

The history of glasses

The first recorded use of a *corrective lens* was by the last Roman Emperor Nero, who lived from December 15th, 37 AD until June 9, 68 AD. He watched games with gladiators using an emerald.



It's not quite clear when glasses were invented, but they were used quite commonly in northern Italy in the late 1280s. Also Marco Polo, a Venetian *trader* and explorer who was one of the first to travel the Silk Road to China, reported that he had seen many pairs of glasses in China as early as 1275.



A detail from a painting by Tommaso da Modena in 1352, showing a portrait of Hugh de Provence wearing glasses.

Glasses for correcting *far-sightedness* were probably invented by Salvino D'Armate of Pisa or by Alessandro Spina of Florence. These very early glasses weren't supported by pads on the nose or by pieces of wire placed over the ears. They were a pince-nez, a monocle or a lorgnette. So you either had to hold them in place by hand or you had to fix them on your nose or in your eye socket with *pressure*.



pince-nez



monocle



lorgnette

Glasses with arms were invented in the 1600s. It was in 1604 that Johannes Kepler wrote that two different types of lenses could correct far-sightedness and *short-sightedness*. The American scientist Benjamin Franklin, who suffered from far- and short-sightedness, invented *bifocals* in 1784. He was tired of changing between two pairs of glasses. So he cut each pair horizontally and made one single pair. The bottom half of the lenses focused on things nearby and the top half of the lenses focused on things in the distance.

<i>corrective lens</i>	korrigierte Brillengläser
<i>trader</i>	Händler
<i>far-sightedness</i>	Weitsichtigkeit: man sieht besser in die Ferne als in die Nähe
<i>pressure</i>	Druck
<i>short-sightedness</i>	Kurzsichtigkeit: man sieht besser in die Nähe als in die Ferne
<i>bifocals</i>	bifocal: eine Zweistärkenbrille, welche für die Weite und die Nähe korrigiert

The inventors of glasses

Salvino D'Armato

Not much is known about Salvino D'Armato. In his history about Florence, Leopoldo del Migliore wrote that there was the following *inscription* on D'Armato's *tombstone*: *Here lies Salvino degl' Armati, son of Armato of Florence, inventor of eyeglasses. May God forgive his sins. A. D. 1317.*

But as this tomb no longer exists, it can't be verified whether this is correct.

Alessandro Spina of Pisa

Other sources say that the *monk* Alessandro Spina of Pisa was the real inventor of the glasses. However, it is most likely that Spina learned to copy glasses after seeing them made by other people. He was known to be very good at copying.

Benjamin Franklin



Benjamin Franklin was born on January 17, 1706. He was one of the Founding Fathers of the United States, but he was also a leading printer, a *scientist*, an inventor, a writer and a diplomat. As a scientist he played an important role in the history of physics because of his discoveries and theories about electricity. He developed the *lightning conductor*.

Franklin invented the bifocals in 1784. This made it possible for him to only use one pair of glasses for *short-* and *far-sightedness*.

Franklin also played the violin and the harp. He composed music in classical style and invented a much improved version of the glass harmonica. This instrument was composed of rotating glass cylinders.



Franklin was also very active in his community. In 1736, Franklin created the Union Fire Company, the first volunteer fire fighting company in America. He also started the first American street-cleaning department, the first city hospital, the schools that would later become the University of Pennsylvania, and he reorganised the American postal system. Franklin only had one year of formal education. He was a real self-taught man. He taught himself how to play musical instruments and also learned several languages by himself.

He died on April 17th, 1790 at the age of 84.

<i>inscription</i>	Inschrift
<i>tombstone</i>	Grabstein
<i>monk</i>	Mönch
<i>scientist</i>	Wissenschaftler
<i>lightning conductor</i>	Blitzableiter
<i>far-sightedness</i>	Weitsichtigkeit: man sieht besser in die Ferne als in die Nähe
<i>short-sightedness</i>	Kurzsichtigkeit: man sieht besser in die Nähe als in die Ferne

Further development

Glasses were originally made of glass, but many are now made of plastic. Plastic is lighter and doesn't break so easily. Some *corrective lenses* in plastic can also be made much thinner than they would be if they were made of glass. It's also possible to add a *scratch-resistant coating* on plastic, so that the plastic lenses can be scratch-resistant like the glass ones.



Contact lenses are nowadays very popular. Laser corrective eye surgery is also very common.

Glasses have also made quite some progress. Now it's possible to buy *frames* made of special metal that return to their correct shape after being bent. So you can sit on your glasses and they will return to their original shape afterwards! Modern frames are often made of lightweight materials, which makes wearing glasses more comfortable.

<i>corrective lens</i>	korrigierte Brillengläser
<i>scratch-resistant</i>	kratzfest
<i>coating</i>	Beschichtung
<i>frame</i>	Brillengestell