

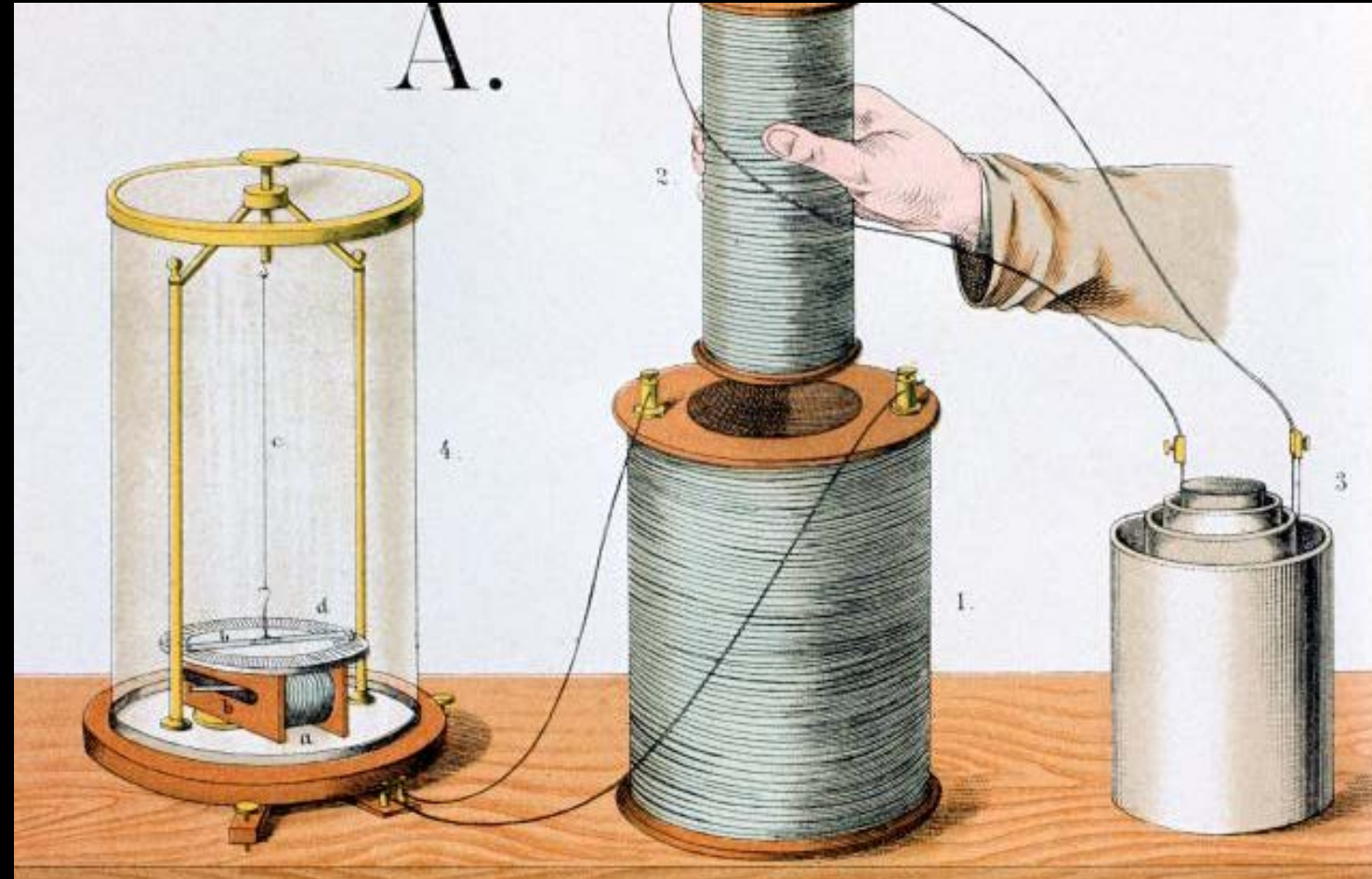


The birth of telecommunications

The combination of three emerging trends
and a fourth breakthrough

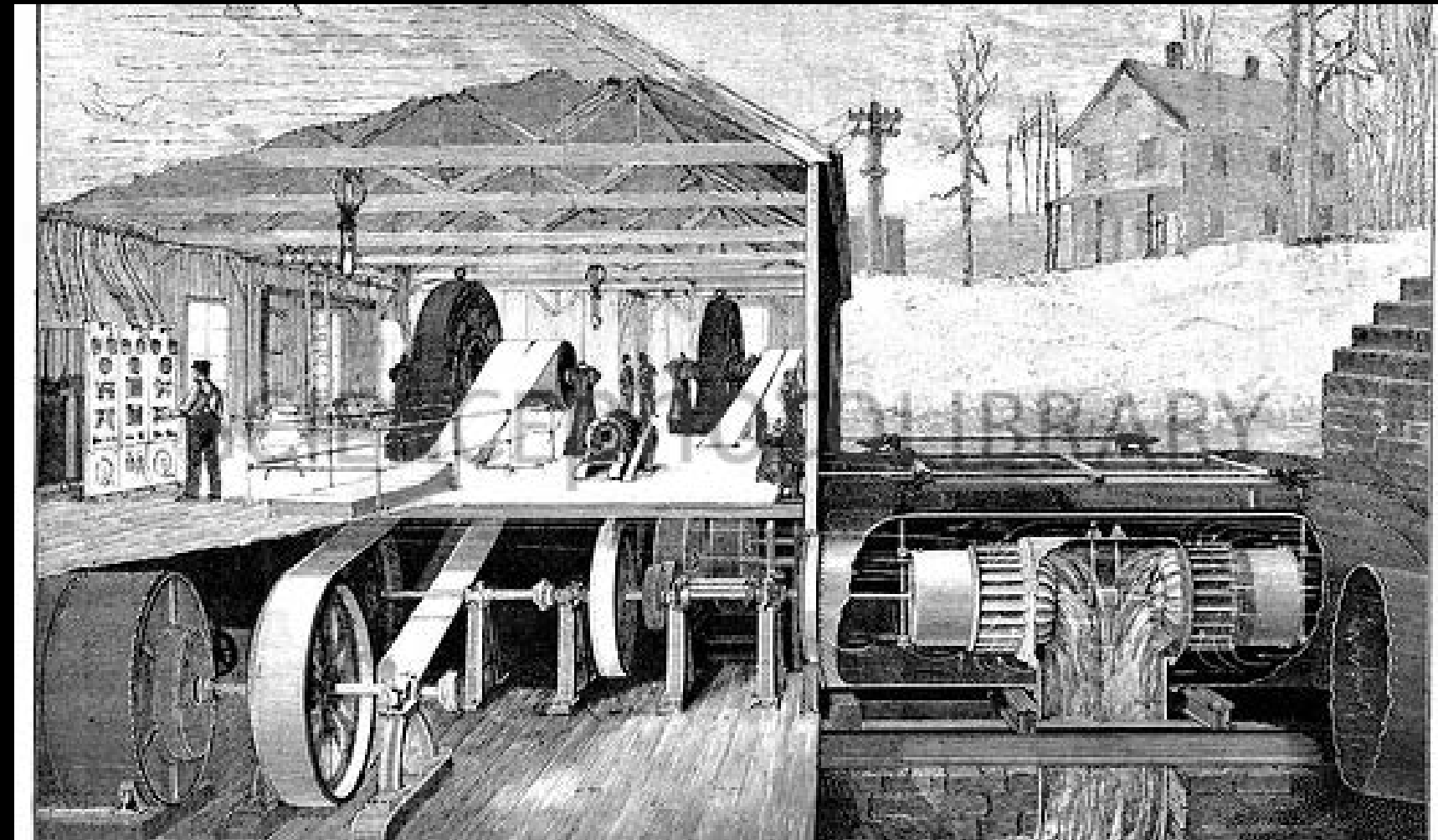


Developments in the science of electromagnetism



Faraday's electromagnetic induction experiment, 1882.
(Photo by Oxford Science Archive/Print Collector/Getty Images)

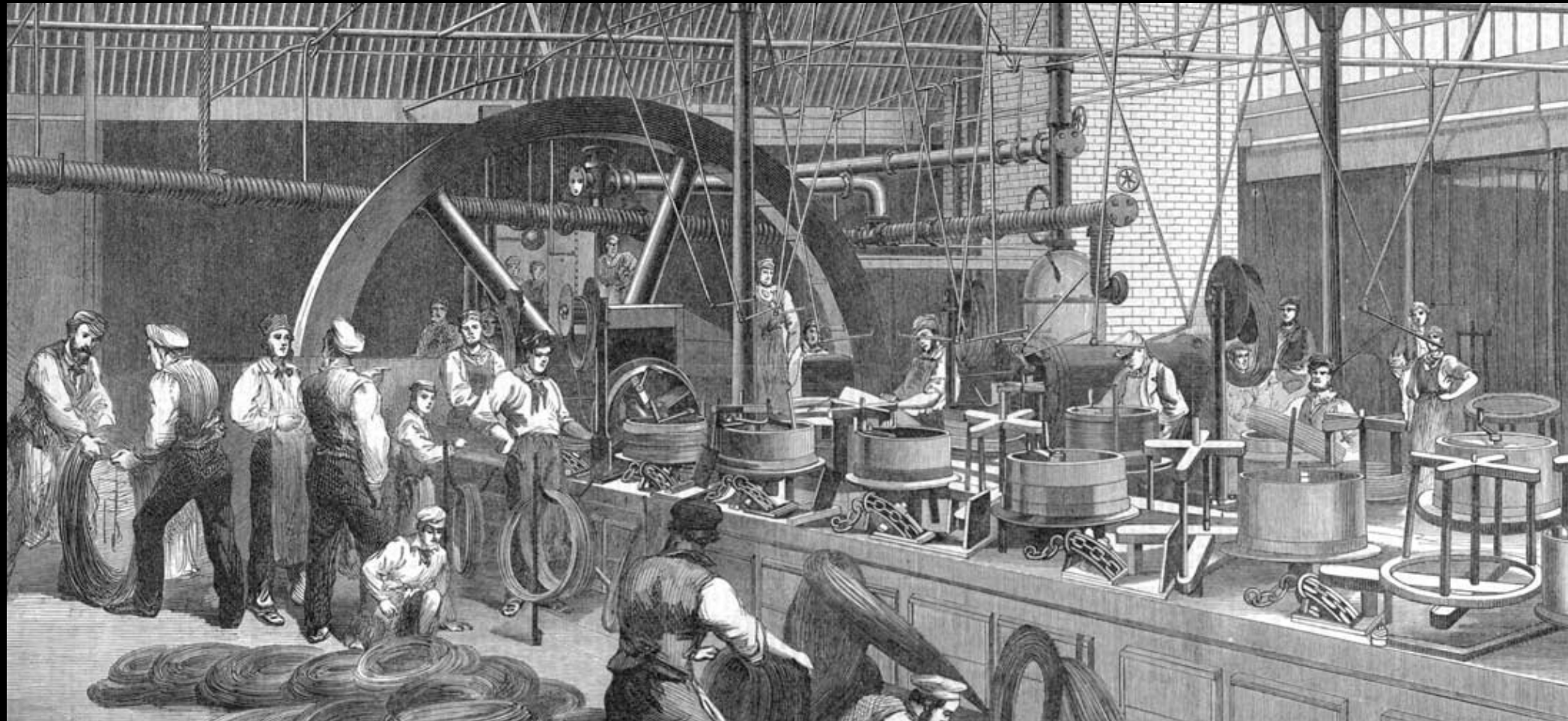
The ability to generate and store electricity



Hydroelectric power

(Artwork from the 21st volume (first period of 1898) of the French popular science weekly 'La Science Illustree') © Science Photo Library

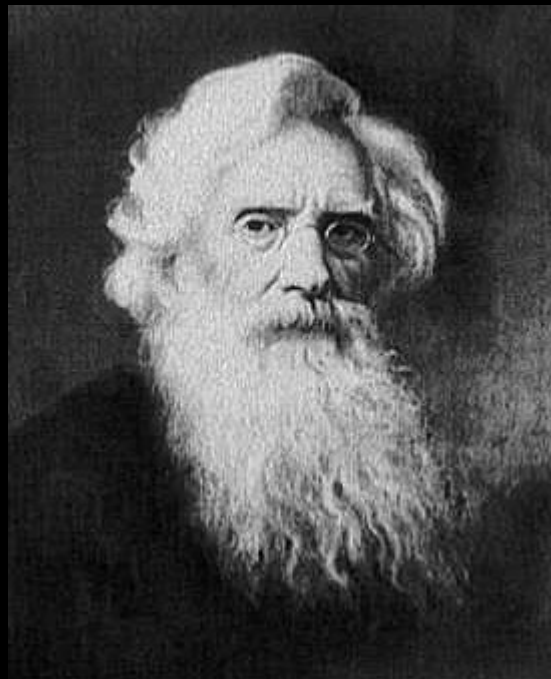
The ability to produce the mechanical devices and wires needed to generate and store electricity



Making the wire for the Atlantic Cable at Webster & Horesfall's New Mill works in 1866

(Picture from Illustrated London News)

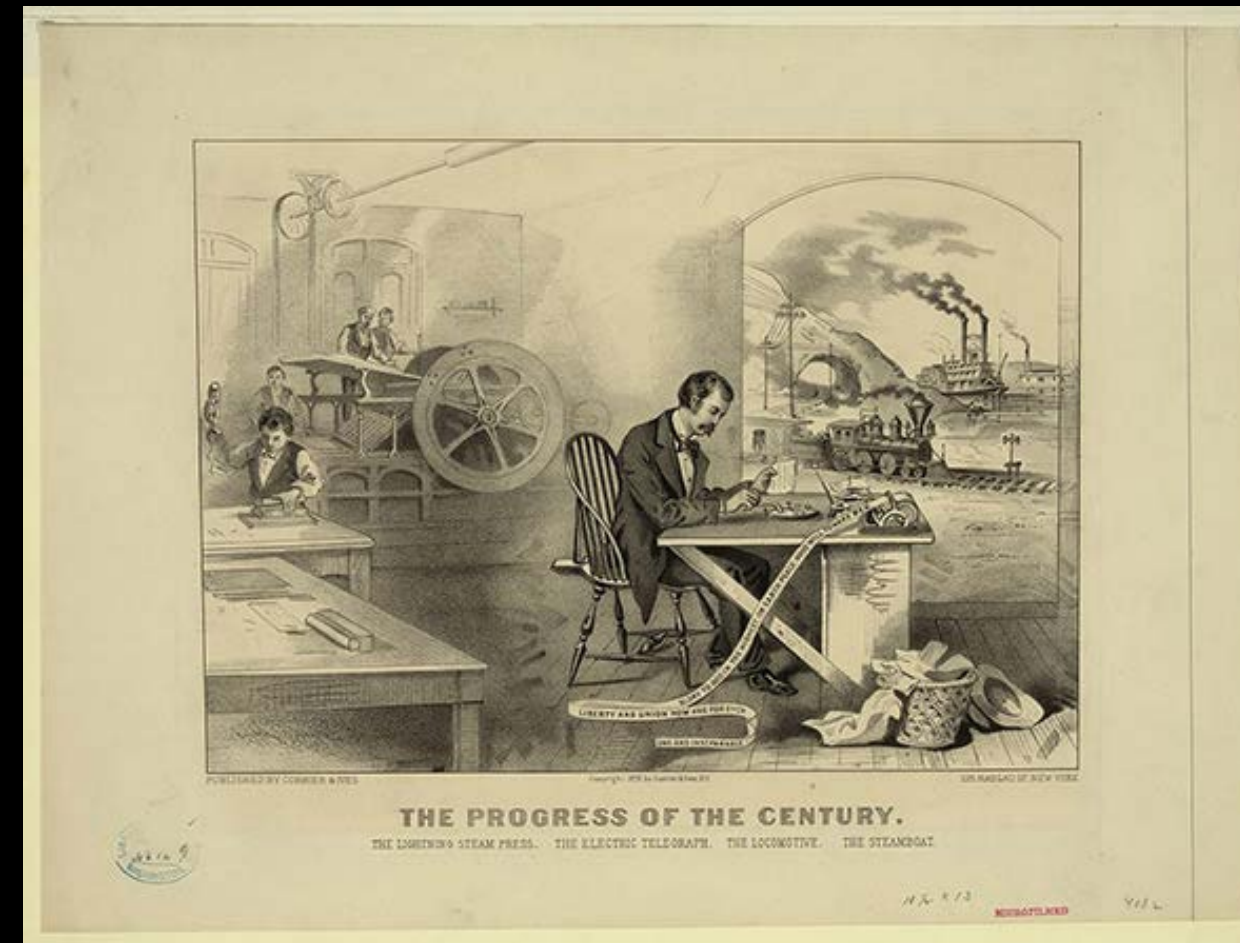
The development of a code that could translate electronic pulses into language



A	·—	J	·— — —	S	...	1	· — — — —
B	— · · ·	K	— · —	T	—	2	· — — — —
C	— · · · ·	L	· — · ·	U	· — —	3	· · — — —
D	— · ·	M	— —	V	· · — —	4	· · · — —
E	·	N	— ·	W	· — —	5	· · · · ·
F	· · · ·	O	— — —	X	— · · —	6	— · · · ·
G	— — ·	P	· — — ·	Y	— · — —	7	— — · · ·
H	· · · ·	Q	— · — —	Z	— · · ·	8	— — — · ·
I	· ·	R	· — ·	0	— — — — —	9	— — — · ·

Morse code was invented by Samuel F B Morse in 1832

Led to the birth of telecommunications



The progress of the 19th century -- the telegraph, 1876.
(Image Courtesy Library of Congress)

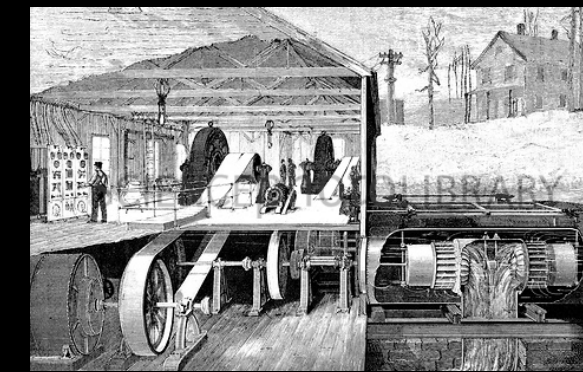
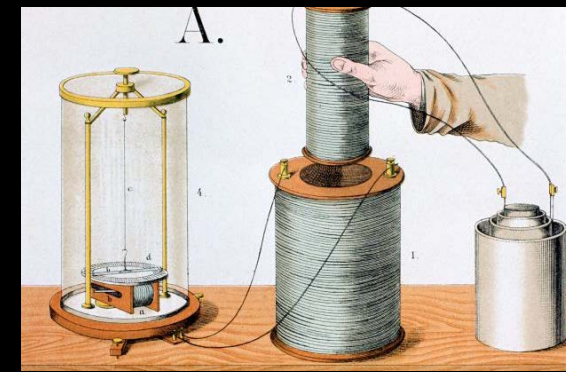
The first demonstrations of electronic telegraph were alongside railway lines

By 1845 a line between Washington and Baltimore was opened to the public by the US Post Office. By the 1850s telegraph lines criss-crossed Europe and the US, but not yet the Oceans ...

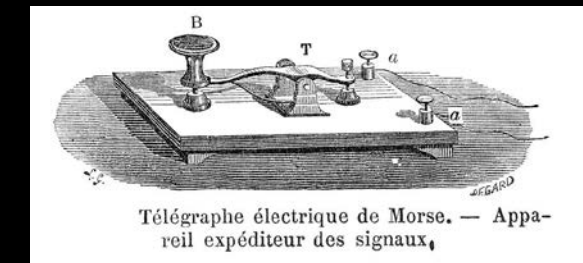
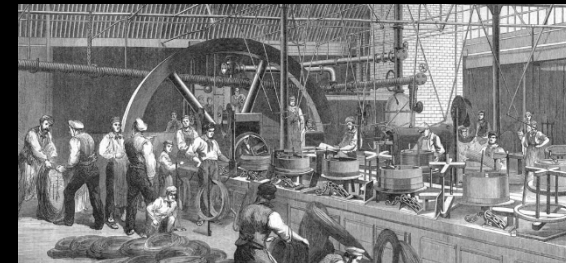


The Transcontinental Telegraph (1861) and Transcontinental Railroad (1869) provided fast overland service, dooming the Pony Express.

The scientific knowledge
paired with the engineering ability
to make the devices necessary
and a code to communicate
led to the birth of telecommunications



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A --	J ---	S ...	1 ----
B ----	K ---	T -	2 ----
C ---	L ---	U ---	3 ----
D ---	M --	V ---	4 ----
E .	N --	W ---	5 ----
F ----	O ---	X ---	6 ----
G ---	P ----	Y ---	7 ----
H ----	Q ----	Z ---	8 ----
I ..	R ---	0 -----	9 ----

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