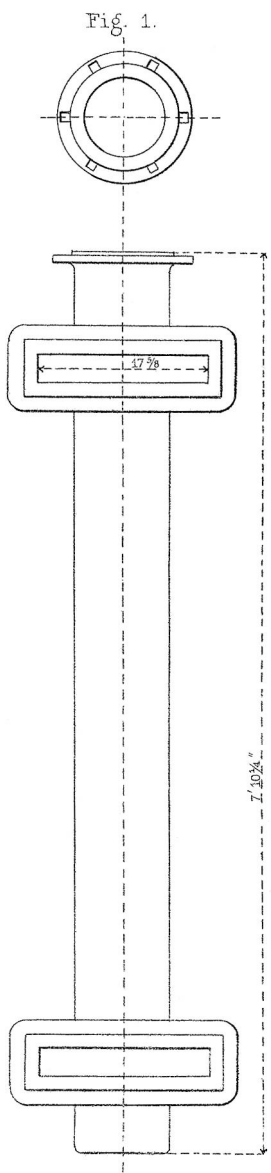


Maasstab 1:10.

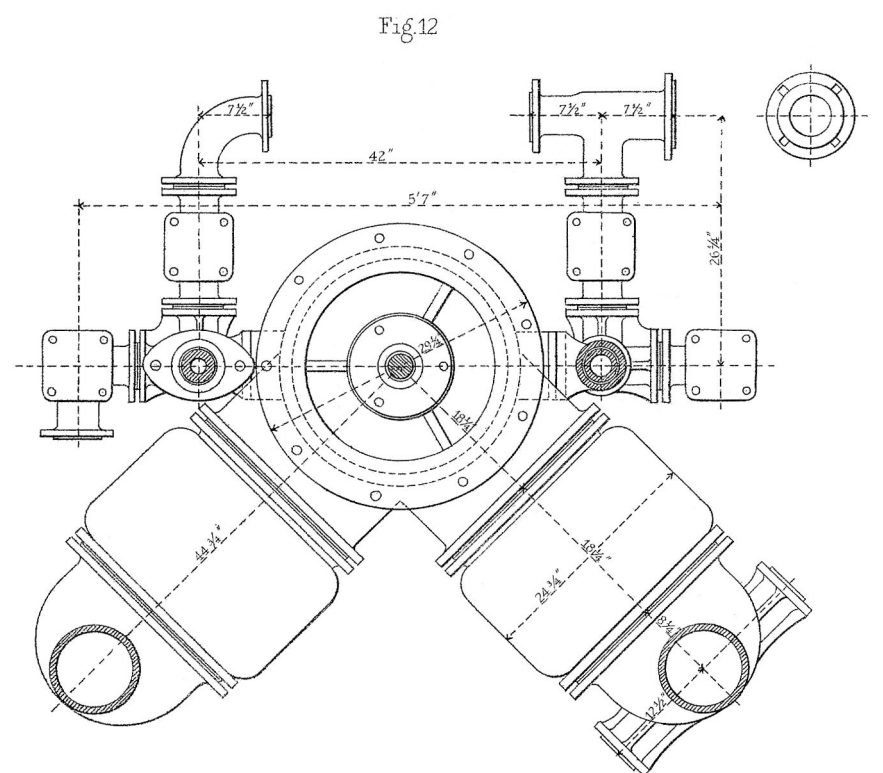
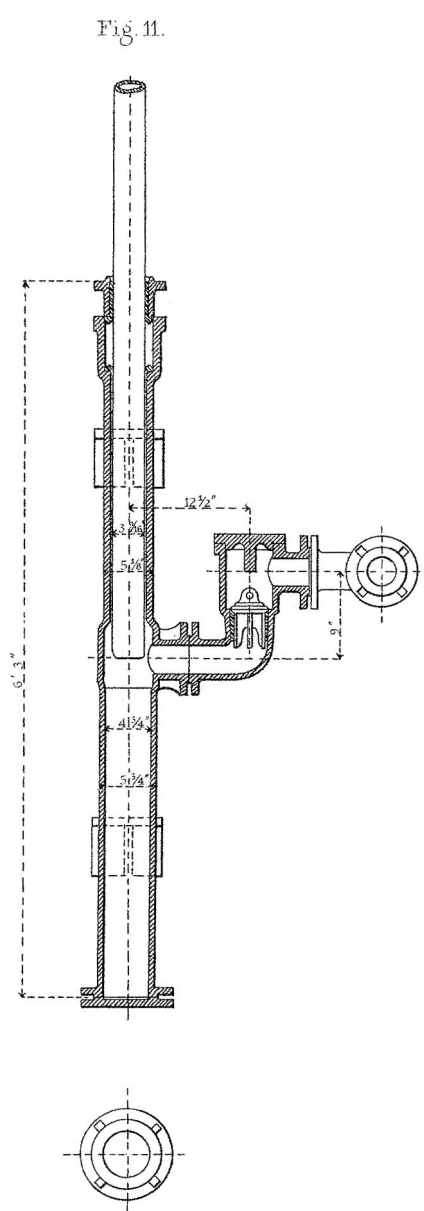
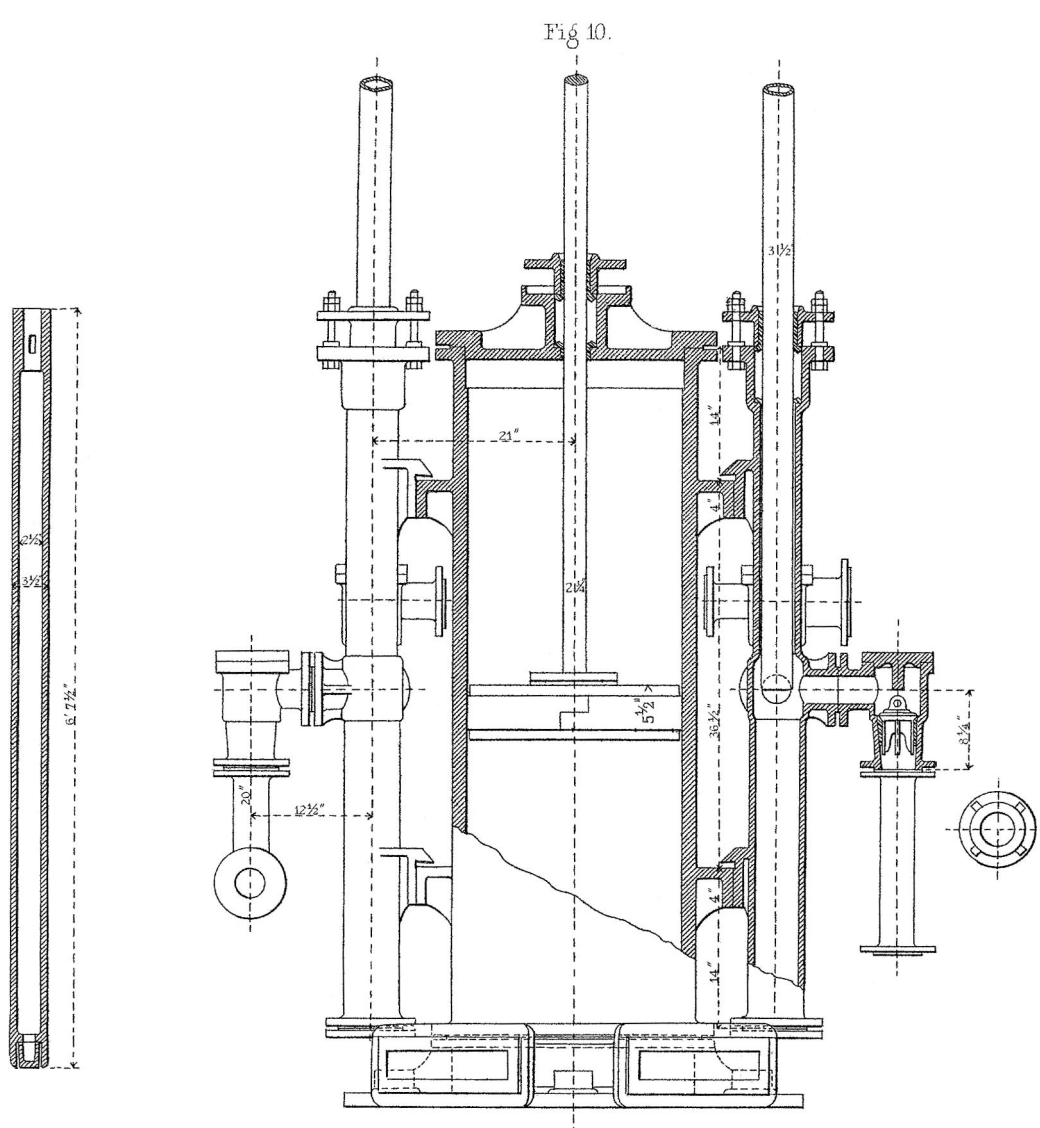
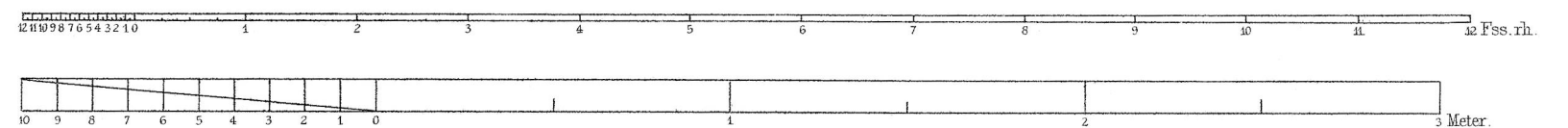


Doppelt wirkende Ehrhardt'sche Wasserhaltungs-Maschine der Königl. Steinkohlengrube Dechen bei Saarbrücken.

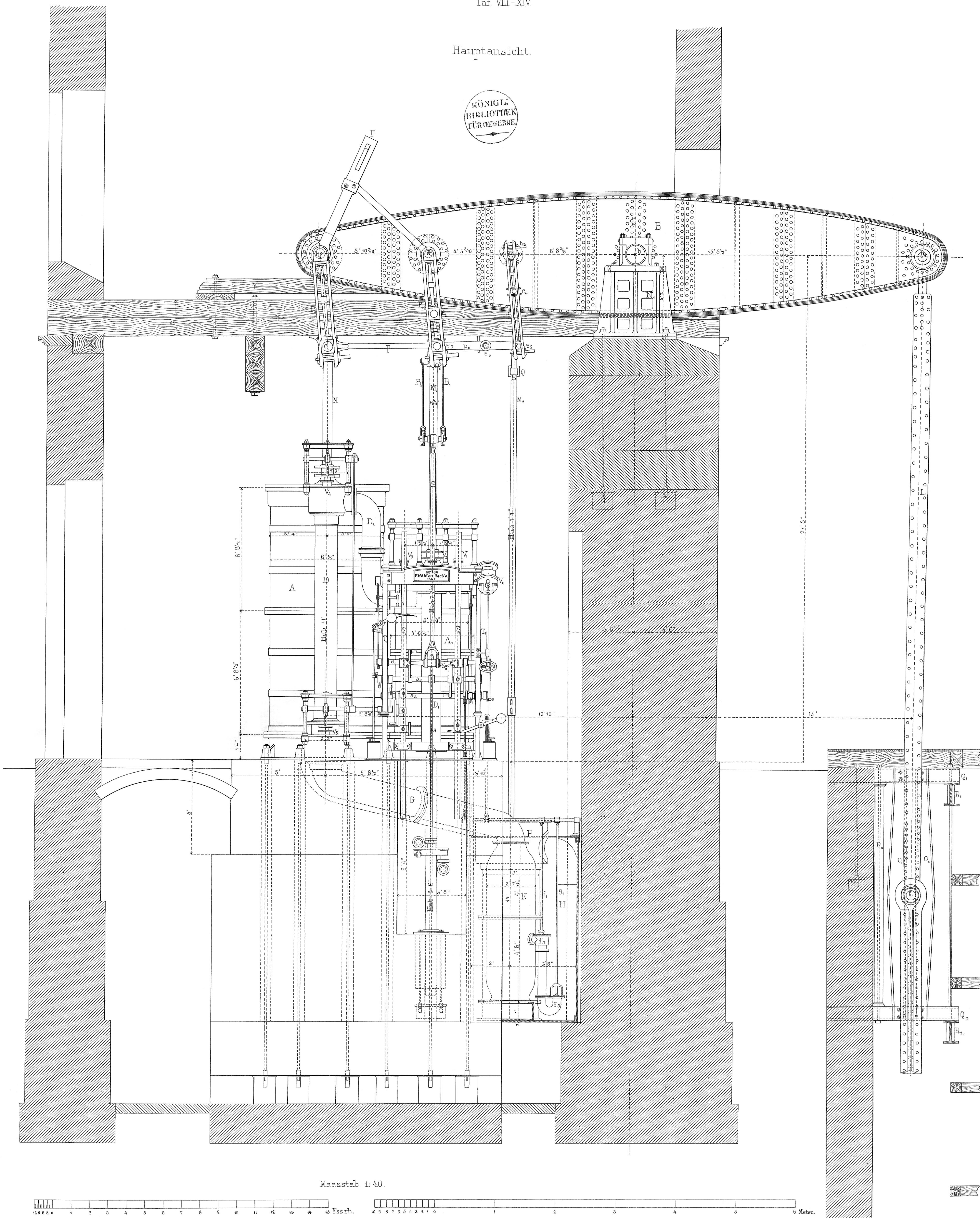
Details der Luftpumpen und der Kesselspeisepumpen.



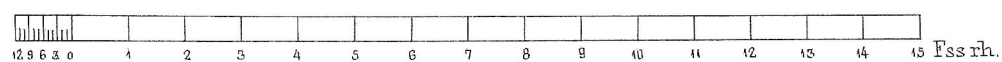
Maassstab 1:20



Hauptansicht.

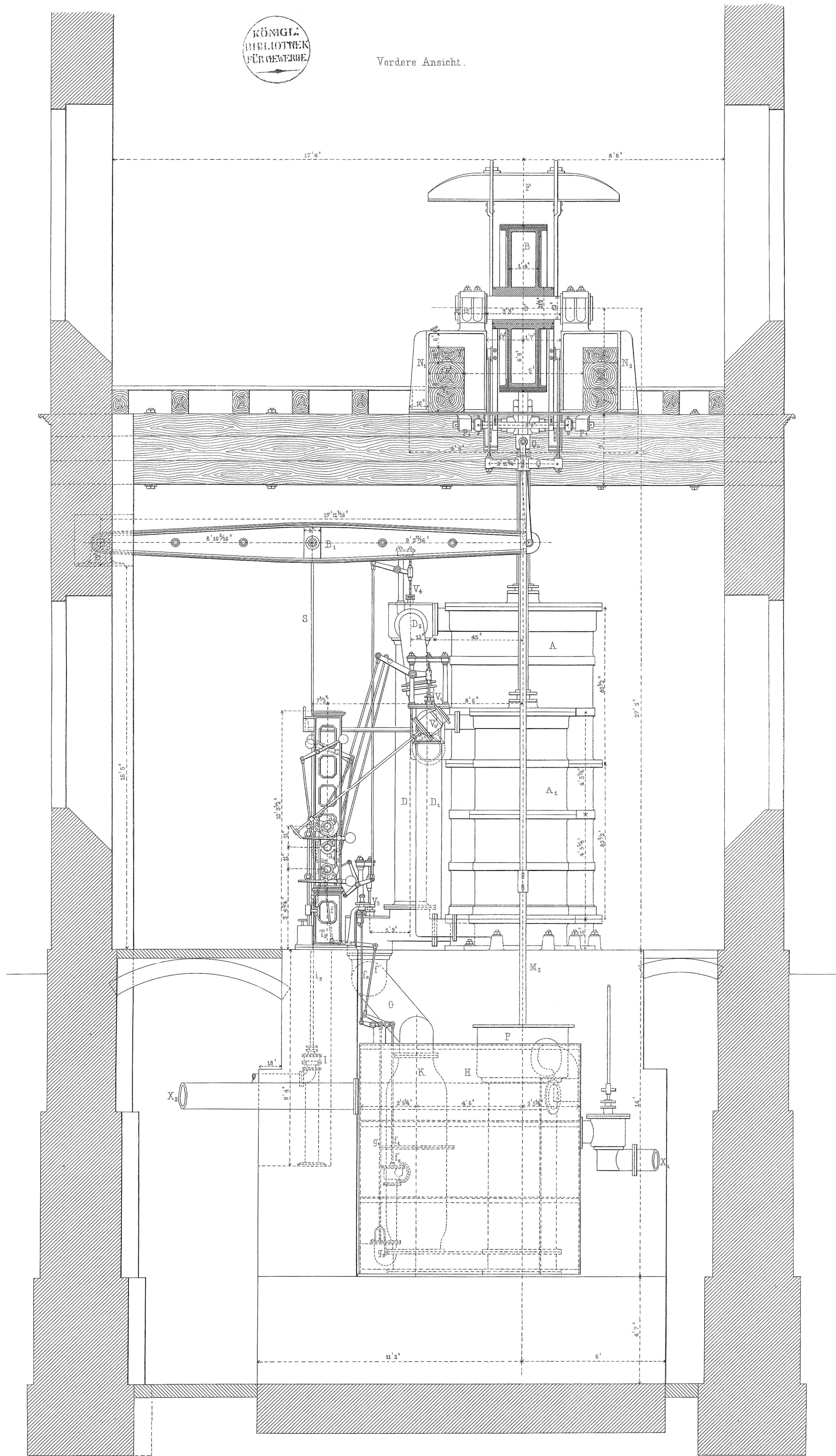


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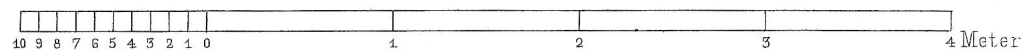
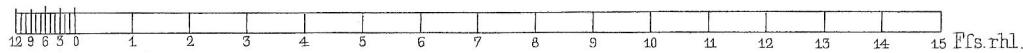




Vordere Ansicht.

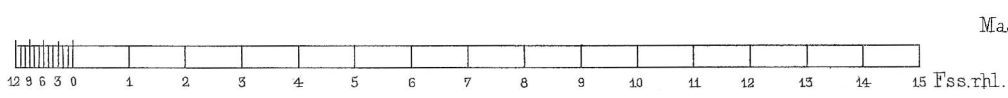
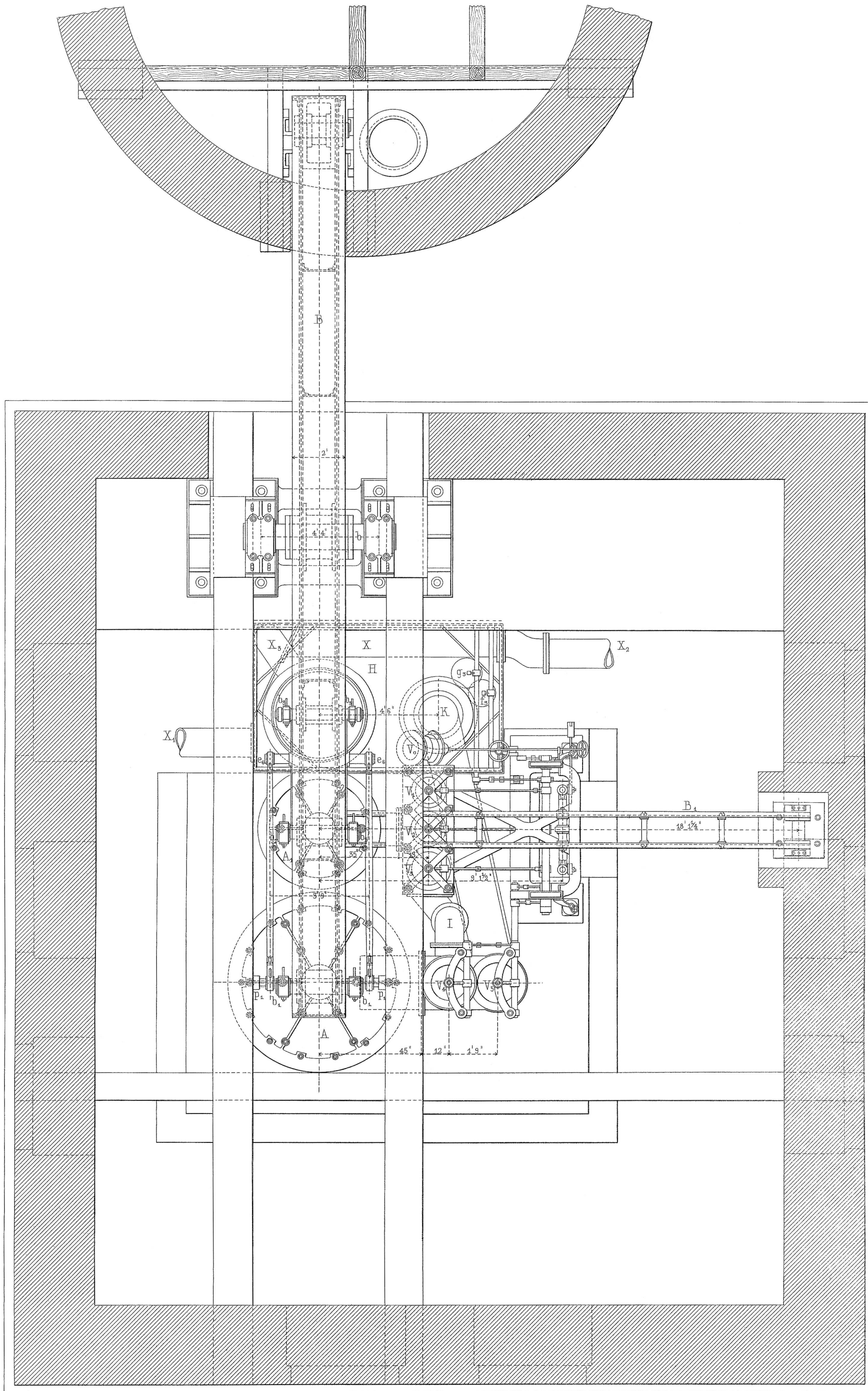


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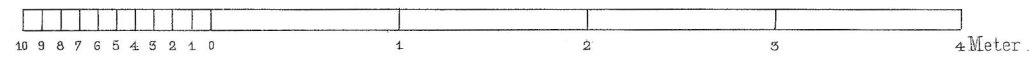




Grundriss.



Maafsstab 1:40



Ventilkasten der einfachwirkenden Woolfschen Wasserhaltungs-Maschine.

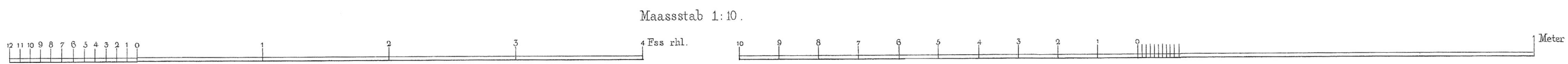
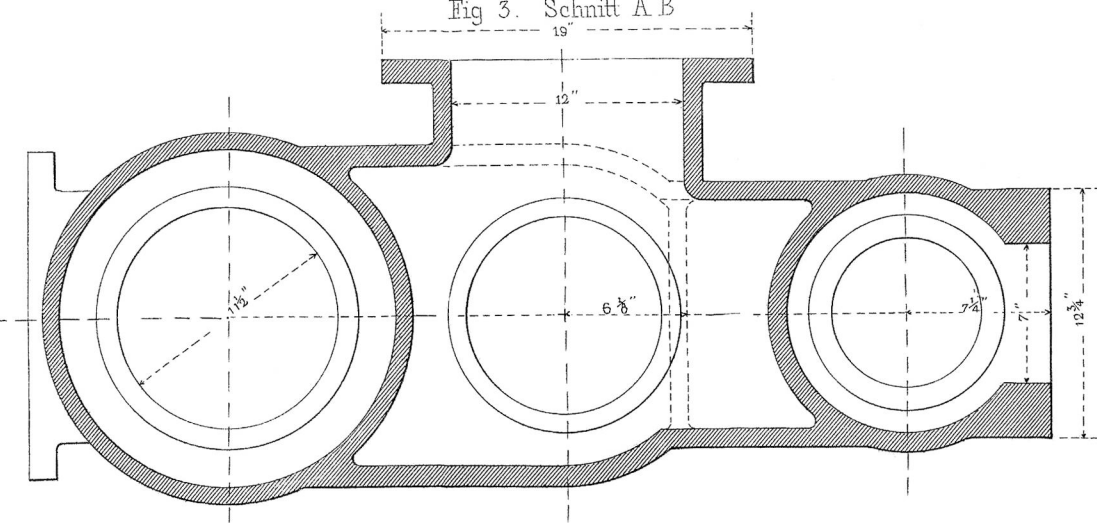
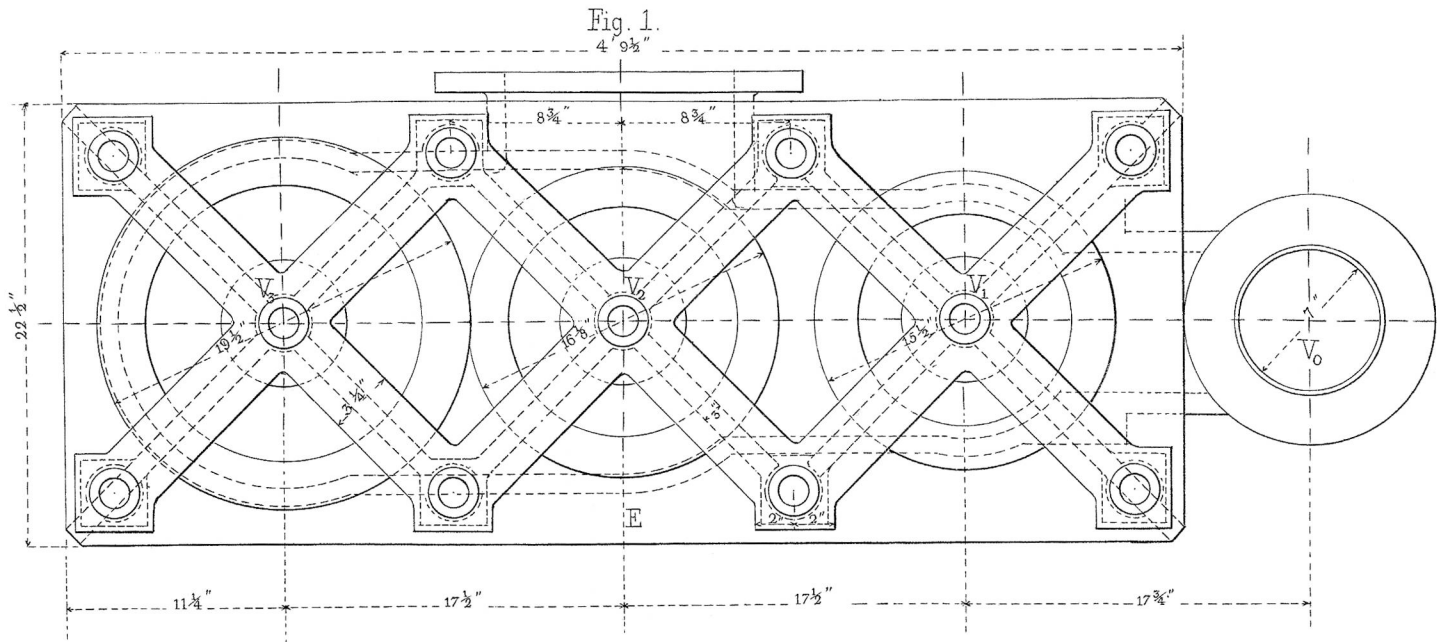
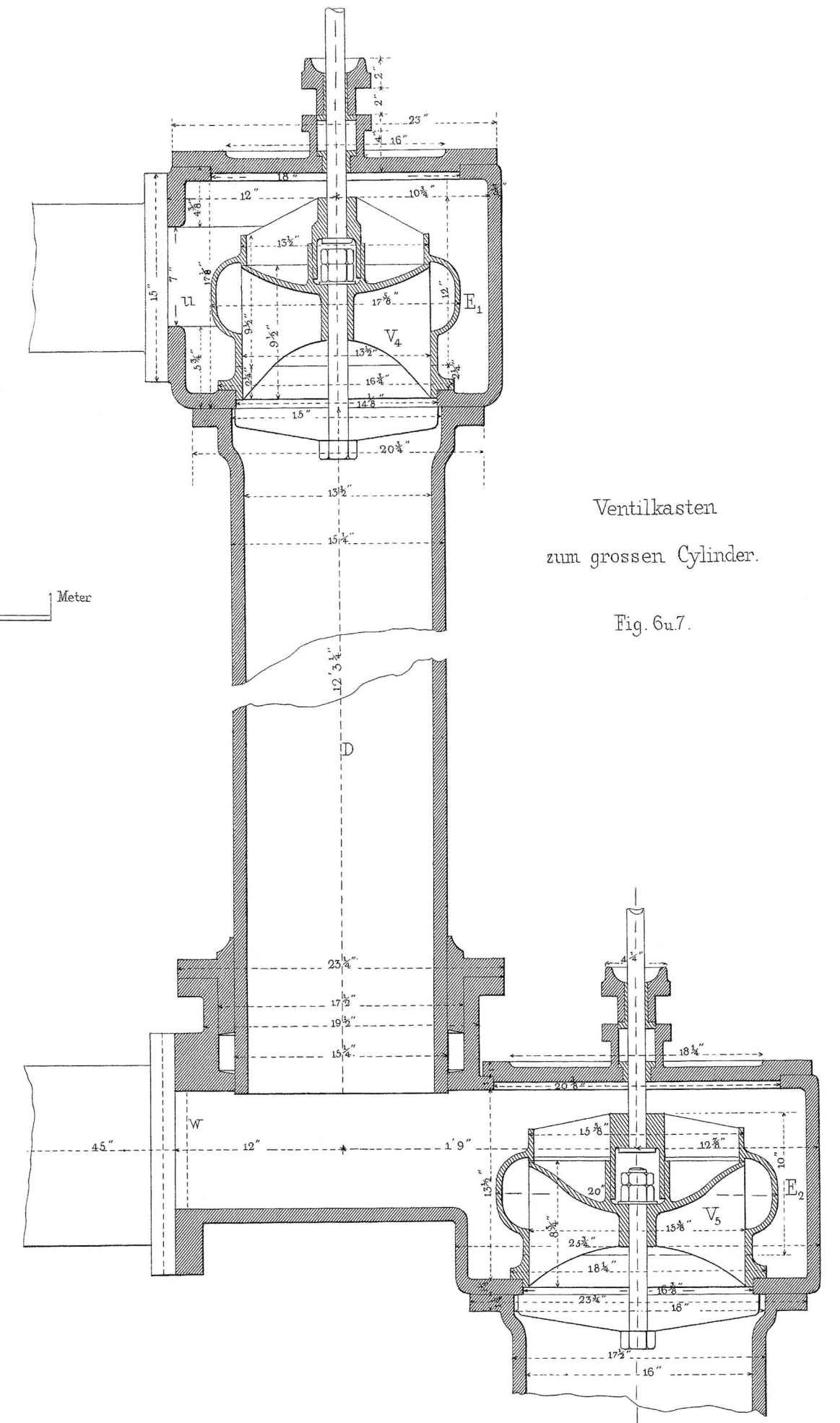


Fig. 6.



Ventilkasten zum grossen Cylinder.

Fig. 6 u. 7.

Ventilkasten zum kleinen Cylinder.

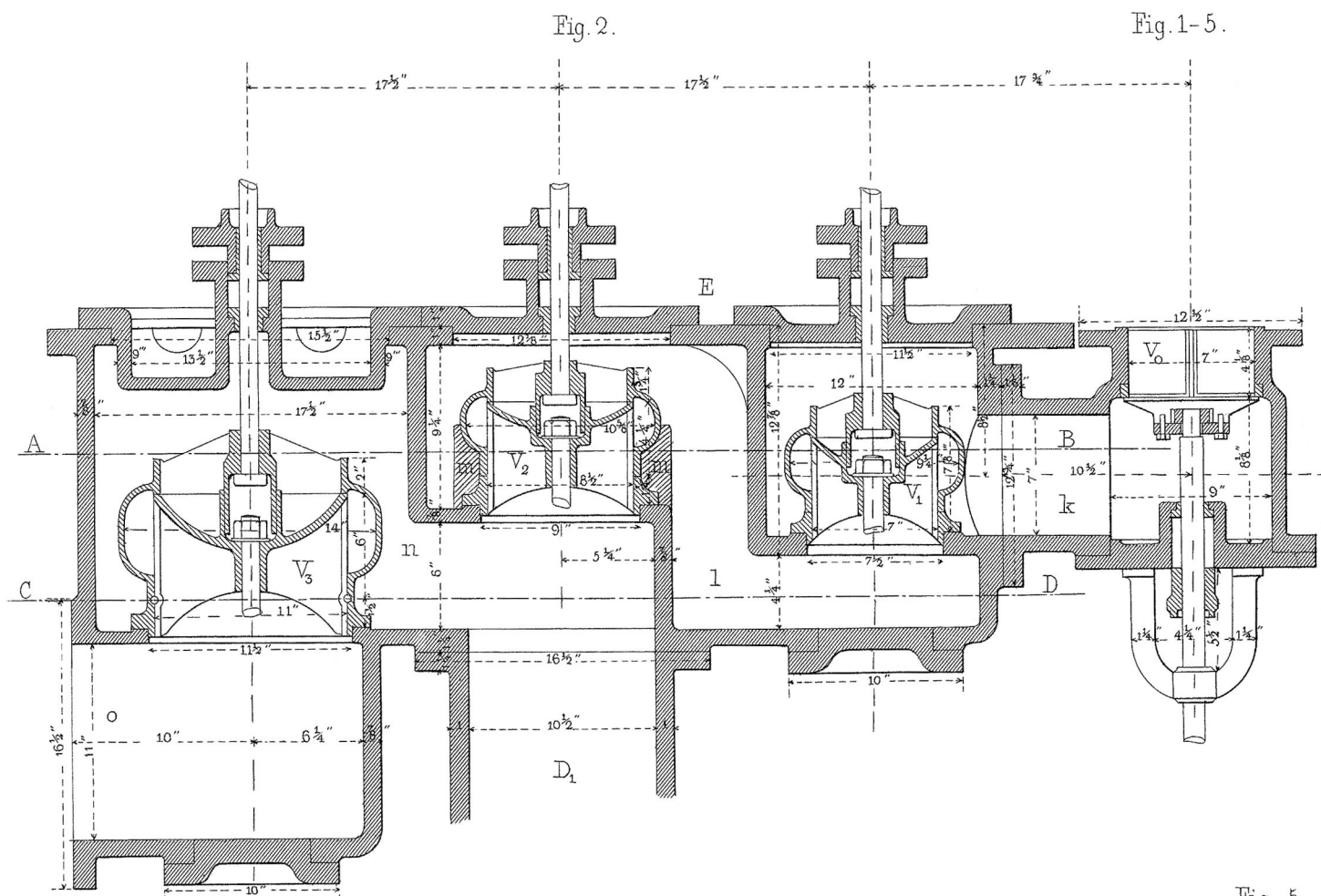


Fig. 1-5.

Fig. 4. Schnitt C D.

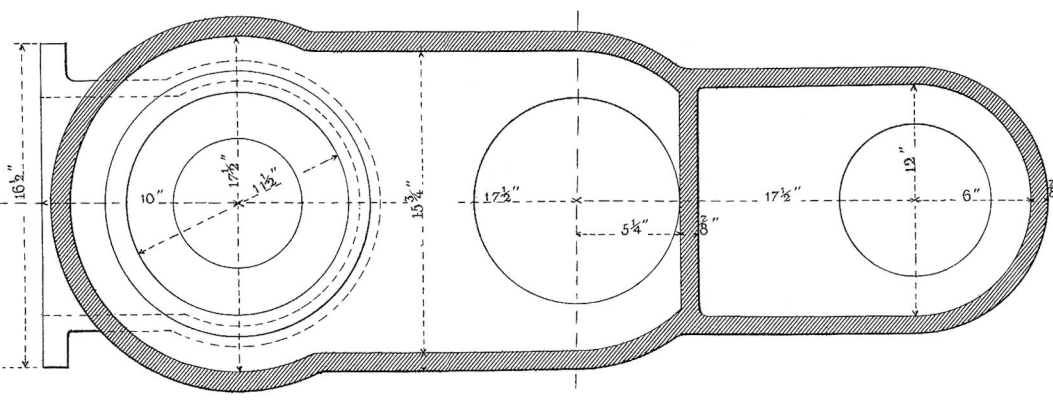
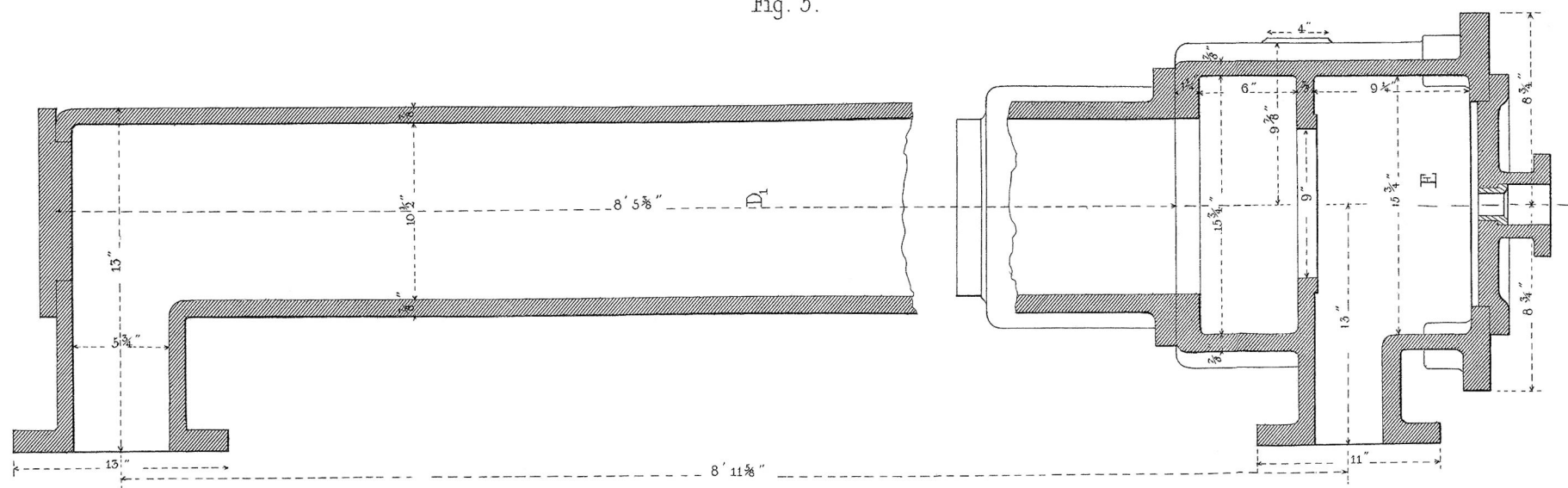
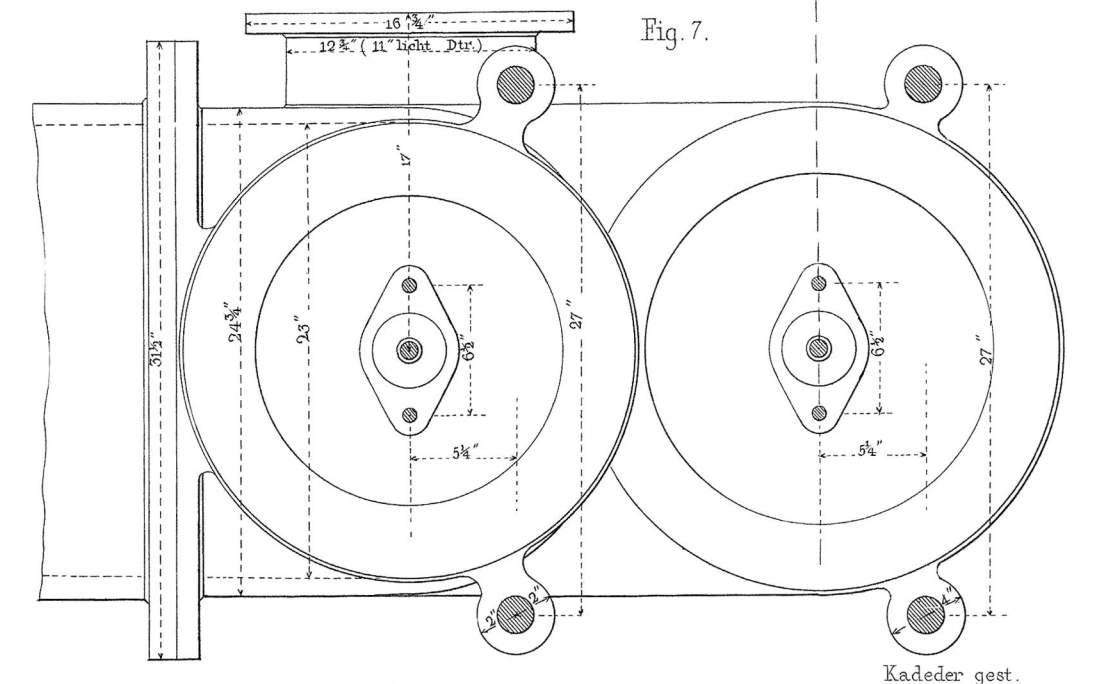


Fig. 5.



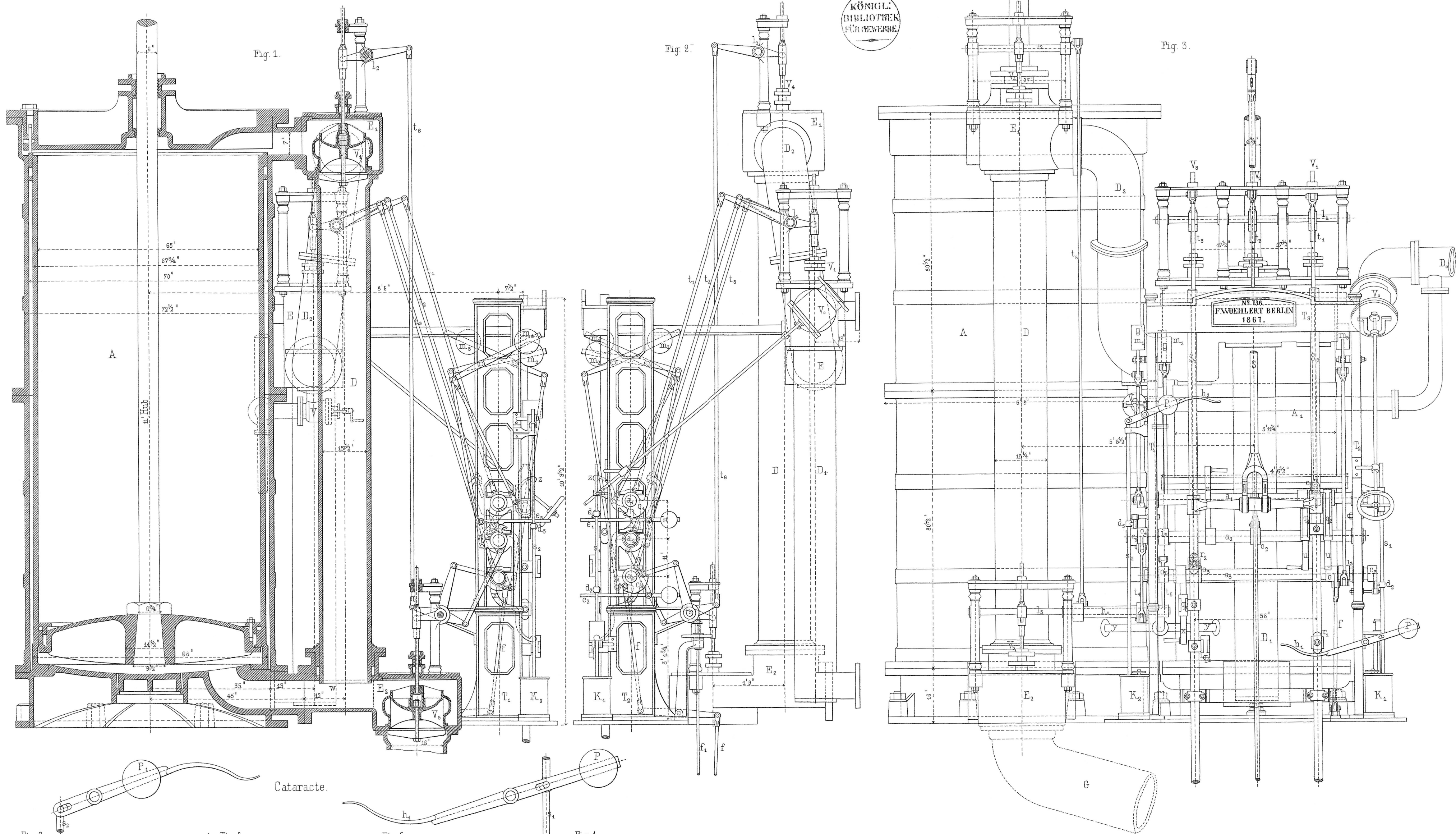
Ernst & Korn. Berlin.

Fig. 7.

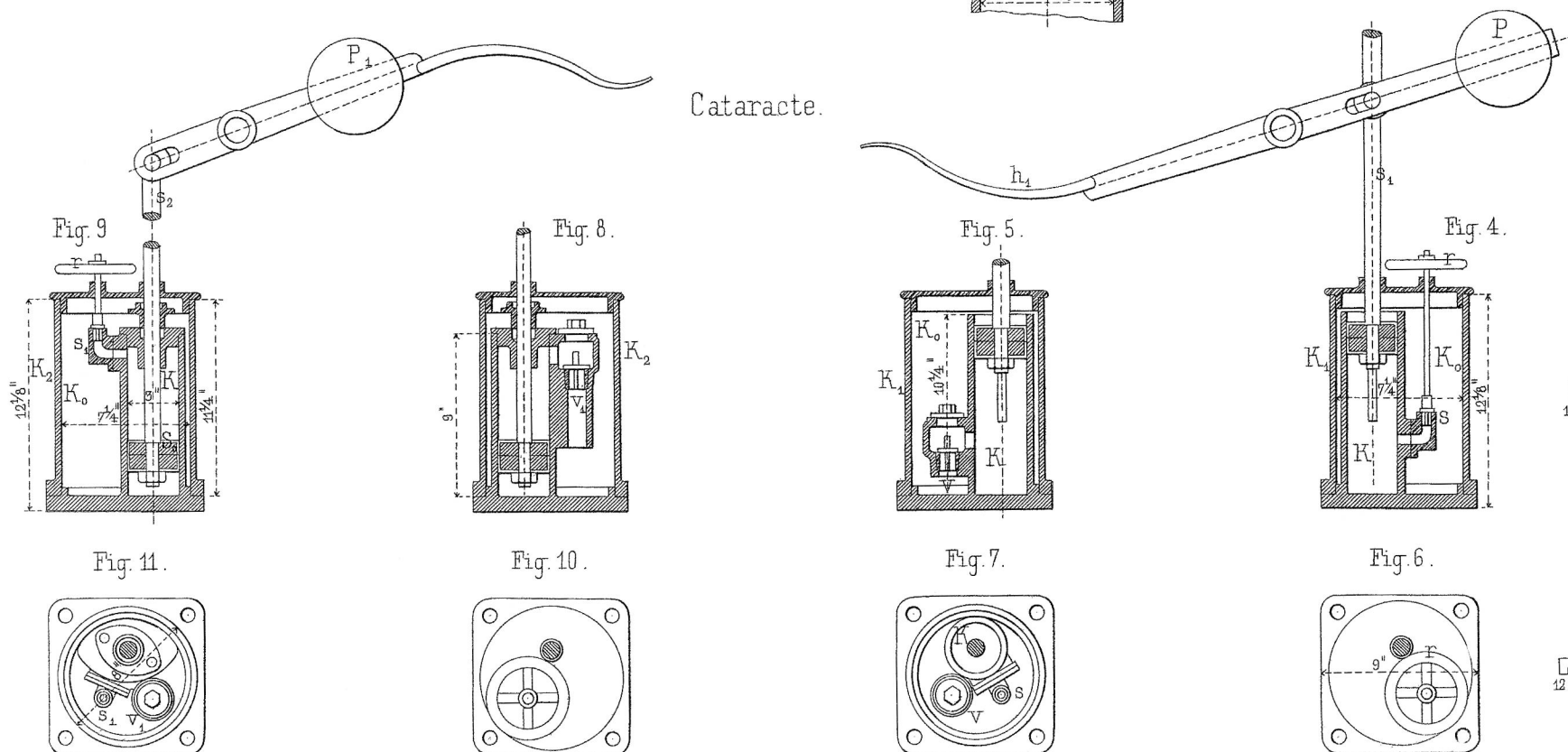


Kadeder gest.

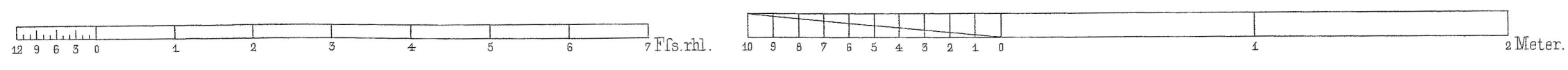
Steuerung



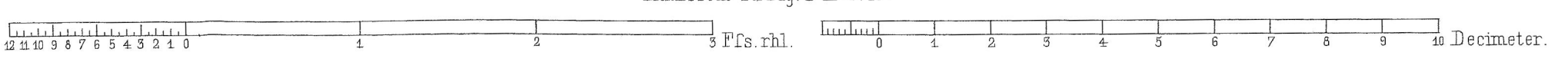
Cataracte.



Maafsstab zu Fig. 1-3-4: 20.



Maafsstab zu Fig. 4-11-1: 10.



Cylinder und Kolben.

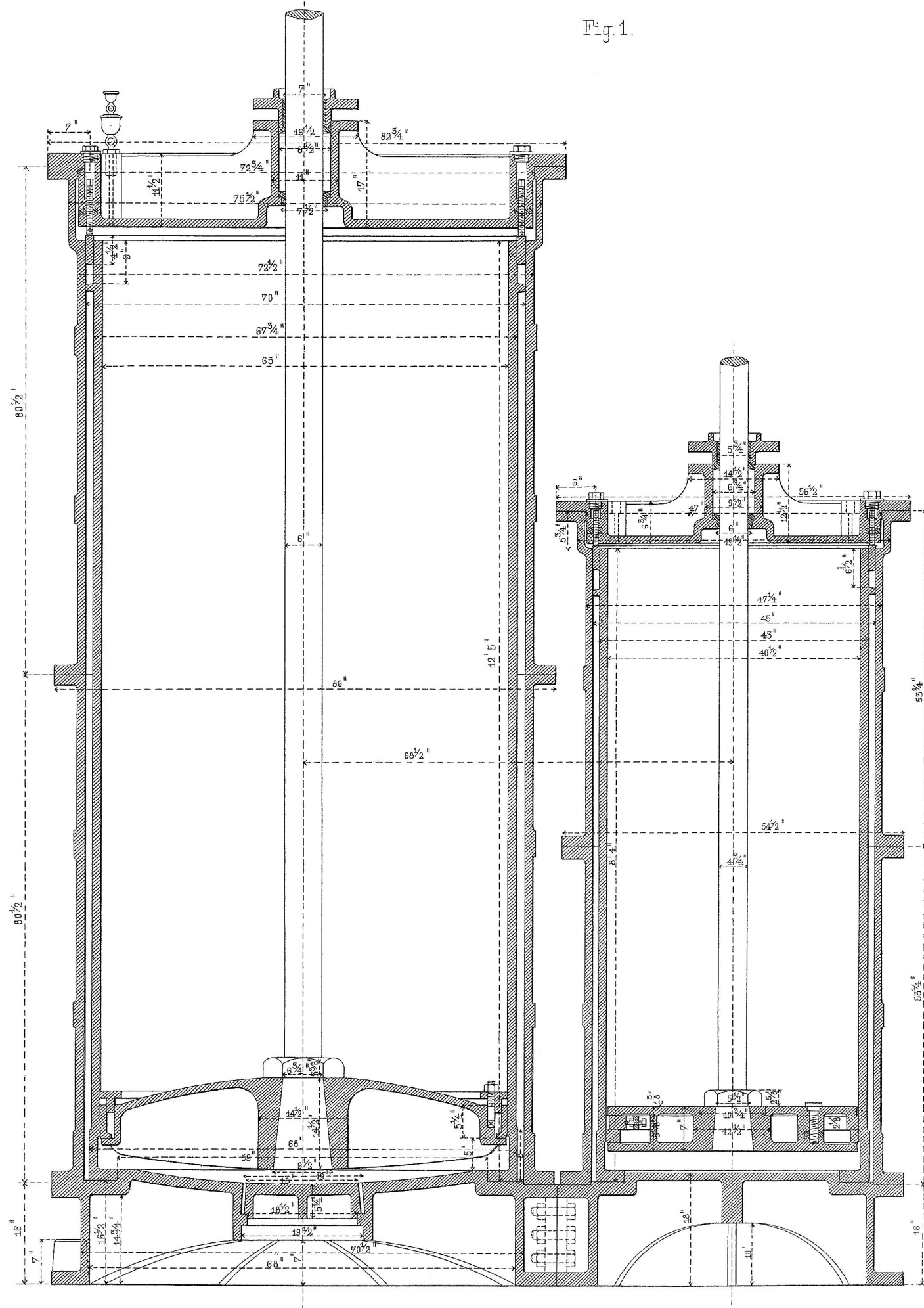


Fig. 1.

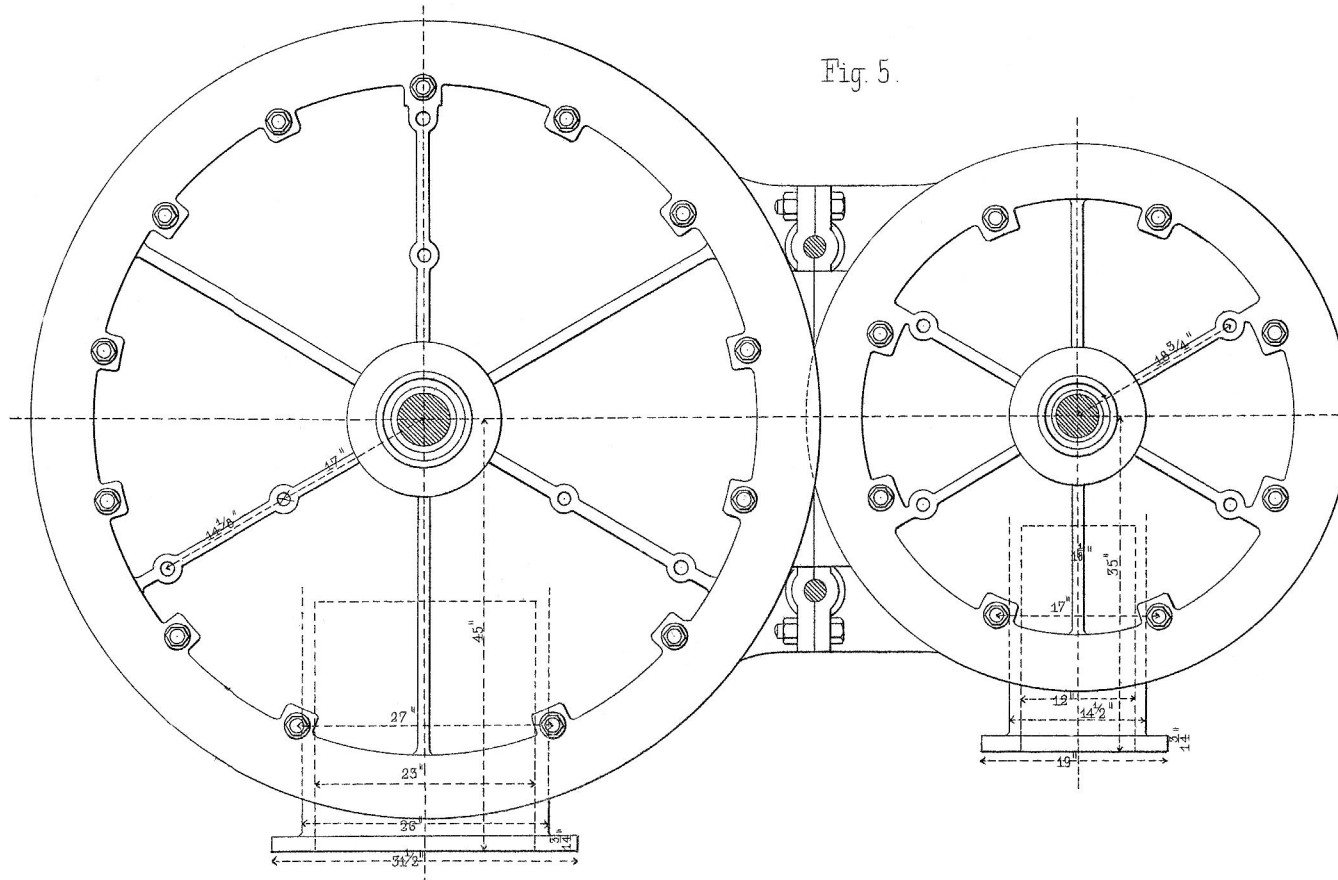


Fig. 5.

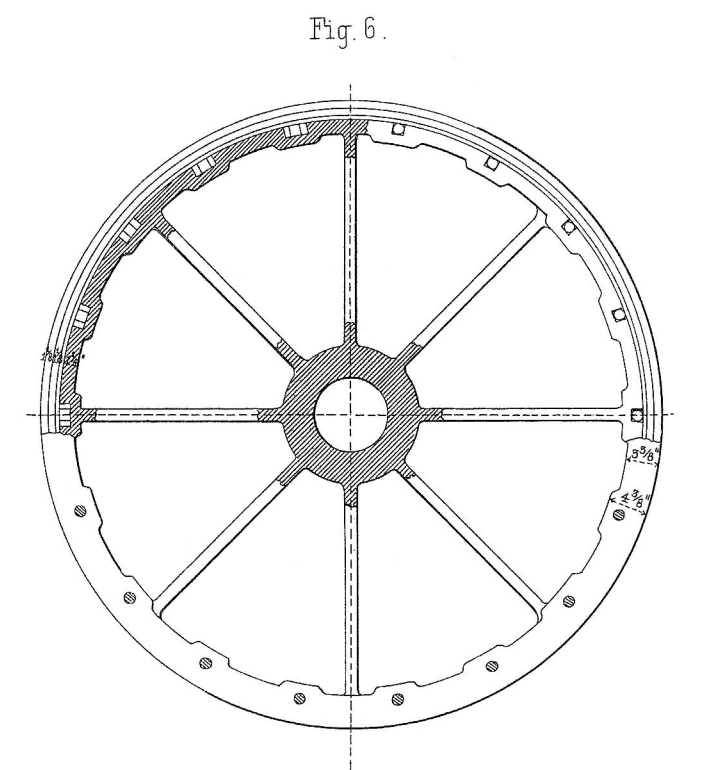


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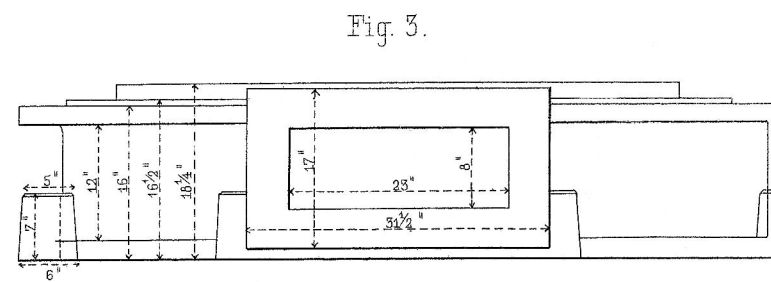


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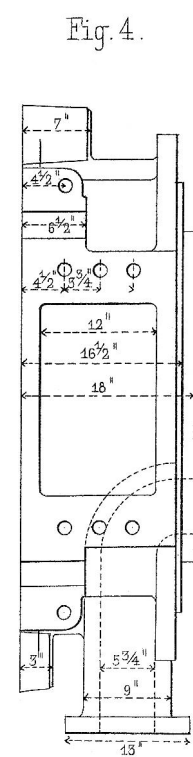


Fig. 4.

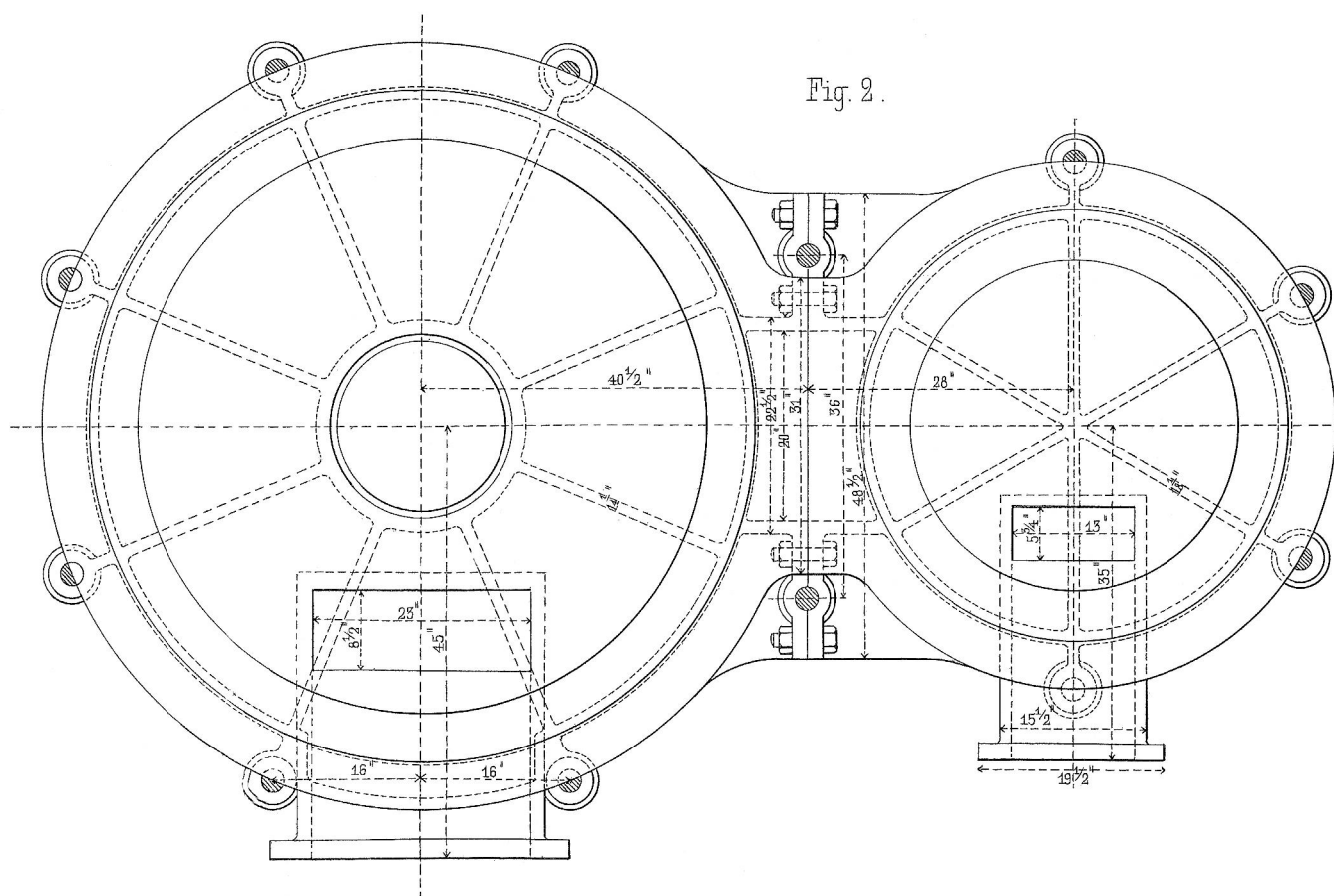


Fig. 2.

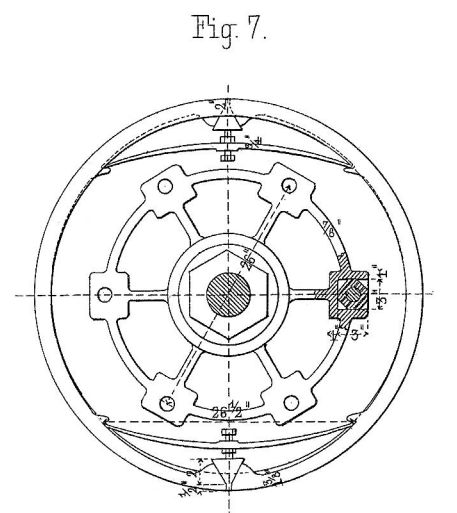
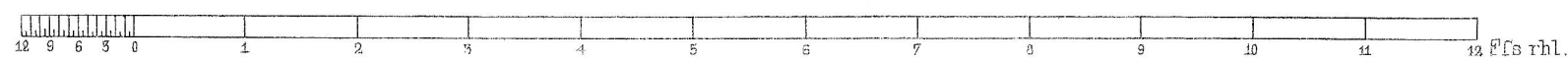
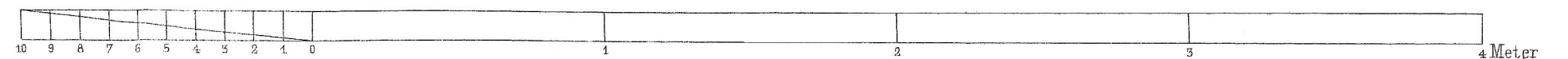


Fig. 7.



Maassstab 1:20



Condensator mit Luftpumpe.



Fig. 1.

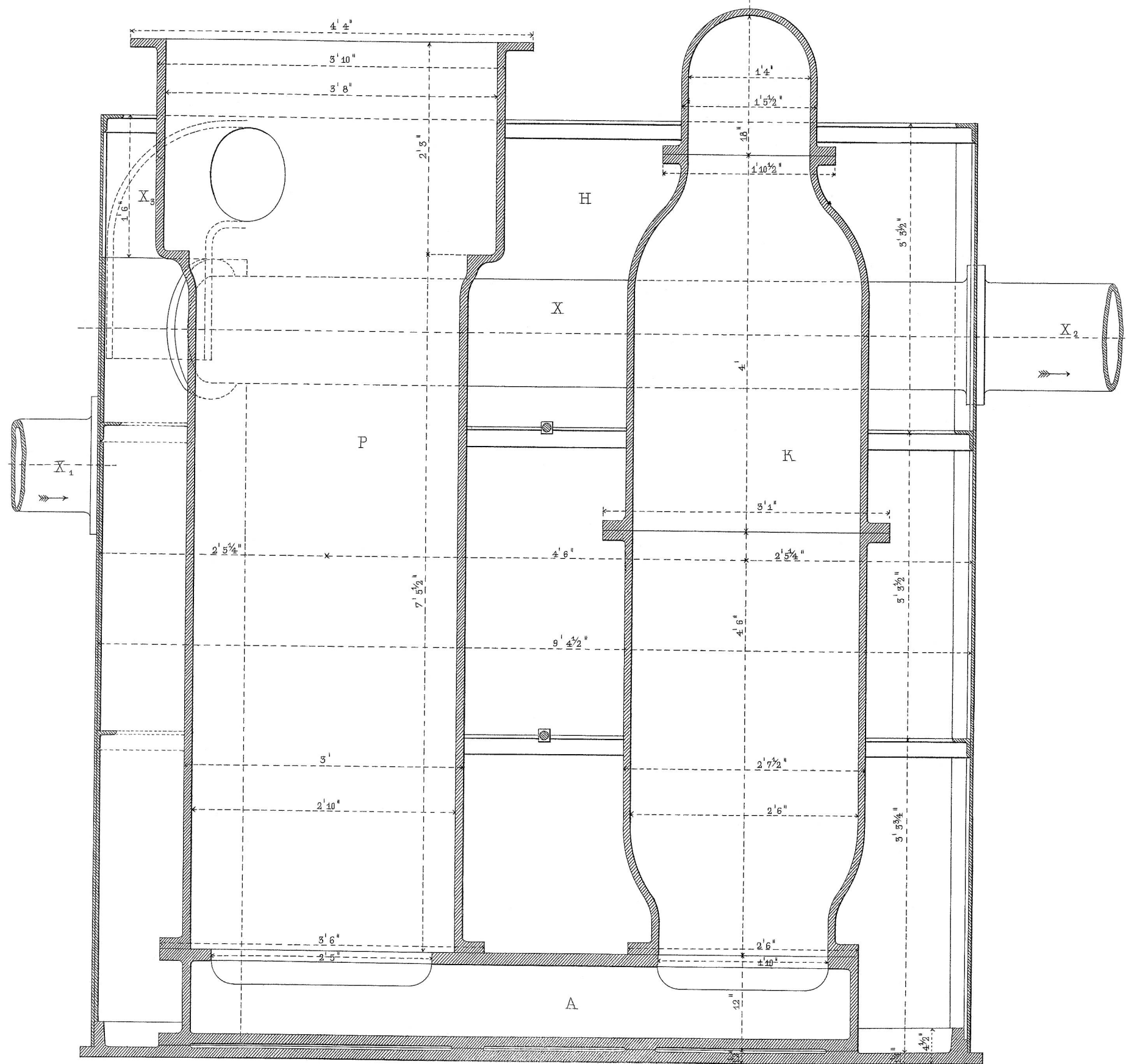


Fig. 2.

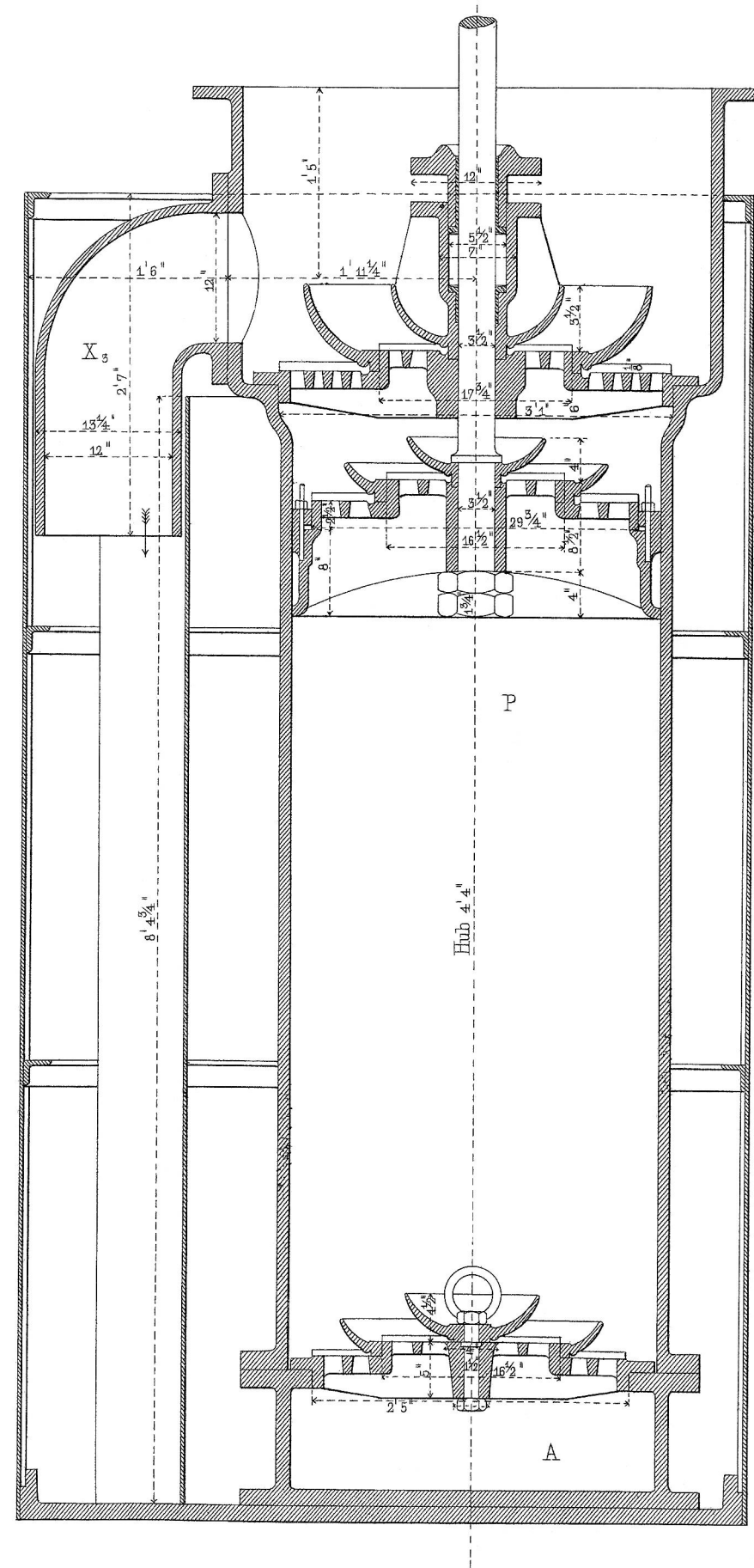
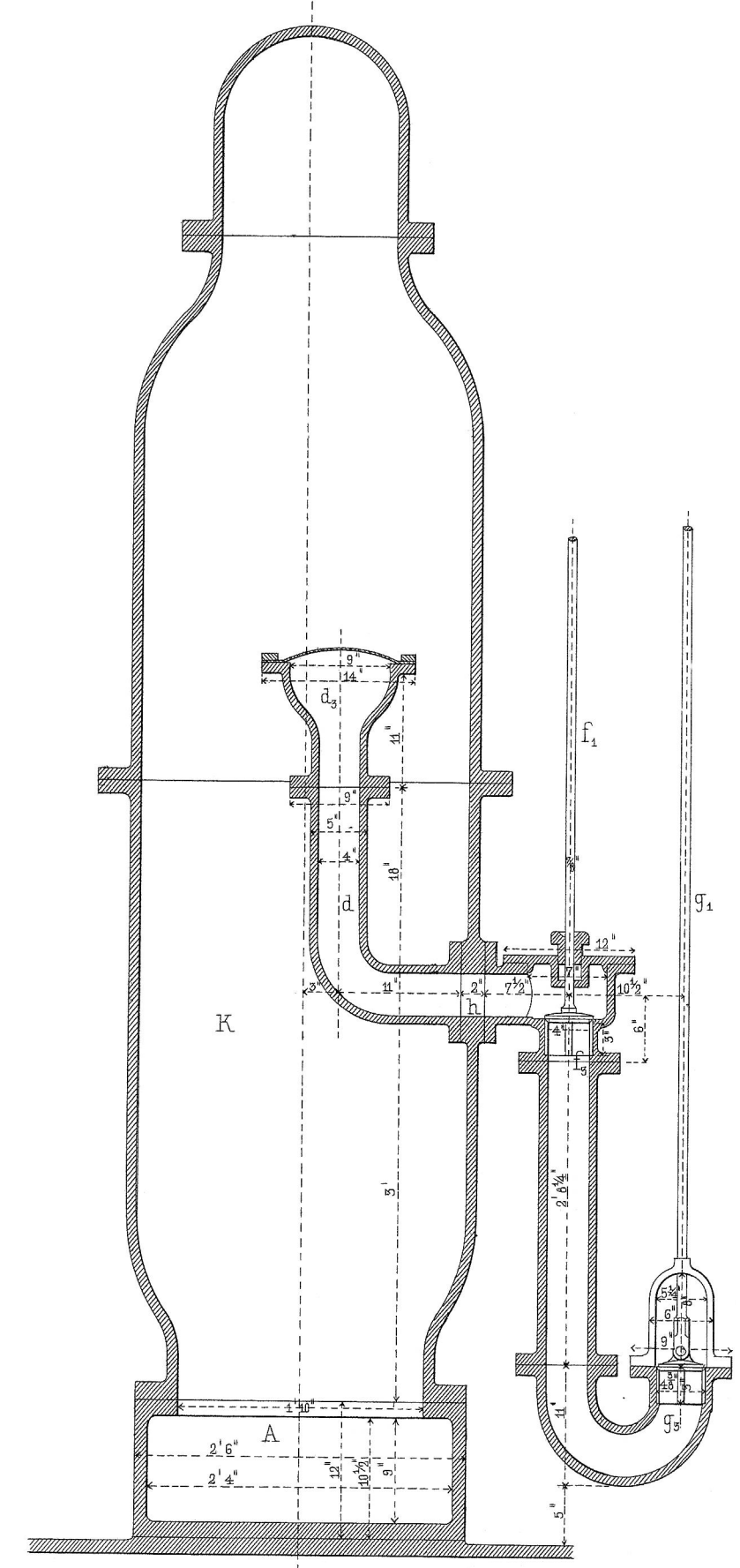
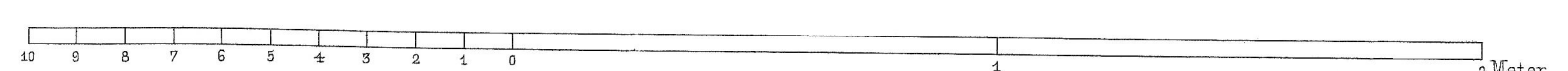
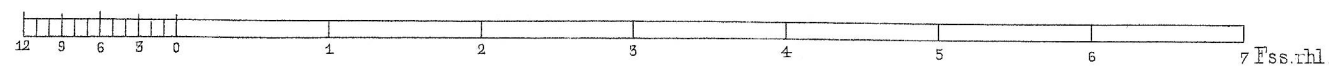


Fig. 3.



Maafsstab 1 : 15



Ernst & Korn Berlin.

Walther geol.

Fig. 4.

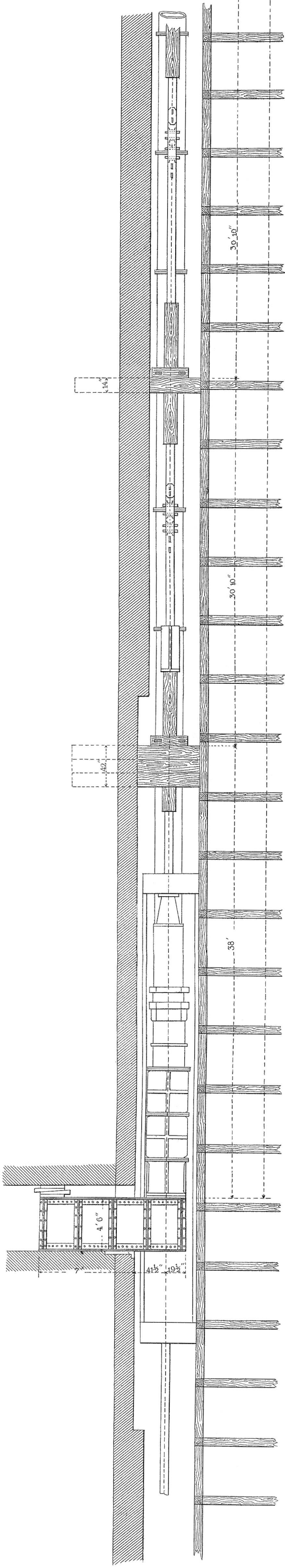


Fig. 2.

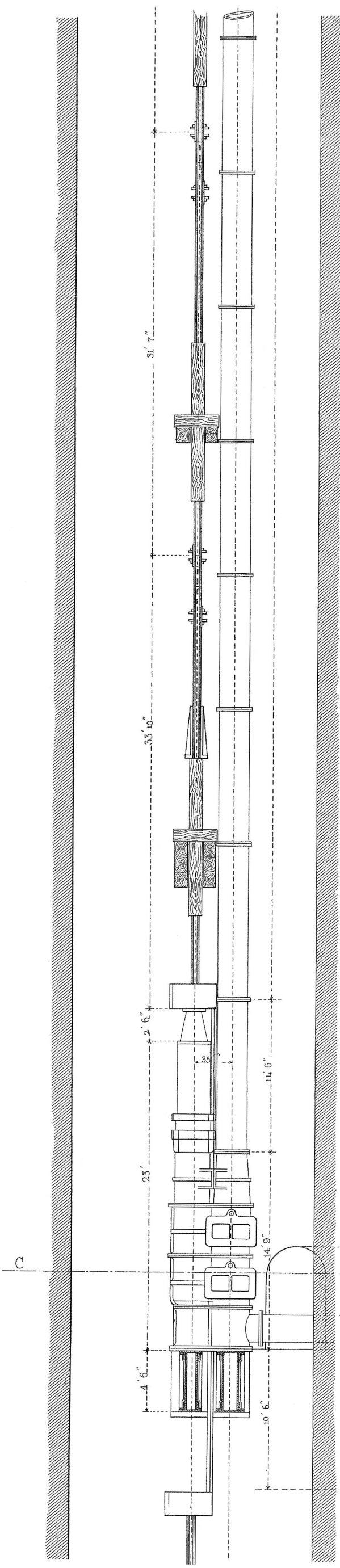
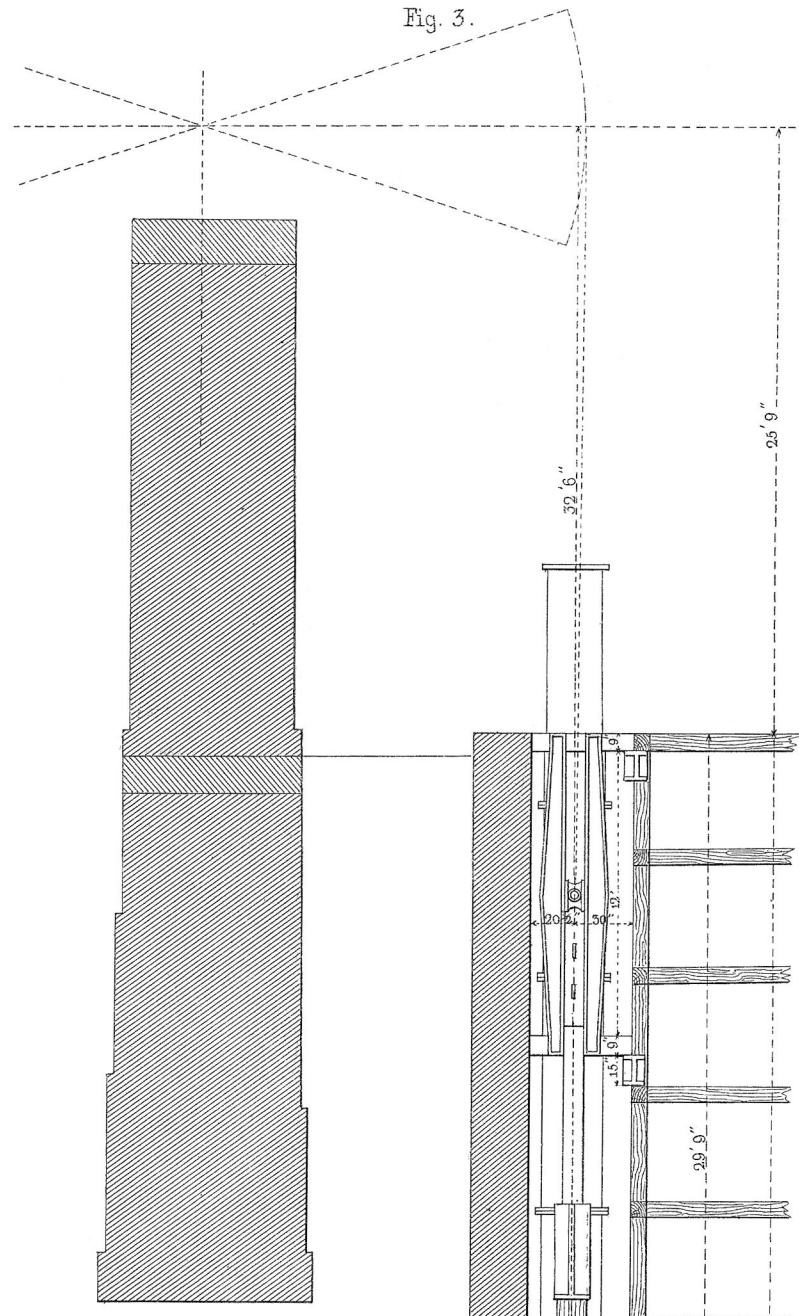
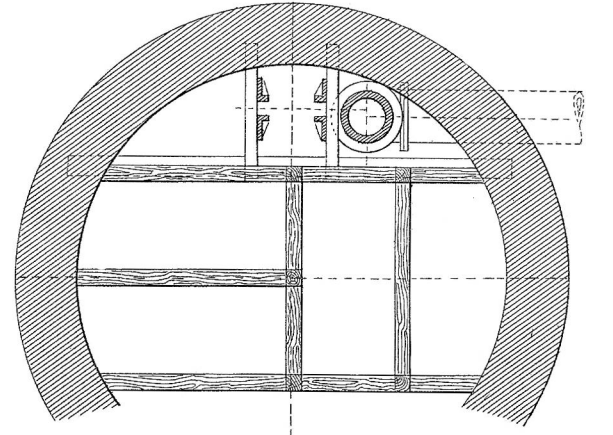


Fig. 3.



Schnitt A B.
Fig. 5.



Schnitt C D.

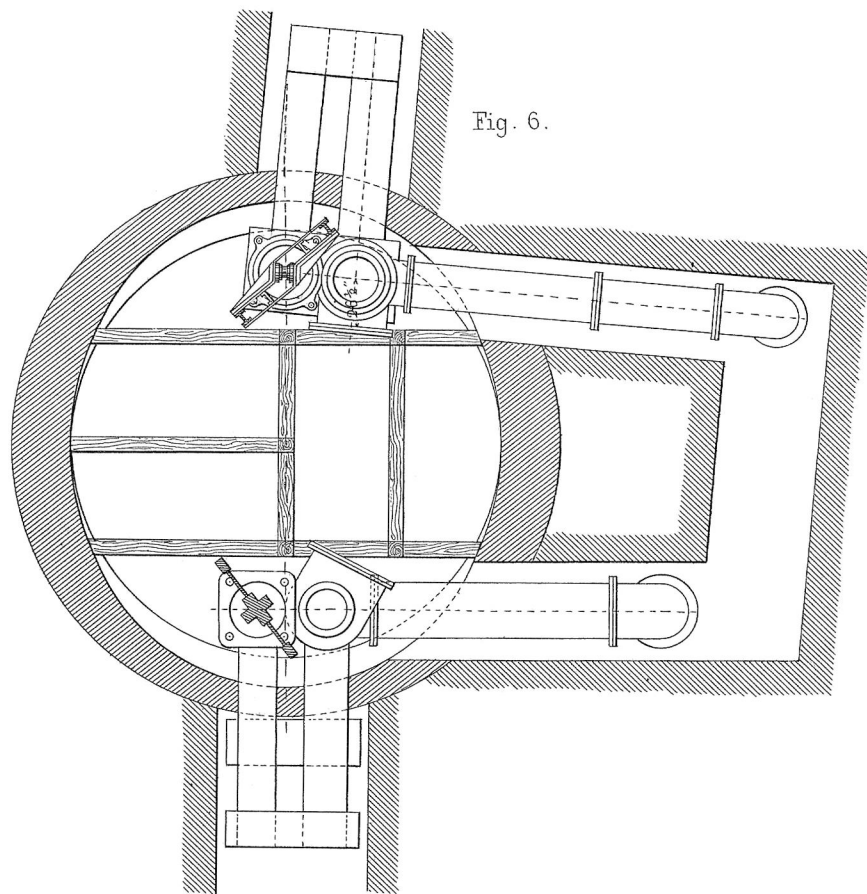
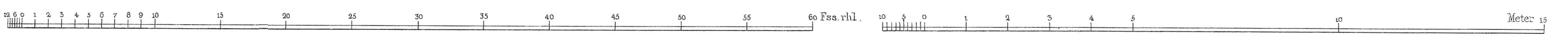
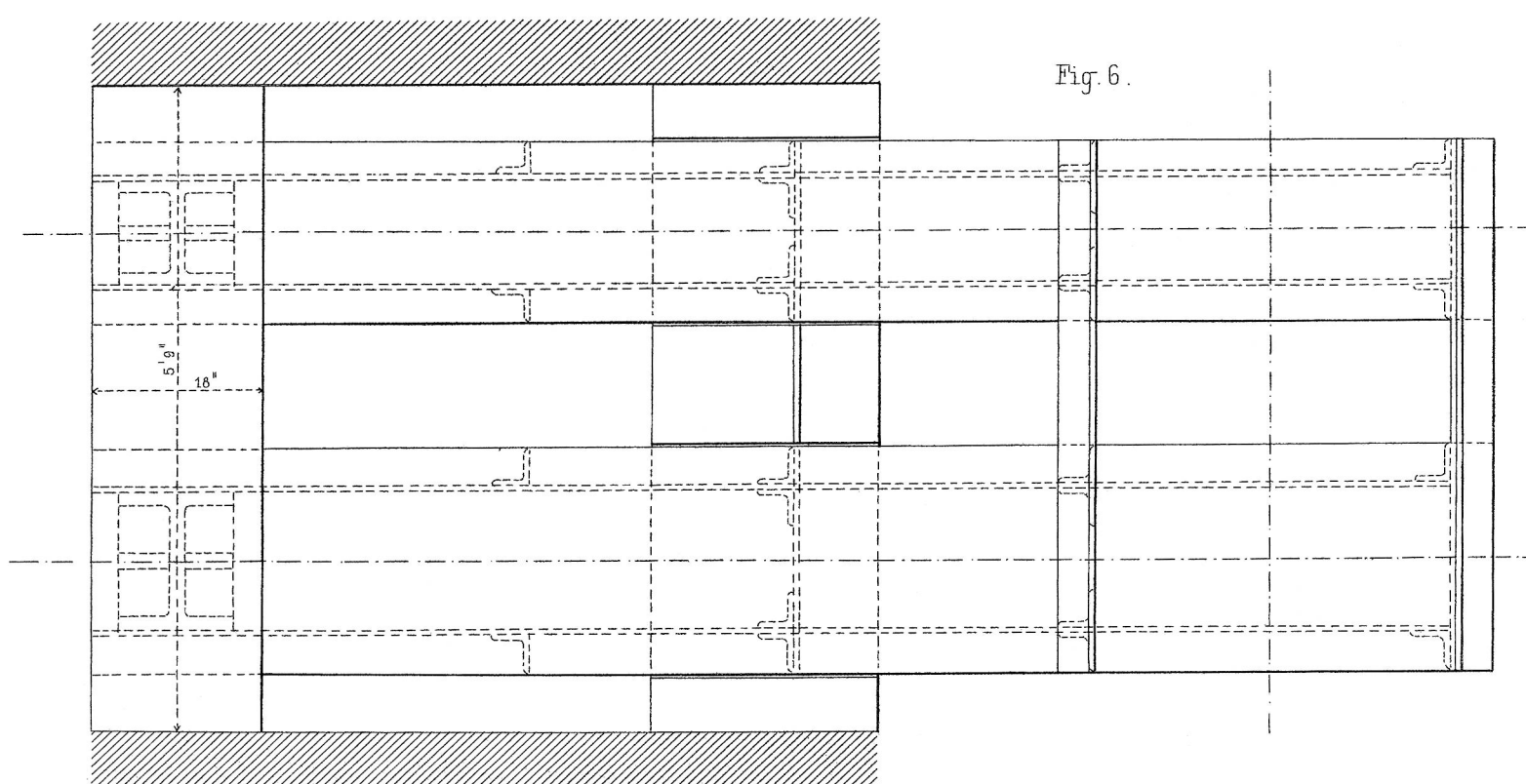
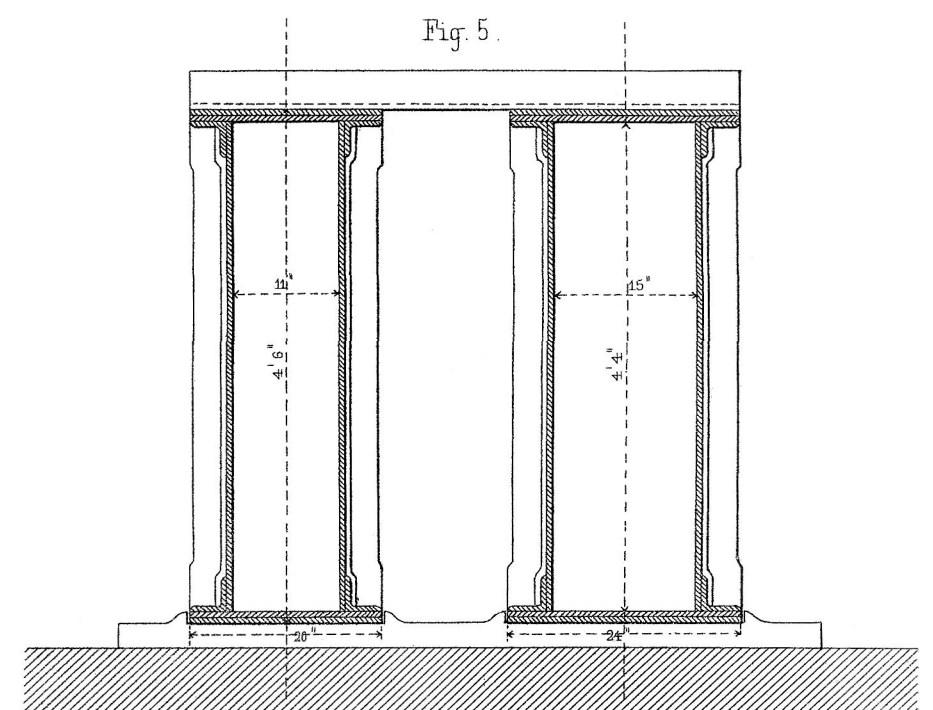
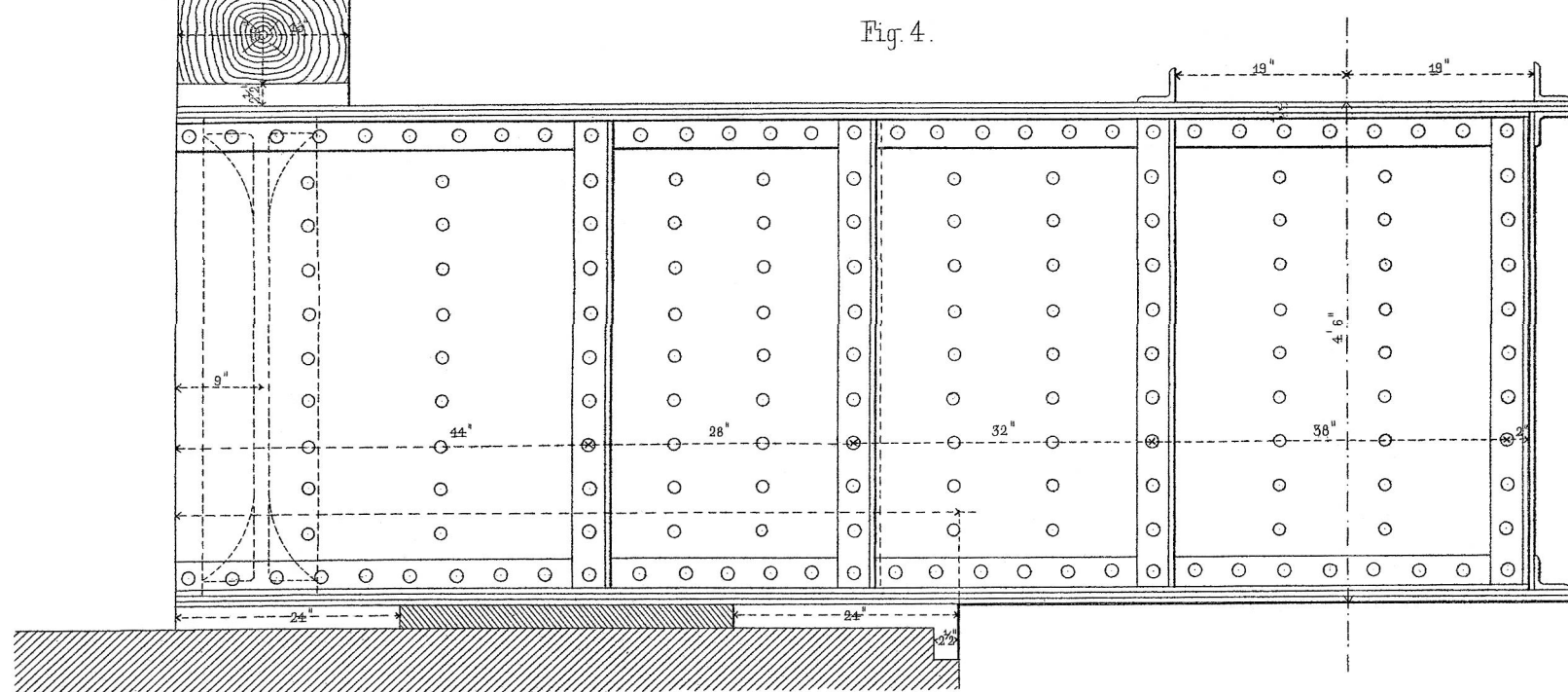
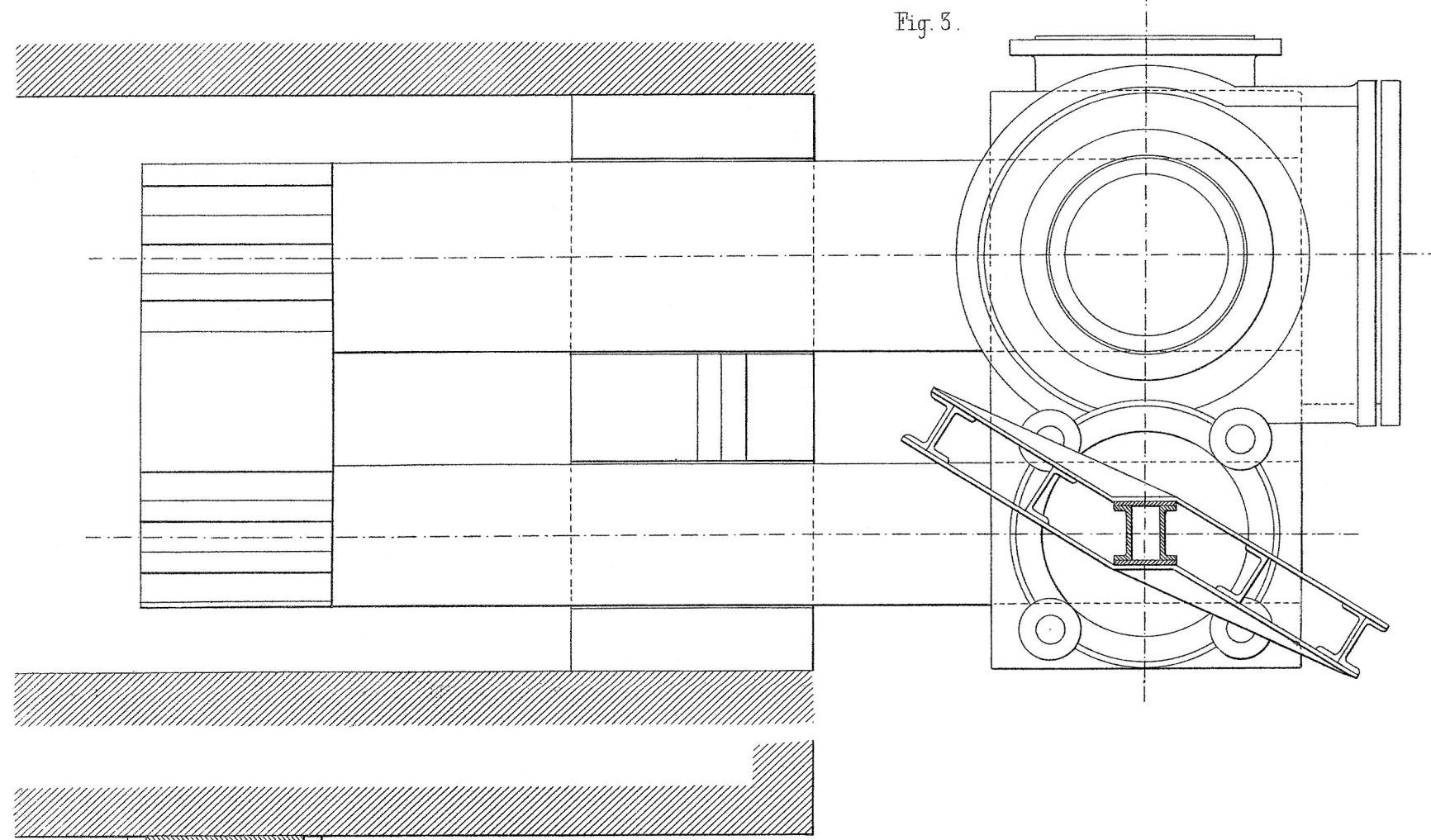
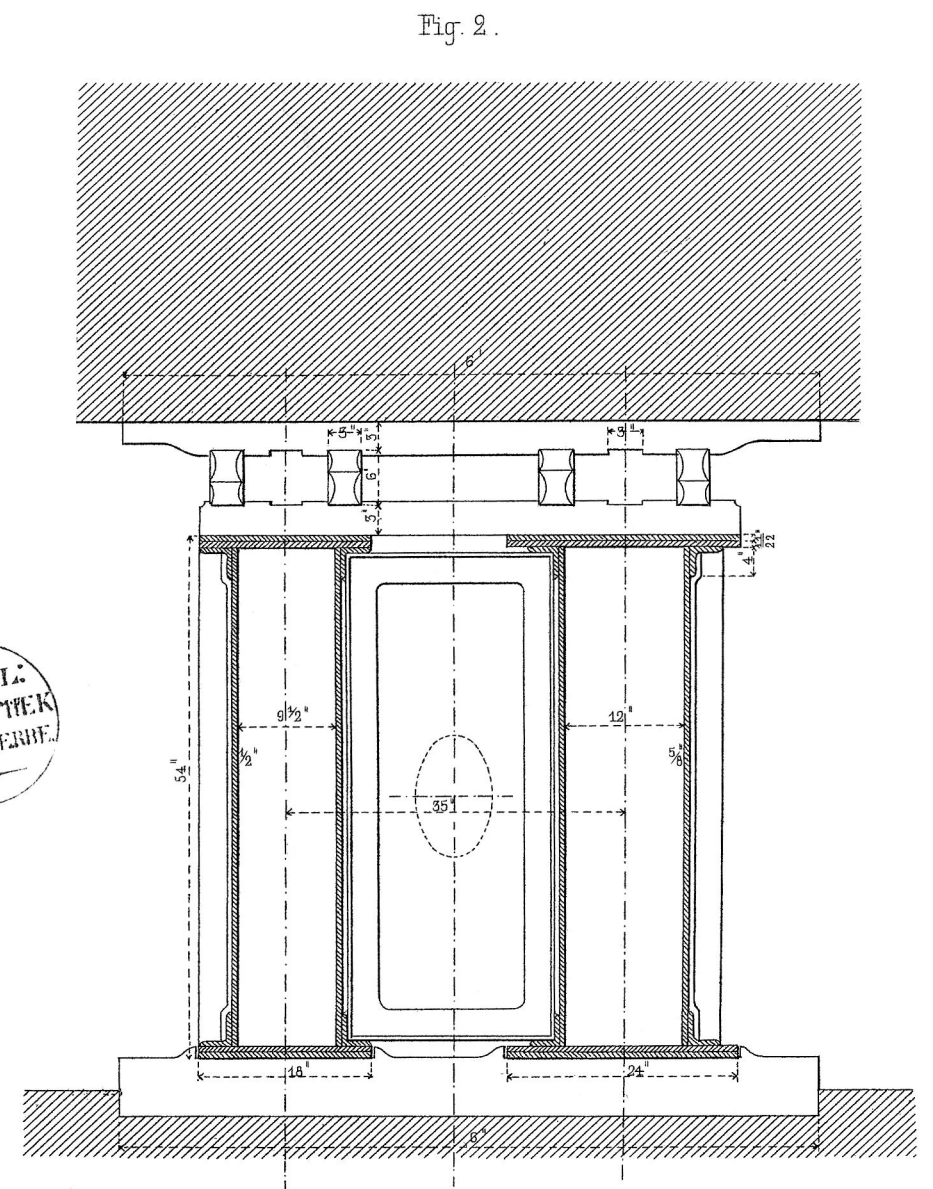
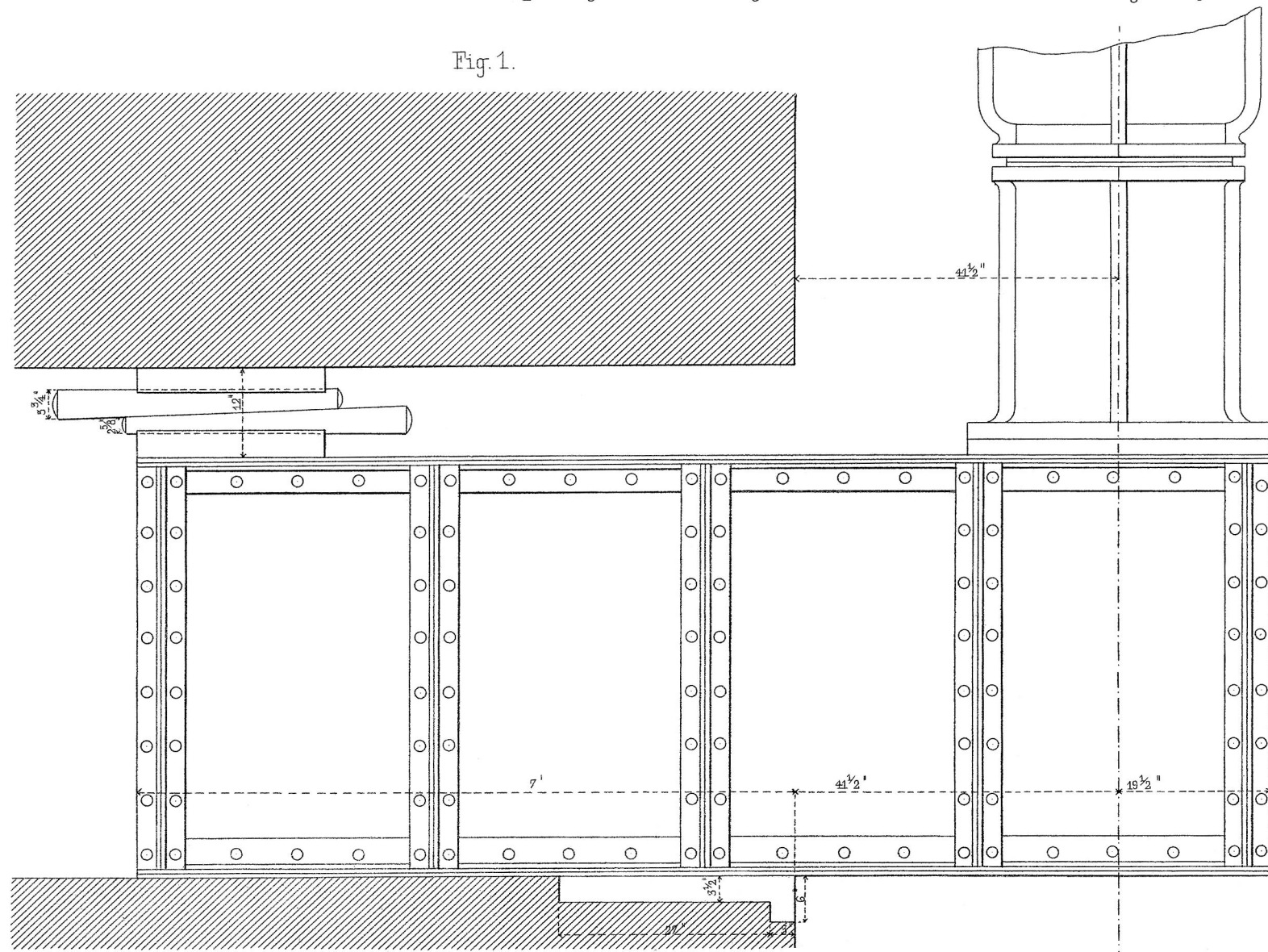


Fig. 6.



Maasstab 1:100.





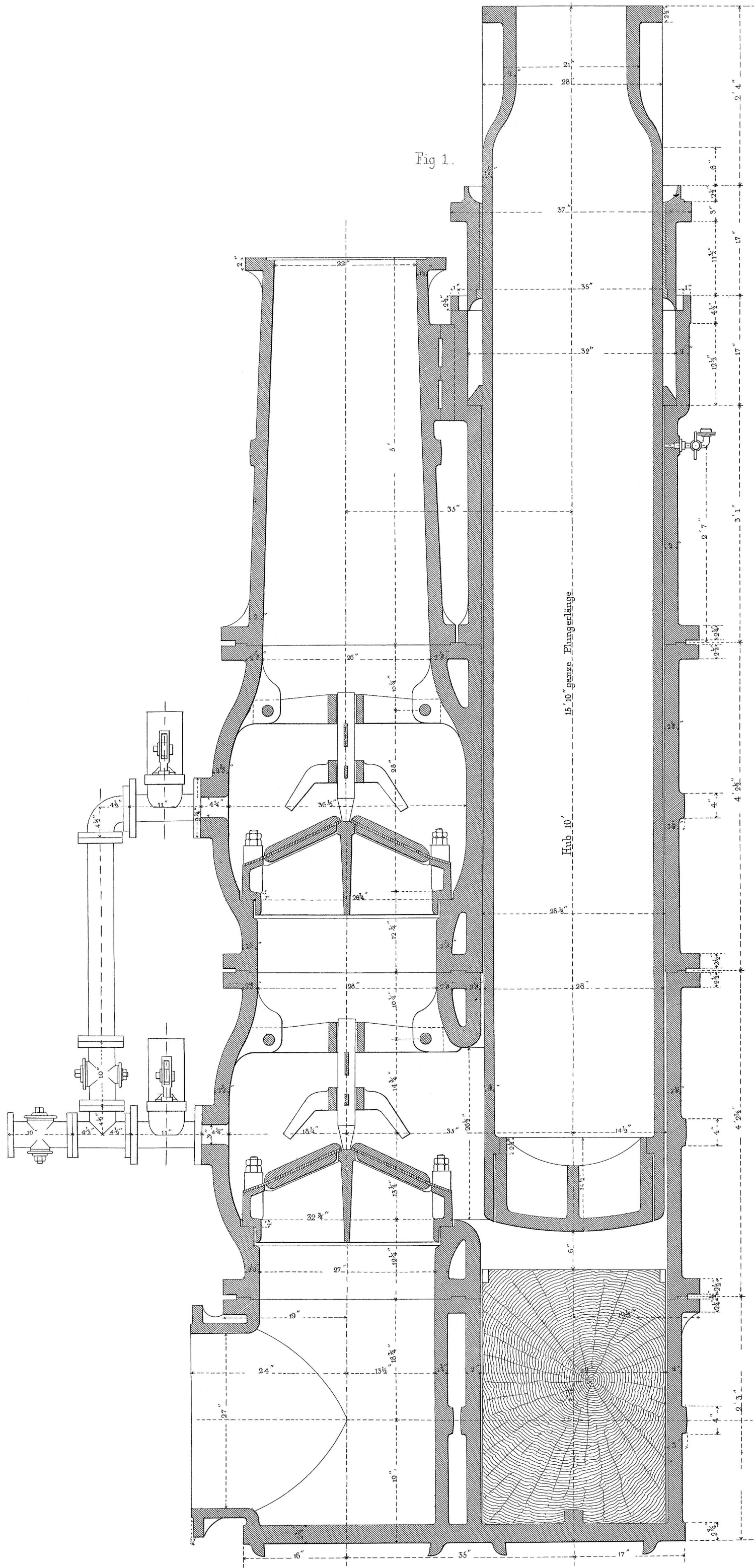


Fig. 1.

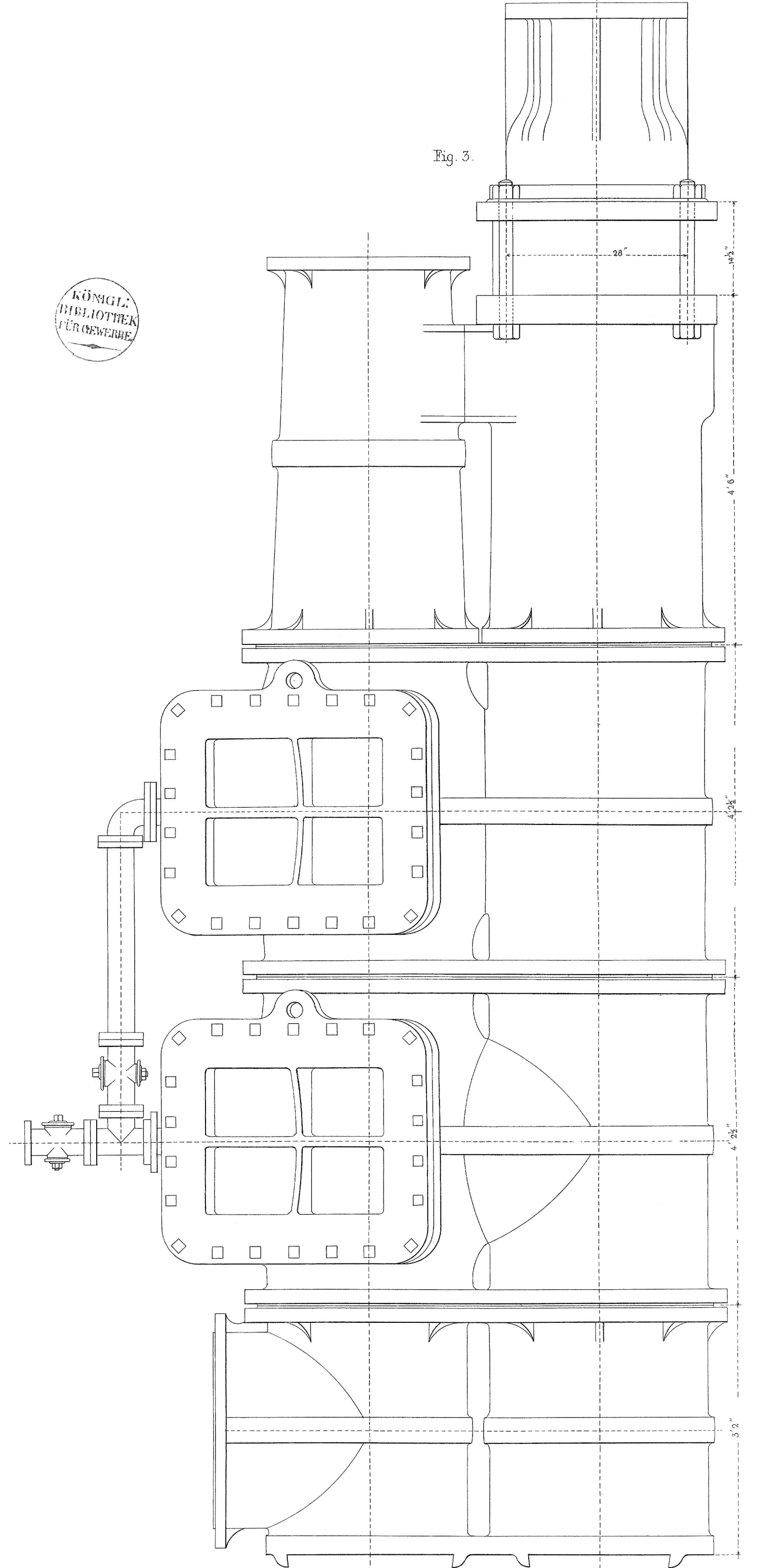


Fig. 3.

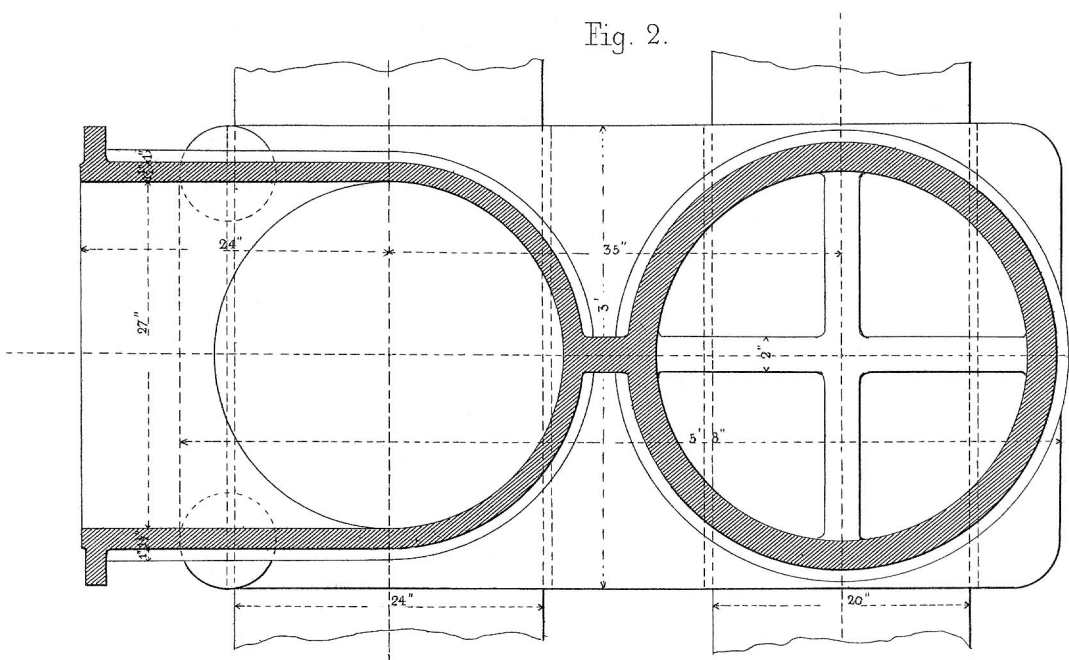


Fig. 2.

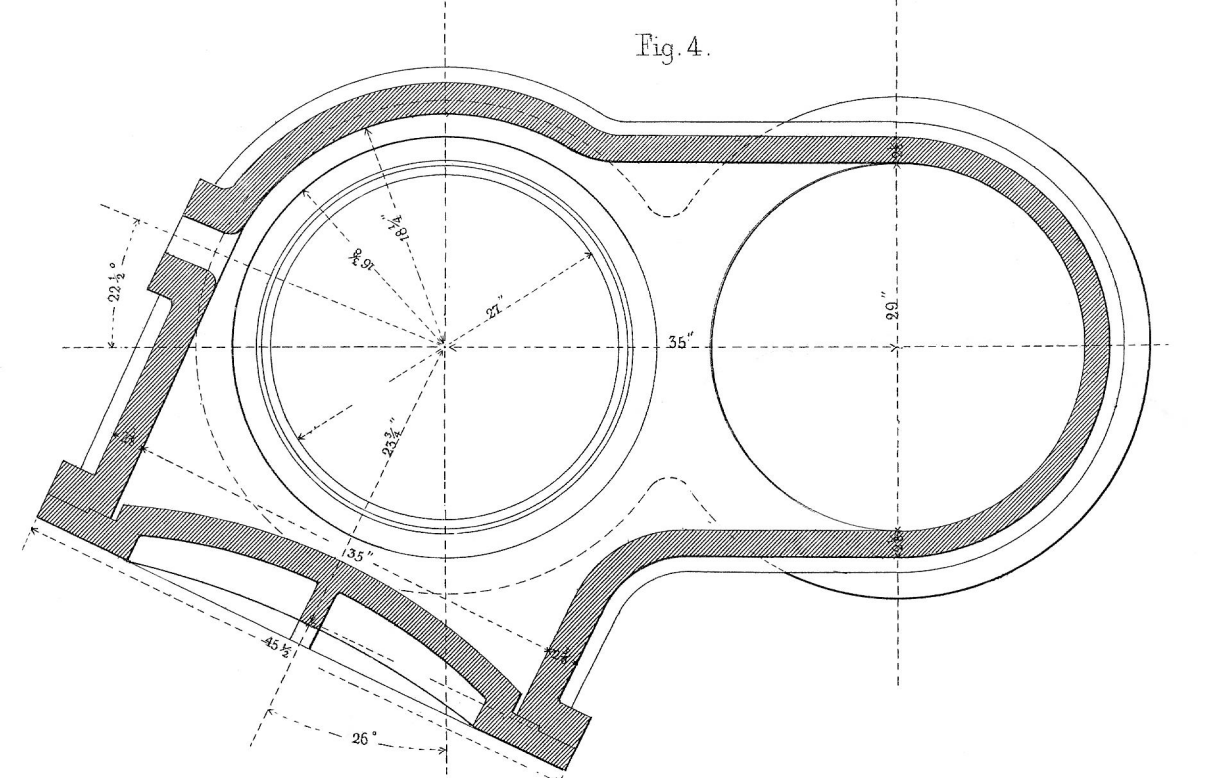


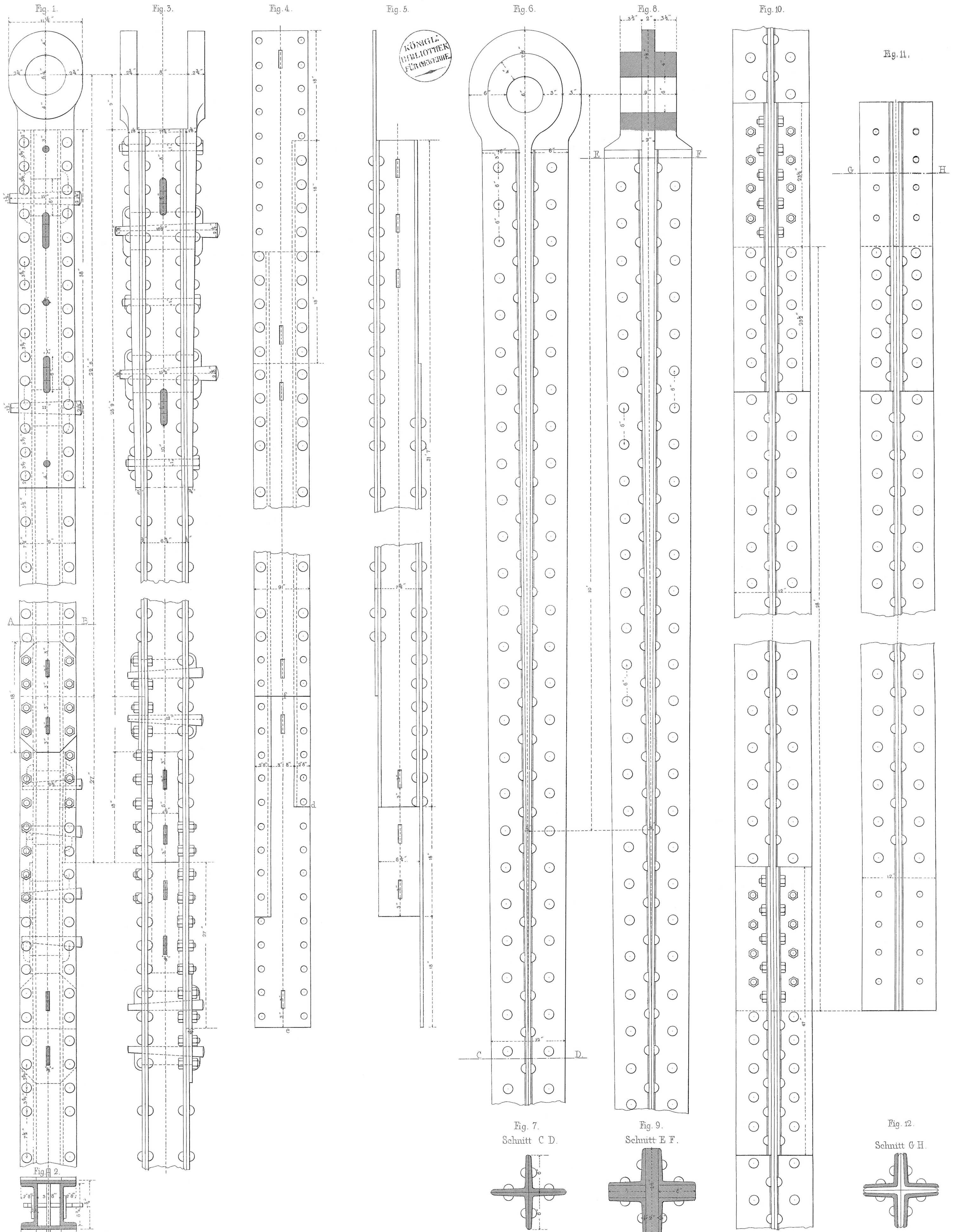
Fig. 4.

Maassstab 1:15.

121109876543210

Ernst & Korn. Berlin.

Kadeder gest. 2 Meter



KÖNIGL. PRELIEFERTEN FÜR DEN BERGBAU

Maassstab 1:10.

rhl. Fas. 5 10 20 30 40 50 60 70 80 90 100

Meter.

Ernst & Korn. Berlin.

Kadeder gest.

Fig. 1.

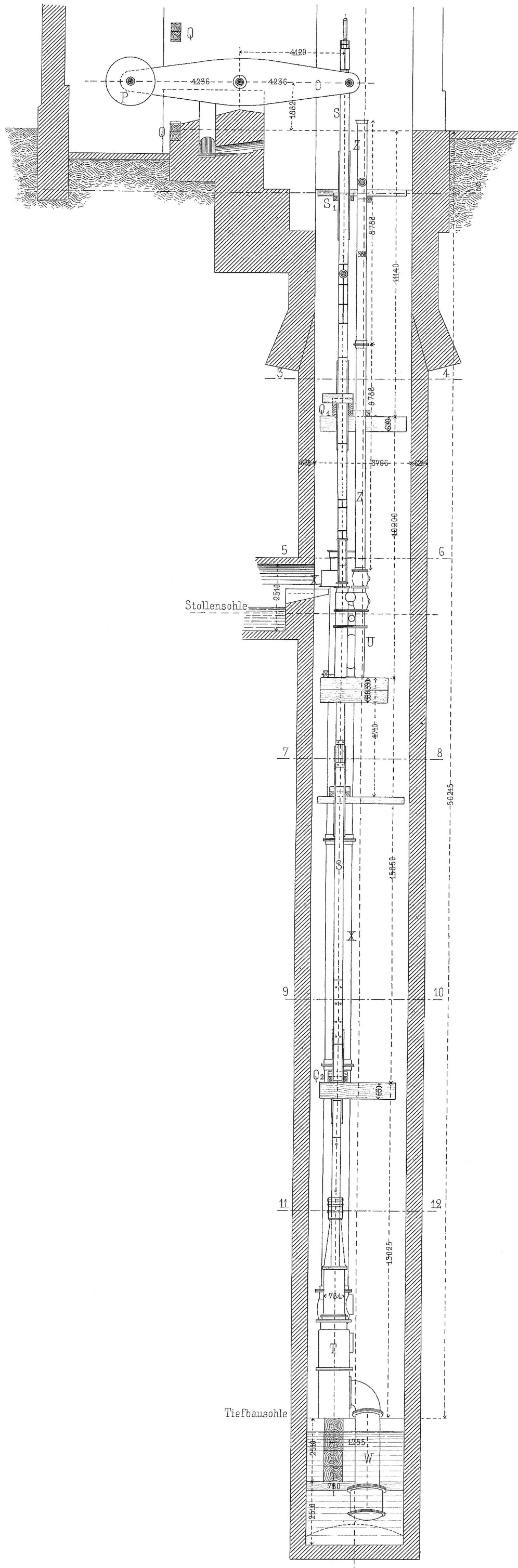


Fig. 3.

Schnitt 1-2.

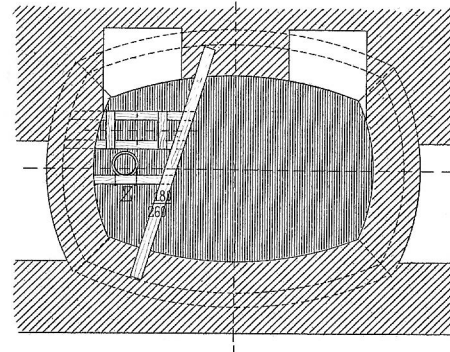


Fig. 4.

Schnitt 3-4.

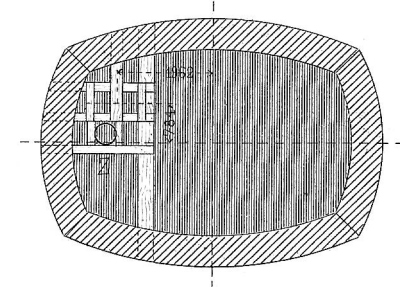


Fig. 5.

Schnitt 5-6.

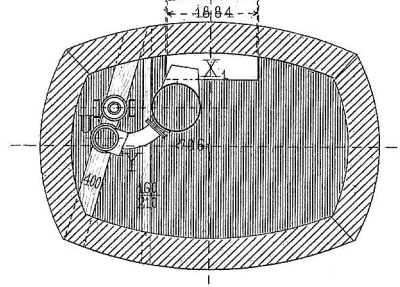


Fig. 6.

Schnitt 7-8.

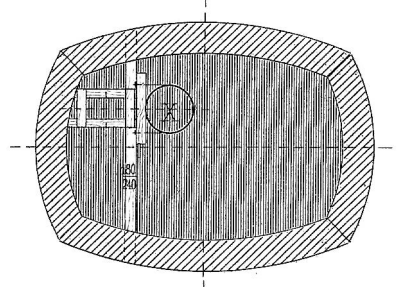


Fig. 7.

Schnitt 9-10.

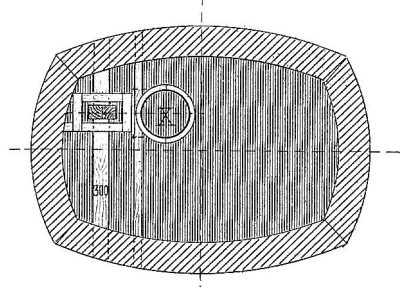


Fig. 8.

Schnitt 11-12.

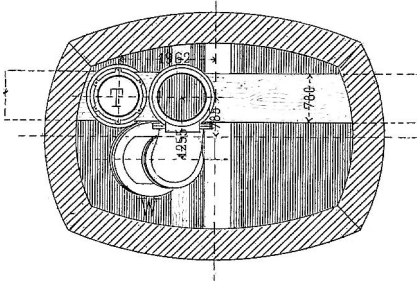
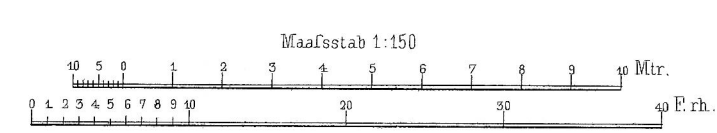
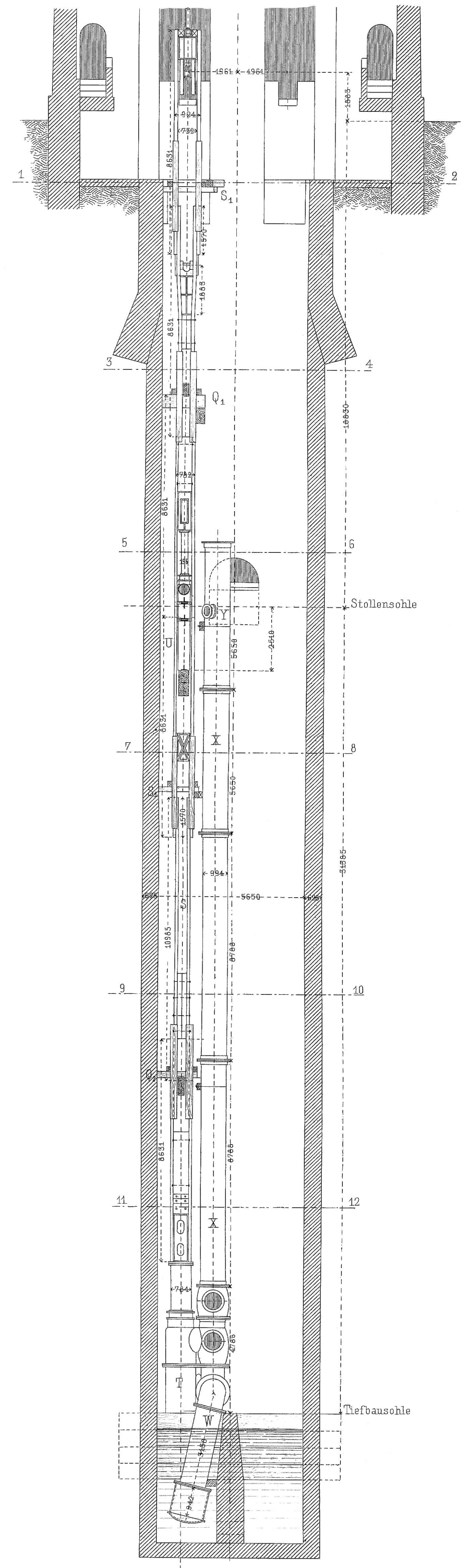
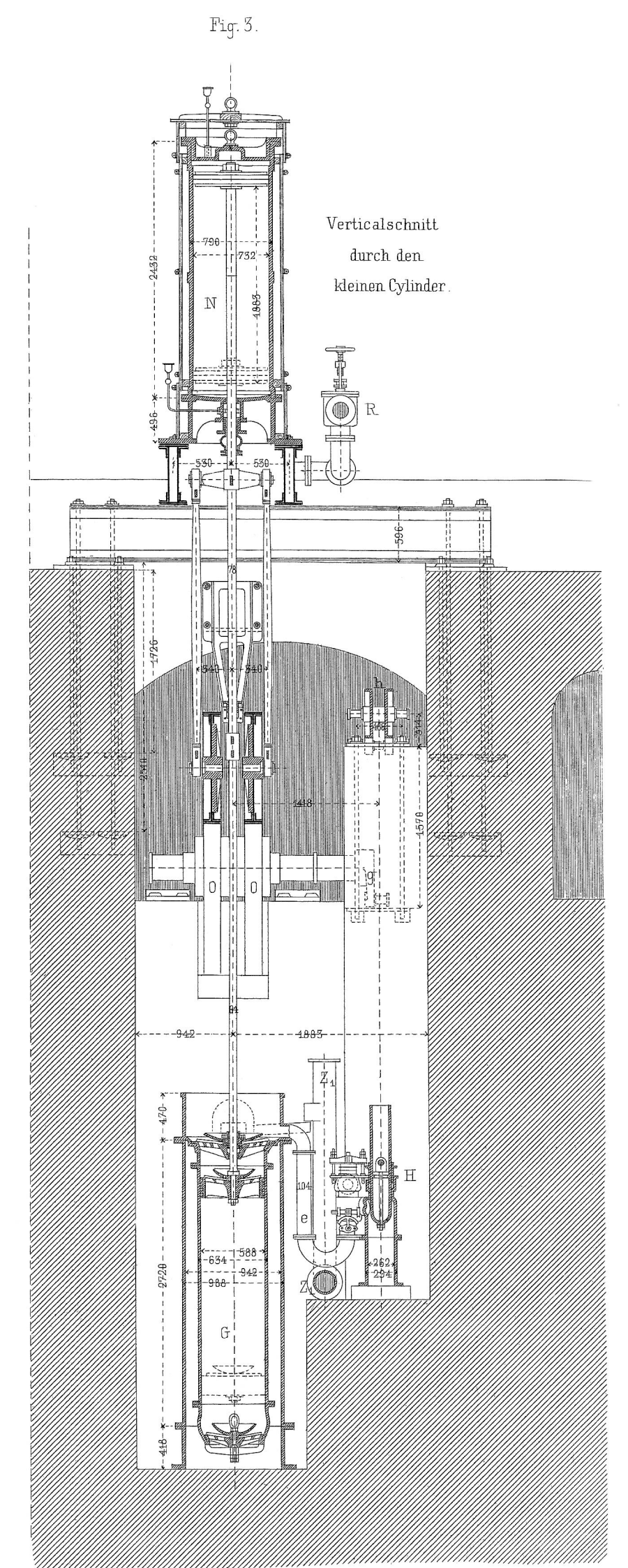
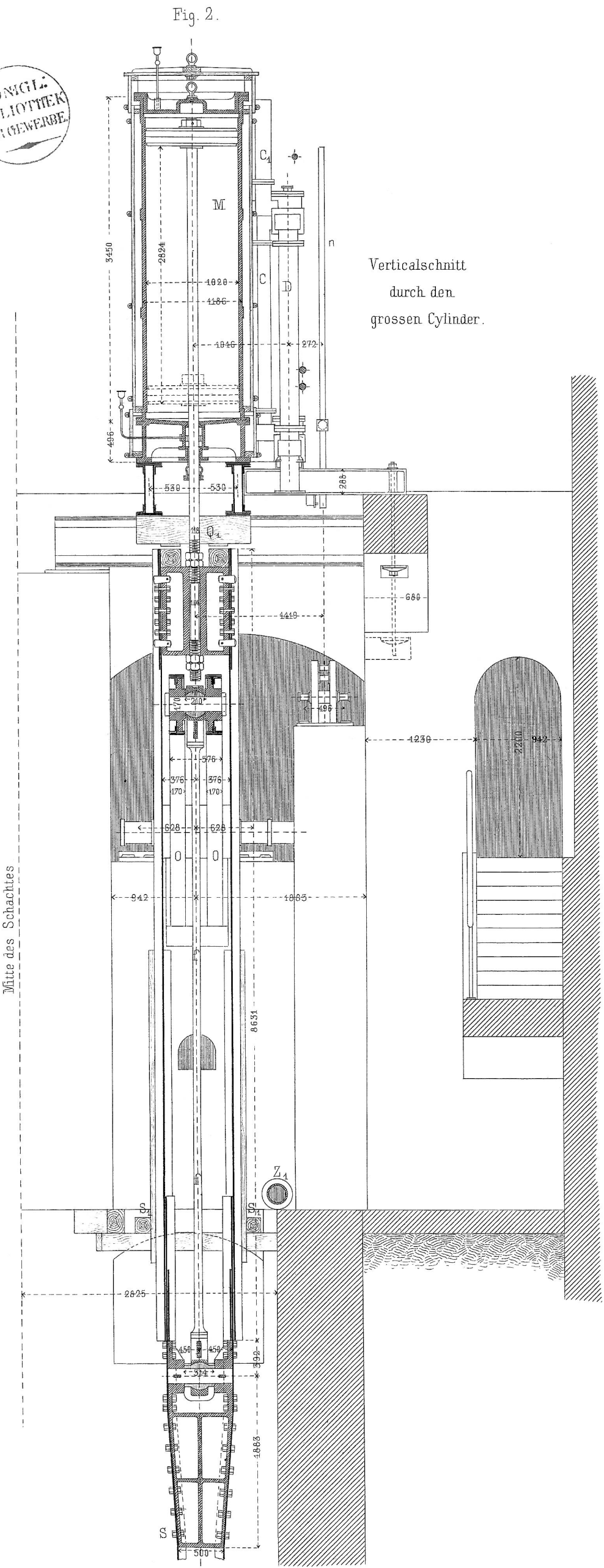
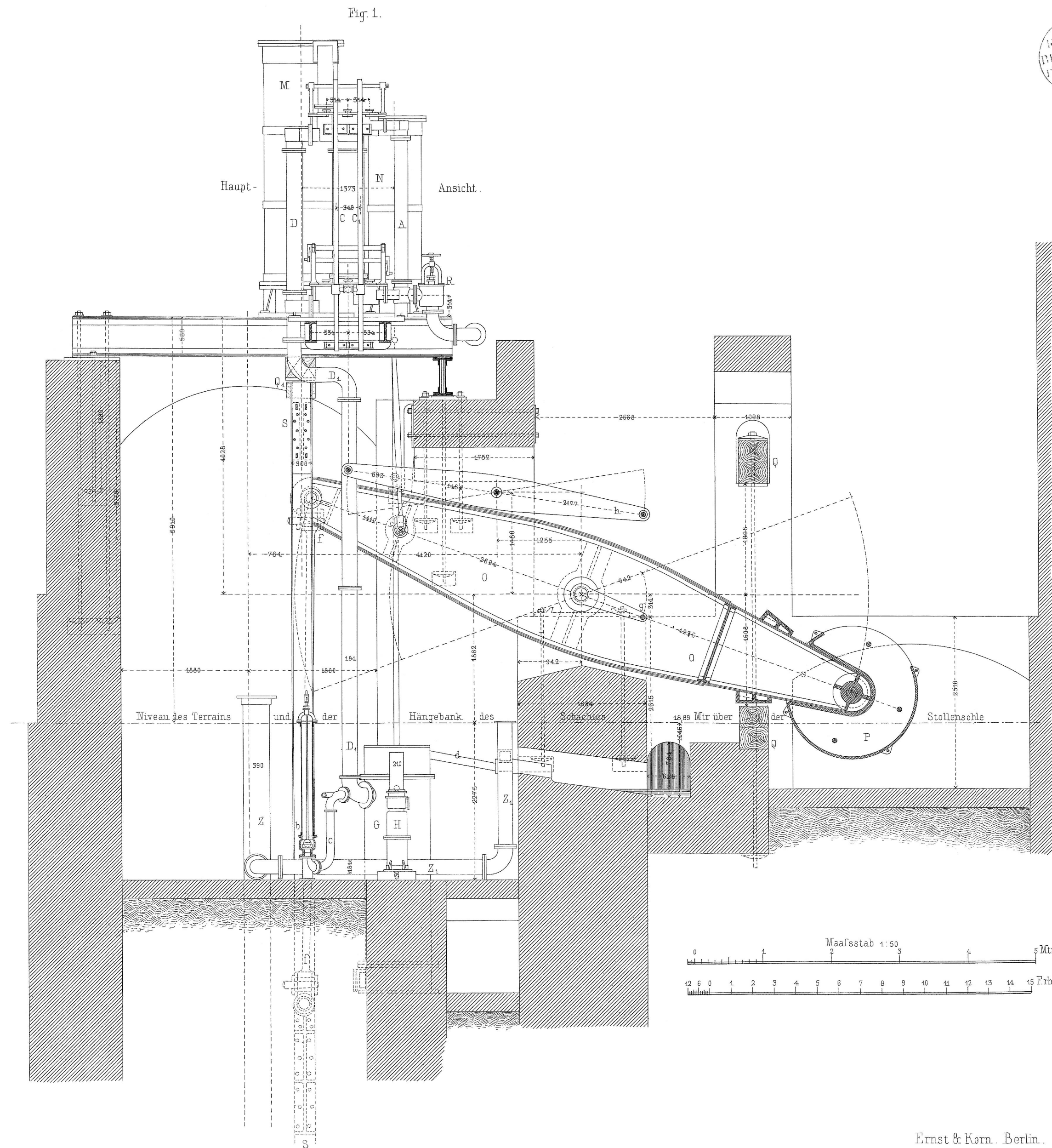


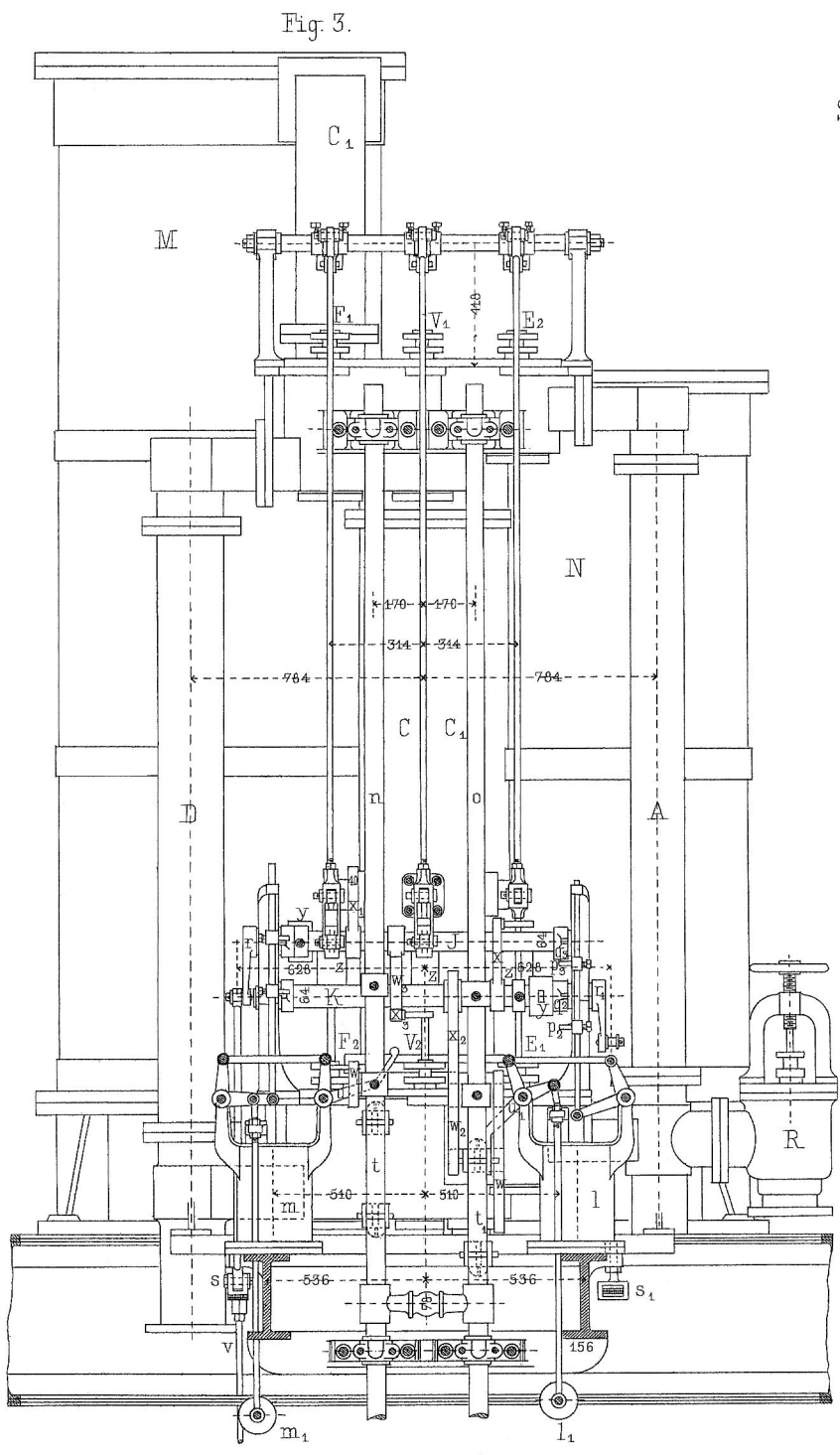
Fig. 2.



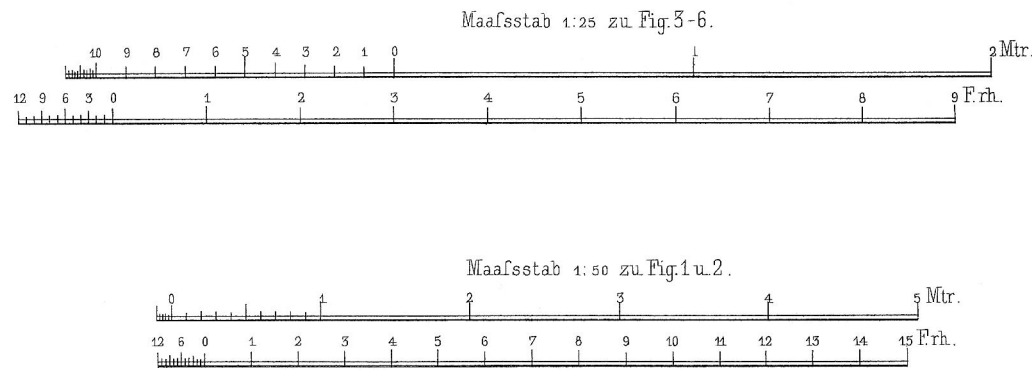
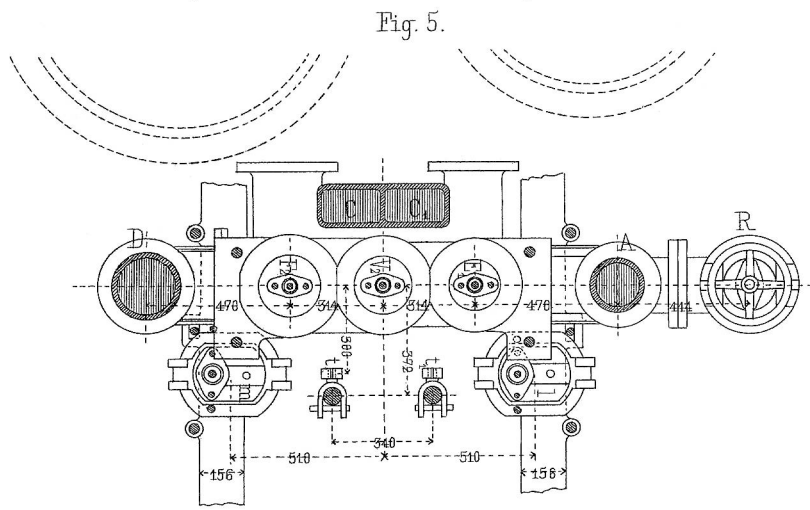
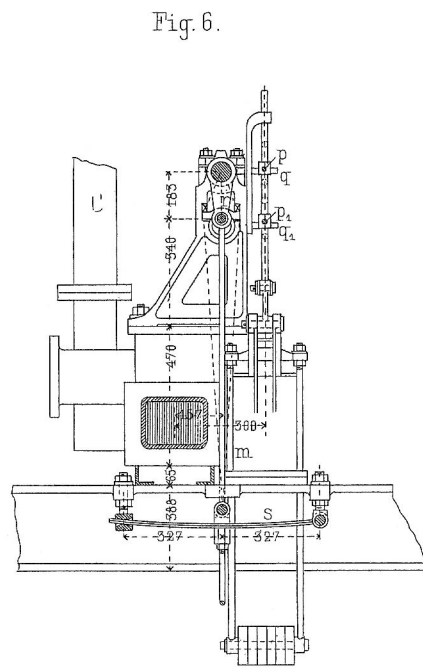
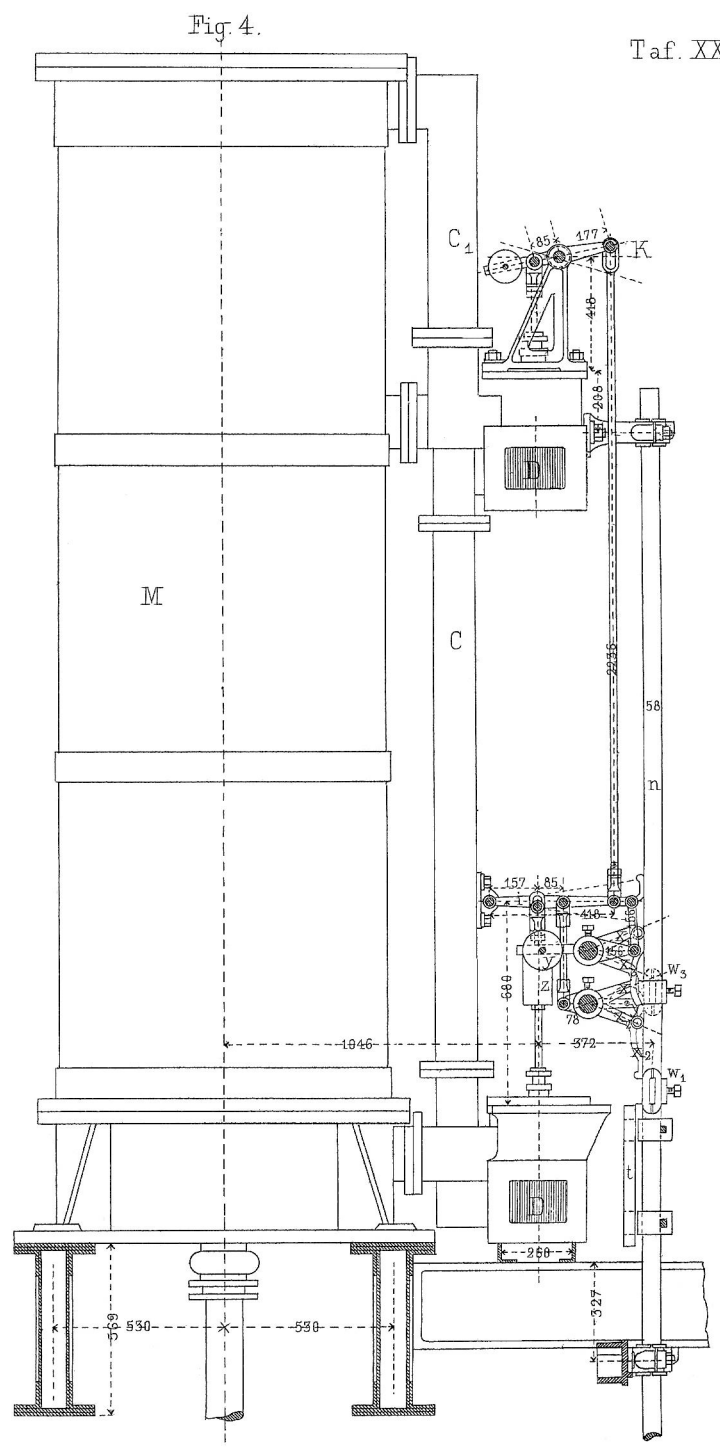
Ernst & Korn. Berlin.

Walther gest.

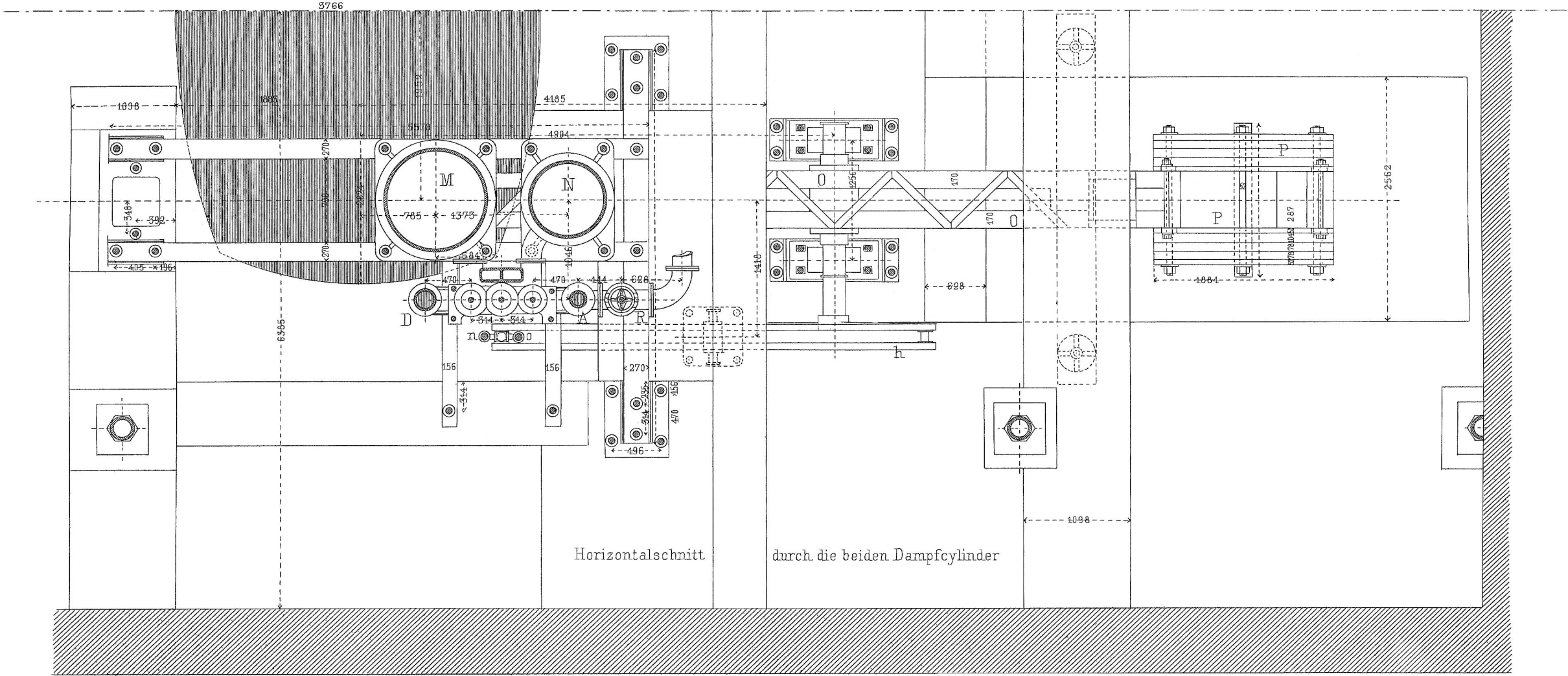




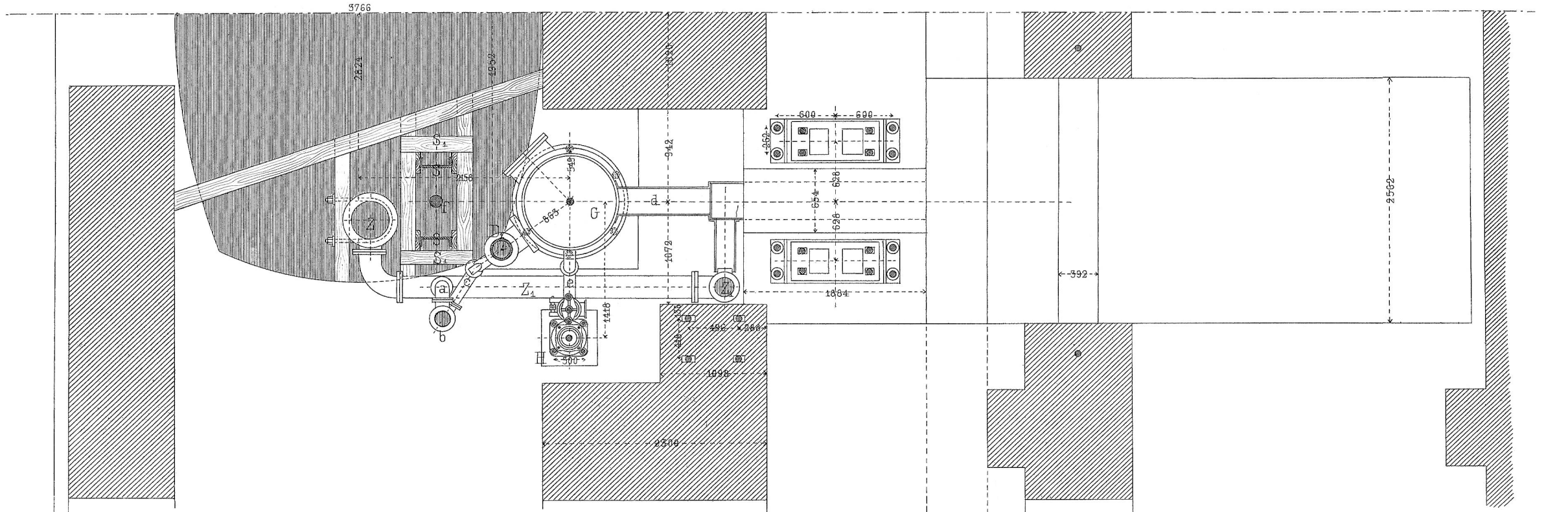
Steuerung der doppeltw. Woolf'schen Wasserhaltungs-Dampfmaschine der Steinbrüche zu Rüdersdorf.



Horizontalschnitt durch die beiden Dampfzylinder



Horizontalschnitt unter dem Balanciermittel



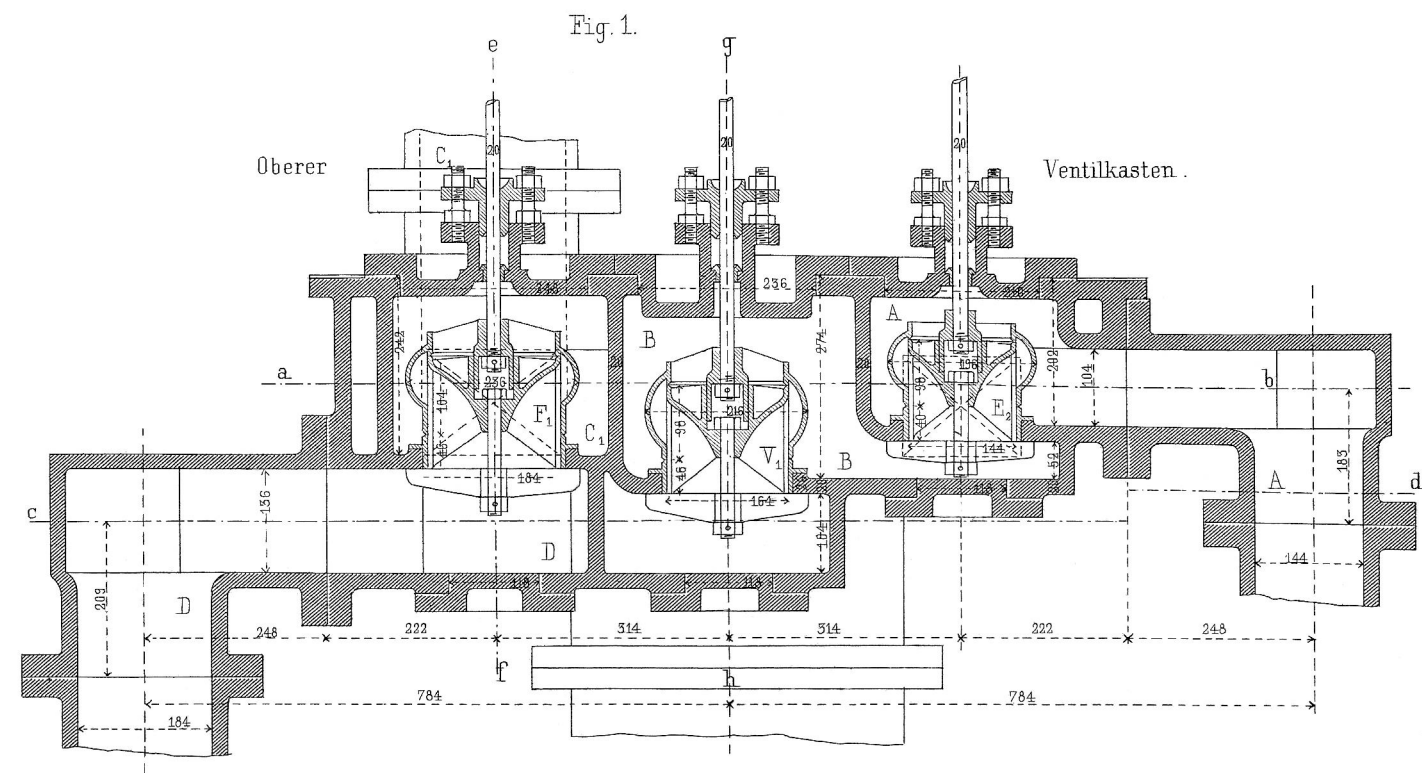
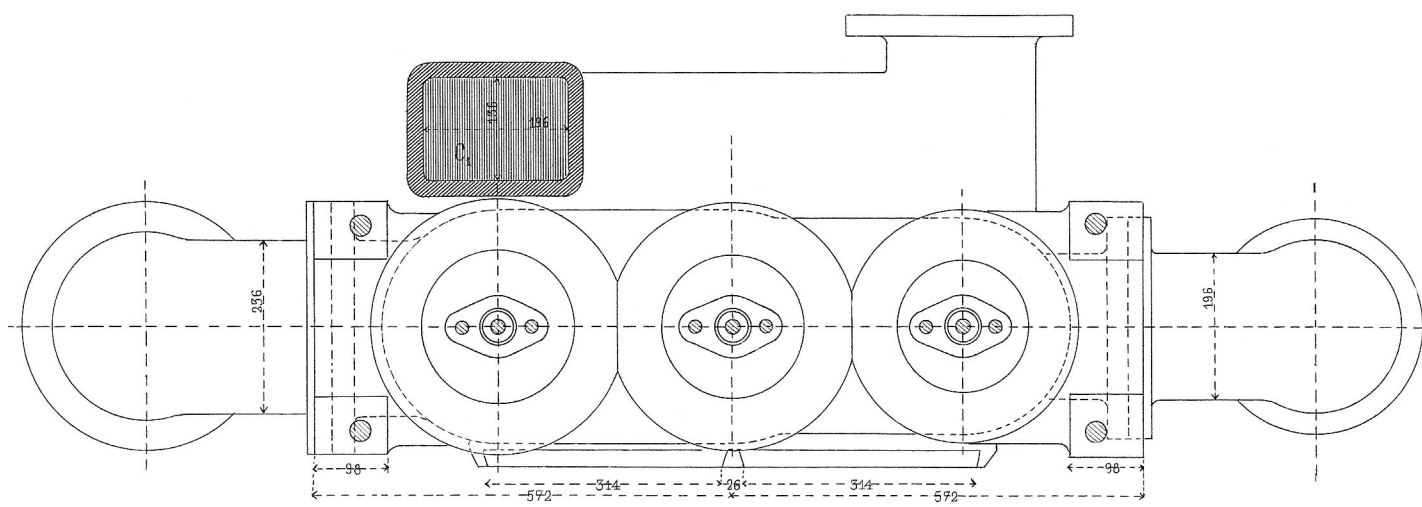


Fig. 2. Grundriss des oberen Ventilkastens.



Hub der Ventile F₁, V₁, E₁ - 26 mm
Hub der Ventile F₂, V₂, E₂ - 20 mm

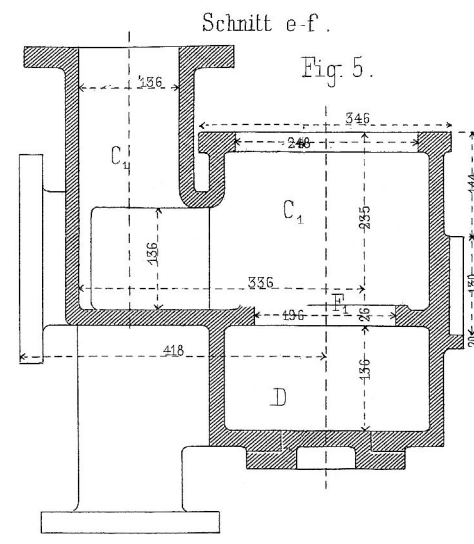


Fig. 6. Schnitt g-h.

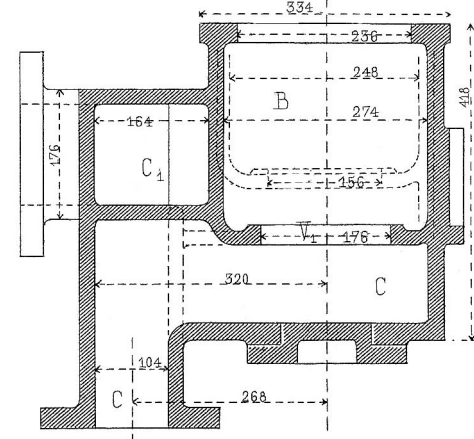


Fig. 3. Schnitt a-b.

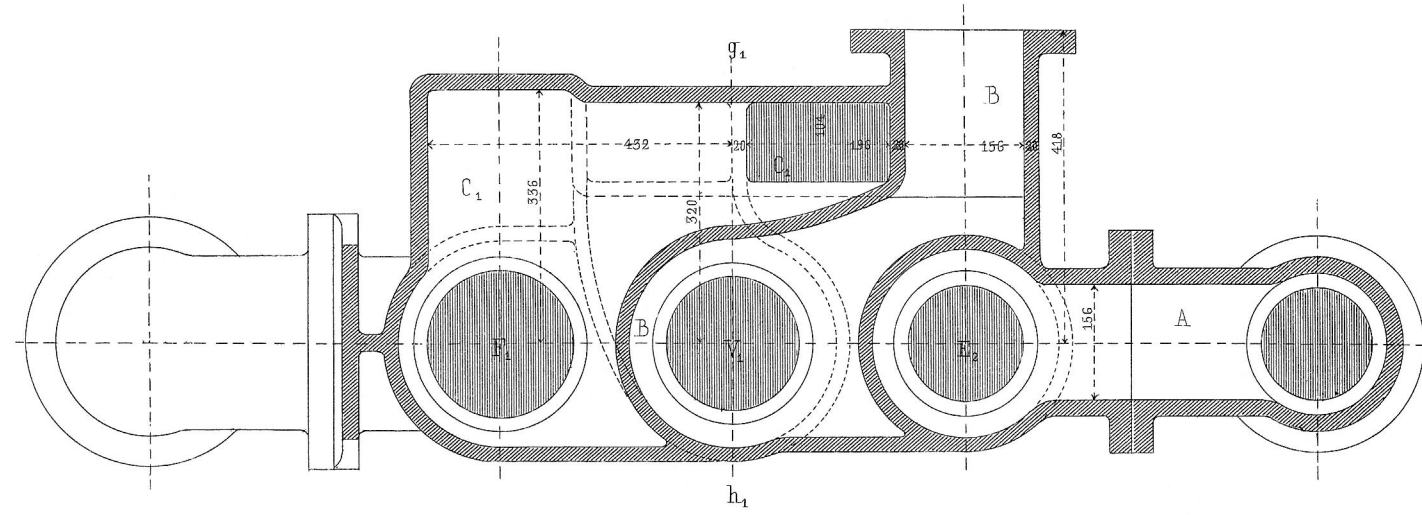


Fig. 11. Schnitt e₁-f₁.

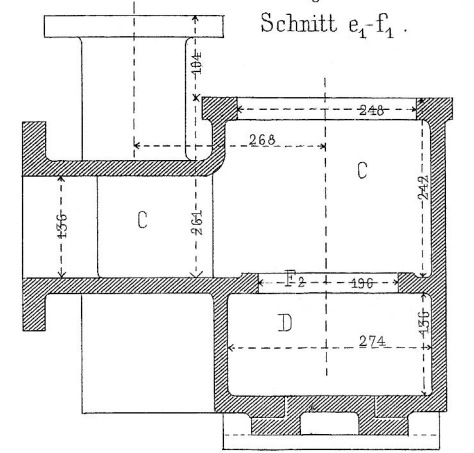


Fig. 4. Schnitt c-d.

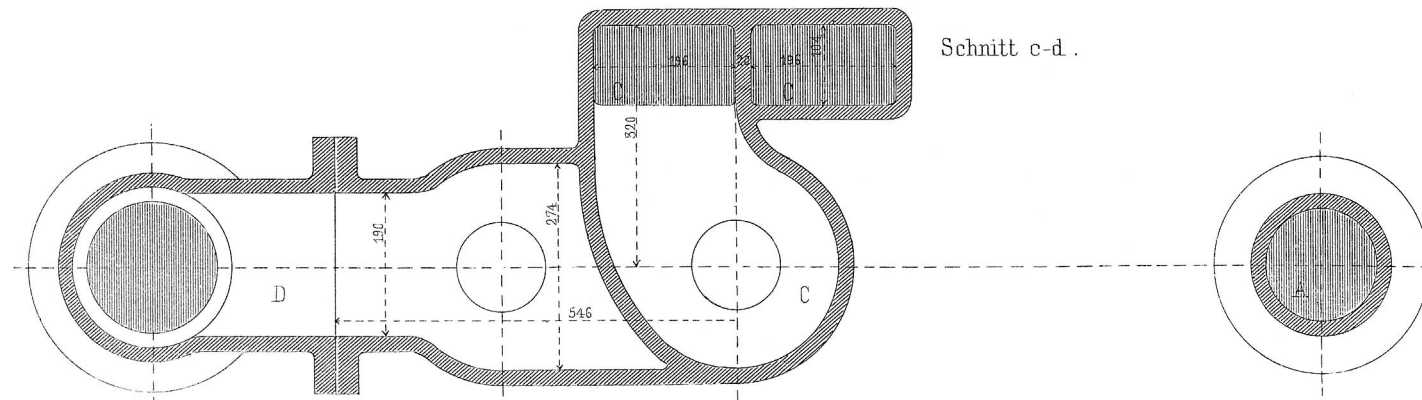


Fig. 12. Schnitt g₁-h₁.

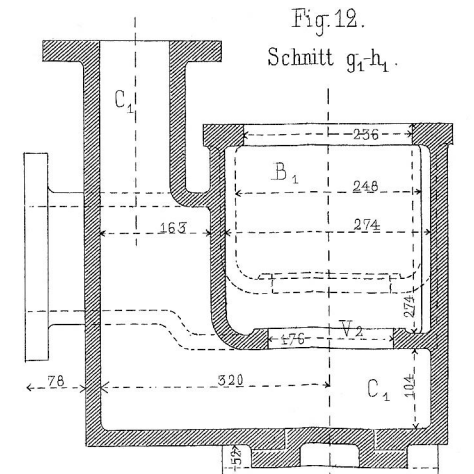


Fig. 7.

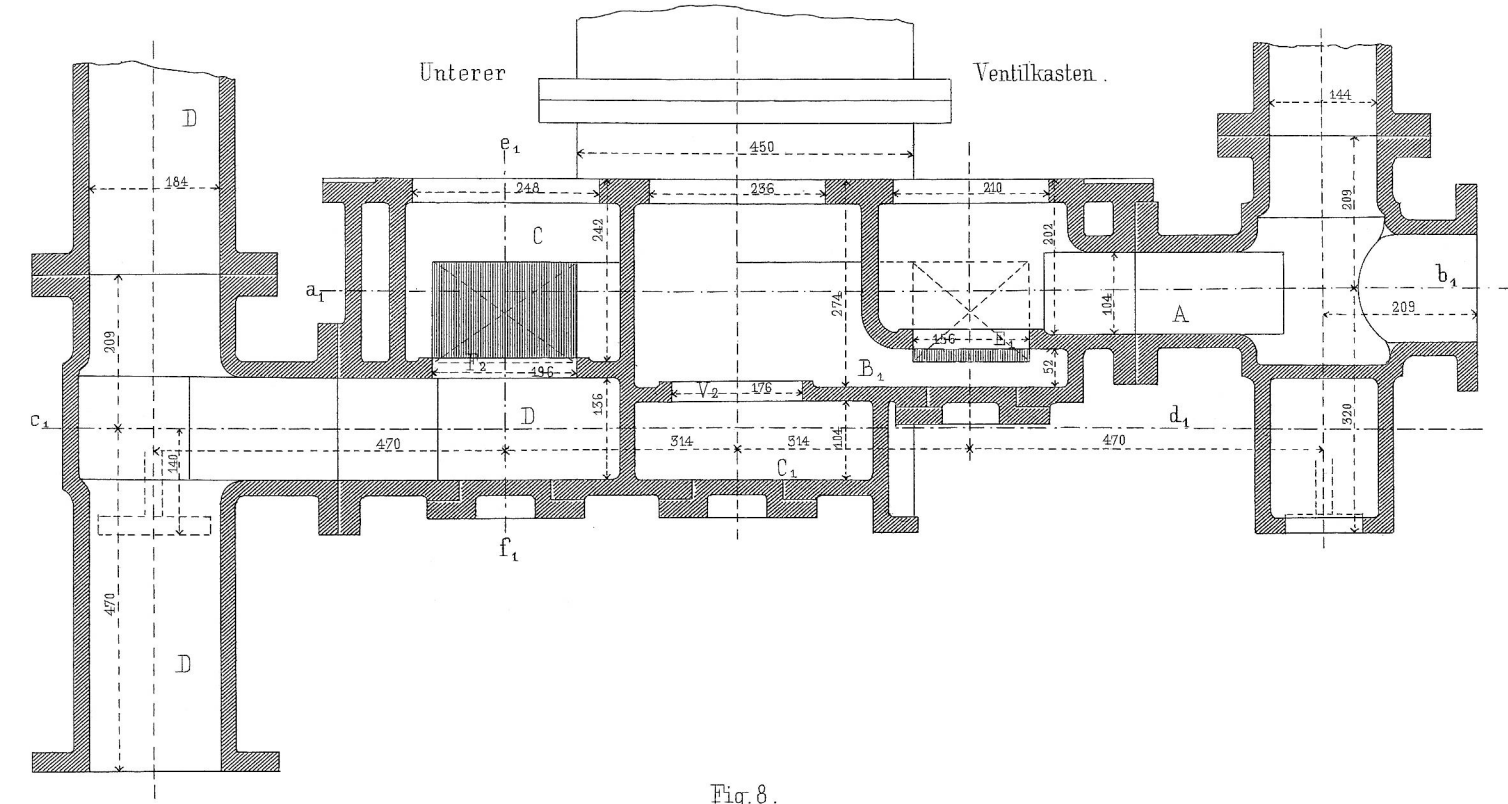


Fig. 8. Grundriss des unteren Ventilkastens.

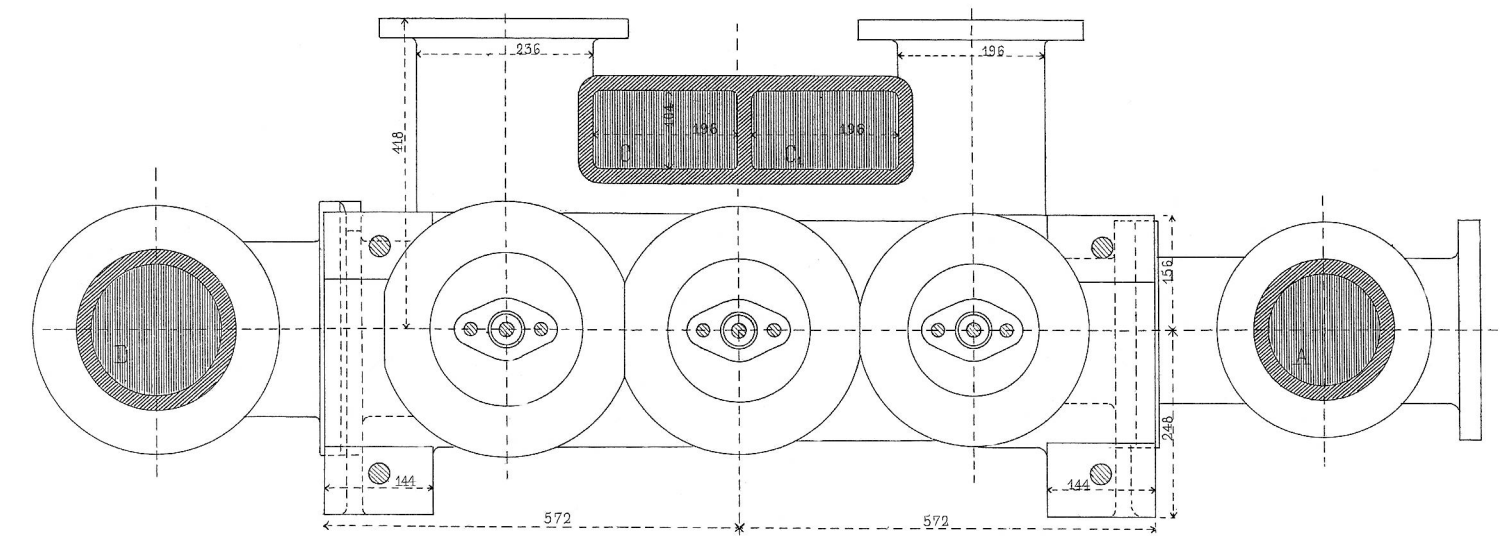


Fig. 9. Schnitt a₁-b₁.

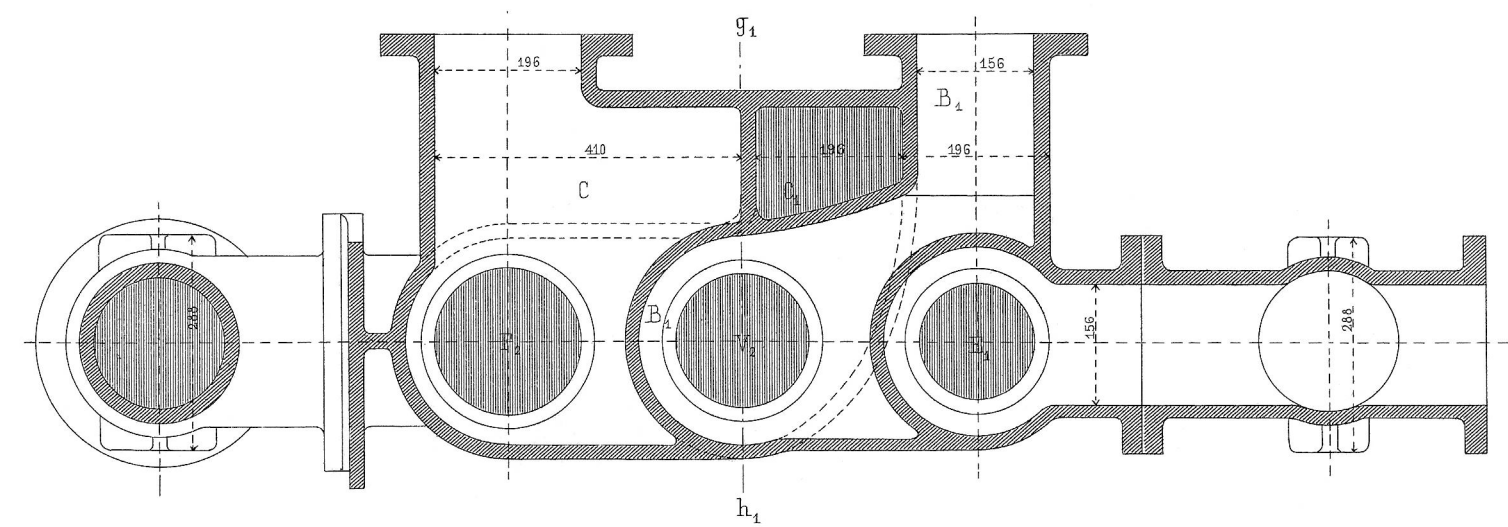
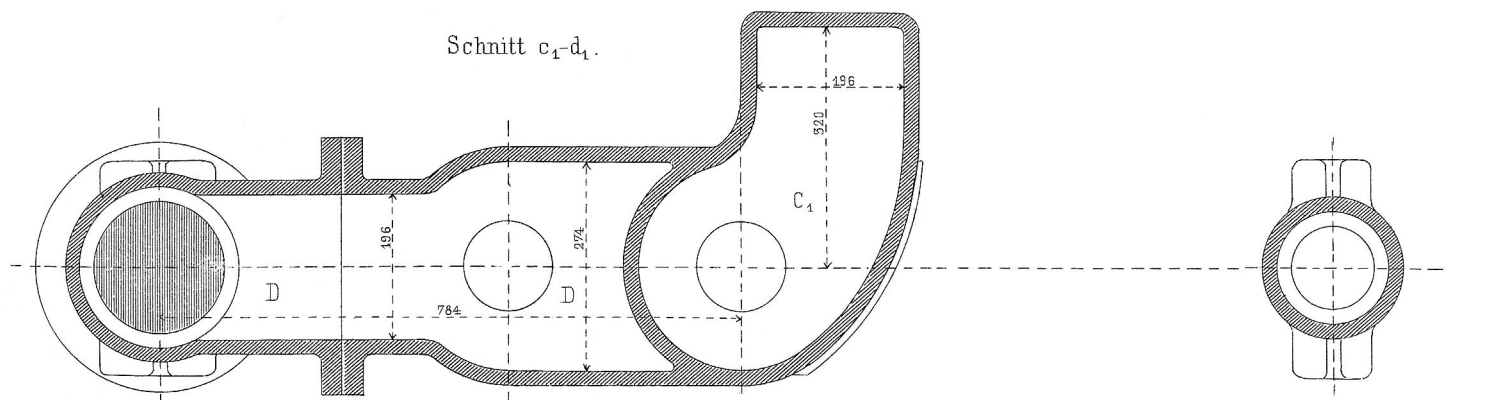
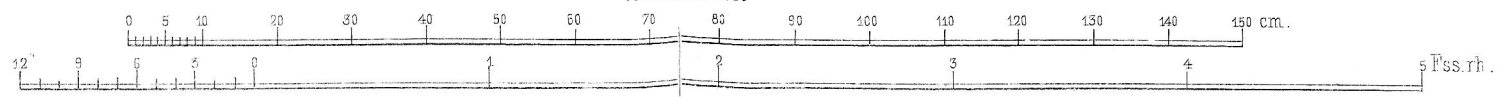


Fig. 10. Schnitt c₁-d₁.



Die Räume welche stets mit einander in Verbindung stehen sind mit gleichen Buchstaben bezeichnet.



Maassstab 1:10
Ernst & Korn, Berlin.

Die Buchstaben der gleichzeitig geöffneten Ventile haben gleiche Indices.

Waltier aesi

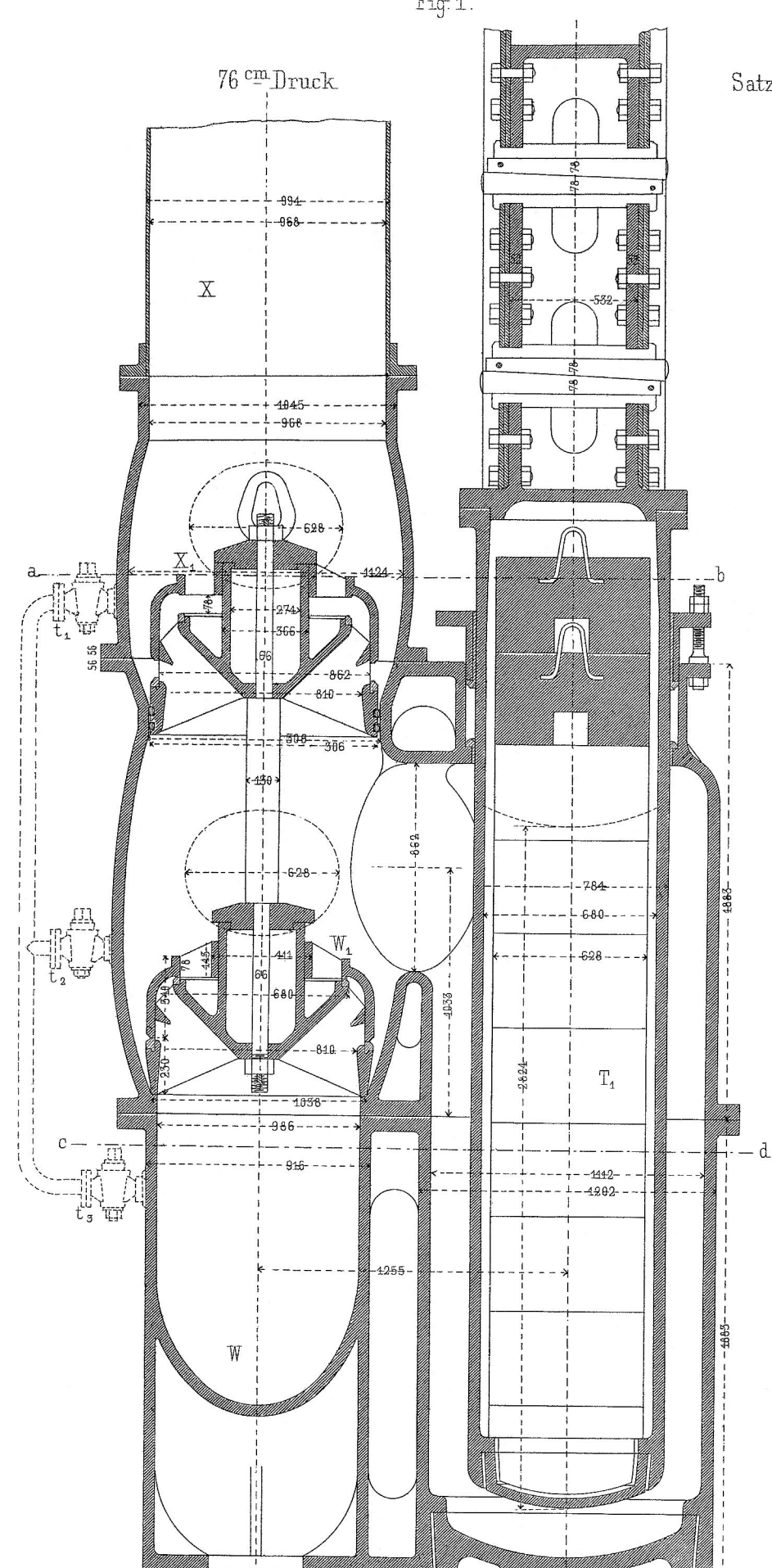


Fig. 1. Schnitt a-b.

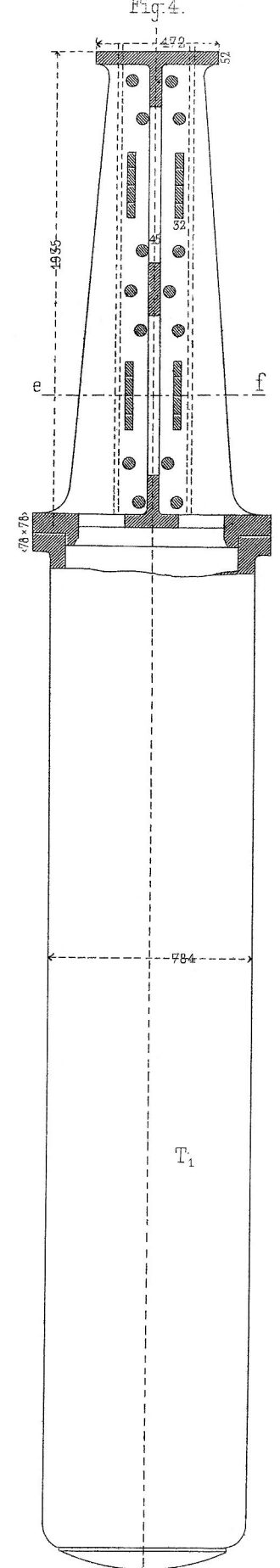


Fig. 4. Schnitt e-f.

Detailzeichnung
des 76^{cm} und 26^{cm} Drucksatzes
im Tiefbauschacht
der
Steinbrüche zu Rüdersdorf.

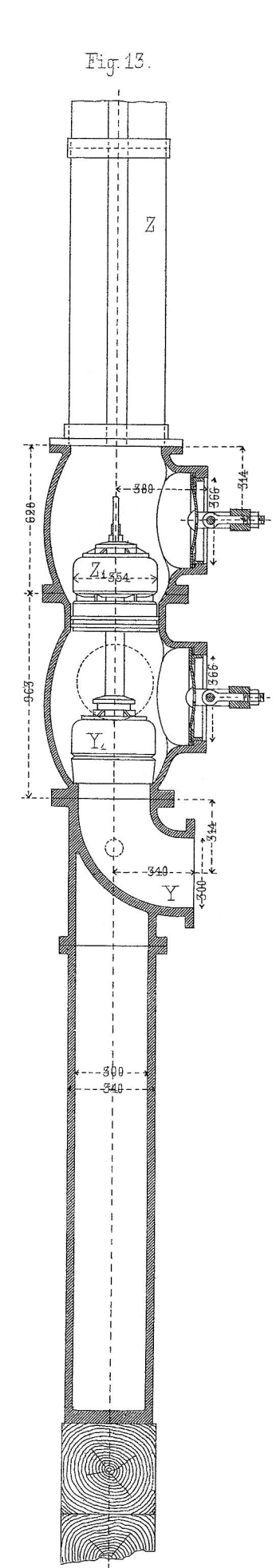


Fig. 13.

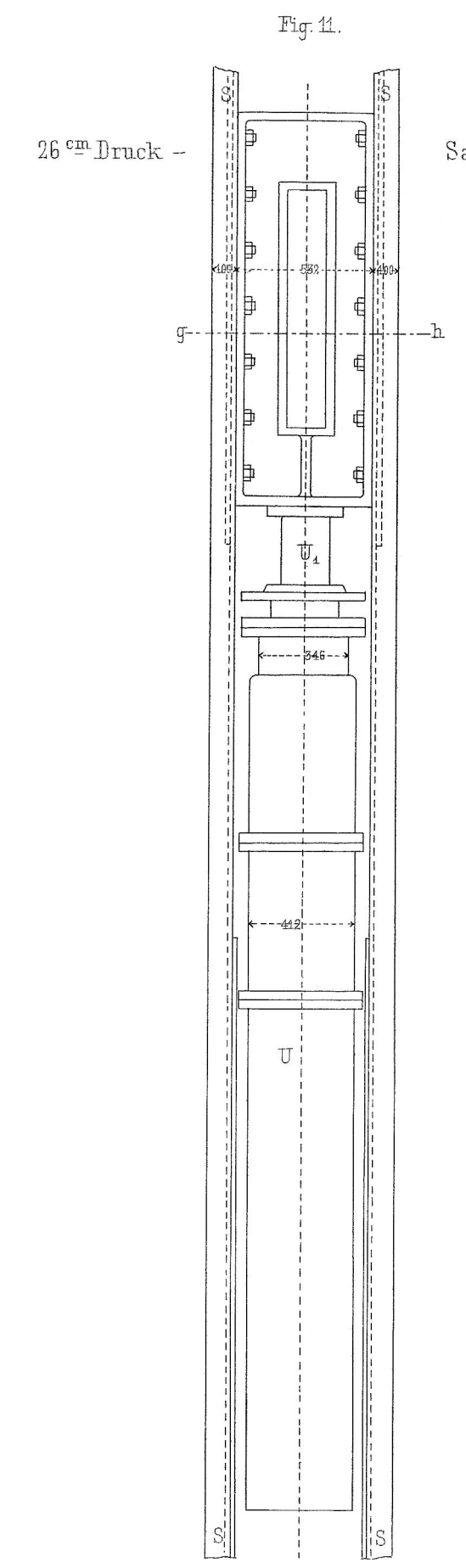


Fig. 11.

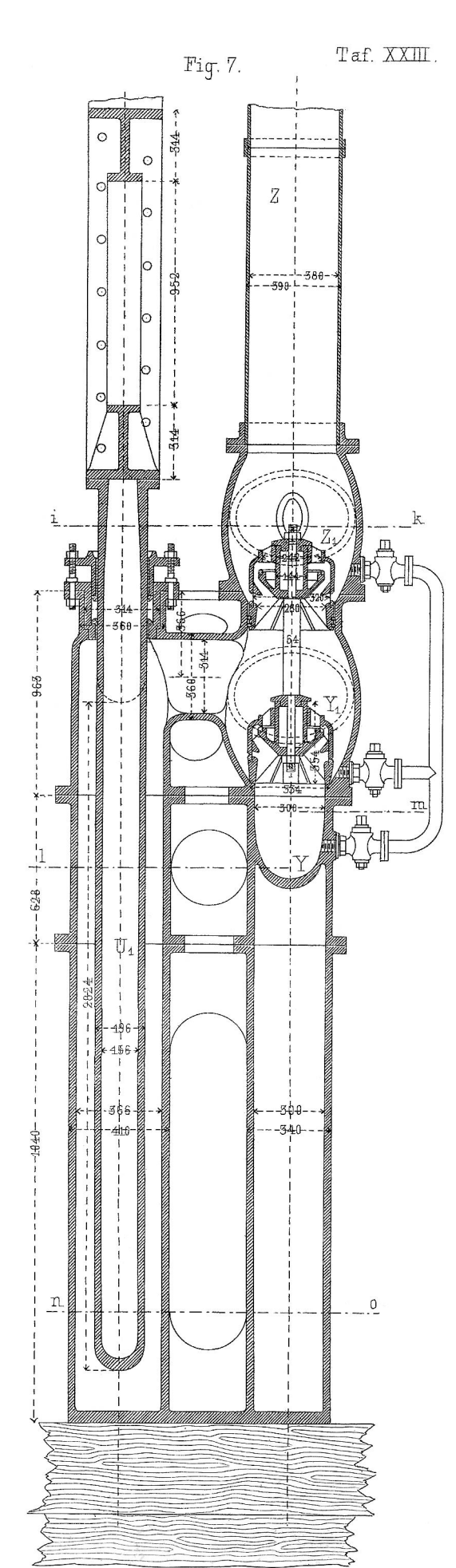


Fig. 7.

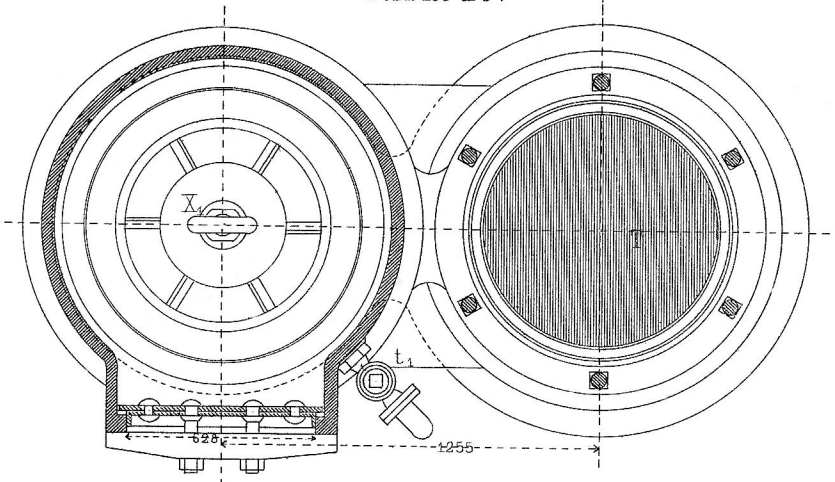


Fig. 2. Schnitt c-d.

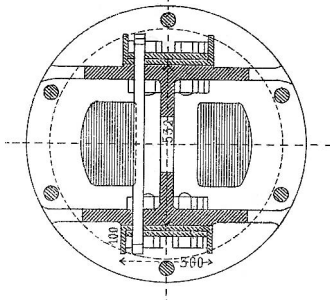


Fig. 5. Schnitt e-f.

Dispositionsplan 1:50
des 76^{cm} Drucksatzes
im Schacht.
der beiden Stollenpumpen
im Schacht.

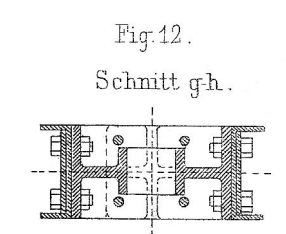


Fig. 12. Schnitt g-h.

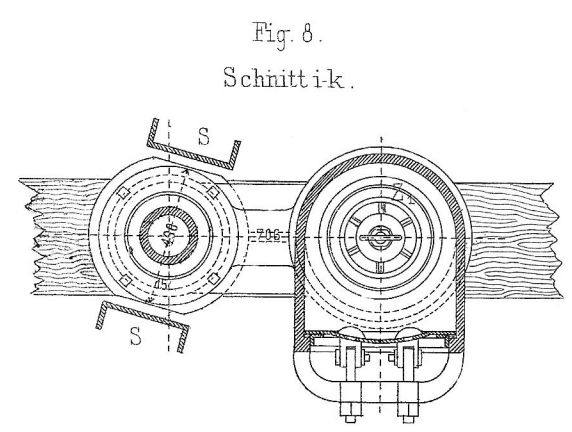


Fig. 8. Schnitt i-k.

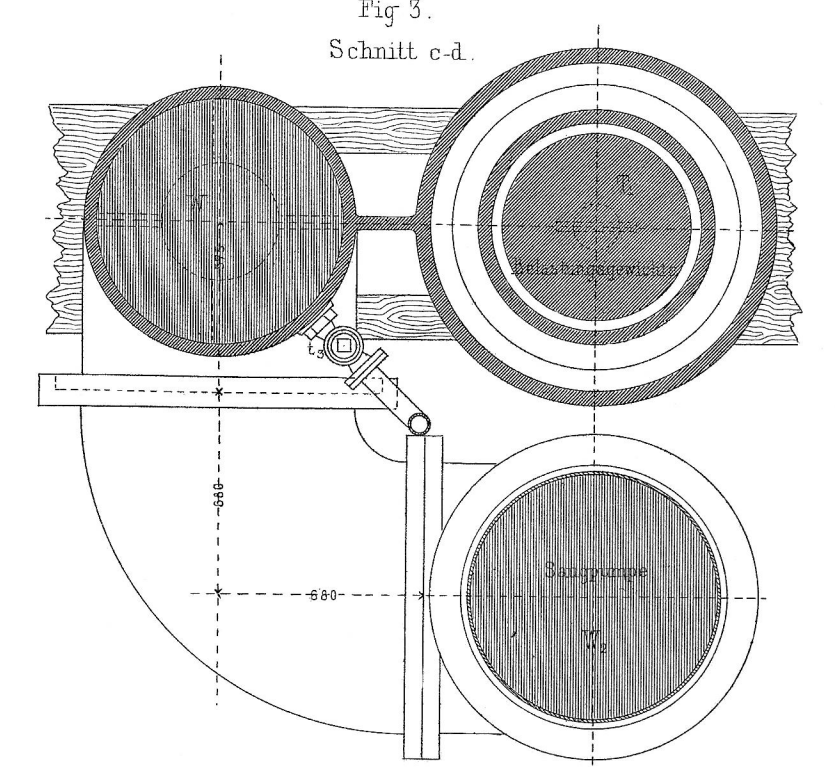


Fig. 3. Schnitt c-d.

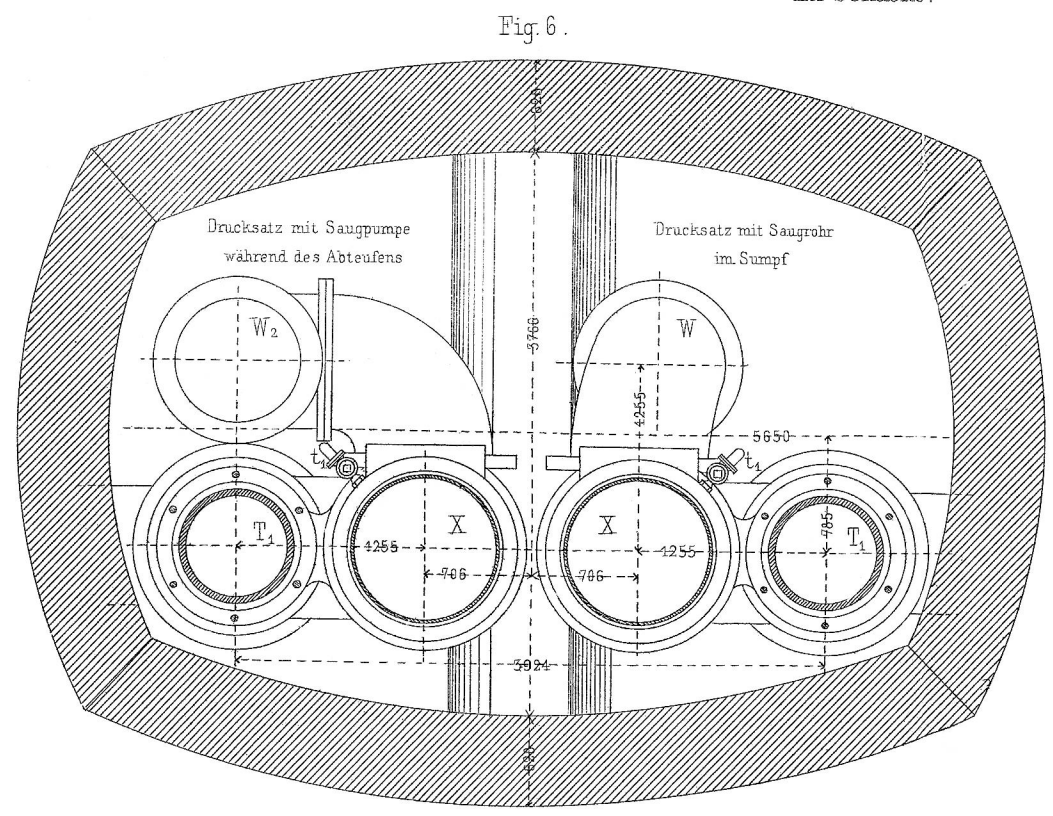


Fig. 6.

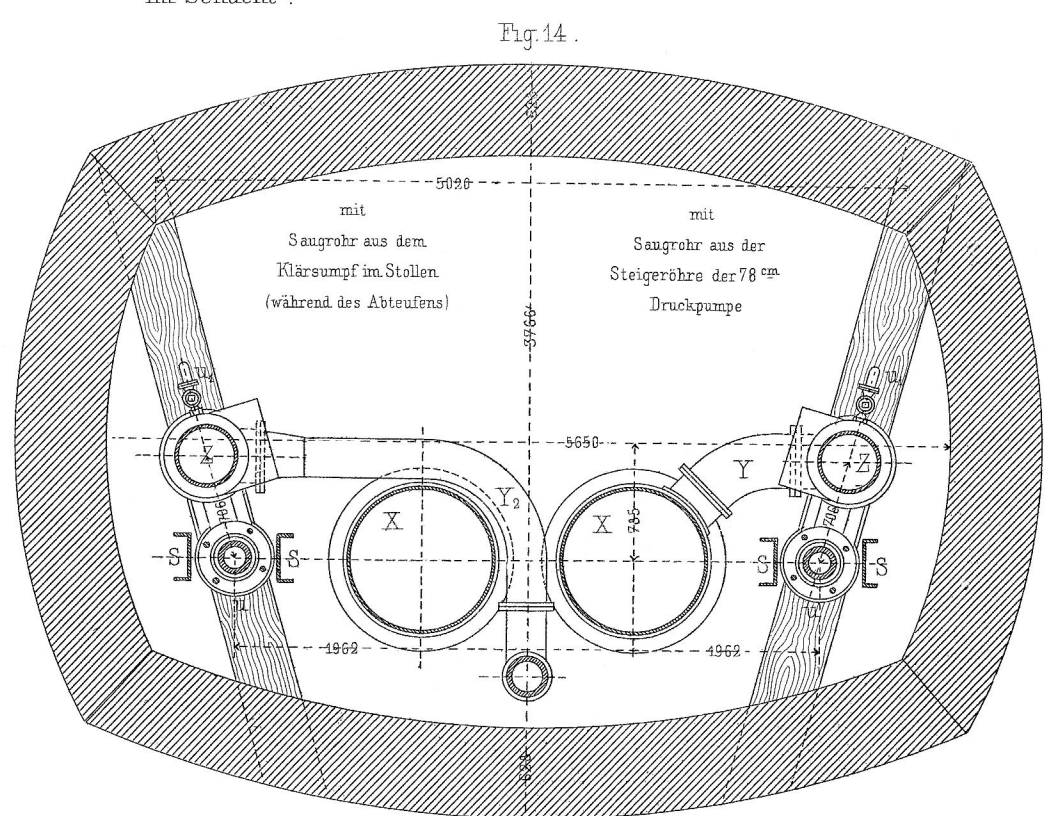


Fig. 14.

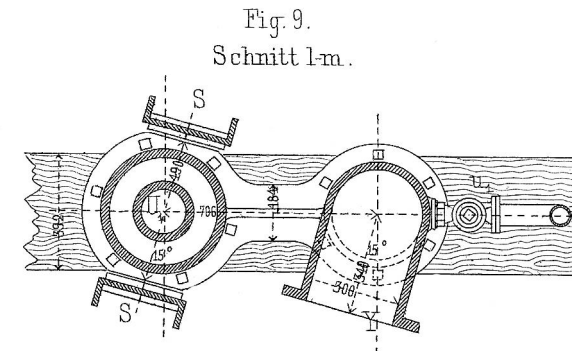


Fig. 9. Schnitt l-m.

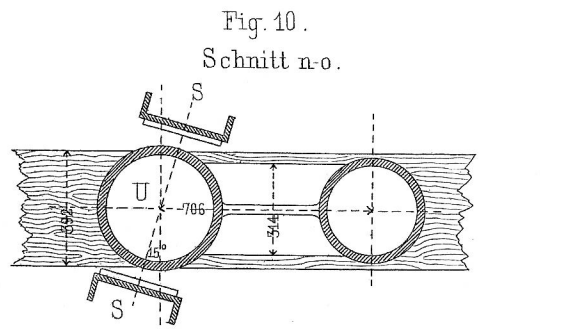
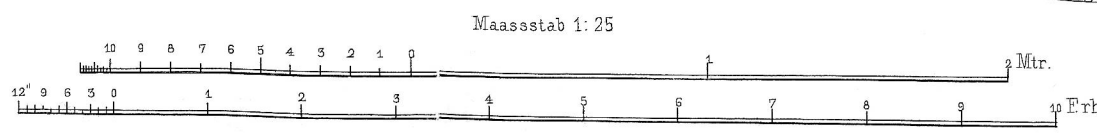
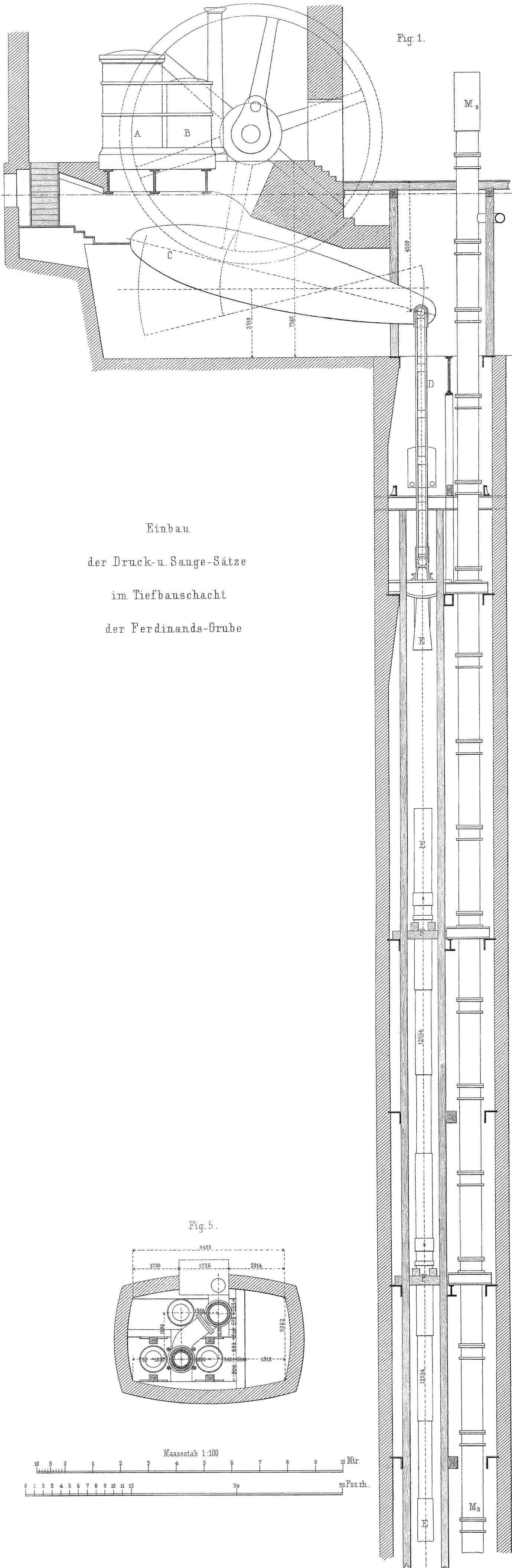


Fig. 10. Schnitt n-o.





Einbau
 der Druck- u. Saug-Sätze
 im Tiefbauschacht
 der Ferdinands-Grube

Erdrleiche Hangebank

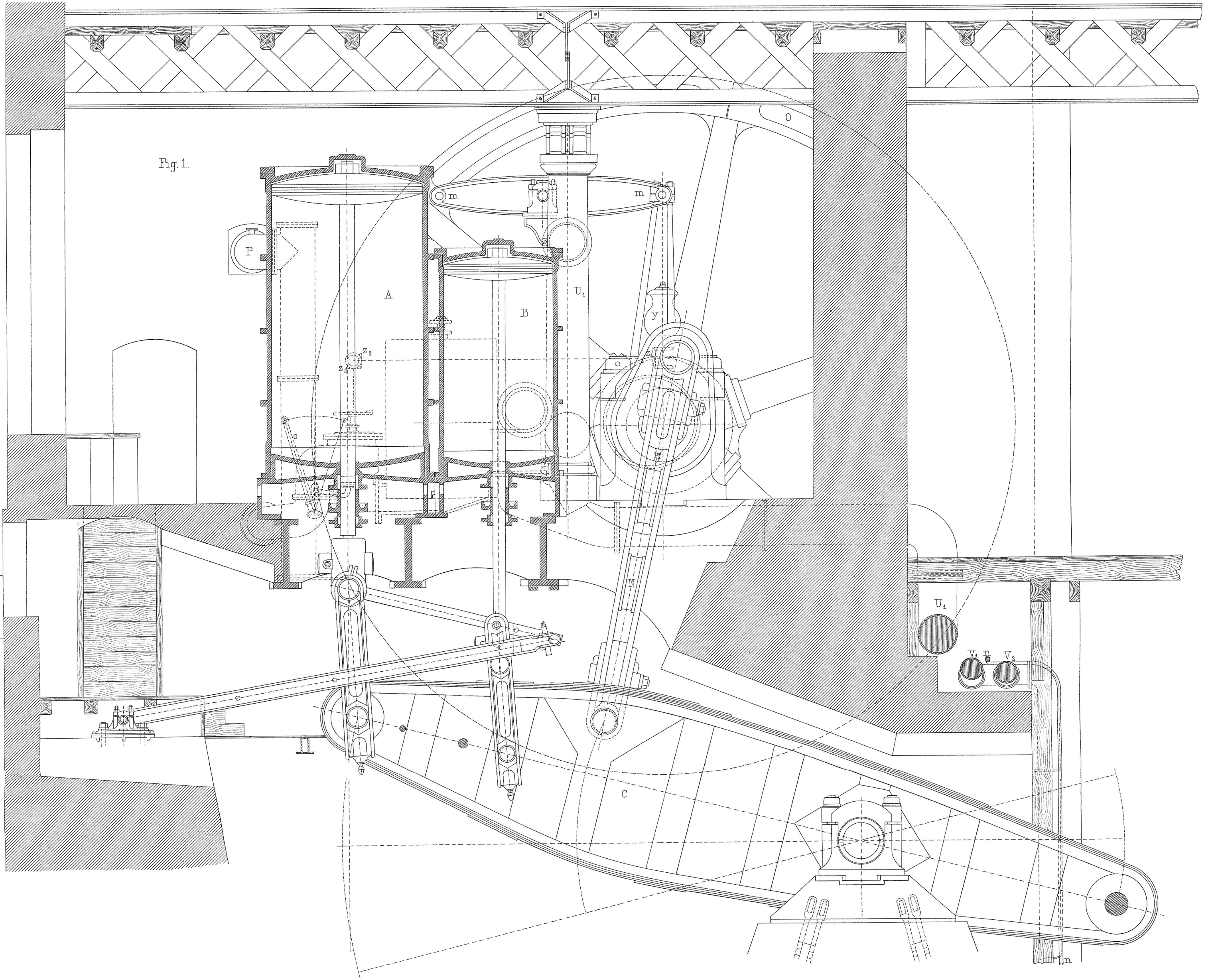
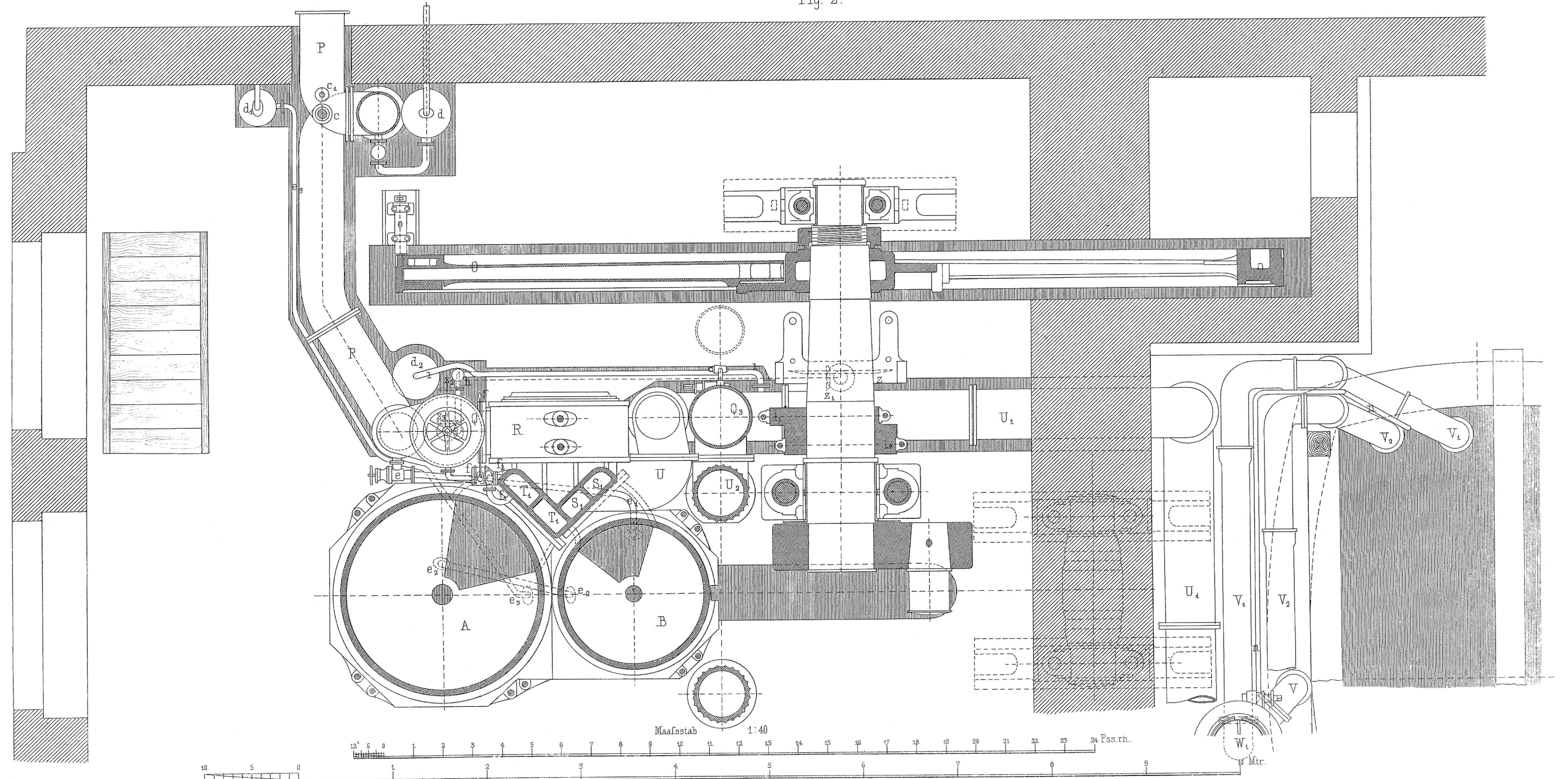


Fig. 2.



Schieber, Schieberkasten und Cylinder
der Woolf'schen Wasserhaltungs-Maschine für Ferdinandsgrube.

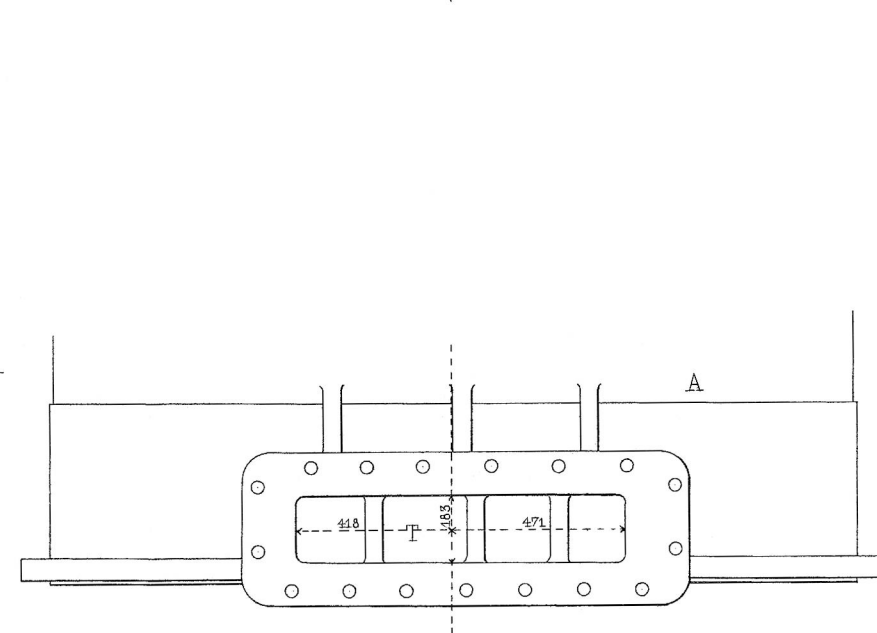
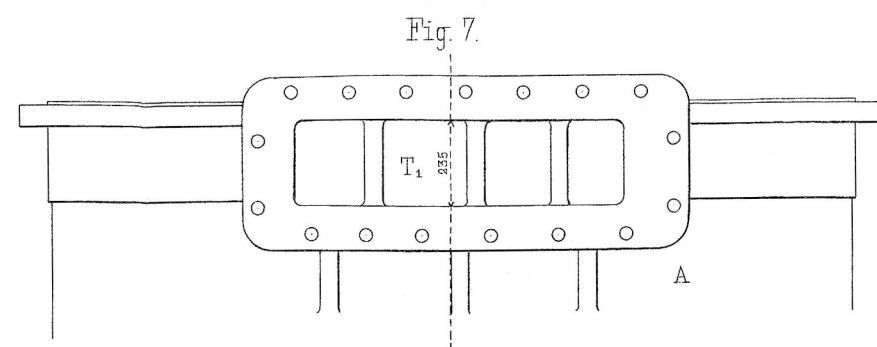
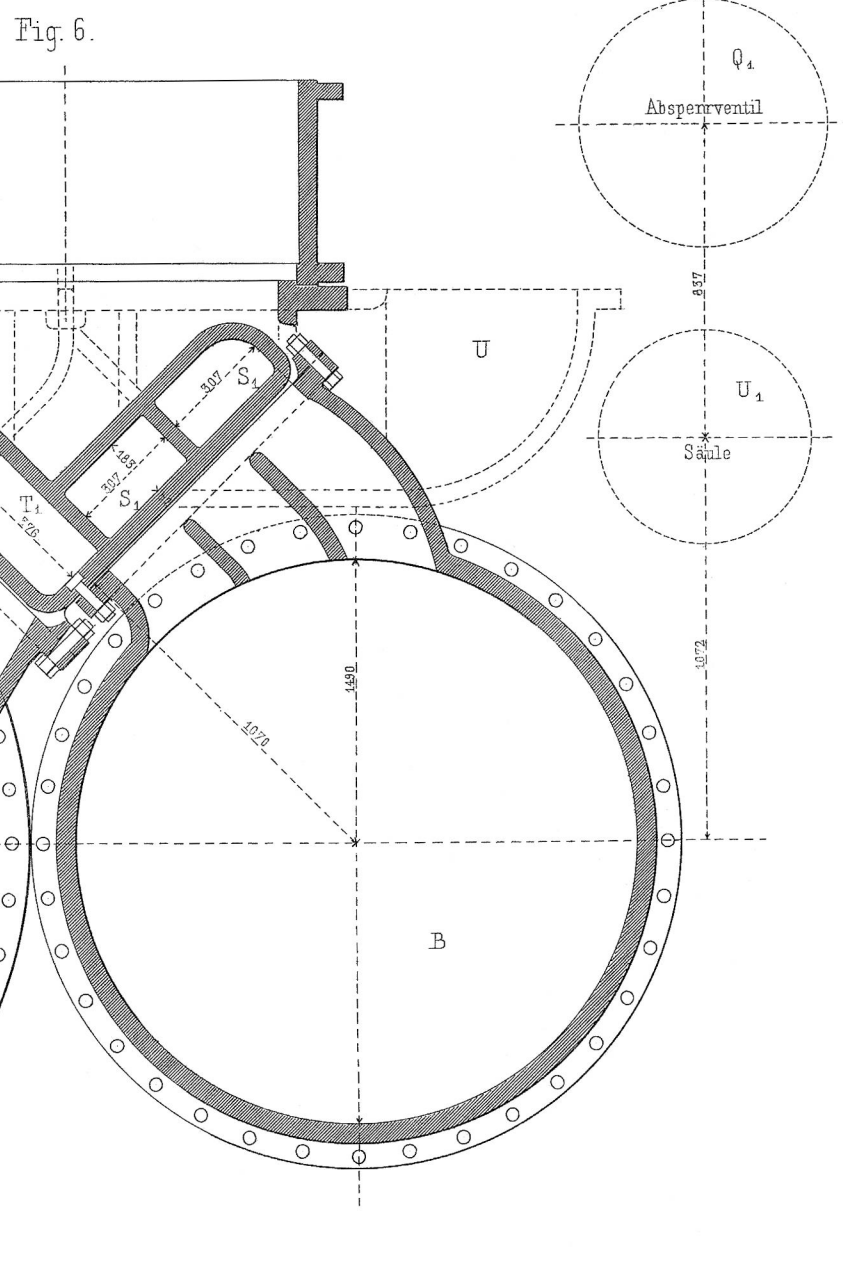
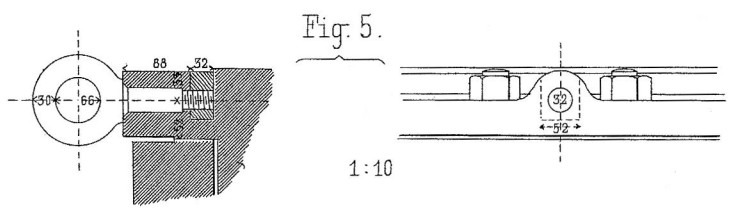
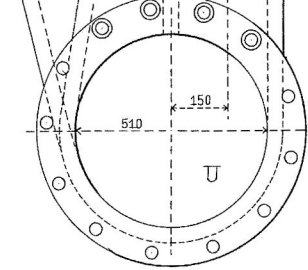
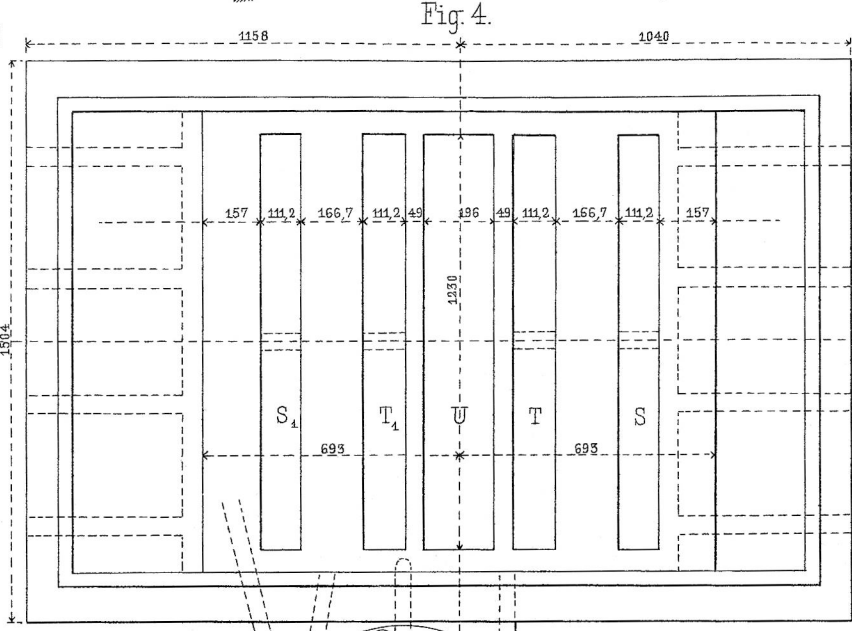
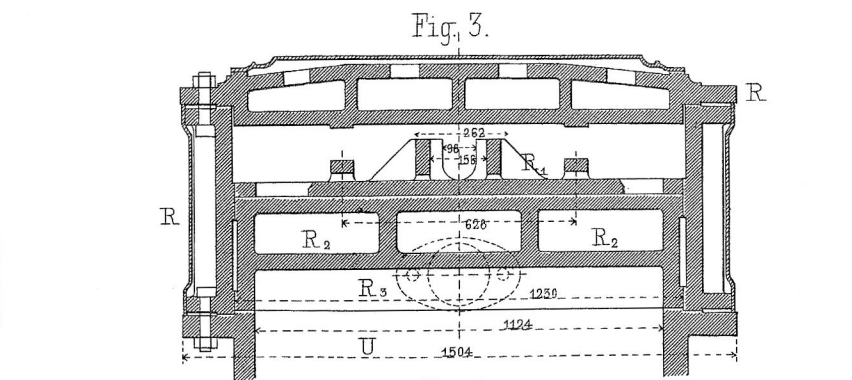
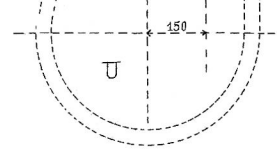
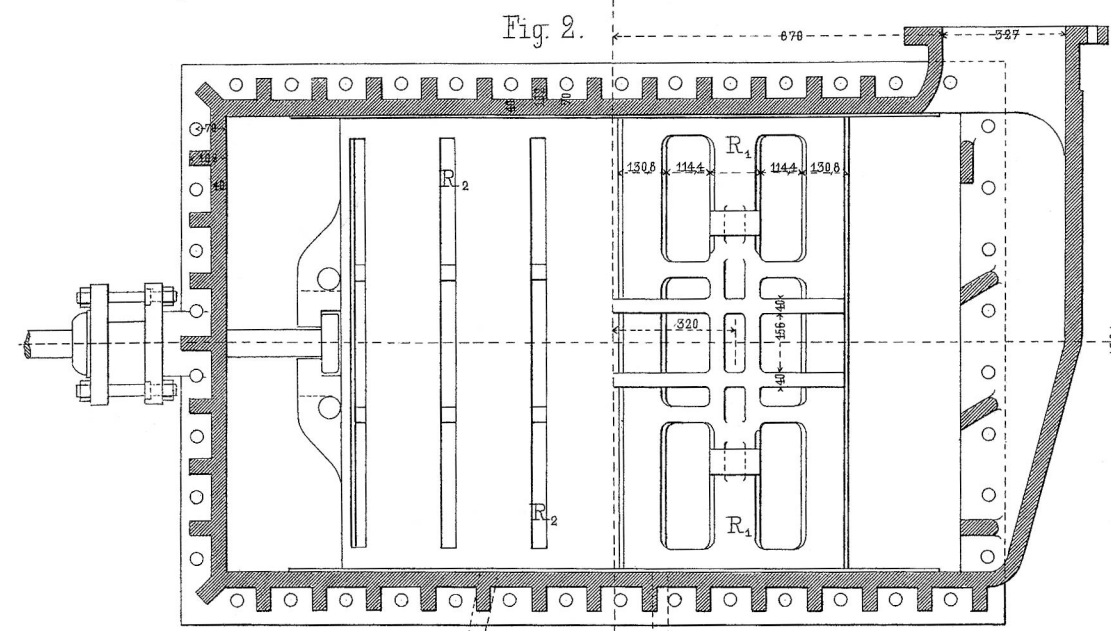
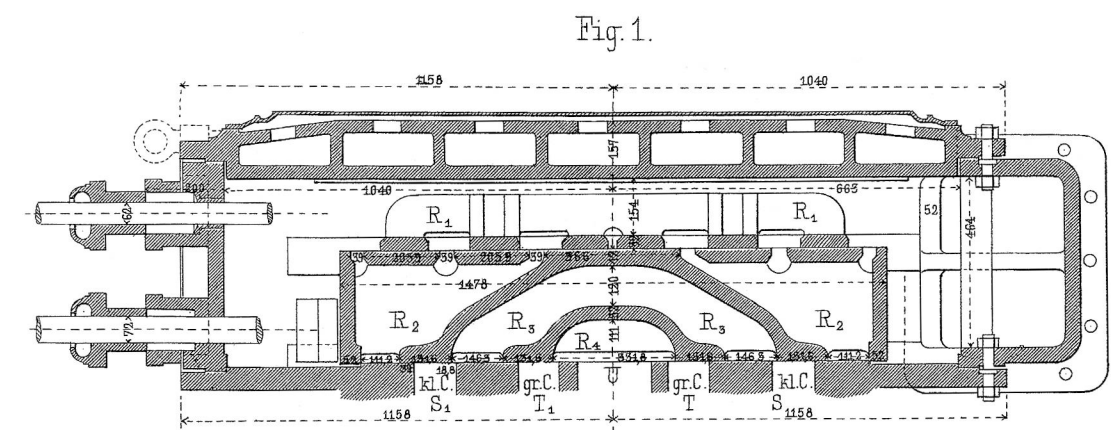


Fig. 9.

Fig. 10.

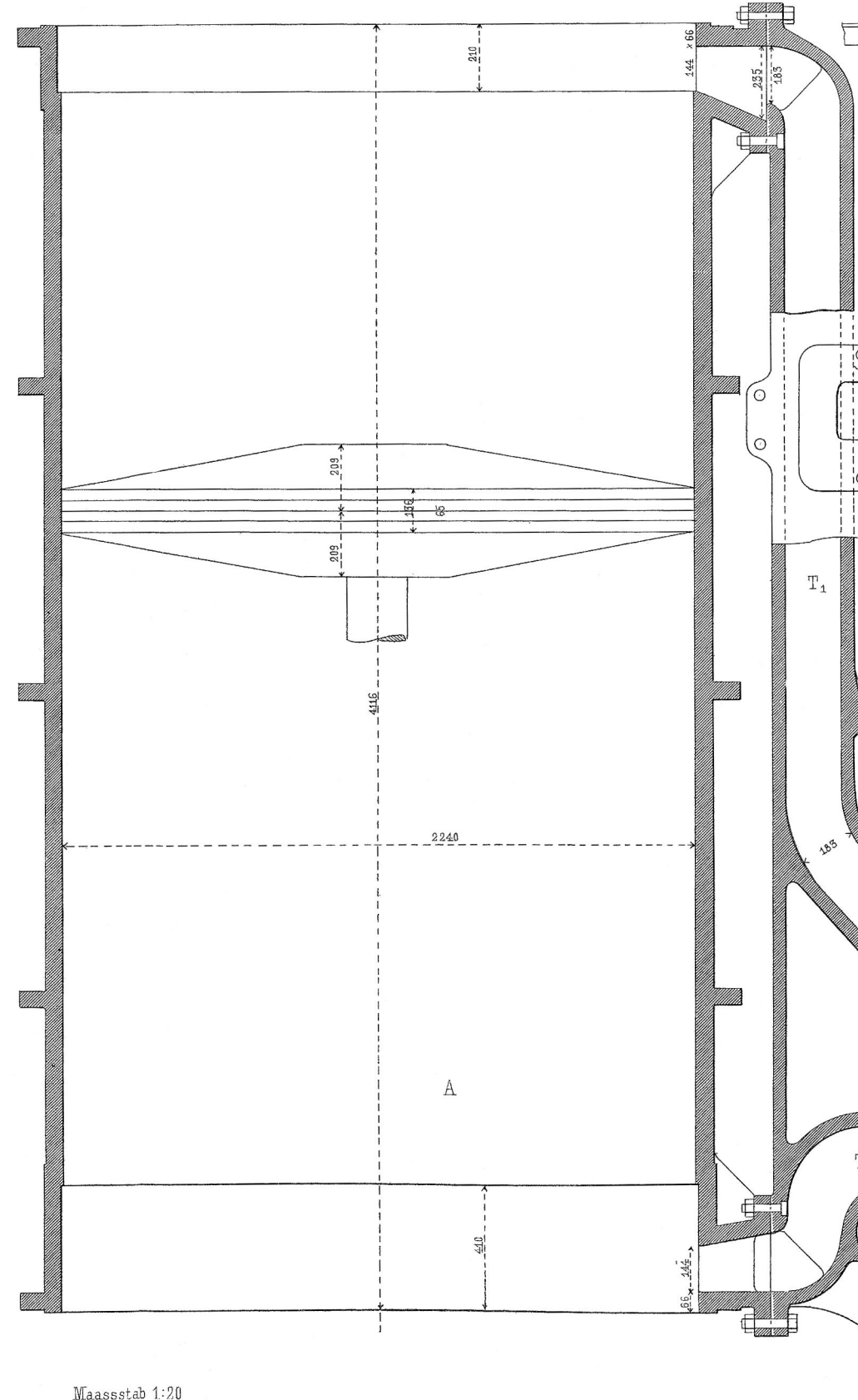


Fig. 12.

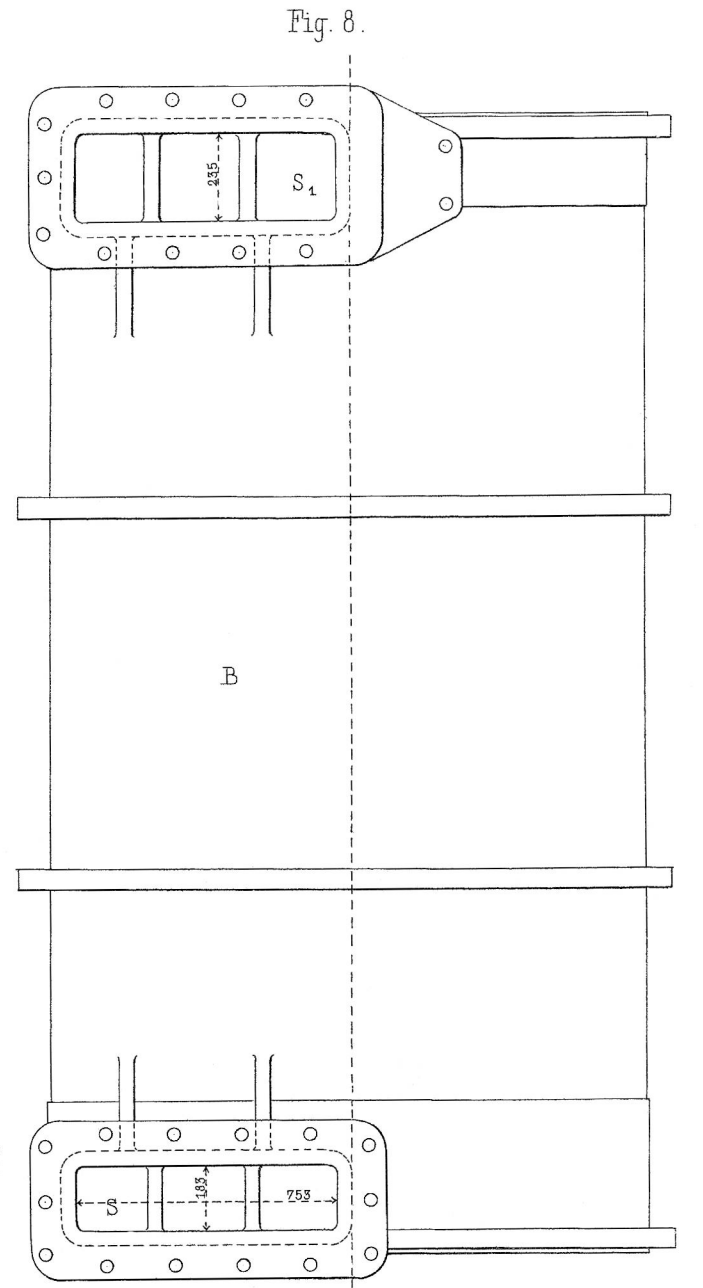
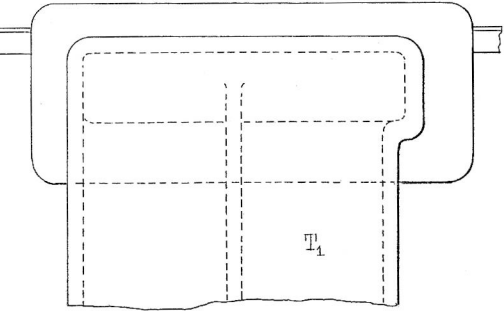
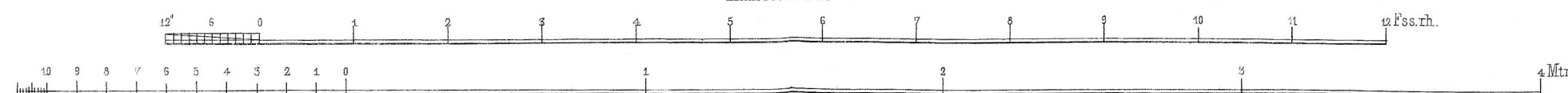
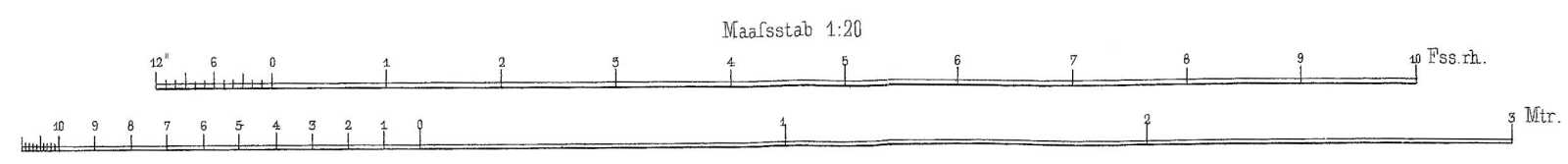
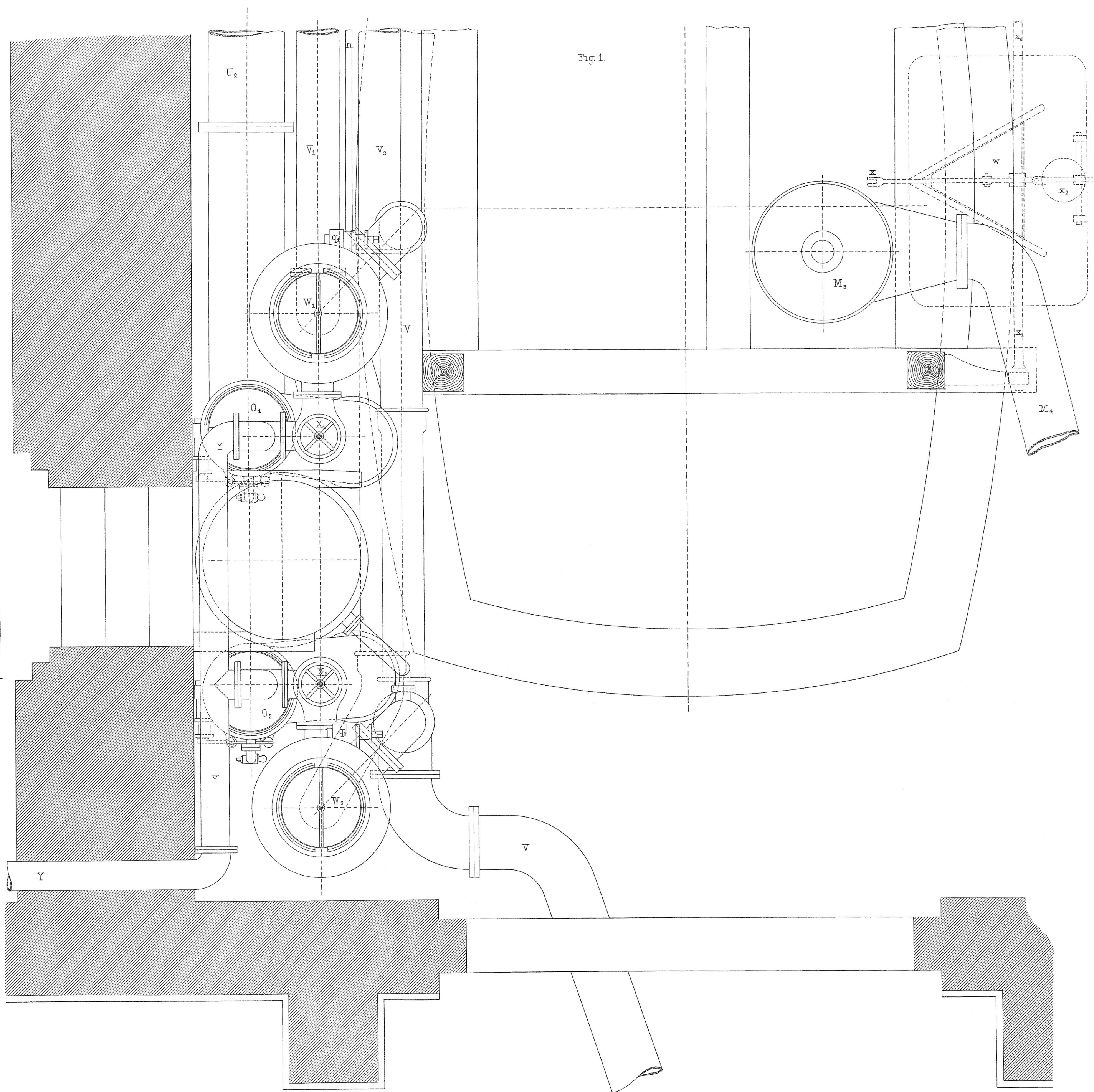
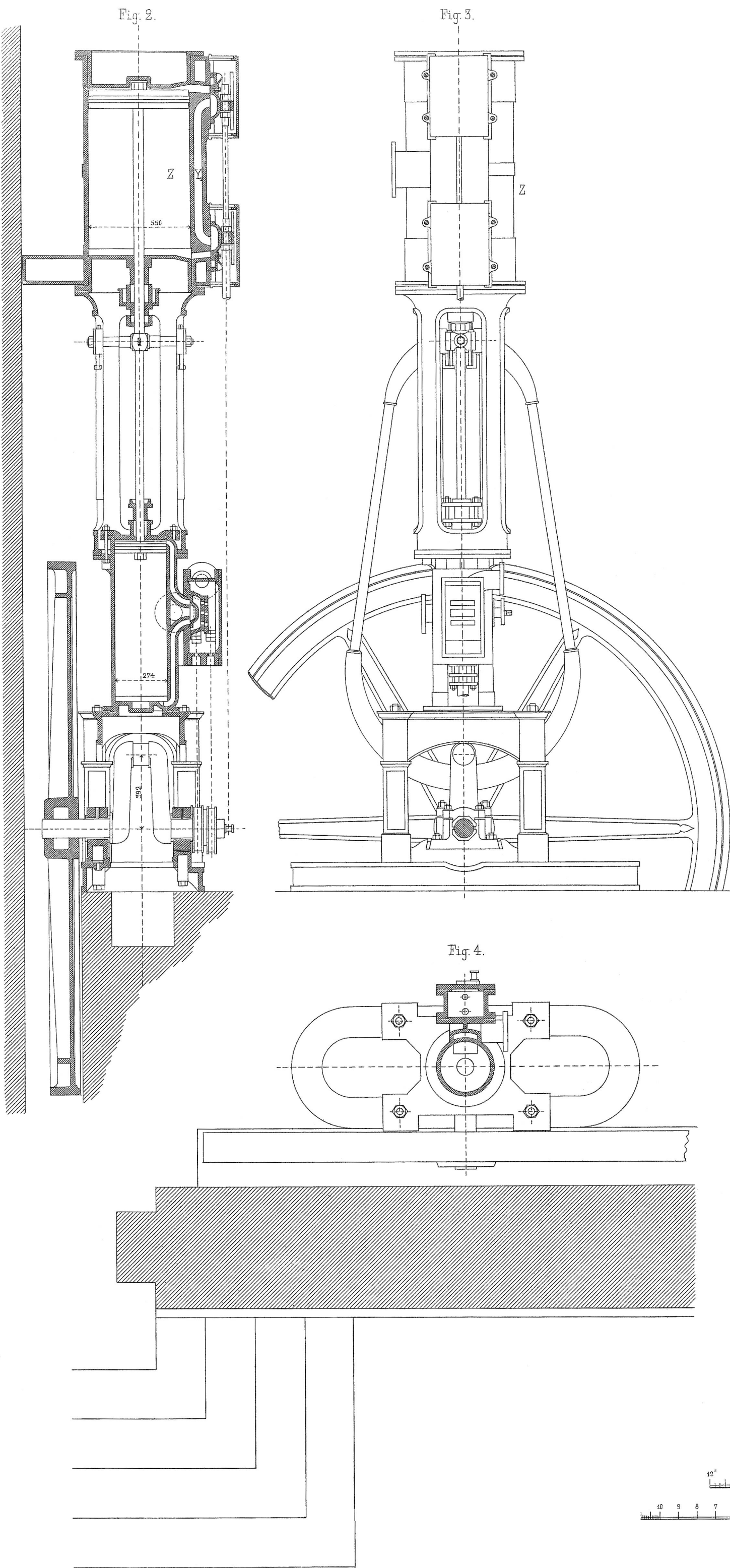


Fig. 11.

Maassstab 1:20





Oberster Saugsatz für Ferdinands-Grube.

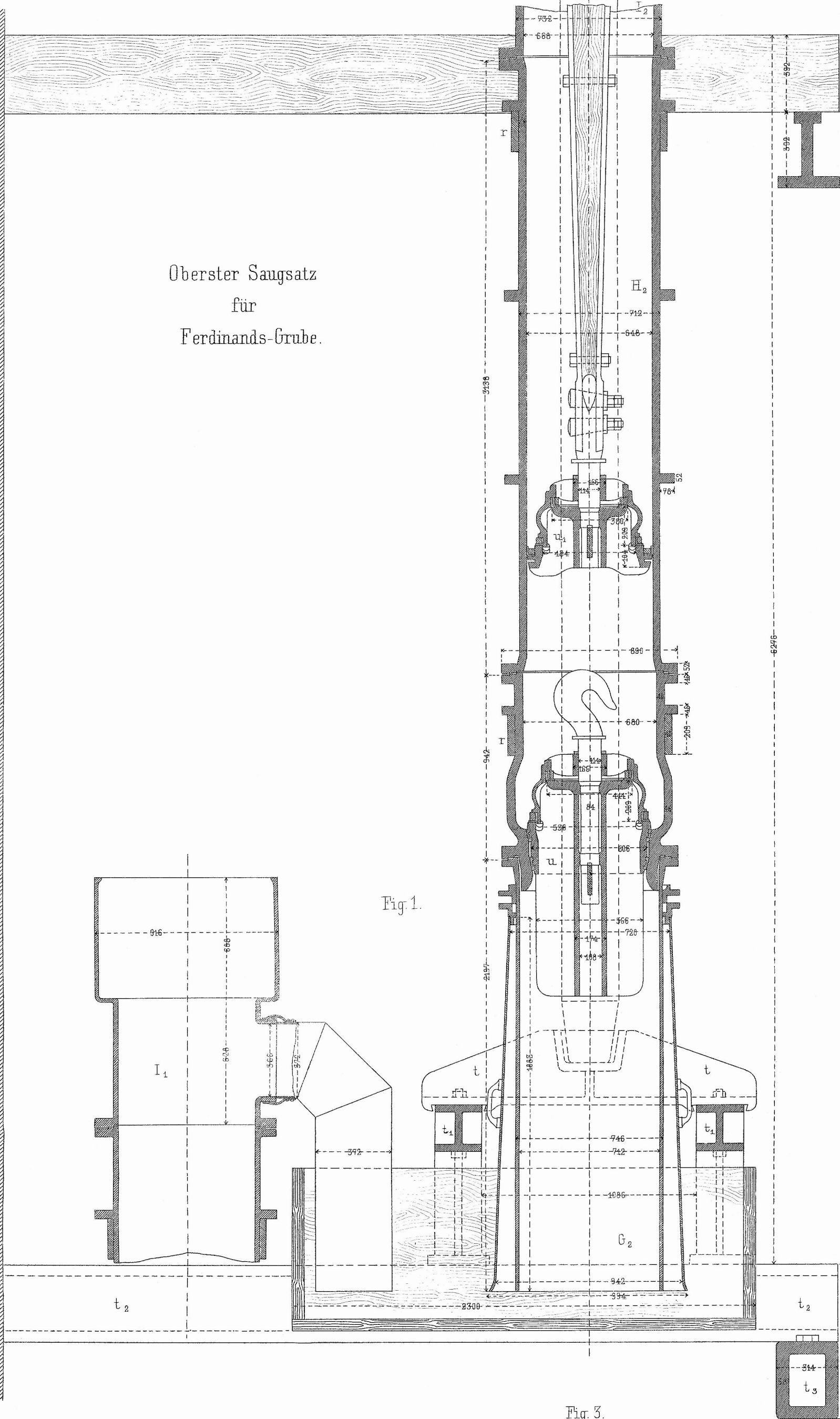


Fig. 1.

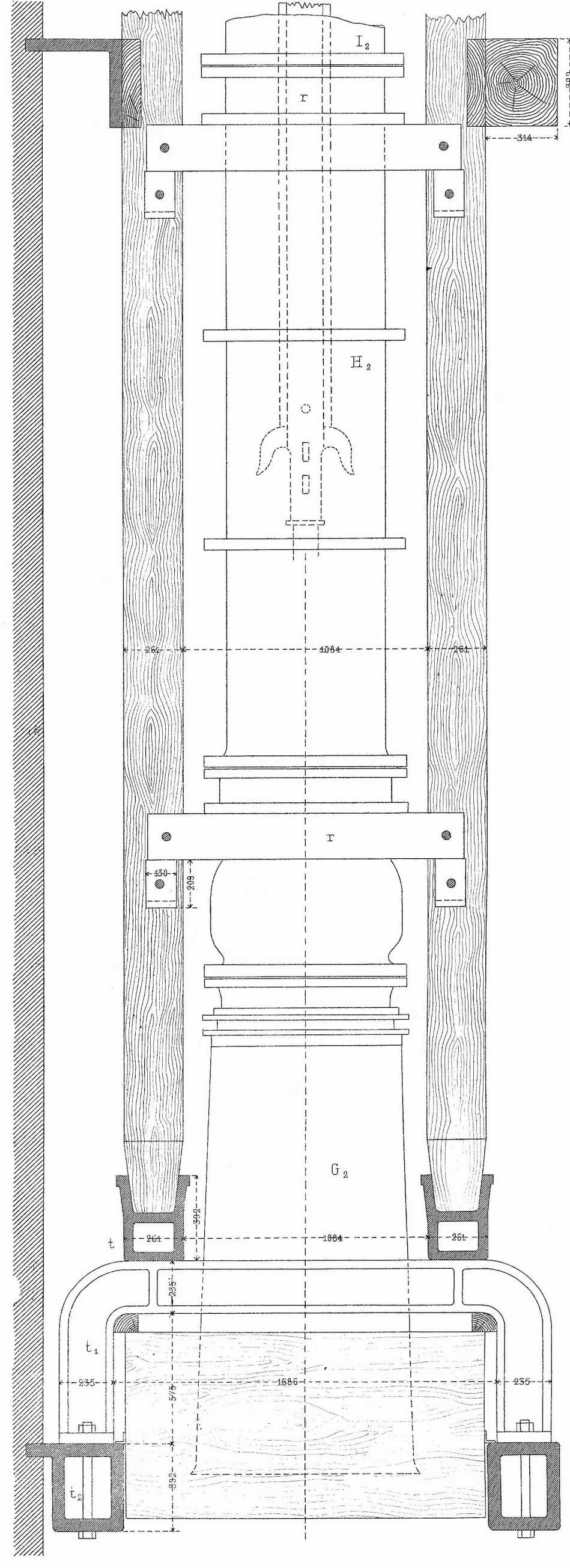


Fig. 2.

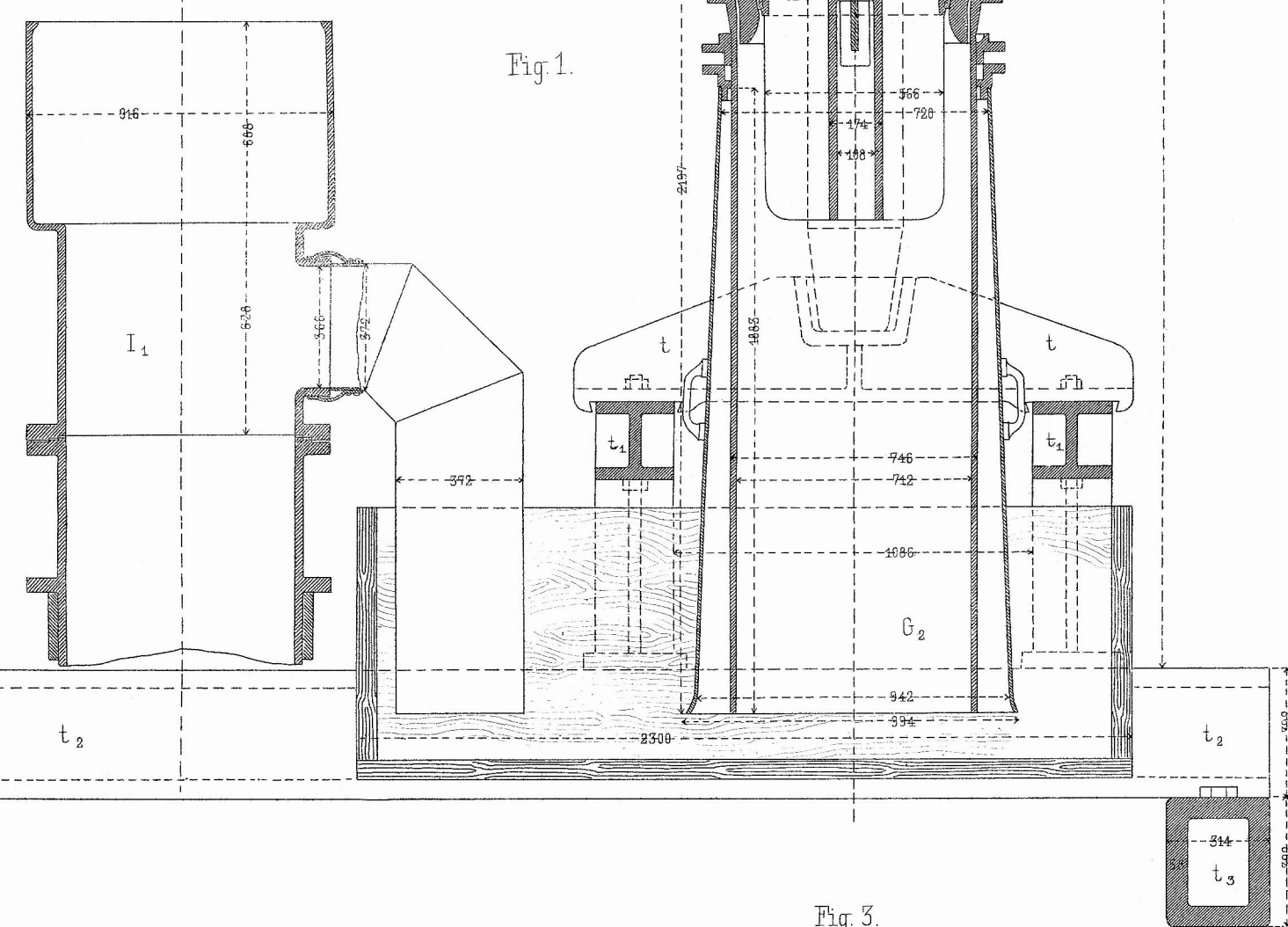
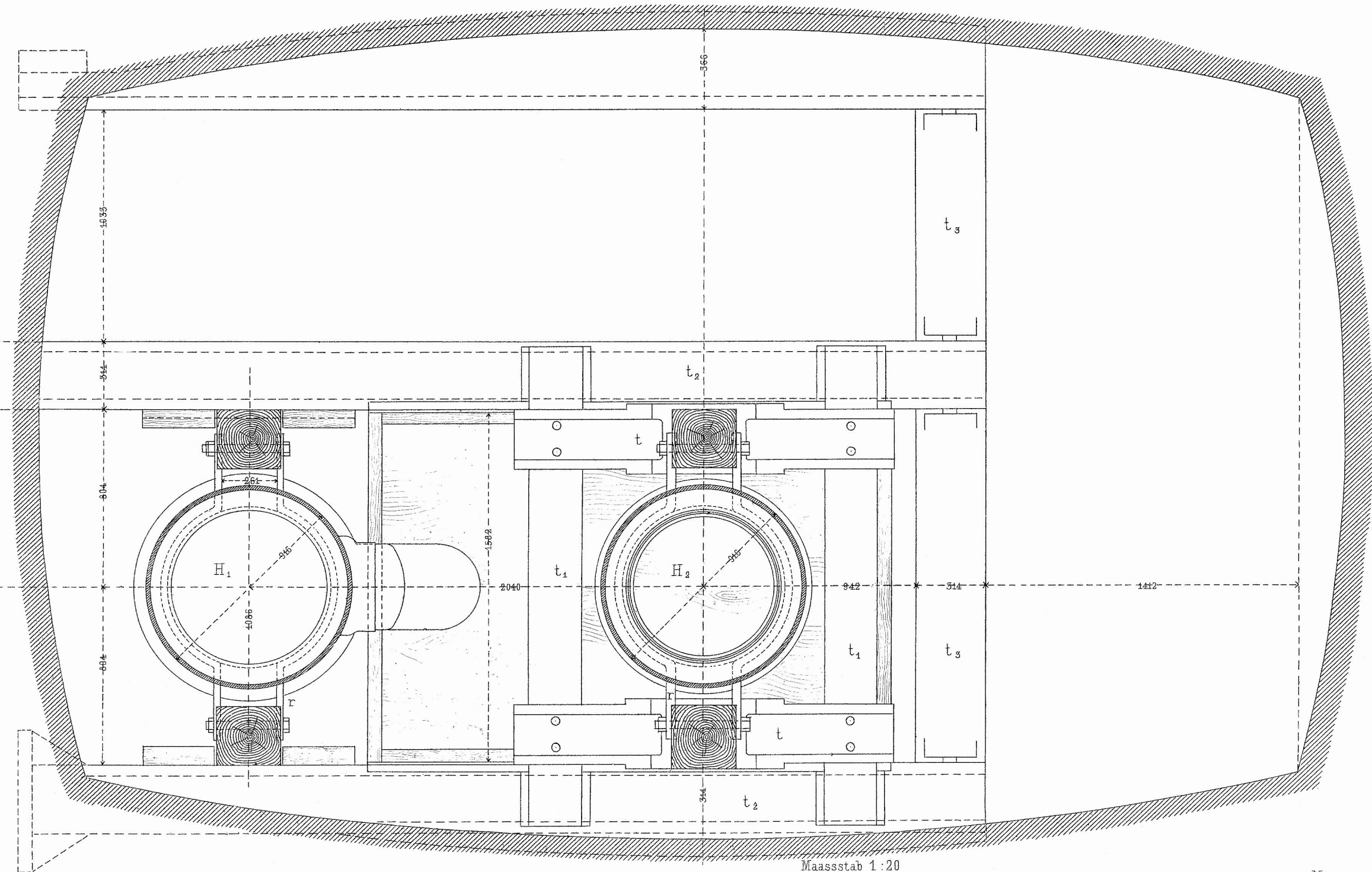


Fig. 3.



Maassstab 1:20



Ventil der Drucksätze

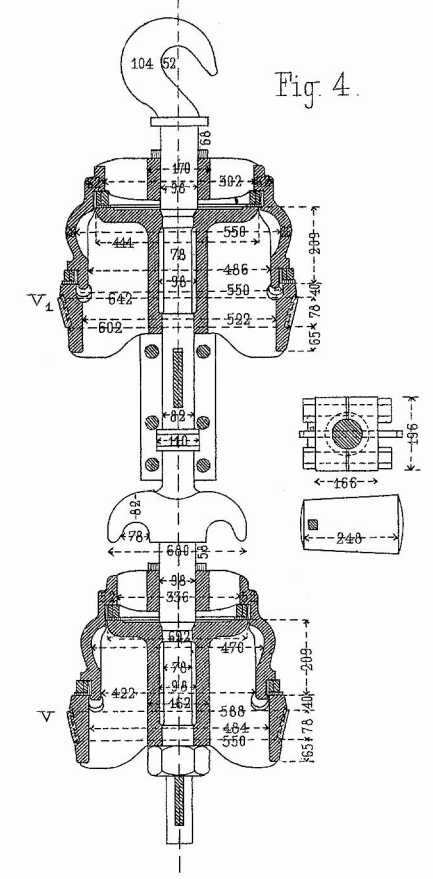


Fig. 4.

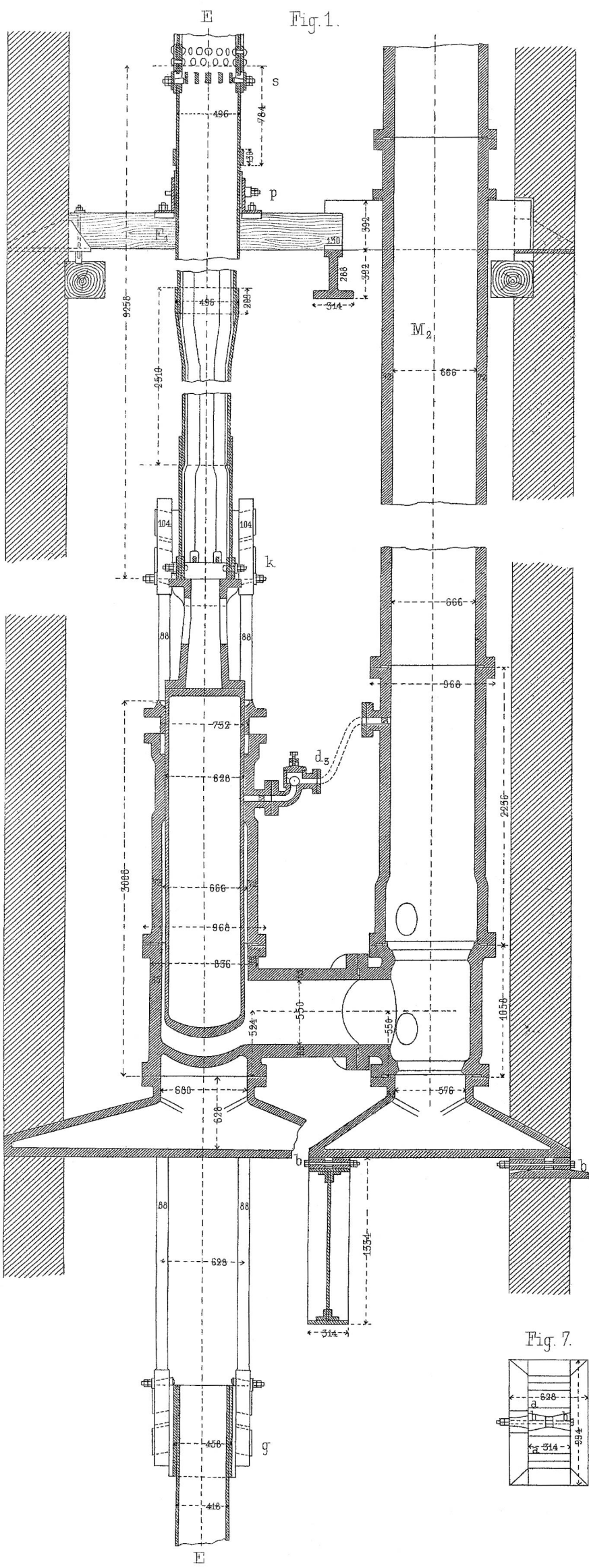


Fig. 1.

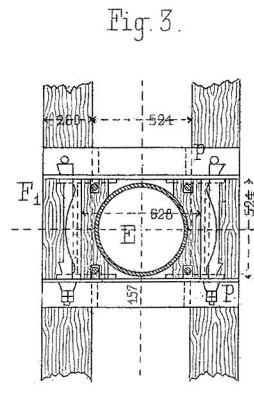


Fig. 3.

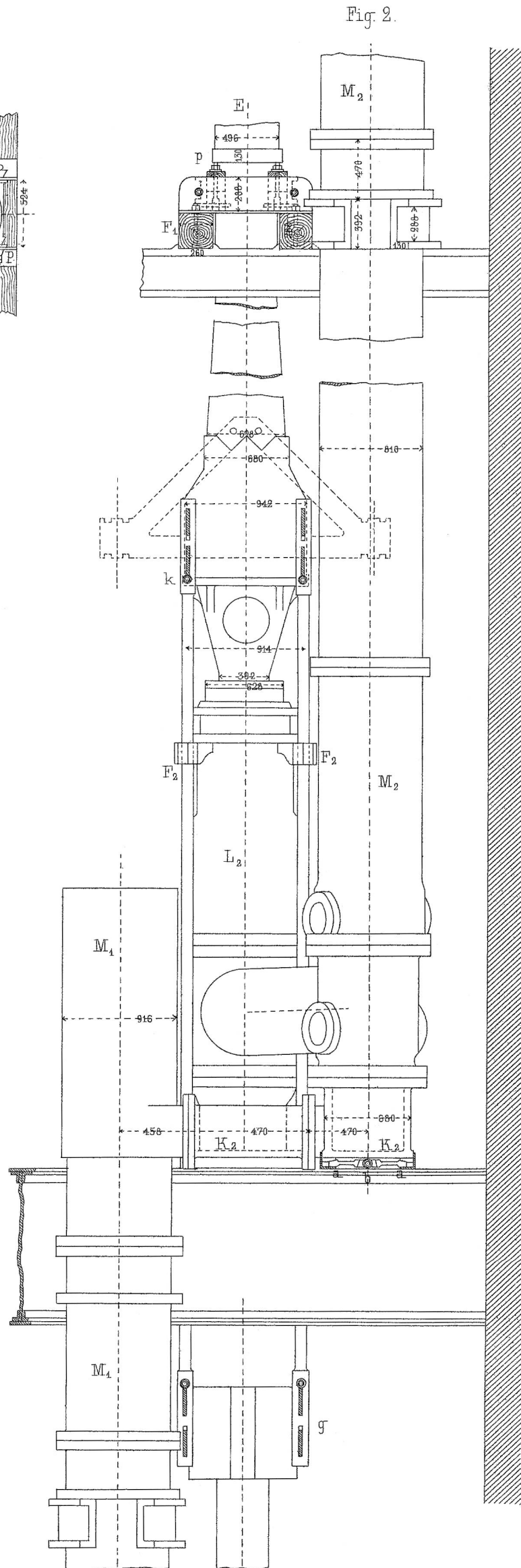


Fig. 2.

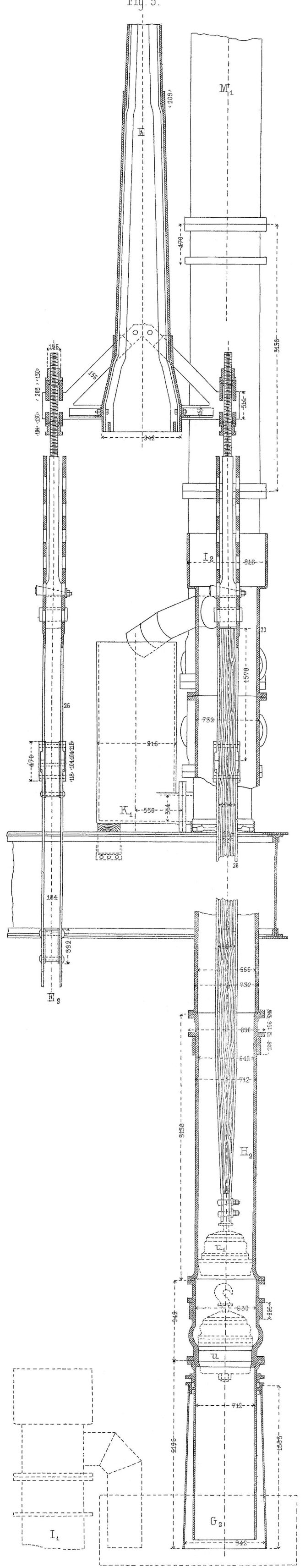


Fig. 5.

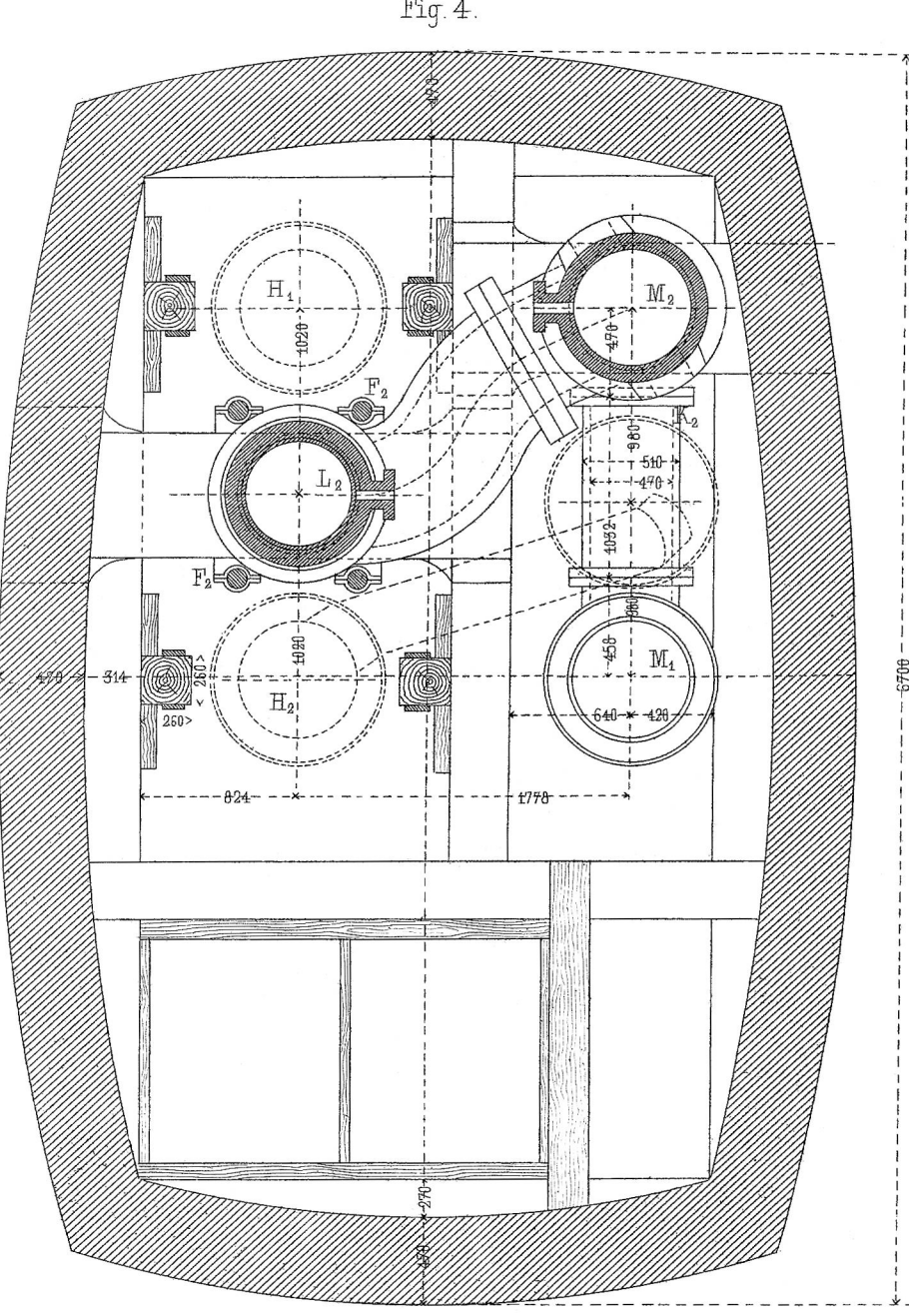


Fig. 4.

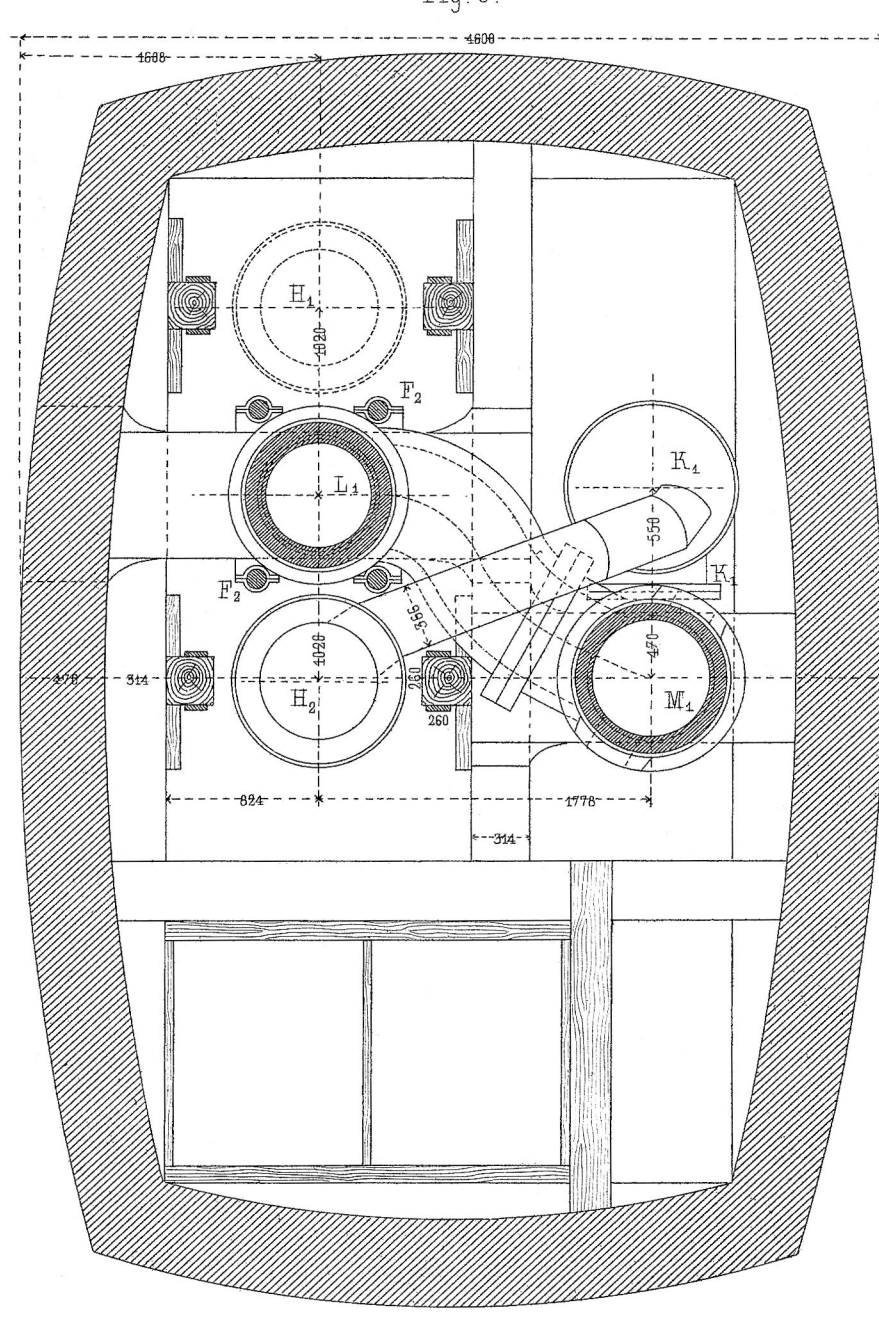
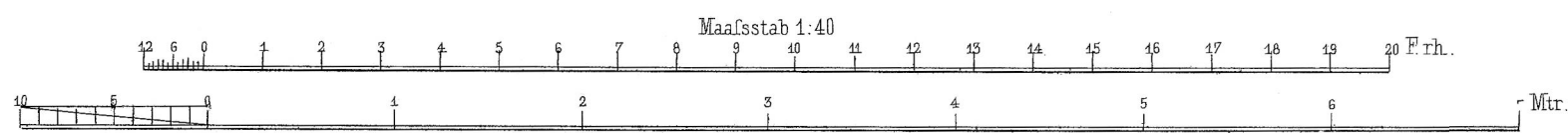


Fig. 6.



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