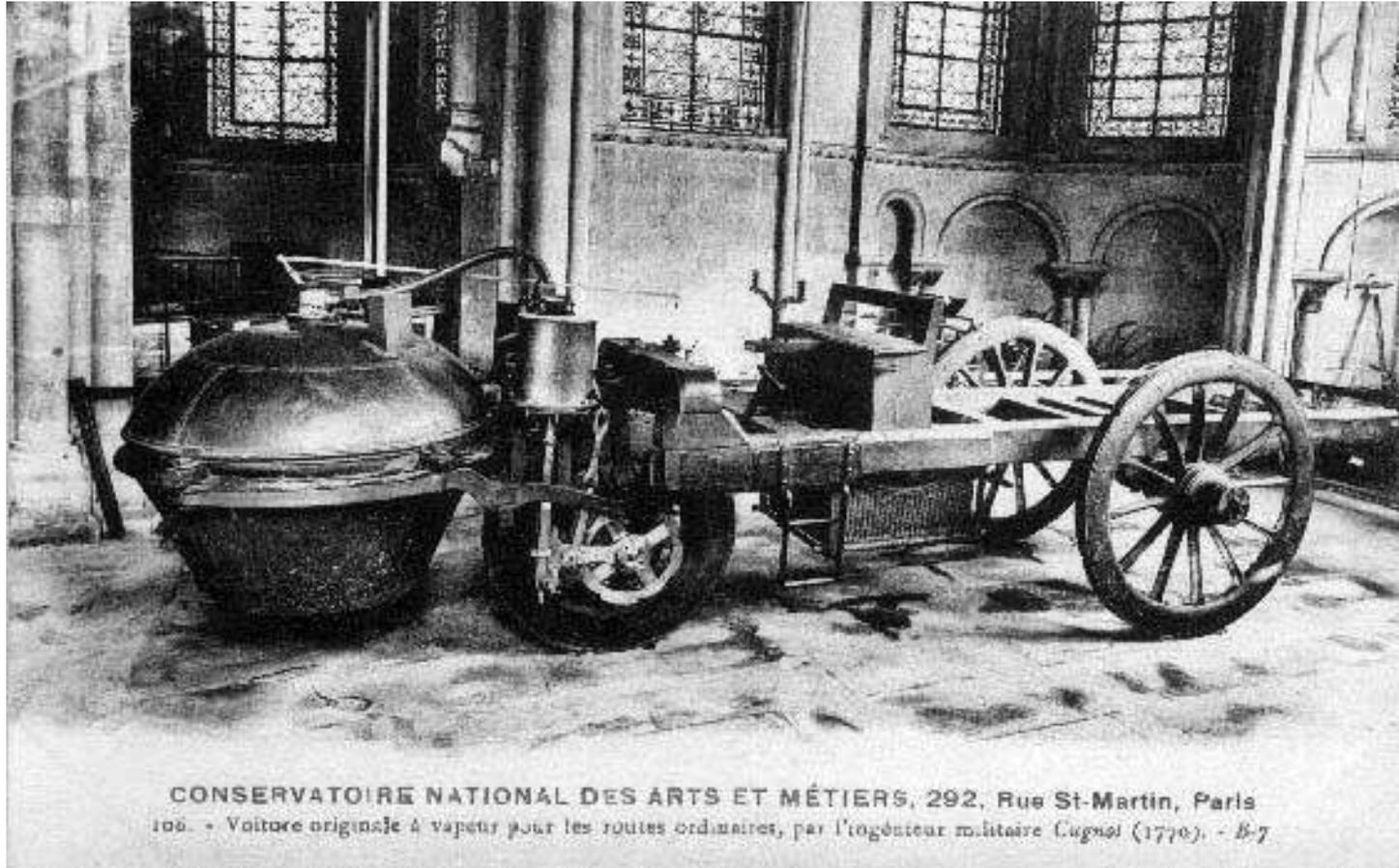




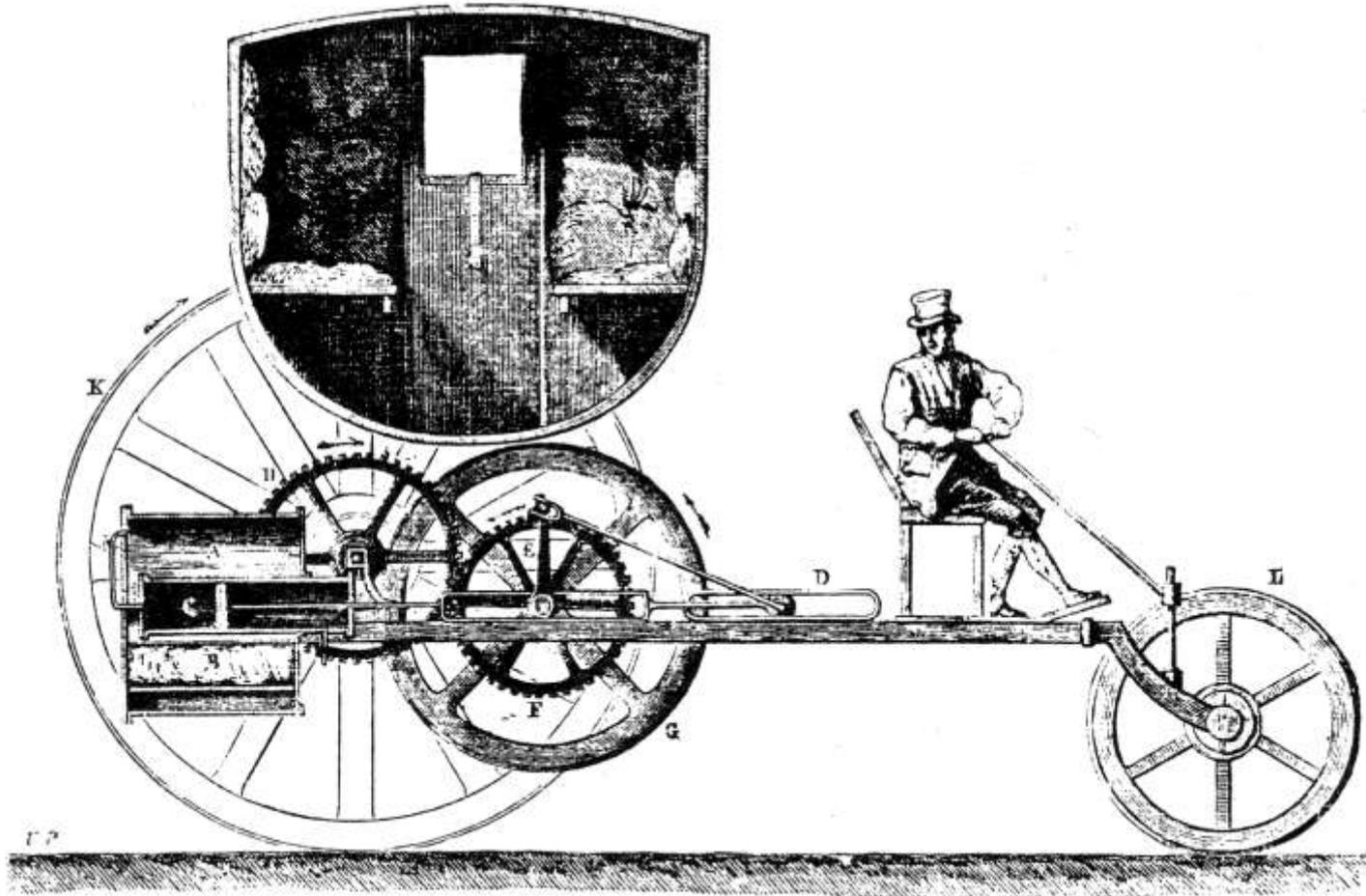
Erfindungen, die Geschichte machten

Ulrich Wengenroth
Lehrstuhl für Geschichte der Technik

Cugnot Dampftraktor (1770)

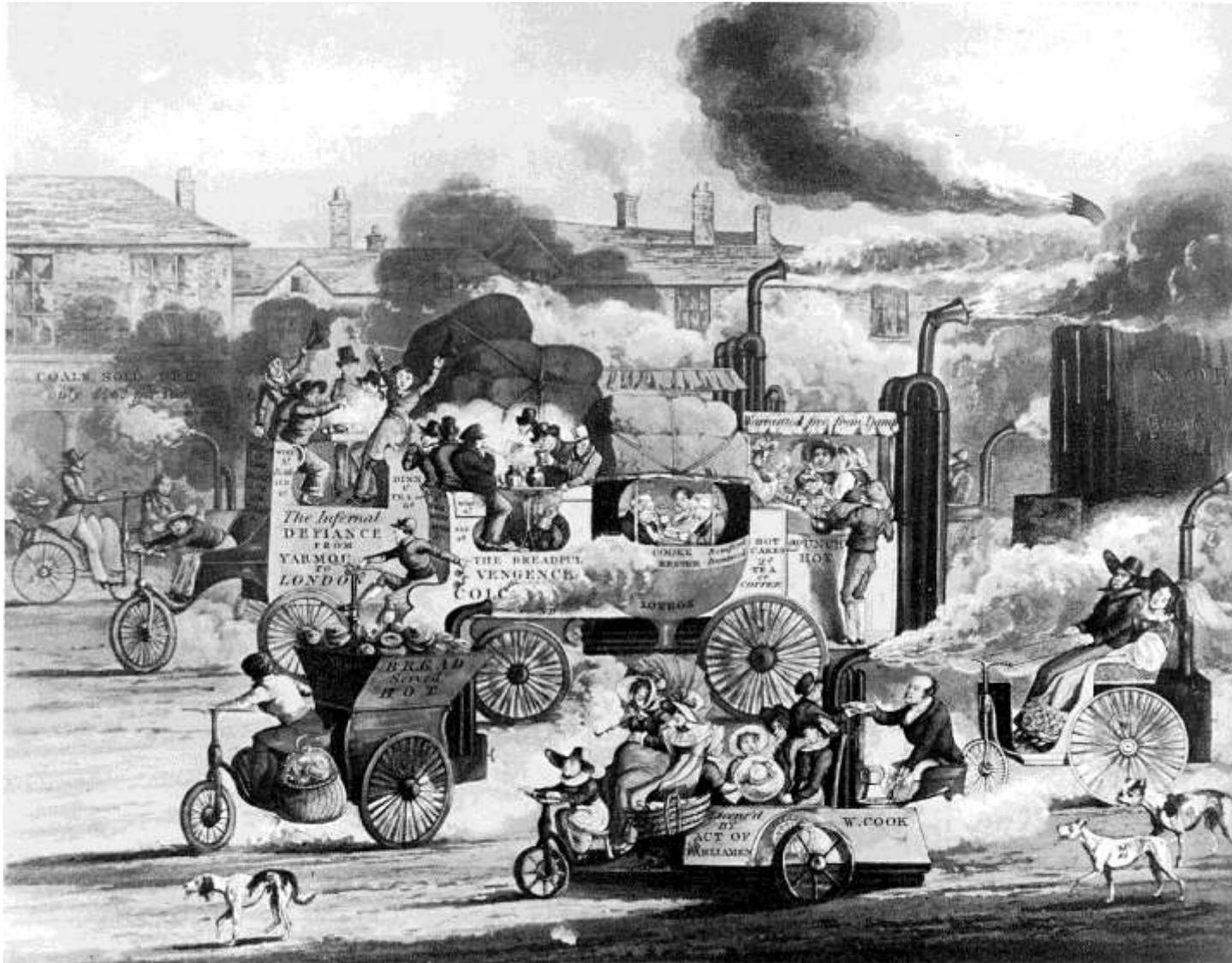


Trevithick's London Vehicle (1803)

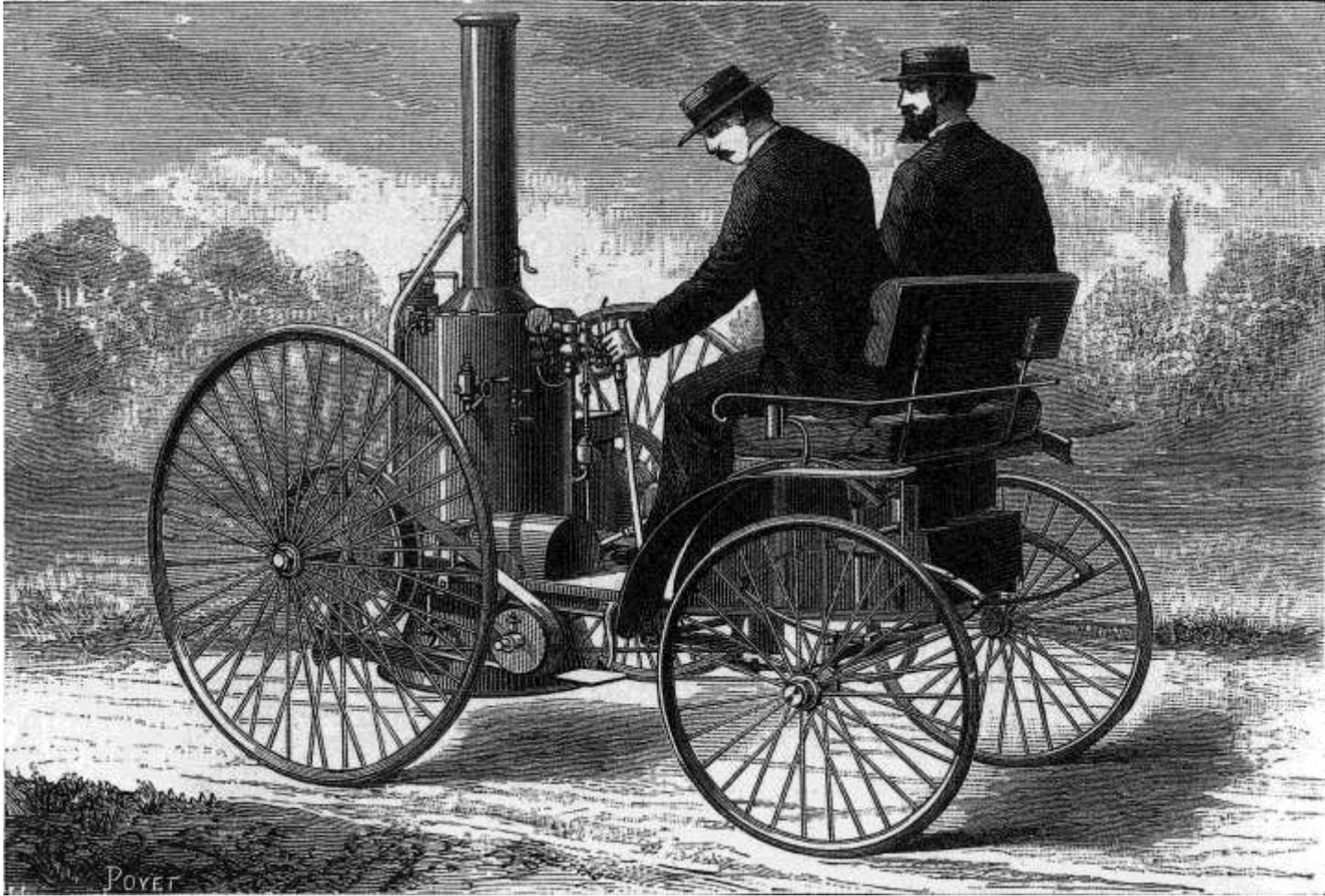


Quelle: L. Figuiet, Les merveilles de la science, vol. 1, Paris, ca. 1870, Abb. 124, S. 268.

Vision des künftigen Dampfautoverkehrs (1831)

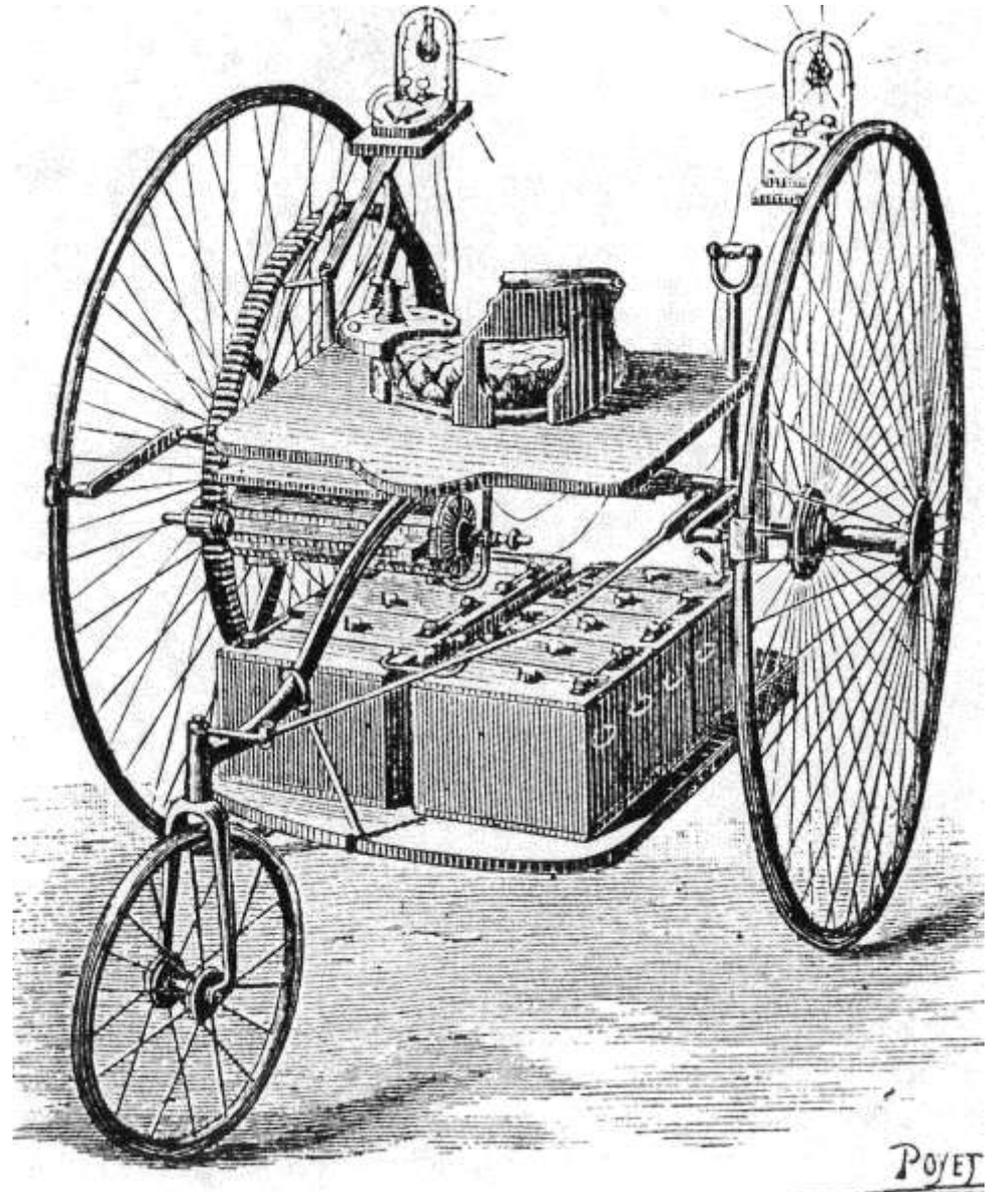


De Dion Dampfwagen (1883)



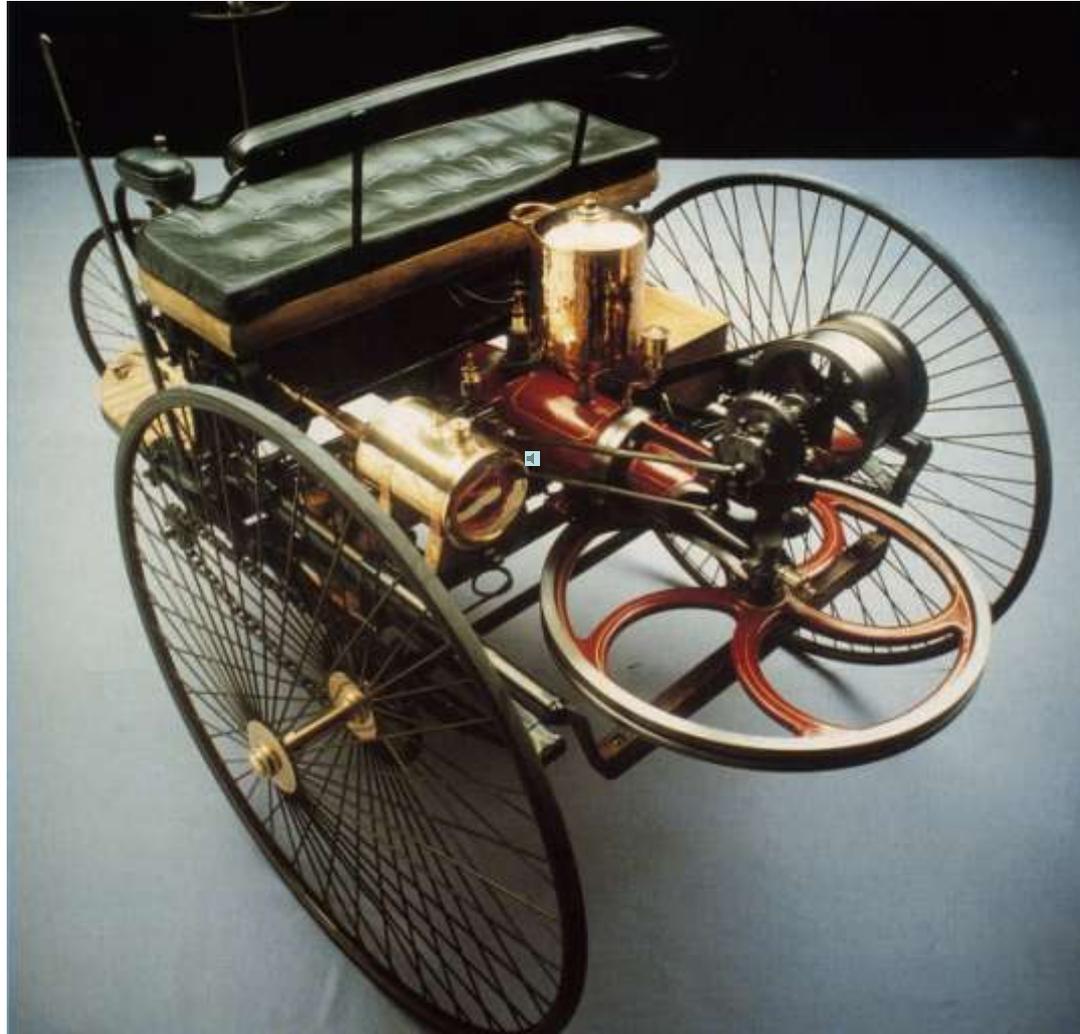
Quelle: Kurt Möser, Geschichte des Autos, Frankfurt am Main: Campus, 2002, S. 53.

Ayrton and Perry's electric tricycle (1882)



Quelle: Scientific American Supplement, Vol.
XIII, No. 335, 3 June 1882, S. 5340.

Benz Motorwagen (1886)



Quelle: Olaf von Fersen (Hrsg.), Ein Jahrhundert Automobiltechnik - Personenwagen, Düsseldorf: VDI, 1986, S. 11.

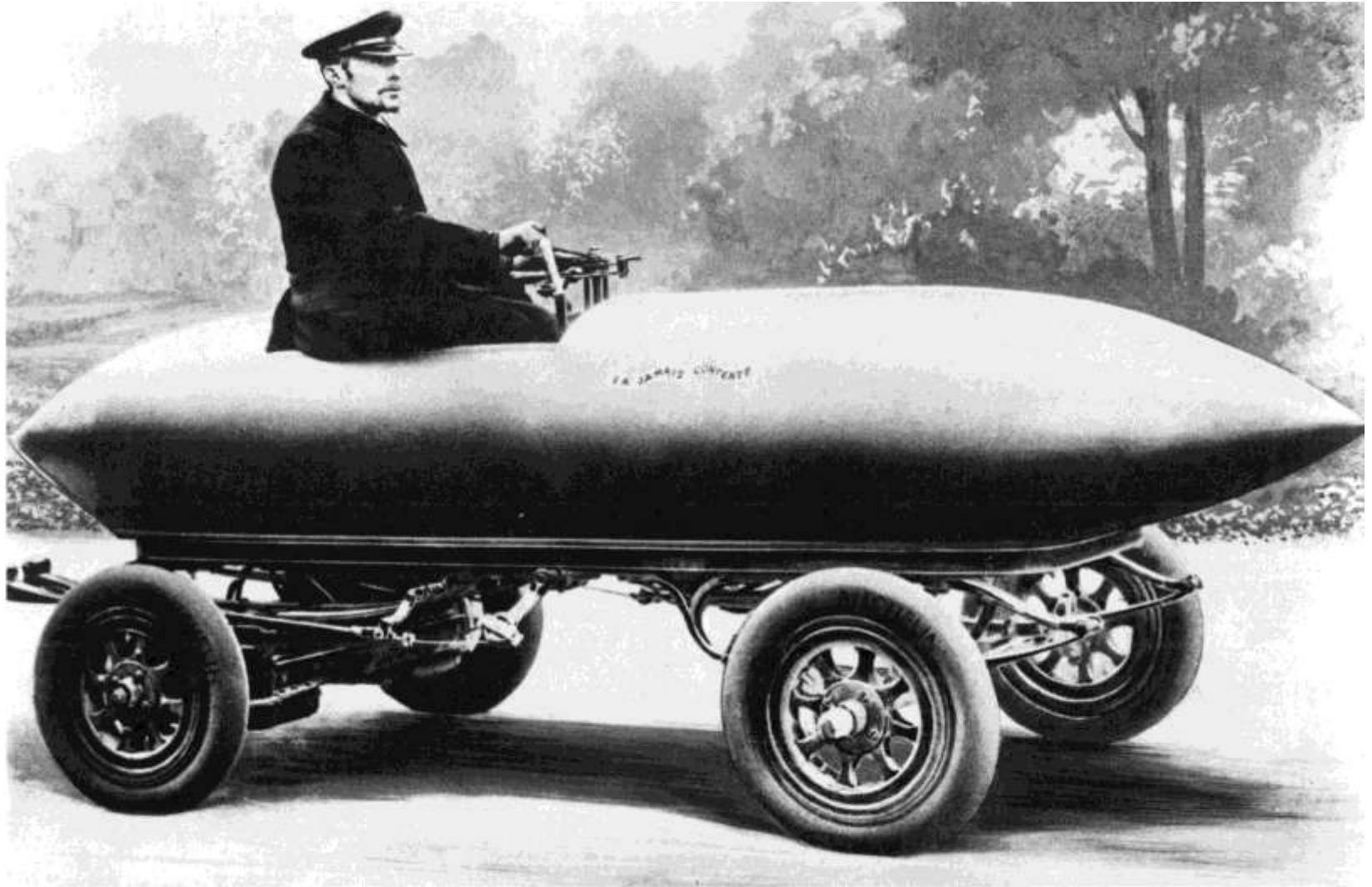
Patent-Ansprüche des Benz-Motorwagens

PATENT-ANSPRÜCHE:

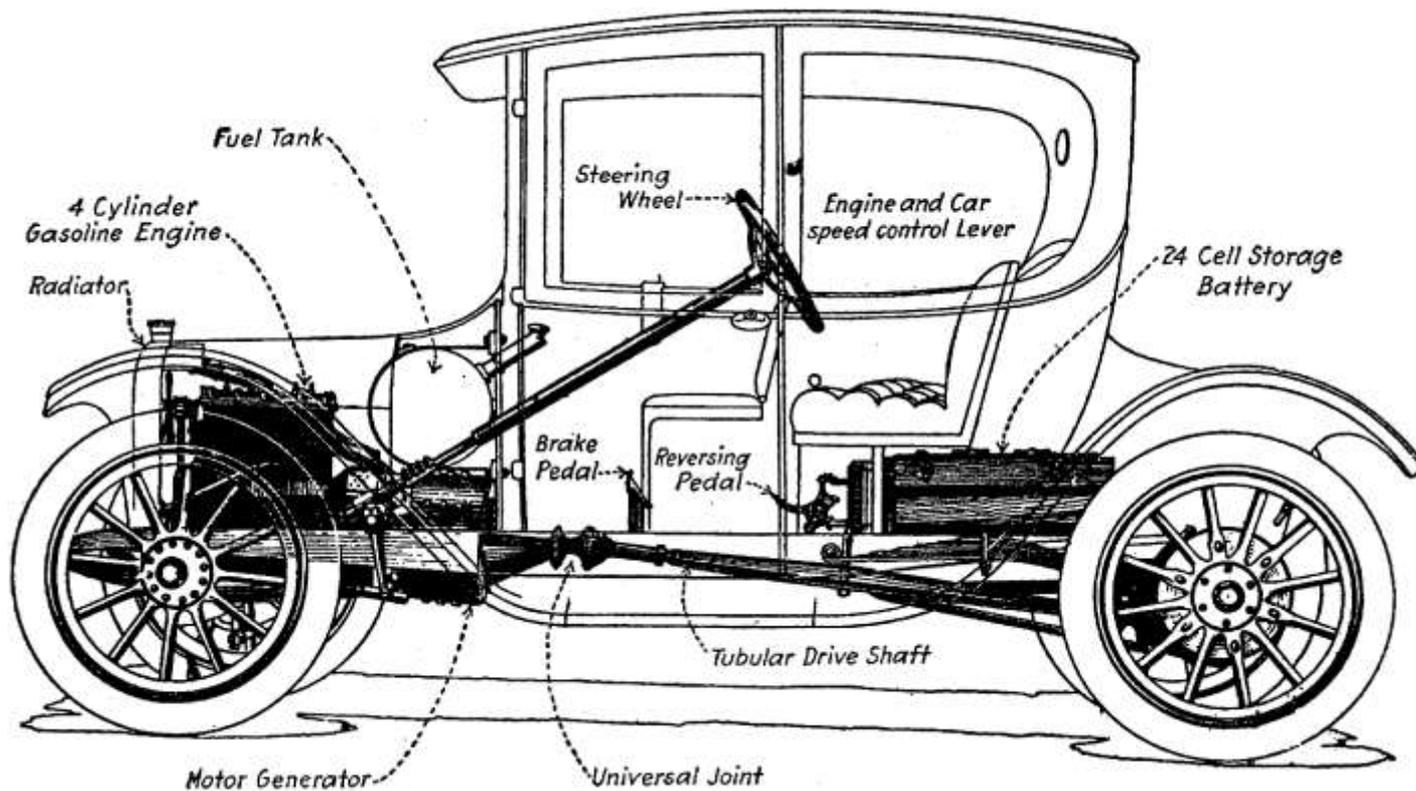
Ein durch Gasmaschine betriebenes Fahrzeug, bei welchem folgende Einrichtungen gleichzeitig in Anwendung kommen:

1. Bei dem Gaserzeuger zum Motor die Vorrichtung 6, 7 und 8 zum Erkennen des Functionirens und des Oelstandes im Gasbehälter.
2. Die gezeichnete Bremsvorrichtung, Fig. 3, 4 und 5, wobei vermittelt Hebels 9, zweier ungleich großen Zahnräder und einer Kurbelscheibe 11, welche in die Gabel 12 eingreift, durch eine Bewegung nach der einen Seite die Bremse gelöst und dann das Fahrzeug in Gang gesetzt, durch eine Bewegung aber nach entgegengesetzter Seite das Fahrzeug vom Motor ausgelöst und dann gebremst werden kann.

Camille Jenatton: „La jamais contente“ (1899)

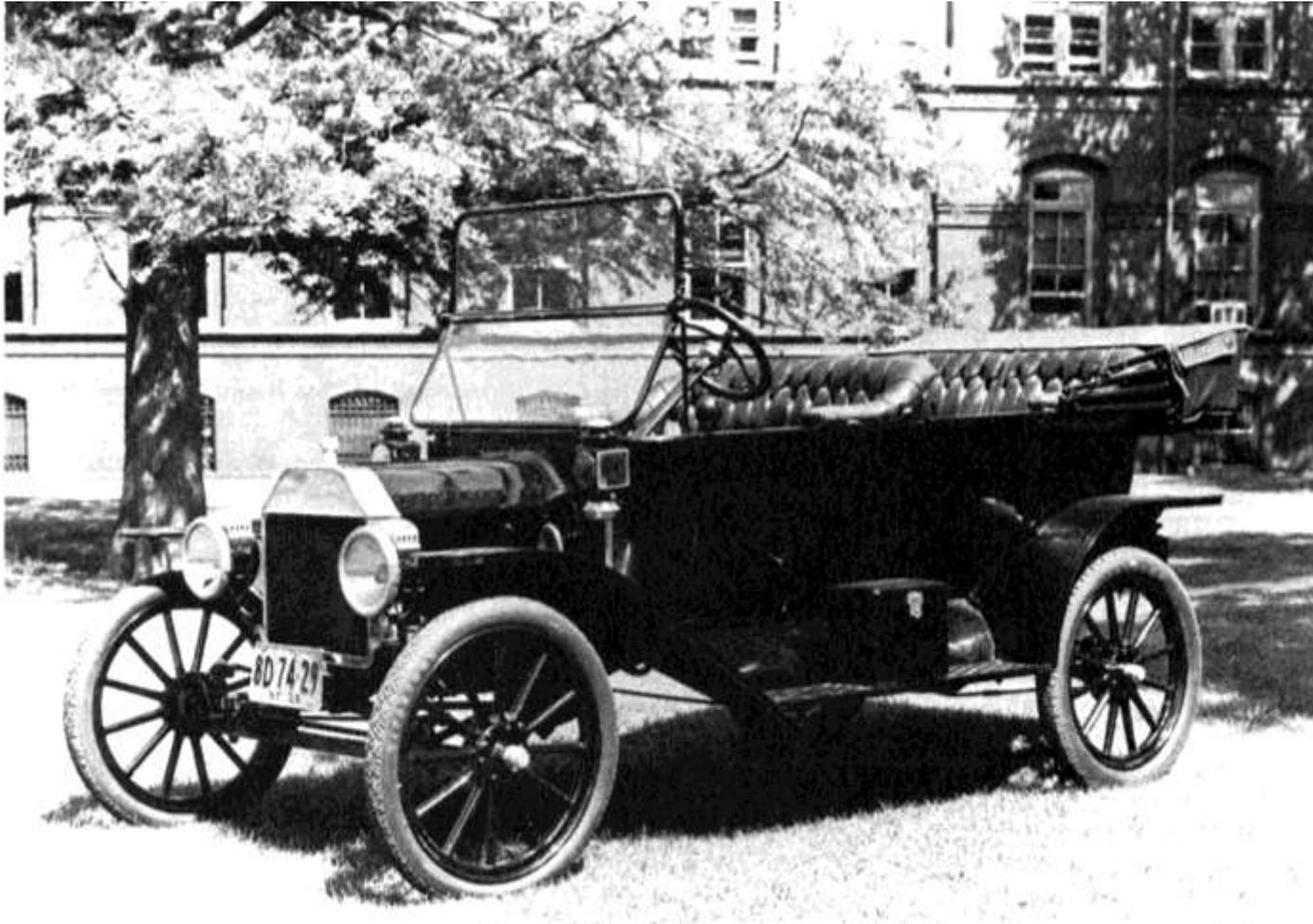


Woods Dual Power (ca. 1917)



Quelle: Gijs Mom, *The electric vehicle. Technology and expectations in the automobile age.* Baltimore: Johns Hopkins Univ. Press, 2004, S. 258.

Ford Model T (1913)



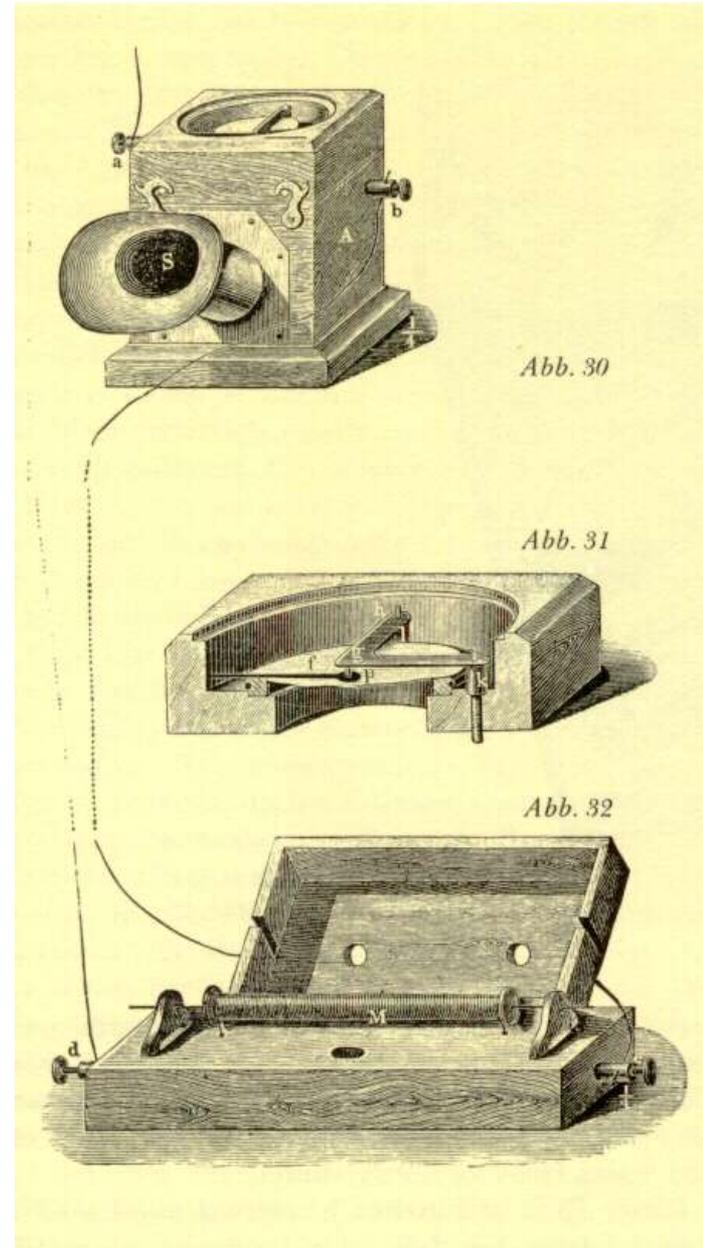
Quelle: David A. Hounshell, From the American System to Mass Production, 1800-1932, Baltimore: Johns Hopkins University Press, 1984, S. 219.

Ford Model T



Filmmaterial: Ford Motor Co., Zusammenstellung: Car Data Video.

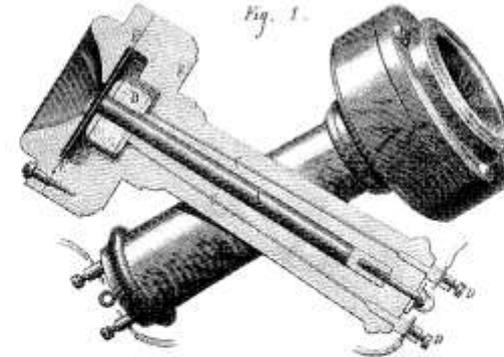
Reis Telefon (1861)



Quelle: <http://www.telefonmuseum-hittfeld.de/bilder/reis03.jpg> (17.1.07)

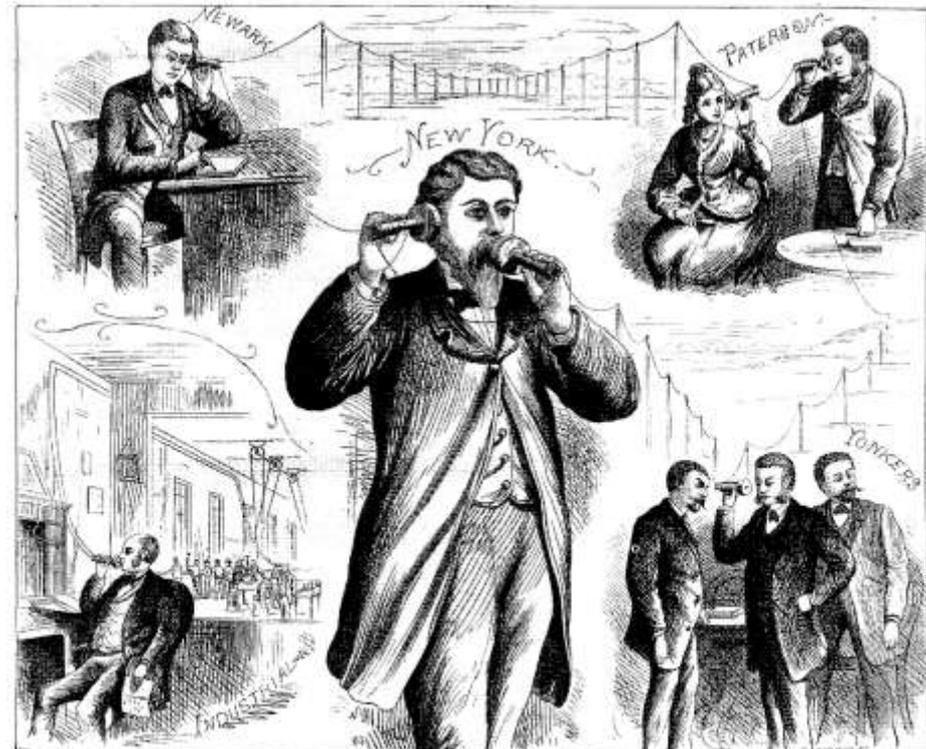
Bell-Telephone im Scientific American (06.10.1877)

✓ **THE NEW BELL TELEPHONE.**
 Professor Graham Bell's telephone has of late been somewhat strengthened in construction and also arranged in more compact portable form. It consists now of but three metal portions and is contained in a casing of wood or light hard rubber, ten feet and five eighths inches in length and two and seven eighths inches in diameter at the enlarged end. It will be remembered that this telephone differs from all others in that it involves the use of no battery nor of any extraneous source of electricity whatever. The only current employed is that generated by the voice of the speaker himself.
 The simplicity of the construction is clearly shown in Fig. 1 of our engraving, in which both vertical and anterior views of the device are given. Referring to the vertical view, A is a permanent magnet, held by the screw shown in the rear. Around one end of this magnet is wound a coil, B, of fine insulated copper wire (nick covered), the ends of which are attached to the larger wires, C, which extend to the ear and terminate in the binding screws, D. In front of the pole and



BELL'S NEW TELEPHONE

coil, B, is a soft iron disk, E. Finally the whole is enclosed in a wooden casing having an opening in front of the disk and which, besides serving to protect the magnet, etc., acts as a resonator.
 The principle of the apparatus we have already explained in some detail, but it may be summarized here as follows: The influence of the magnet in direct or indirect magnetic field, and the iron diaphragm, E, is attracted towards the pole. Any vibration in the vertical position of the diaphragm, produced or attenuated in the magnetic field, by strengthening or weakening F, and any such alteration of the magnetic field causes the induction of a current of electricity in the coil, B. The strength of this induced current is dependent upon the amplitude and rate of vibration of the disk, and these depend in turn upon the air disturbance made by the voice in speaking, or in any other similar source. Therefore, first, a wave of air throws the diaphragm into vibration; second, such movement produces a change in the magnetic field; and third, an induced [continued on page 111.]



Quelle: Wolfgang König / Wolfhard Weber,
 Netzwerke, Stahl und Strom: 1840 bis 1914 (= Propyläen Technikgeschichte, Bd. 4), Berlin:
 Propyläen, 1990, S. 496.

Ericsson Tischtelefon (1900)



Quelle: Ulrich Troitzsch und Wolfhard Weber (Hrsg.),
Die Technik. Von den Anfängen bis zur Gegenwart,
Braunschweig: Westermann, 1982, S. 313.

Telefonfrau



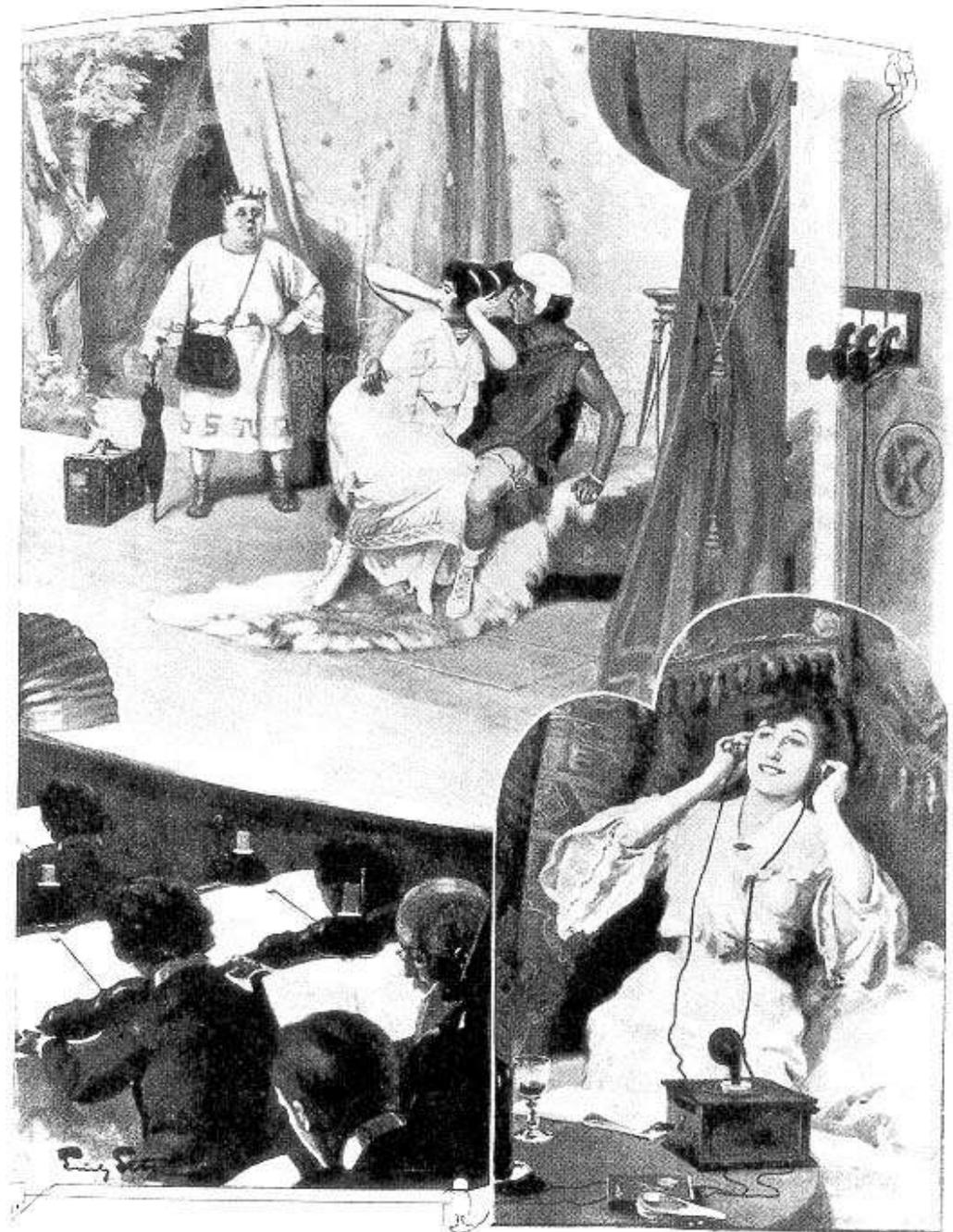
Quelle: Kultur & Technik 3/1993, S. 55.

Im Telephonischen Hörkabinett der Philharmonie zu Berlin (1884)



Quelle: Ricarda Haase, „Gesang gleichsam wie aus Engelsphären“. Zur Geschichte der Opernübertragung via Telefon, in: Das Archiv. Post- und Telekommunikationsgeschichte 3, Bühl 2002, S. 86.

Operettenübertragung per Telephon (1906)



Quelle: Wolfgang König und Wolhard Weber,
Netzwerke, Stahl und Strom 1840 bis 1914
(= Propyläen Technikgeschichte Bd. 4), Berlin:
Propyläen, 1990, S. 509.