

# Venspirator<sub>2</sub>

*New Class of Breathing Device for COVID-19  
and Other Respiratory Care*

**LEGACY**

*Innovations in Pressure Temperature & Flow*

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# Problem

For treatment and prevention of COVID-19, there's a gap in current technology between PPE and Life Support.



Respirator - mask  
**PPE**

→ **GAP** ←



Ventilator - breathing machine  
**Life Support**

# Solution

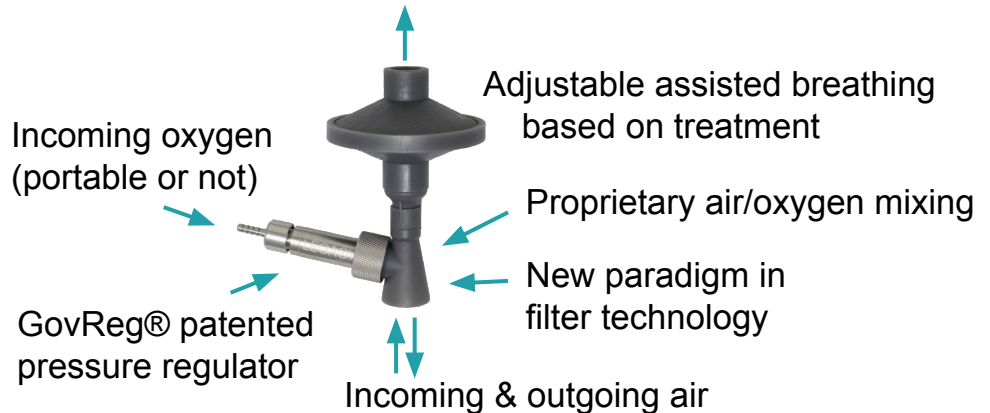
New paradigm in respiratory care and new class of breathing device based on proven & profitable technology.

- ✓ Non-Invasive and Natural Rhythm Breathing Assistance
- ✓ Also treats COPD, sleep apnea, asthma, etc...
- ✓ Non-Electric
- ✓ Prevents disease transmission
- ✓ Portable/Lightweight
- ✓ Prevents lung damage
- ✓ Low Cost ~ \$100
- ✓ Easy to sterilize & reuse

# Technology

Venspirator™ combines the breathing assistance of a life-support ventilator with the safety and portability of a PPE respirator. Treatment can prevent the need for a ventilator.

Fits into most sealed face masks



# IP & Defensibility

Venspirator™ includes IP for breathing assistance, fluid mixing, and filter technology. The underlying GovReg® pressure regulator is patented globally, certified food grade, and currently selling worldwide.

It would be a challenge to compete with the layered IP of the Venspirator™.

## Venspirator™

- US Utility Patent Application 16/888,564 filed on 5/29/20 "Fluid Mixing Apparatus Such as a Ventilator," under the newly enacted USPTO COVID-19 Prioritized Examination Pilot Program called *TRACK1.COVID*.
- On 8/3/20 Legacy was accepted into the program for accelerated patent examination.

## GovReg®

- GovReg® pressure regulation technology has utility patents issued in the US and 22 other countries, with 10 more countries pending.

# Customer

Venspirator™ use extends well beyond COVID-19 and other respiratory therapy to protection for military & first responders and athletic performance enhancement.

## Who can use the Venspirator™?

- ✓ COVID-19 patients for both treatment and prevention
- ✓ Patients with other respiratory illnesses including COPD, sleep apnea, asthma, and cystic fibrosis
- ✓ Military and First Responders as protection from airborne disease, chemical weapons, smoke, and pollution while simultaneously supplying oxygen-enriched air to boost endurance
- ✓ Professional & recreational athletes for protection from airborne toxins and performance enhancement

# Market Opportunity

Venspirator™ introduces a new paradigm in respiratory technology of safe, portable (wearable), non-electric, low-cost breathing assistance and performance enhancement.

## Who will buy the Venspirator™?

- ✓ Hospitals & Other Medical Facilities
- ✓ Federal, State & Local Governments (eg FEMA)
- ✓ Military & First Responders (reduces medical footprint in the field)
- ✓ Humanitarian Foundations
- ✓ Sports & Athletic Organizations
- ✓ Homes for Self-Care & Survival Kits

# Societal Impact

Venspirator™ can save lives by preventing airborne transmission and treating COVID-19 patients early before their illness worsens to the point of needing a ventilator. By then it may be too late.

We need to move now as more lives are at stake with each passing day.

Along with traditional distribution by medical and government agencies, we're also pursuing alternative distribution:

- The Gates Foundation already has a distribution network in place for medical and other supplies.
- Coca-Cola has one of the largest distribution networks on the planet. Remote villages with no running water still seem to have Coke. Plus their technicians already know pressure regulators and can assist medical providers with Venspirator settings and use. The Coca-Cola Foundation may provide access to this distribution network. (Could also be Pepsi, etc)
- Nike could assist with athletic use of the Venspirator to help ease the stigma of breathing devices and even make them cool. Air pollution? Allergies? No problem! Get outside and ... Just Do It! (Could also be Adidas, etc)

# Economic Impact

Legacy plans to have its own manufacturing facility for the Venspirator™ that will make a significant contribution to Boise Idaho and the Greater Treasure Valley Area.

	12-18 Months	Within 5 Years
<b>Jobs</b>	17	200
<b>Secondary Jobs</b>	5	59
<b>Earnings</b>	\$548,054.79	\$6,447,703.36
<b>Tax Revenue</b>	\$37,293.00	\$438,741.21
	<b>Industry</b>	<b>Legacy</b>
<b>Job Multiplier</b>	1.29%	1.73%
<b>Average Salary</b>	\$32,238.52	\$47,833.00

Source: ISU Bengal Solutions - Dr. Dan Cravens & his Graduate Assistants

## The Team

Legacy is led by co-founders who already have commercial success among Fortune 150 companies with their other proprietary technologies.

Clients have included Apple, ITW, and Molson Coors.

### Network of support to finish Venspirator™ development and bring it to market:

- All 3 Idaho Universities for product testing & validation, market opportunity, societal & economic impact, and lean manufacturing technology
- Universities in Germany, China, and Brazil
- Federal government & agencies like DOD, NIH, NSF
- Idaho state and local government & agencies
- Technical & business consultants including formlabs, Autodesk, and ATEQ.
- Medical device manufacturers & suppliers
- Grant writers for government grants and contracts

## What's Next?

Currently:

- We have a working Venspirator™ prototype
- The US Utility Patent is filed; accelerated examination in progress.
- NIH and NSF Grant applications have been filed and are in review.

- ✓ Create medical grade prototypes, distribute to universities, and begin testing and efficacy.
- ✓ Begin FDA approval process as a Class I or Class II medical device.
- ✓ Work with ISU on post-COVID business plan including applications in military, emergency services, and other medical.
- ✓ Continue to raise funds to complete testing and bring to market. Estimated funding needed = \$4.8million.