

II
166829
I

DIE LEHRE

VON DEN

SCHWINGUNGSCURVEN.

NACH

FREMDDEN UND EIGENEN UNTERSUCHUNGEN

DARGESTELLT

VON

DR. FRANZ MELDE,

PRIVATDOCENT A. D. UNIVERSITÄT MARBERG.

ATLAS

ENTHALTEND 11 TAFELN IN STEINDRUCK.

LEIPZIG, 1864.

VERLAG VON JOHANN AMBROSIOUS BARTH.

Inst. m. J. Pign: Physica. I. 967.

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II

166829 / Atlas

I.

Fig. 1.

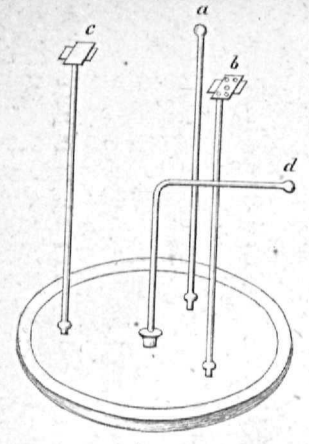


Fig. 3.

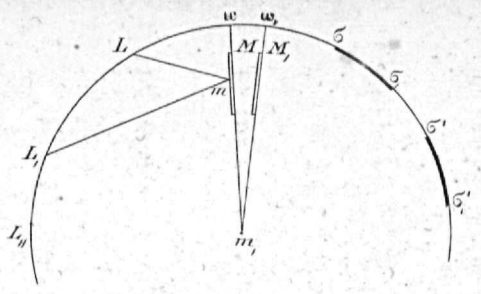


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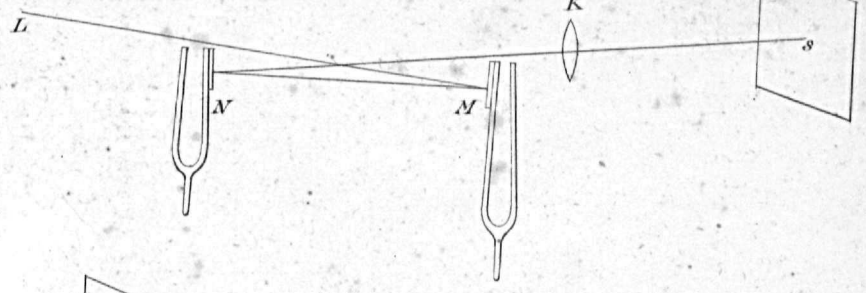


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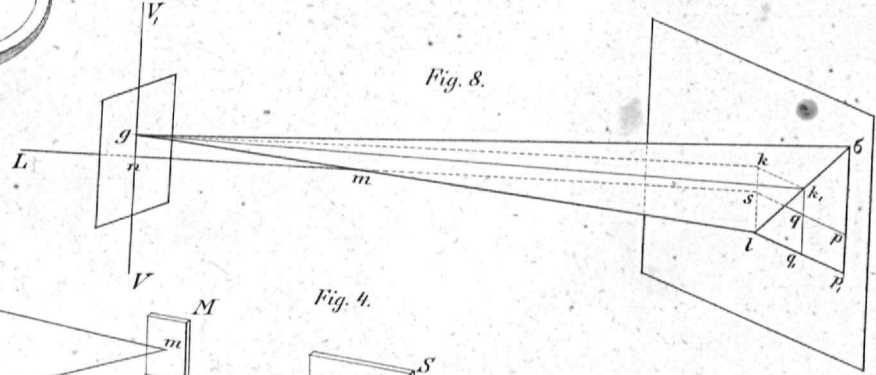


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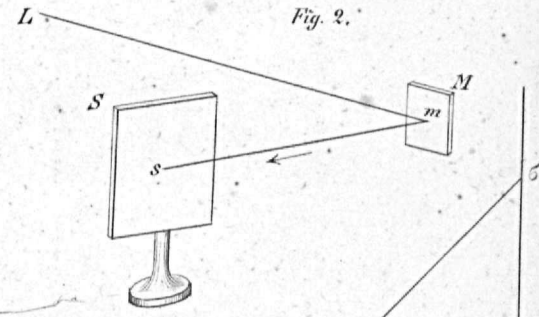


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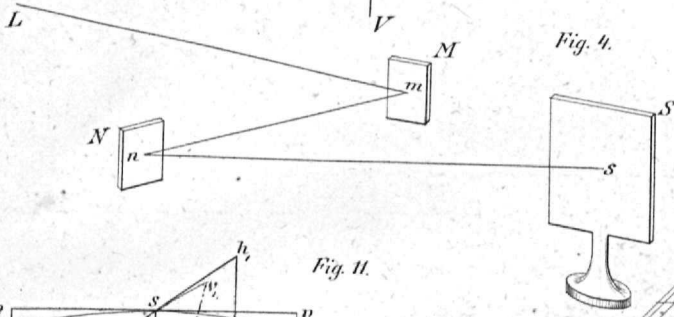


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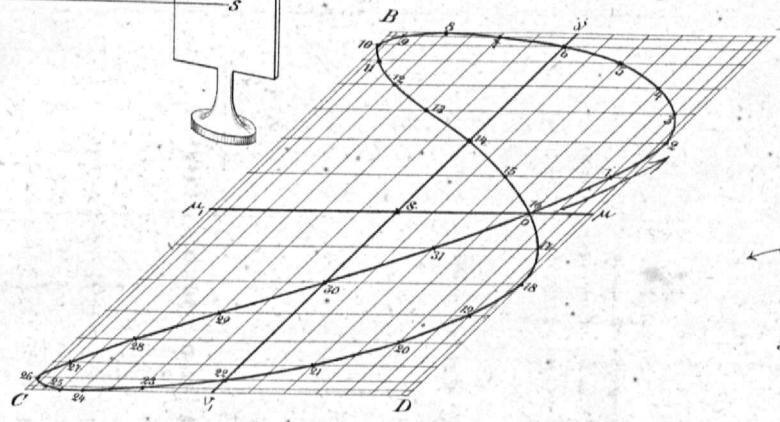


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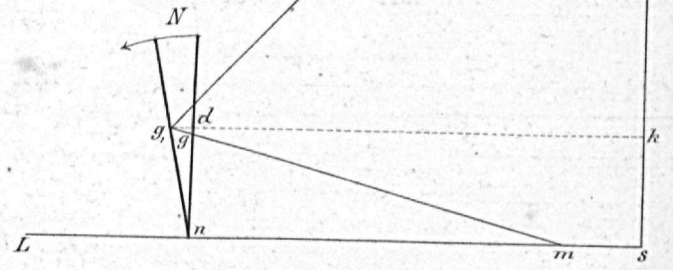


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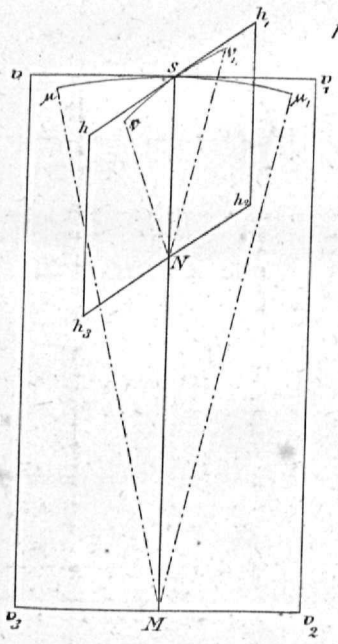


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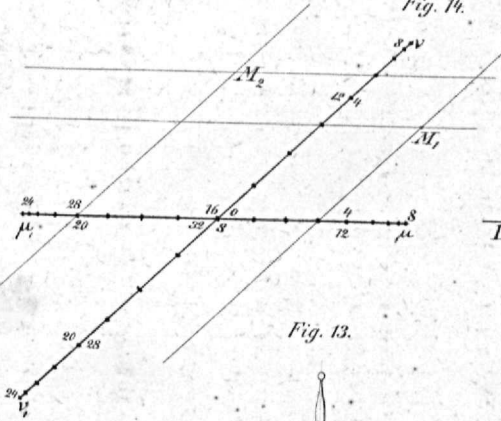


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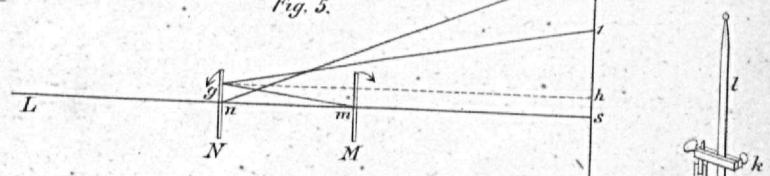


Fig. 13.



Fig. 7.

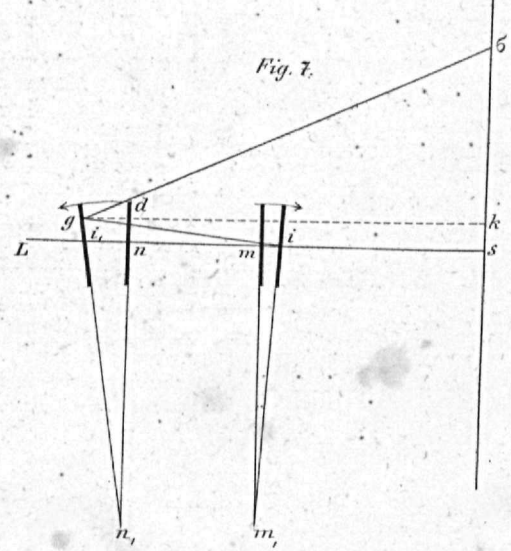


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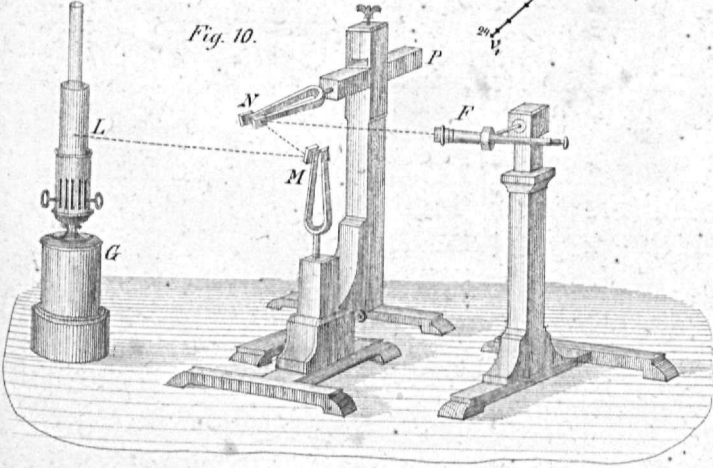


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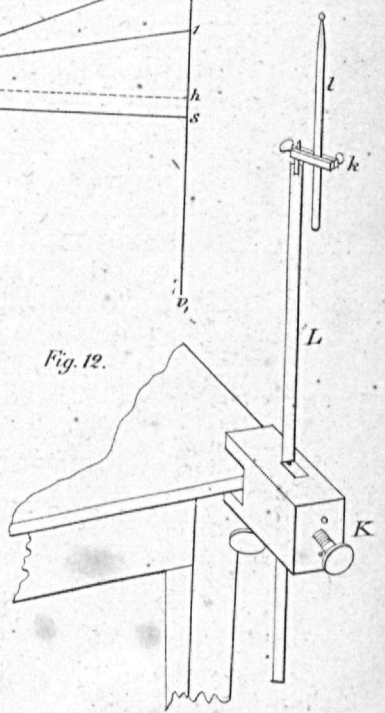




Fig. 16 a.

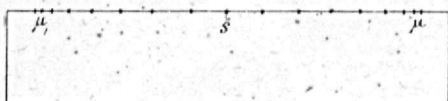


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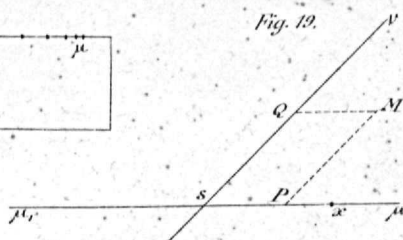


Fig. 17 a

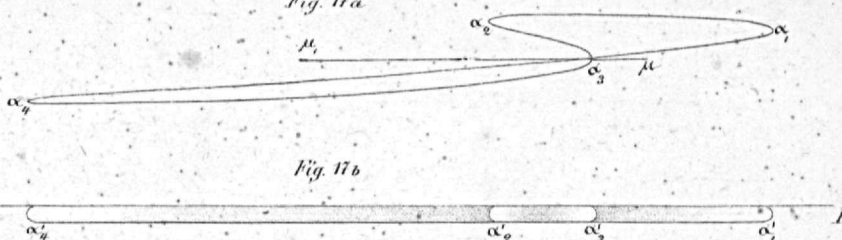


Fig. 17 b

Fig. 16 b.

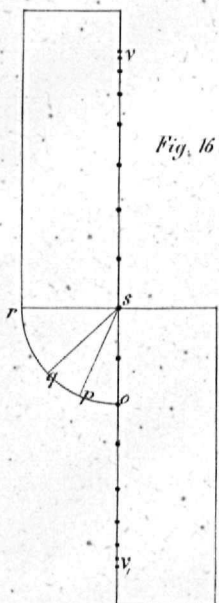


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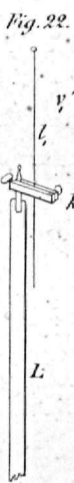


Fig. 23.



Fig. 21.

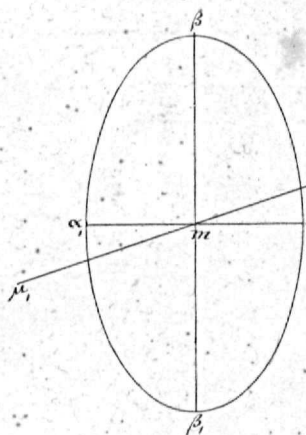


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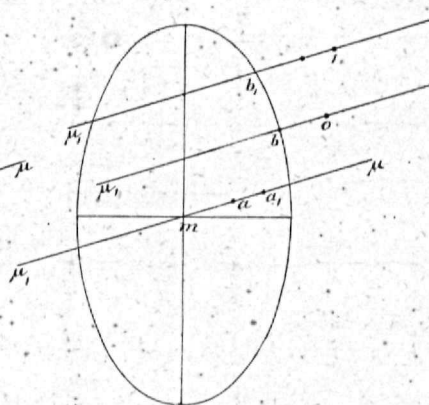


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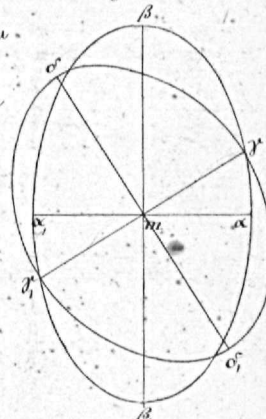


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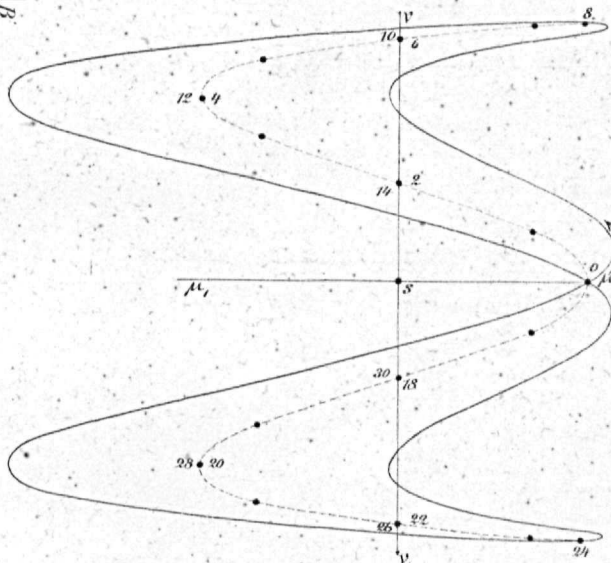


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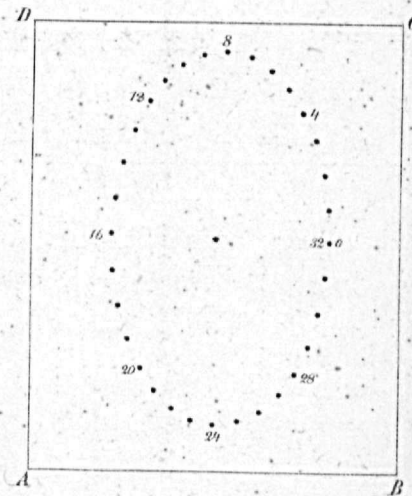


Fig. 25 b.

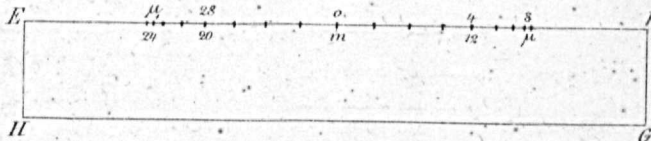


Fig. 27.

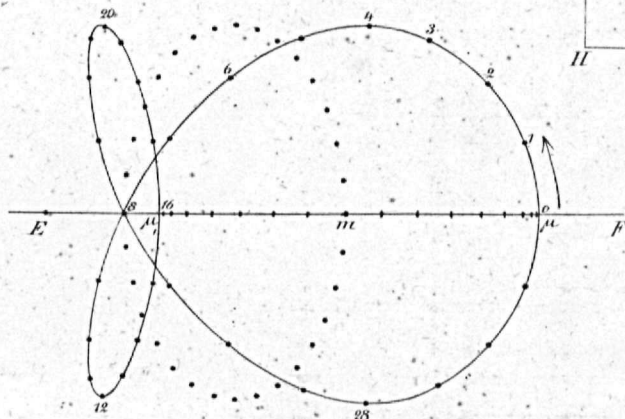


Fig. 26.

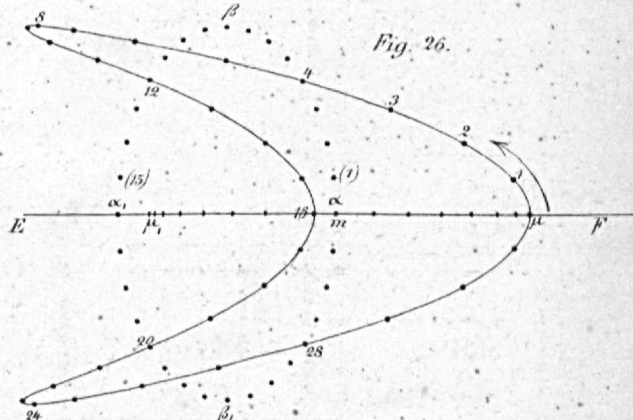




Fig. 31.

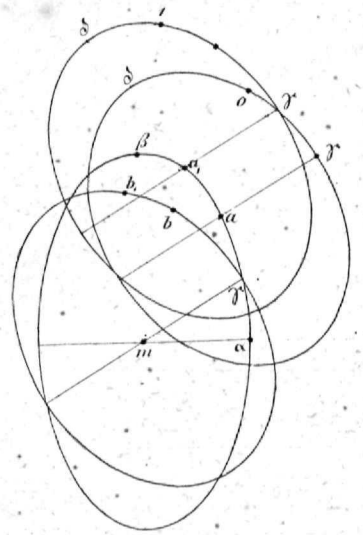


Fig. 32.a.

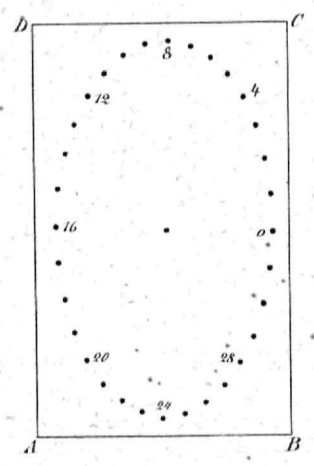


Fig. 32.b.

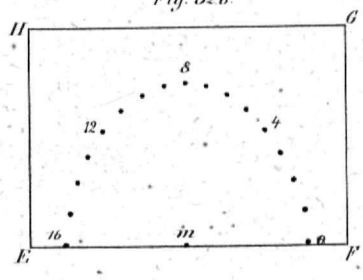


Fig. 33.

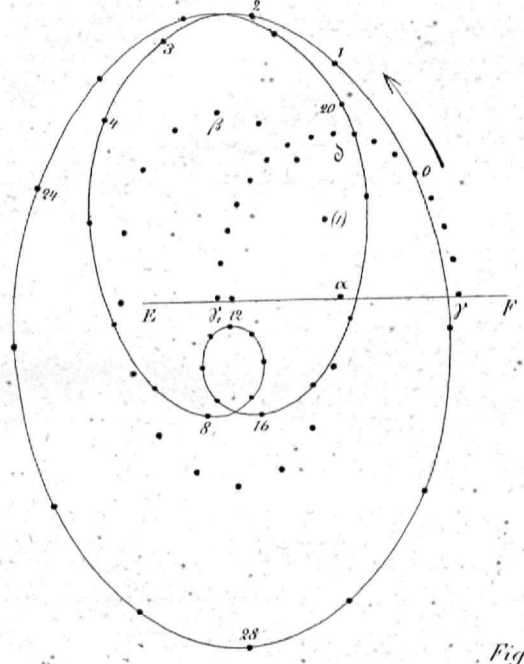


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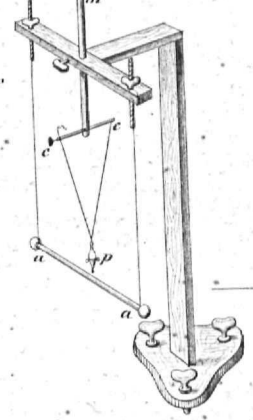


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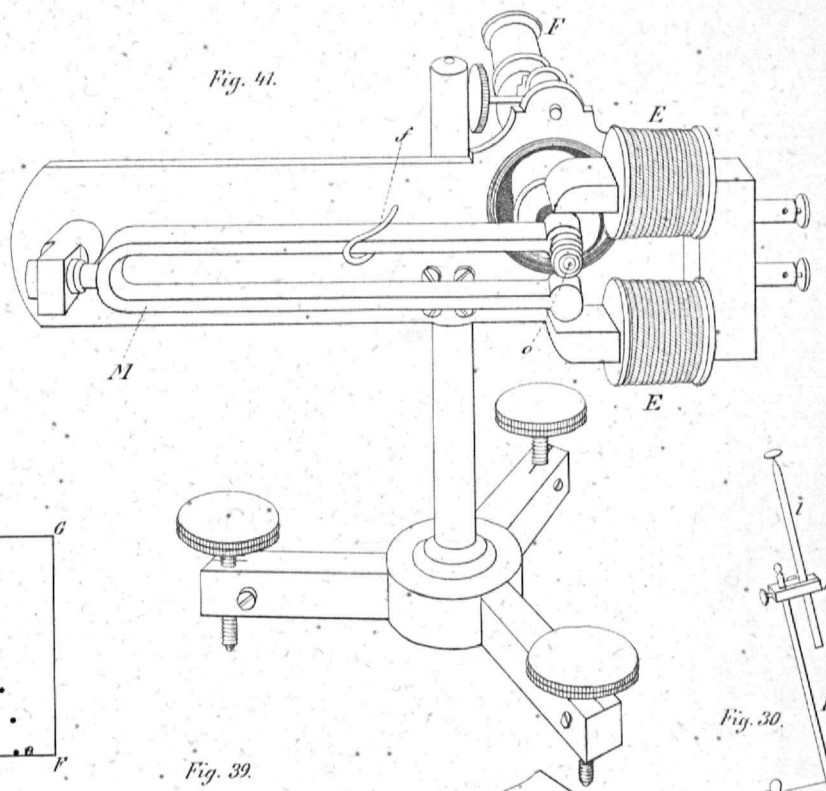


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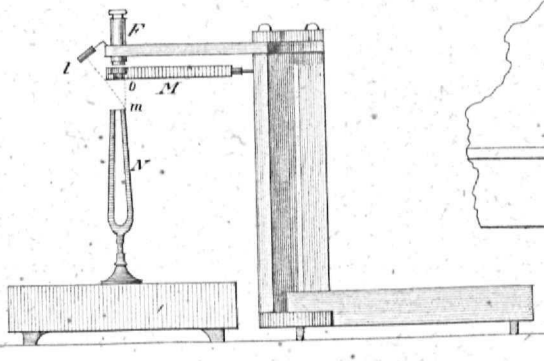


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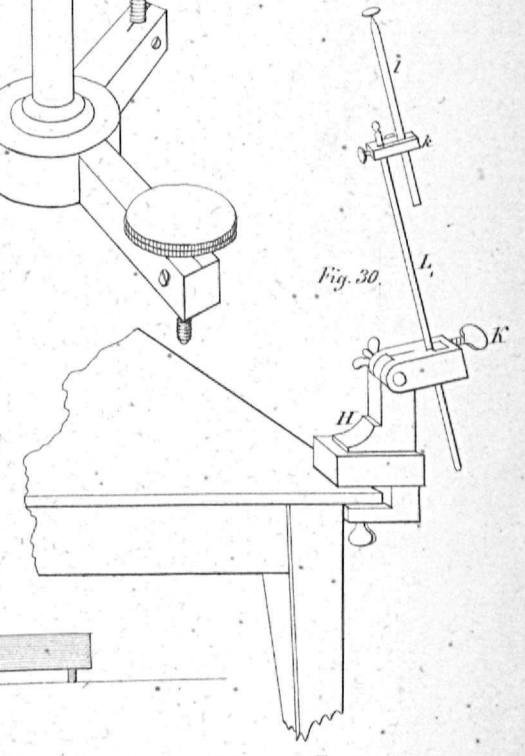


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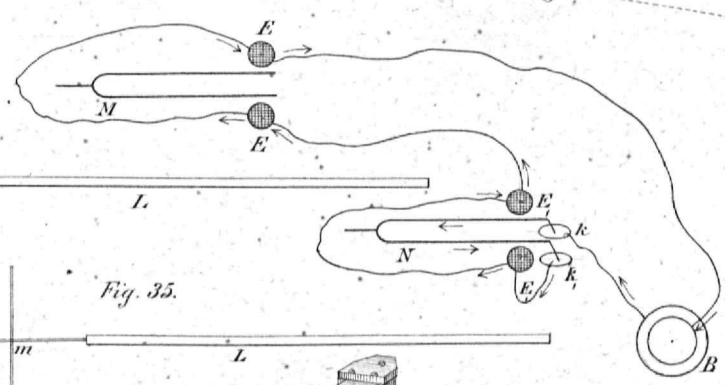


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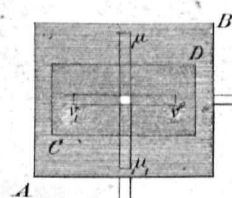


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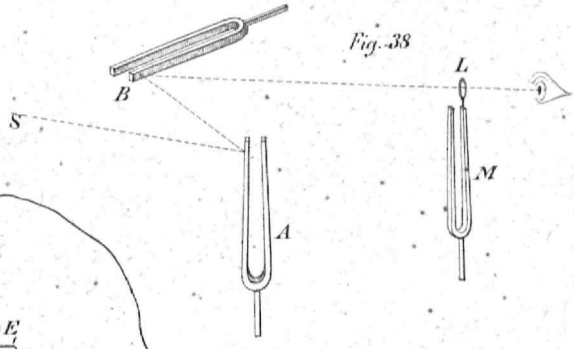


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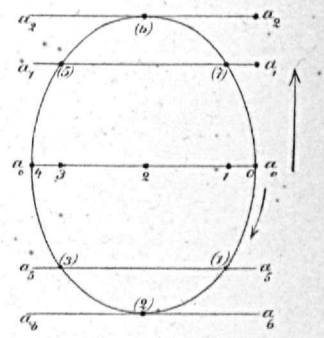


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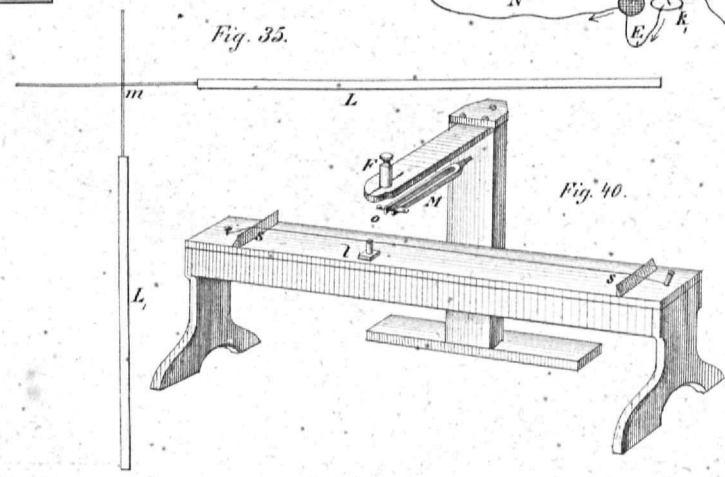


Fig. 40.

Fig. 42.

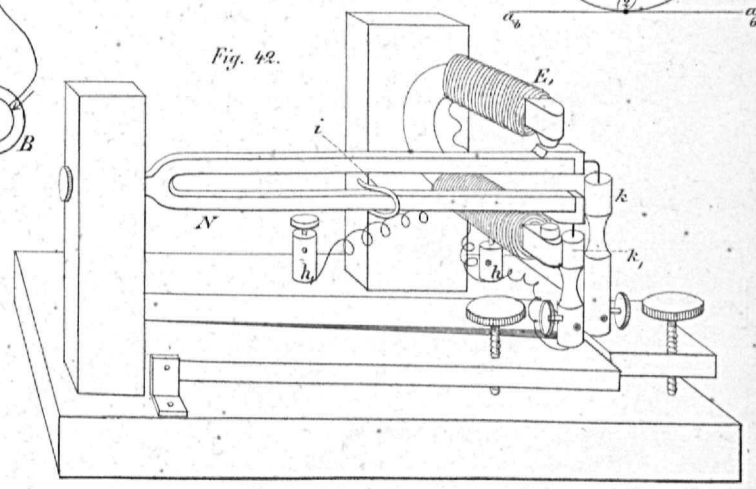




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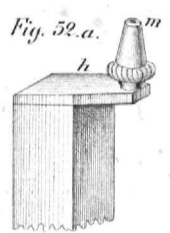
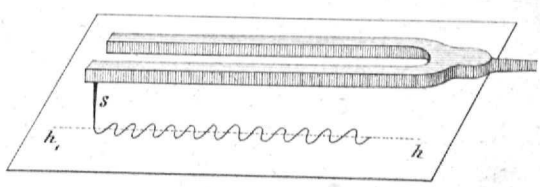


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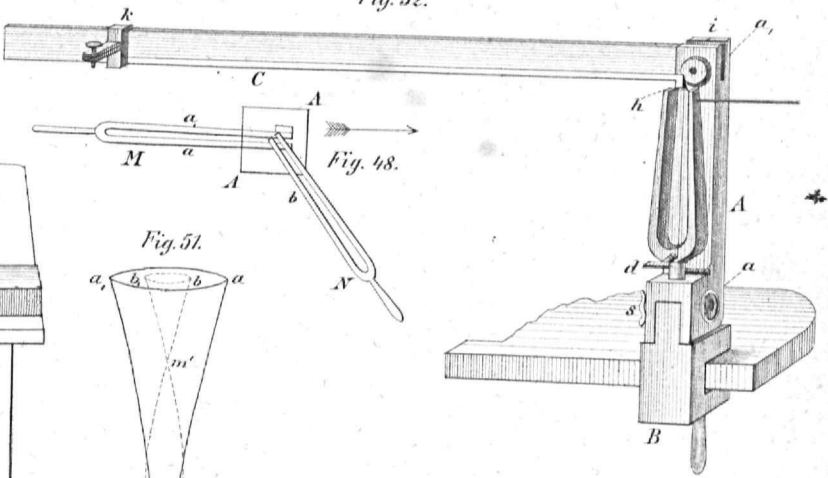


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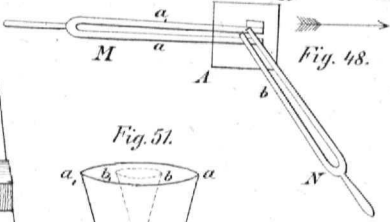


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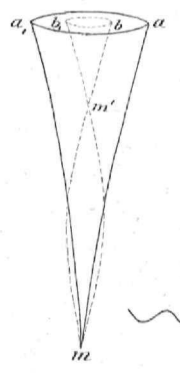


Fig. 47.



Fig. 53.

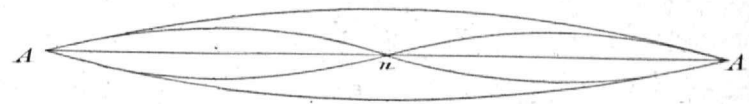


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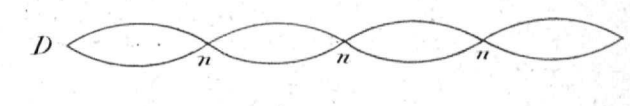
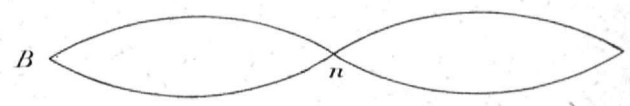
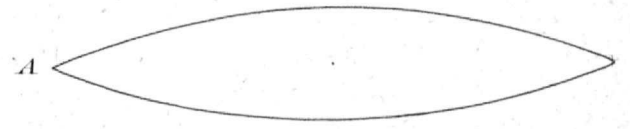


Fig. 50.

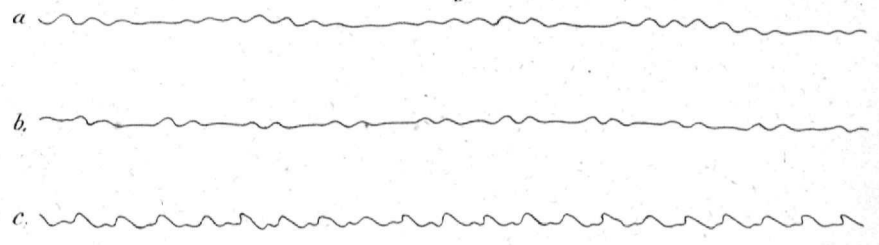


Fig. 44.

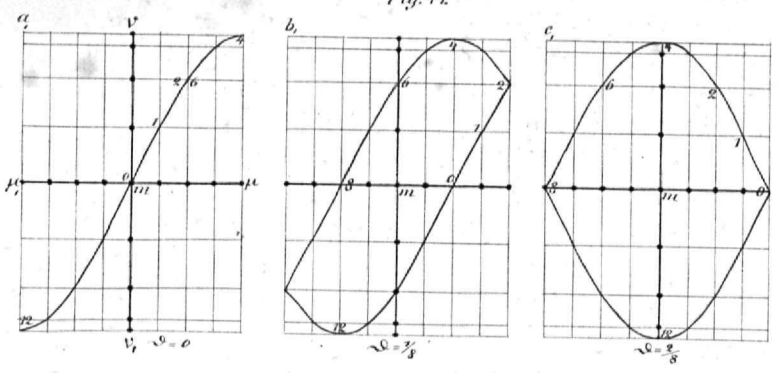


Fig. 54.

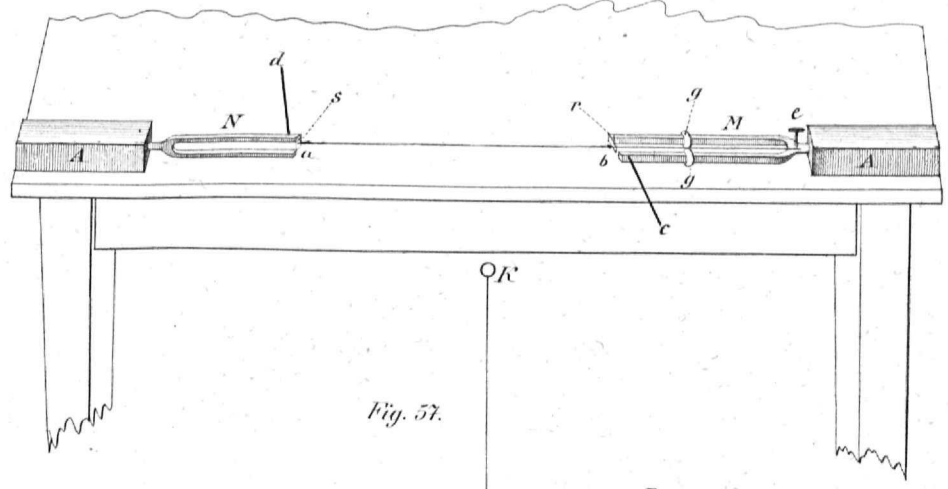


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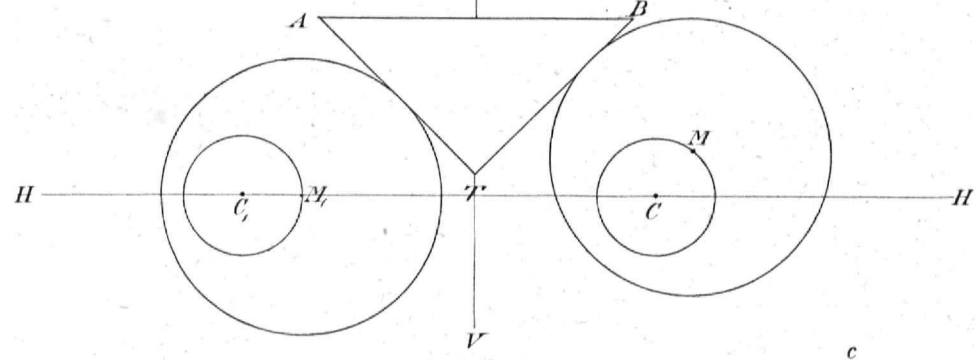


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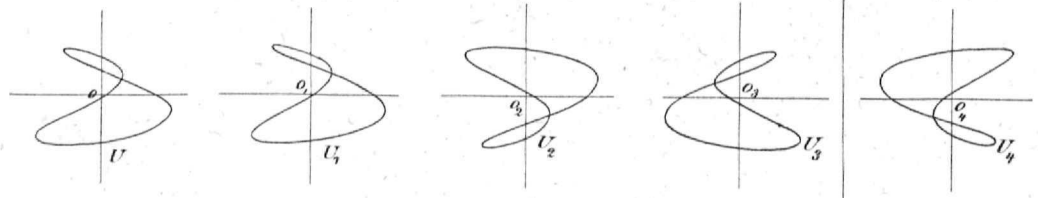


Fig. 49.

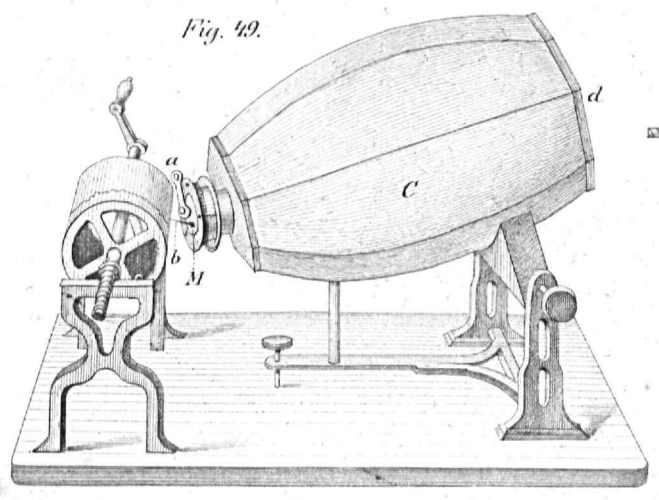
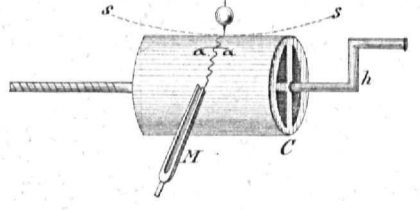


Fig. 46.





Schwingungscurven

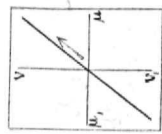
erzeugt durch
das Zusammenwirken zweier unter einem Winkel von 45° gegen einander
gerichteten geradlinigen Vibrationsbewegungen.





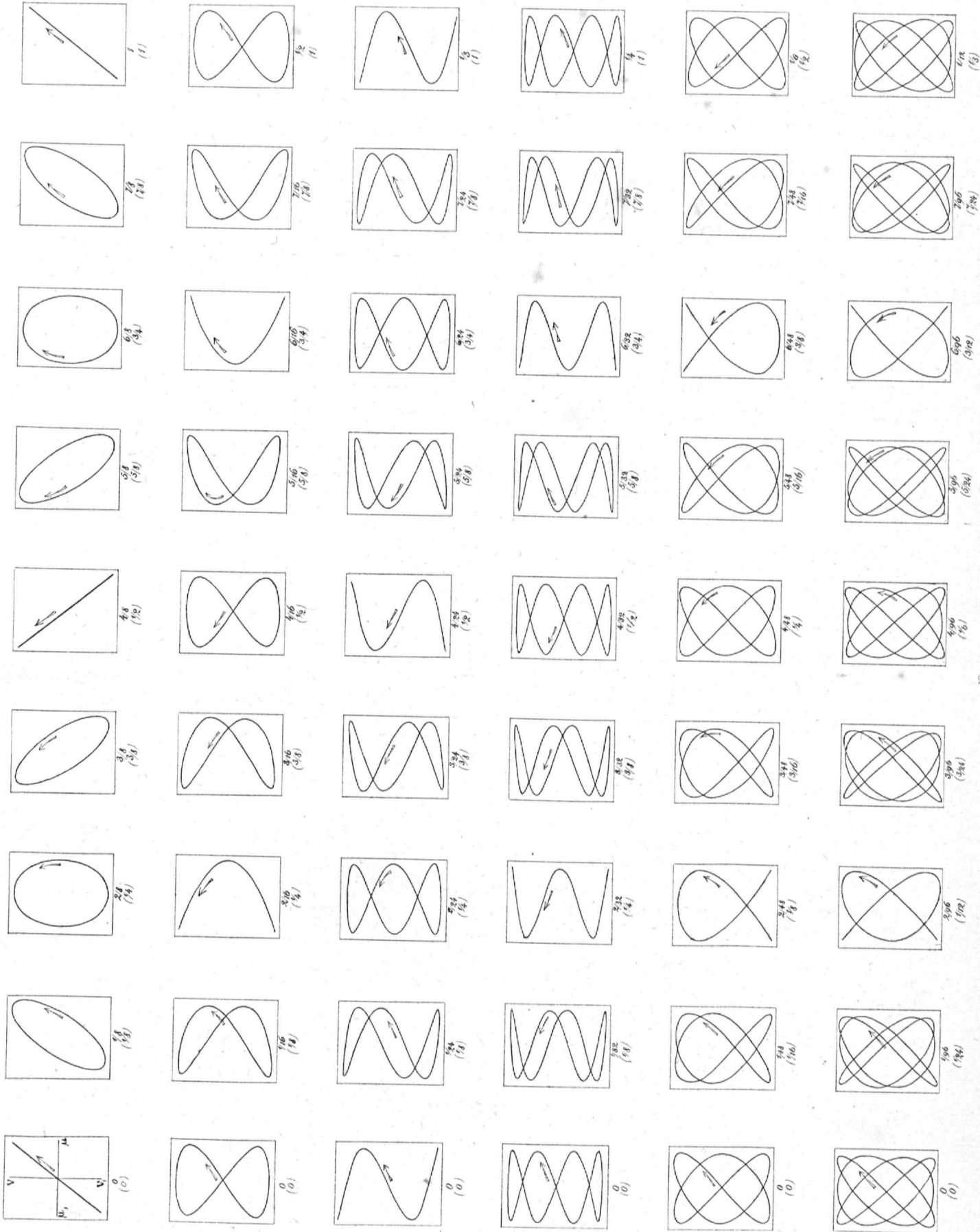
Schwingungskurven

erzeugt durch
das Zusammenwirken zweier unter einem Winkel von 90° gegen einander
gerichteten geradlinigen Vibrationsbewegungen.



$n : m = 1 : 1$
Einklang.

Phasendifferenz



$n : m = 1 : 2$
Octave.

Phasendifferenz

$n : m = 1 : 3$
Quinte u. d. Octave

Phasendifferenz

$n : m = 1 : 4$
Doppeloctave

Phasendifferenz

$n : m = 2 : 3$
Quinte.

Phasendifferenz

$n : m = 3 : 4$
Quarte.

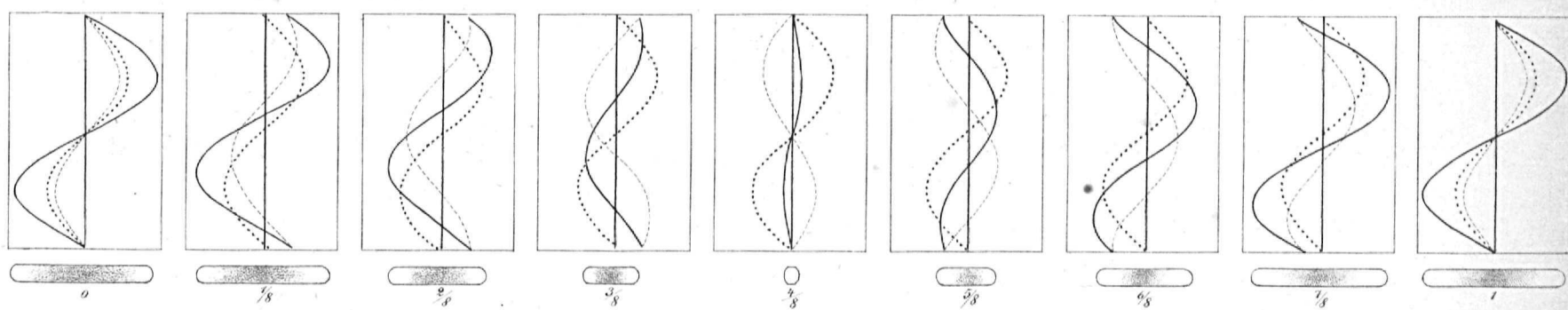
Phasendifferenz

dt. Hofdr. in Stein ges. Berlin.

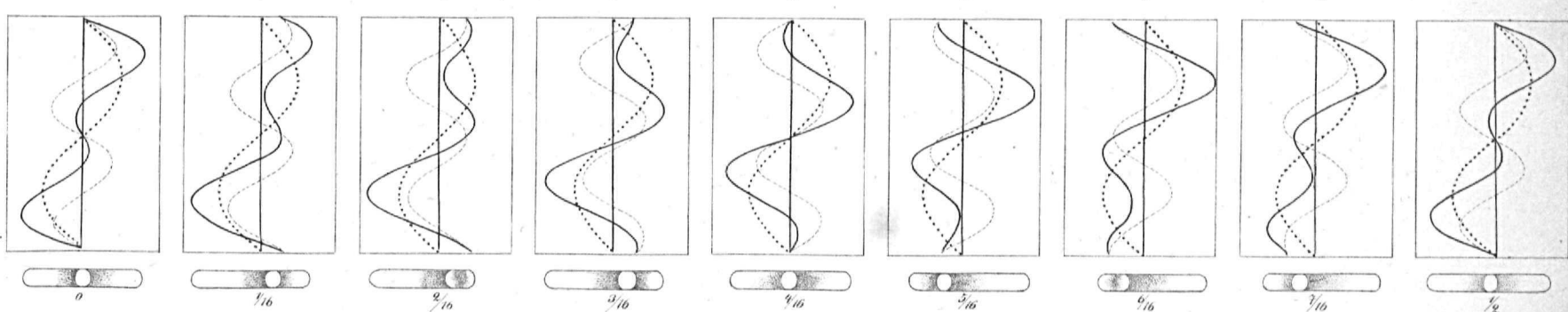


zweier unter einem Winkel von σ gegen einander geneigten
geradlinigen Vibrationsbewegungen.

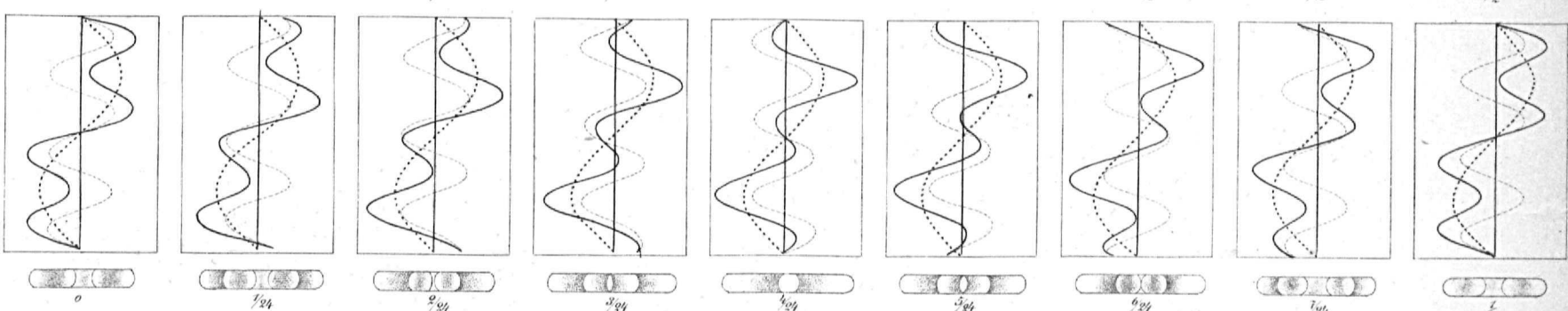
$n:m = 1:1$
Einklang



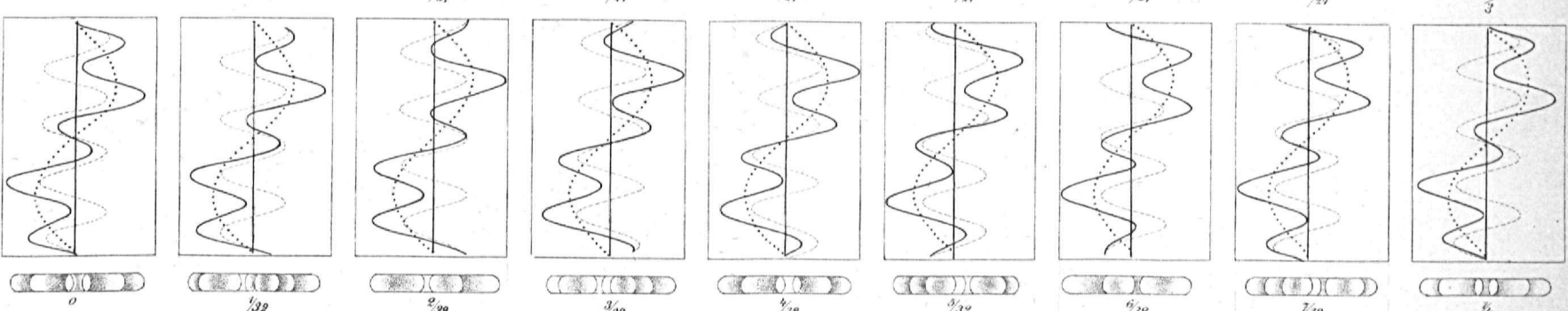
$n:m = 1:2$
Octave



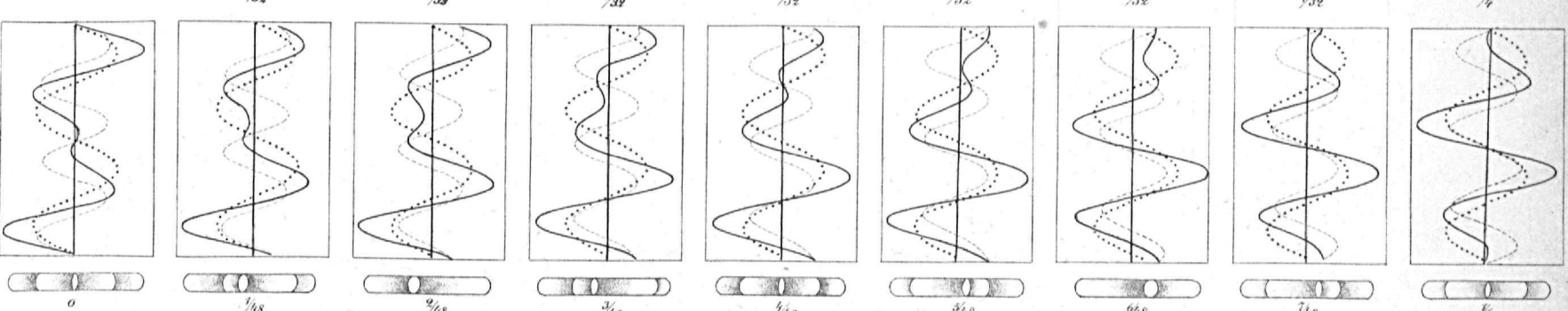
$n:m = 1:3$
Quinte u. d. Octave



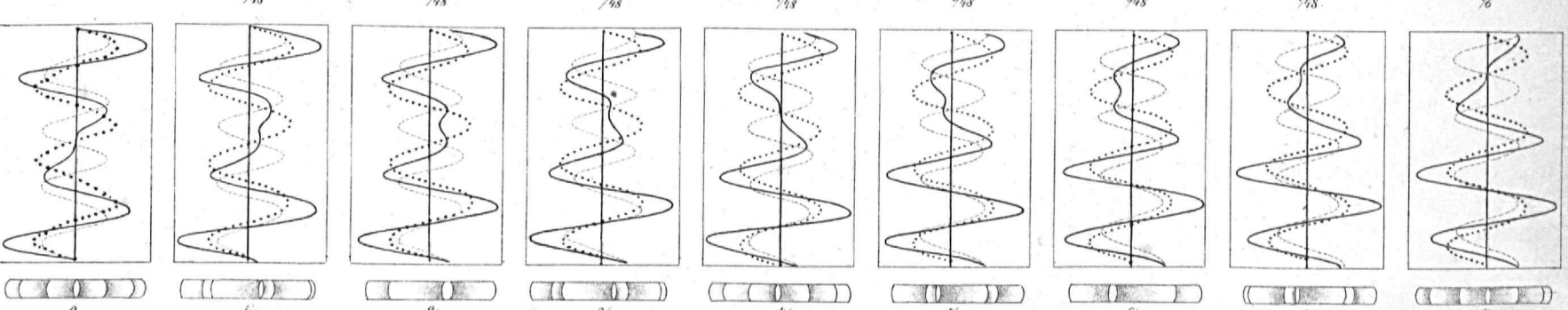
$n:m = 1:4$
Dopploctave



$n:m = 2:3$
Quinte



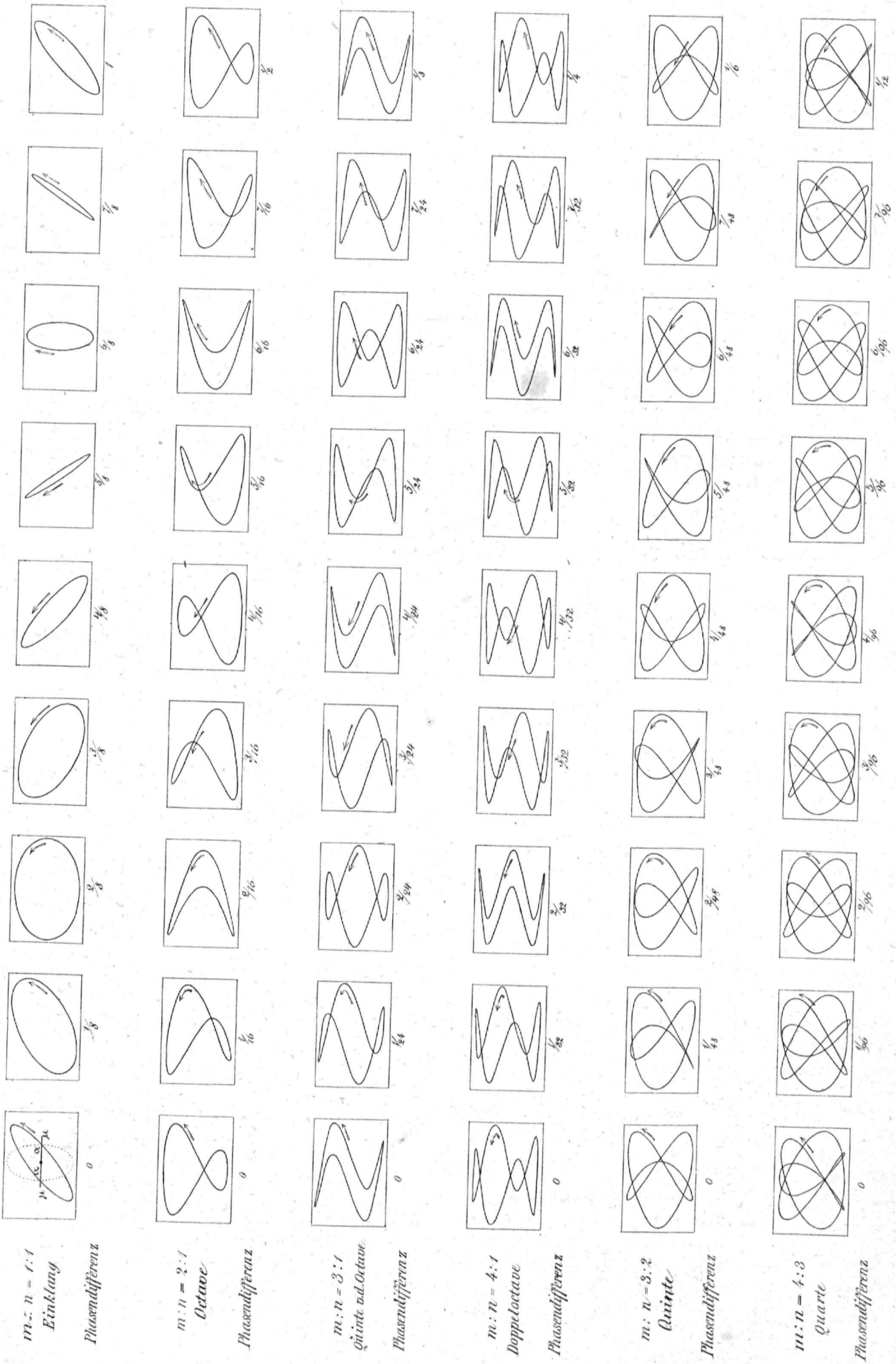
$n:m = 3:4$
Quarte





Schwingungscurven

erzeugt durch das Zusammenwirken
 einer geradlinigen Vibrationsbewegung, deren Schwingungszahl = m ,
 und einer elliptischen, deren Schwingungszahl = n , wobei
 $m > n$.



$m:n = 1:1$
 Einklang
 Phasendifferenz α

$m:n = 2:1$
 Octave
 Phasendifferenz α

$m:n = 3:1$
 Quinte u.d. Octave
 Phasendifferenz α

$m:n = 4:1$
 Dopploctave
 Phasendifferenz α

$m:n = 3:2$
 Quinte
 Phasendifferenz α

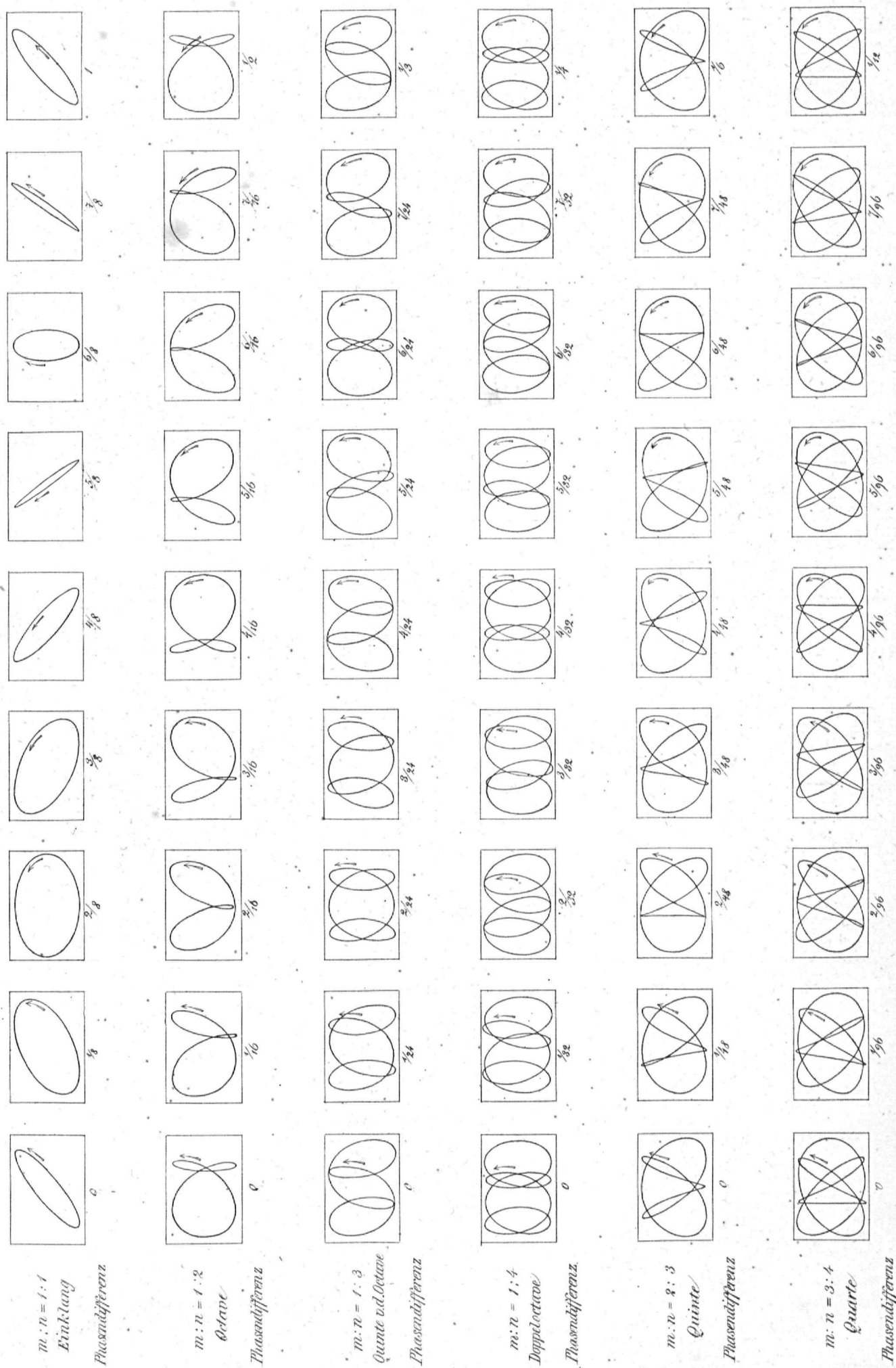
$m:n = 4:3$
 Quarte
 Phasendifferenz α

el. Befunde in Stat. gest. Berlin.



Schwingungscurven

erzeugt durch das Zusammenwirken
 einer geradlinigen Vibrationsbewegung, deren Schwingungszahl = m ,
 und einer elliptischen, deren Schwingungszahl = n , wobei
 $m < n$.

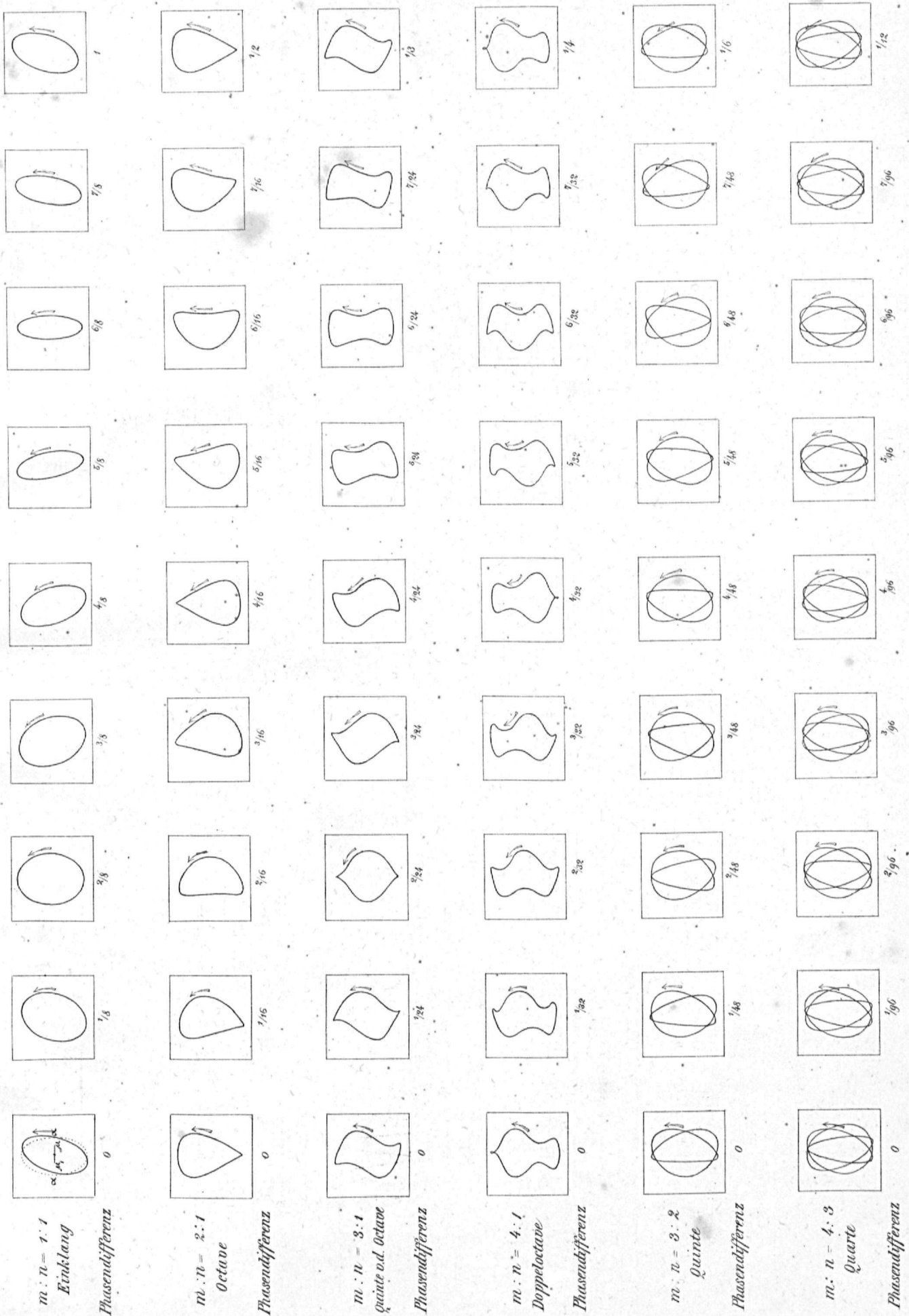


of. Lissajous in Bonn gest. Berlin



Schwingungskurven

erzeugt durch das Zusammenwirken
 einer geradlinigen Vibrationsbewegung mit der Schwingungszahl = m
 und einer elliptischen mit der Schwingungszahl = n , wobei $m > n$
 u. die geradlinige Komponente merklich geringer als auf Tafel VIII.



$m : n = 1 : 1$
 Einklang
 Phasendifferenz

$m : n = 2 : 1$
 Octave
 Phasendifferenz

$m : n = 3 : 1$
 Quinte u. d. Octave
 Phasendifferenz

$m : n = 4 : 1$
 Doppeloctave
 Phasendifferenz

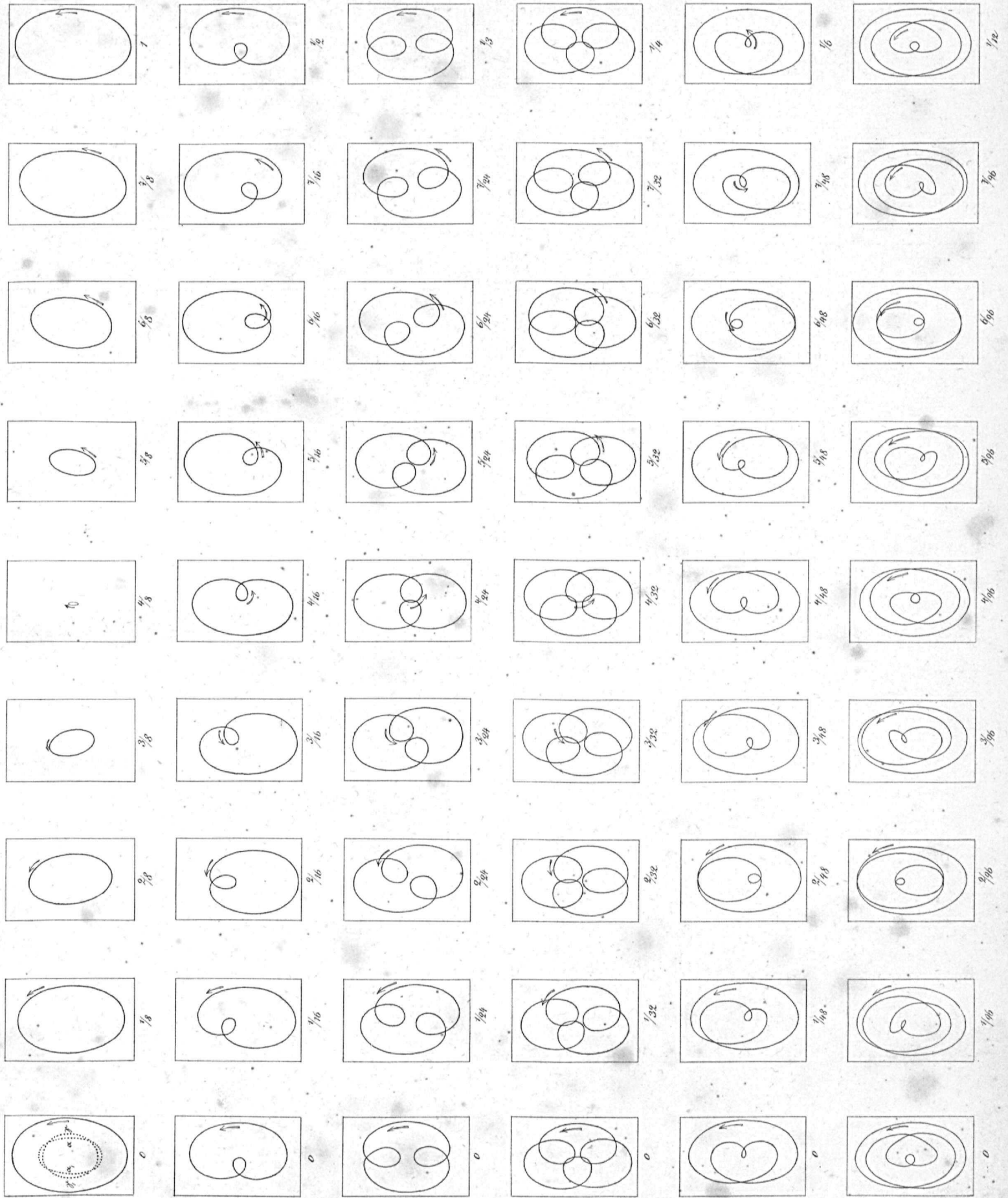
$m : n = 3 : 2$
 Quinte
 Phasendifferenz

$m : n = 4 : 3$
 Quarte
 Phasendifferenz

ab. Schätze in Stein gedr. Berlin.



Schwingungscurven
 erzeugt durch das Zusammenwirken zweier
 elliptischer Vibrationsbewegungen.



$m : n = 1 : 1$
 Einklang
 Phasendifferenz

$m : n = 1 : 2$
 Octave.
 Phasendifferenz

$m : n = 1 : 3$
 Quinte u. d. Octave
 Phasendifferenz

$m : n = 1 : 4$
 Doppeloctave
 Phasendifferenz

$m : n = 2 : 3$
 Quinte.
 Phasendifferenz

$m : n = 3 : 4$
 Quinte.
 Phasendifferenz

cf. Solfège in Steiner's gest. Berlin.



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