Javier Sanchez-Medina

Engineers Jokes

- Engineers think that equations approximate the real world. Scientists think that the real world approximates equations. Mathematicians are unable to make the connection...
- In some foreign country a priest, a lawyer and an engineer are about to be guillotined. The priest puts his head on the block, they pull the rope and nothing happens—he declares that he's been saved by divine intervention—so he's let go. The lawyer is put on the block, and again the rope doesn't release the blade, he claims he can't be executed twice for the same crime he is set free too. They grab the engineer and shove his head into the guillotine, he looks up at the release mechanism and says, "Wait a minute, I see your problem..."

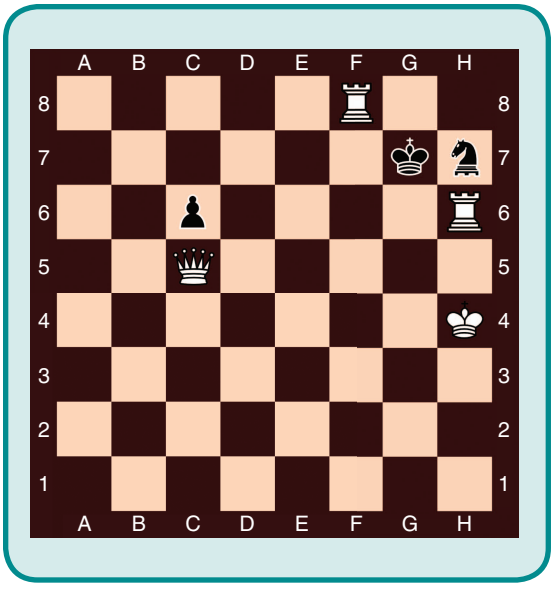
  (Source: http://www.i18nguy.com)

Chess Puzzle

Mate in two. White's turn. Solution at page 5.

Amazing Fact

To many, the world quickest electric sprint car, is something called "Black Current III". It is not a super fancy sport car but an old Volkswagen Beatle heavily modified, that can reach from 0 to 60 mph (0–97 km/h) in 1.6 seconds. That is quicker than a Bugatti Veyron, or a modern day F1 car. And it happens thanks to a custom-built Lithium Cobalt Oxide battery pack, capable of producing up to 680 kilowatts of power. (Sources: http://www.zeroto60times.com, http://www.popularmechanics.com, and http://www.greencarreports.com)



Big Person Quotation

Electrical science has disclosed to us the more intimate relation existing between widely different forces and phenomena and has thus led us to a more complete comprehension of Nature and its many manifestations to our senses.

—Nicola Tesla

Transportation Engineering and Science History Episode

Have you ever thought, while sitting in an aircraft, during taking-off something like "well, an electric engine couldn't do this". Did you know there has been manned electric aircrafts since the 70s?

Before of that, in 1884, there was an electric powered French Army airship (similar to a zeppelin) called "La France". Designed by Charles Renard, the 170 ft (52 m) long airship covered 8 km (5.0 mi) in 23 minutes with the aid of an 8.5 hp (6.3 kW) electric motor.

But let's get back to modern aircrafts. There were earlier model electric aircrafts, but it was in 1973 when the so-called Militky MB-E1 flew, the first one carrying a human

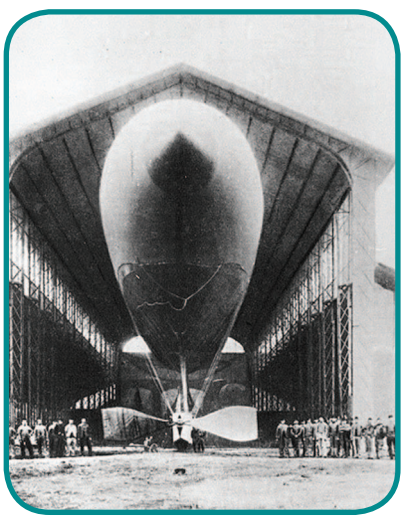


FIG 1 La France Airship (wikipedia commons).

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passenger and using just electric power. Its creators, Fred Militky and Heino Brditschka converted a Brditschka HB-3 motor glider into an electric aircraft. The first manned flight was performed by Heino and lasted for 14 minutes.

In 1979, the Mauro Solar Riser was the first electric manned aircraft to fly on solar power. It was created by Larry Mauro, president of the American Ultralight Flying Machines company. The first man carrying flight was performed on April 1979, at Flabob Airport in Riverside, California. The aircraft reached a maximum height of about 40 ft (12 m) and flew 0.5 mi (0.8 km).

Mauro Solar Riser had modest results regarding autonomy but paved the way for more and more similar projects. The balance between the energy spent by the electric motors and the energy that can be accumulated from the Sun is the central equation of such projects, aiming at a virtually infinite autonomy.

FIG 2 Solar Impulse 1 (Wikipedia commons).

FIG 3 The AA-battery powered plane in flight (Matsushita Electric Industrial Co.).

That is exactly the plan of the Swiss based solar-powered aircraft Solar Impulse. This crowd-sourced super exciting project ambitions to perform a non-stop flight around the globe in 2015.

Electrically powered aviation are fun projects indeed. You can easily imagine engineers having a great time with them. For example, there was that project developed at Tokyo Institute of Technology in 2006. They developed a manned prototype powered just by commercial AA batteries that flew fro 59 seconds and travelled 391 meters.

(Sources: http://en.wikipedia.org/wiki/Electric_aircraft, http://en.wikipedia.org/wiki/La_France_%28airship%29, http://www.solarimpulse.com/, and http://web-japan.org/trends/science/sci060929.html)

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