



Directions

A variety of important inventions of the 19th and 20th centuries are described below. Select five of the inventions that you think are the most important in shaping the modern world. Give reasons for your selections.

1. Television. Invented by Vladimir Zworykin in 1928. The first programs were on the air in 1936. Other TV systems were also developed -- by John Baird, who transmitted the first pictures in 1925; and by Philo Farnsworth in 1928. Zworykin's system became the standard.

2. Car. The gasoline-powered car was invented by Gottlieb Daimler and Karl Benz in 1893.

3. Atomic Bomb. Developed by a team of people led by Robert Oppenheimer. First tested in 1945.

4. X-Ray tube. Invented by Coolidge in 1913.

5. Telegraph. Invented by Samuel F. B. Morse in 1837. Messages could be sent over wires.

6. Airplane. First successful airplane was flown by Orville and Wilbur Wright in 1903.

7. Jet engine. Frank Whittle took out the first patent on a jet engine in 1930. The first plane powered by Whittle's engine didn't fly until 1941. Meanwhile, a German, Hans von Ohain, built the world's first jet in 1939.

8. Rocket. The first practical rocket was the V-2 invented by the Germans, Herman Oberth and Wernher von Braun, for bombing England. It first flew in 1942. Robert Goddard of the U.S. built the first rocket engine in

1926, and Konstantin Tsiolkovsky, a Russian, developed the idea of a rocket engine.

9. Refrigeration. Invented by John Gorrie in 1850. The first practical use was by James Harrison and Thomas Mort who developed their own system for shipping beef from Australia to England. Household refrigerators were developed by Carl von Linde, a German, in the 1880's.

10. Canned food. Invented by Francois Appert 1795 to supply Napoleon's armies. Peter Durand was the first to use tin cans in 1810.

11. Telephone. Invented by Alexander Graham Bell in 1875.

12. Frozen food. Invented by Charles Birdseye in 1922. Birdseye developed a method of quick freezing vegetables so that they did not turn to mush when they thawed.

13. Large-scale steel production. Invented by Henry Bessemer in 1856. Bessemer invented a cheap, quick way of making steel.

14. Machine gun. Invented by Dr. Richard Gatling in 1862. It was not automatic. The first automatic gun was invented by Hiram Maxim in 1885.

15. Steam railroad engine. Invented by George Stephenson in 1814. The first railroad line went into operation in 1825.

16. Computer. Invented by Herman Hollerith in 1888. The computer used a series of punch cards containing the data. The idea of punch cards was first developed Basile Bouchon in 1725 to weave silk cloth.

17. Camera and roll film. Invented by George Eastman in 1888 and 1889. Made photography easy.

18. Reaper. Invented by Cyrus McCormick in 1834 and produced on a large scale in 1848. Made the harvesting of wheat easier and used much less manpower.

19. Electric incandescent light. The first practical electric light was invented by Thomas Edison in 1881. Provided safer and brighter lighting for houses and businesses.

20. Electric motor. Invented by Thomas Davenport and others in the early part of the 19th Century. These motors used batteries. The first induction motor using alternating current was invented by Nikola Tesla in 1888. This was the first practical electric motor.

21. Radio. Lee de Forest invented the audion tube which could transmit and receive sounds such as the spoken word. First used in 1907. Before that, Guglielmo Marconi transmitted sounds through the air in 1894.

22. Plastic. Celluloid was invented by John Wesley Hyatt in 1868. Charles Baekeland invented Bakelite, the first hard plastic in 1908.

23. Nylon. Invented by Carothers at the duPont Lab in 1930.

24. Rubber. Rubber is a natural product. Charles Goodyear in 1839 learned how to vulcanize rubber or make it resist heat so that it could be molded into products. The first to make air-filled rubber tires was Michelin.

25. Transistor. Invented in 1948 by John Bardeen, Walter Brattain and William Shockley. A transistor is a tiny gadget that amplifies the movement of electrons with very little power.

26. Radar. Invented by Robert Watson-Watt in 1935. By using radio waves, planes, ships and storms could be detected unseen many miles away.

27. Alternating current. A method of sending electricity over long distances. The system was developed in Nikola Tesla in the 1880's

28. Xerography. A simple way to make copies invented by Chester Carlson in the 1930's. First copy machines produced in 1950.

29. Typewriter. Invented by Christopher Latham Sholes who, along with Carlos Glidden, built the first practical typewriter in 1867. The first typewriters were produced in 1873.

30. Web printing press. Invented by an American, William Bullock, in 1863. Printing is done on long roles of paper and the paper, ink and type are on cylinders rather than flat beds. This is how modern presses are constructed.