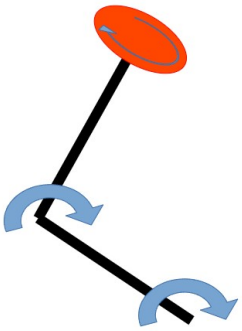
How i came up with the idea for the centrifugal drive.

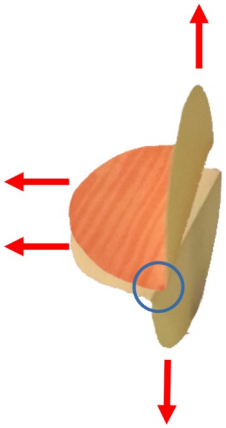
It started with spinner. And a question. Can the stabilizing effect be used to create a forward motion?

So the basic idea was to have a spinning disk attached to some levers.
Then the levers then may perform some movements. So that the full thing will move like a rowing boat.



I thought about this for a very long time. But couldn't find a solution for it.
One day I noticed that everything I imagined in my mind was always moving at the same speed.
This was like a reset event for me. And I started review everything.

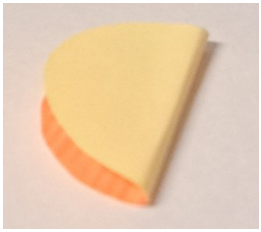
And while being at the spinning disk. I got the idea that if the spinning disk can be bent by 90°, then the centrifugal forces will not be even. So if I have two of them I get a movement.



At that moment I was not seeing hat also one disk would do the same, but only in an other direction.

One problem of this was the corner. What centrifugal forces will be there? I set this problem aside. Also there is no spinning disk that is bend 90°. For this I found a simple solution. Just don't use a disk, use only a mass that travels at the edge of the disk.

I found an even better version of the bend disk. Bend / fold the disk by 180°.



So there was still the issue with the centrifugal forces at the corner of the disk.
After a while I figured that mass don’t need to move all the way through the corner.
The mass can stop before the corner and then move along the arc to the other corner and so on.
So no more problems centrifugal forces in the corner.

So that this was solved it was time to start with a simple prototype.
For this I was looking at the formula for the centrifugal force:

$$F = mv^2/r$$

I noticed that the speed had a much stronger influence on the forces than the mass.
I thought about whether the mass and speed could change on a circular path.
And I figured that liquids can do this when the pipe has a different diameter.

For a very long time there were nothing and than in a very short time also a second solution.

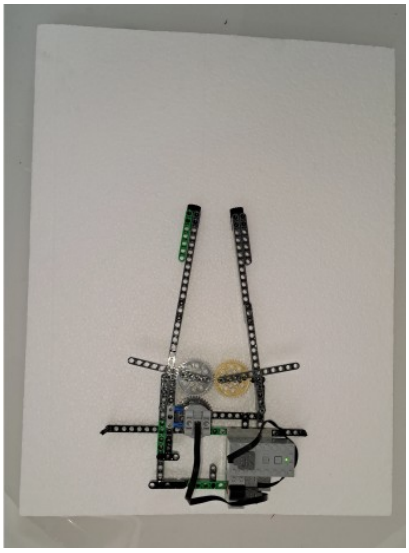
Testing

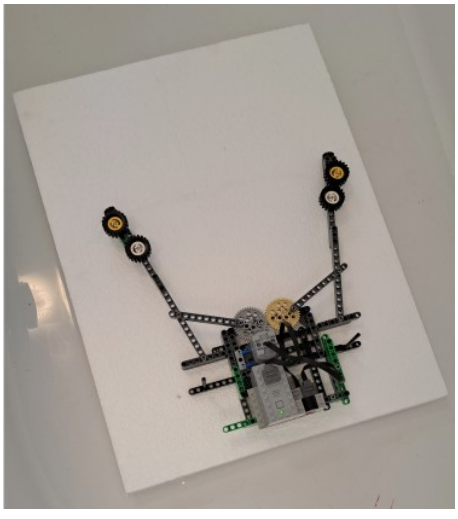
The first test to see if I totally wrong. Just a pendulum on a scale.

What was I expecting, when the weights are dropped: The total measured weight will increase.
Result for me was very low to zero. No good measurements could be taken.

Only a negative result would have given me any new information.
A negative result fort me would been, when the weights gets dropped and there are no changes for the weight at the scale.

Testing the “Krape”





This went quit well considering this was the first try.
Only a fresh set of batteries where able to show any result.
However is was still barely working.
So I added weights at the arms. This changed it a little.
Some month later while watching the movies of this test. I saw that the first prototype worked a

little better that the one with more weights on it. When considering $F = mv^2/r$ reducing v was not a good idea.

I also build a wooden test stand which was hung on a single string. (I don’t have any picture of it.)
This did not work at all. I think the main problem was the weight at over 15kg.

The testing of the prototype with the hoses was a challenge.
The first hose prototype had 3 rings of hoses stacked to top of each other.
This was done to increase performance.

However this was very bad for testing, since I had a lot of trouble with bubbles. (Testing was done by hanging it to the ceiling. It was very shaky in all directions. I tried to stabilize it with my hand.
While do this I felt small pushes in the direction of the large hose.
This was totally unexpected. From $F = mv^2/r$ my exception was the drill produced a very high speed so it has to go to the side of the smaller hose.
Only after I cleaned up I realized the speed is probably too slow.
This gave me a lot of courage. Something unexpected happens and it's still true.

The next test with only one hose ring went better. Leaking water from the joints was some trouble.

Testing this in the pool was also challenging. First there was a need to find a time, when the pump was turned off long enough, so that there was no current in the water.
Also there was a little wind, so the set up was so that it had to work against the wind.
It work only the when the drill was set to max rpms. (I don’t know the rpm of the drill).
The wire was already an issue it was so heavy it pulled the prototype back when turned off.