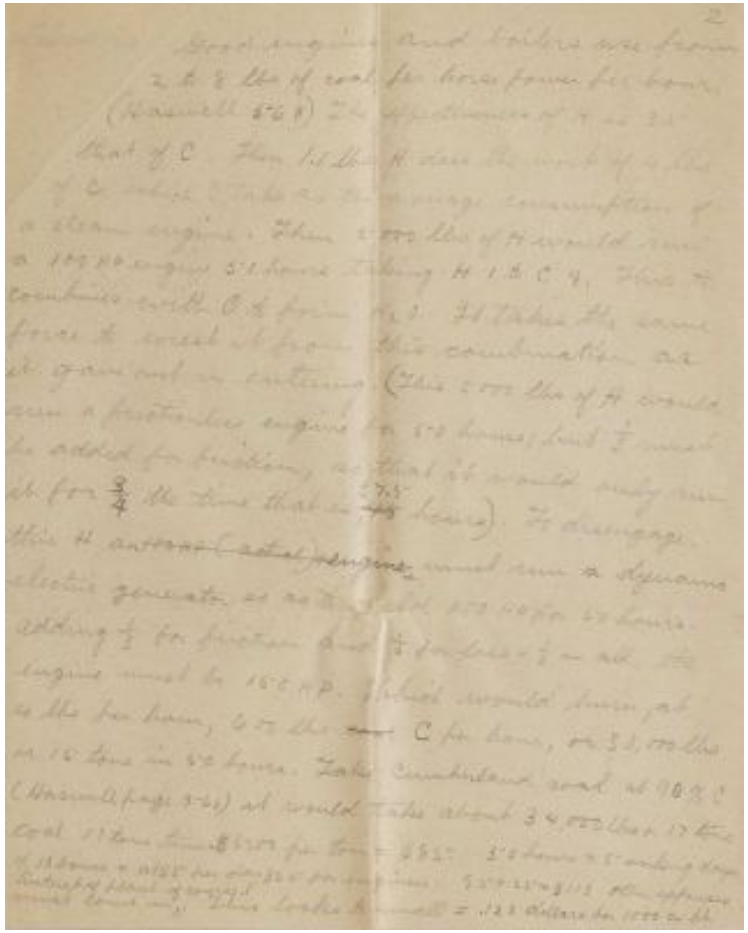
Aaron A. Sargent 1883 Designs for Aerial Ship

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 [[subscript]] 2 [[/subscript]] 0 . 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 [[strikethrough]]45[[/strikethrough]] ^[[37.5]] hours). To disengage this H an [[strikethrough]]100 HP (actual) engine, [[/strikethrough]] 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 [[strikethrough]]coal[[/strikethrough] 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 ^[[interest of plant...of course..]]. This looks to small = .122 dollars per 1000 cu bh



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Transcribed and Reviewed by Digital Volunteers
Extracted Apr-23-2024 09:06:00