The State of the Art in Desk Lifting Mechanisms

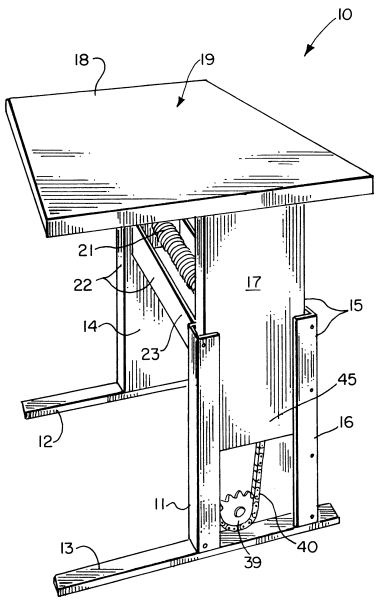
February 11th, 2017

What is the best desk of 2017? According to a Reviews.com review, with 67 initial contenders, and 9 of the most popular sit to standing desks the winner is the Fully Jarvis Bamboo Adjustable Height desk. **What makes it the best desk?** From the review testing and the listed specifications for the Jarvis desk I compiled some of the key tests used to rate the desks and the specifications of the best desk out there.

Functional Requirement	**Test**
Smooth transition from sit to stand	Full glass of water for transition vibration
Quiet mechanism	Decibel meter for motor noise
Lifting capacity of 250lbs	Add weights and measure vibration & speed
Quick transition	Speed of transition from sit to stand
Fits people 5’ to 6’5”	Measure range of adjustment

The review article briefly mentions that a designer from the Jarvis company said they used a Linak lifting column as their primary mechanism, it’s fast (1.5 inches per second according to the review.com testing) it’s quiet (although not the quietest) and it is stable even at the extended height. **What mechanisms make this lift great?**

Linak has a number of different lifting columns, but the one used for the desk is most likely the lifting column patent filed in 2013 and granted in 2016. The Linak Lifting Column patent filing describes three mutual telescopic members and a motor driven spindle for vertical motion. The patent filing oddly didn’t include the photos of the invented mechanism, but google images showed several similar patents. Several other images demonstrated different vertical lift mechanisms in practice and a sketch from a prior art patent (the lift desk with the gear).



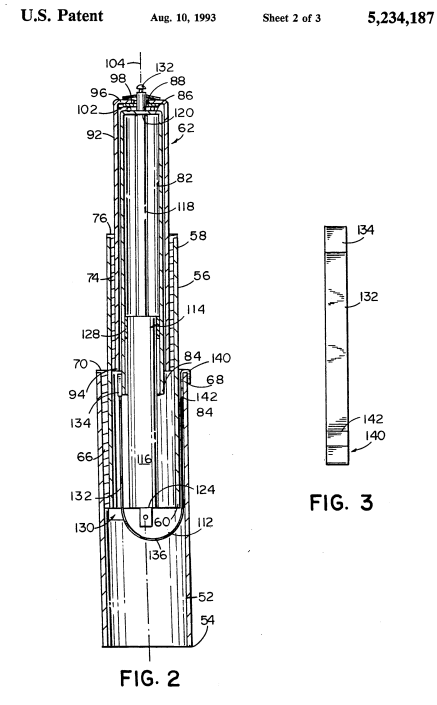
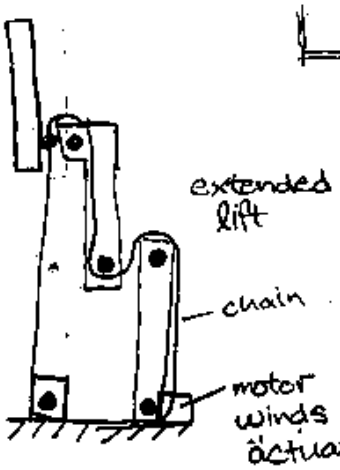


FIG. 2

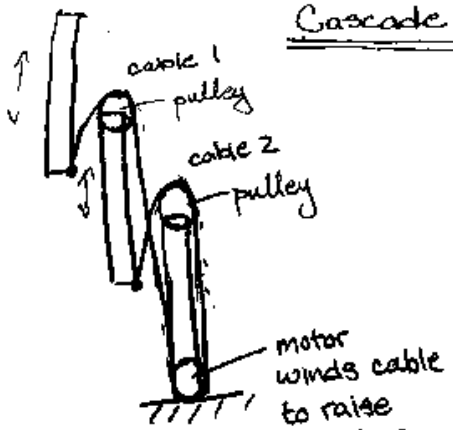
FIG. 3

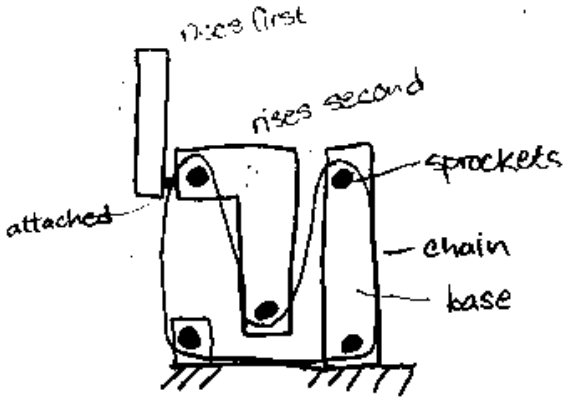
LIFT MECH ANALYSIS

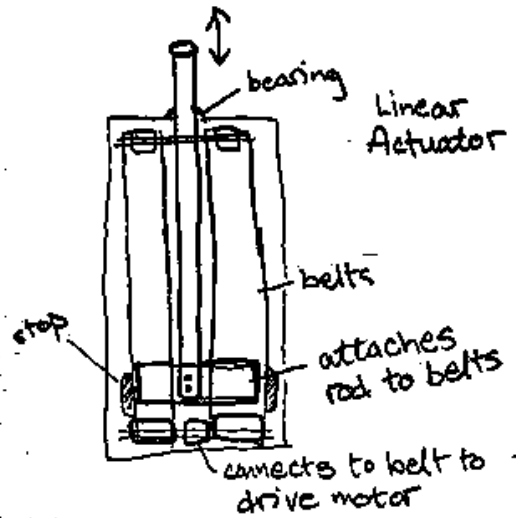


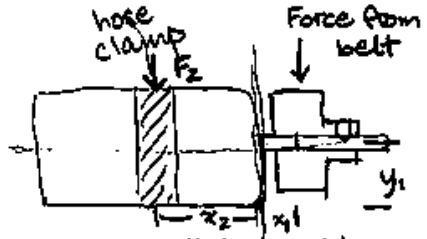
Challenge: Look at a bunch of lift mechanisms and then draw from memory to test understanding.

Cascade Lift









When a belt is pushing on the motor shaft, how much attachment is necessary between the motor and platform?