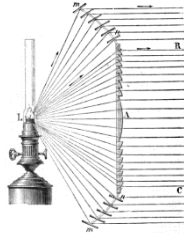
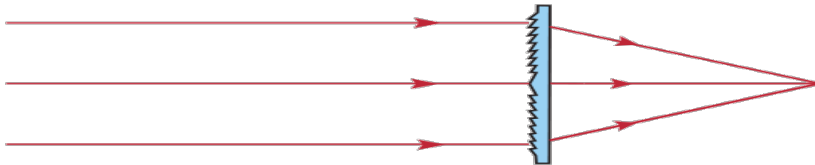


CAUTION: IT IS EXTREMELY IMPORTANT THAT EVERYONE WEAR SAFETY GOGGLES WITH THIS DEMO.

The Fresnel Lens was invented by French physicist [Augustin-Jean Fresnel](#) for [lighthouses](#). The special lens allowed the light to be spread out, thereby making it able to travel long distances so ships could see. It is called "the invention that saved a million ships."

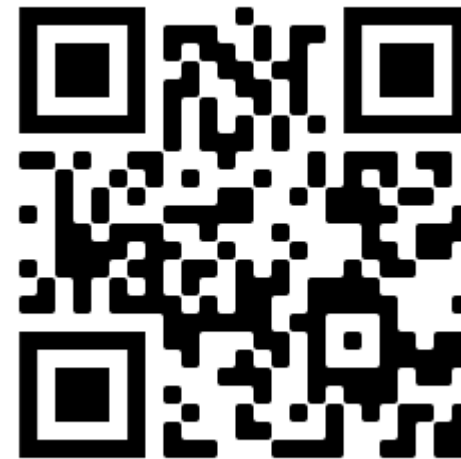


However, when you reverse the lens, a Fresnel lens can also focus light from a light source to a point. For our purposes we use the sun. Using the sun is effective because the sun is so far away that the light that reaches earth is already 'collimated'. In other words, all the light rays are nearly parallel. Because of this you can actually use the sun to melt various objects with a large scale Fresnel Lens including lava rocks, wood or even carve your name in a watermelon.



Note: Have a water bottle on hand to cool the melted rocks

Here is a link to a University of Arizona Wyant College of Optical Sciences video made by Kelsea Cronin discussing Fresnel Lenses:



<https://youtu.be/PxU2qBvikAI>