**Primary Sources**

## “Air Brakes in Russia.” *New York Times*. 19 September 1899. Web. *New York Times Online.* 12 November 2012.

## In this article, I learned that Russia was the first European country to start using Westinghouse Air Brakes. Also, many people started to use Westinghouse Air Brakes. This is a Primary Source because this is a documentation of the expansion of Westinghouse’s business at the time it happened.

## “American Air Brakes on Russian Railroads.” *New York Times.* 17 November 1901. Web. *New York Times Online.* 12 November 2012.

## I used this source for finding that since Westinghouse’s air brakes were so much of a turning point, places around the world were using them. Westinghouse had so many orders for air brakes that he had to have a factory for foreign orders. This is a Primary Source because this shows that during the time that other countries wanted the brakes because they improved railroad safety.

Bourbin, John. Phone Interview. 07 Feb. 2013

This is an interview I had with my friend John, who is an employee at Caltrain. He had much insight as far as modern day air brake usage. He also does tests on the air brakes for the passenger trains so he knows much information about them. This is a Primary Source because I interviewed an actual railroad employee and he talked about how he uses ECP brakes.

Krug, Al. “Air Brakes Simplified.” *RailNews*. August 1997.

I found some information about the ECP brake for my section on “Air Brakes Today.” This was also good for understanding how to use air brakes. This is a Primary Source because it is from the time of the ECP brake.

Ogburn, Charlton. *Railroads: The Great American Adventure.* Washington D.C.: National Geographic Society, 1977. Print

This book was very helpful because it has much information about air brakes and railroad advancements as well as an overview of information about railroads. I specifically used information about Westinghouse’s inventions. This is a Primary Source because I got some quotes from Westinghouse & Vanderbilt.

Rubin, Julian. *George Westinghouse Air Brake Patents and Inventions*. Patent-Invent.com April 2011. Web. 17 Feb. 2013.

I used this webpage to find nearly all the patents that George Westinghouse Jr. received for his air brakes. Some are the actual air brake, while others are the small parts. This Primary Source is important because it is the actual patent that Westinghouse received for his invention; it was so important that he patented it.

Sinclair, Angus. “Air Brakes: As Fool-Proof as any Mechanism can be made.” *The New York Times.* 07 January 1909. Web. *New York Times Online.* 14 November 2012.

## I found information on how people thought of the air brakes and how the fact was that how air brakes do fail, as everything mechanical does at some point. Also, the person writing it was actually a railroad engineer and had input on how the railroads were before air brakes and after they were instituted. This is a Primary Source because this is a quote from a railroad engineer from that time and how he thought the brakes were beneficient.

Stover, John F. *American Railroads*. Chicago, Illinois: University of Chicago Press, 1961. Print.

I found this primary source very helpful because it has lots if information about Westinghouse and how he kept having to fight about his air brakes. People kept trying to illegally adapt his air brake so that they could make money off of it. The book also had information about how Westinghouse saw need for reform although people didn’t want to change.

## “The Operation of Air Brakes.” *New York Times.* 11 November 1882. Web. *New York Times Online.* 12 November 2012.

## What I learned to from this article was that since people had manually applied air brakes for so long they had to change their attitude and learn how to use air brakes. Also, the person who was employing the teaching car, Mr. A H Catlin, was actually convincing people of these brakes at the same time that he was training them. This *New York Times* article is a Primary Source because it is was showing the push of air brakes at the time it was happening.

**Secondary Sources**

“Air Brake.” 2013. 18 October 2012. Web. <http://www.britannica.com/EBchecked/topic/10625/air-brake>

I found some general information on the air brake.

## Burns, Adam. *The American Railroads: A Long and Storied History*. 2007-2013. 29 Oct. 2012. <http://www.american-rails.com/railroad-history.html>

## I found information on the overviewed version of the history of railroads. I also found information on how Westinghouse and others helped spur reform and change among railroads.

Jonnes, Jill. *Empires of Light: Edison, Tesla, Westinghouse, and the Race to Electrify the World.* New York: Random House Inc., 2004. Print.

I found a lot of information about Westinghouse leading up to his main railroad inventions but also how he used information from that to change the world, once again, but this time to help the world of electricity. He “developed” or recognized the world of AC electrical power.

Outman, James L. and Elisabeth M. Outman. *Industrial Revolution Biographies.* Farmington Hills, MI. The Gale Group, Inc. 2003. Print.

I found a lot of information about Westinghouse’s personal life, such as the wars that he fought in, and the dates he made major inventions. It helped out to give a background of who Westinghouse was.

# “Railroad Tycoons, Driving The Early Growth Of The Industry” 2007-2013. 14 January 2013. Web. < http://www.american-rails.com/railroad-tycoons.html>

 I found information on George Westinghouse.

## Schlager, Neil and Josh Laurer. "George Westinghouse." *Science and Its Times*. Ed. Vol. 5. Detroit: Gale, 2000. *Gale U.S. History In Context*. Web. 4 October 2012.

## I found much information on Westinghouse’s life, and general overview information.