

unipressor



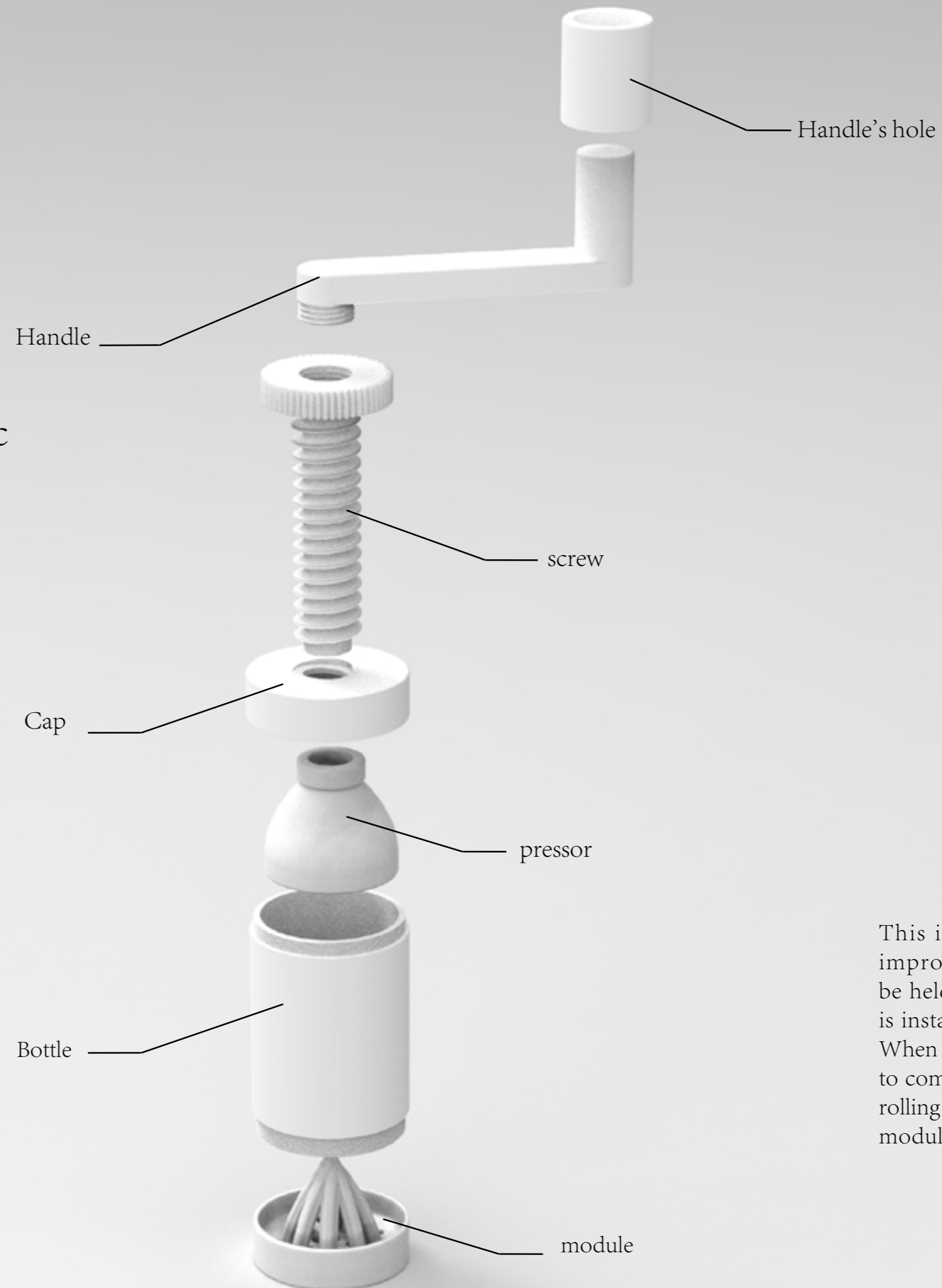
first inspiration

After a lot of data collection, I found two expanding cases, one is walnut crusher, the other is egg cutter, and I want to integrate them into one thing. So in my original idea, its function can crack walnuts, noodles, cut fruits with the same hardness as apples and press apple juice at the same time.

product assemble

how to use the product? basic
using:

https://youtu.be/4pZG7MFOb_E



This is my latest product version. The improvements include a bottle that can be held in one hand. A detachable handle is installed on the top for juice extraction. When the handle is removed, it can be used to complete low-level Stressful work such as rolling walnuts. Stressful work. A replaceable module is added at the bottom to adapt to different usage scenario



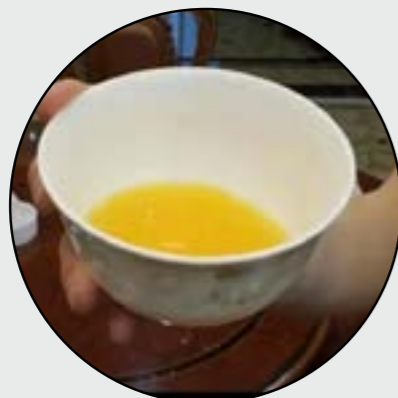
In order to get higher extrusion efficiency I narrowed the pressor



As mentioned earlier I widened the post in order to prevent it from breaking and to keep the pulp away from getting inside.



We can see how the pulp is perfectly attached to the wall this time, but there is still a part of the pulp that cannot be fully squeezed out because the pressor is too small



But the extrusion rate is good



In the case that the pressor is too small and cannot make enough basic juice, we can use the detachable advantage to replace the large pressor



In addition, I also tested the tomato and found that the extrusion rate is higher with the sharp module



I also tested the kiwi, and the result is that this time the extrusion rate is higher with the hole module



In addition, I also tested high-gluten flour and tried to squeeze it into strips, but it was not completely successful, because it exceeded the pressure range of the connection between the cap and the bottle, so it needs a large thread to press the noodles.

To Conclusion

different size of pressor
to apply different size of
fruit



thin pressor



middle pressor



fat pressor



flat pressor

To Conclusion



thin module

to apply some hard



fat module

to apply some soft fruit
like orange.



hole module

to apply some super soft
fruit like kiwi

or

use this module to crack
walnut



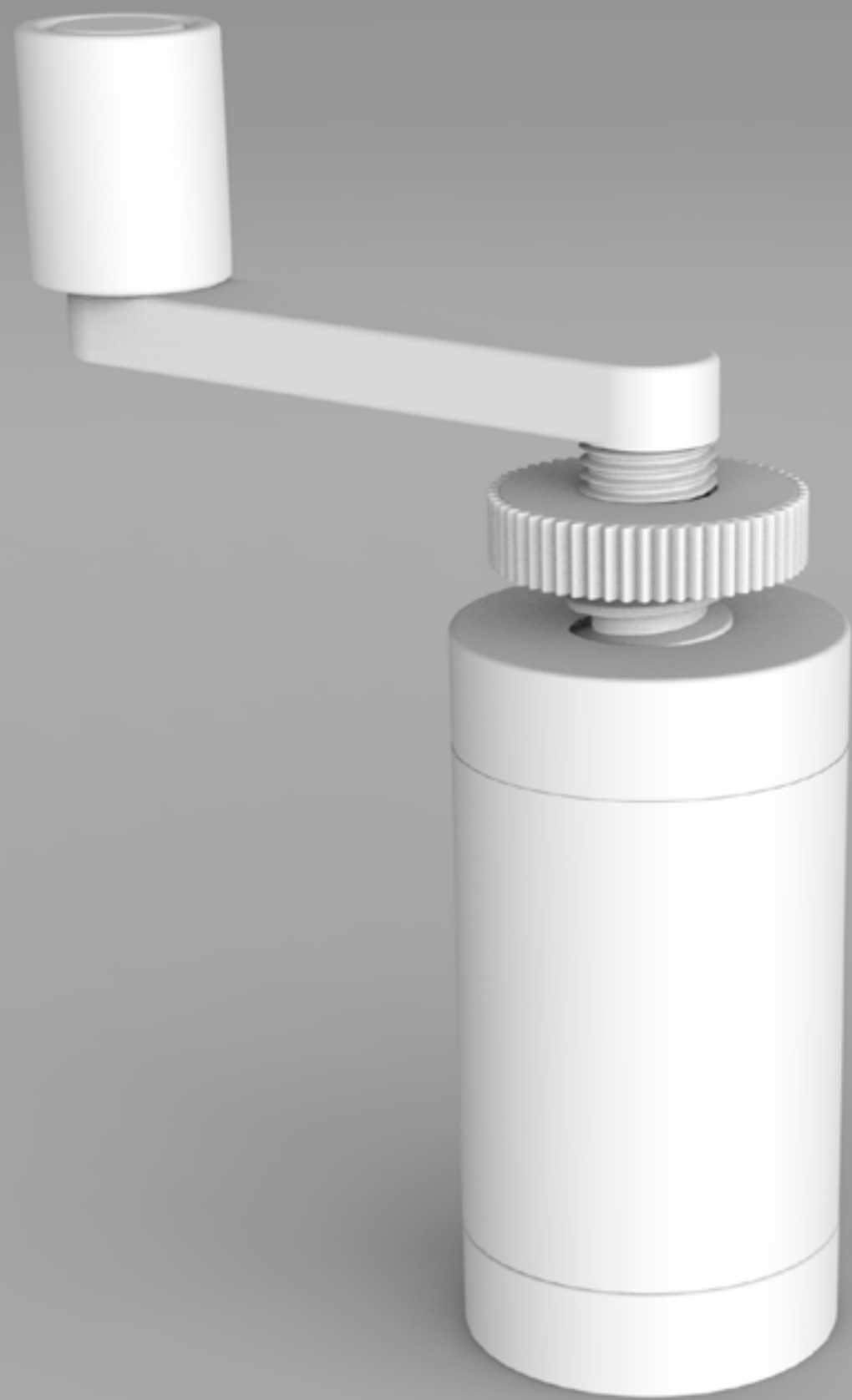
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reflection

In conclusion, this product has

1. Practicality: A variety of replaceable modules correspond to different usage scenarios, so that this product has countless possibilities to be developed by users
2. Open source, all CAD models of this product will be uploaded to the corresponding website without reservation and have a wide space for modification
3. Environmental protection, this product is all made of PLA material. PLA has good biodegradability. After use, it can be buried in the soil and completely degraded, eventually producing carbon dioxide and water, which are absorbed by soil organic matter or plants, and do not pollute the environment. Protect the environment, is a recognized environmentally friendly material
4. Aesthetics, this product adopts Japanese wabi-sabi minimalist aesthetics and Bauhaus minimalist elements, so that the shape of the product is mainly round and a small amount of cubes
5. Durability, because the structure of this product is not complicated and the infill of 3D printing is 20%, the overall structure is strong

Shortage:

1. This product is helpless for fruits with hardness like apples. In the future, steel modules or steel pressors need to be added to solve this problem.
2. The connection part of this product is not very strong. For example, the part where the cap connects the bottle and the part where the module connects the bottle needs to be designed with wider threads or made of steel to make it firm.
3. This product is not designed with a bottom frame to support the product to make it more convenient during the juicing process. Because of the limited time, it is hoped that subsequent developers will improve it.
4. This product does not carefully consider the cleaning problem, for example, there are many holes in the hole module that need to be cleaned by specific molds.
5. The bottle is better to make it in transparent in order to observe the interior situation□ but it need resin printer or make in glass

Self summary:

This project has taught me a lot of modeling knowledge, such as the relationship between screws and nuts. This is also the first time I have used an FDM printer. Maybe I have a little understanding of him. This product has been printed after many iterations. , the final result obtained by scrapping a lot of useless parts.

Thank you :>

Youtube link

how to use the product? basic using:

https://youtu.be/4pZG7MFOb_E

all fruit testing:

<https://youtu.be/XMsN889ZUMg>