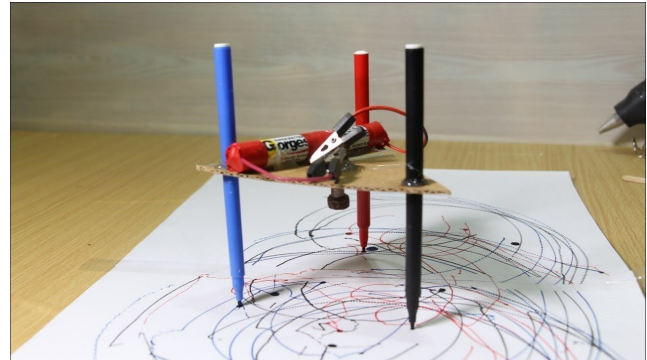
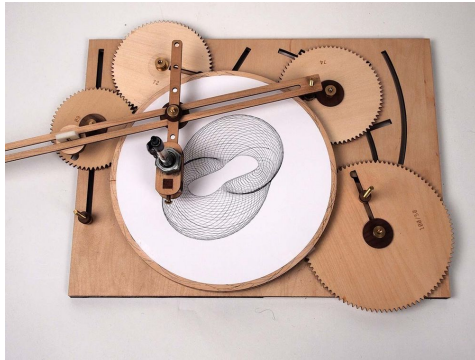


3D-PRINTED DRAWING MACHINE - 13th April, 2020

Need and Constraints

The need for this project is to create a drawing machine that is small and portable enough to be used in an art classroom. The constraint for this design (my assumption) is that it must be entirely built from 3D printing filaments.

Research



There are two types of drawing machines, the automatic one and the manual or the mechanic one. According to the need of this project (small and portable enough to be used in an art class), it is better for the drawing machine to be the manual one. This is because if the automatic drawing machine has to be small, not much adjustments or customizations can be made, and therefore, not many shape patterns can be created. But meanwhile, according to Kiwico.com (link below), multiple modifications can be made to small manual drawing machines, which can produce many different types of shape patterns.

([Build a Geometric Drawing Machine - Tinker Crate](https://www.kiwico.com/), <https://www.kiwico.com/>).

Possible solution



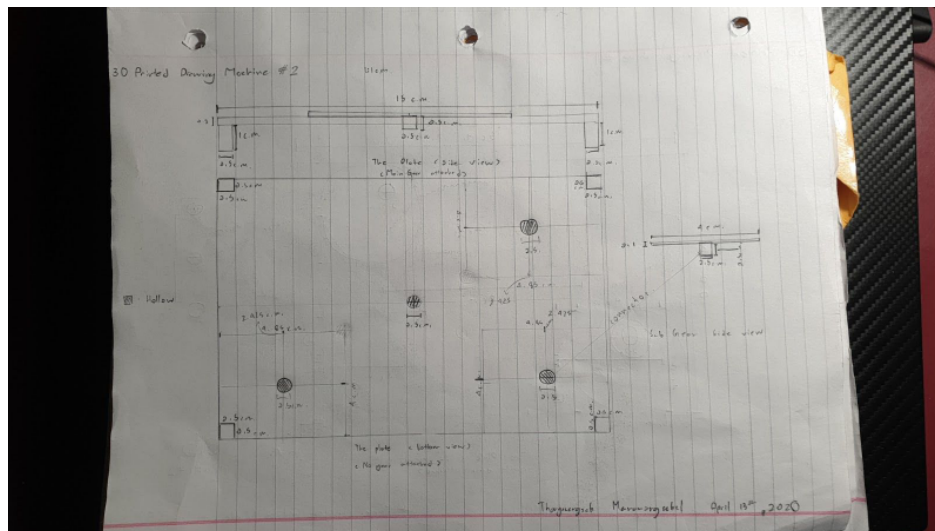
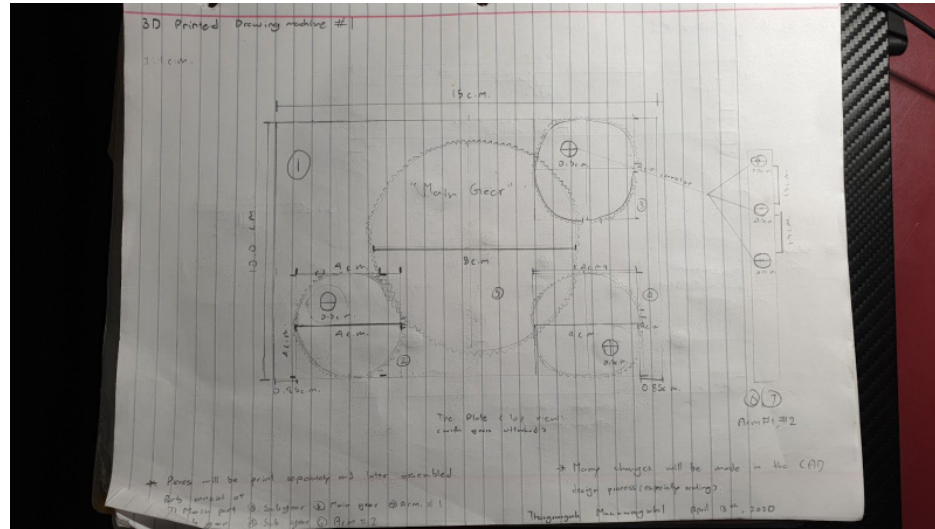
JSUMO
www.JSumo.com (The kind of gear I am talking about.)

The best possible solution is to create a plate drawing machine that has multiple gears on it with level adjustments on the plate.

Plan

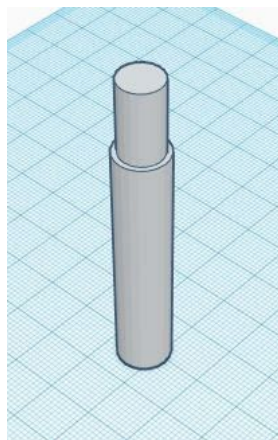
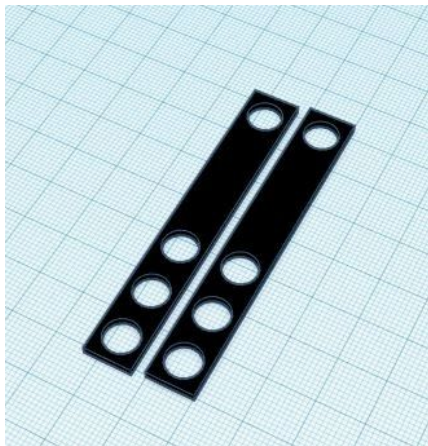
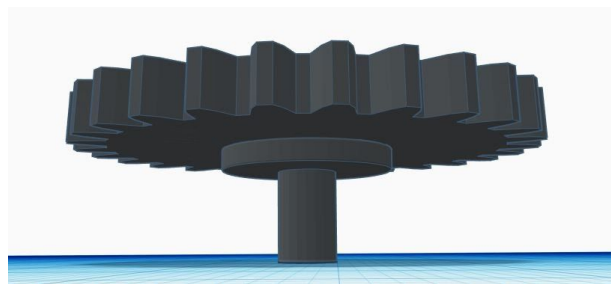
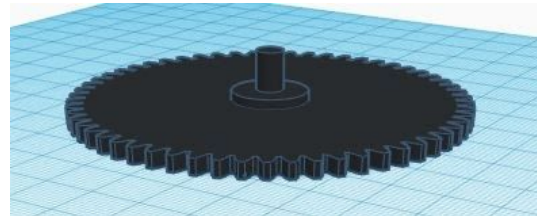
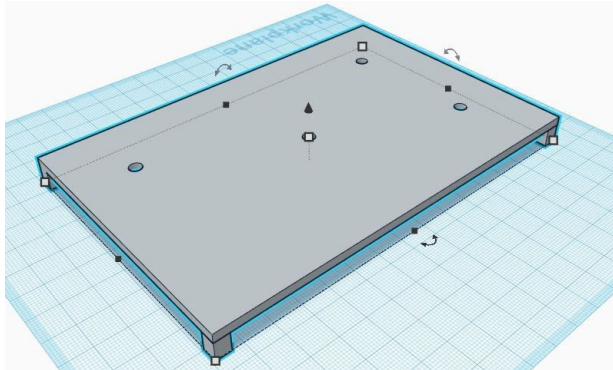
As said in the **Possible Solution** section, we are making a drawing plate with gears that are all attached to one “arm” which would be used to hold drawing utensils up straight. These gears would be connected to the “main gear”, which is where the paper will be placed, and for these gears to move, we have to manually operate one of the gears, that is not the “main gear”, by ourself. The “arm” will be the part where customizations to drawing utensils’ position can be made for the purpose of differences in shape patterns.

Sketch



3D-PRINTED DRAWING MACHINE - 13th April, 2020 - Tinkercad design and print information.

TinkerCad design



Print Information

File Name	Changes
3D Printed Drawing Machine.stl	No change needed.
Main gear.stl	Scale down to 95%
Arm.stl	No change needed.
Side gear.stl	Scale down to 95%
Arm tower thing.stl	Scale it down to 95%