

Assignment 1

A newer better CPAP machine

Chargeable
Just like Airing device
Be able to be reuse
Clean out pieces

Issues with airing model

One time use
Batteries only last 3-8 hours
Not published

1. Health Care Issue:

Sleep apnea is a long-term sleep disorder that happens when a person's breathing is interrupted during sleep. People with this disorder repeatedly stop breathing when sleeping, sometimes hundreds of times. The disorder causes the body to shut down because it is not getting as much oxygen as is necessary. The body is not receiving the substantial amount of oxygen to supply to all of the vital organs. It is important to treat sleep apnea because it can lead to other chronic diseases and poor health. This can make you tired during the day and can also cause a clogging in the arteries, resulting in chronic heart or lung disease, high blood pressure, inflammation. Our new technology, Aerable, is an advanced and superior alternative to the well-known CPAP machine. Aerable will free the user from the standard mask and hose system that is currently on the market for people with sleep apnea. The product is only worn on the nose and allows the mouth to be completely uncovered. The soft nose buds are engineered to perfectly fit inside of the user's nose, without the need for hoses or straps. The nose buds would need to be fitted to the consumer but will only need to be done once by a physician. There is an inhalation vent and small fan designed to filter and draw in air that create the precise airway pressure needed in order to sleep comfortably. There are also exhalation vents in order to not hinder the flow of air in and on while breathing when sleeping. Overall, Aerable is extremely light and is able to be worn without the user having to worry about the product falling off at night. Unlike the similar Airing device that is in the works of obtaining a patent, our product will be rechargeable, be able to be reused, and the user will be able to clean out the nose pieces. With Aerable, people suffering from sleep apnea will now be able to enjoy a good night's sleep without having to worry about consistently waking up throughout the night, resulting in overall health boosts.

2. Customer Validation:

1 National Heart, Lung and Blood Institution
2 Pulmonologist

- 3 Otorhinolaryngologist
- 4 Bariatric Healthcare providers
- 5 Sleep Doctors
- 6 Sleep Apnea patients
- 7 National Sleep Foundation
- 8 American Academy of Sleep Medicine
- 9 American Board of Sleep Medicine
- 10 American Lung Association
- 11 Obesity Action Coalitions
- 12 Geriatric healthcare providers
- 13 Mattress Firm
- 14 Shaquille O'Neal
- 15 Regis Philbin
- 16 American Sleep Association
- 17 American Thoracic Society
- 18 Neurologists
- 19 Dentists
- 20 Mental Health Professionals

3. Competitors:

Current solutions for sleep apnea consist of Continuous Positive Airway Pressure (CPAP) Machines, upper airway surgery, and hypoglossal nerve stimulation.

A. Continuous Positive Airway Pressure (CPAP)

Advantages: Helps lower blood pressure, weight loss, helps reduce inflammation, and helps reduce dyslipidemia.

Disadvantages: The machine makes a lot of noise at night, the mask takes a while to get used to, the mask leaves marks on the patient's face, there's a lot of tubing attached to the machine and mask making it difficult for the patient to move around.

-Our device should be able to provide the same benefits of a CPAP just without the discomfort of a mask attached to heavy tubing and a noisy machine. Our product should be more comfortable for patients and take only a couple of days to get used to. The small device with no attachments should give patients the freedom to move their head at night.

B. Upper Airway Surgery

Advantages: Surgeon can trim down your soft palate and uvula, remove your tonsils, and reposition some of the muscles of the soft palate in order to clear the airway to help you breathe.

Disadvantages: Low success rate, severe pain, risk of surgery complications, and sleep apnea can reappear in a couple of years.

-Our device is more profitable than surgery because it does not cause the excruciating pain that people have experienced. Our product does not prevent the consumer from enjoying their normal, everyday lifestyles during the day.

C. Hypoglossal Nerve Stimulation

Advantages: Reduced the frequency of respiratory events, reduction of the severe obstructive sleep apnea continued among patients, works well for patients that couldn't use a CPAP.

Disadvantages: The hypoglossal Nerve Stimulator make work for some but the results aren't necessarily guaranteed to provide long lasting results. Another disadvantage is that the Hypoglossal Nerve Stimulation is implanted through surgery and many patients don't want to try an invasive procedure.

-Our device is not as invasive as the Hypoglossal Nerve Stimulation since our device does not require any form of surgery. Our device should be able to work for patients with both a minor case of sleep apnea but also with an obstructive case of sleep apnea. The device should be able to provide a patient with consistent results.

4. Patent Search:

US20150267695 A1

US6367474 B1

US5645053 A

US5727543 A

US4281651 A

US8678787 B2

US12472833

US12472798

US20090232683 A1

5. Score the Portions of the Fundability Worksheet:

A. Customer Validation: 1

B. Competitors: 2

C. IP Position: 1

Potential name for machine:

Aerable

Slogan:

At least I'm still breathing!