

# Mechanism



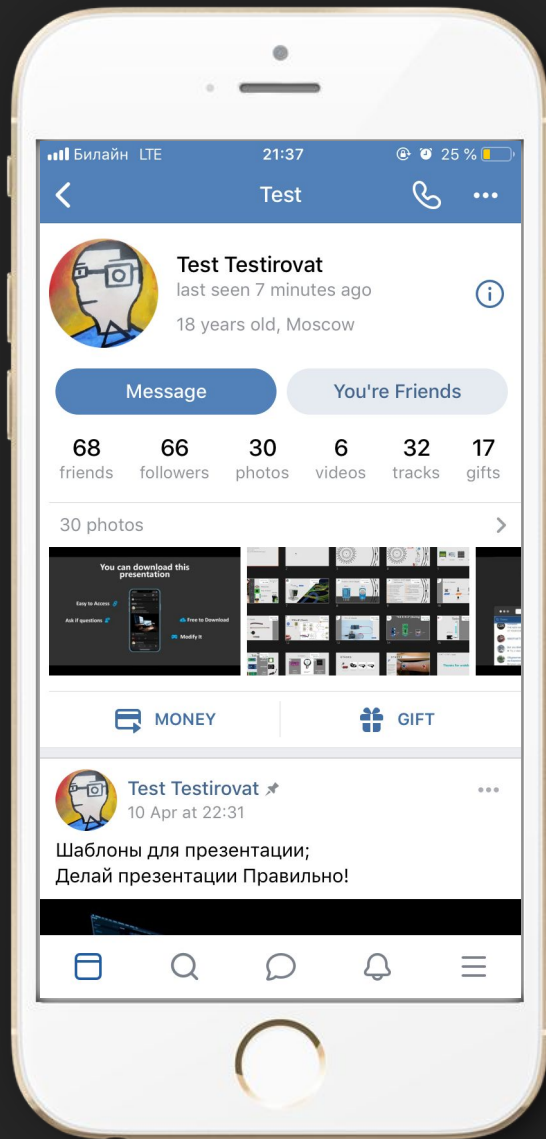
*“a piece of machinery*

Actuators

*“a machine that is responsible for moving and controlling a mechanism*

**Name of presentation**

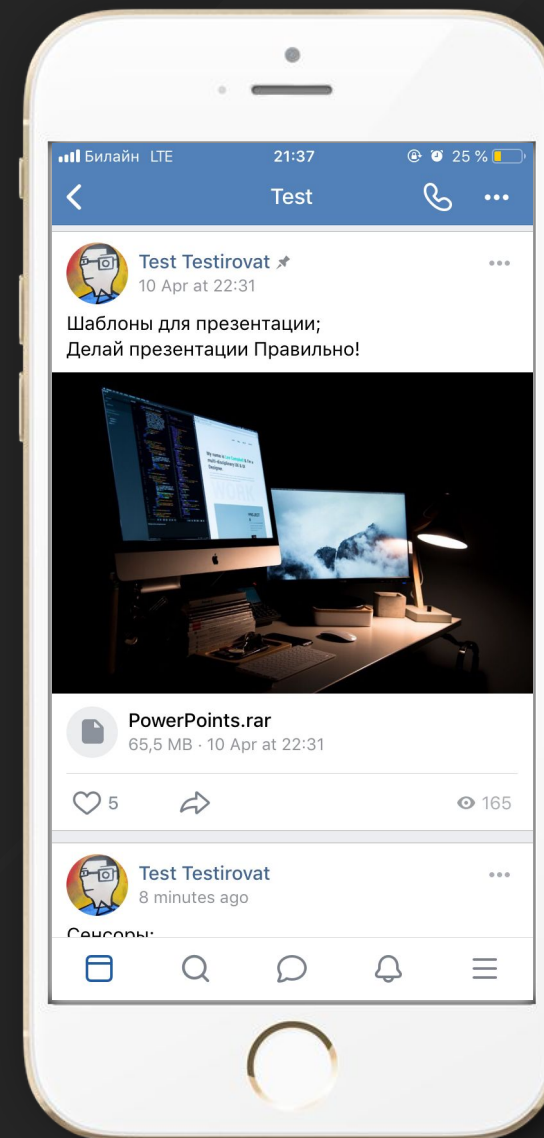
**Company name**



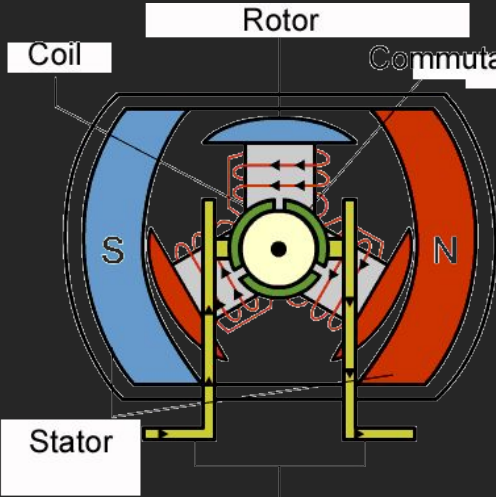
# Free design

Не знаю что тут печатать.  
Короче  
Скачайте

[Learn More](#)

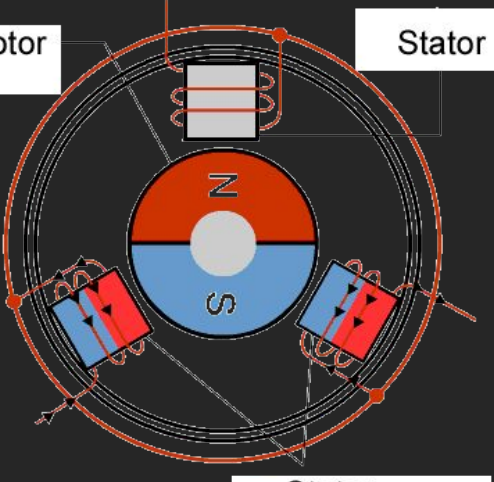


# Actuators



Brush  
Brushed  
Motor

*"Cheapest, easiest"*



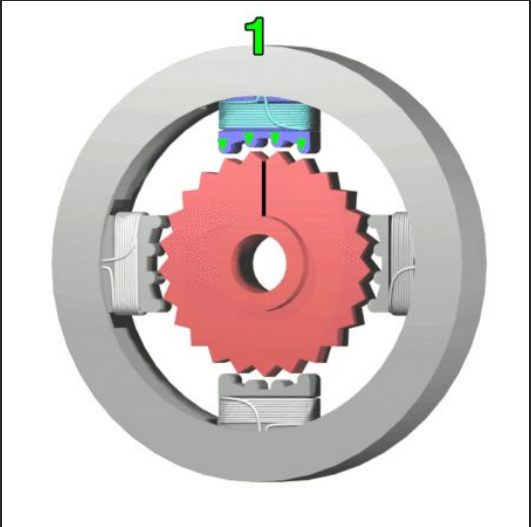
Brushless  
Motor

*"Most effective"*



Servo  
Motor

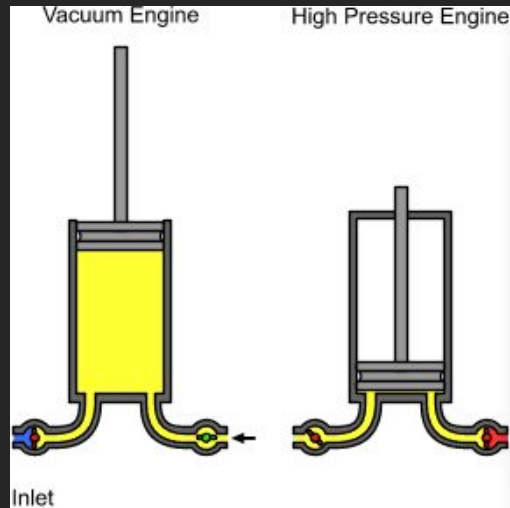
*"With position rotating"*



Step  
Motor

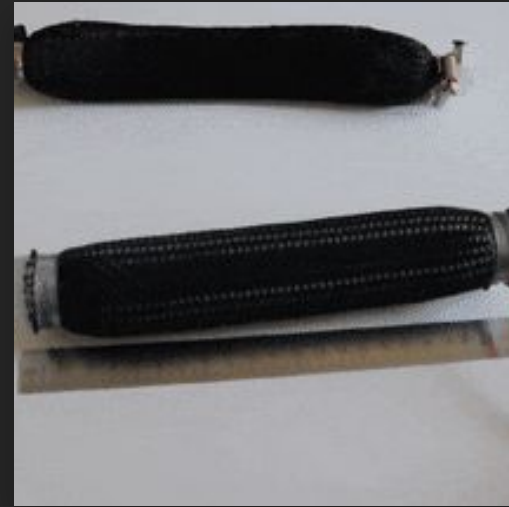
*"Precis2e"*

# Actuators



Hydraulic  
Pump

*"Most powerfull"*



Pneumatic  
Muscle

*"For soft robot"*



Hazel  
Actuator

*"New future"*



Nitinol  
Muscle

*"Another solution"*

# Mechanism

In engineering, a mechanism is a device that transforms input forces and movement into a desired set of output forces and movement.

## Includes

- 1) Gears and gear trains
- 2) Belt and chain drives
- 3) Cam and followers
- 4) Linkage
- 5) Friction devices, such as brakes and clutches
- 6) Structural components such as a frame, fasteners, bearings, springs, lubricants
- 7) Various machine elements, such as splines, pins, and keys.



60

%

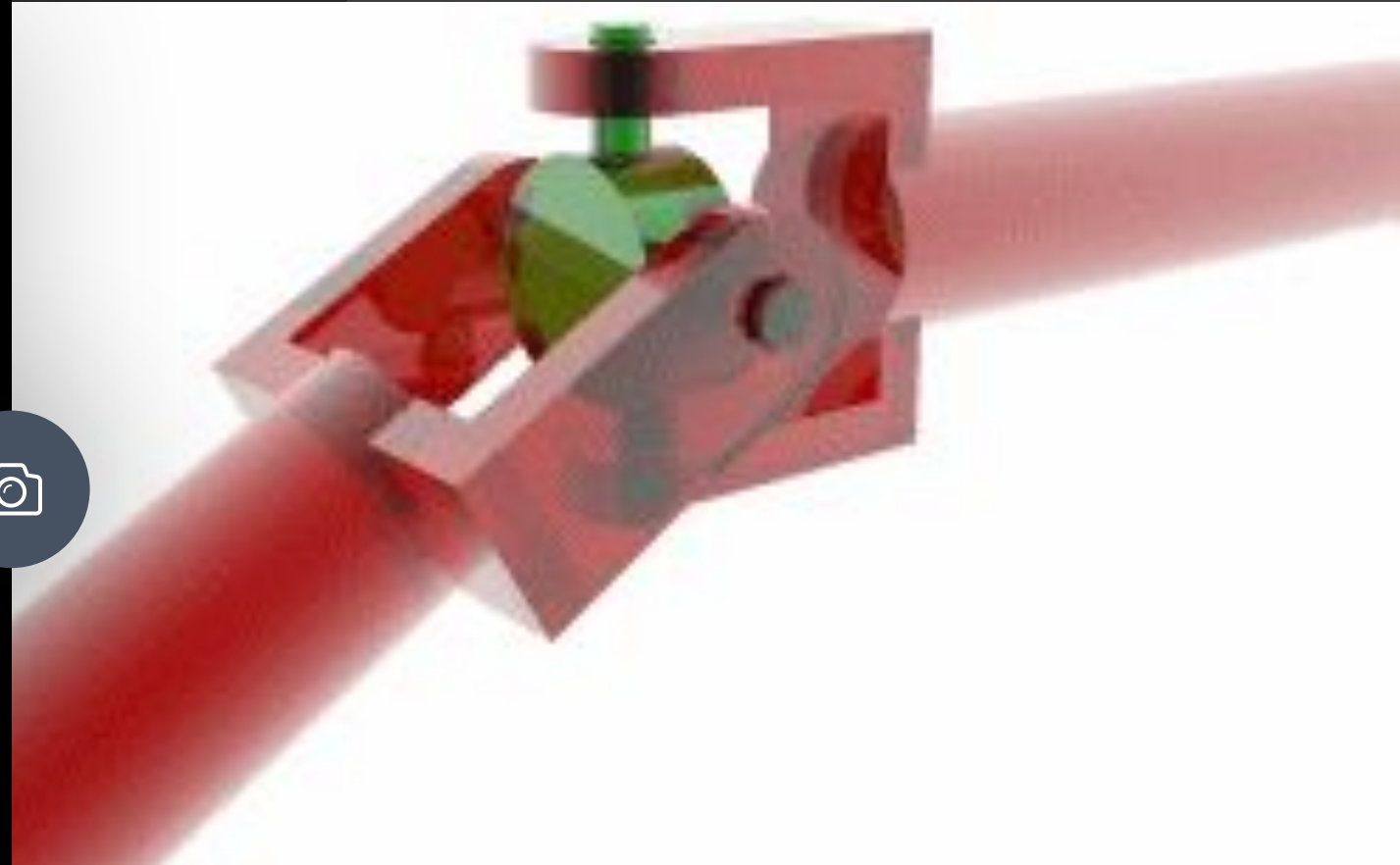
A mechanism is usually a piece of a larger process or mechanical system.

Multiple mechanisms are machines.

A universal joint (universal coupling, U-joint, Cardan joint, Spicer or Hardy Spicer joint, or Hooke's joint) is a joint or coupling connecting rigid rods whose axes are inclined to each other, and is commonly used in shafts that transmit rotary motion.

*“Constant-velocity joints (also known as homokinetic or CV joints) allow a drive shaft to transmit power through a variable angle, at constant rotational speed, without an appreciable increase in friction or play. They are mainly used in front wheel drive vehicles.”*

# Universal joint

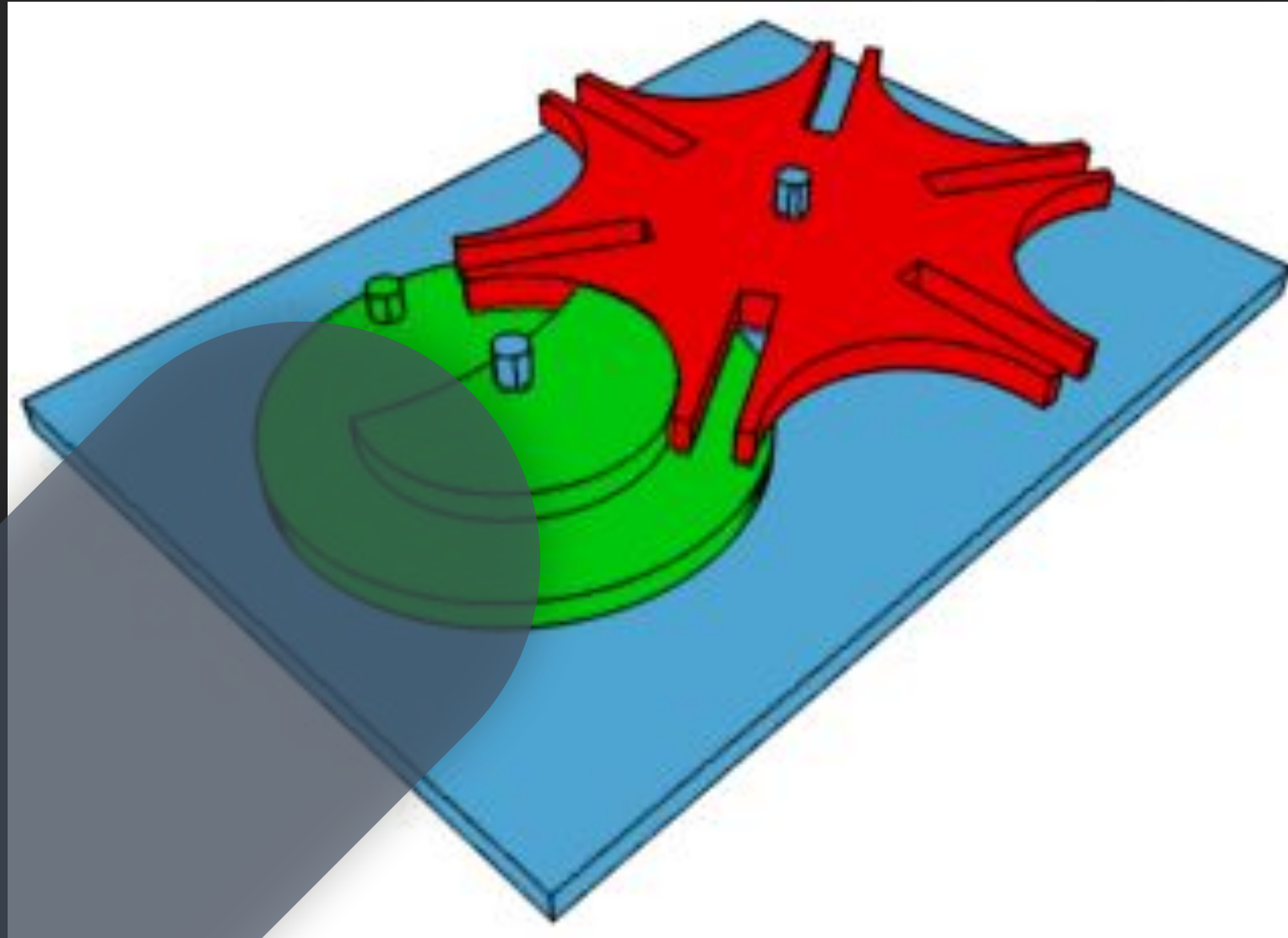


# Geneva mechanism

The Geneva drive or Maltese cross is a gear mechanism that translates a continuous rotation movement into intermittent rotary motion.

The rotating drive wheel is usually equipped with a pin that reaches into a slot located in the other wheel (driven wheel) that advances it by one step at a time.

The main wheel also has an elevated circular blocking disc that "locks" the rotating driven wheel in position between steps.

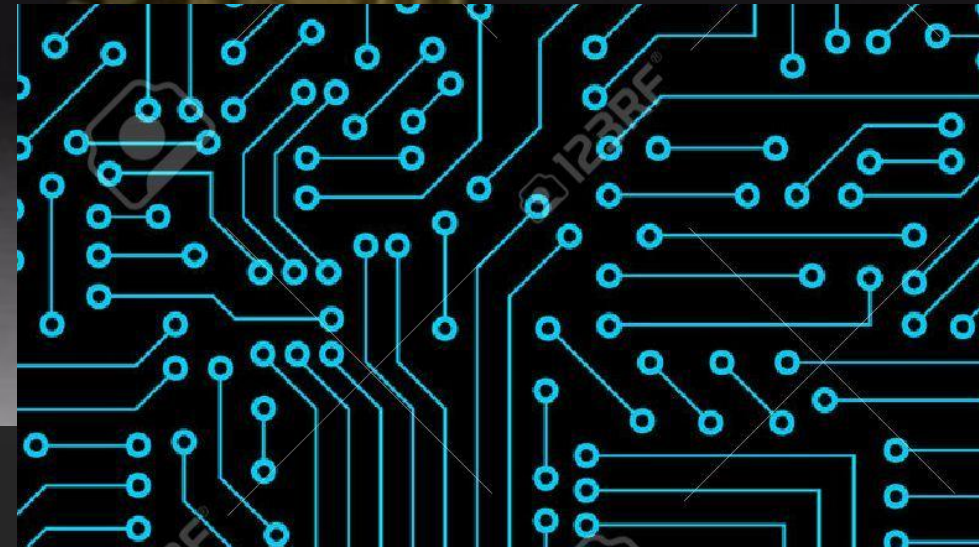


# Crossed helical gears

## Helical or "dry fixed"

gears offer a refinement over spur gears. The leading edges of the teeth are not parallel to the axis of rotation, but are set at an angle.

*Since the gear is curved, this angling makes the tooth shape a segment of a helix.*





# A circular gear inside an oval gear

<https://www.youtube.com/watch?v=zae2ZePQTwQ>

Meanwhile, the oval-shaped inside out-ish gear makes the pair something called a "rack and pinion."

This pairing comes in all kinds of different forms but generally includes one circular gear and one long, straight, toothed beam.

The result is that the continual circular motion of the traditional gear can be turned into linear movement.



**Only Runs In One Direction**  
i.e. Pinion Clockwise

# Planetary gears

## An epicyclic gear train

An epicyclic gear train (also known as planetary gear) consists of two gears mounted so that the centre of one gear revolves around the centre of the other.

A carrier connects the centres of the two gears and rotates to carry one gear, called the planet gear or planet pinion, around the other, called the sun gear or sun wheel.

The planet and sun gears mesh so that their pitch circles roll without slip.

A point on the pitch circle of the planet gear traces an epicycloid curve. In this simplified case, the sun gear is fixed and the planetary gear(s) roll around the sun gear.

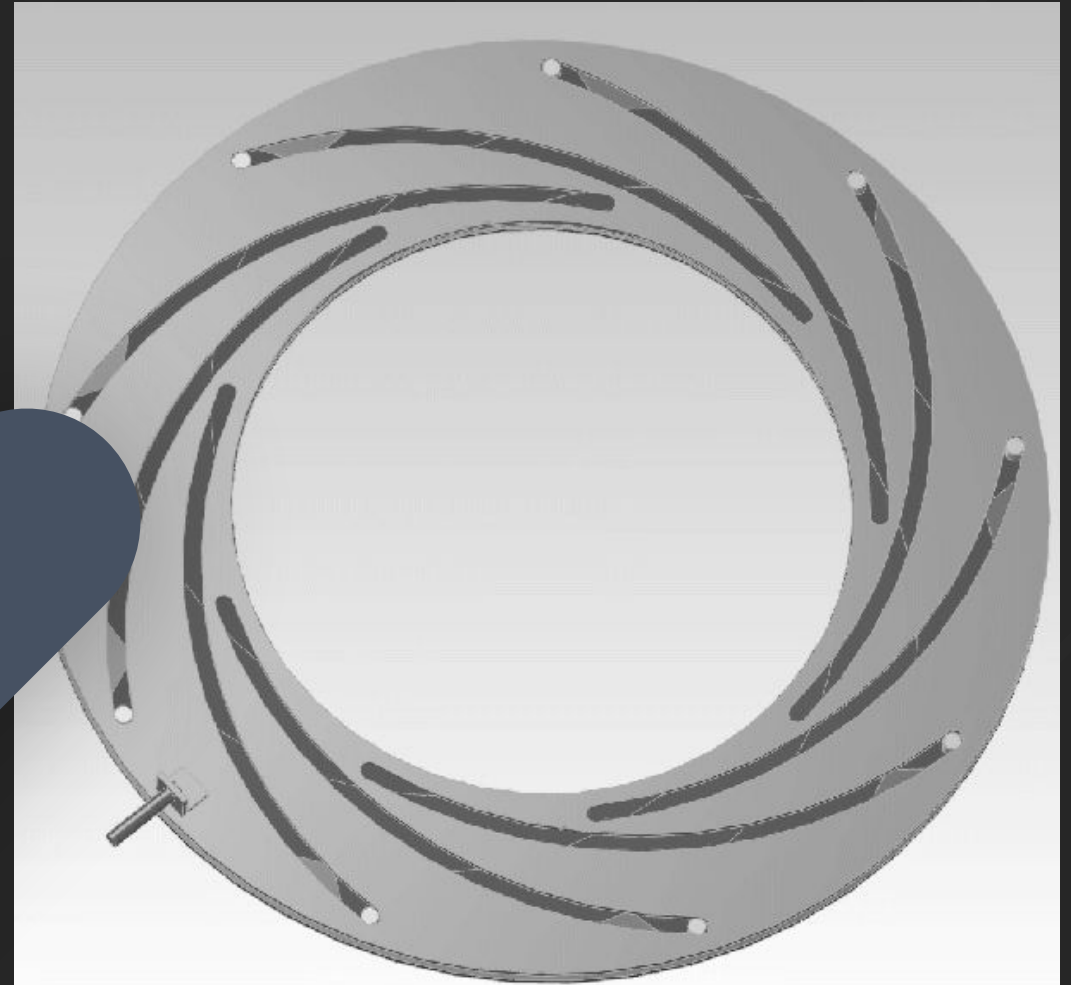
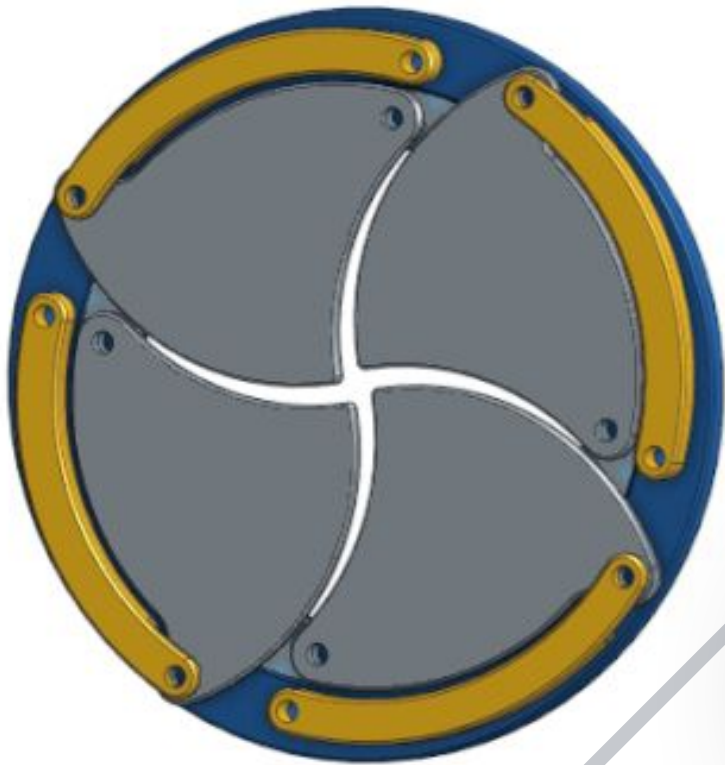
[Learn More](#)



The mechanism (see figure) includes an inner flat ring, an outer flat ring, and an even number of iris blades.

The design is generic in that it is adaptable to a wide range of aperture sizes and can be implemented in a variety of materials to suit the thermal, optical, and mechanical requirements of various applications.

# Iris Mechanism



# Nautilus gears

<https://www.youtube.com/watch?v=bbp0SYEpjrg>

It's another mostly pointless exercise, but these gears do exhibit an interesting quality: If one gear is moving at a constant speed, the other will speed up and slow down during the course of its rotation.

That's gotta be good for something, right?

# 30

Friday, Aug 2019

#1

Instead of being totally round, these gears take their cue from the Fibonacci spiral.

#2

The result is that at the very end of a rotation, the two big flat sides hit against each other before the next turn starts.





## "Magic" worm gears

<https://www.youtube.com/watch?v=qGANmRb66s0>

Another invention of Oskar van Deventer, these strange worm-like gears have a hidden superpower. When oriented one way, the outside two spin in the same direction while the middle one spins in the opposite direction, like a normal trio of gears. But when you flip them around just right, all three can interlock and spin in the same direction. How? Well, it's best to let the master explain:

# Rectangle gears

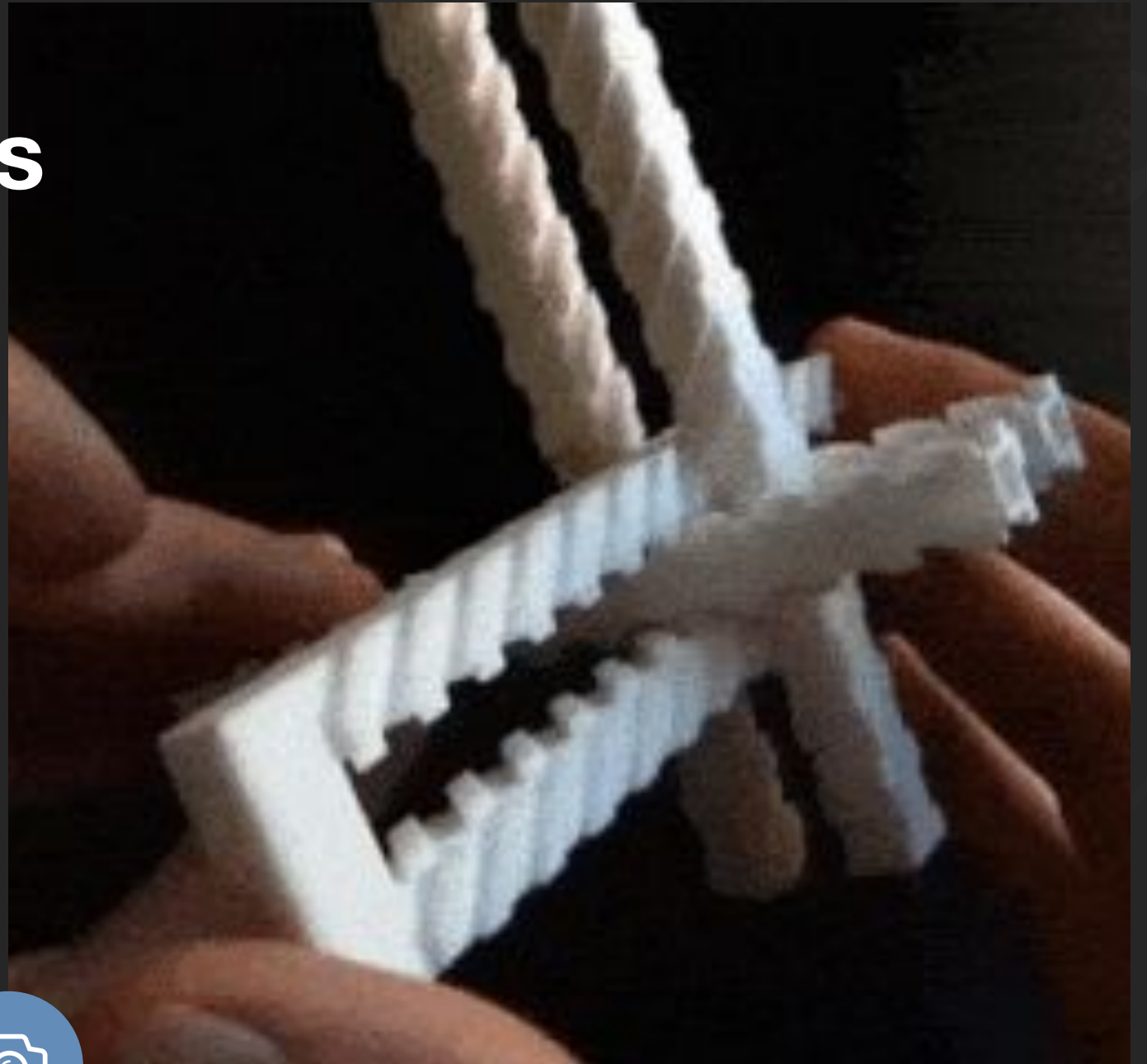
Another interesting mechanism with no real application, this trio of interlocking pieces is a rectangular version of a mathematical phenomenon called "Borromean rings."

It's also a sequence of three identical gears that can move when they're all connected, which isn't usually the case.

A fun little curiosity, but they don't serve a purpose other than just being fun to fiddle with.



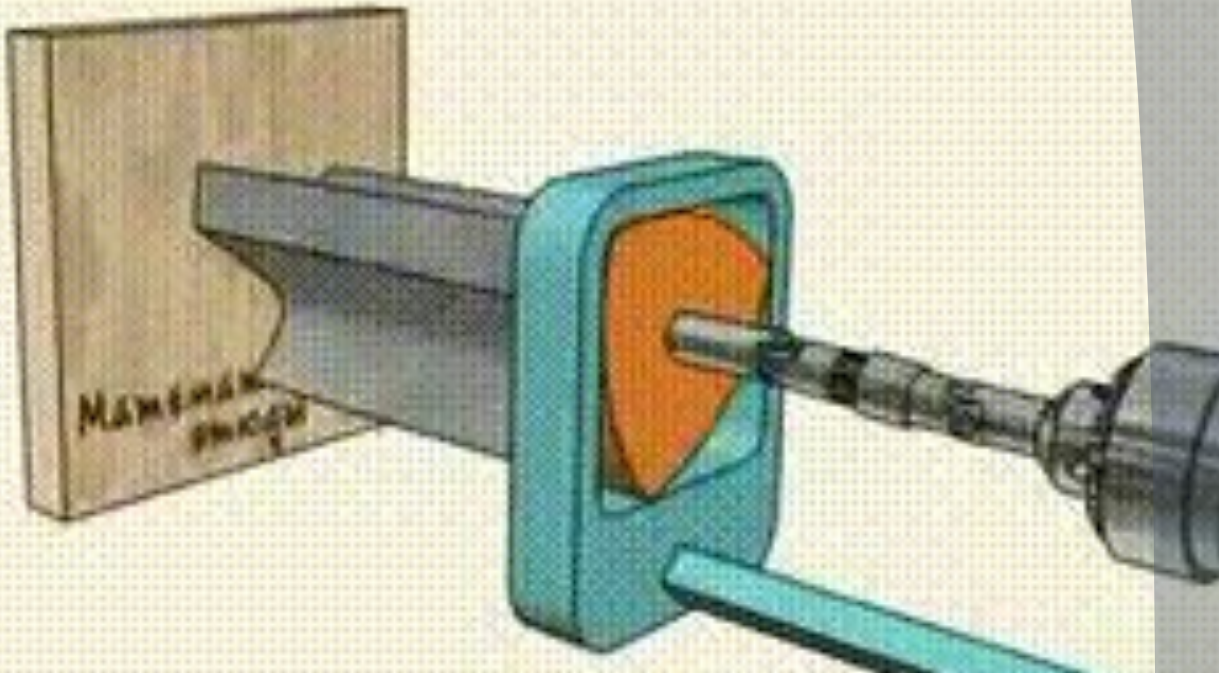
<https://www.youtube.com/watch?v=WQ9ptuUxfk4>



# Reuleaux triangle mechanism

Any curve of constant width can form a rotor within a square, a shape that can perform a complete rotation while staying within the square and at all times touching all four sides of the square.

[Learn More](#)





# Donut gears

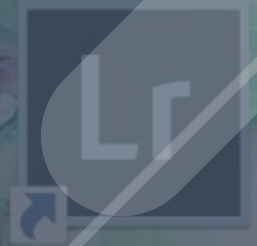
Yet another art piece, this system of gears includes three inseparable and interconnected donut-shaped guys, all powered by a single corkscrew spindle that juts up through the center of the whole thing.

Not a lot of practical application here, but it's a fun little desk ornament.

[https://www.youtube.com/watch?v=QhXjevOY\\_uk](https://www.youtube.com/watch?v=QhXjevOY_uk)







Adobe Lightroom Classic



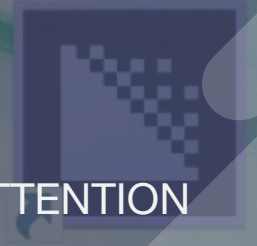
Adobe Photosh...



Adobe Premiere P...



Adobe After Effects CC ...



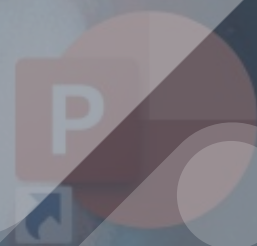
Adobe Media Encoder CC ...



HandBrake



Excel



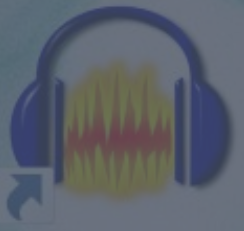
PowerPoint

FOR YOUR ATTENTION

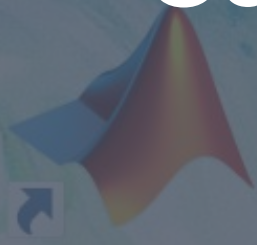
Thank you,  
See You Next Time



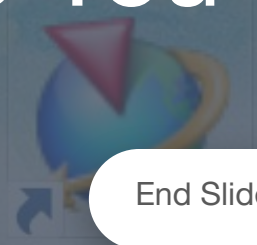
TeamViewer 14



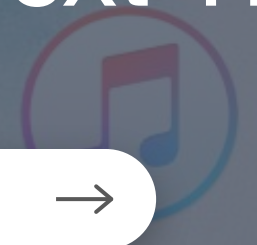
Audacity



matlab - Shortcut

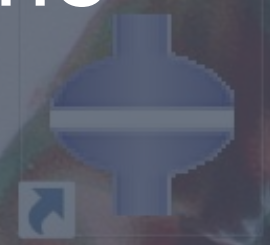


NX

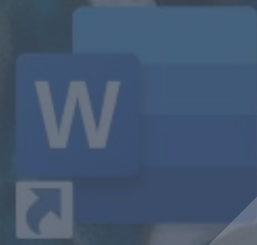


iTunes

End Slide →



Abaqus CAE



Word



This PC

arouse

Bla bla bla bla bla bla bla bla bah bluh 😊

From CM7-35B