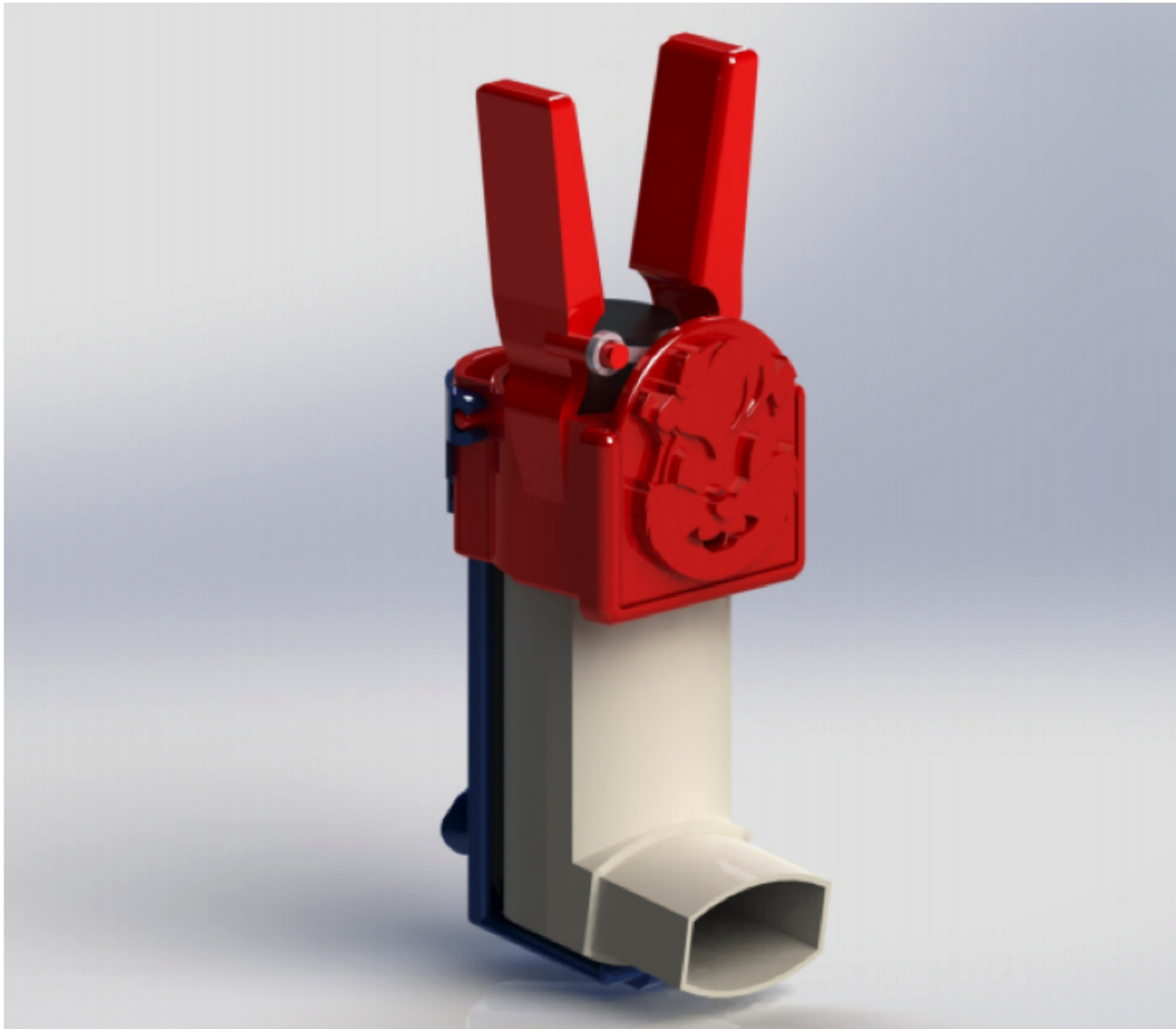


EasySqueezy: A Metered Dose Inhaler Usage Enhancer

A simple sleeve with dose counter that reduces the force needed to activate a metered dose inhaler

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Background

Asthma is a chronic disease that causes the patient to experience coughing, wheezing, shortness of breath, and could potentially be fatal. The most common method of treatment is the use of a standard metered dosage inhaler (MDI) due to its affordability and ease of use.

Paediatric and geriatric patients struggle to activate their standard MDI's due to a lack of strength in their hands. Experiments show that the amount of force required to activate a typical inhaler and release the medicine is around 39.2 N.

A further concern is that not every MDI is equipped with a dosage tracker, leaving it to the user to estimate the number of activations remaining.

Technology Overview

The University of Cape Town's solution is an attachment sleeve that fits over a standard inhaler to significantly reduce the force required to activate the inhaler to about 12 N. This makes it manageable for most children above the age of 5 years old and geriatric patients to use an inhaler unassisted.

The sleeve enables the correct dosage to be delivered regardless of who is using it.

The device fits onto MDI pumps and features two symmetric levers that are pinched towards each other to activate the pump and dispense the medicine.

Fitting the sleeve is simple and it can be attached to standard medicinal inhalers (e.g. asthma pumps) by the patient.

It features a re-settable and adjustable dosage counter to help patients and parents track the number of pump activations that have been made, as well as the number of doses remaining in the canister.

Furthermore, the front appearance of the device is customisable. This was introduced with the intention of addressing the stigma associated with using MDI.

Benefits

- Easier activation of the inhaler. This extends the profile of users and their access to medicines. Parent-facilitated inhaler use is not required.
- Its simple design means:
 - users can easily assemble the device and fit an asthma pump into it.
 - reduction cost minimal and most components can be injection molded.
 - the device is designed to be reusable for a reasonable number of activations
 - the device is adjustable to fit a wide range of standard inhalers.
- Includes a dosage counter to indicate the number of dosages delivered or that are remaining
- The face of the device is customizable with character features, minimizing the stigma associated with using inhalers; especially among children.

- Patients have the option of employing a number of different grip types to activate the inhaler, whichever is most comfortable for them

Applications

MDI usage is increasing as intra-nasal and pulmonary inhalers remain an effective first line response to deliver therapeutics to treat acute asthma, chronic obstructive pulmonary disease and other respiratory diseases.

The sleeve device extends the potential users of these therapeutics and improves the general user experience since less force is required to activate the device.

Opportunity

UCT is seeking to license the intellectual property to a pharmaceutical and/ or medical device manufacturing partner with experience in the metered dose inhalers market.

The partner should ideally have:

- An appreciation for the challenges faced by young sufferers and the elderly in using inhalers
- Access through their supply chain to the target market
- Fair knowledge of the market dynamics for inhalers. This product is well-suited to extend the market for suppliers of generic medicines administered through inhalers.
- Access to injection mold developers and manufacturing capabilities.

Patents

- U.K Provisional Patent, Application number- GB1703982.7. Filled on the 13th March 2017 PCT Application, Filled on the 12 March 2018 The IP was filled by the University of Cape Town.

IP Status

- Patent application submitted

Seeking

- Commercial partner
- Licensing