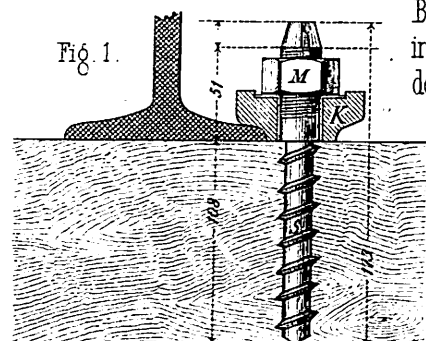


Fig. 1.



Befestigung
in der Mitte
der Schiene.

1:4 d. nat. Gr.

Fig. 2.

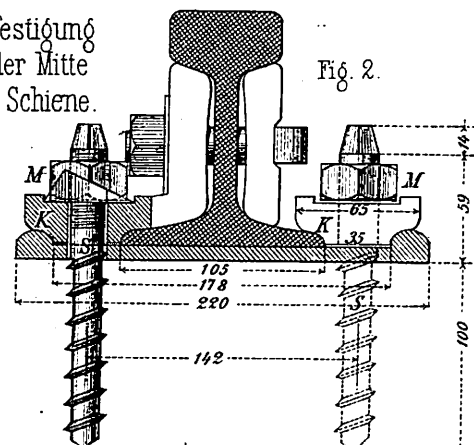


Fig. 3.
Befestigung am Schienen-Stofse.

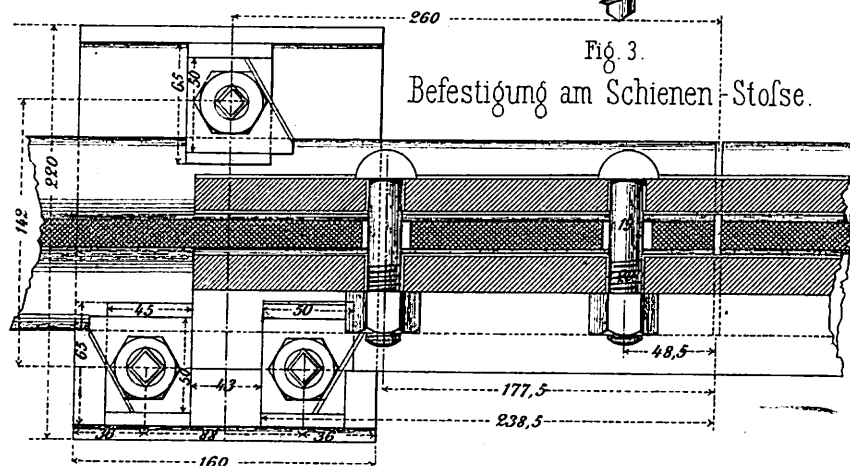
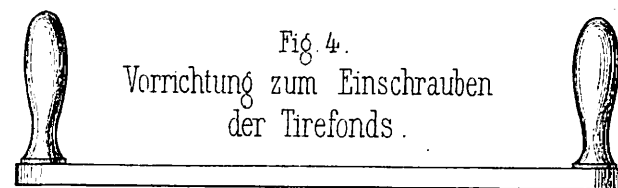


Fig. 4.

Vorrichtung zum Einschrauben
der Tirefonds.



Schienenbefestigung
mit Vermeidung
des directen Angriffes
der Schienen
an den
Befestigungs-Spindeln.

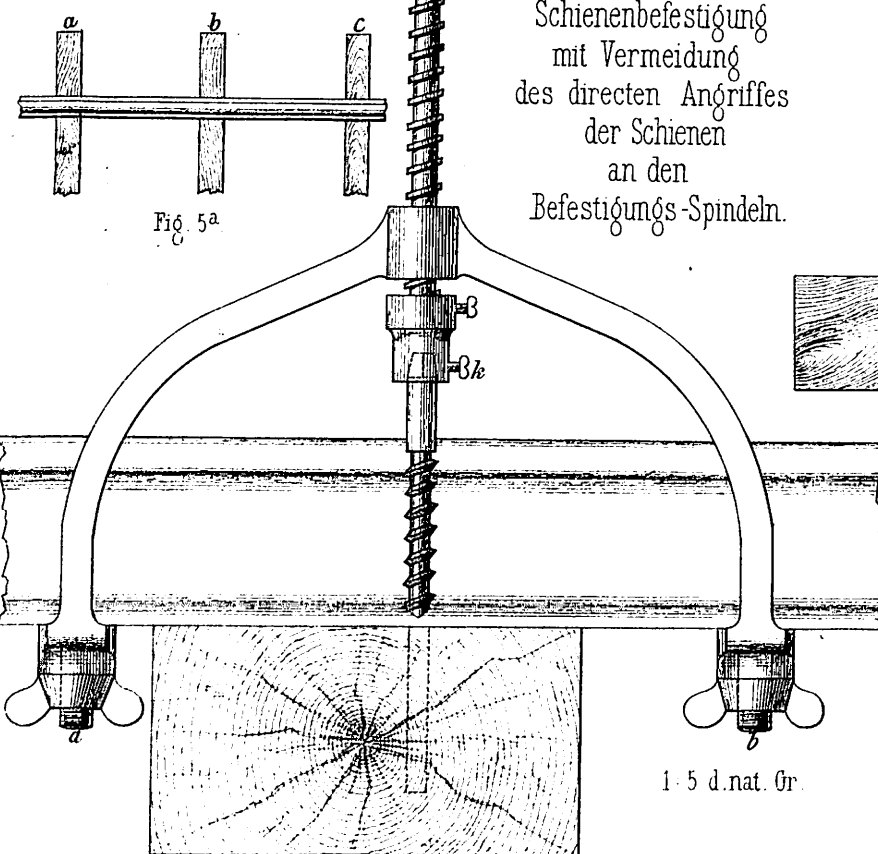
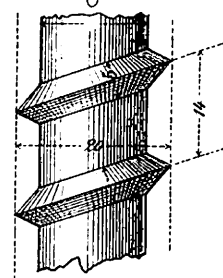


Fig. 5a

1:5 d. nat. Gr.

Fig. 2a



Nat. Gr.

Fig. 6.

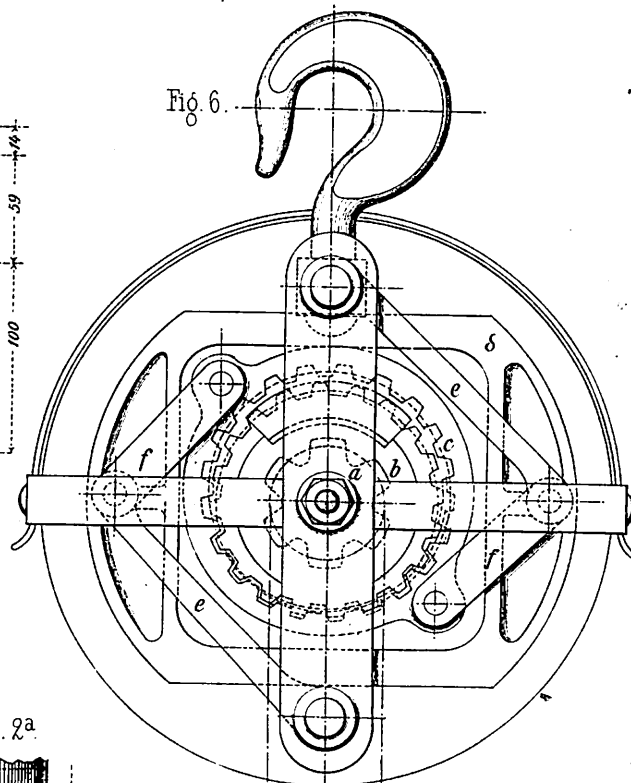
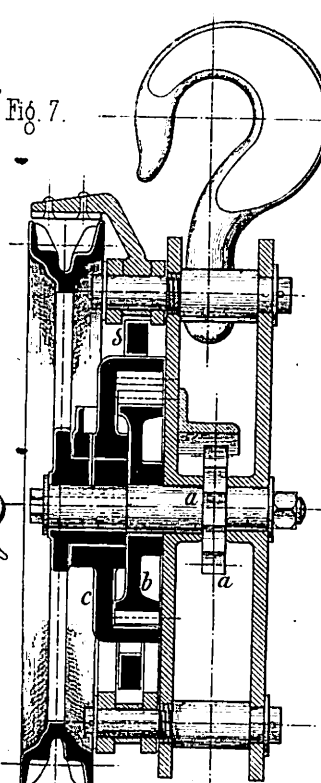


Fig. 7.



Differential-Flaschenzug
mit Gallscher Lastkette.

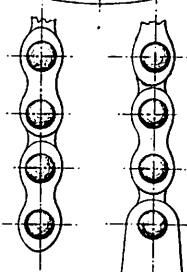


Fig. 5.

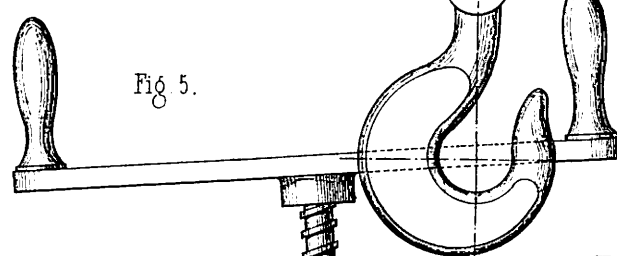


Fig. 5b

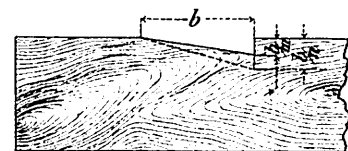


Fig. 13.

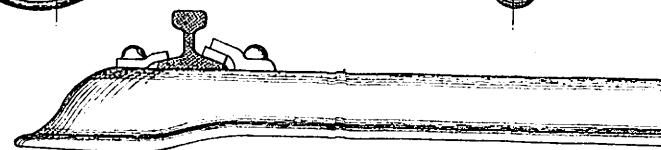
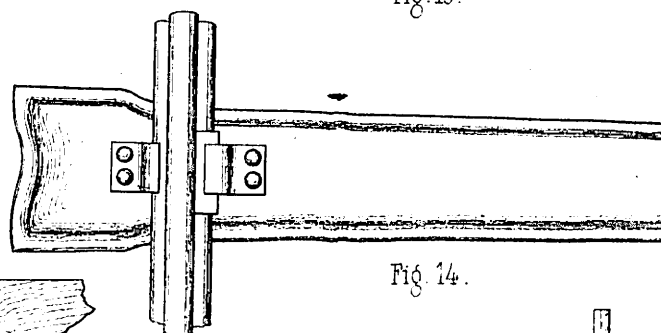


Fig. 14.



Livesey's eiserner
Querschwellen-Oberbau.

Fig. 17.

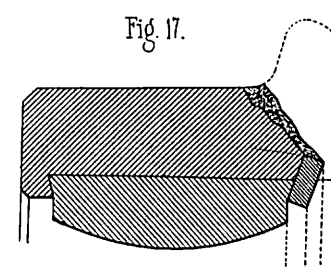
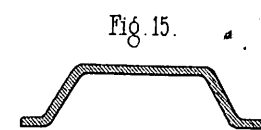
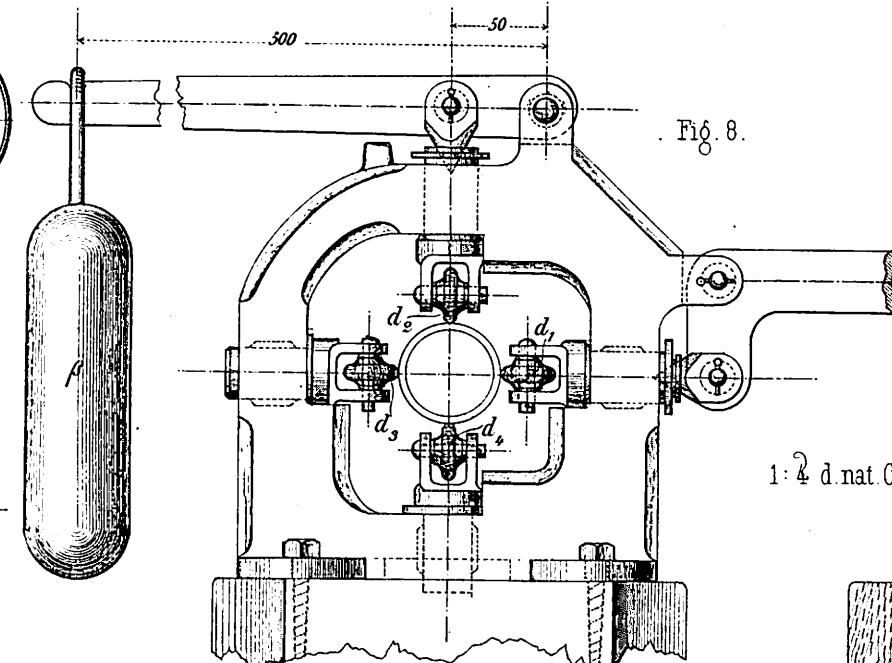


Fig. 15.



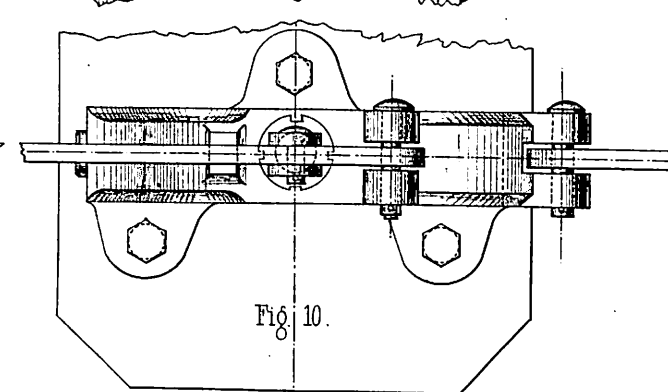
Querschnitt A-B.

Fig. 8.



1:2 d. nat. Gr.

Fig. 10.



Apparat zum Auffinden
von schwachen Stellen
an Siederöhren.

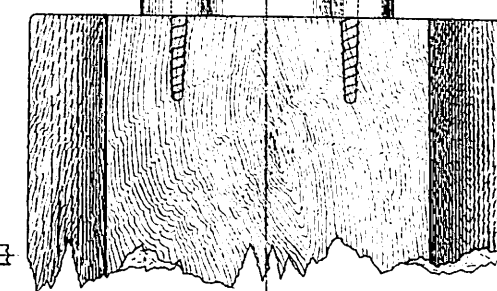


Fig. 16.

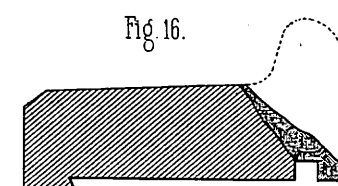
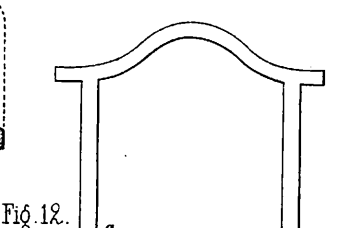


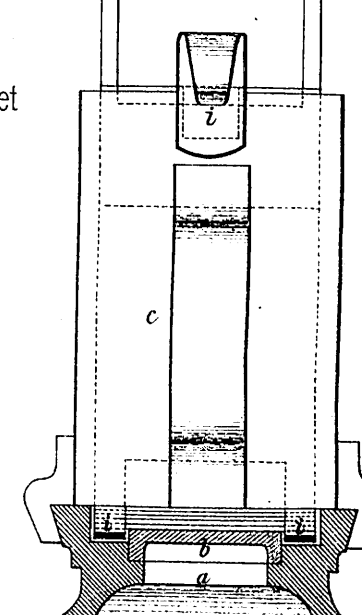
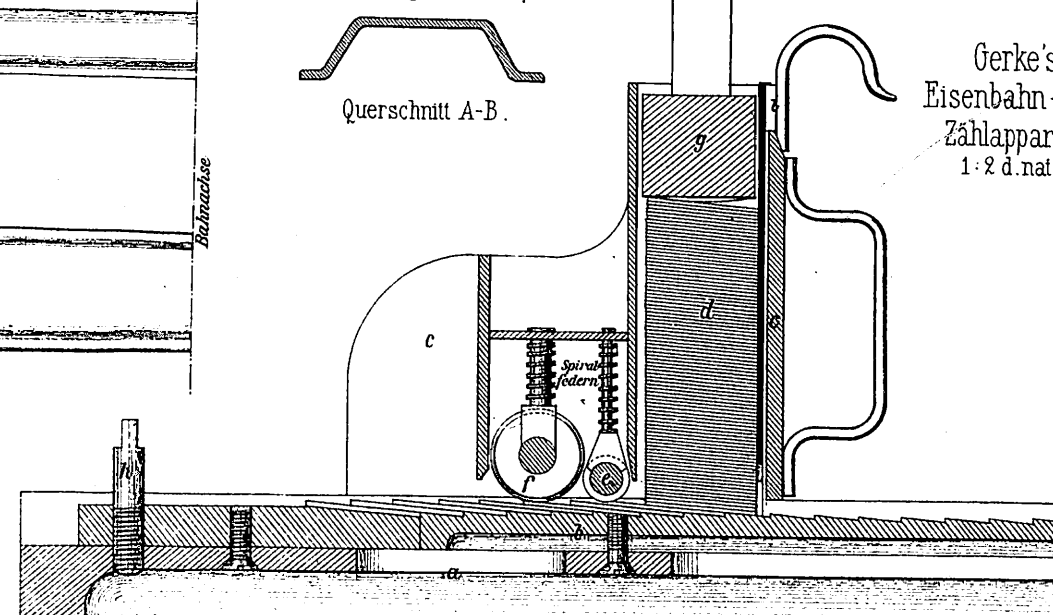
Fig. 11.



Fig. 12.



Gerke's
Eisenbahn-Billet
Zählapparat.
1:2 d. nat. Gr.



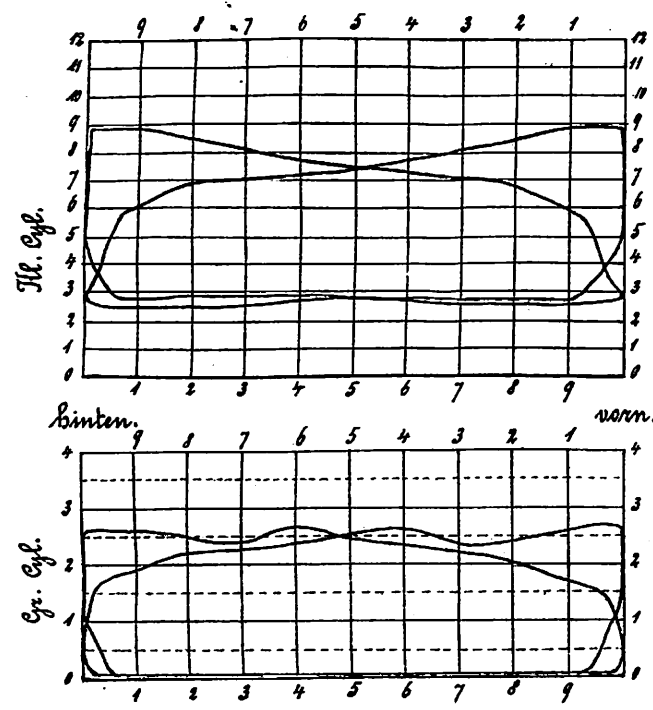


Fig. 1.

Füllung = $\frac{1}{10}$ (kl. Schieber b. Anfahren.)
 Dampfdruck im Kessel = 12 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 4,59 kg.
 „ großen „ = 2,23 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 4,46 kg.

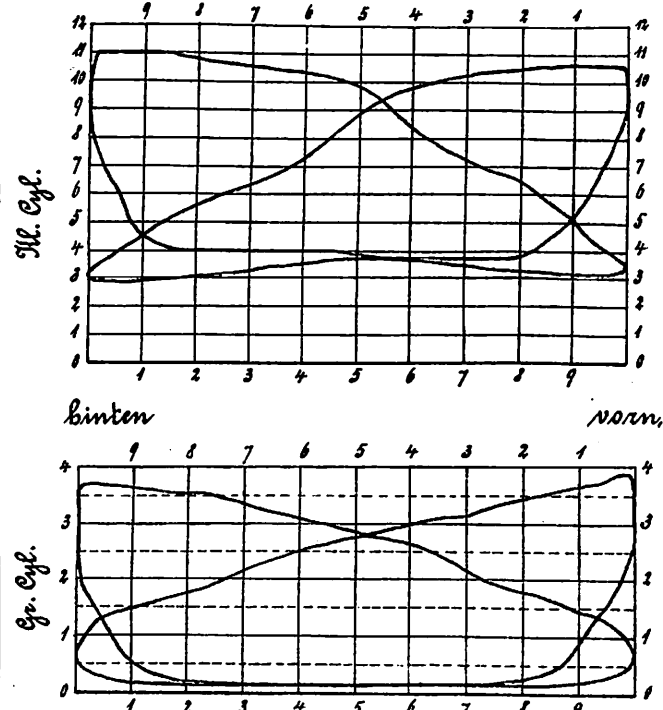


Fig. 3.

Füllung = $\frac{5}{10}$.
 Dampfdruck im Kessel = 11,4 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 4,49 kg.
 „ großen „ = 2,34 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 4,68 kg.

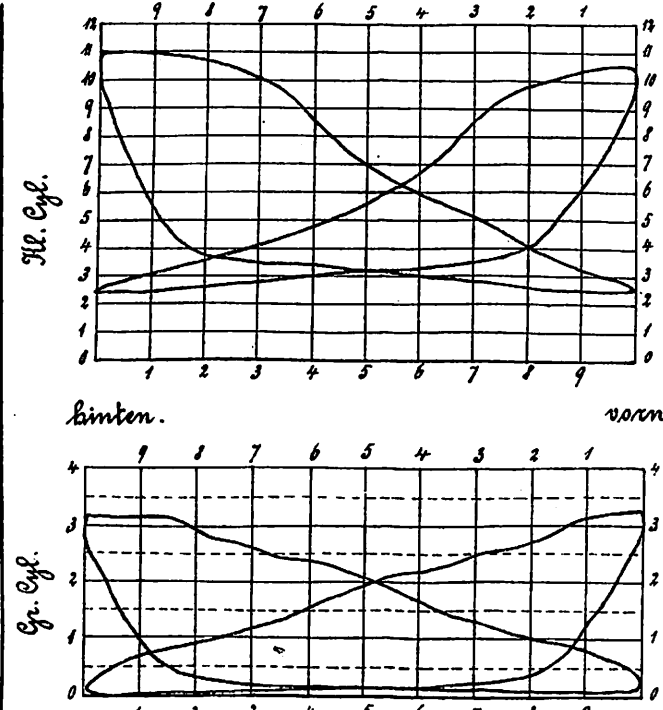


Fig. 5.

Füllung = $\frac{3}{10}$.
 Dampfdruck im Kessel = 11,4 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 3,08 kg.
 „ großen „ = 1,55 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 3,10 kg.

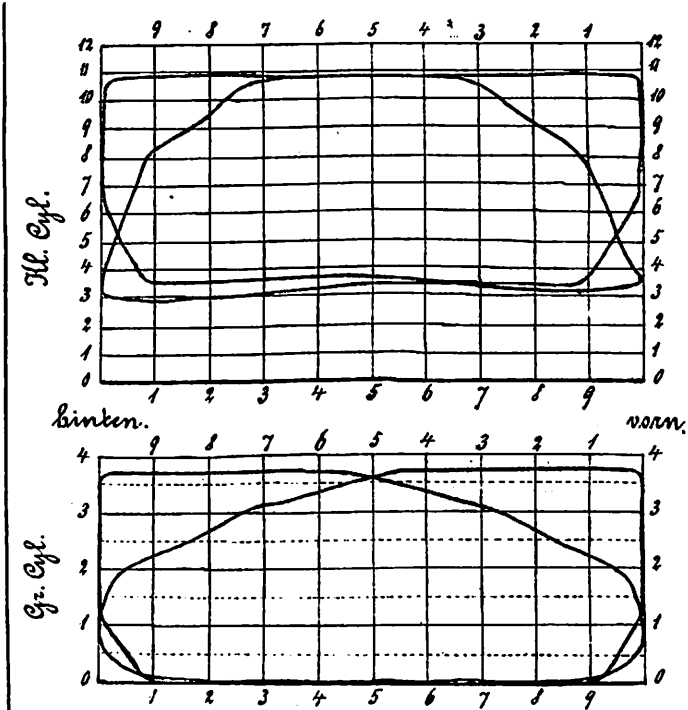


Fig. 7.

Füllung = $\frac{7}{10}$ (beim Anfahren.)
 Dampfdruck im Kessel = 11 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 6,48 kg.
 „ großen „ = 3,16 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 6,32 kg.

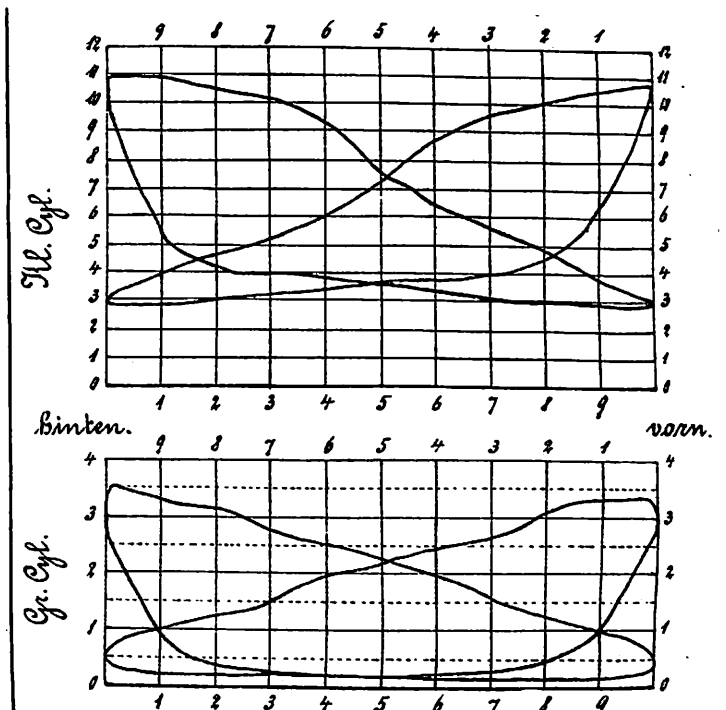


Fig. 9.

Füllung = $\frac{4}{10}$.
 Dampfdruck im Kessel = 11,8 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 3,39 kg.
 „ großen „ = 1,70 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 3,40 kg.

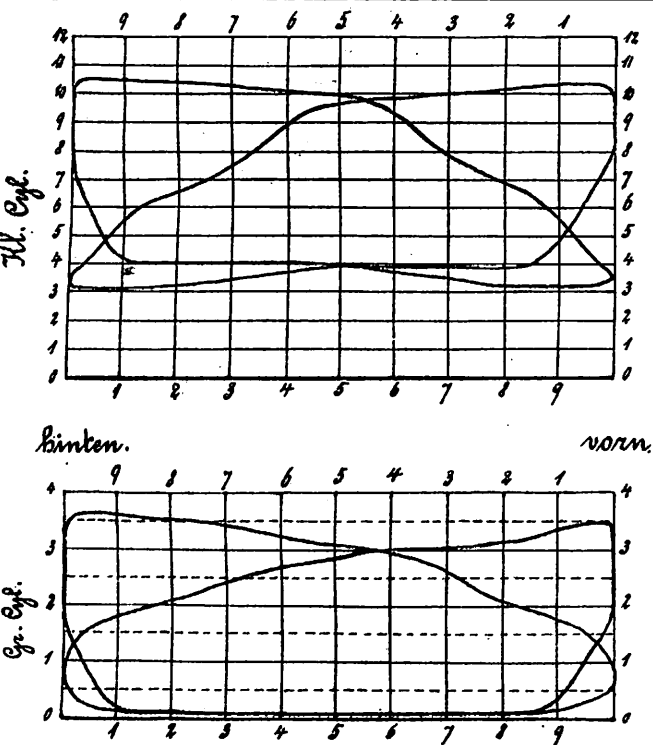


Fig. 2.

Füllung = $\frac{6}{10}$
 Dampfdruck im Kessel = 11 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 4,10 kg.,
 „ großen „ = 2,62 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 5,24 kg.

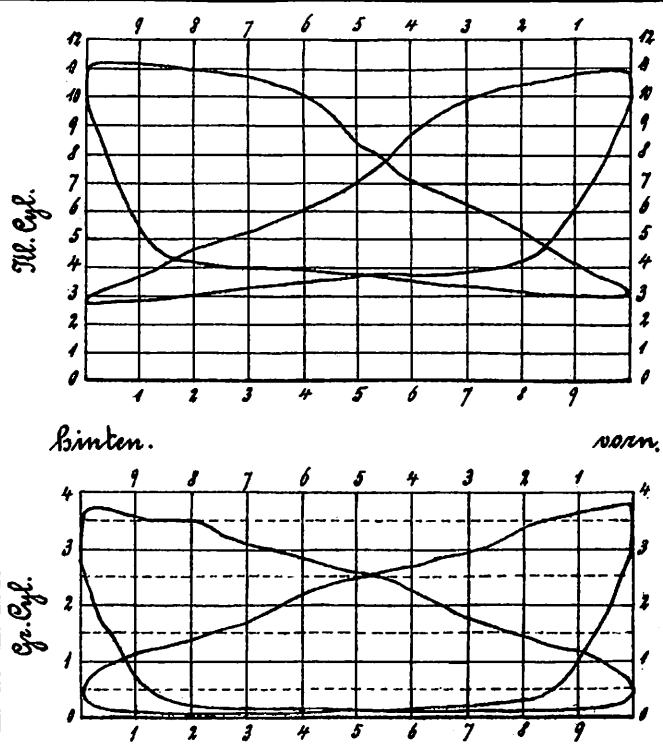


Fig. 4.

Füllung = $\frac{4}{10}$.
 Dampfdruck im Kessel = 12 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 3,68 kg.
 „ großen „ = 2,07 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 4,14 kg.

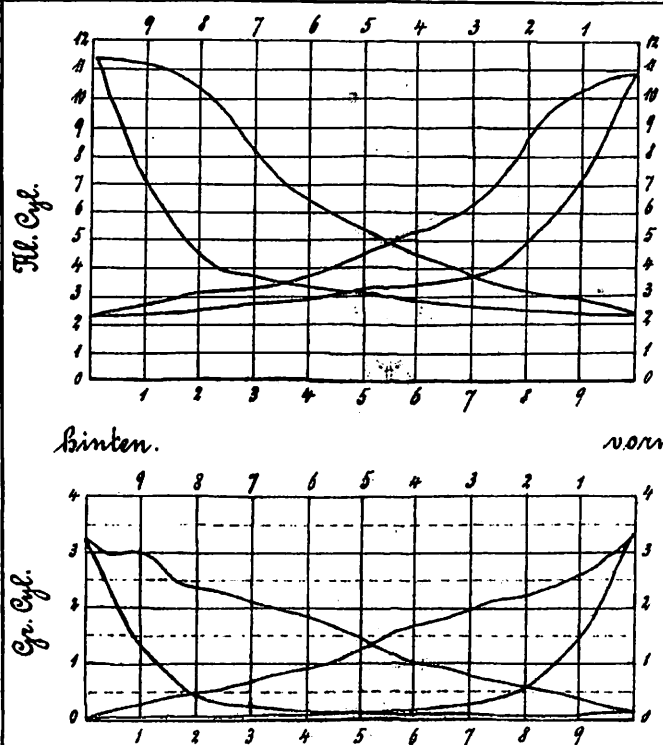


Fig. 6.

Füllung = $\frac{3}{10}$.
 Dampfdruck im Kessel = 12 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 1,83 kg.
 „ großen „ = 1,01 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 2,02 kg.

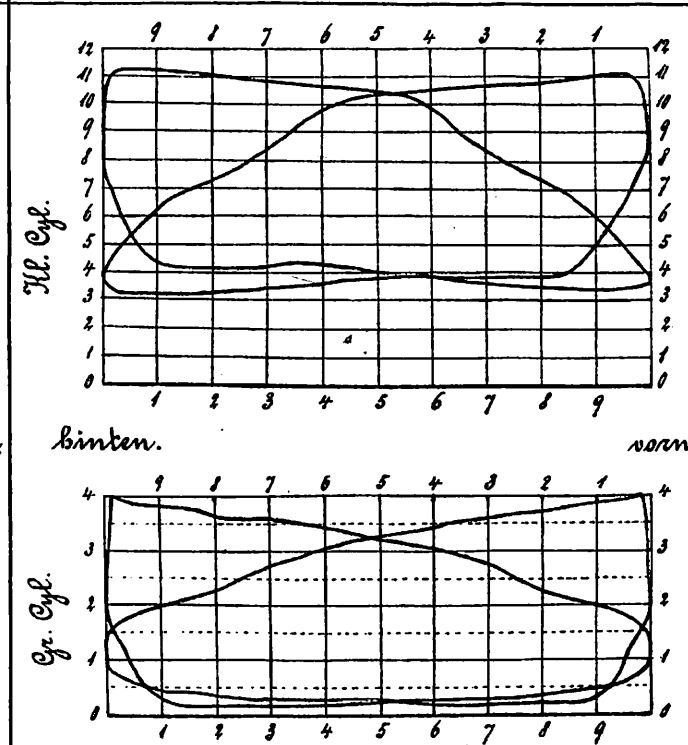


Fig. 8.

Füllung = $\frac{6}{10}$.
 Dampfdruck im Kessel = 11,8 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 5,32 kg.
 „ großen „ = 2,61 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 5,22 kg.

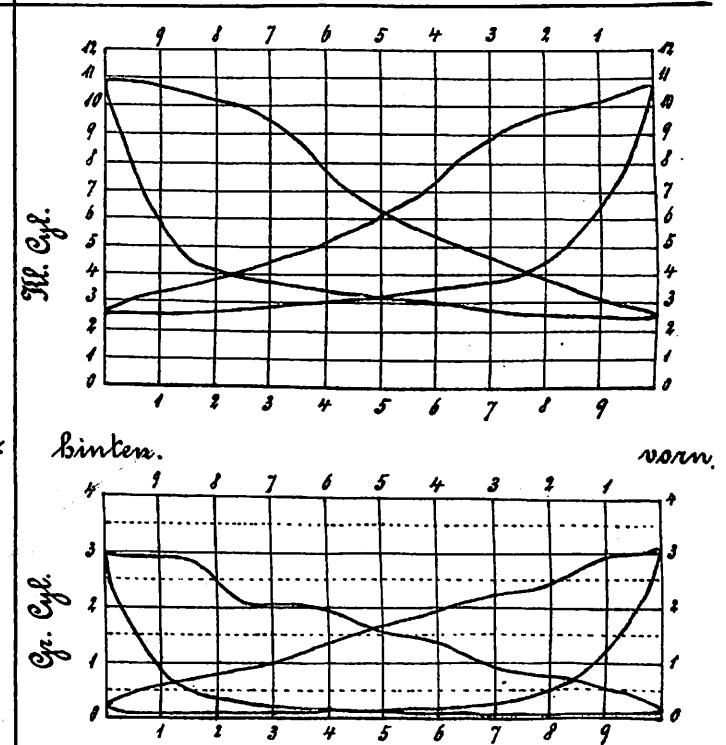
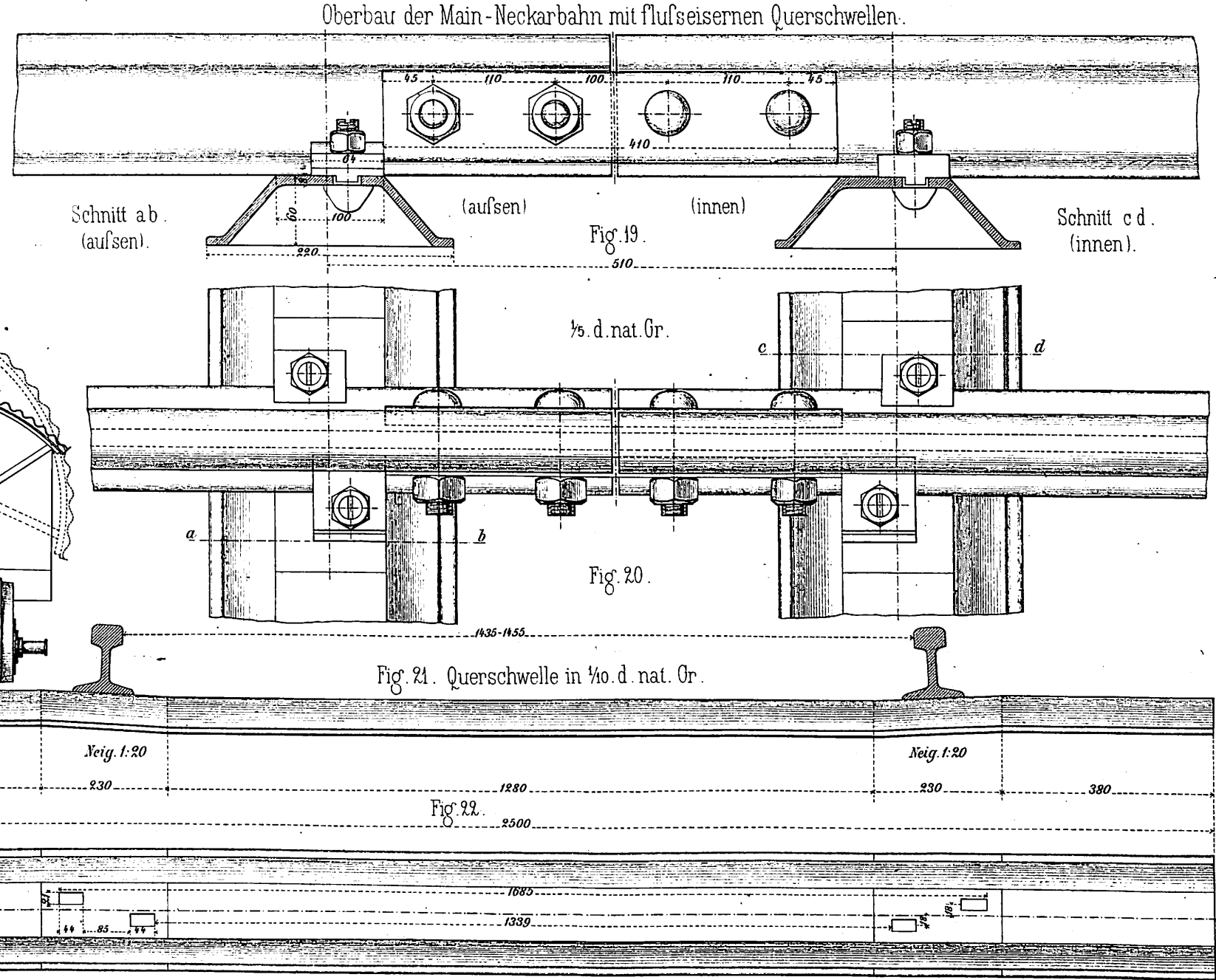
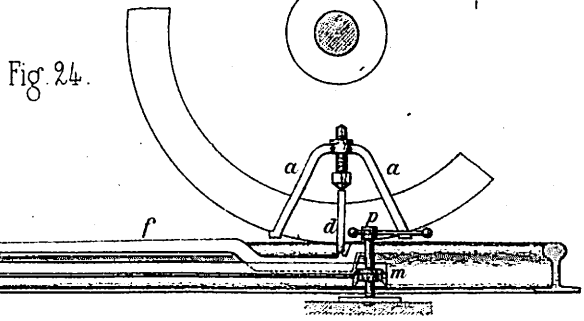
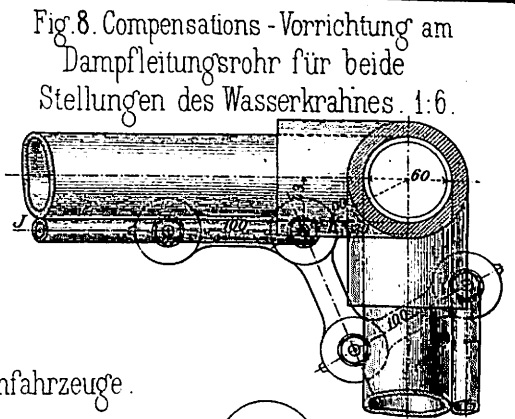
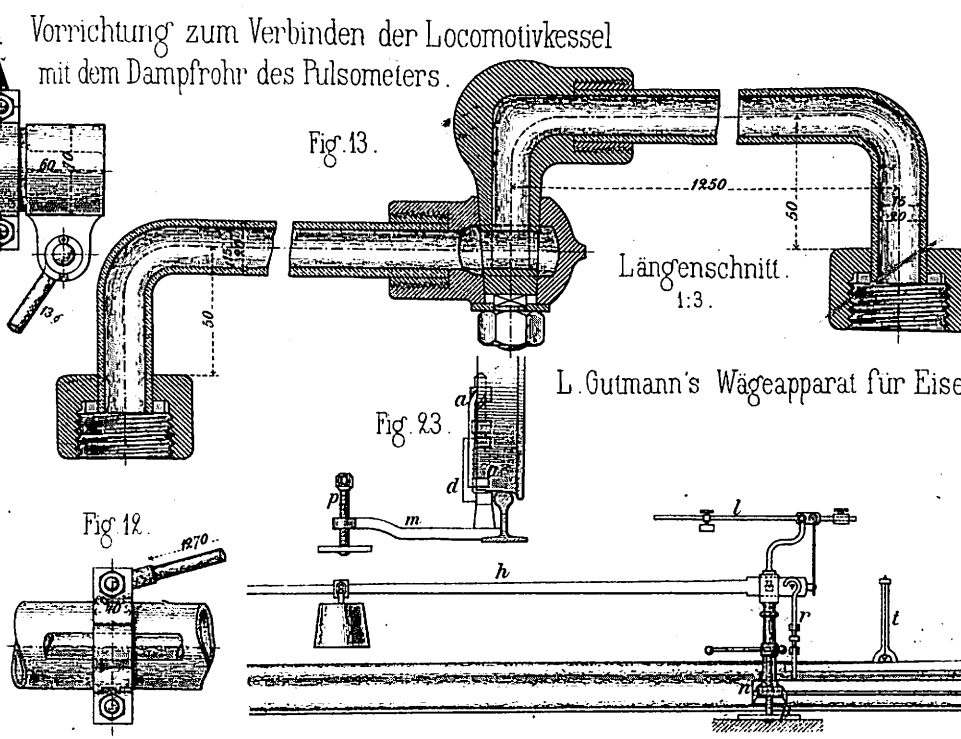
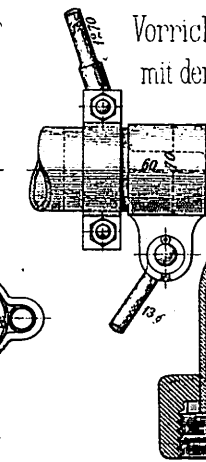
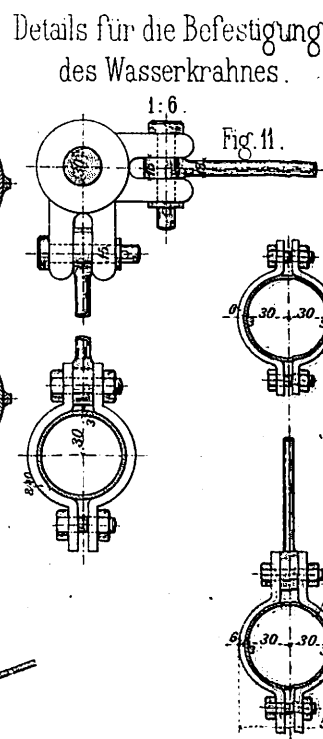
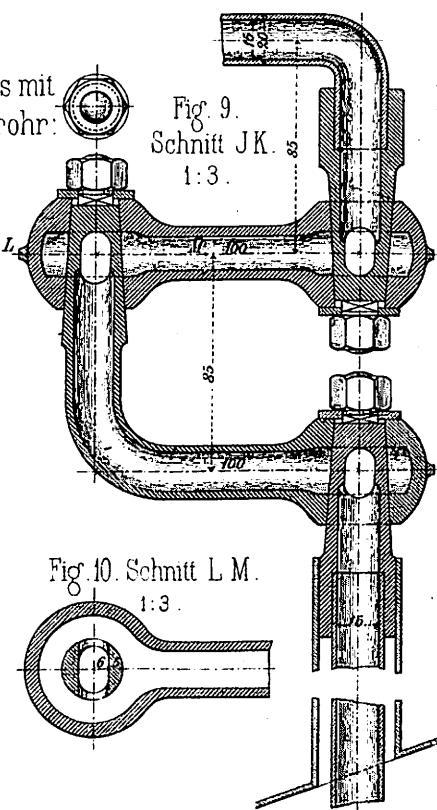
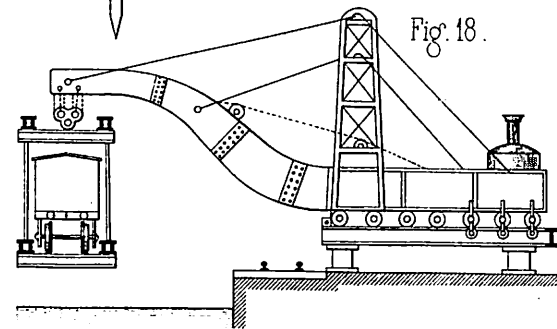
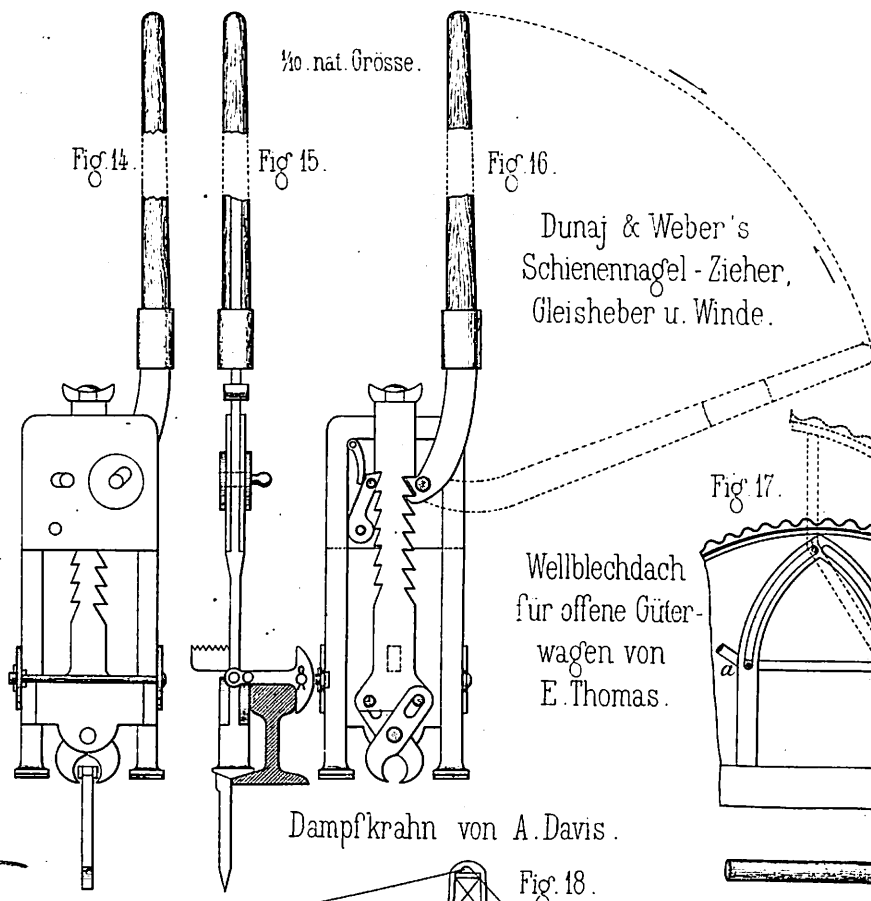
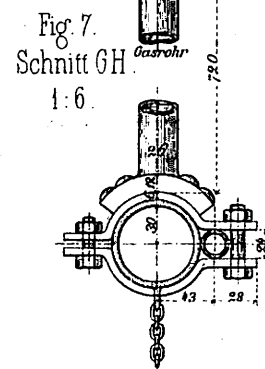
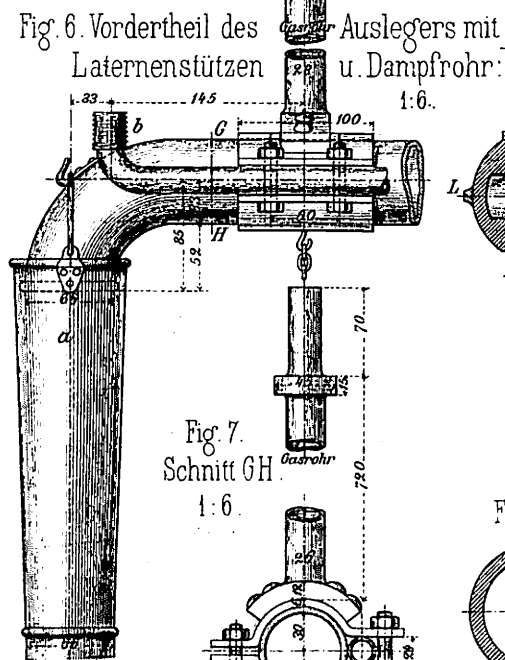
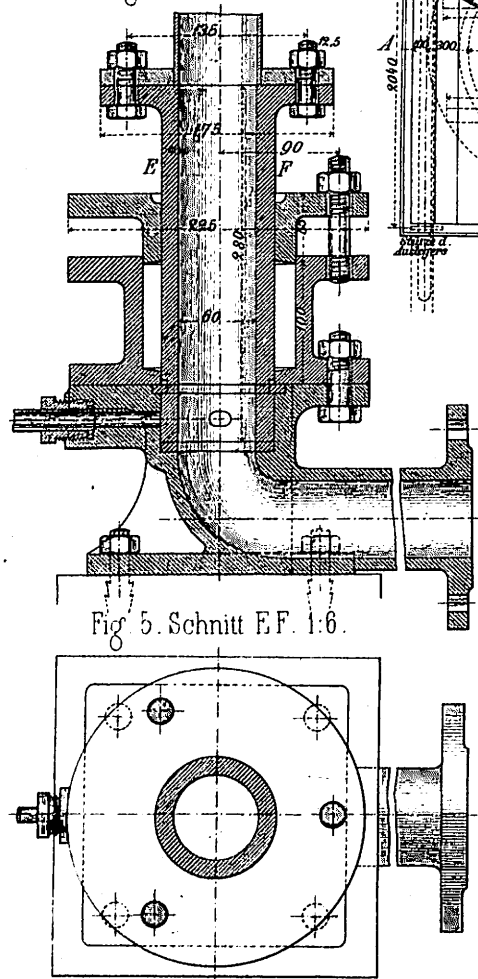
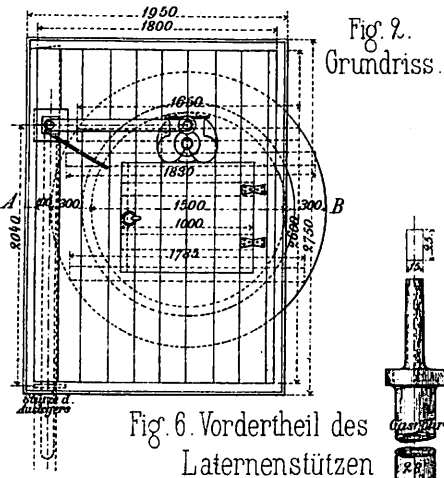
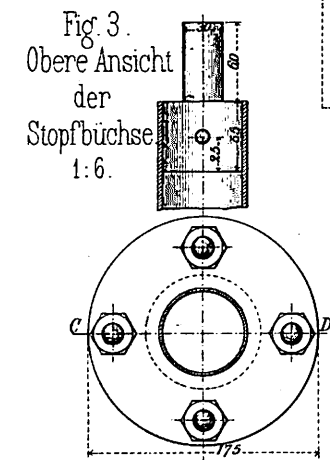
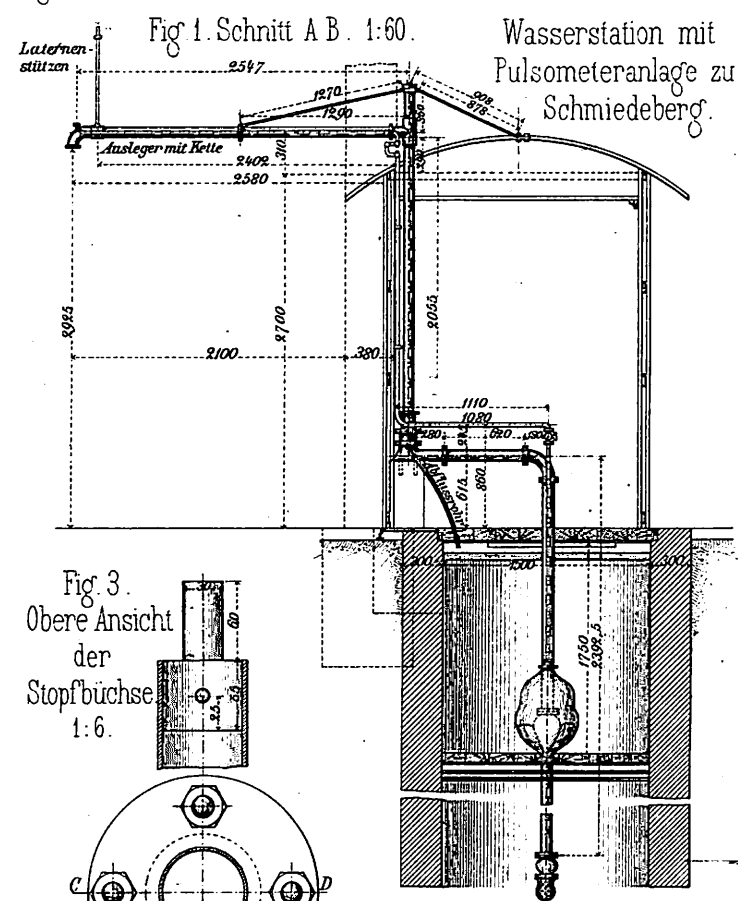


Fig. 10.

Füllung = $\frac{3}{10}$.
 Dampfdruck im Kessel = 11,5 Atm.
 Mittlerer nützlicher Druck:
 im kleinen Cylinder = 2,88 kg.
 „ großen „ = 1,29 „
 Druck im großen Cylinder reducirt
 auf den kleinen Cylinder = 2,58 kg.



Schwerloser Träger
freies Auflager.
Belastung durch 3
Bettungscoefficient

auf 9 verdrückbaren Stützen.
Feldweite durchaus gleich l.
gleich große Lasten
 $r = 4, \alpha = 2,846854$.

bei № 1 u. 9
Symmetrische

Fig. 23.

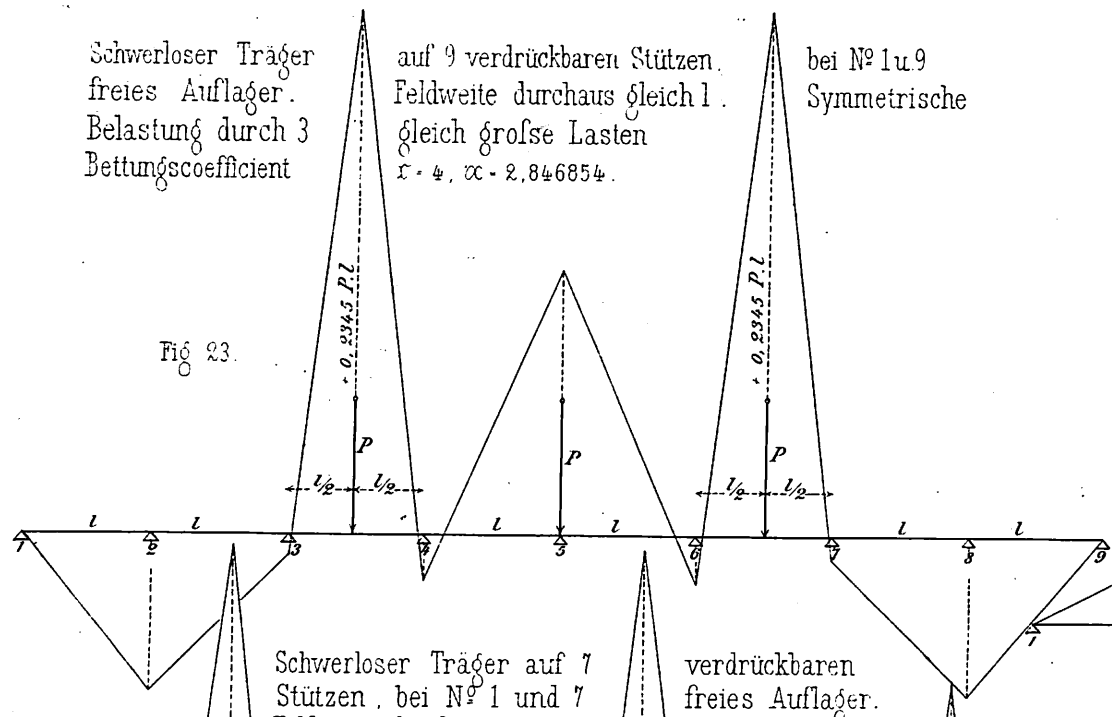
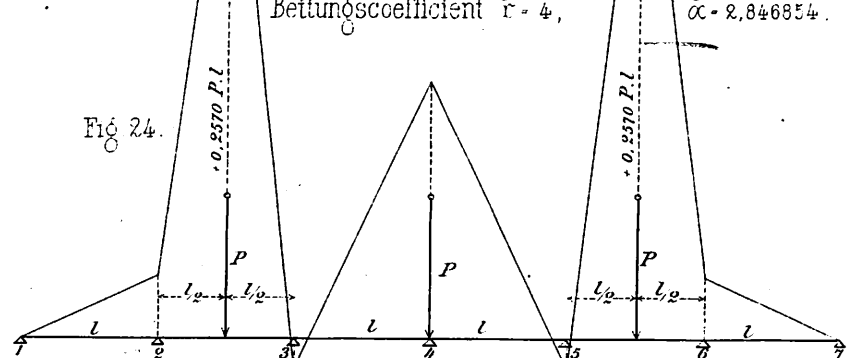


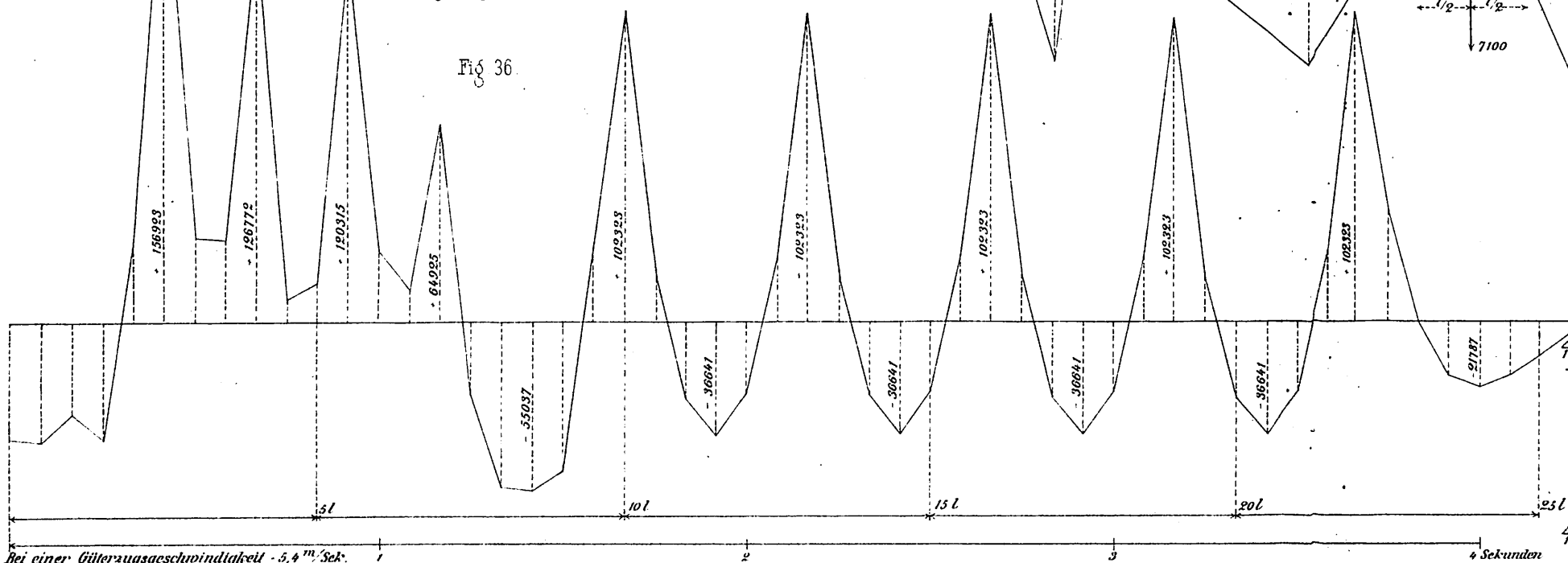
Fig. 24.



Graphische Darstellung der Tabelle №. XVII.
Angriffsmomente,

während der bayerischen Schiene auftreten,
der Bahnzug (Fig. 35) letztere passiert

Fig. 36.



Bei einer Güterzugsgeschwindigkeit 5,4 m/Sek.

Lith. Anst. v. F. Wirtz, Darmstadt

Fig. 21.

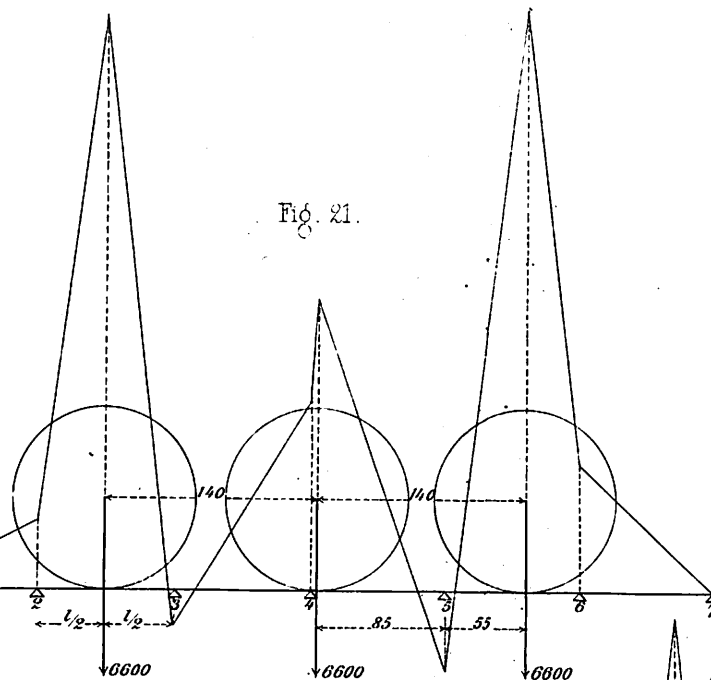


Fig. 22.

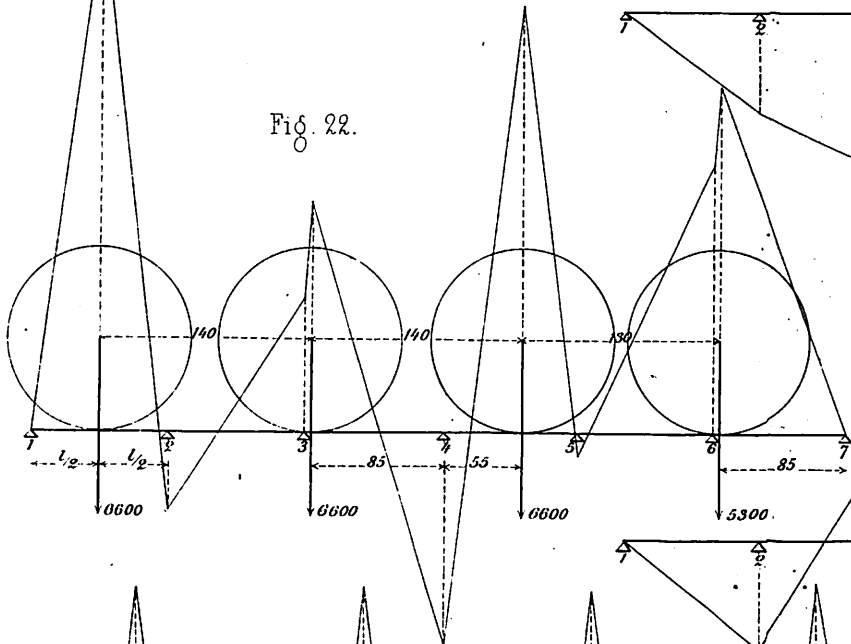


Fig. 30.

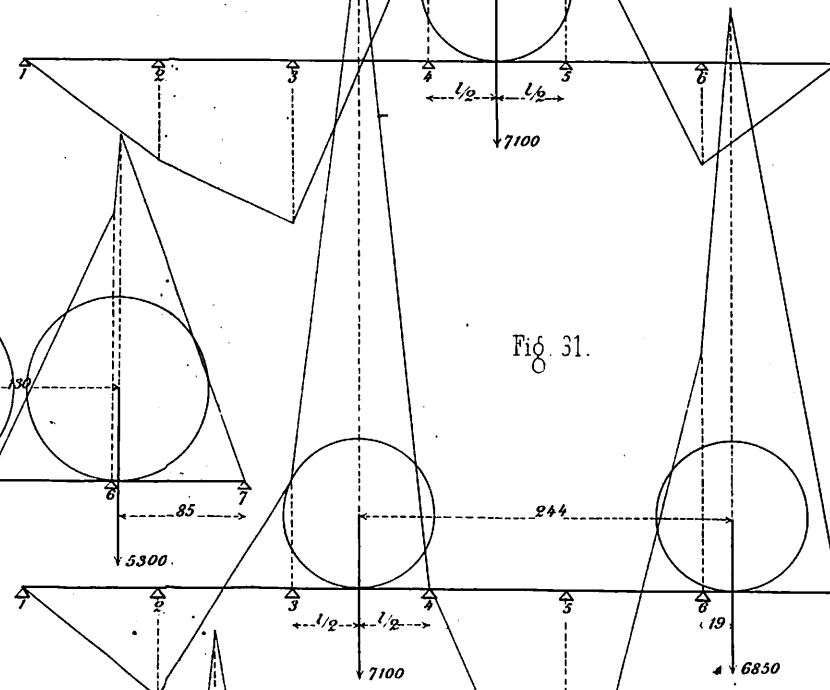


Fig. 31.

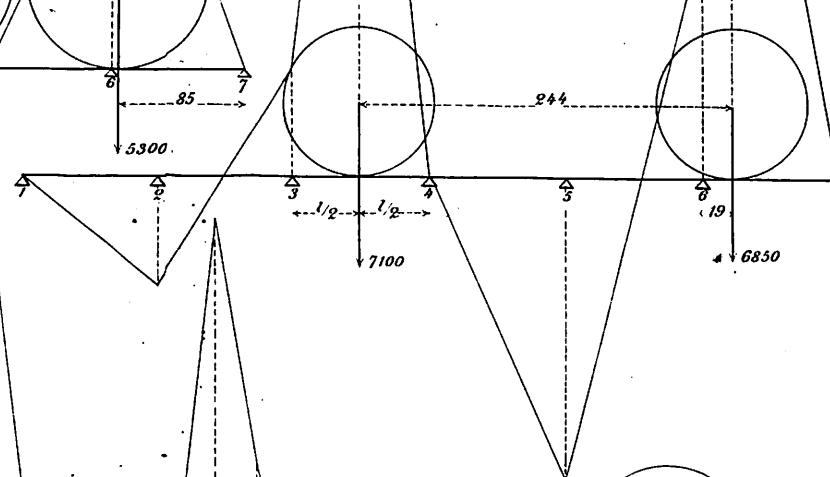


Fig. 27.

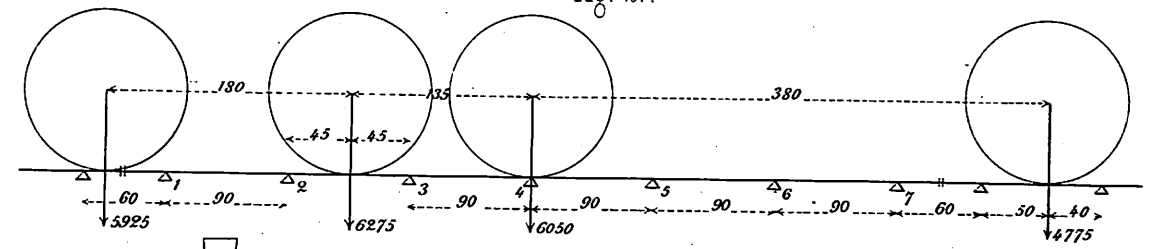


Fig. 35.

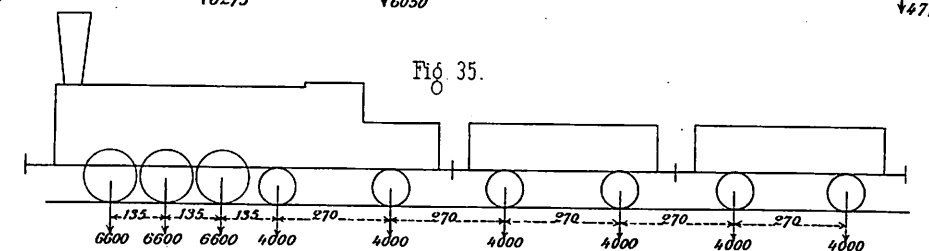


Fig. 25.

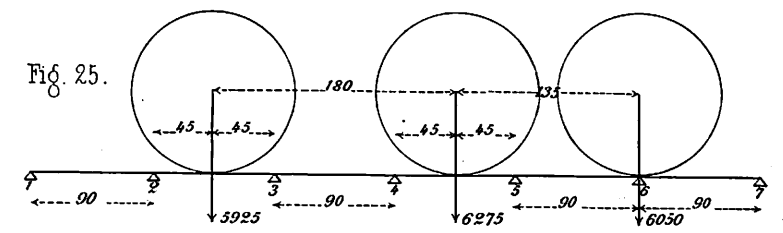


Fig. 26.

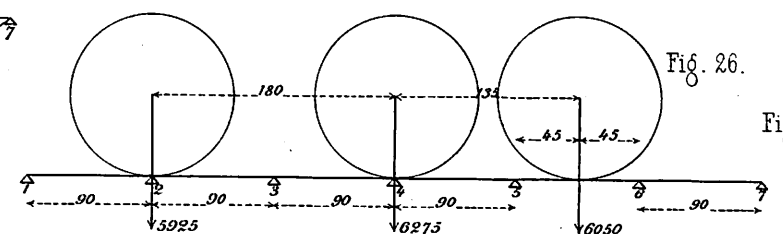


Fig. 28.

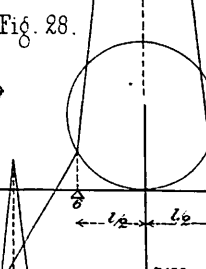


Fig. 32.

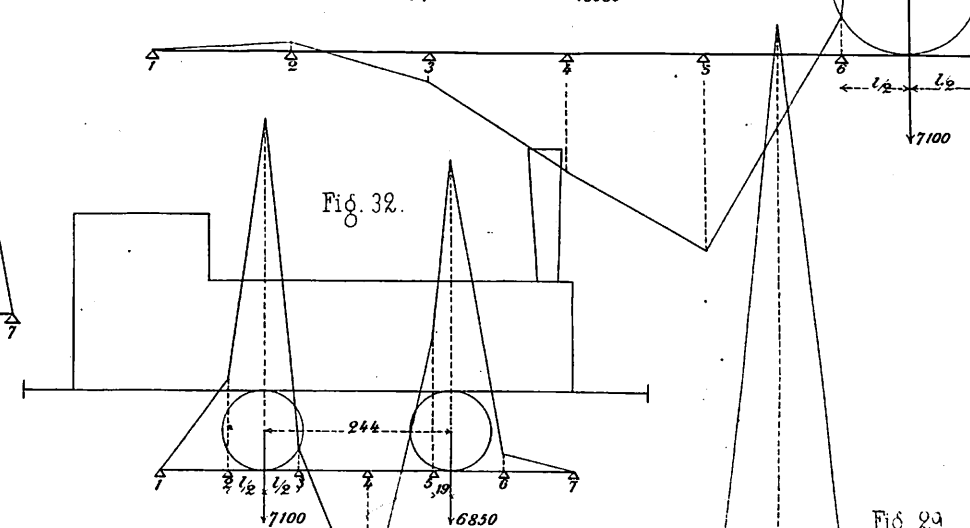


Fig. 33.

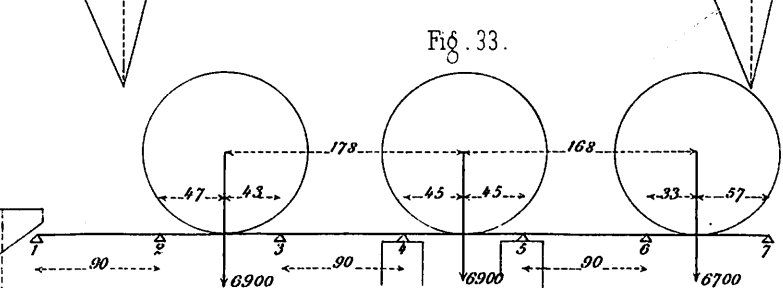


Fig. 34.

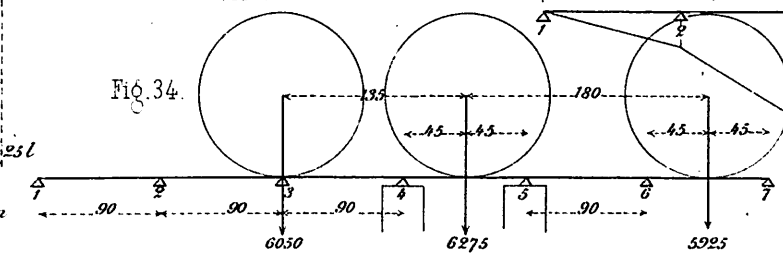
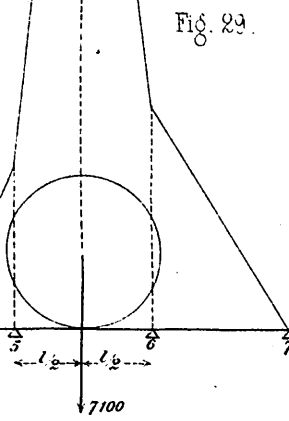


Fig. 29.



Intercommunications-Signal-System Gassebner.

Fig. 1 Disposition in $\frac{1}{100}$ nat. Gröfse.

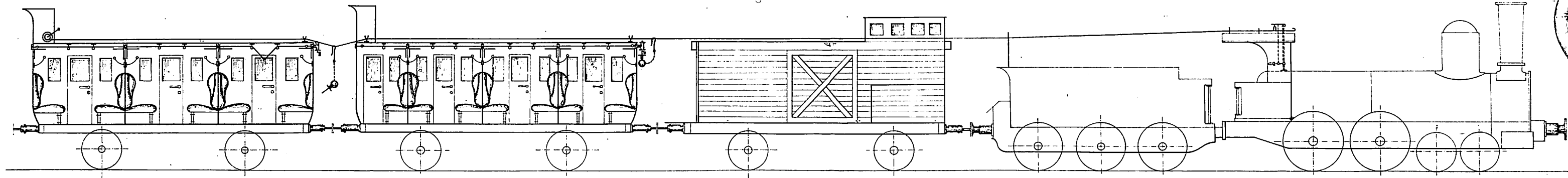


Fig. 2. Längenschnitt. $\frac{1}{25}$ nat. Gr.

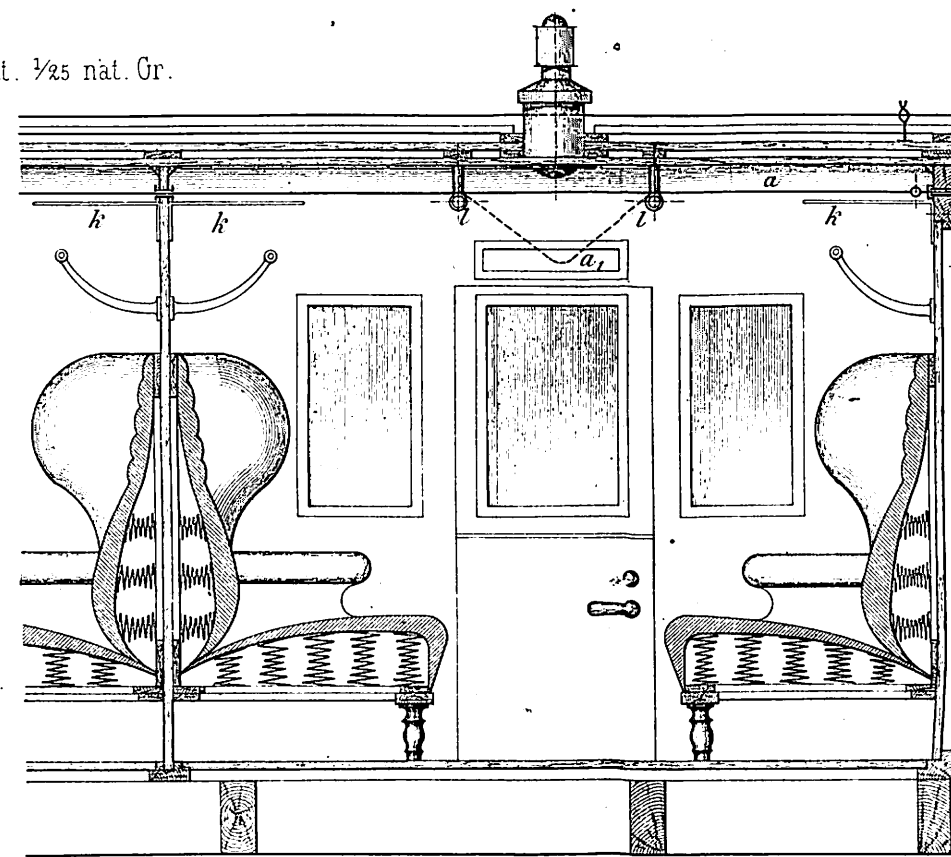
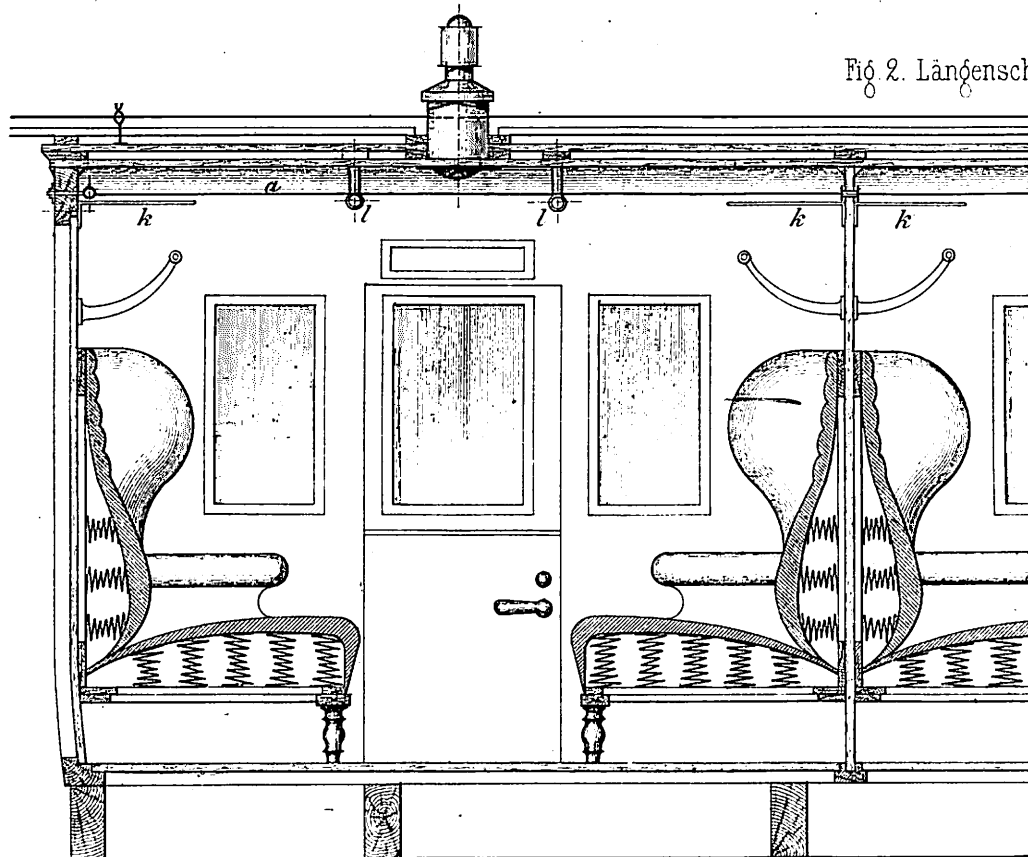


Fig. 5.
Ansicht von oben.

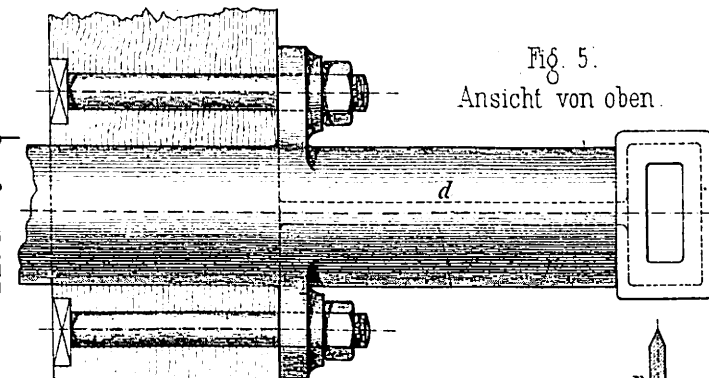


Fig. 7.
Aufhängenhaken.
 $\frac{1}{2}$ nat. Gr.

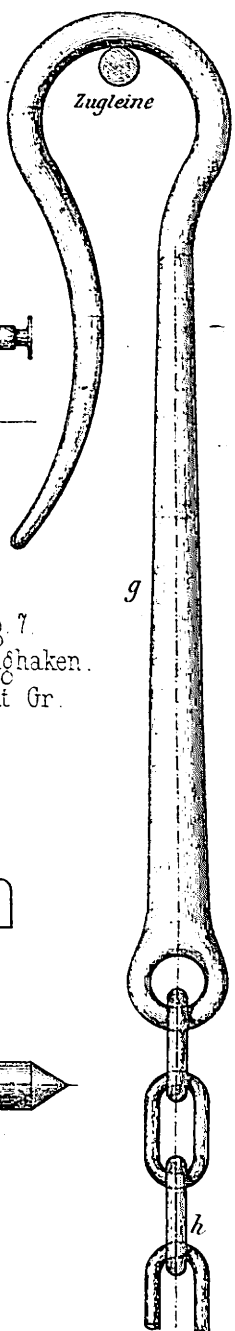
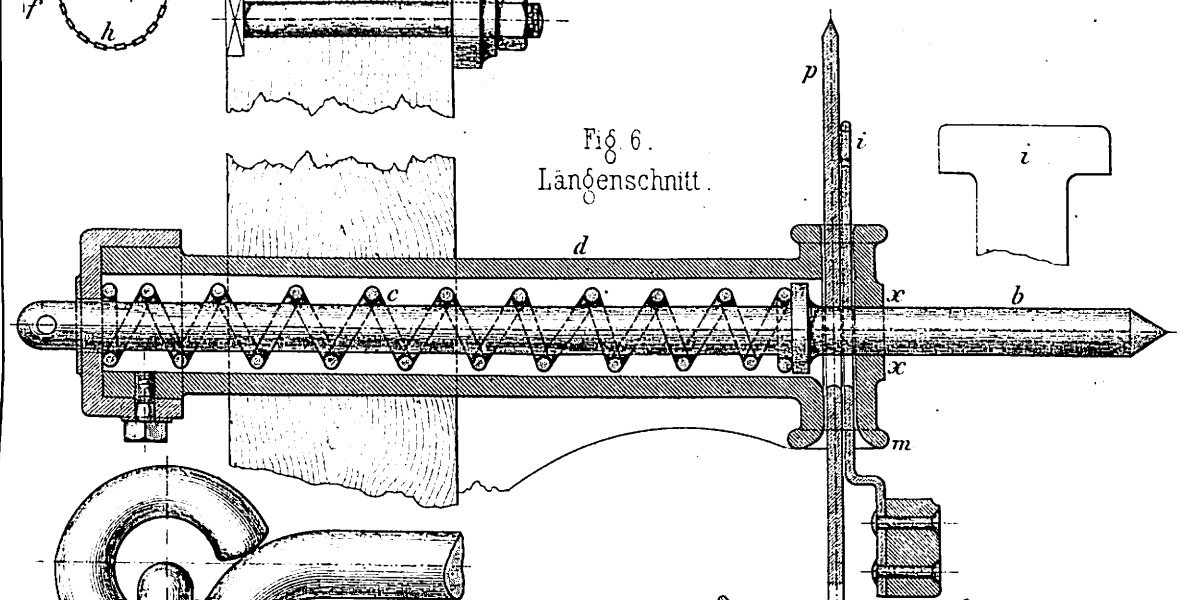
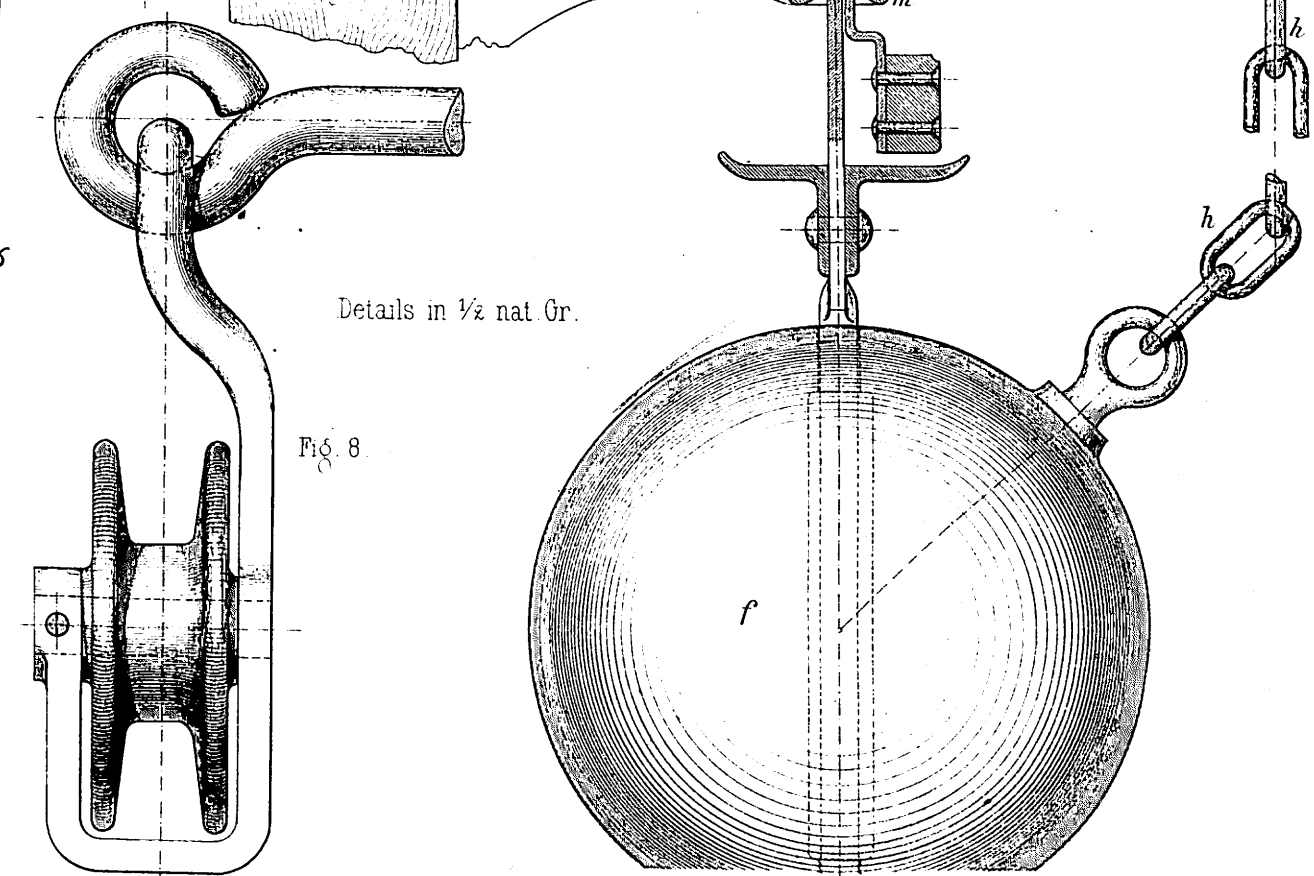


Fig. 6.
Längenschnitt.



Details in $\frac{1}{2}$ nat. Gr.



P Scharnberger's Achs-Kisten-Untertheil.

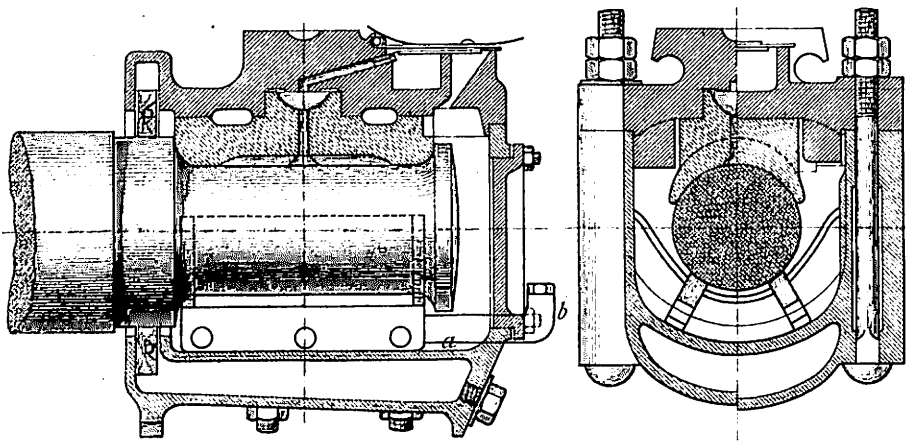


Fig. 9 Längenschnitt.

Fig. 10 Querschnitt.

Fig. 3.
Stirnansicht zu Fig. 2.

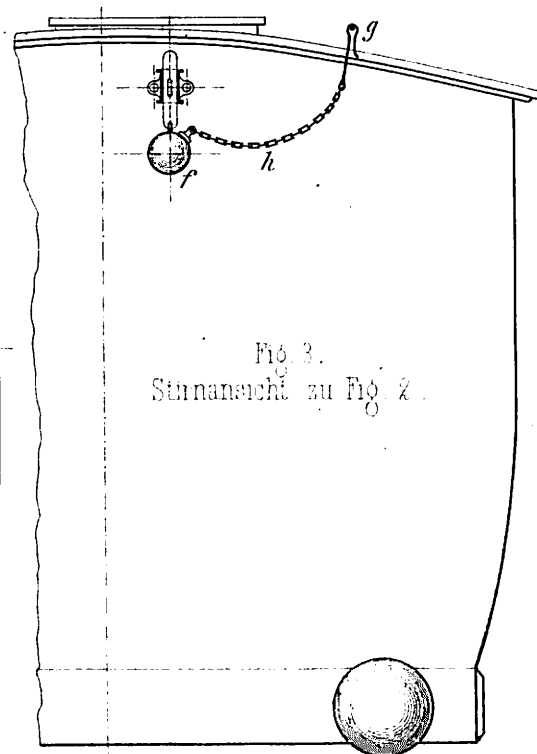


Fig. 4.
Stirnansicht Alternative.

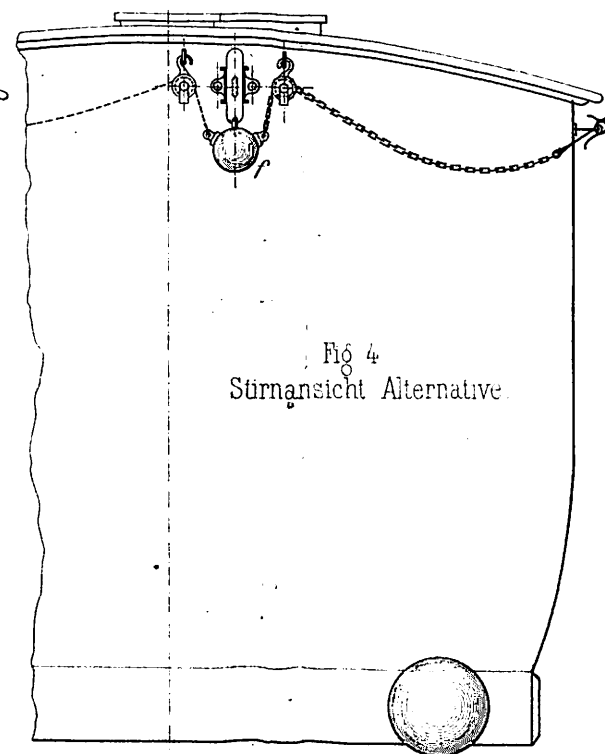


Fig. 3. Schnitt A-B.

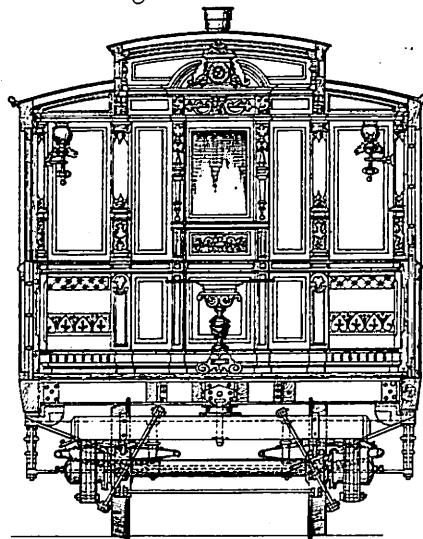


Fig. 1. Längenschnitt.

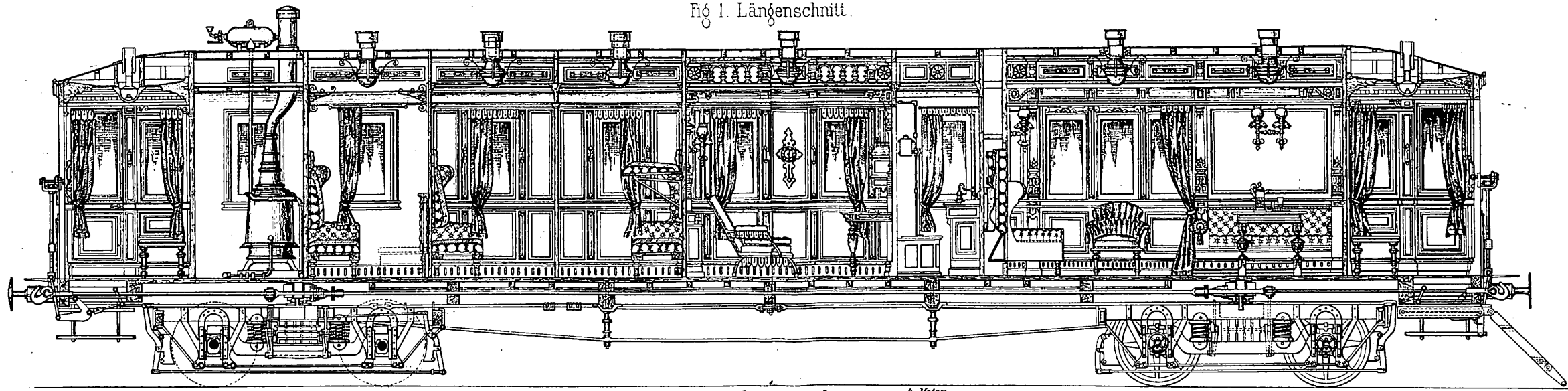


Fig. 5. Schnitt E-F.

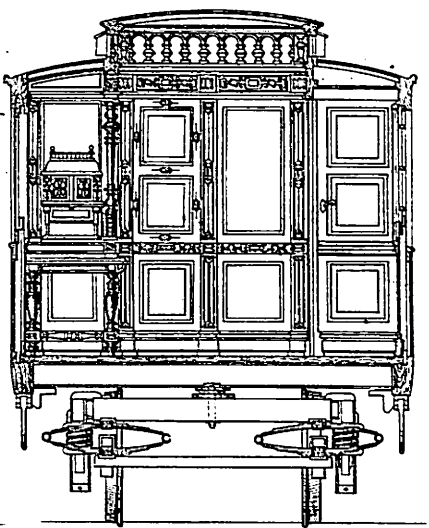


Fig. 4. Schnitt C-D.

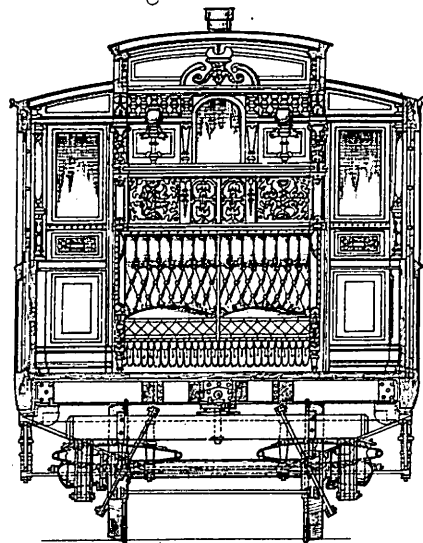


Fig. 2. Grundriss.

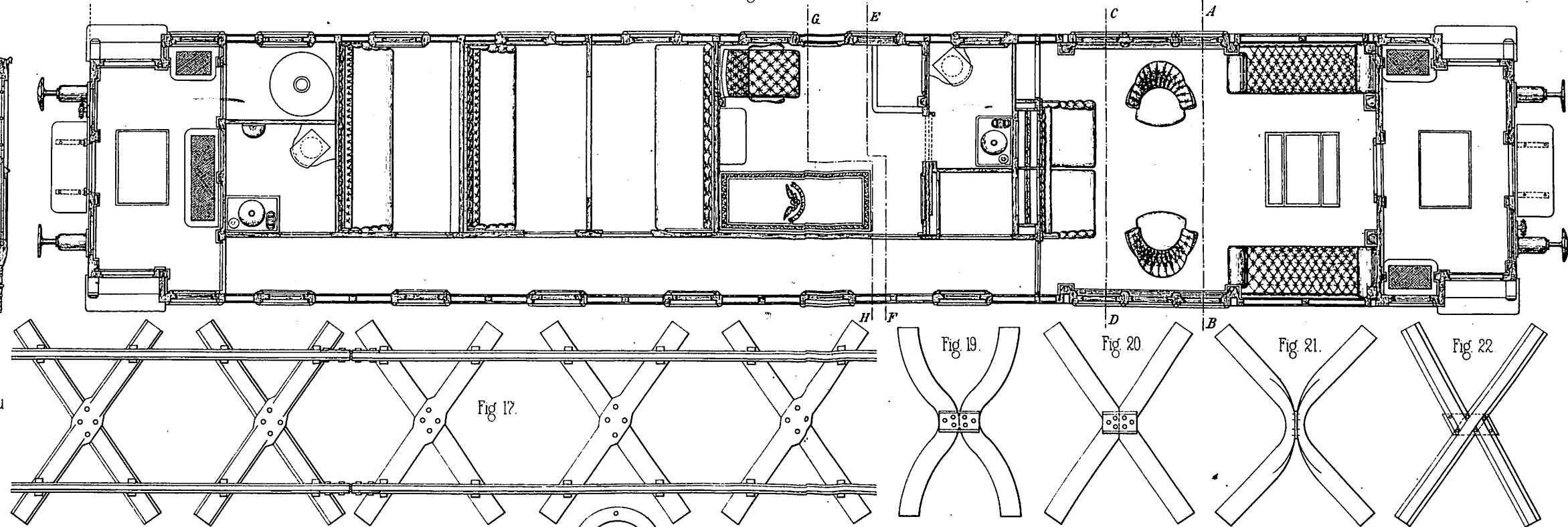
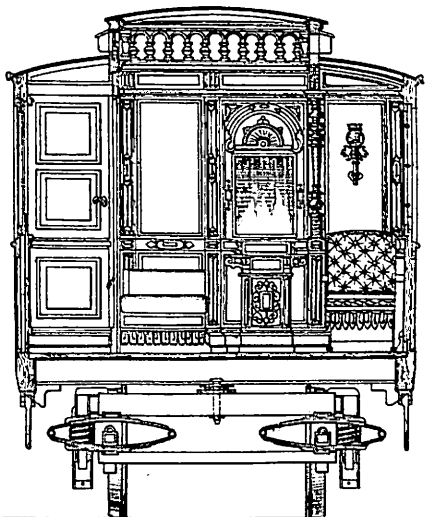


Fig. 6. Schnitt G-H.



Gust. Meyer's
patentirter-Eisenbahn-Oberbau
mit Kreuzschwellen.
Fig. 18.

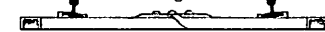


Fig. 15.

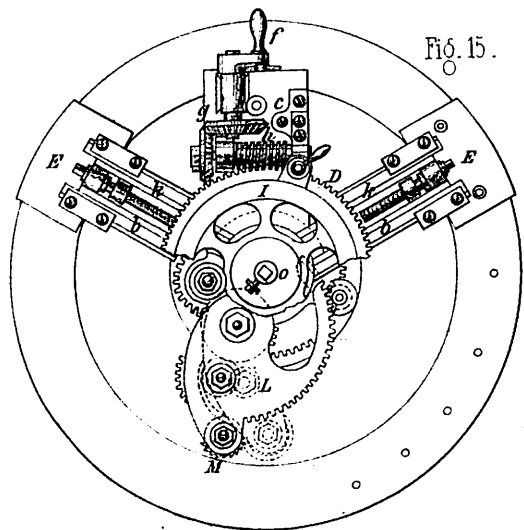
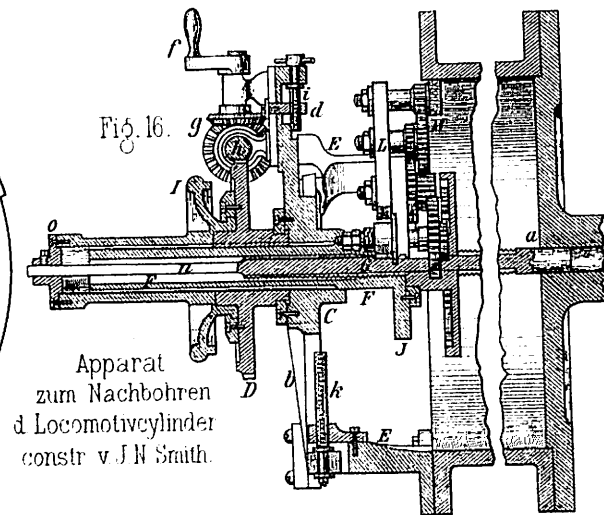


Fig. 16.



Apparat
zum Nachbohren
d. Locomotivcylinder
constr. v. J. N. Smith.

Fig. 9.

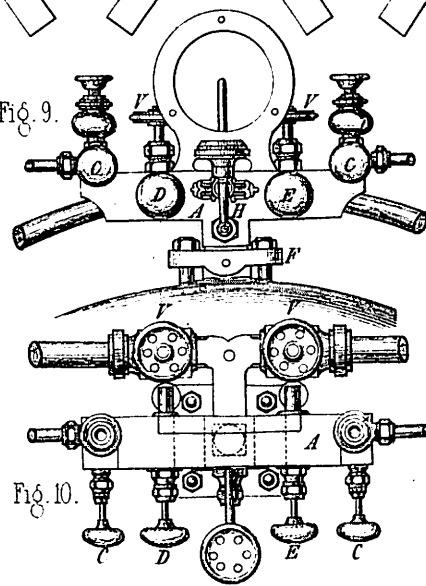


Fig. 10.

Fig. 11.

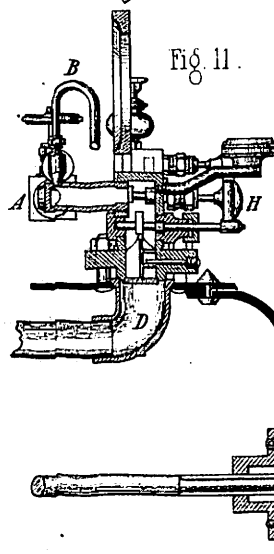


Fig. 12.

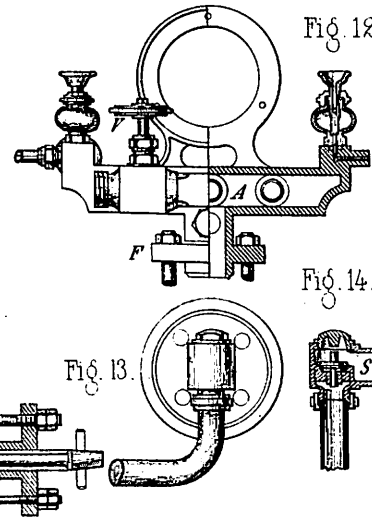
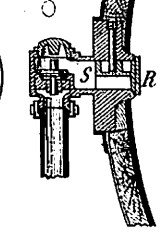


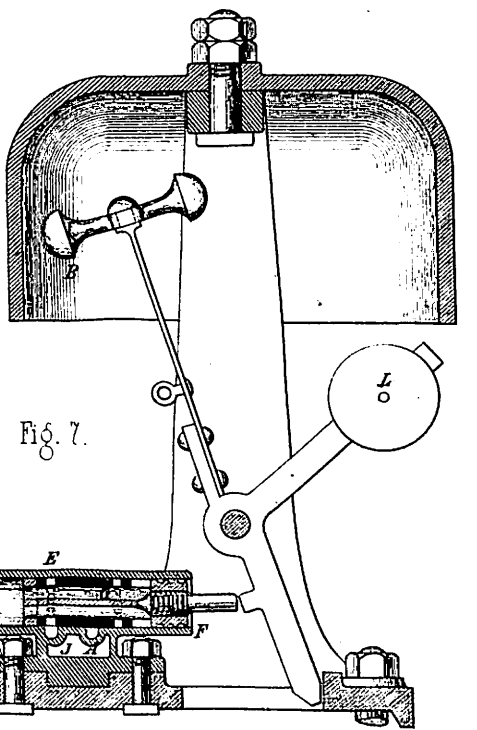
Fig. 14.

Fig. 13.



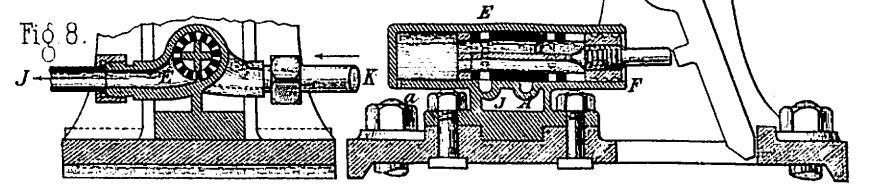
Kesselarmatur für
Locomotiven constr. von
J. Johann in St. Louis.

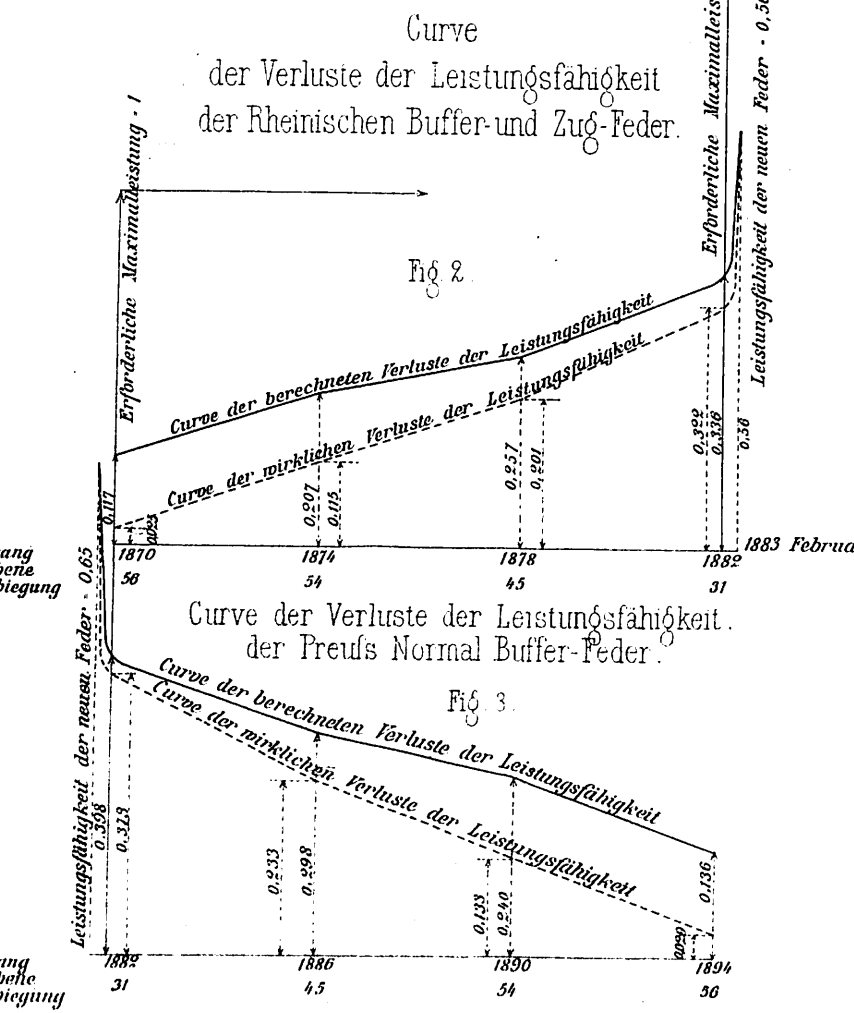
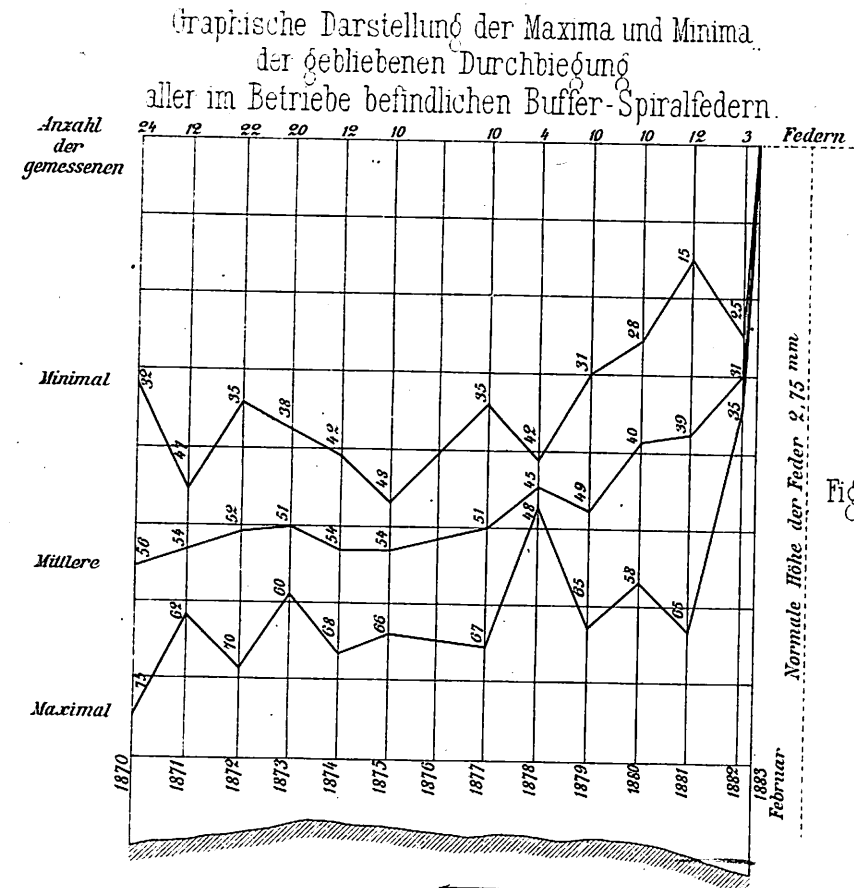
Fig. 7.



Schichau's Dampf-Läutewerk.

Fig. 8.



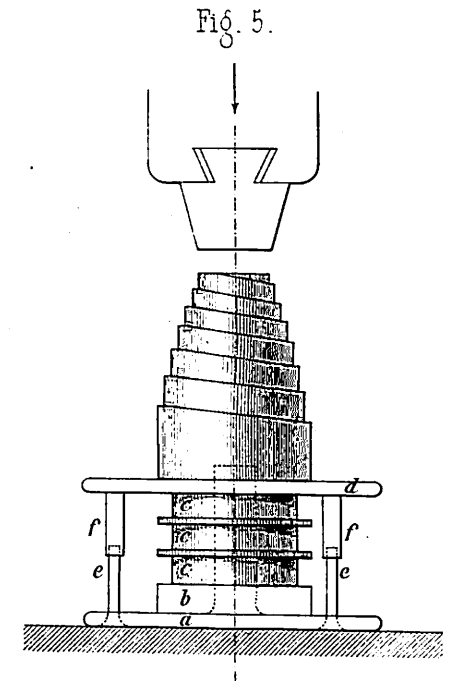
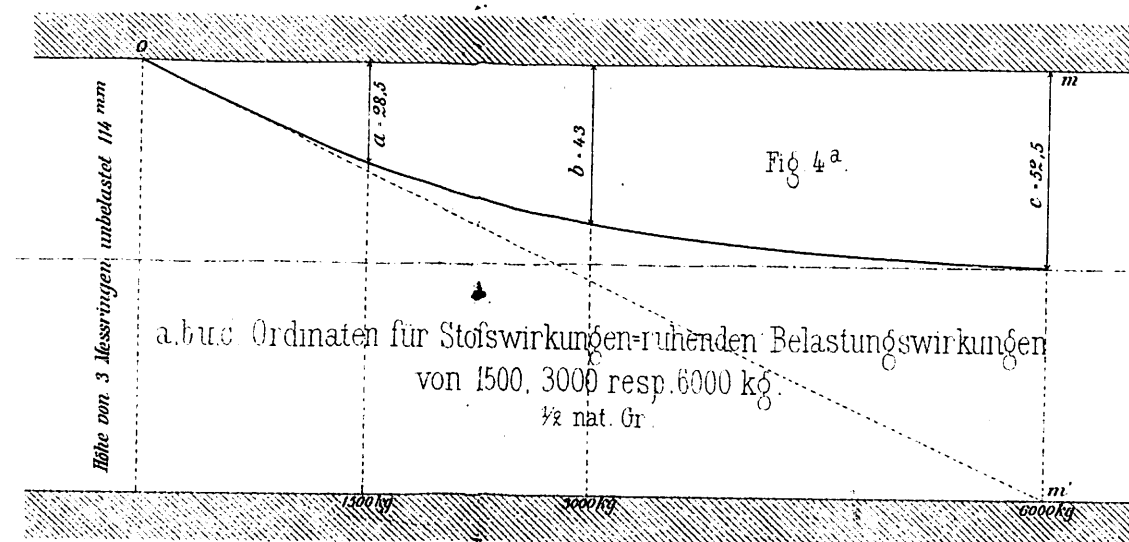
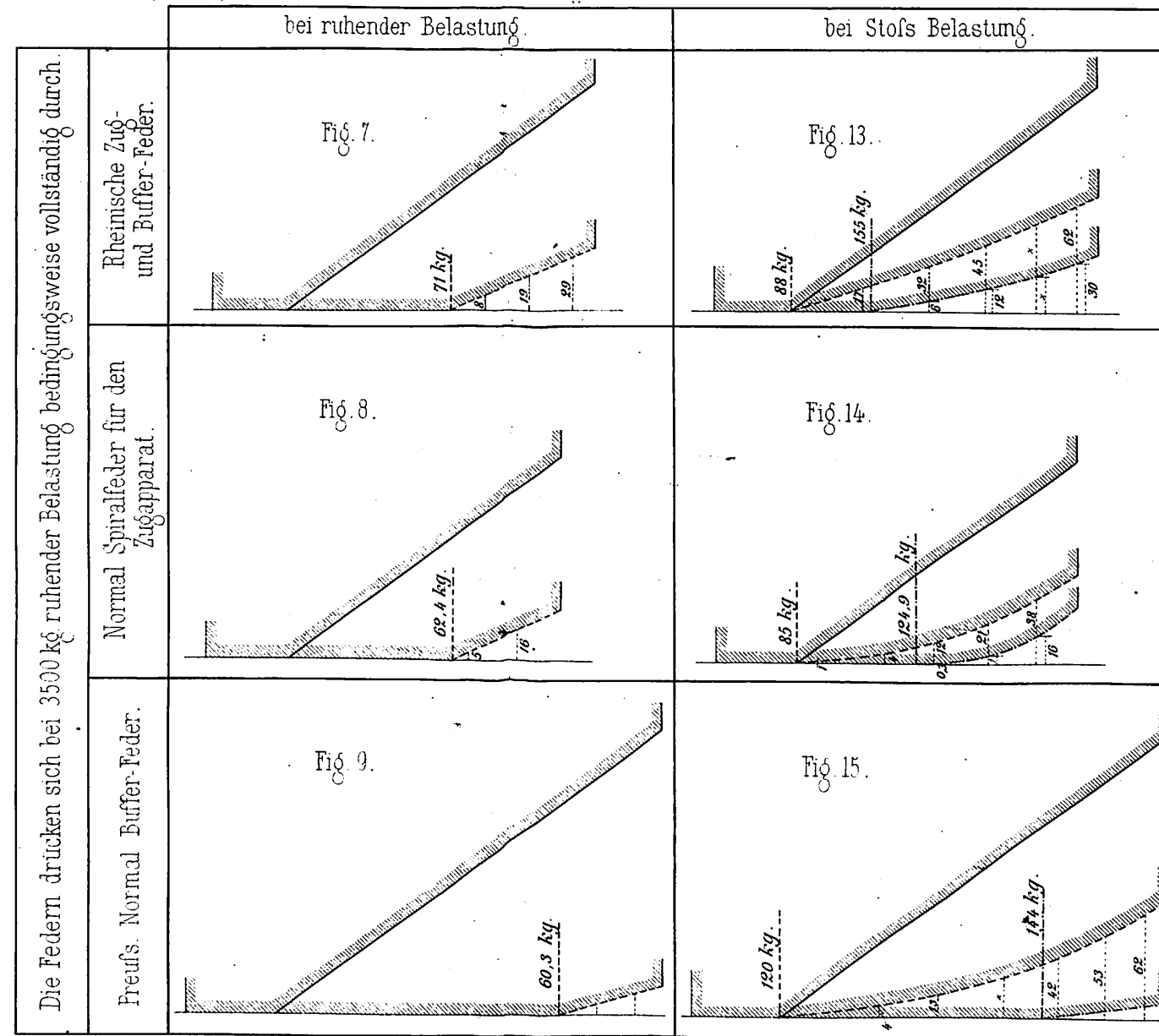


Lage der Kanten der Federblätter (aufgerollt.)

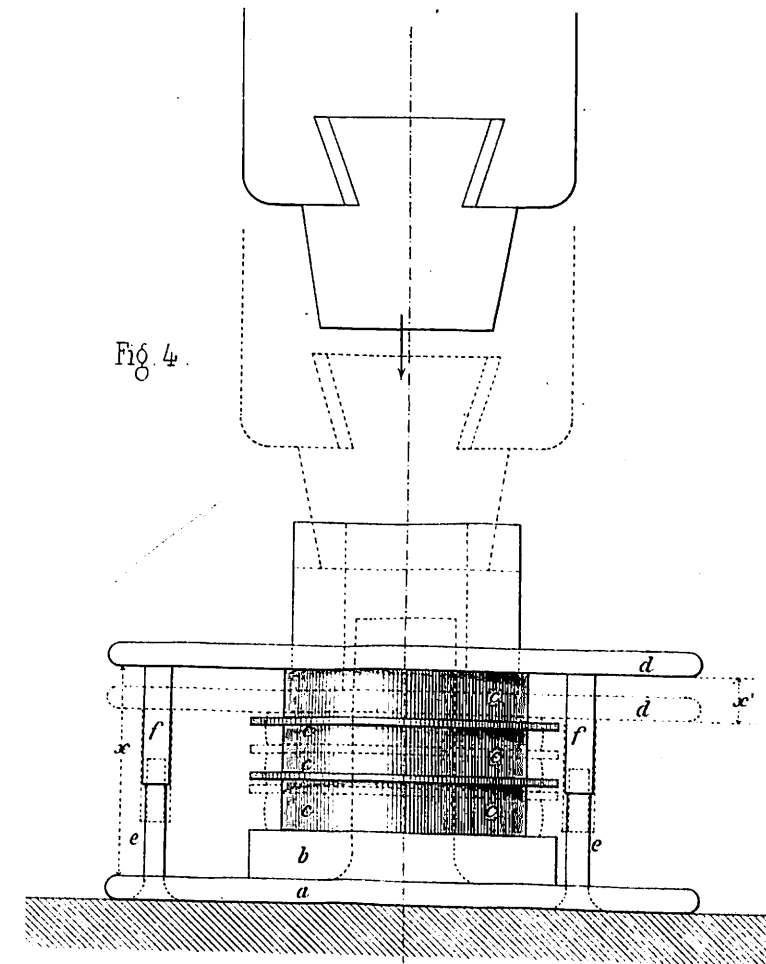
Die großgeschriebenen Zahlen geben die Inanspruchnahme des Materials im Auflagepunkt bei 3000 resp. 6000 kg. Belastung pr. qum an.

--- Lage der Kante bei 3000 kg. Belastung Höhe $\frac{1}{4}$ nat. Gr.

--- Lage der Kante bei 6000 kg. Belastung Länge $\frac{1}{40}$ nat. Gr.

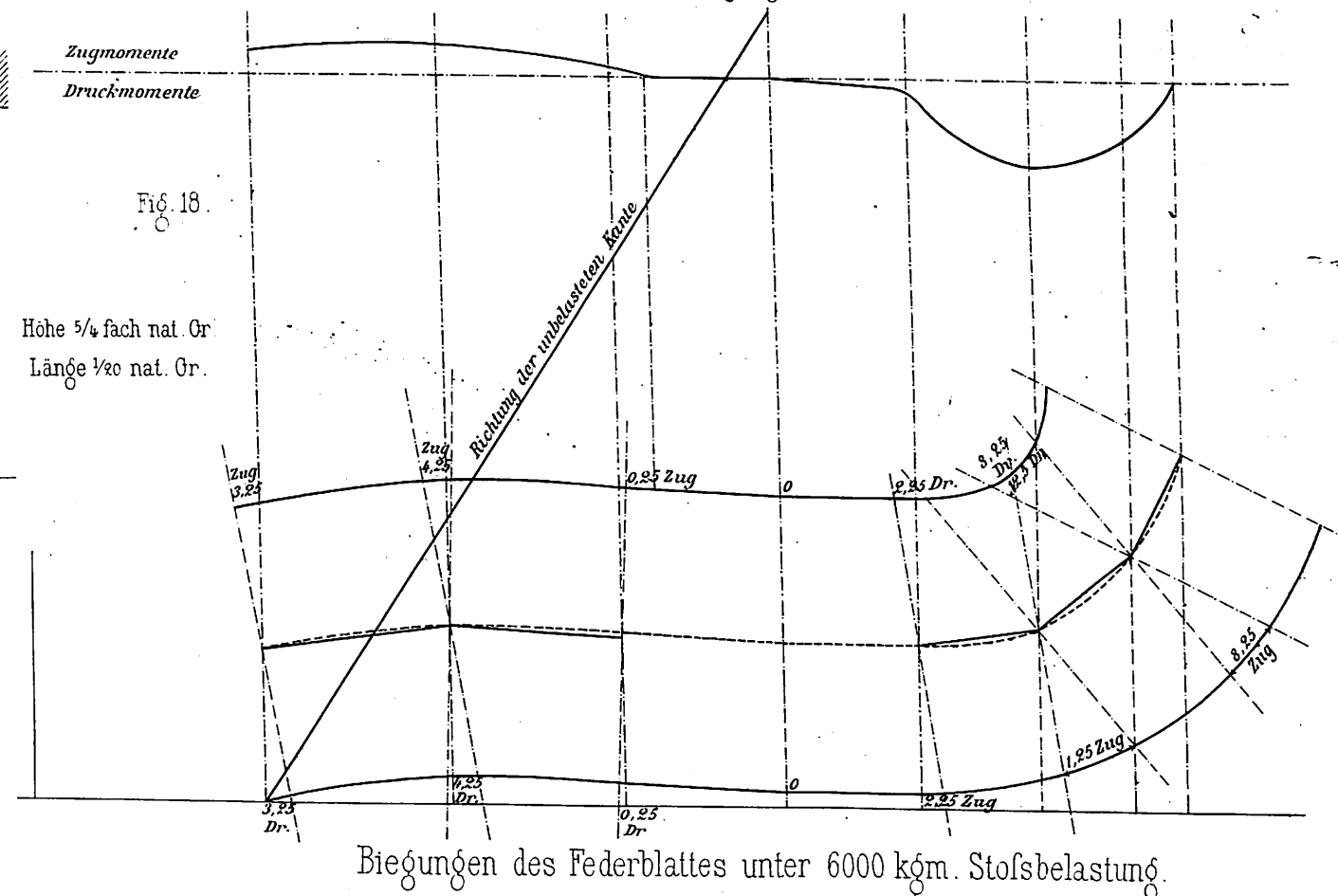
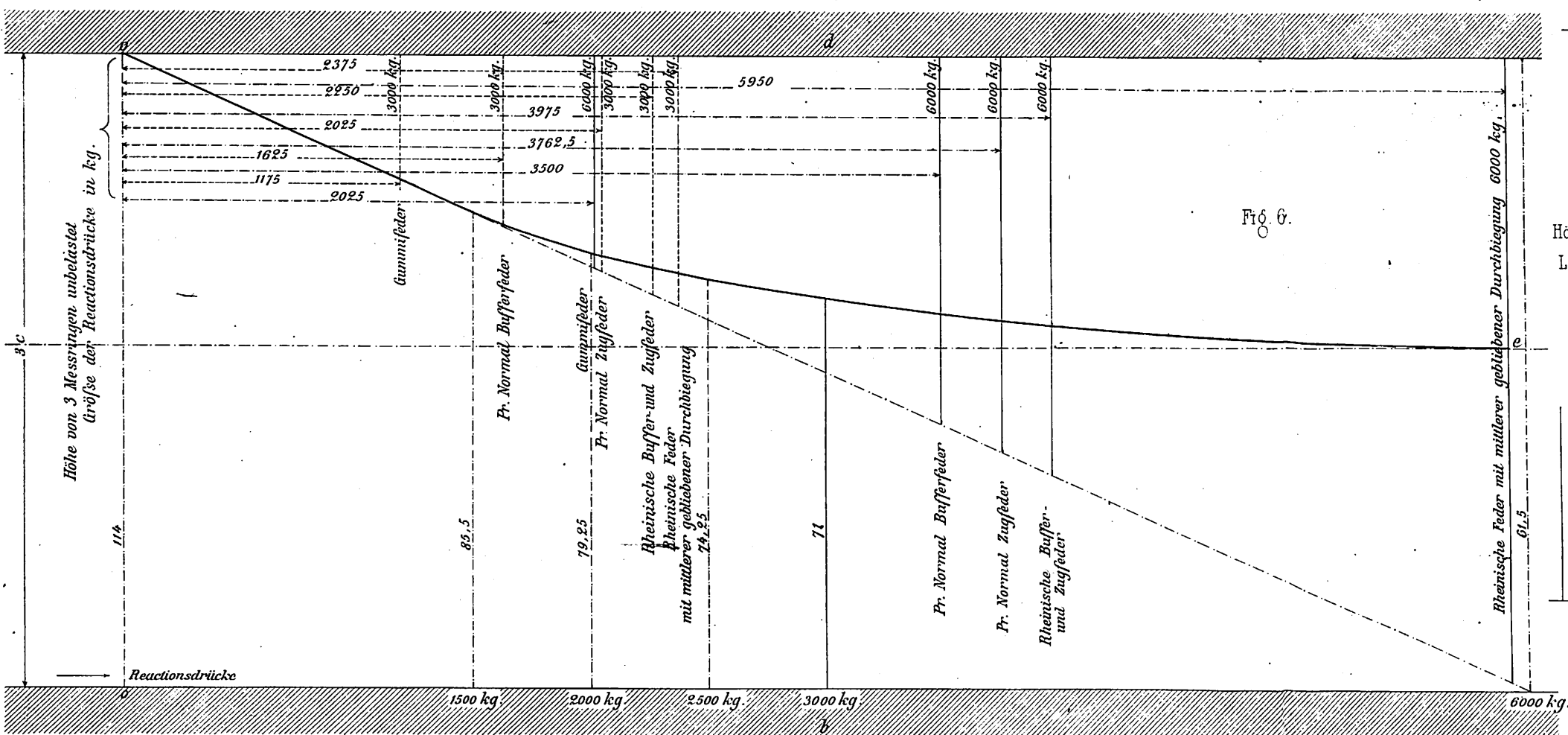


Das Dynamometer.



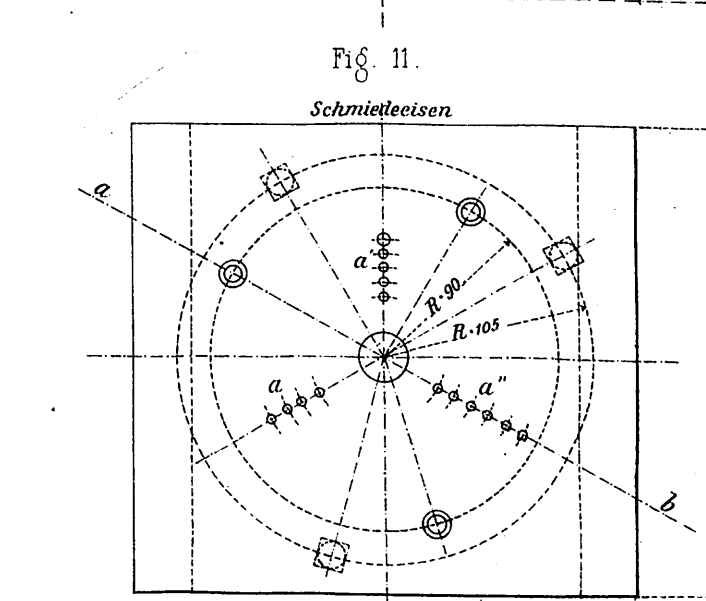
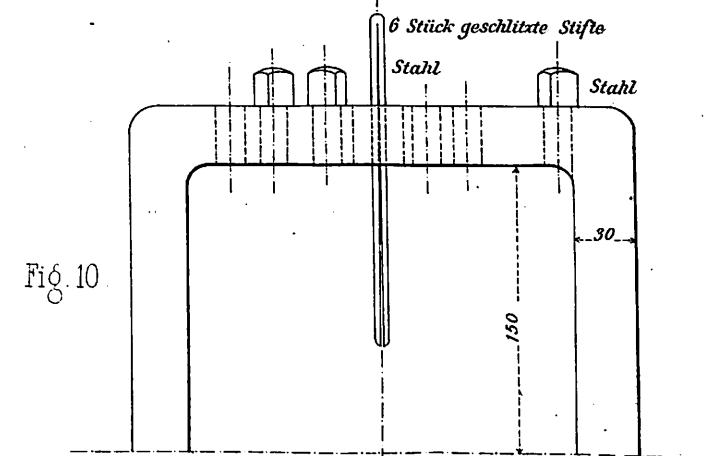
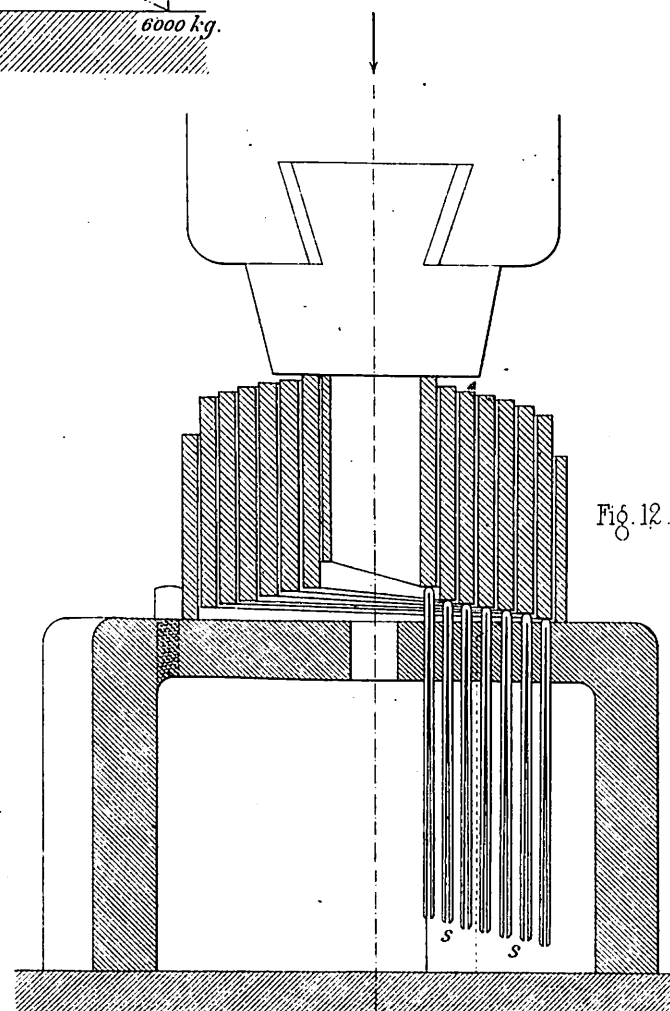
Flächen für die an die starre Unterlage abgegebenen Stoß-Arbeiten bei 3000 resp. 6000 k_gm. Stoßbelastung.
Die innerhalb der für die Zusammendrückung von 3 Dynamometer-Gummi-Ringen ermittelten Elasticitätscurve o e liegenden Ordinaten sind durch Versuche bestimmt.

Curve der Spannungsmomente in den äußersten Schichten der oberen Kante und Biegung des Federblattes.



Größe der an die starre Unterlage abgegebenen Stoßarbeiten
für eine Stoßwirkung - 3000 k_gm ruhender Belastung

Arbeitsflächen:		Arbeitsflächen:
3420 qmm - 85,5 k _g m		13680 qmm - 342,0 k _g m
2138 " - 53,45 " Rheinische Spiralfeder mit mittlerer gebliebener Durchbiegung		13328 " - 333,2 "
1935 " - 48,37 " " " normaler Höhe		6042 " - 151,05 "
1555 " - 38,9 " Preufs. Normal Spiral-Zugfeder		5325 " - 131,1 "
1007 " - 25,17 " " Bufferfeder		4655 " - 116,37 "
523 " - 13,06 " Gummifeder		1580 " - 39,5 "



Haarmann's
zweitheilige Schwellenschiene.

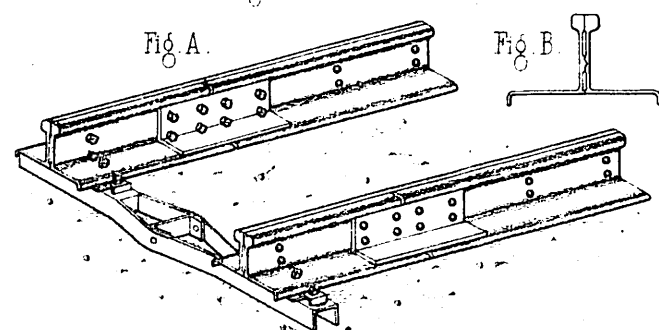


Fig. 17.

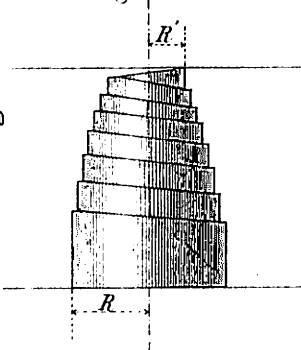
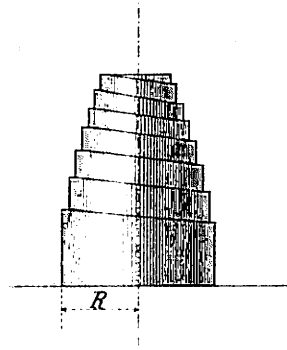


Fig. 16.



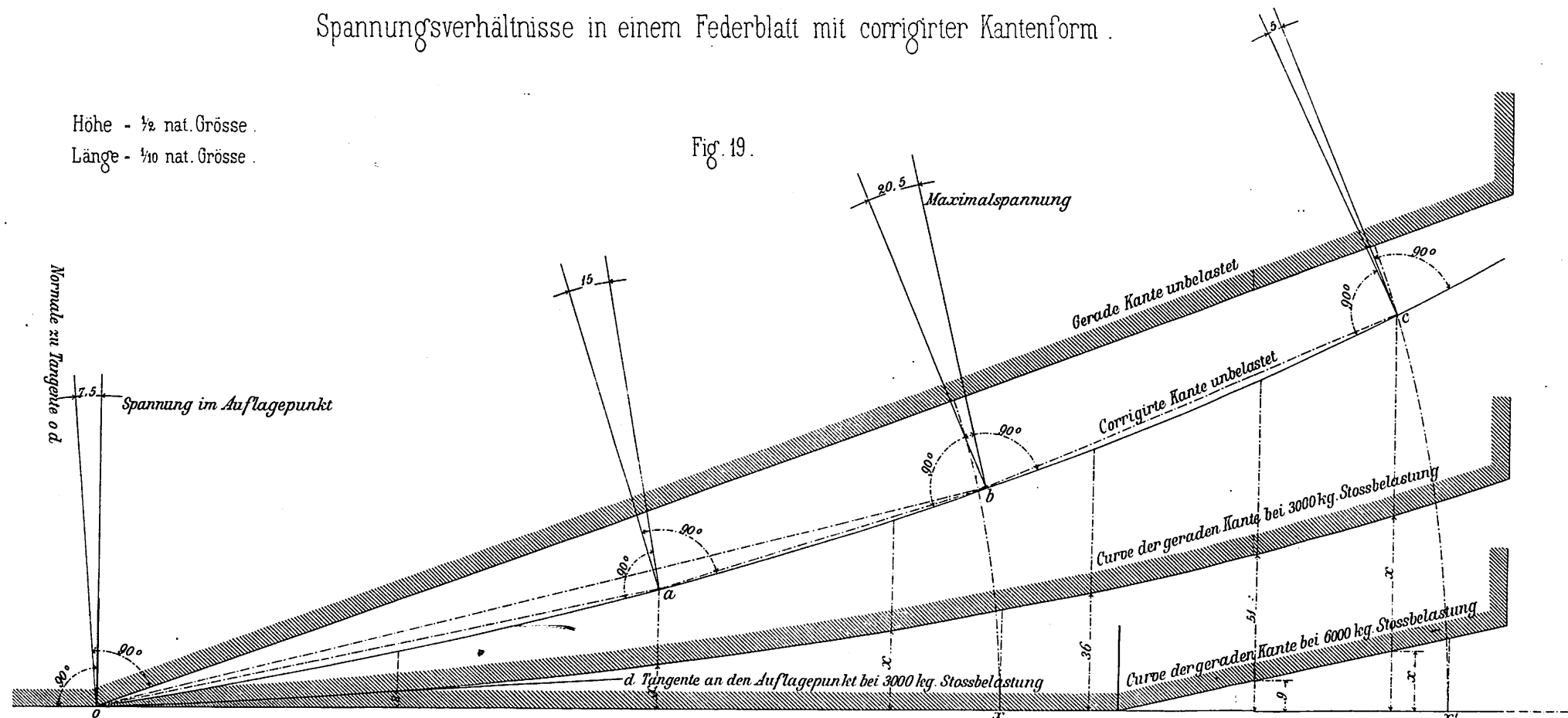
Schnitt nach Fig. 11 a b
im Moment des Stoßes.

Spannungsverhältnisse in einem Federblatt mit corrigirter Kantenform.

Höhe - $\frac{1}{2}$ nat. Grösse.

Länge - $\frac{1}{10}$ nat. Grösse.

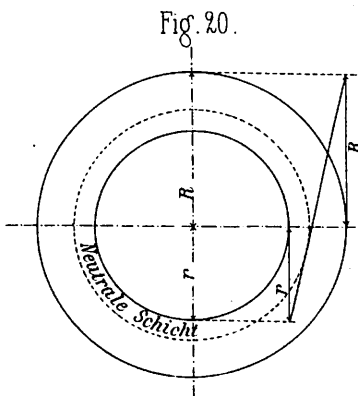
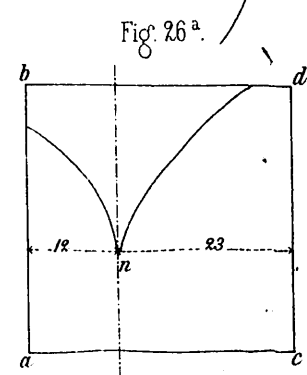
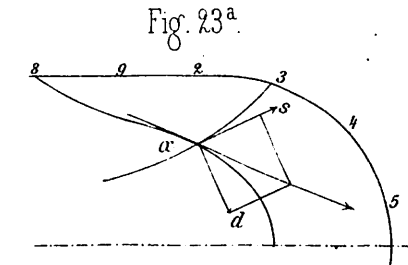
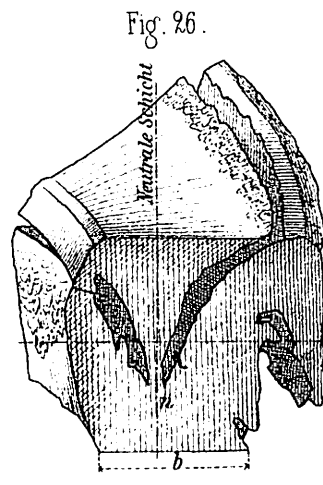
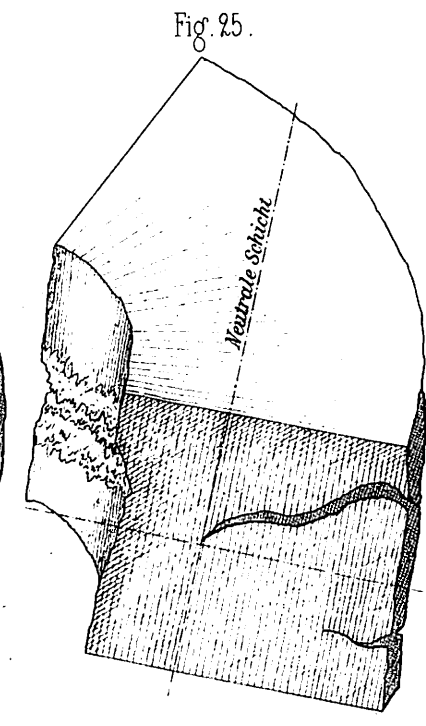
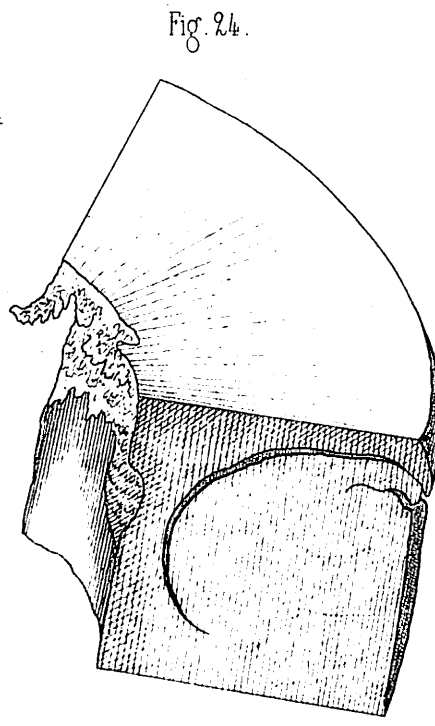
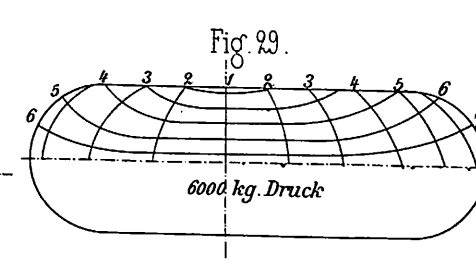
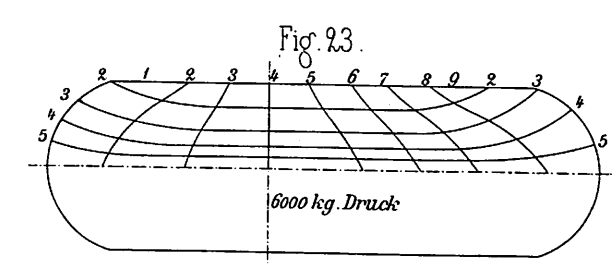
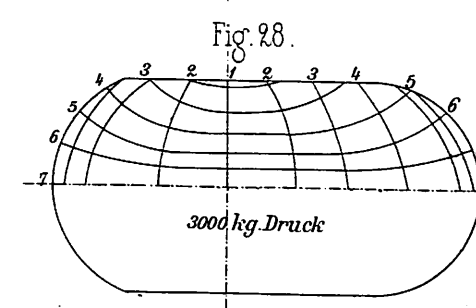
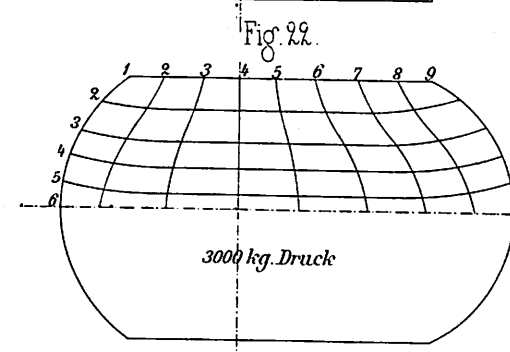
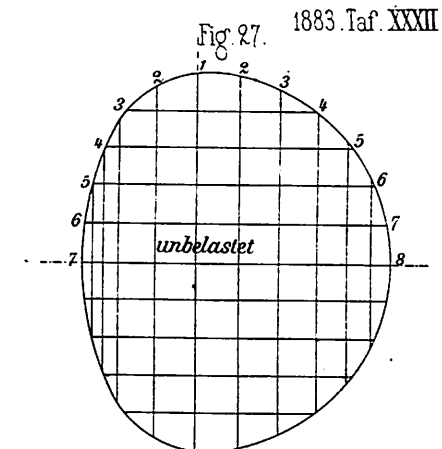
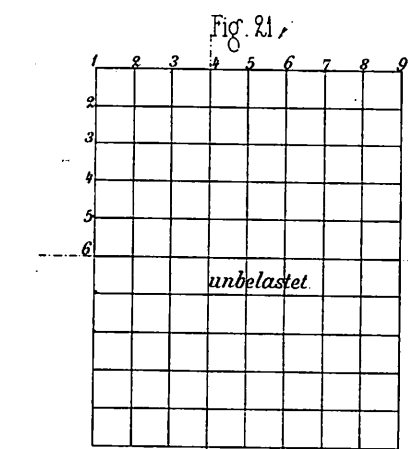
Fig. 19.



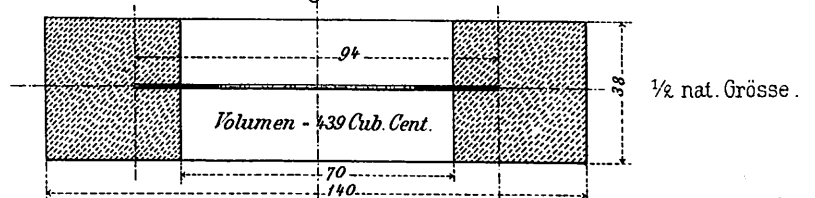
Die Abstände der Normalen auf die zwischen den Punkten o. a. b & c gezogenen Sehnen in gleichen Abständen von diesen, sind den Spannungen in den Punkten o. a. b & c proportional.

Punkt, bei welchem die bogenförmige Kante bei 3000 kg. Stoss zur Auflage kommen würde.

Punkt, bei welchem die bogenförmige Kante bei 6000 kg. Stoss zur Auflage kommen würde.



Alter Wagen Buffer-Ring.
Fig. 30.



Neuer Locomotiv Buffer-Ring.
Fig. 31.

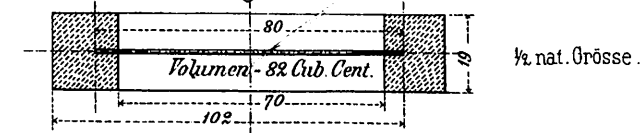


Fig. 32.

