

Technical Description of Eyeglasses

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Technical Description of Eyeglasses

Introduction

Eyeglasses are a vital tool for correcting vision and enhancing visual acuity for millions of people around the world. The invention of eyeglasses is attributed to a few different individuals and is believed to have originated in Italy in the 13th century. One of the earliest known inventors of eyeglasses was “around 1284 Salvino D'Armato is credited with the development of the first spectacles or eyeglasses thanks to the flourishing Italian glassblowing industry. Two simple convex lenses were joined together with a central joint linked to a frame made of material such as bone, wood, wire or even leather.”, (Reynaud, 2022). The need for eyeglasses arose due to the increasing prevalence of presbyopia, a condition in which the eyes lose their ability to focus on nearby objects as people age. Prior to the invention of eyeglasses, people with presbyopia had few options for correcting their vision. Some would hold reading materials at arm's length or use magnifying glasses, while others may have simply had to rely on others for help with tasks that required close vision. The introduction of eyeglasses had a significant impact on society, particularly in terms of facilitating the spread of knowledge and enabling people to read and write more easily. Today, eyeglasses are a common and widely used medical device, with millions of people worldwide relying on them to correct their vision. A typical eyeglass comprises several components, including the lenses, frame or skeleton, rims, nose pads, bridge, hinge, screws connecting the end pieces and hinges, temple, and temple tips. In this essay, we will delve deeper into each of these parts and their functions.

Images

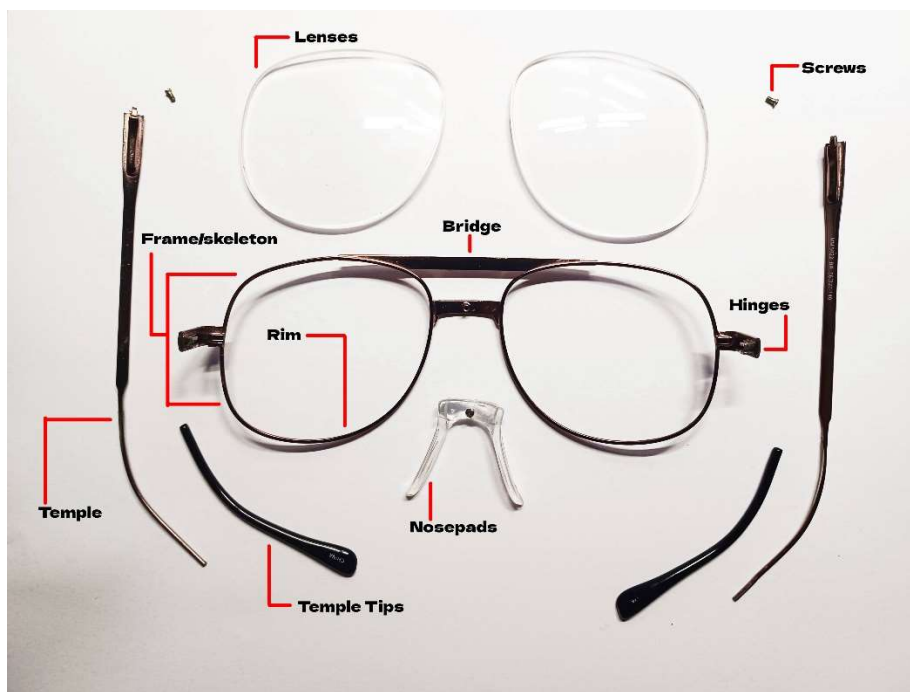
Figure 1

Anthony's Glasses



Figure 2

Components/parts of Anthony's Glasses



Lenses

Lenses are the most crucial part of eyeglasses, as they are responsible for correcting vision. They are typically made of plastic, glass, or polycarbonate, and they come in various shapes, such as round, oval, or rectangular. The lens's thickness varies depending on the user's prescription and the lens material. The lenses of eyeglasses, though delicate and vulnerable to scratches and breaks, are paradoxically strong and resilient, capable of withstanding the daily wear and tear of constant use. Although Barrameda Tsangarides's prescription requires thinner lenses, it is a product of Otis Eyewear that are more durable than the others as it's made from a different kind of material, "We use mineral glass lenses in all of our sunglasses because it's more scratch resistant, optically correct and sustainable than the plastic lens alternatives that go in most other eyewear." , (Our Story - Learn About OTIS Eyewear, n.d.-c). The fragility of these lenses is evident in their thinness and transparency, but their strength lies in their ability to bend and refract light to create a clear and focused image for the wearer. The lenses are also equipped with a blue light filter perfect for long hours of computer work. The curve on the surface projects a similar spectacle as a water tension on top of a full glass that is close to overflowing. Despite their delicate appearance, the lenses of eyeglasses are a testament to the ingenuity and durability of modern materials and manufacturing techniques, making them a true wonder of both science and art.

Frame/Skeleton

The frame or skeleton of eyeglasses holds the lenses in place and shapes the glasses' overall appearance. Frames can be made of various materials, such as plastic, metal, or a

combination of both. The frame's style, size, and shape determine the glasses' look and functionality. Barrameda Tsangarides's glasses have acetate frames that are known for their lightweight nature, making them an ideal choice for eyewear that needs to be worn for long periods of time. Combined with the brass color, the skeleton provides a vintage look that are popular among the high-class society. The frame is designed to sit comfortably on your face, providing a secure fit that won't slip or slide around.

Rim

Rims are the part of the frame that surrounds the lenses. They come in several styles, such as full-rimmed, semi-rimless, and rimless. The main function of a rim is to hold the lenses in place, however, many choose rims with the best aesthetic to fit their face. The style of full-rimmed glasses of Barrameda Tsangarides is called an aviator which enhance and showcase the main feature of the object they surround. Just as a frame can complement and draw attention to a painting's colors and composition, the rims of eyeglasses can highlight and accentuate the wearer's eyes and facial features.

Nose Pads

Nose pads are the small, adjustable pieces that attach to the bridge and rest on the user's nose. They help distribute the weight of the glasses evenly across the nose and prevent the glasses from slipping down. The nose pads included in Barrameda Tsangarides's eyeglasses not only support the side of the nose but the top as well enhancing comfort. It's made from silicon which are soft to the skin and prevents irritation

Bridge

The bridge is the part of the frame that connects the lenses and sits on the user's nose. Bridges come in various shapes and sizes and must be chosen carefully to fit the user's face and provide a comfortable fit. The bridge of the glasses have a similar structure of a deck arch bridge that distributes the weight on both sides evenly and ensuring stability.

Hinge and screws

The hinge is the part of the frame that connects the temples to the frame front. The spring-loaded hinges allow the temples to move inward and outward for a more comfortable fit.

Screws connect the end pieces and hinges and help hold the glasses together. They are made of metal and can be tightened or loosened as needed to adjust the fit of the glasses.

Temple and Temple Tips

The temple is the part of the frame that extends from the hinge and fits over the user's ears. The temple is 140 mm in length which is perfect for most adult users. With its thin wire-like design, it runs through the temple (of the head) without issues.

Temple tips are the small, soft pieces at the end of the temples that rest on the user's ears. They help distribute the weight of the glasses evenly across the ears and prevent the glasses from slipping. Made from silicon, the soft tissue wraps around the top of the ear unnoticeably. The black color camouflages itself behind the back of the ear and blends inside the hair.

Conclusion

In many ways, eyeglasses represent the perfect blend of innovation and genius, providing a clear pathway towards the future by enhancing the way people see and interact with the world around them. As technology and design continue to evolve, it is likely that eyeglasses will continue to be at the forefront of these advancements, enabling individuals to achieve a clearer and more enriching visual experience.

Bibliography

Barrameda Tsangarides, A. (2023). *Anthony's Glasses* [Photograph].

Barrameda Tsangarides, A. (2023). *Components/parts of Anthony's Glasses* [Photograph].

Our Story - Learn About OTIS Eyewear. (n.d.). OTIS EYEWEAR USA.

<https://us.otiseyewear.com/pages/about-us>

Reynaud, E. G. (2022). The biology of imaging. *Philosophical Transactions of the Royal Society A*, 380(2220). <https://doi.org/10.1098/rsta.2020.0389>