



**Smithsonian Institution**

*Smithsonian National Air and Space Museum Archives*

## **Aaron A. Sargent 1883 Designs for Aerial Ship**

Extracted on Apr-23-2024 09:06:00

**The Smithsonian Institution thanks all digital volunteers that transcribed and reviewed this material. Your work enriches Smithsonian collections, making them available to anyone with an interest in using them.**

The Smithsonian Institution (the "Smithsonian") provides the content on this website ([transcription.si.edu](https://transcription.si.edu)), other Smithsonian websites, and third-party sites on which it maintains a presence ("SI Websites") in support of its mission for the "increase and diffusion of knowledge." The Smithsonian invites visitors to use its online content for personal, educational and other non-commercial purposes. By using this website, you accept and agree to abide by the [following terms](#).

- If sharing the material in personal and educational contexts, please cite the Smithsonian National Air and Space Museum Archives as source of the content and the project title as provided at the top of the document. Include the accession number or collection name; when possible, link to the Smithsonian National Air and Space Museum Archives website.
- If you wish to use this material in a for-profit publication, exhibition, or online project, please contact Smithsonian National Air and Space Museum Archives or [transcribe@si.edu](mailto:transcribe@si.edu)

For more information on this project and related material, contact the Smithsonian National Air and Space Museum Archives. [See this project](#) and other collections in the Smithsonian Transcription Center.

Good engines and boilers use from 2 to 8 lbs of coal per horse power per hour. (Haswell 568) The effectiveness of H is 3.5 that of C. Then 1.1 lbs H does the work of 4 lbs of C which I take as the average consumption of a steam engine. Then 5000 lbs of H would run a 100 HP engine 50 hours taking H 1 to C 4. Thus H combines with O to form H<sub>2</sub>O. It takes the same force to wrest it from this combination as it gave out in entering. (This 5000 lbs of H would run a frictionless engine for 50 hours, but 1/3 must be added for friction, so that it would only run it for 3/4 the time that is ~~45~~<sup>37.5</sup> hours). To disengage this H an ~~100 HP~~ (actual) engine, ~~must~~ run a dynamo electric generator so as to yield 100 HP for 50 hours adding 1/3 for friction and 1/6 for loss = 1/2 in all, the engine must be 150 HP. Which would burn, at 4 lbs per hour, 600 lbs ~~coal~~ C per hour, or 30,000 lbs or 15 tons in 50 hours. Take Cumberland coal at 90% C (Haswell page 566) it would take about 34,000 lbs or 17 tons coal 17 tons times \$5.00 per ton = \$85. 50 hours = 5 working days of 10 hours = at \$5 per day \$25 for engines. 85 + 25 = \$110 other expenses must come in <sup>interest of</sup> plant...of course..]. This looks to small = .122 dollars per 1000 cu bh

Good engines and boilers use from 2 to 8 lbs of coal per horse power per hour. (Haswell 568) The effectiveness of H is 3.5 that of C. Then 1.1 lbs H does the work of 4 lbs of C which I take as the average consumption of a steam engine. Then 5000 lbs of H would run a 100 HP engine 50 hours taking H 1 to C 4. Thus H combines with O to form H<sub>2</sub>O. It takes the same force to wrest it from this combination as it gave out in entering. (This 5000 lbs of H would run a frictionless engine for 50 hours, but 1/3 must be added for friction, so that it would only run it for 3/4 the time that is <sup>37.5</sup> hours). To disengage this H an ~~100 HP~~ (actual) engine, ~~must~~ run a dynamo electric generator so as to yield 100 HP for 50 hours adding 1/3 for friction and 1/6 for loss = 1/2 in all, the engine must be 150 HP. Which would burn, at 4 lbs per hour, 600 lbs ~~coal~~ C per hour, or 30,000 lbs or 15 tons in 50 hours. Take Cumberland coal at 90% C (Haswell page 566) it would take about 34,000 lbs or 17 tons coal 17 tons times \$5.00 per ton = \$85. 50 hours = 5 working days of 10 hours = at \$5 per day \$25 for engines. 85 + 25 = \$110 other expenses must come in <sup>interest of</sup> plant...of course..]. This looks to small = .122 dollars per 1000 cu bh

Aaron A. Sargent 1883 Designs for Aerial Ship  
Transcribed and Reviewed by Digital Volunteers  
Extracted Apr-23-2024 09:06:00



## Smithsonian Institution

*Smithsonian National Air and Space Museum Archives*

The mission of the Smithsonian is the increase and diffusion of knowledge - shaping the future by preserving our heritage, discovering new knowledge, and sharing our resources with the world. Founded in 1846, the Smithsonian is the world's largest museum and research complex, consisting of 19 museums and galleries, the National Zoological Park, and nine research facilities. Become an active part of our mission through the Transcription Center. Together, we are discovering secrets hidden deep inside our collections that illuminate our history and our world.

Join us!

The Transcription Center: <https://transcription.si.edu>

On Facebook: <https://www.facebook.com/SmithsonianTranscriptionCenter>

On Twitter: [@TranscribeSI](https://twitter.com/TranscribeSI)

Connect with the Smithsonian

Smithsonian Institution: [www.si.edu](http://www.si.edu)

On Facebook: <https://www.facebook.com/Smithsonian>

On Twitter: [@smithsonian](https://twitter.com/smithsonian)