

# Handheld/portable apparatus to produce fine fibers

There is strong interest in the biomedical field in developing fiber structures that provide scaffolding for tissue growth and support living cells as agents in wound care. Advanced wound care systems can provide significant benefits over traditional wound dressing including accelerated healing and improved hemostasis.

The present system is ideal for producing fine fibers which can form nanofibrous scaffolds that mimic the extracellular matrix. Such systems can enhance cellular growth and promote tissue regeneration.

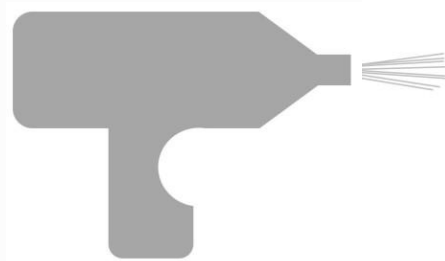
## Problem

An issue with currently available fine fiber producing systems is that they are not easily portable and have intrinsic limitations given the dielectric properties of fiber precursors (as in electrospinning procedures) or could present safety concerns when applied in situ, due to parts rotating at high speeds (as in centrifugal spinning processes). Safety and portability concerns make such devices less feasible for use in situ.

## Solution

The proposed technology is a handheld/portable fiber producing device that is able to make fiber systems from a wide spectrum of precursors.

Fictitious handheld design for concept demonstration, real model not shown in figure for novelty purposes.



## Value Proposition

Pocket-size, easily-portable nanofiber producing device, which can easily cover a small wound with nanofibers in a minute. The device uses no rotating parts or high electric fields.

## Competitive Advantages

- No electric fields nor rotating parts; No need for an air compressor, pressurized gas, or CO2 cartridges
- Application method aids fibers in conforming to geometry of the wound
- Ergonomic design resembling a hair dryer
- Easy to operate during surgical procedures in case of hemostatic needs
- Fine fibers can be doped with a variety of active ingredients such as painkillers, anti-inflammatory, and antimicrobial agents to speed wound healing
- Microfibers, submicron, and nanofibers can be produced

## Stage of Development

- Prototype tested in an operational lab environment
- Seeking commercial partners

## IP Status

- Licensing Available
- PCT Application Filed

For further information regarding this Technology please contact:

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