

Semi-Automated Insect Culturing Device

Tech ID: 33509 / UC Case 2023-940-0

BACKGROUND

Drosophila spp., also known as fruit flies, are widely used in genetic research. *Drosophila* lines (e.g. flies with a particular mutation) can only be stored as live animals – they cannot be frozen and still remain viable. So to maintain the stocks, the live flies are manually transferred from an old vial to a new vial on a regular basis (every 1-2 weeks). Some *Drosophila* labs maintain hundreds or even thousands of individual lines and so maintenance of these lines can be very time consuming. A UC Santa Cruz *Drosophila* researcher has developed a simpler and more efficient method of transferring the flies that requires significantly less hands-on work.

An earlier version of this invention has been patented and patent prosecution continues. However, additional improvements to hands-free *Drosophila* maintenance systems were still necessary. In particular, a device that could be fabricated by injection molding would be advantageous as would a device that could better facilitating labels of stocks and that can be more readily separated into individual components for shipping and study.

TECHNOLOGY DESCRIPTION

The updated technology features individual caps that can be fitted to the open end of a tube used to house *Drosophila* and other insect samples. The cap includes a hole that allows passage of adult insects through the hole. When the cap is fitted on top of the vial, the cap can be positioned such that the hole allows free passage to a subsequent vial. Alternatively, the cap can be positioned on top of the vial such that the hole is blocked by the cap wall such that adult insects cannot pass to the subsequent vial. The cap features a mechanism that allows it to lock with the same mechanism on the subsequent vial such that adult insects can pass from the first vial to the second vial without escaping.

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INVENTORS

- ▶ Kornberg, Thomas
- ▶ Stamm, Reto
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OTHER INFORMATION

KEYWORDS

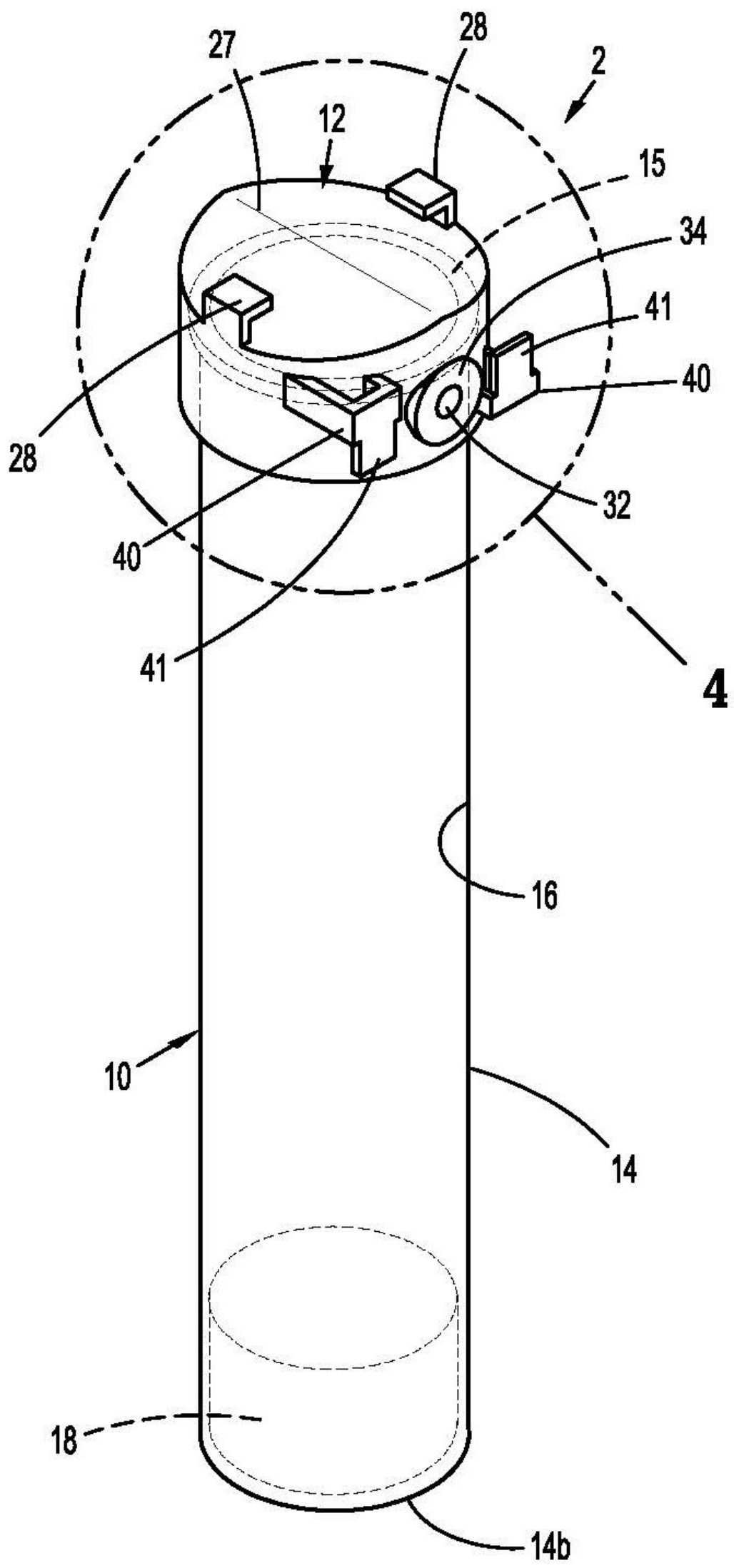
Drosophila, *Drosophila* maintenance,
Drosophila vials, Insect, Genetics
research, Live insects

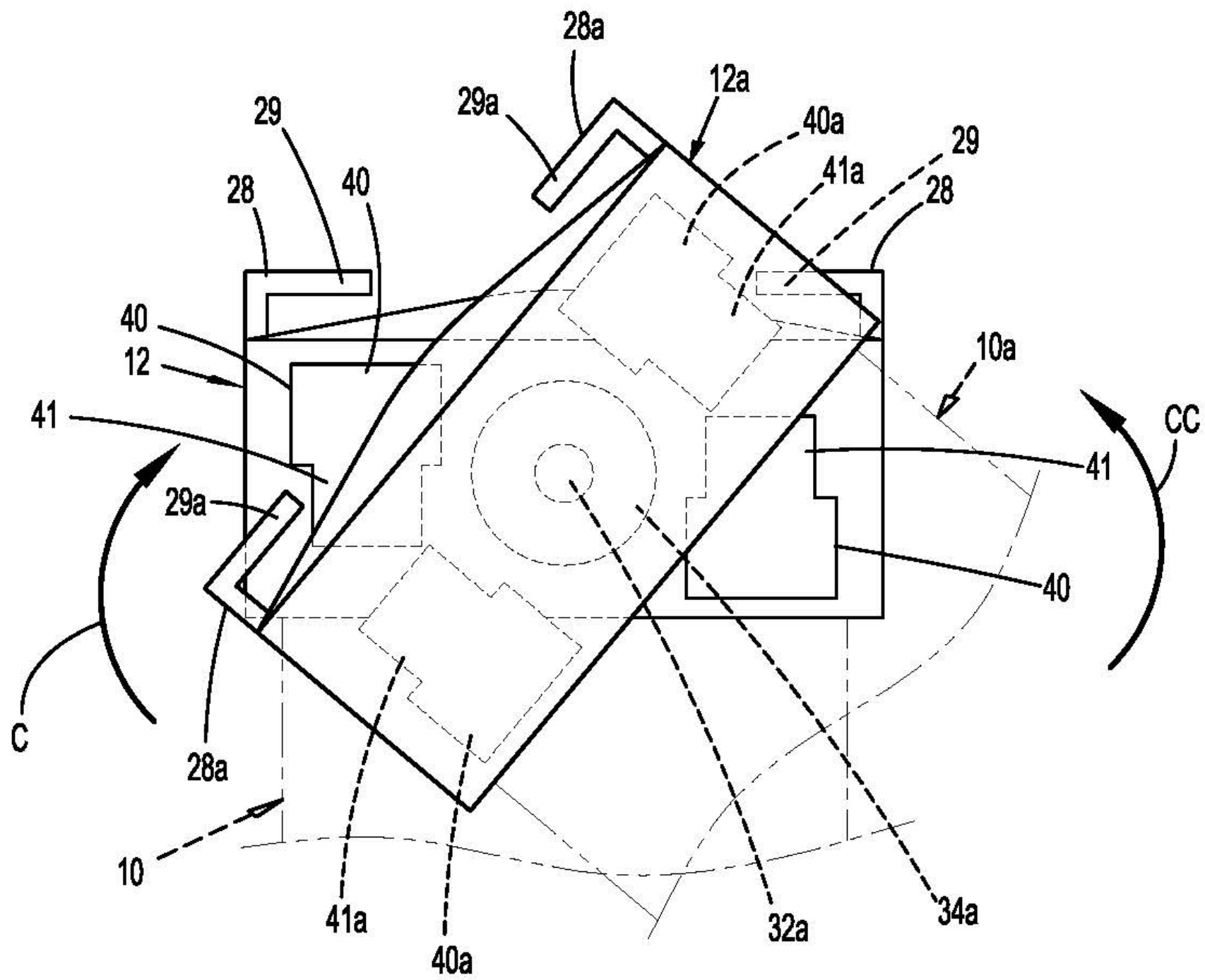
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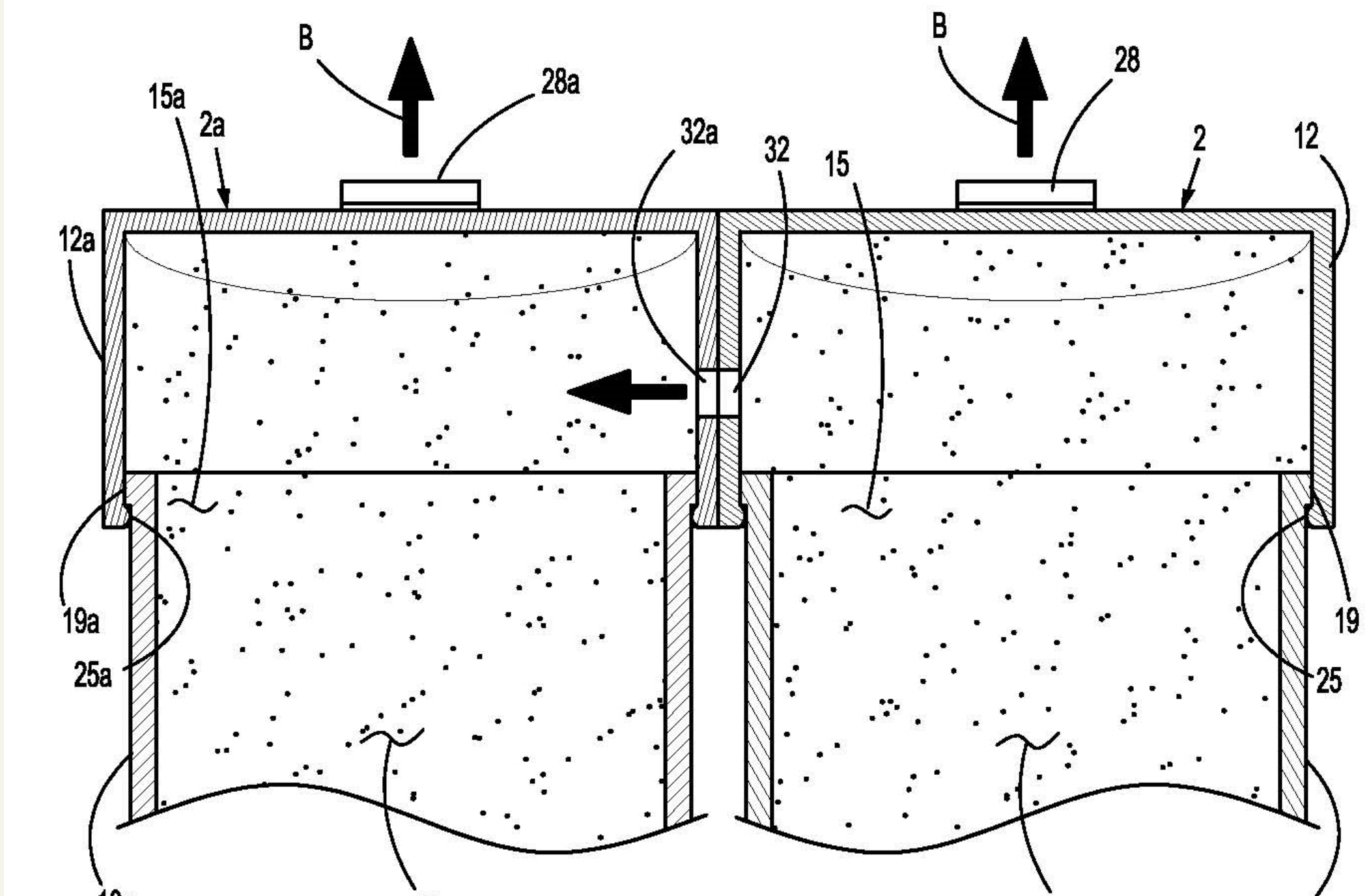
- ▶ **Research Tools**
- ▶ [Animal Models](#)
- ▶ [Other](#)

RELATED CASES

2023-940-0, 2017-265-0







APPLICATIONS

Laboratory *Drosophila* stock maintenance

Maintenance of insect stocks

ADVANTAGES

Greater ease of transfer of *Drosophila* stock to fresh vials

Reduced contamination between stocks

Easier labeling

Can be made with injection mold

Fits only the tops of vials (prior version was for both top and bottom)

Vials are locked together via the caps, no need for rubber bands or tape

INTELLECTUAL PROPERTY INFORMATION

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	12,065,670	08/20/2024	2017-265
United States Of America	Published Application	2022145245	05/12/2022	2017-265
United States Of America	Published Application	20190127688	05/02/2019	2017-265

Additional Patents Pending

RELATED MATERIALS

RELATED TECHNOLOGIES

► [Automated *Drosophila* Maintenance System](#)

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

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