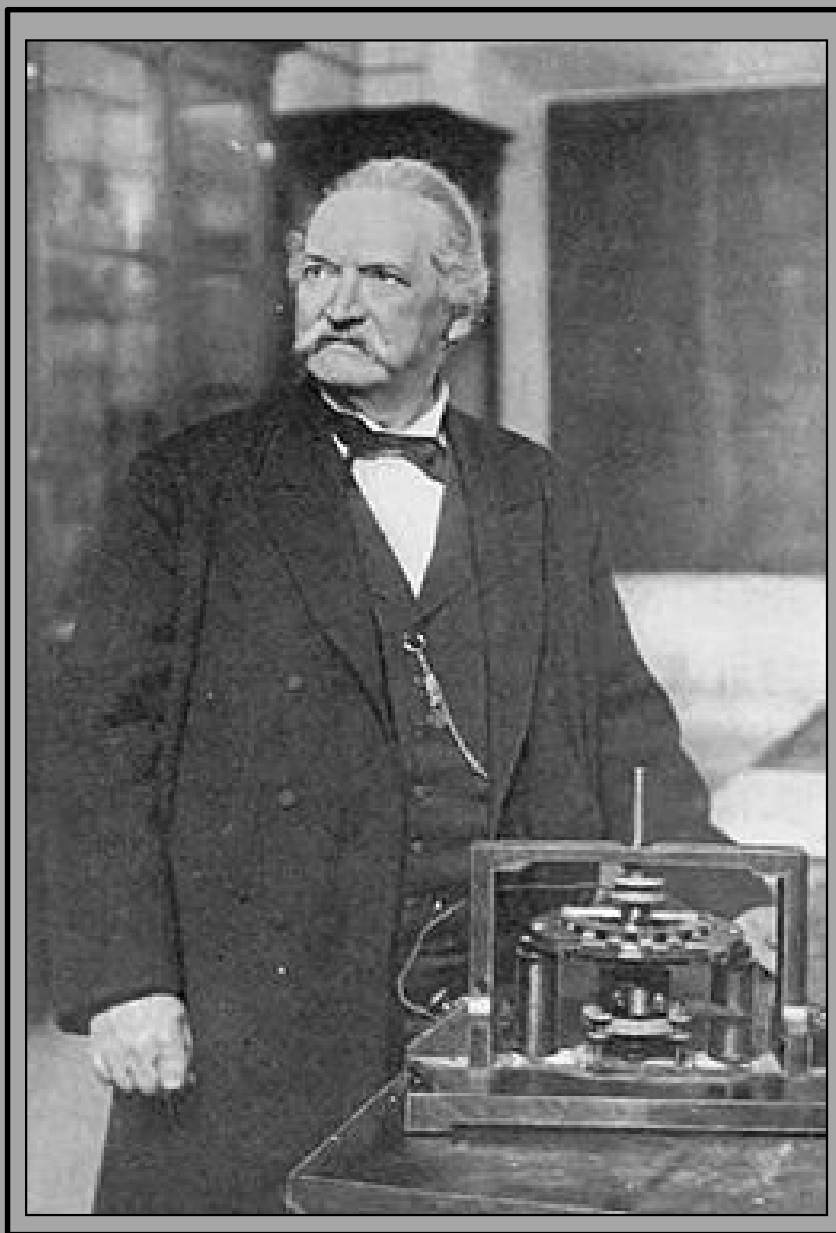




**DEDICATION CEREMONY
IEEE MILESTONE PACINOTTI**

**Università di Pisa
December 4th 2018**

**From Barlow's Wheel
to Pacinotti's Machine**

**Paolo Brenni
CNR, Fondazione Scienza e Tecnica
Firenze**

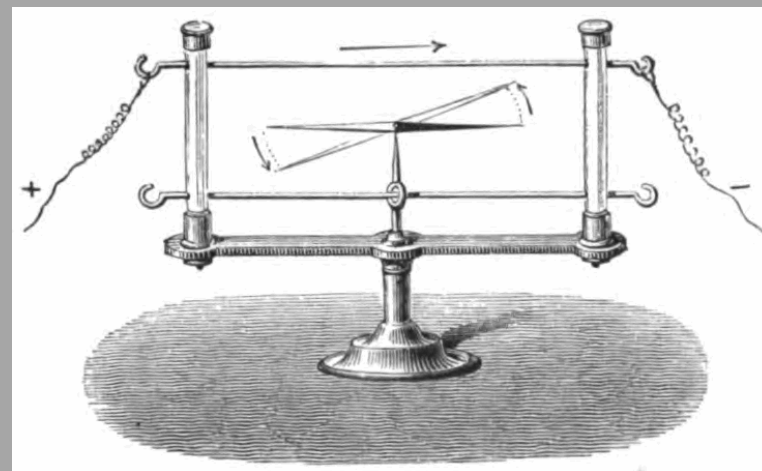
1800

Alessandro Volta



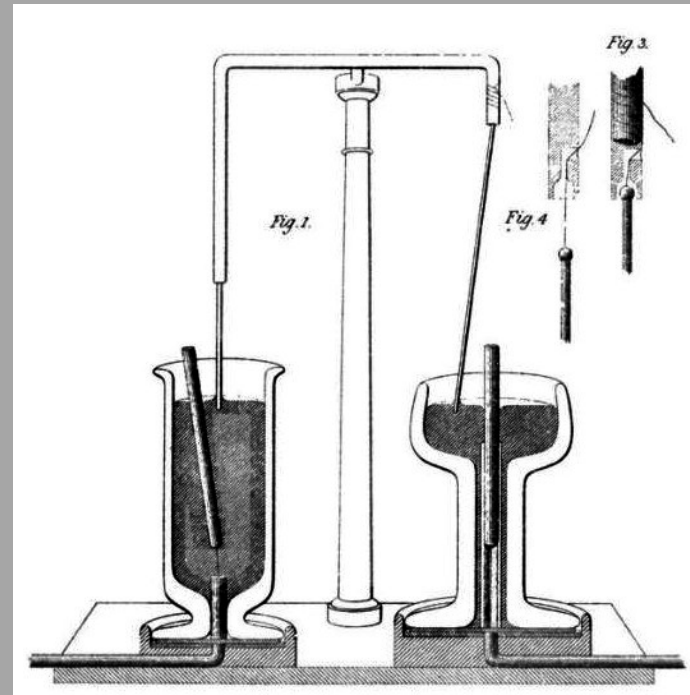
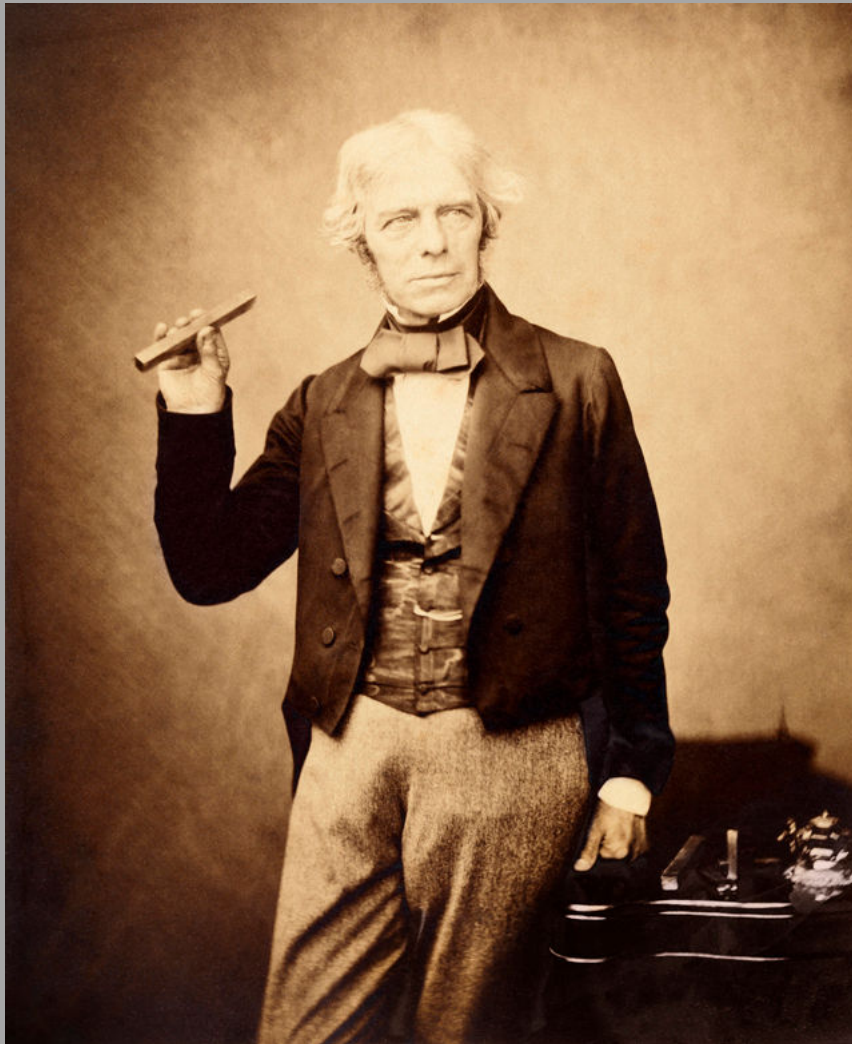
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Hans Christian Ørsted



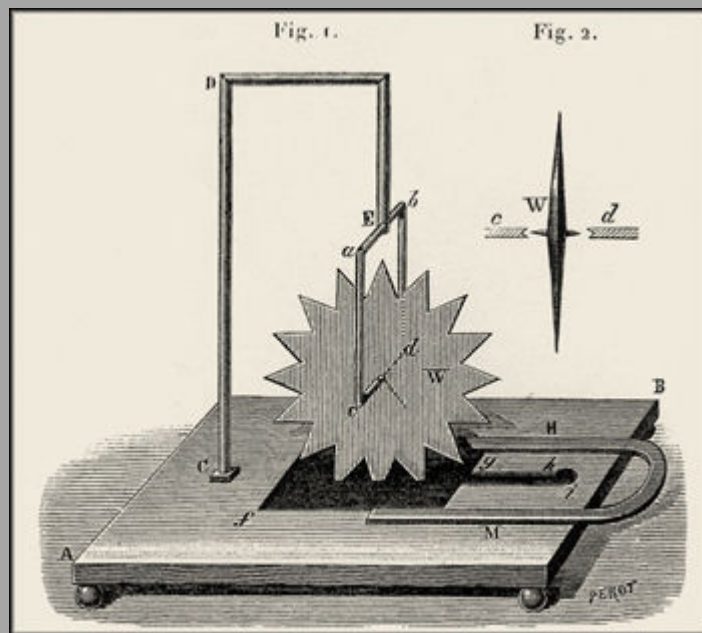
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Michael Faraday



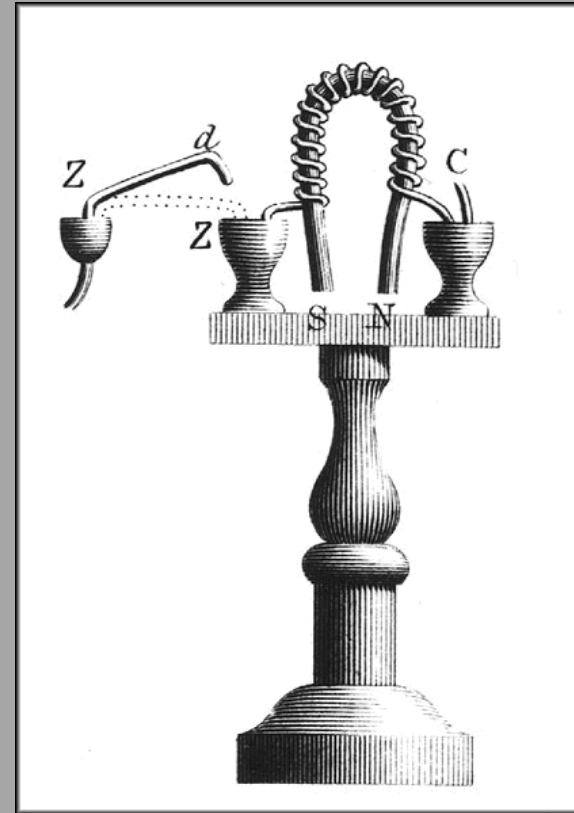
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Peter Barlow



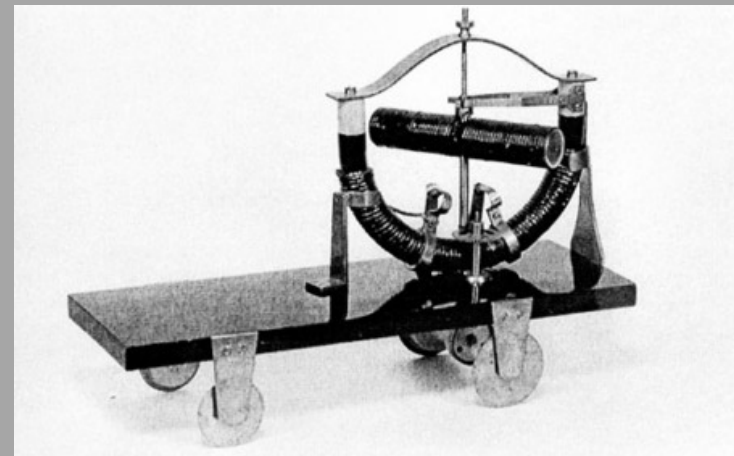
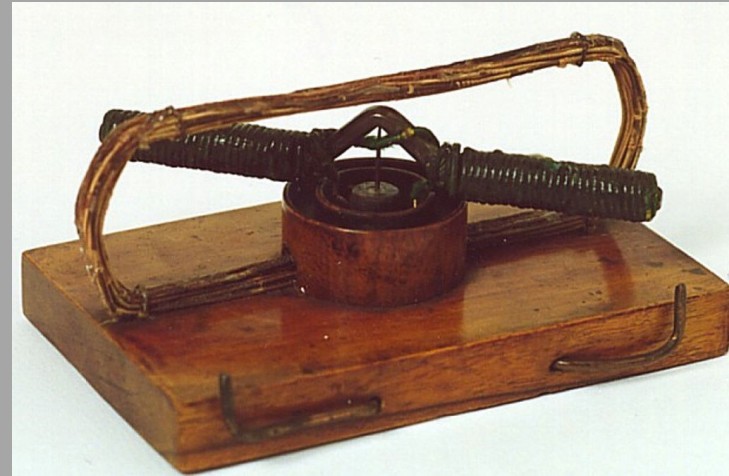
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William Sturgeon



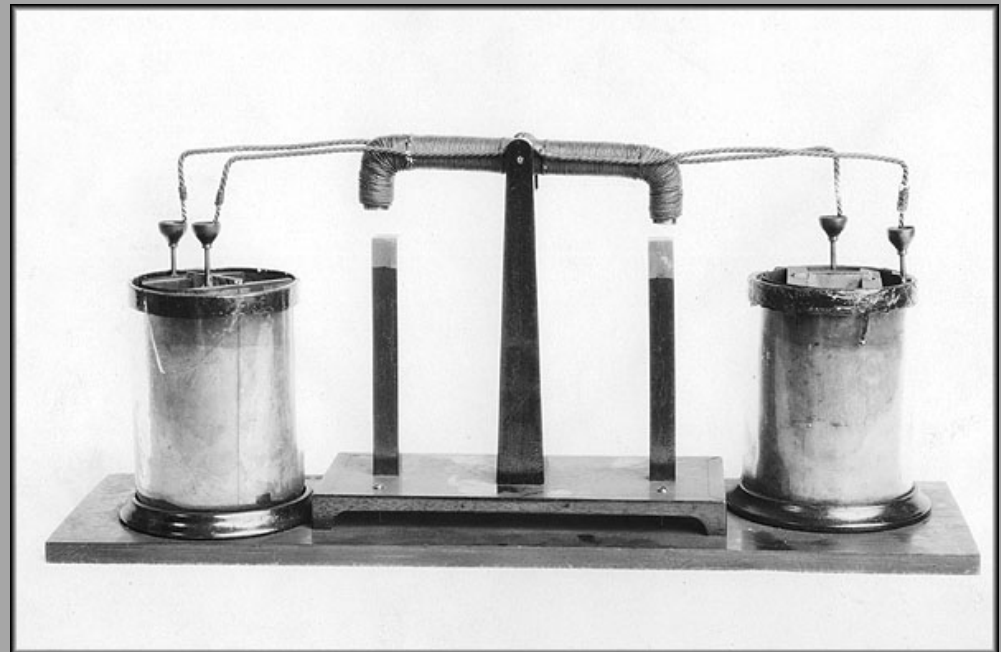
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Ányos Jedlik



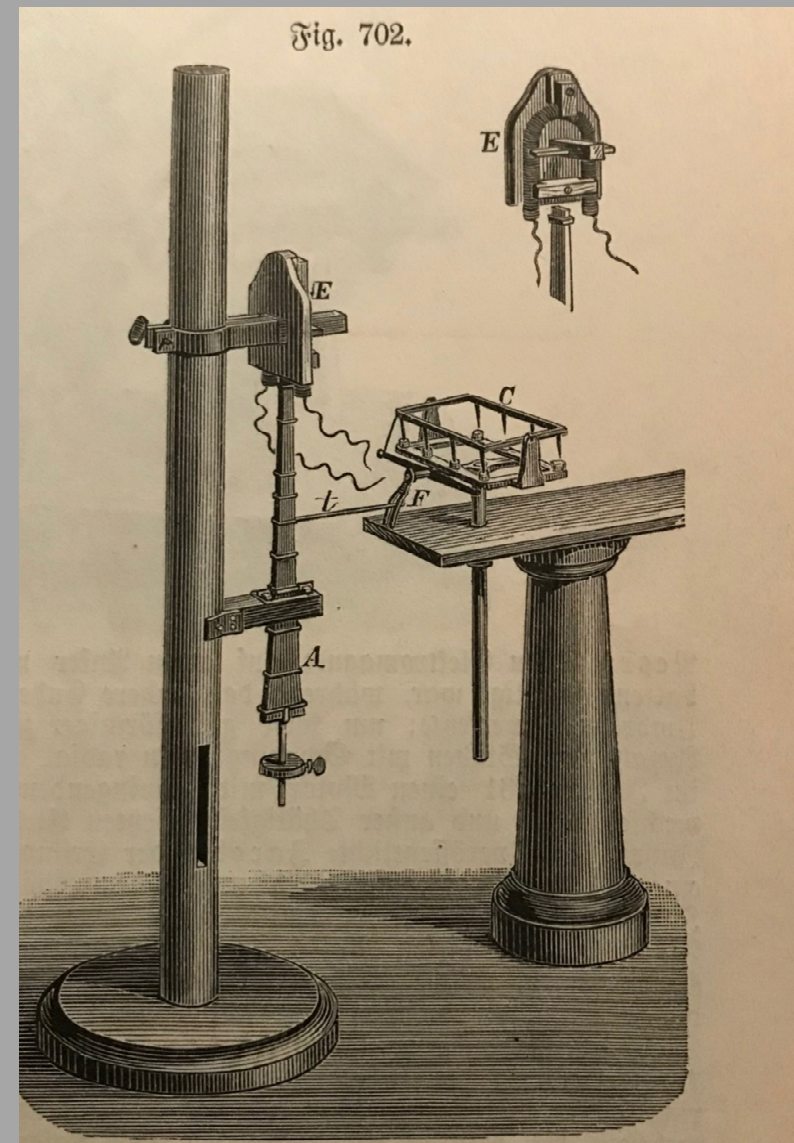
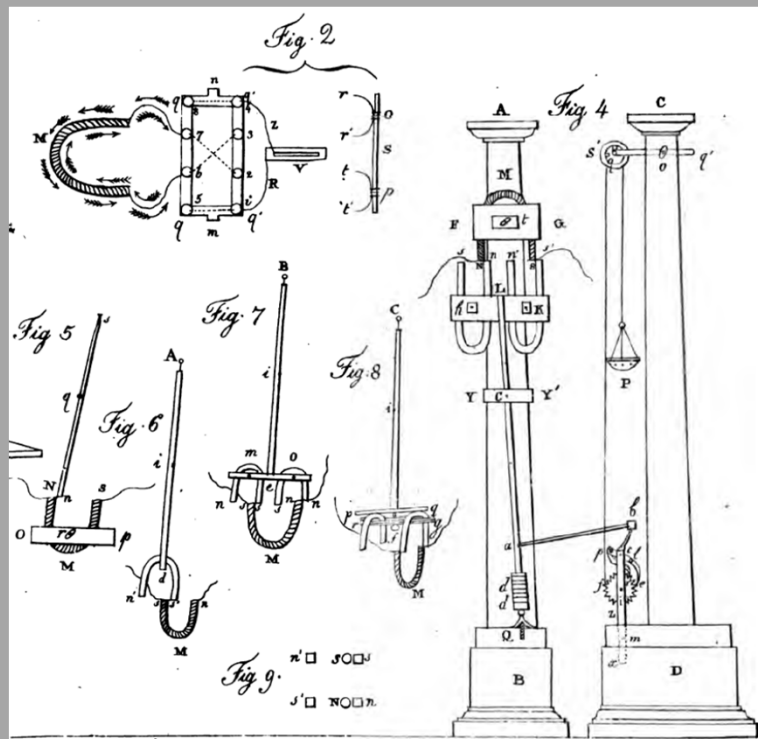
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Joseph Henry



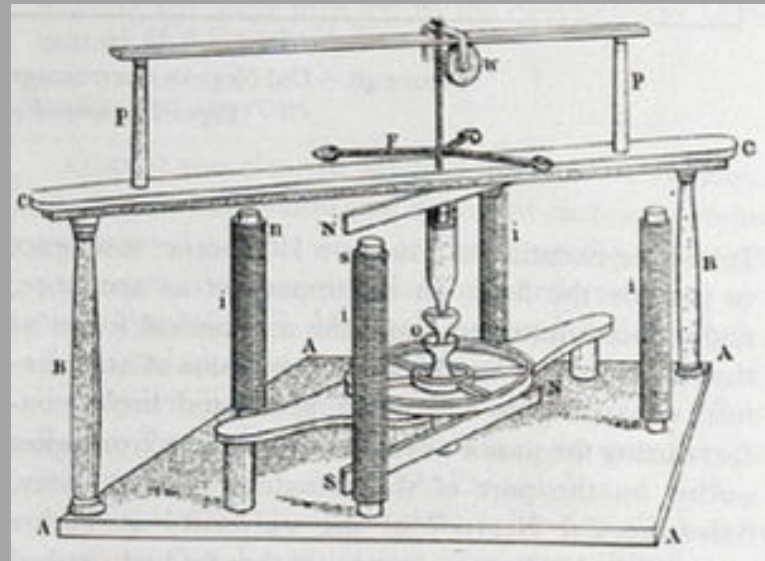
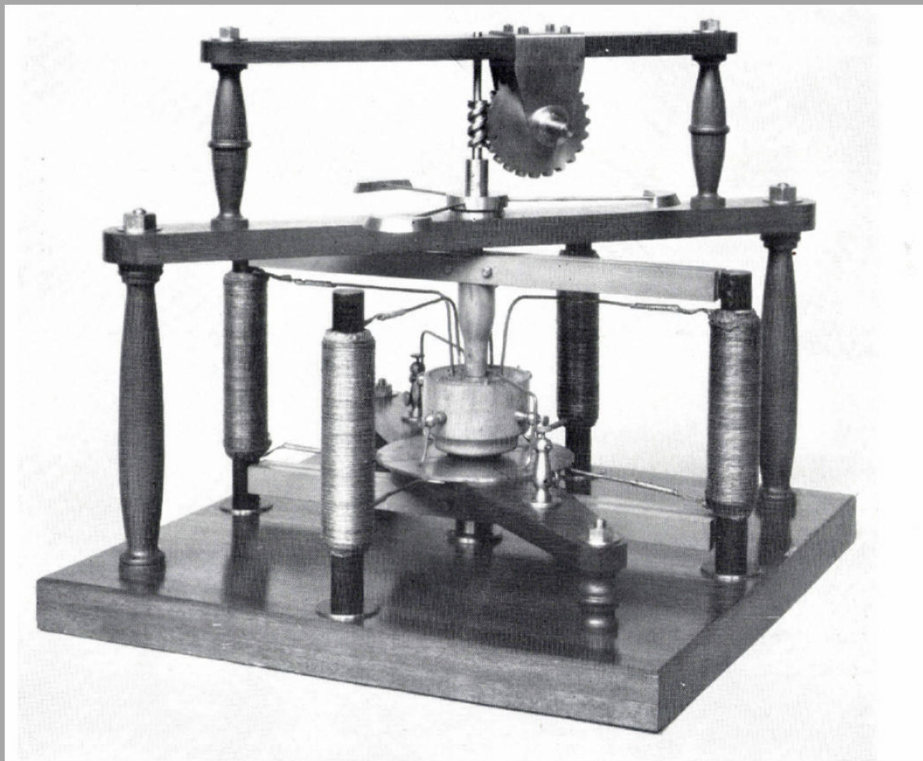
1832

Salvatore Dal Negro



1833

William Sturgeon



1833

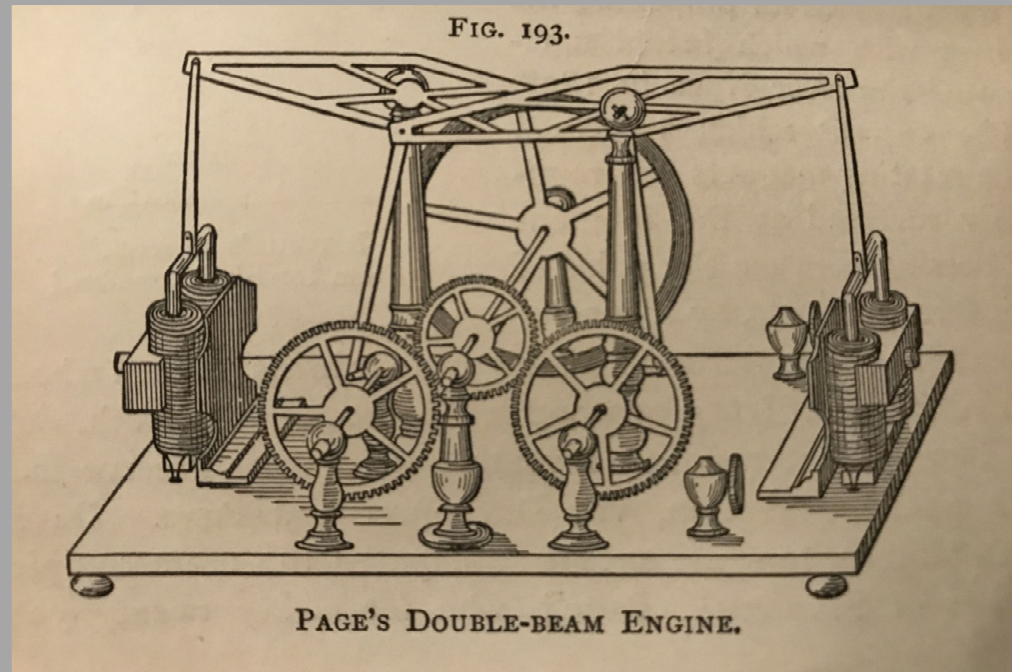
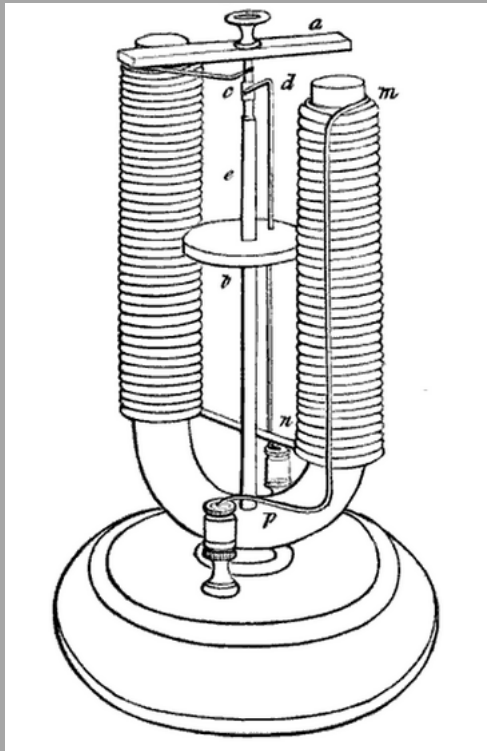
William Ritchie



Electric Motor Ritchie - 1833

1838

Charles Page



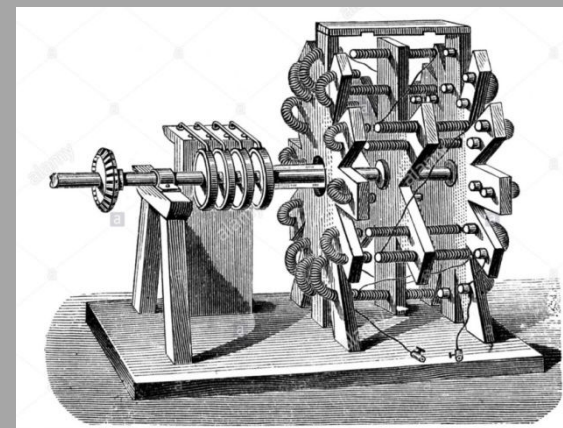
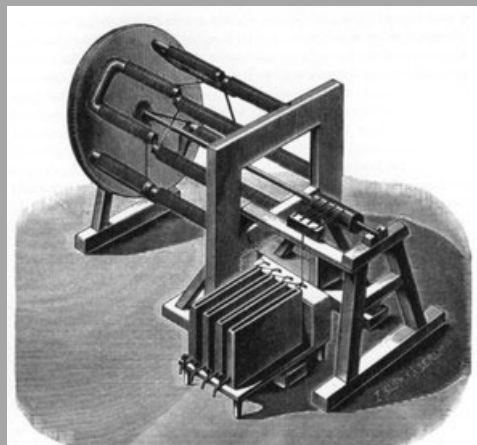
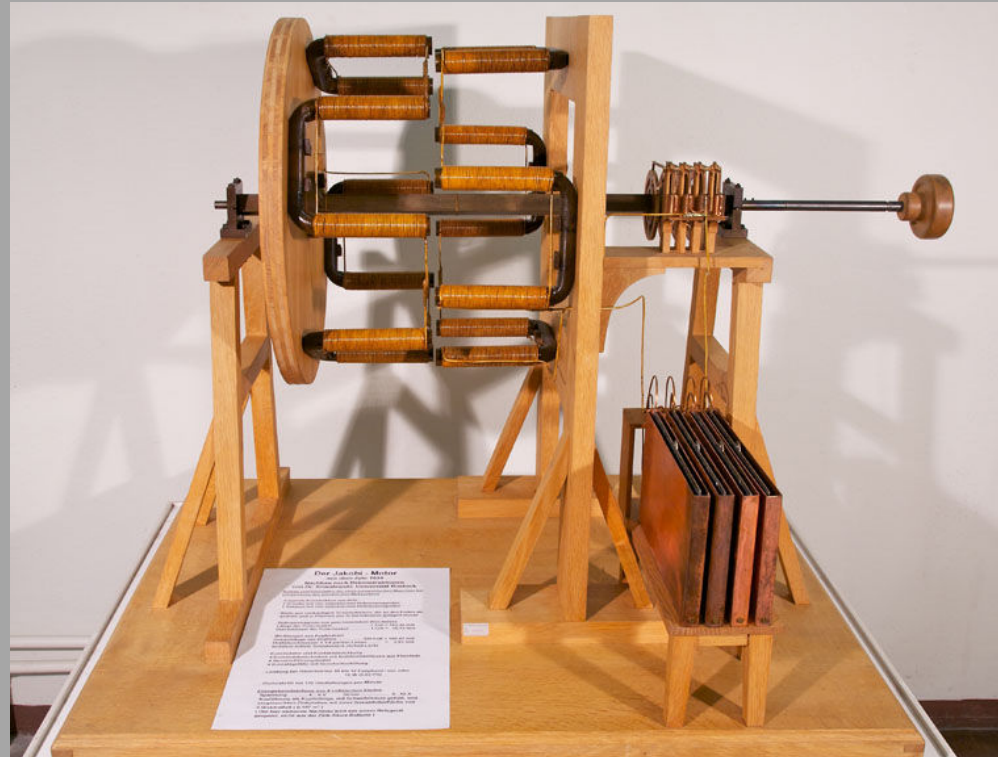
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Giuseppe Domenico Botto



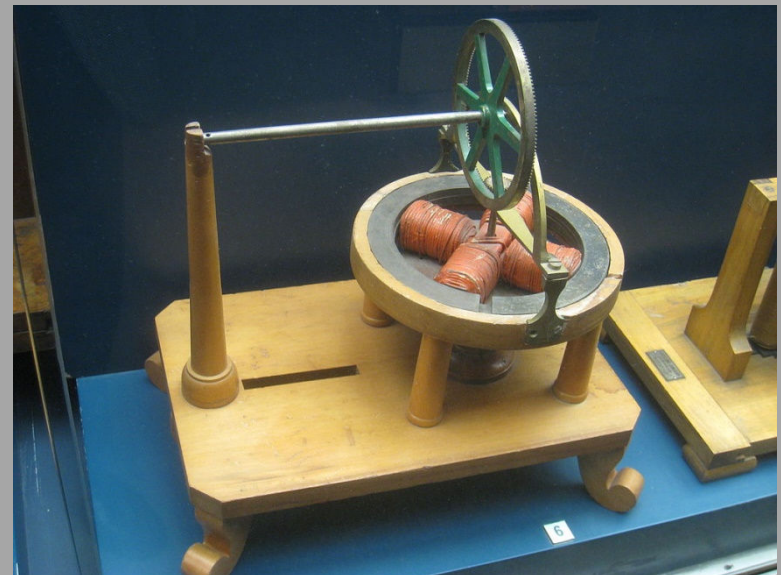
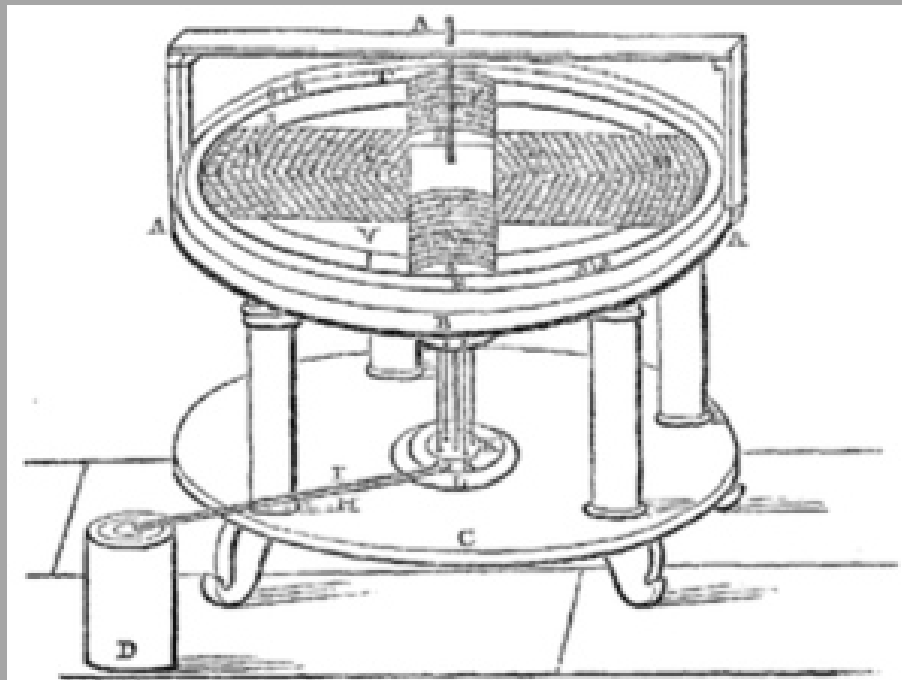
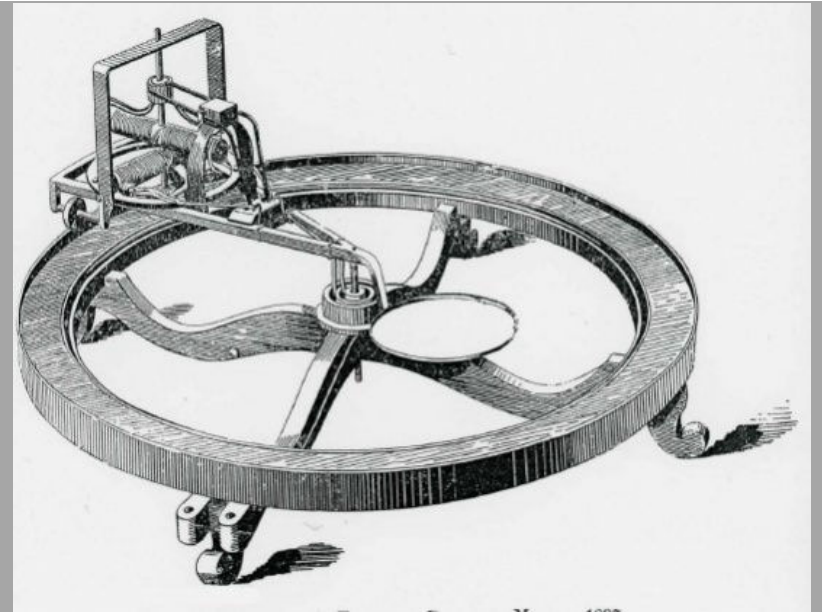
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Moritz von Jacobi



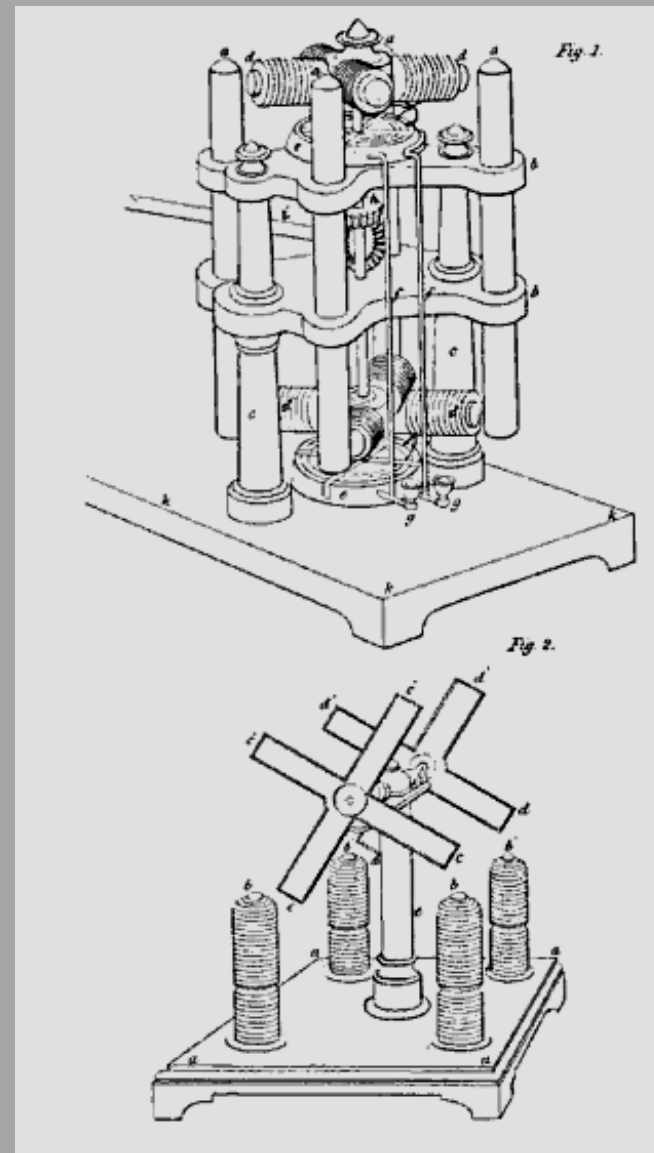
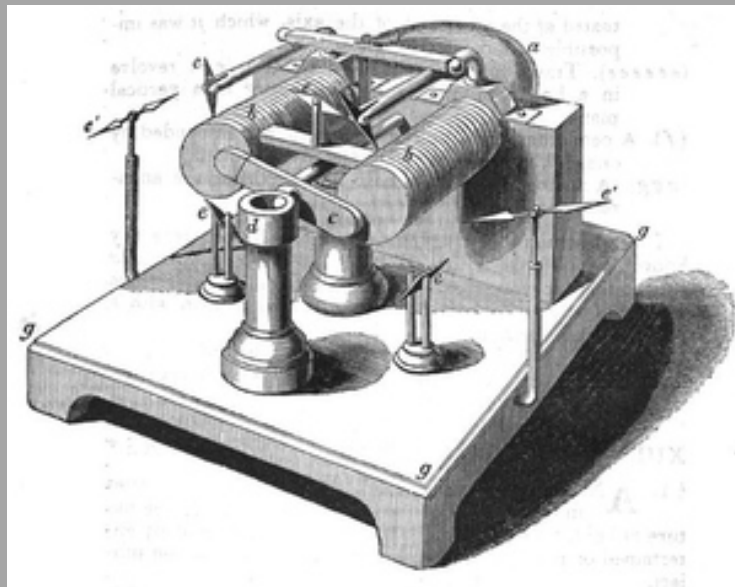
1834-35

Thomas Davenport



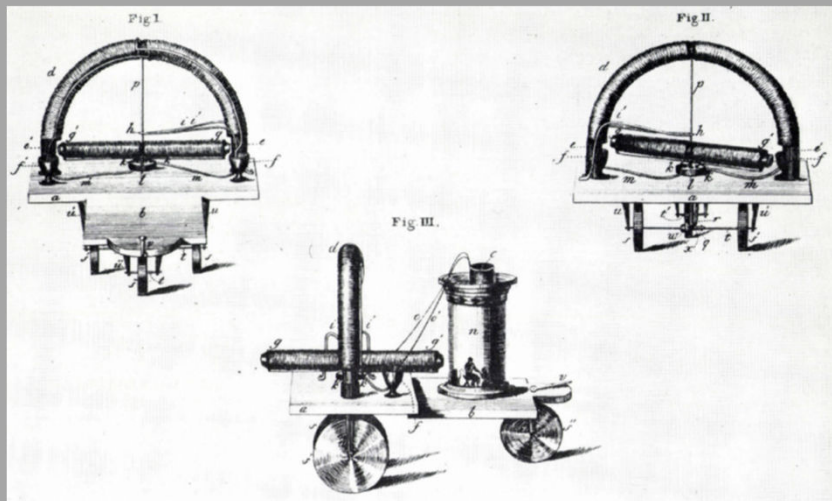
1835

Francis Watkins



1835

Sibrandus Stratingh
Cristopher Becker



1837-1842

Robert Davidson

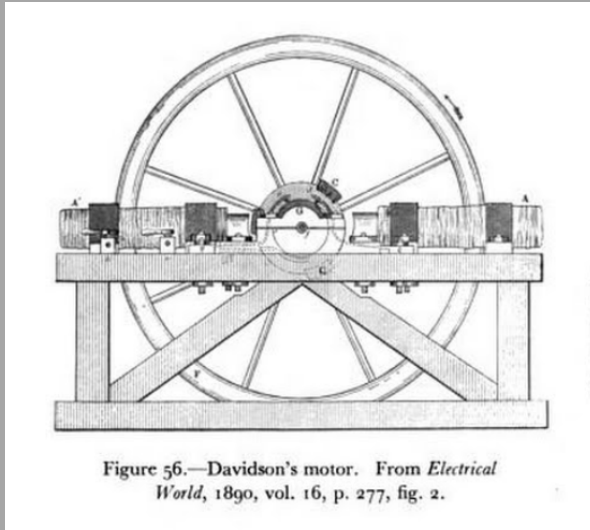
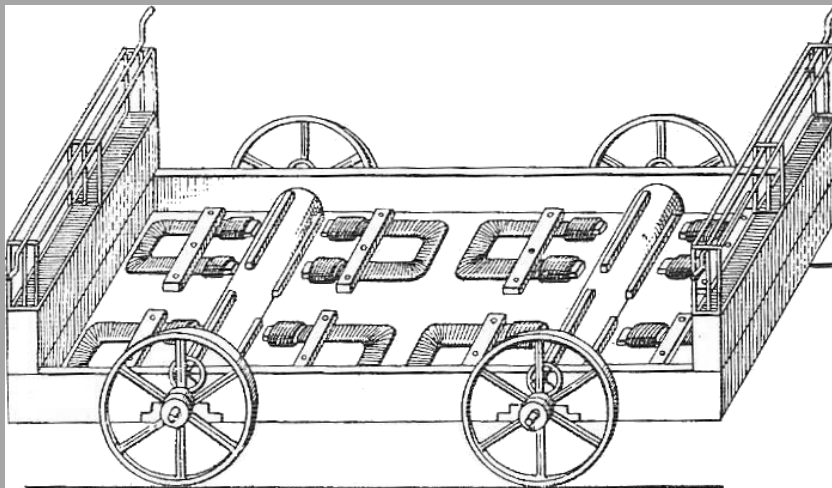
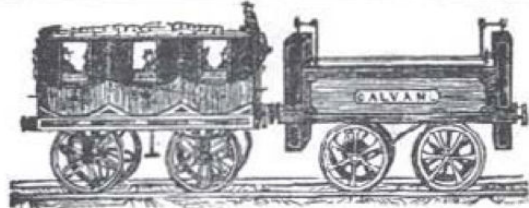


Figure 56.—Davidson's motor. From *Electrical World*, 1890, vol. 16, p. 277, fig. 2.



**ELECTRO-MAGNETIC
EXHIBITION,**
UNDER THE PATRONAGE OF THE
Royal Scottish Society of Arts.

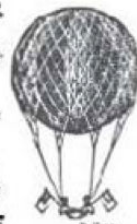


**Mr. ROBERT DAVIDSON'S
EXHIBITION OF ELECTRO-MAGNETISM,**
AS A MOVING POWER,
IS NOW OPEN:
IN THE
EGYPTIAN HALL, Piccadilly.

THE MODELS AND APPARATUS COMPRISE THE FOLLOWING:

- A LOCOMOTIVE ENGINE,**
Carrying Passengers to a CIRCULAR RAILWAY.
- A PRINTING MACHINE AND TURNING LATHE.**
- A SAW MILL.**
- A MACHINE for COMMUNICATING the ELECTRO-MAGNETIC SHOCK.**
- AN ELECTRO-MAGNET!**
The largest ever made. It weighs upwards of 200 Pounds, and will support many Tons.
- A GALVANIC TELEGRAPH.**
FOR COMMUNICATION OF MESSAGES,
Attended in each case with Splendid Demonstrations, peculiar to color to the Metal operated upon, &c. &c.
- MODEL OF THE FLYING MACHINE**
- MODEL OF AN AERIAL CARRIAGE,**
By Sir GEORGE CAYLEY.

Is 600 small Mills turned into a Horse

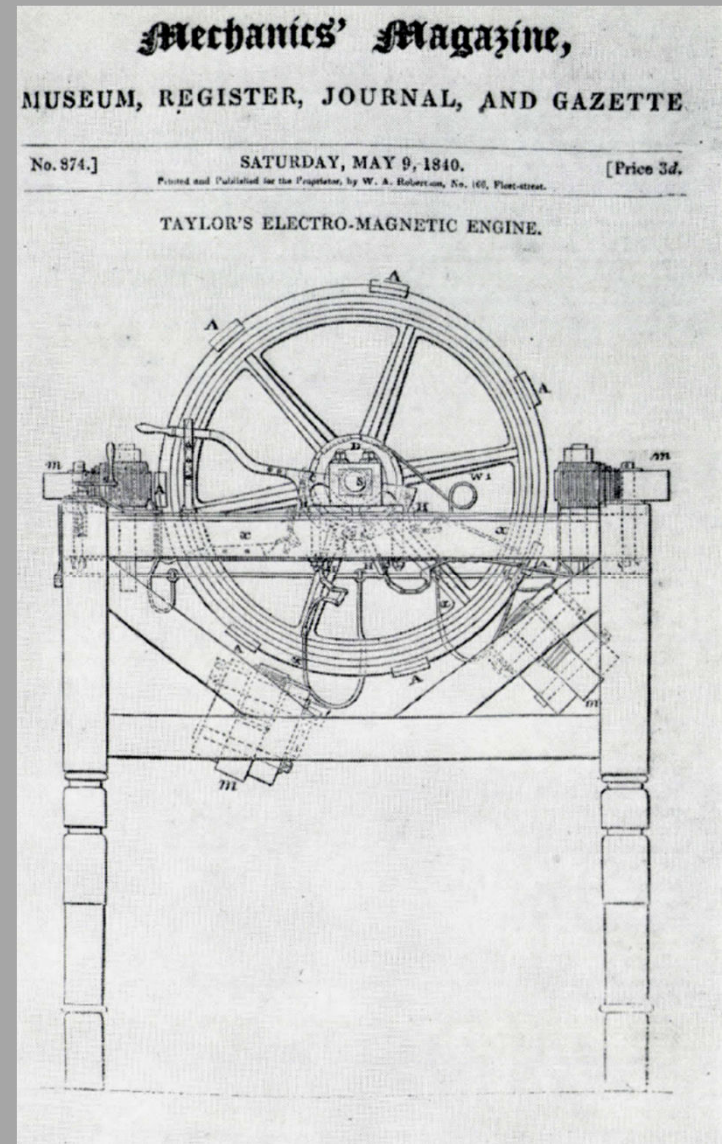
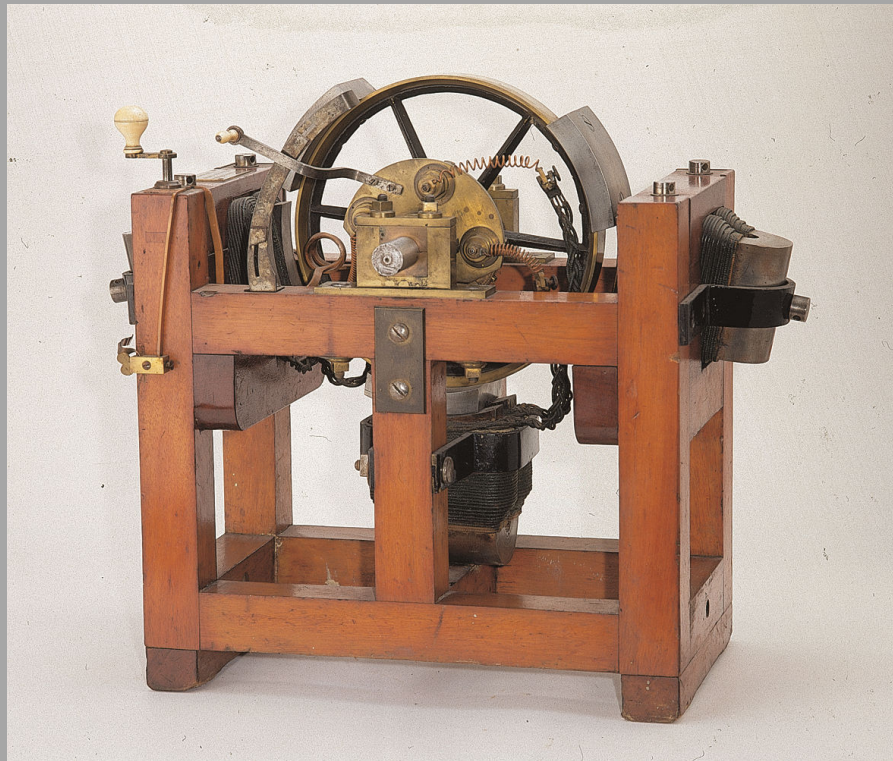


OPEN FROM 12 TILL 6, AND FROM 7 TILL 9.
Admission, ONE SHILLING.
Children under 12 Years of Age, SIXPENCE.

PRINTED BY ELECTRO-MAGNETISM.

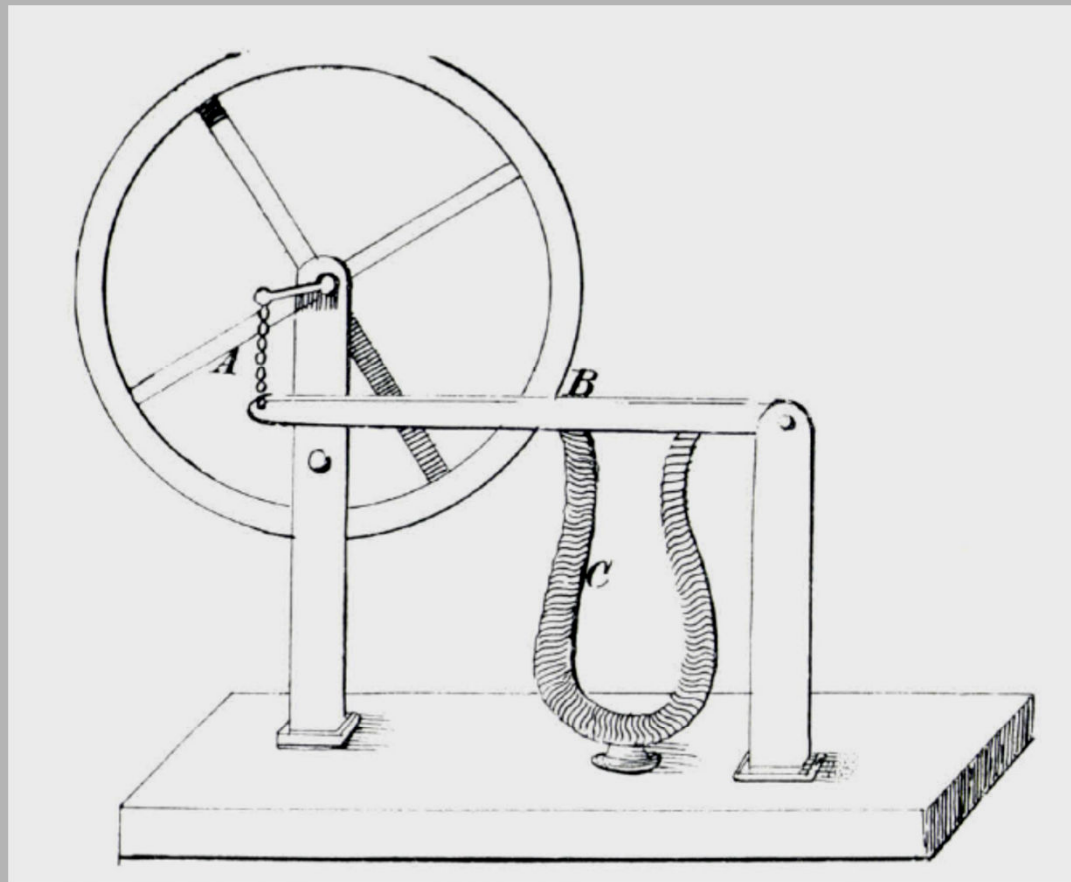
1840

William Taylor



1840

Uriah Clarke



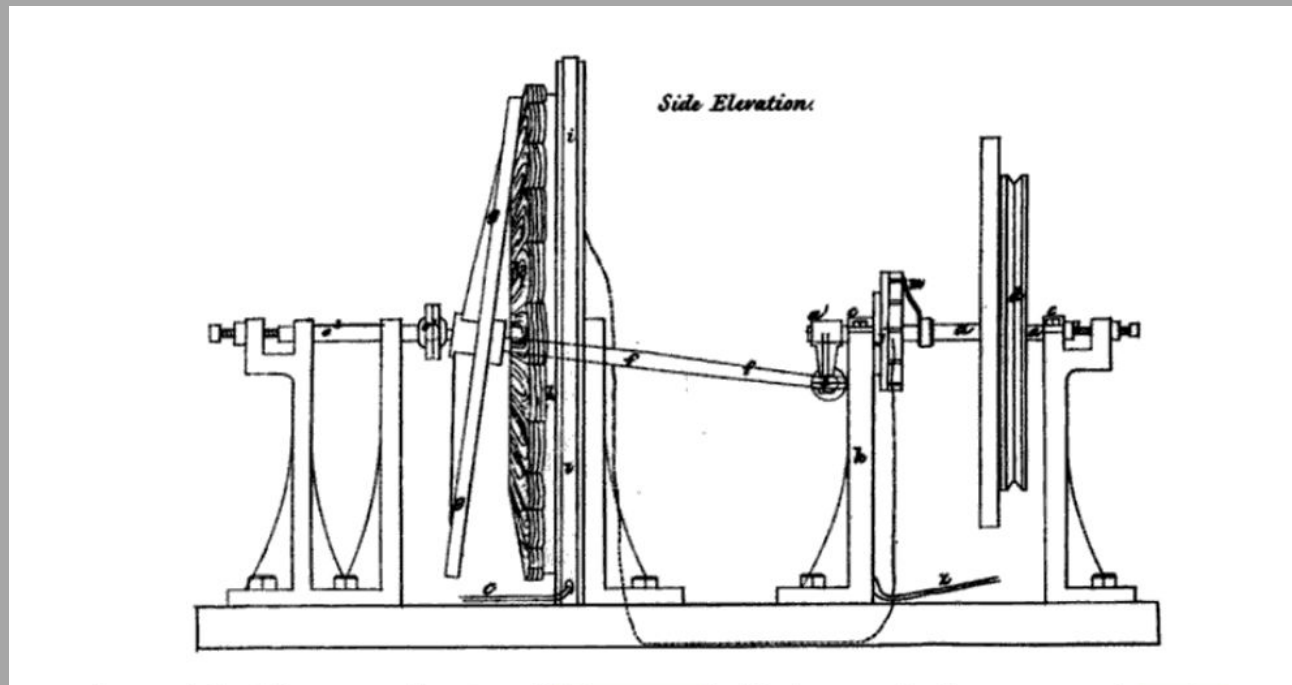
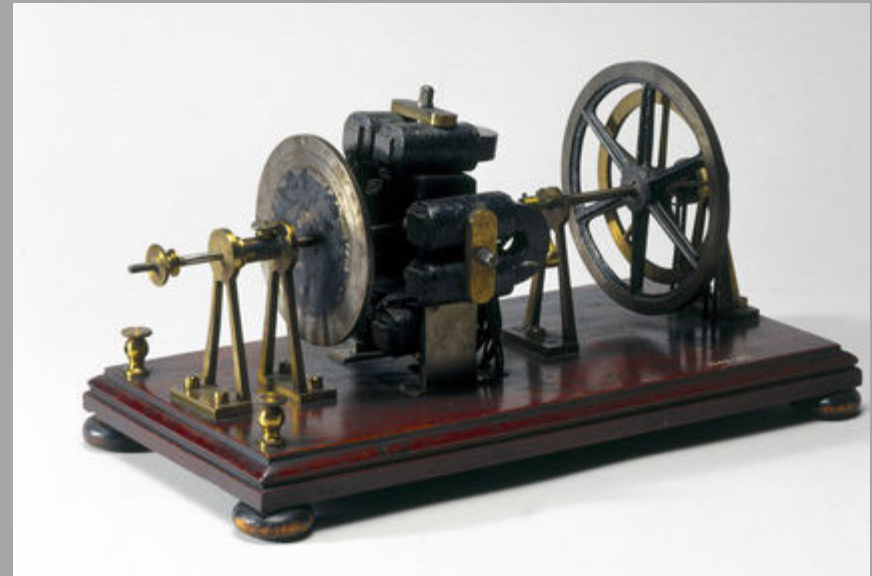
1840-1850

Charles Wheatstone



1840-1850

Charles Wheatstone



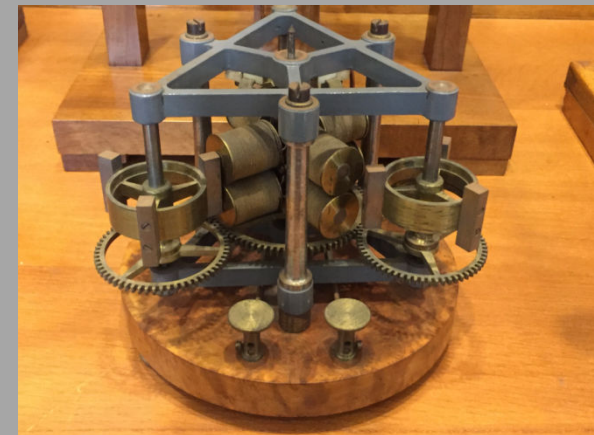
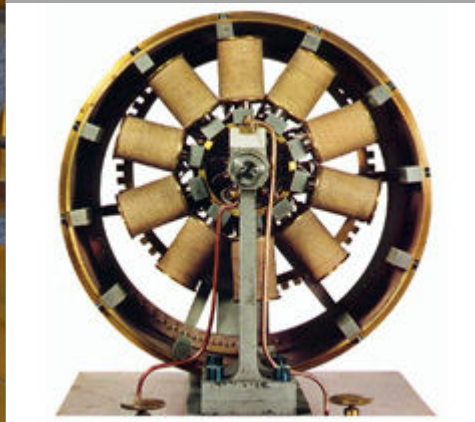
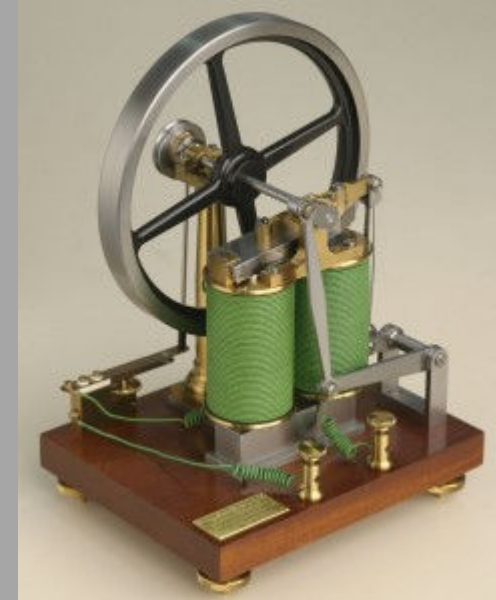
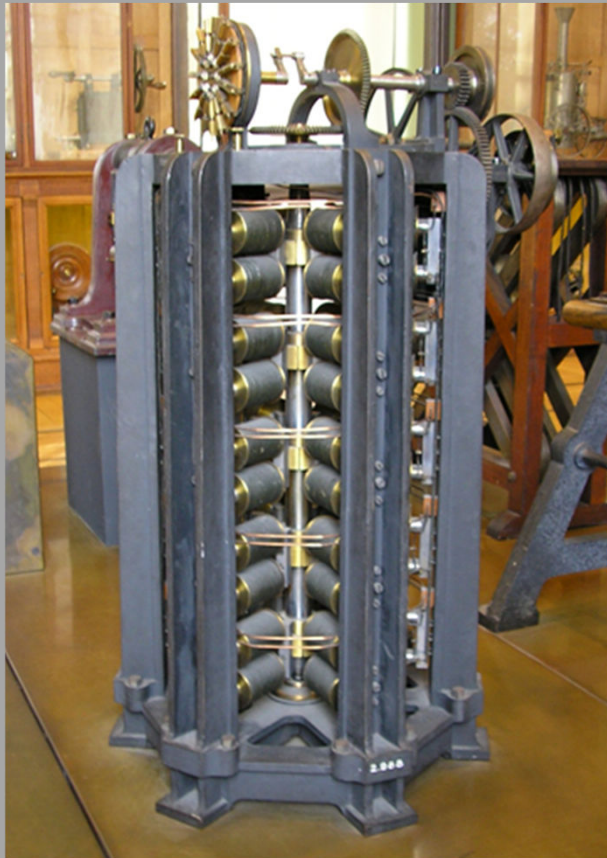
1860?

Bruini e Ferrari



1844-1855

Gustave Froment



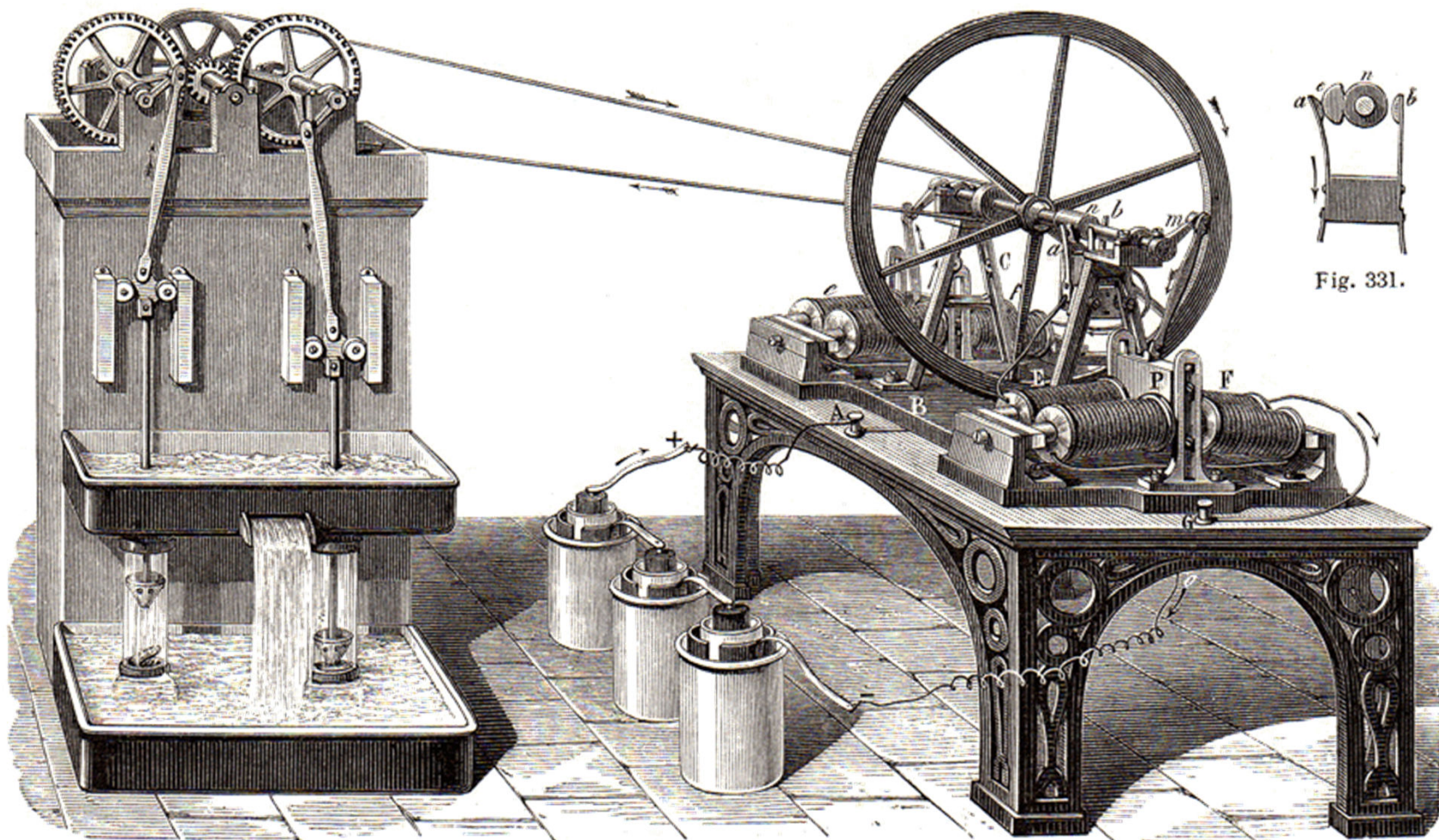
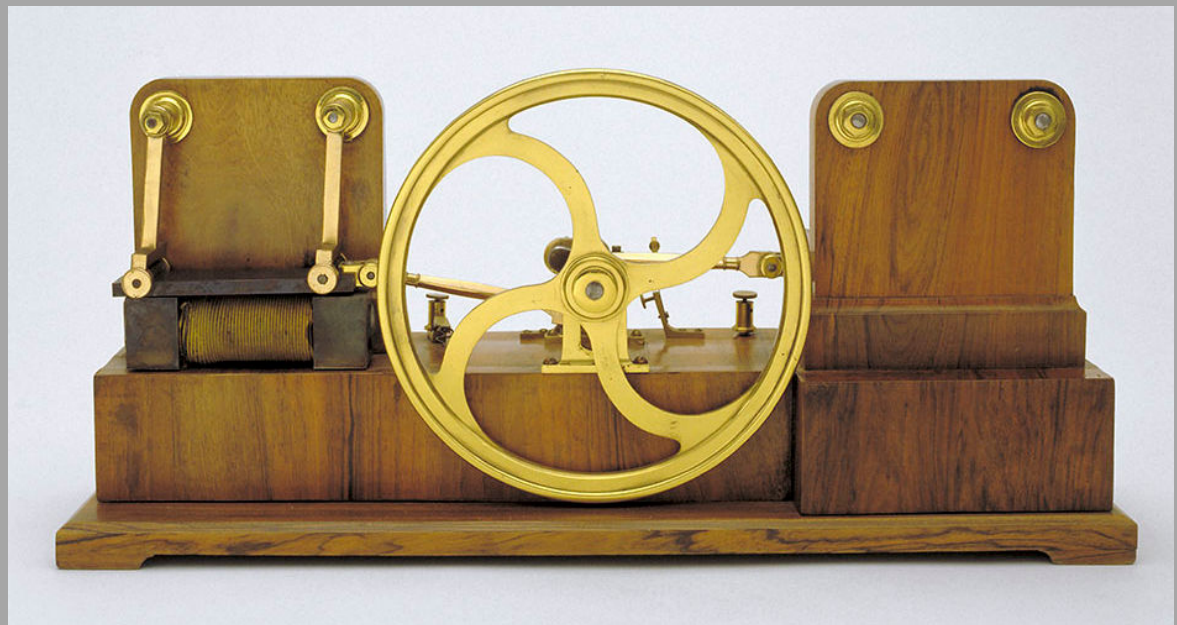
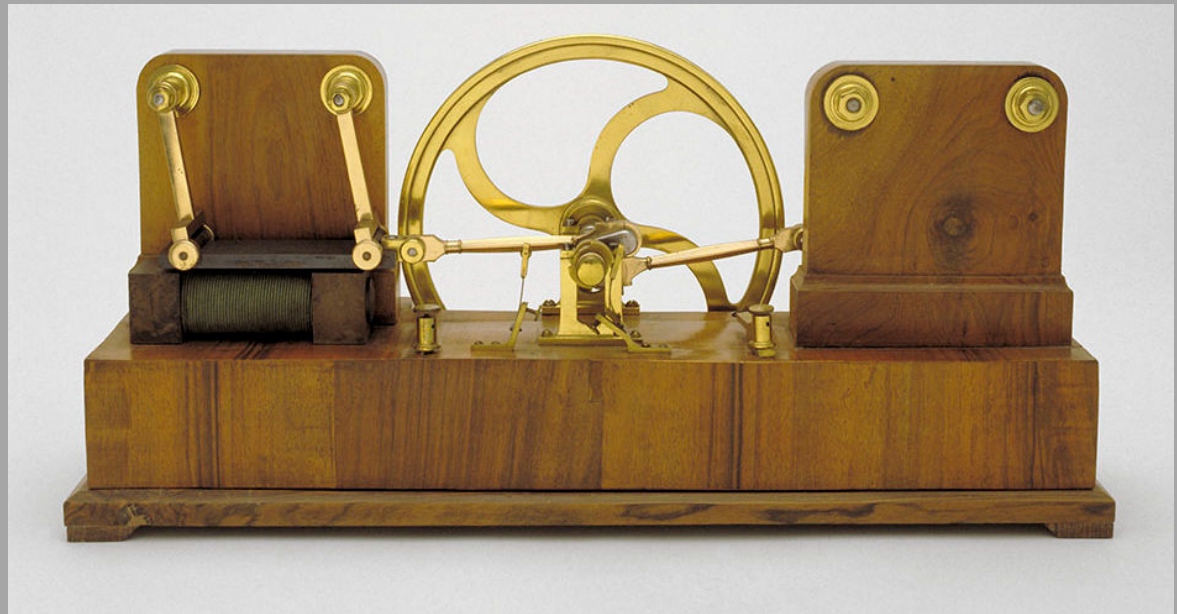


Fig. 330. — Moteur électro-magnétique de M. Froment.

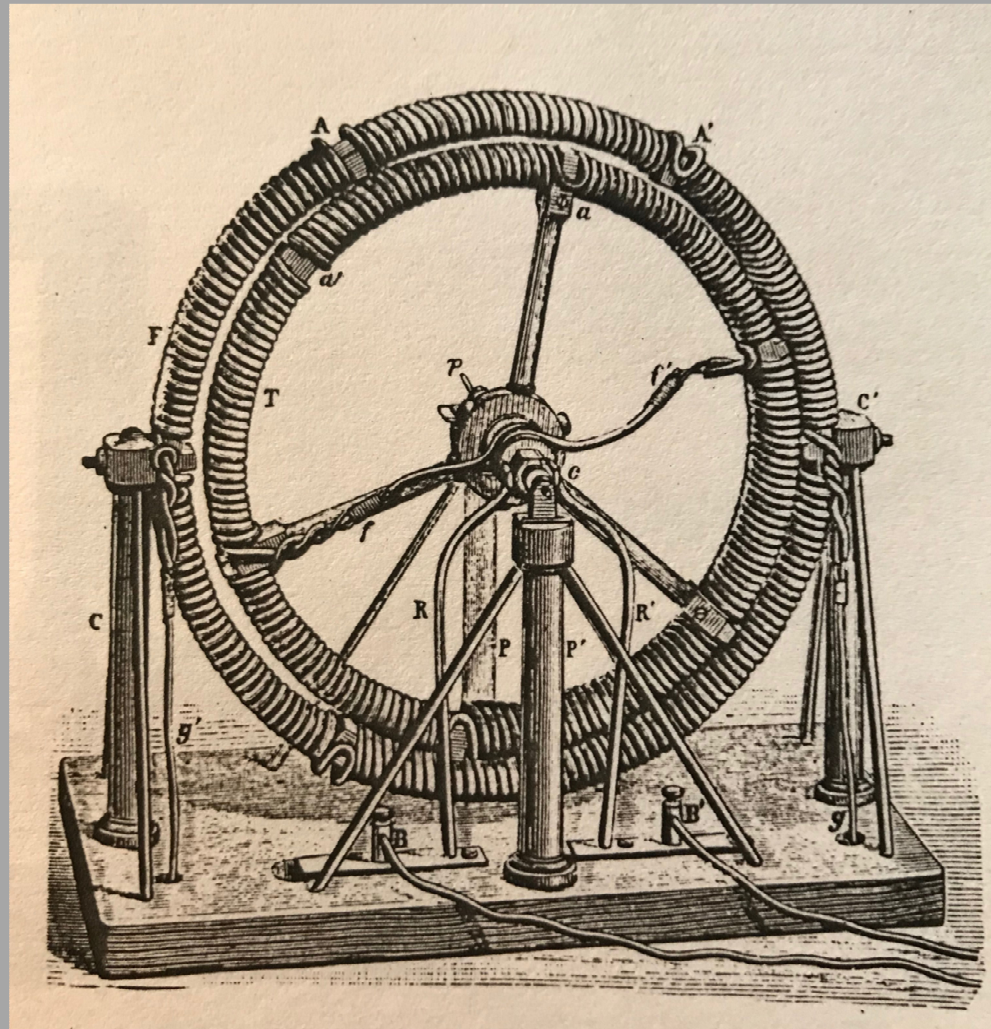
1840 C.

Luigi Magrini



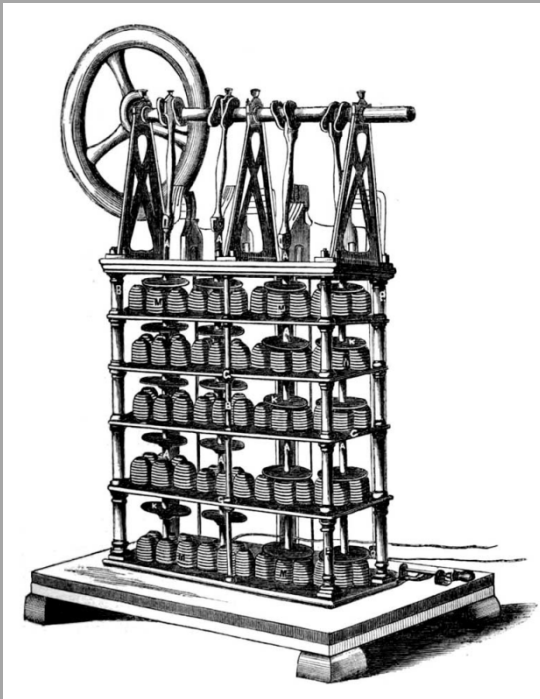
1842

Elias



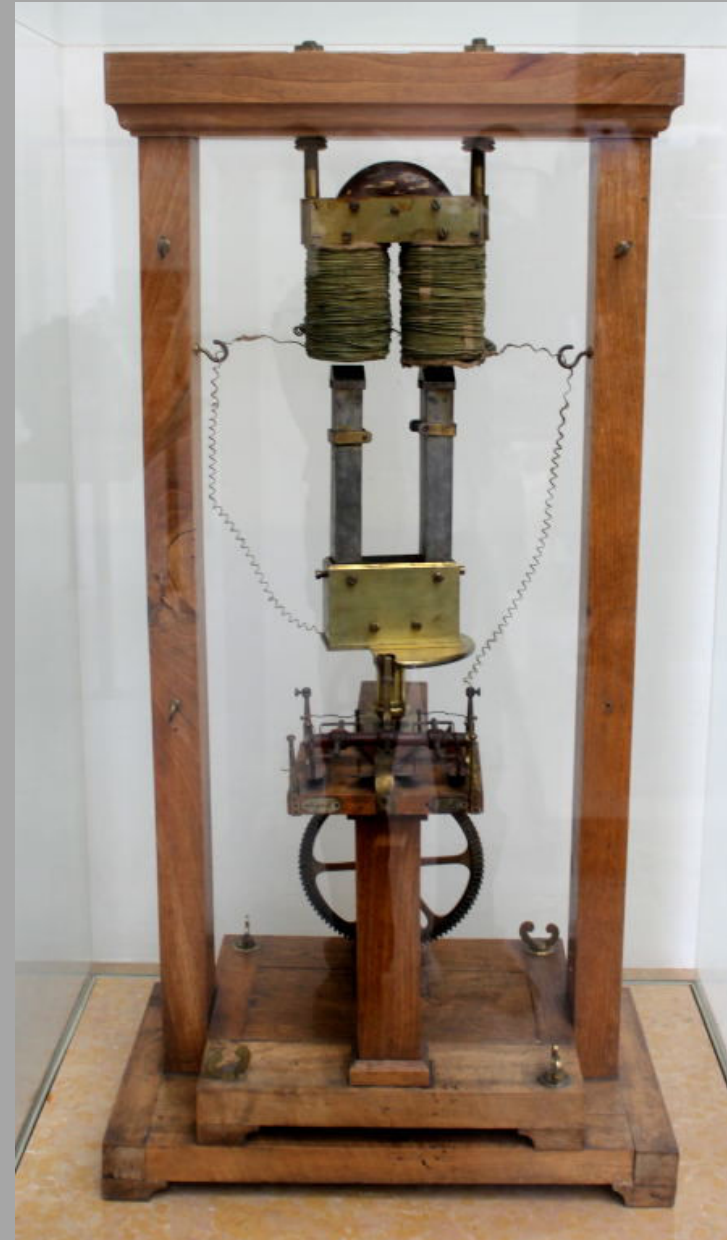
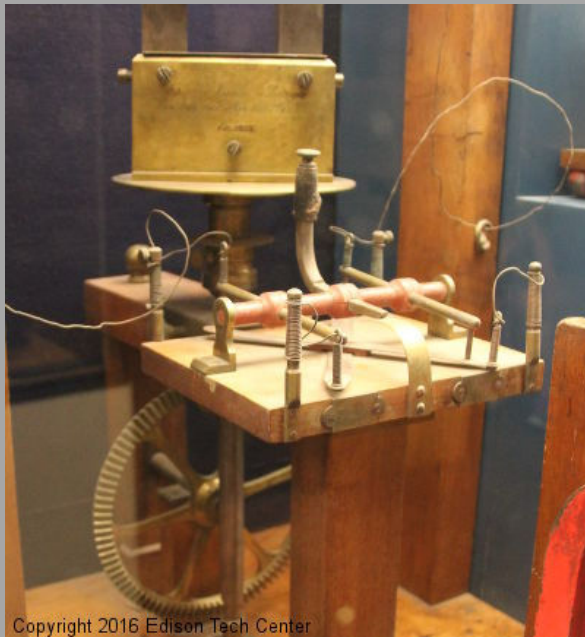
1852

Thomas Allan



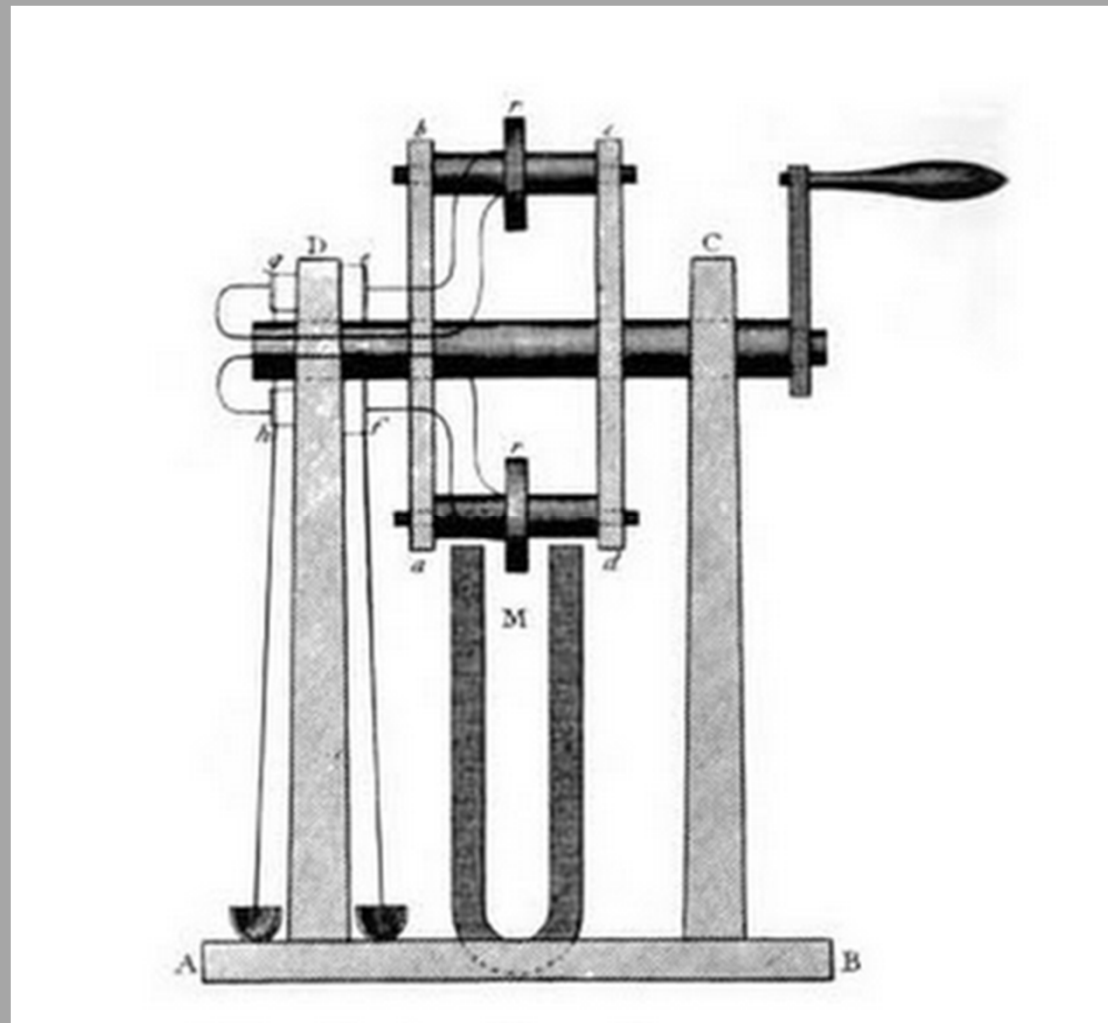
1832

Hyppolite Pixii



1832

William Ritchie



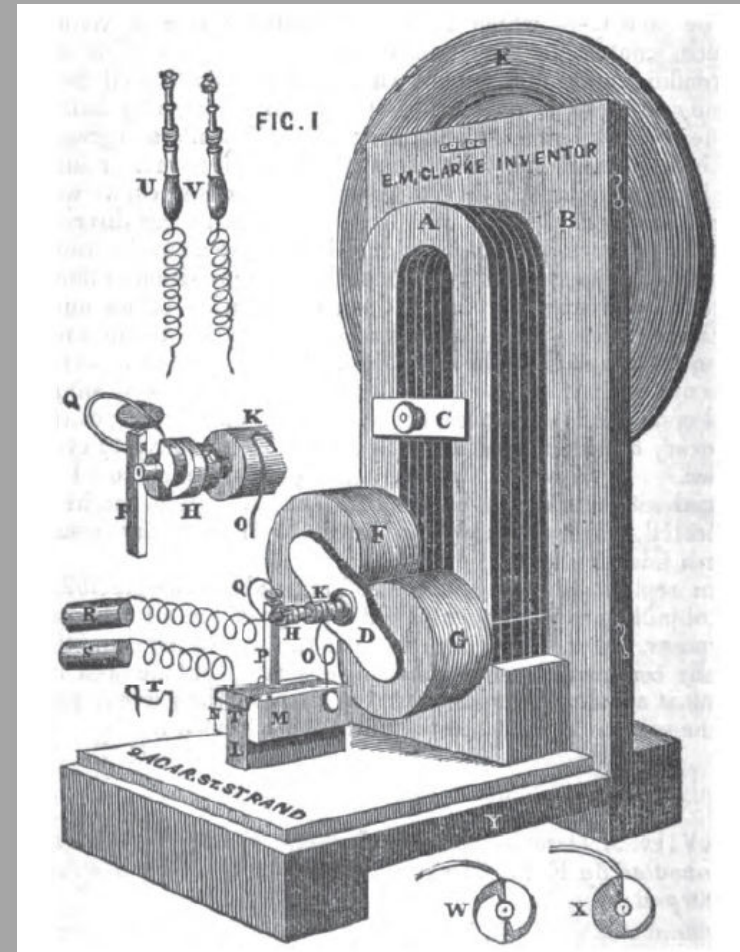
1833

Joseph Saxton



1835

Edward Clarke



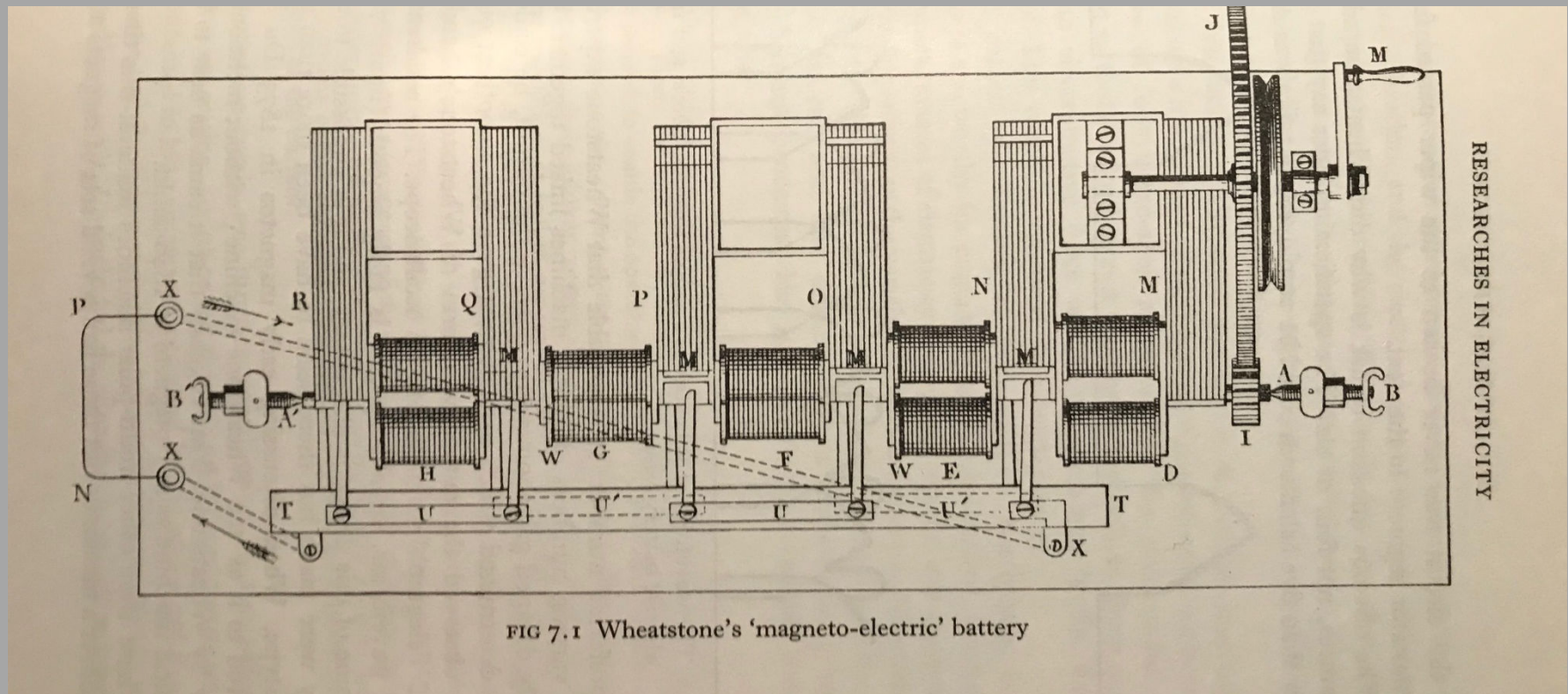
1834

Emil Stöhrer



1841

Charles Wheatstone



1842

John Stephen Woolrich

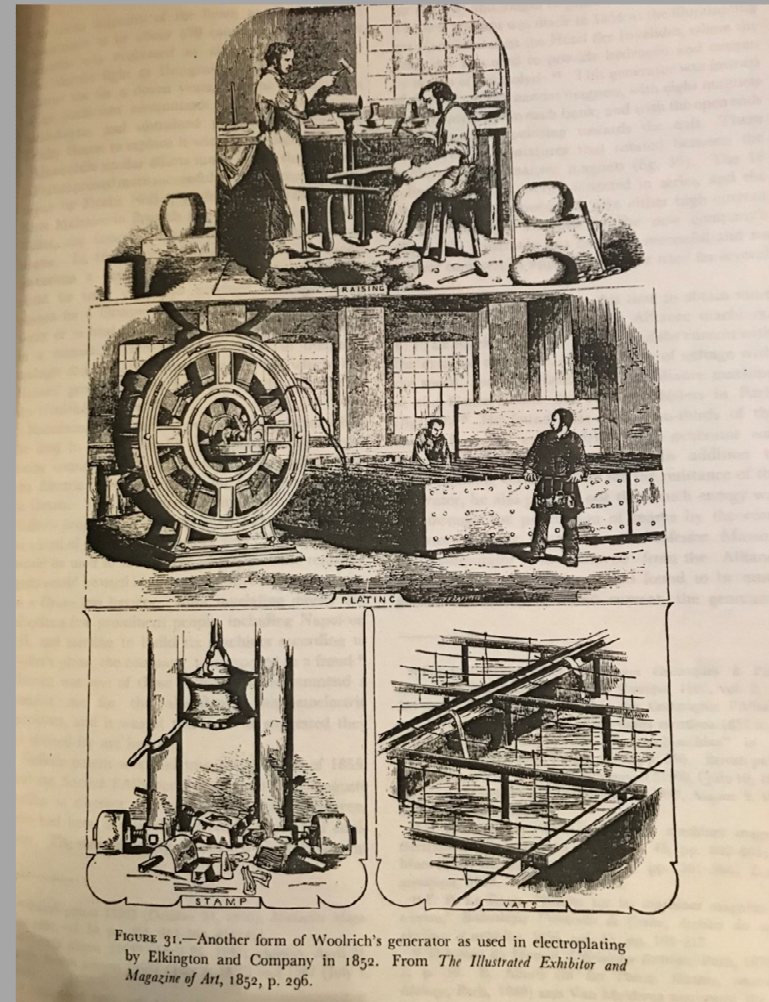
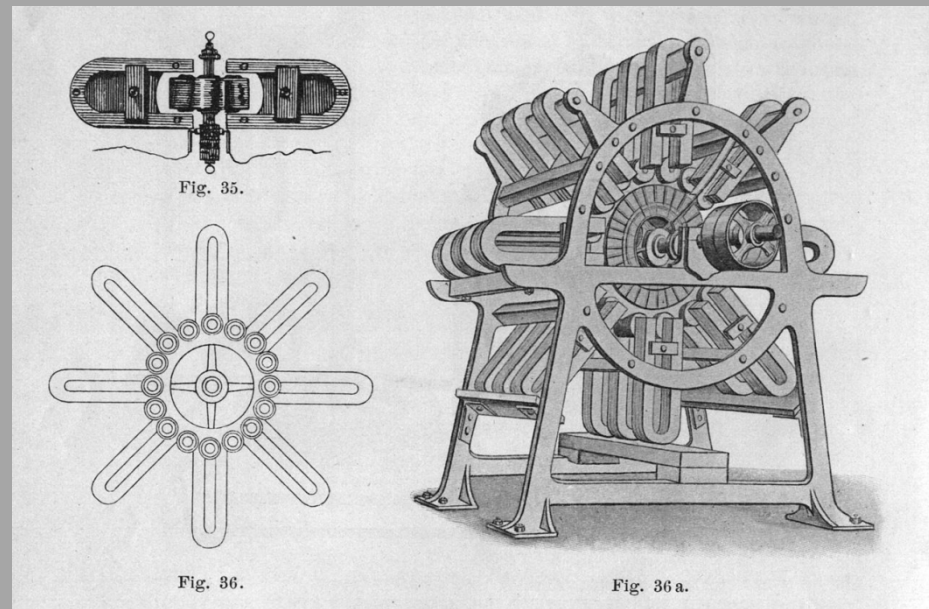
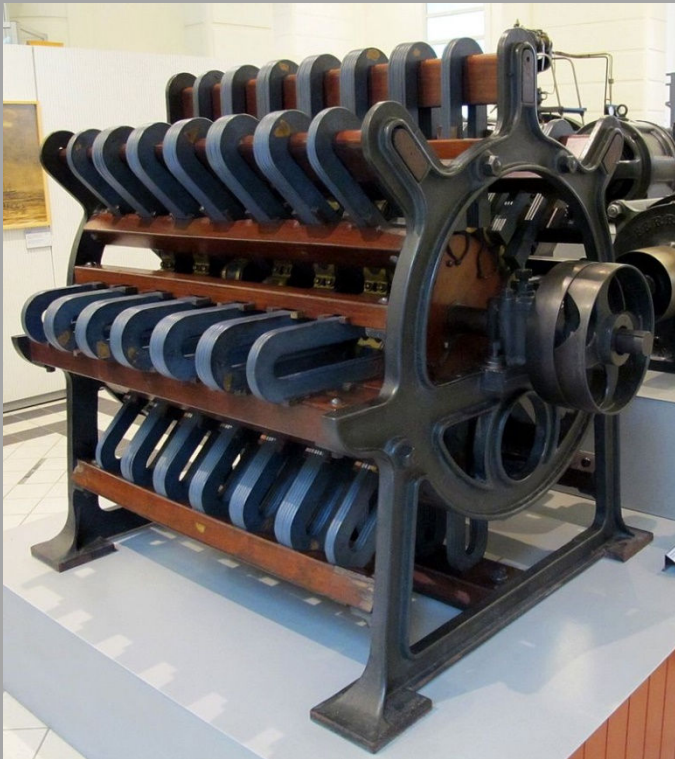
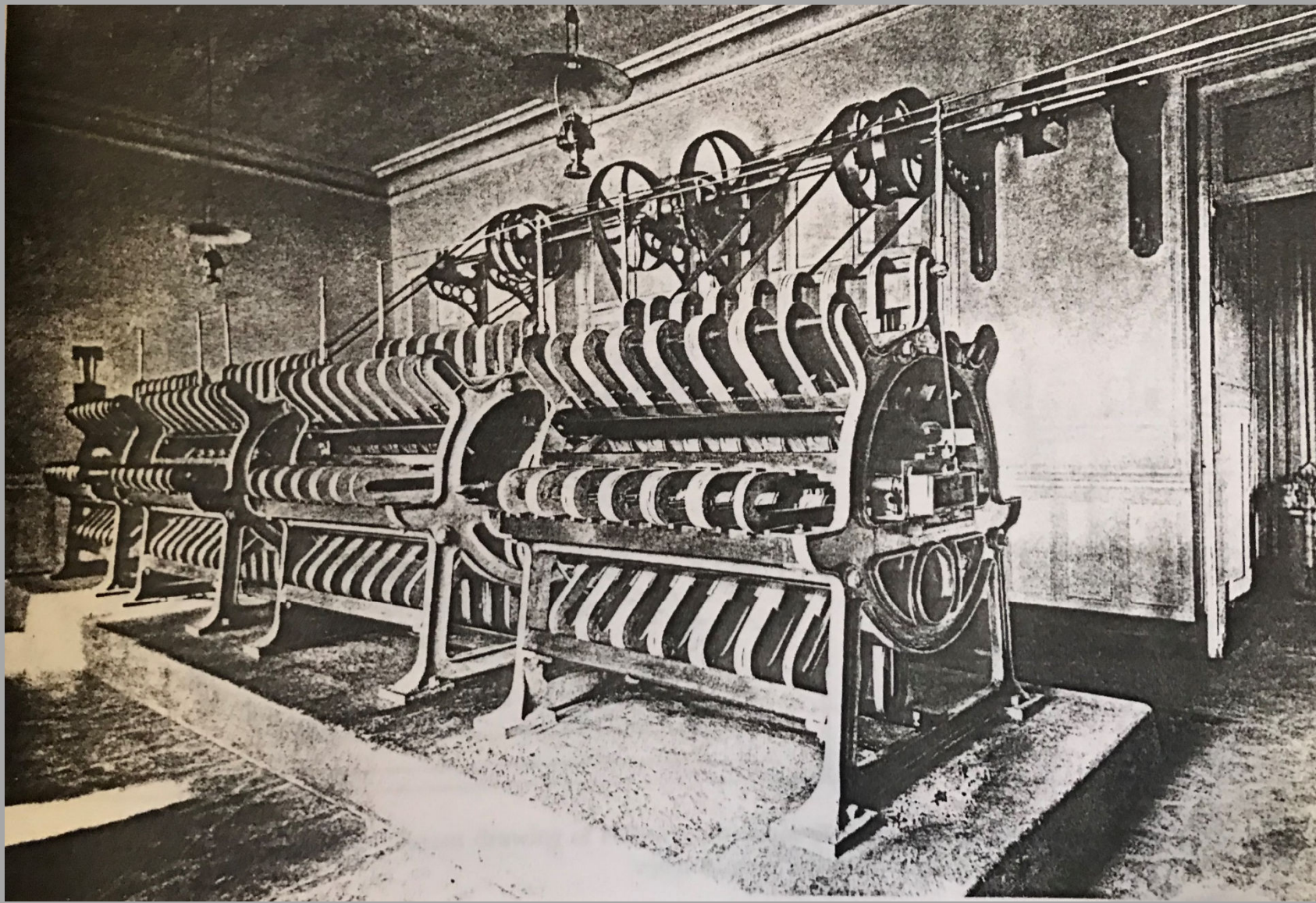


FIGURE 31.—Another form of Woolrich's generator as used in electroplating by Elkington and Company in 1852. From *The Illustrated Exhibitor and Magazine of Art*, 1852, p. 296.

1850

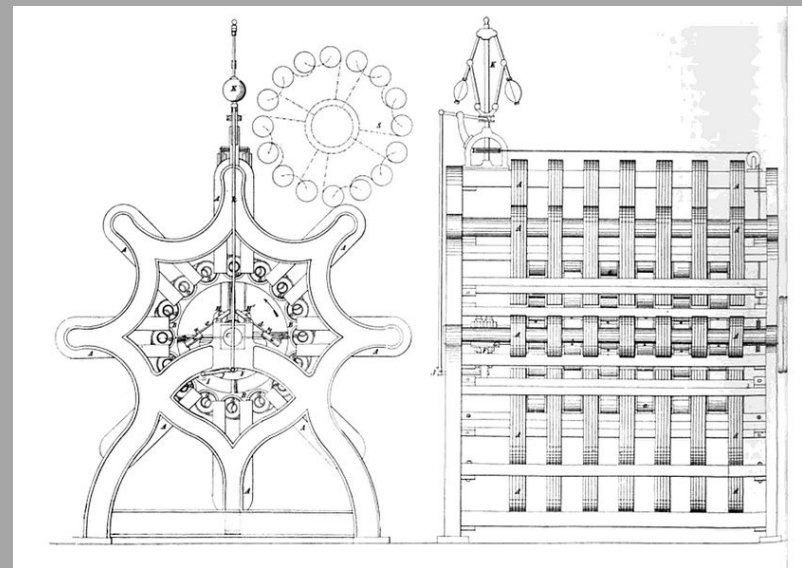
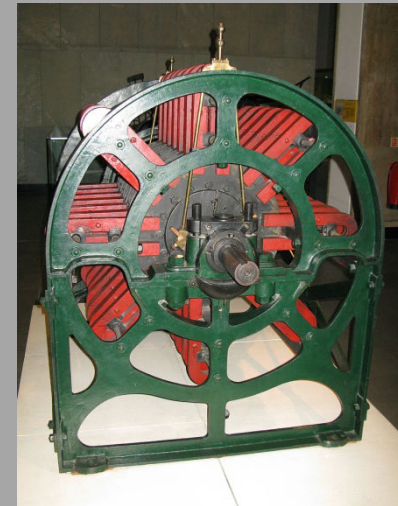
Floris Nollet





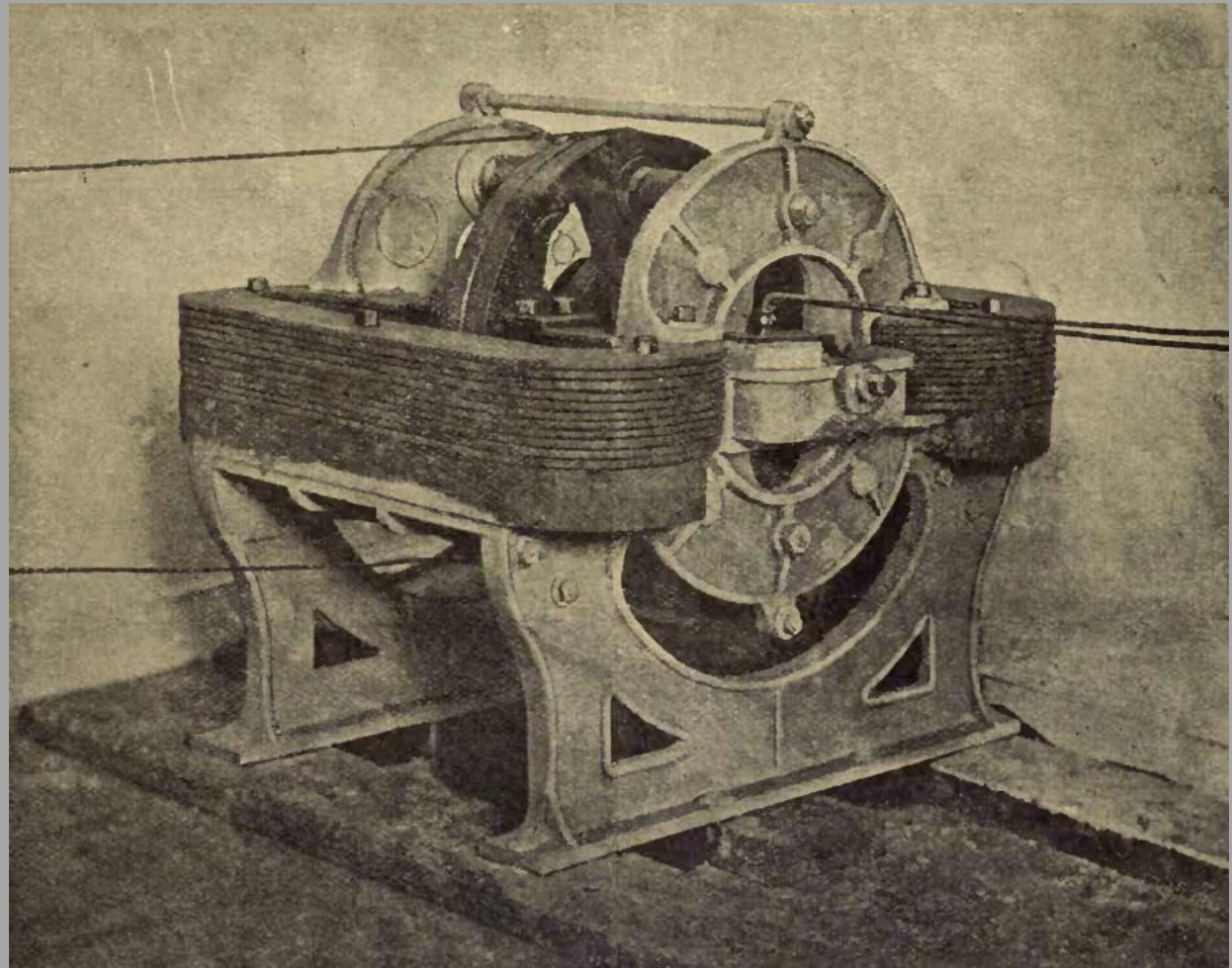
1856

Frederick Hale Holmes



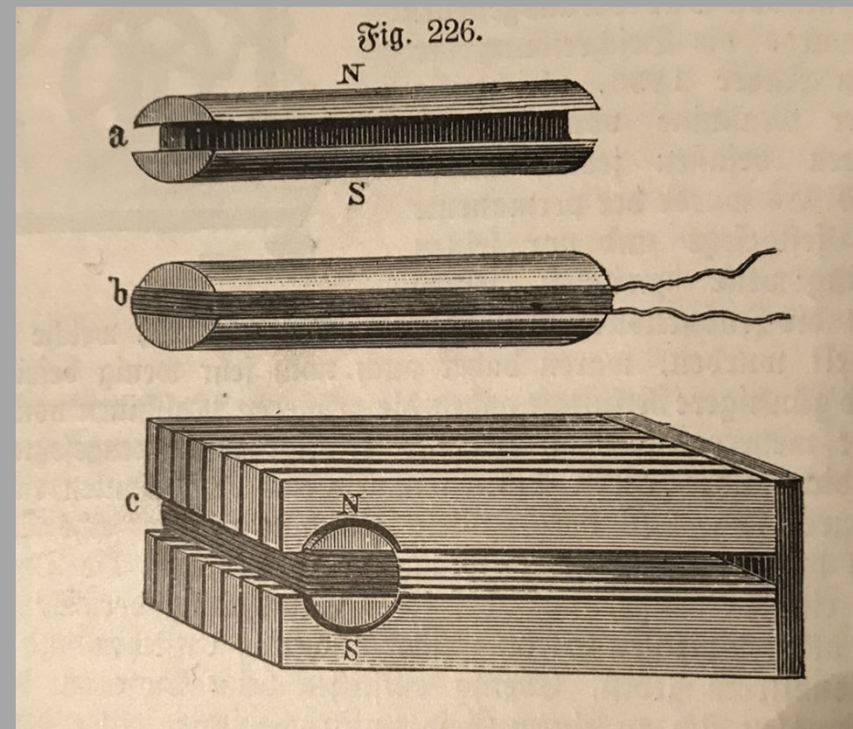
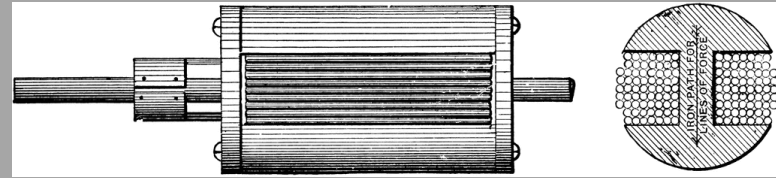
1856

Soren Hjorth



1856

Werner von Siemens



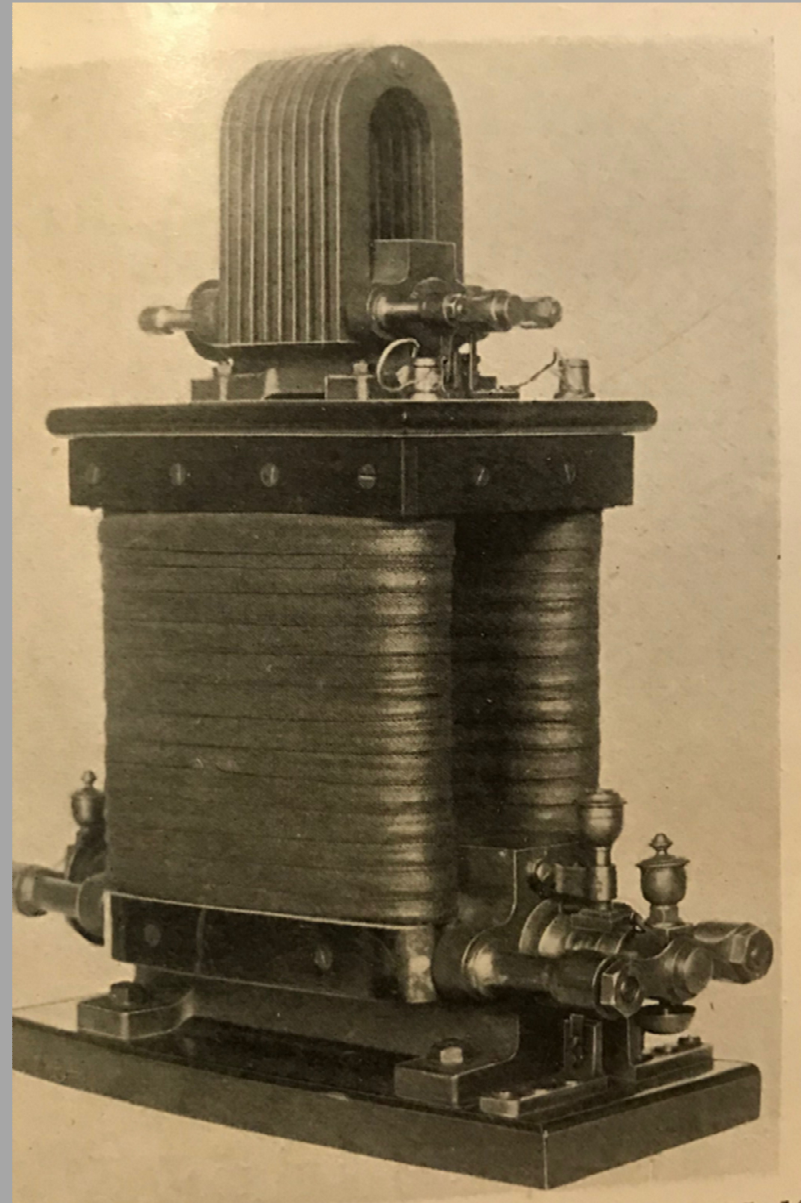
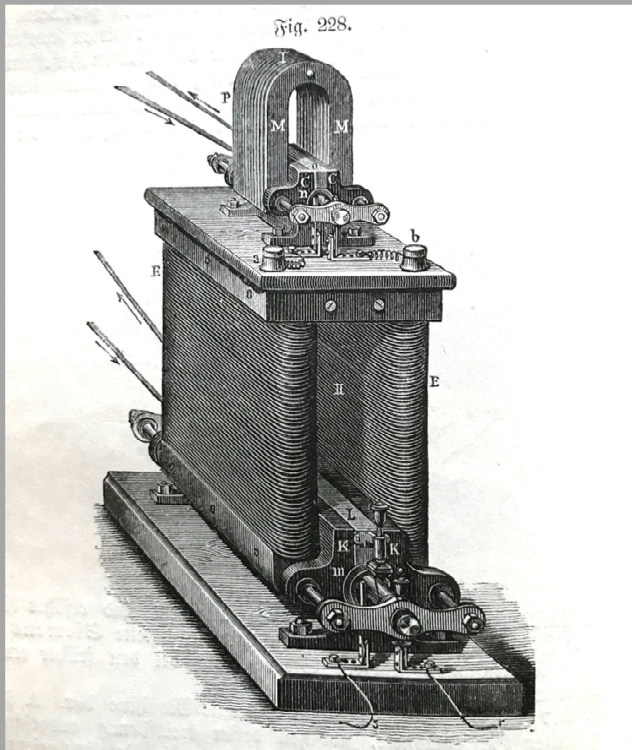
1856

Werner von Siemens



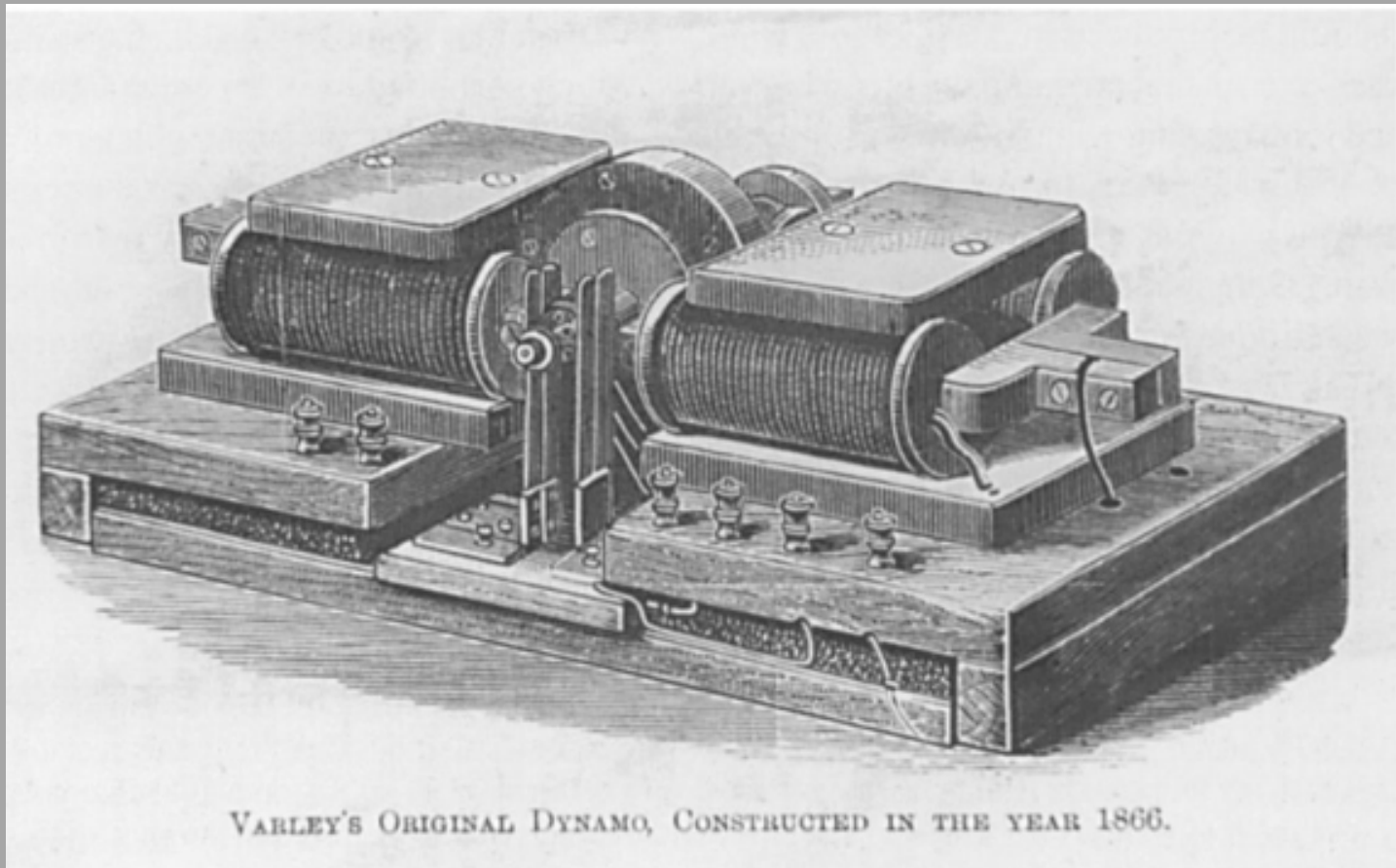
1864

Henry Wilde



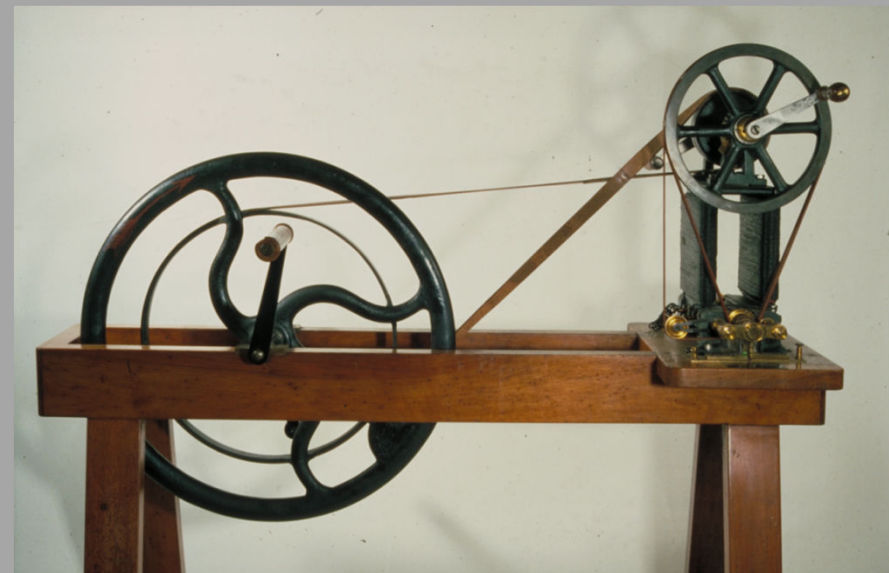
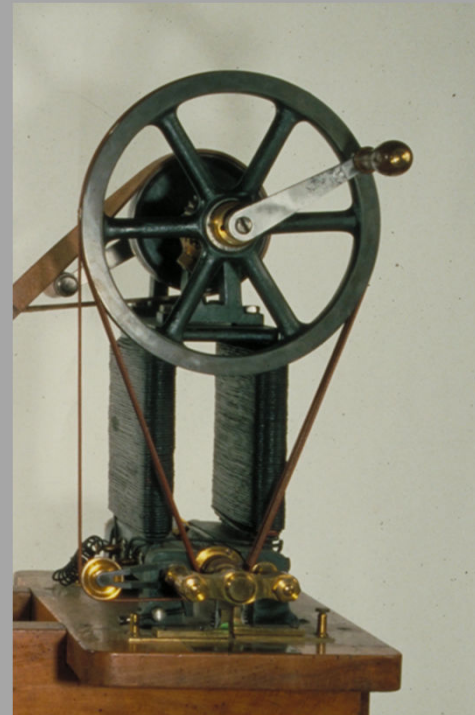
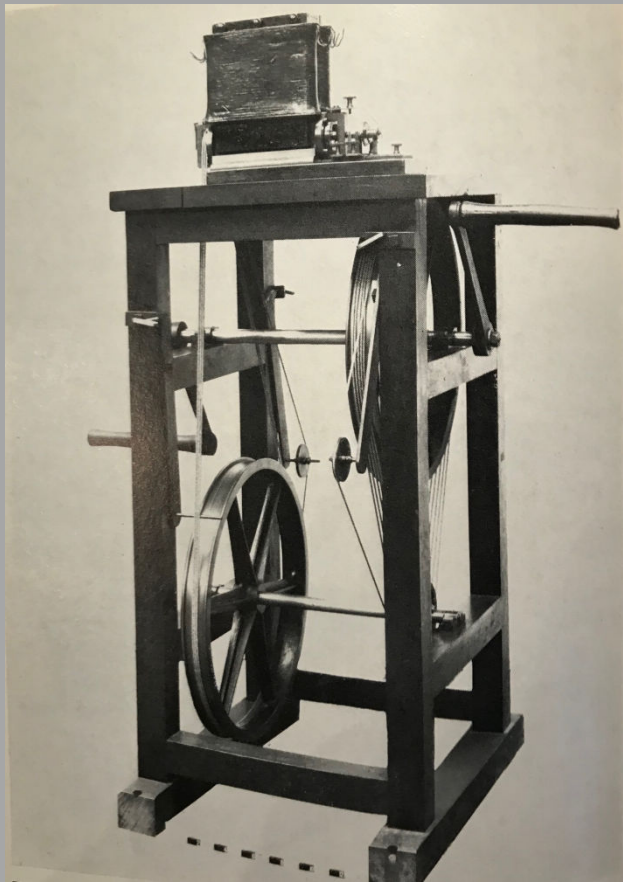
1866

Samuel Alfred Varley



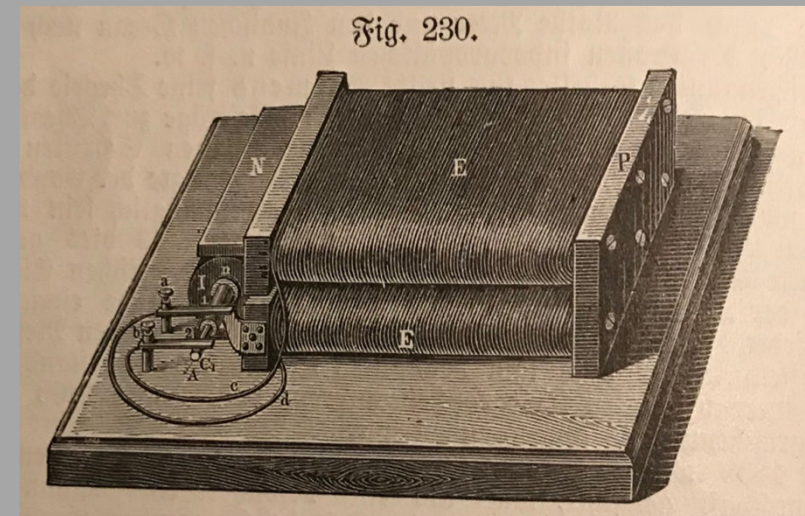
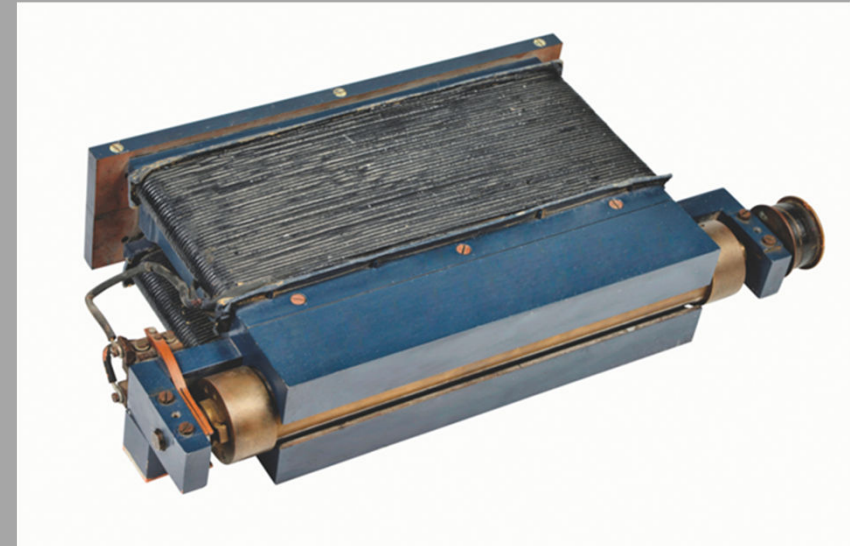
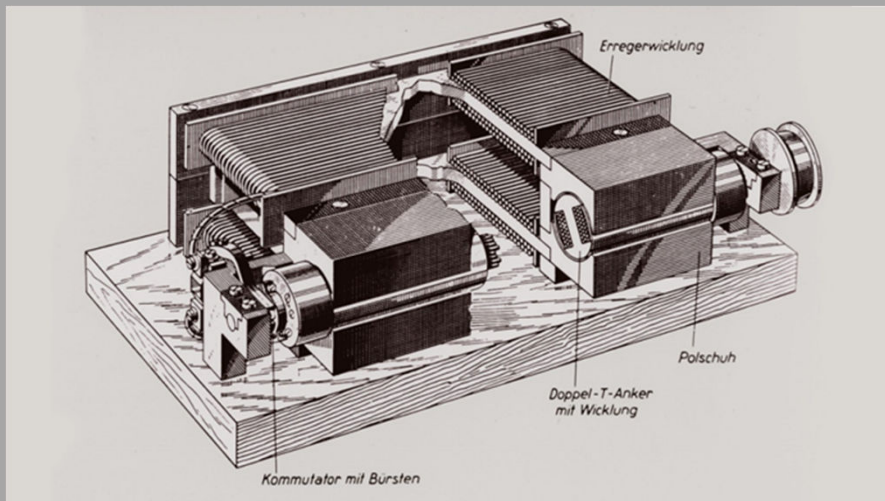
1866

Charles Wheatstone



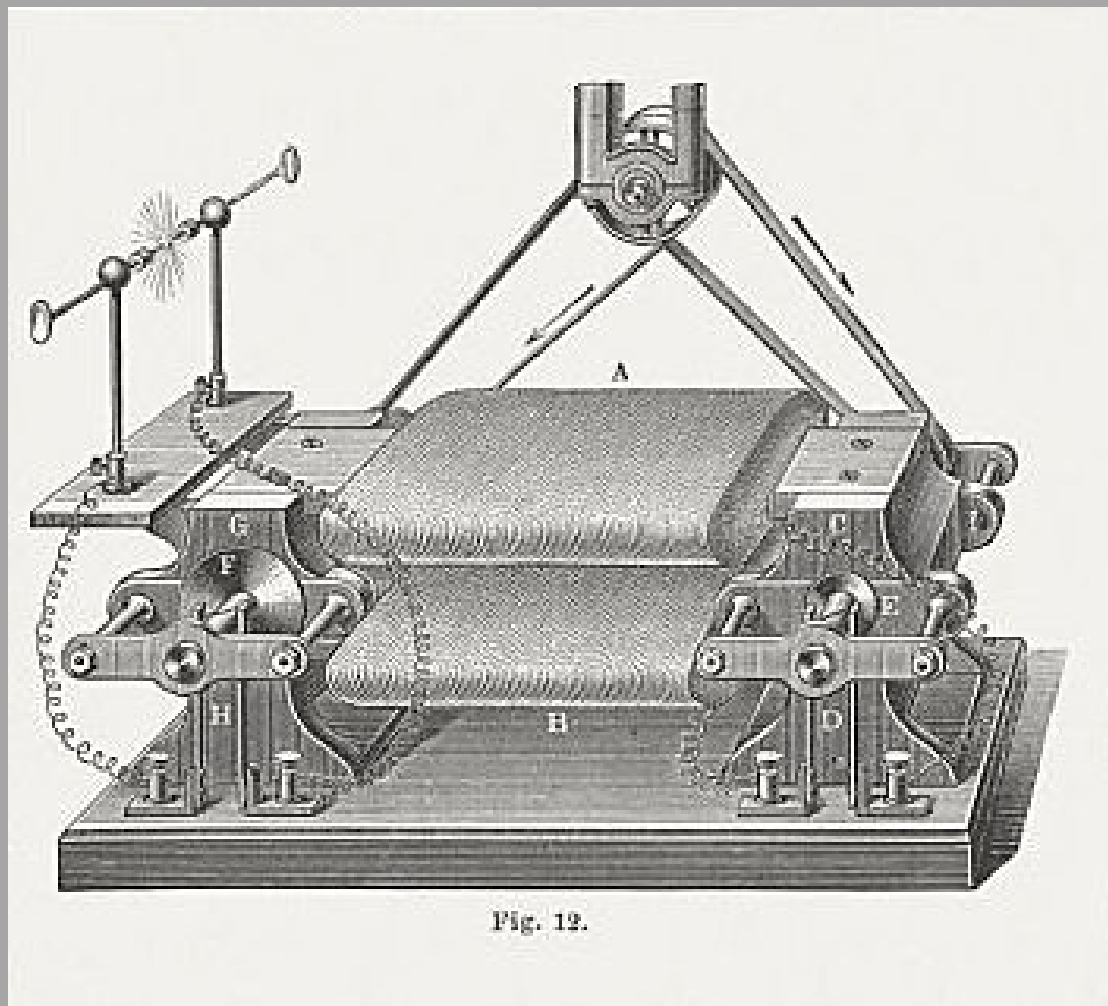
1866

Werner von Siemens



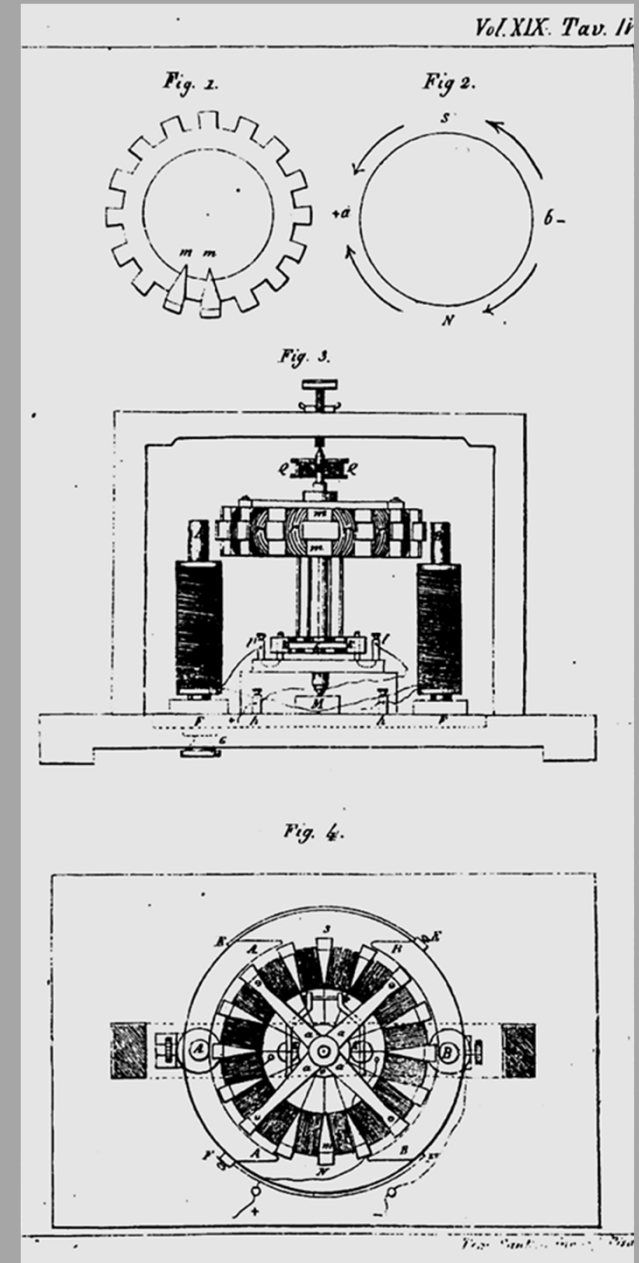
1867

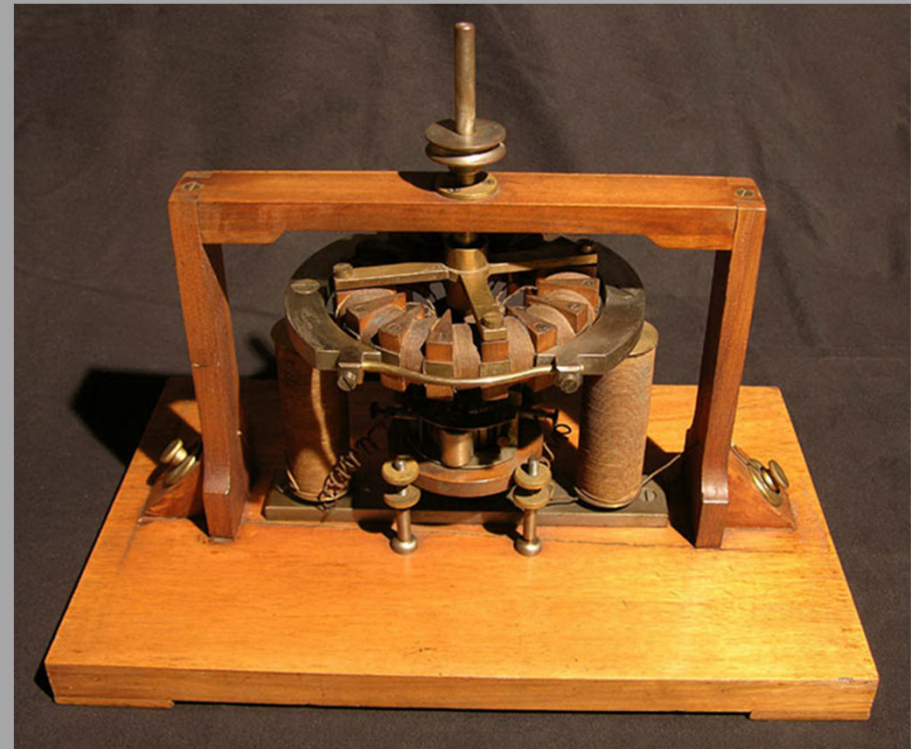
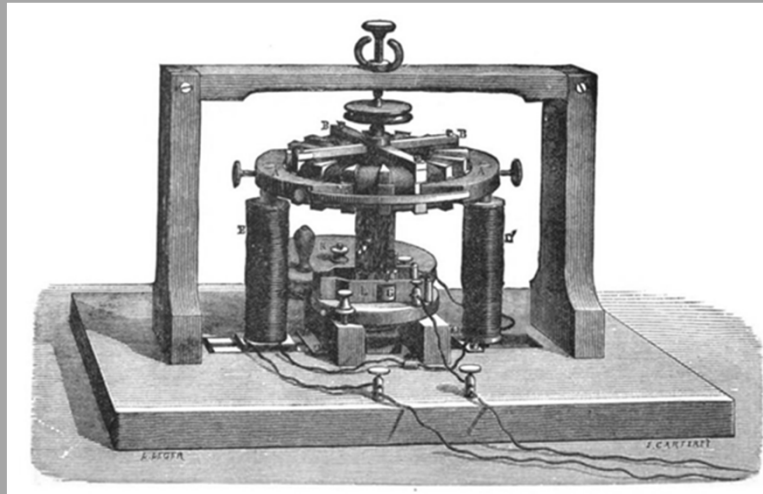
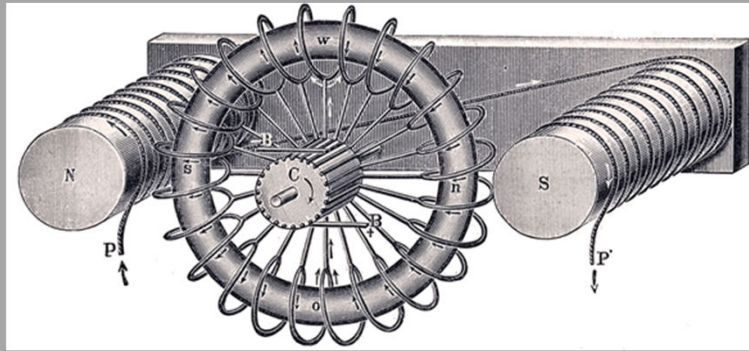
William Ladd



....1864

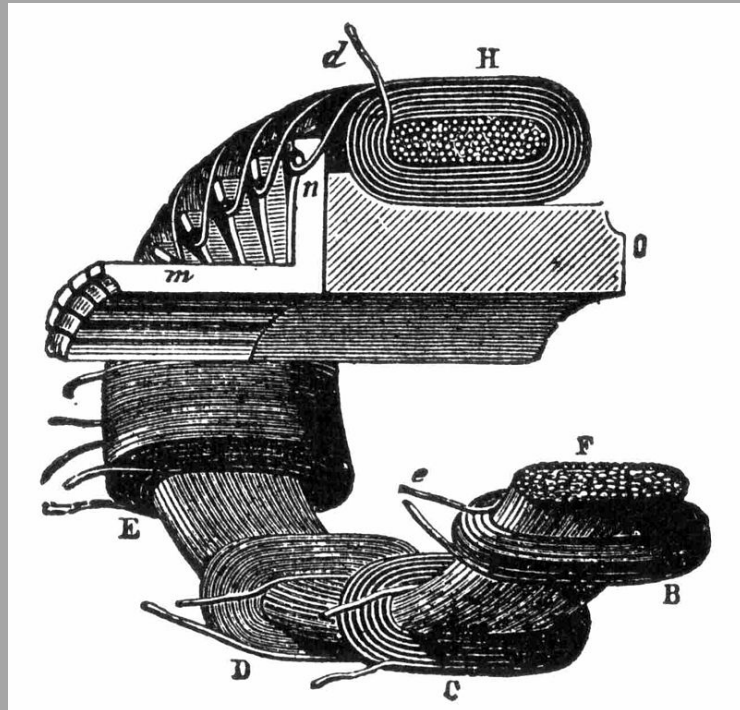
Antonio Pacinotti

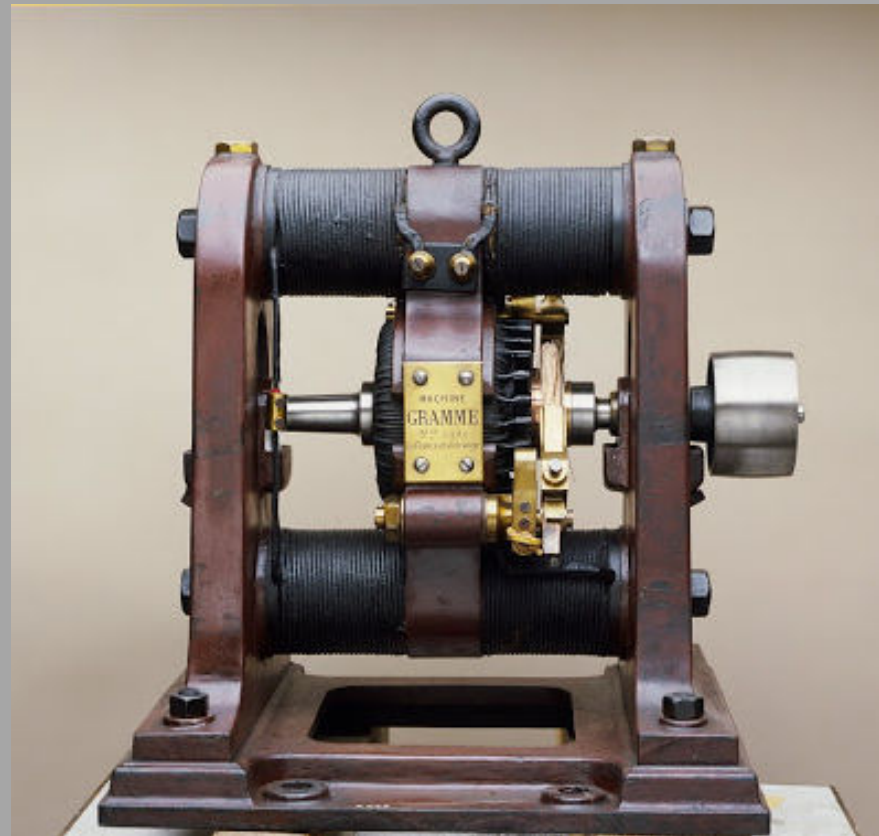




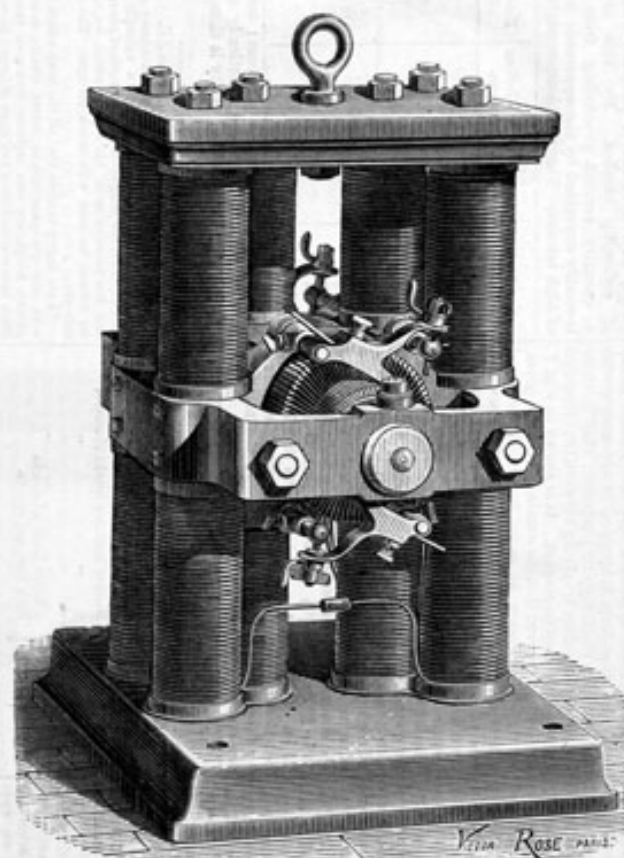
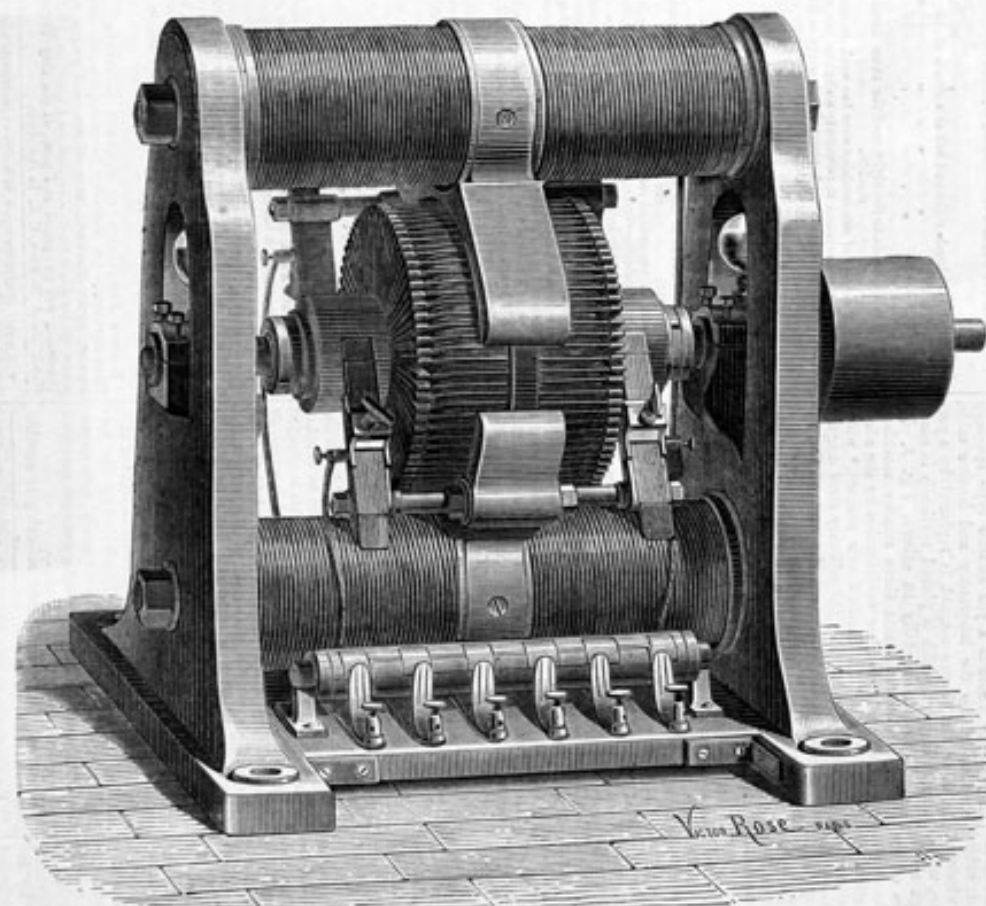
1871

Zénobe Gramme





THE GRAMME MAGNETO-ELECTRIC MACHINE.





THE END

