

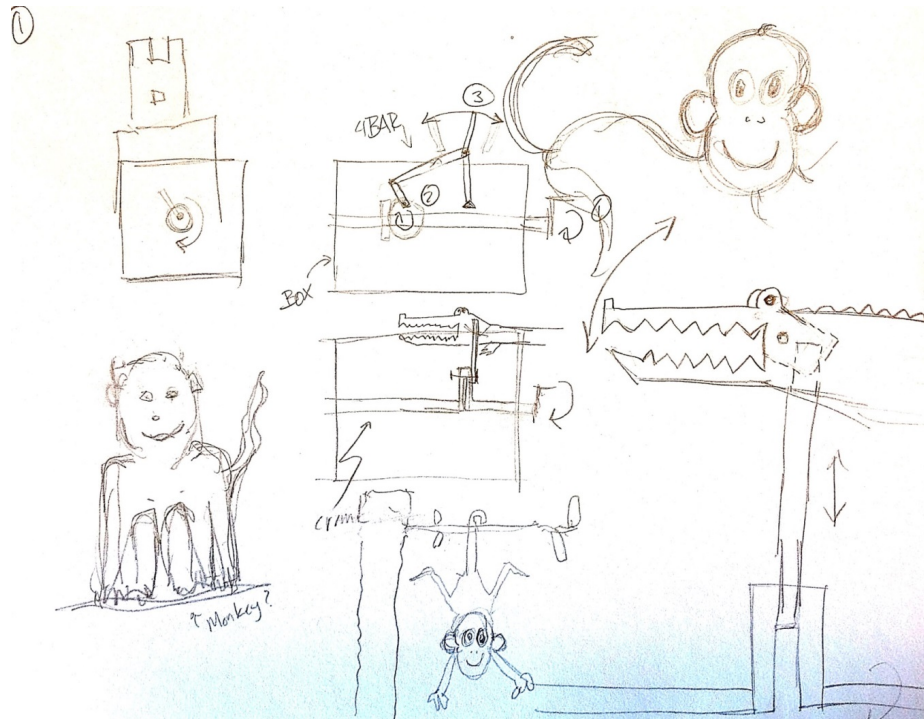
THIS IS FROM FOUR YEAR AGO

AMT Initial Sketches – a sampler

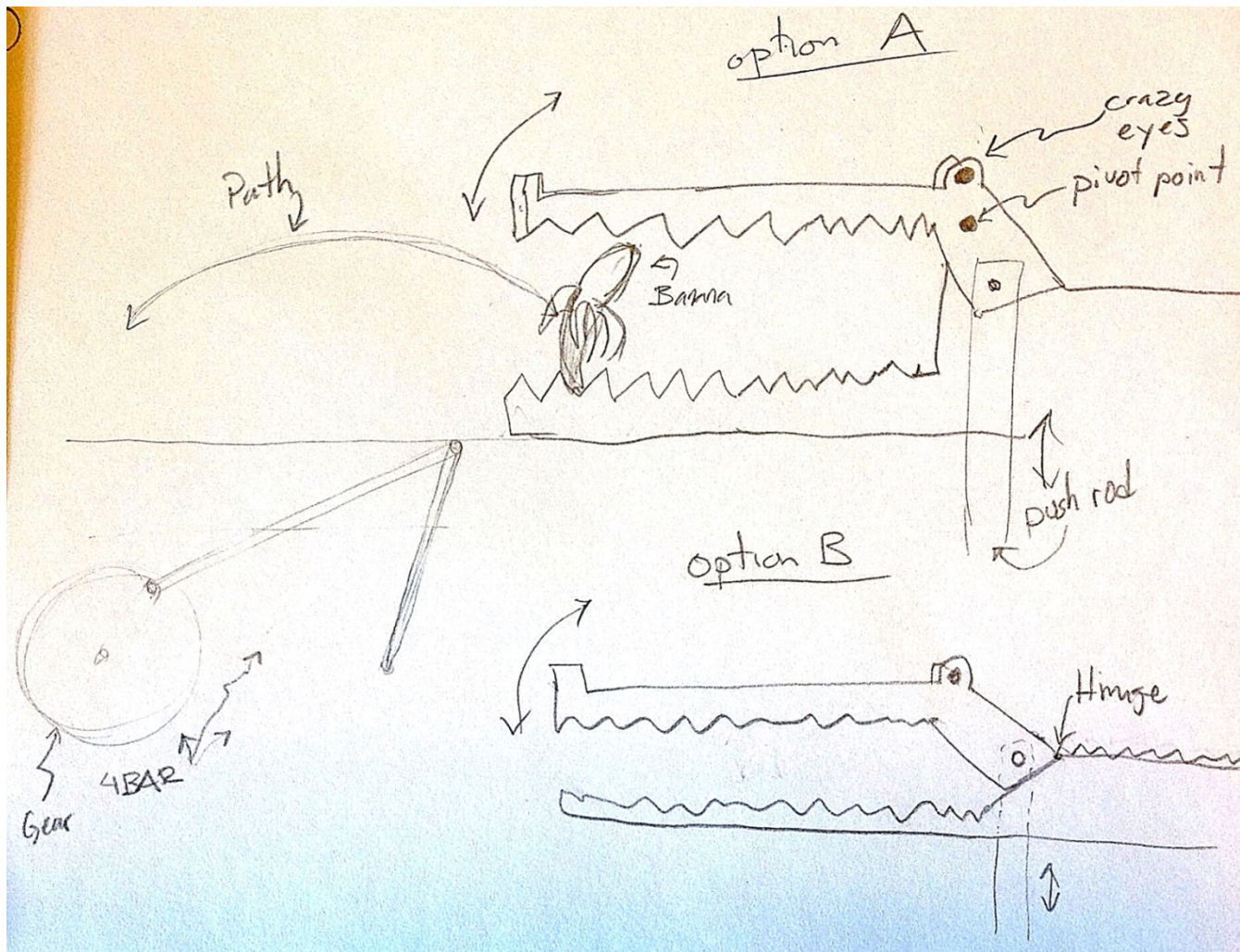
This document is a set of sketches for an AMT, ranging from very initial rough sketches exploring a concept to sketches just before a final version ready to submit.

The basic idea is that of a monkey teasing a crocodile by moving a banana into and out of the croc's mouth.

This first page is just some notions about the figure (monkey and croc) and some ideas about possible mechanisms.

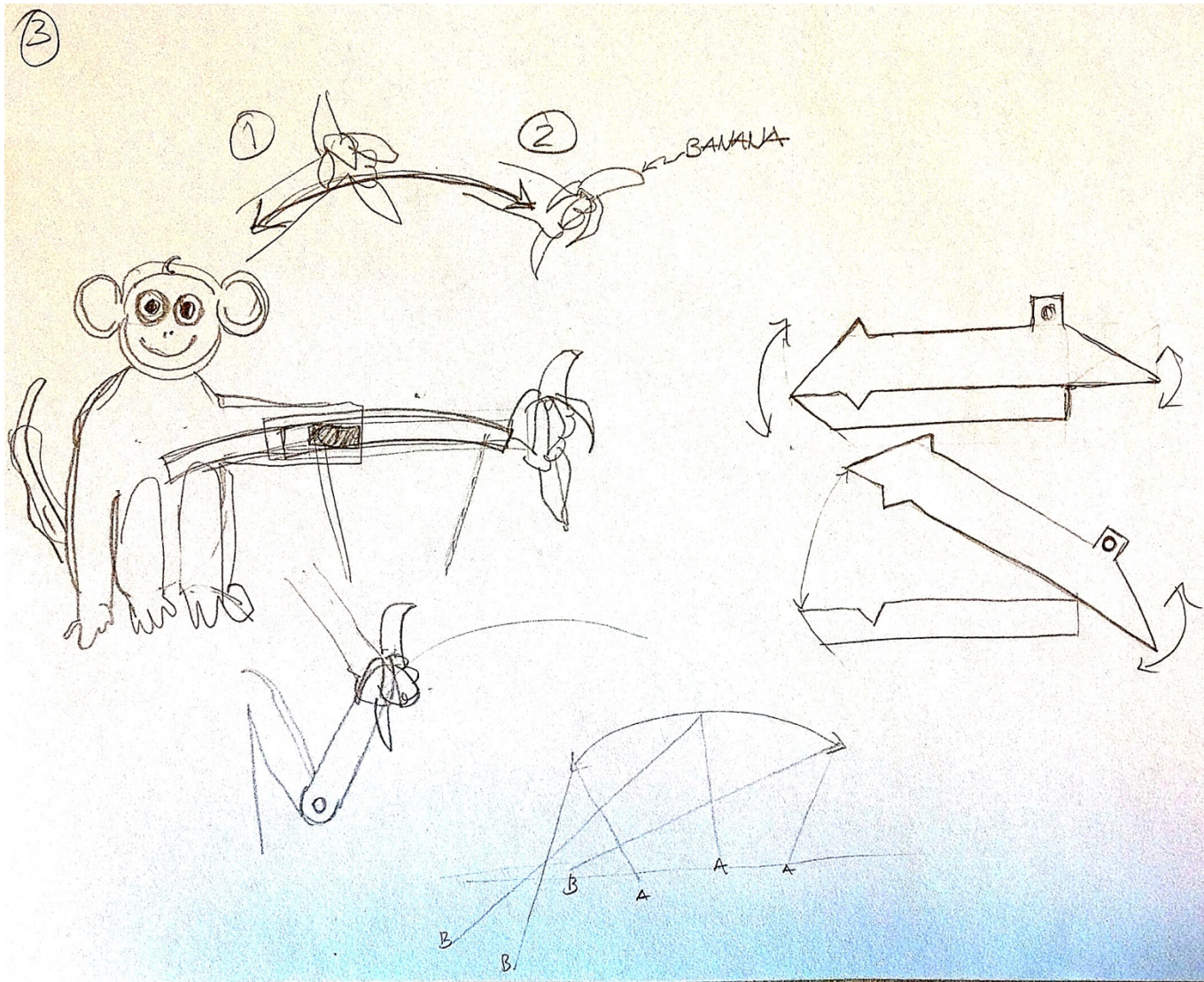


We see some ideas about the monkey and a possible way to get the croc's mouth to open/close. Also shown is an initial idea for how to get the monkey to move and what the path might be.

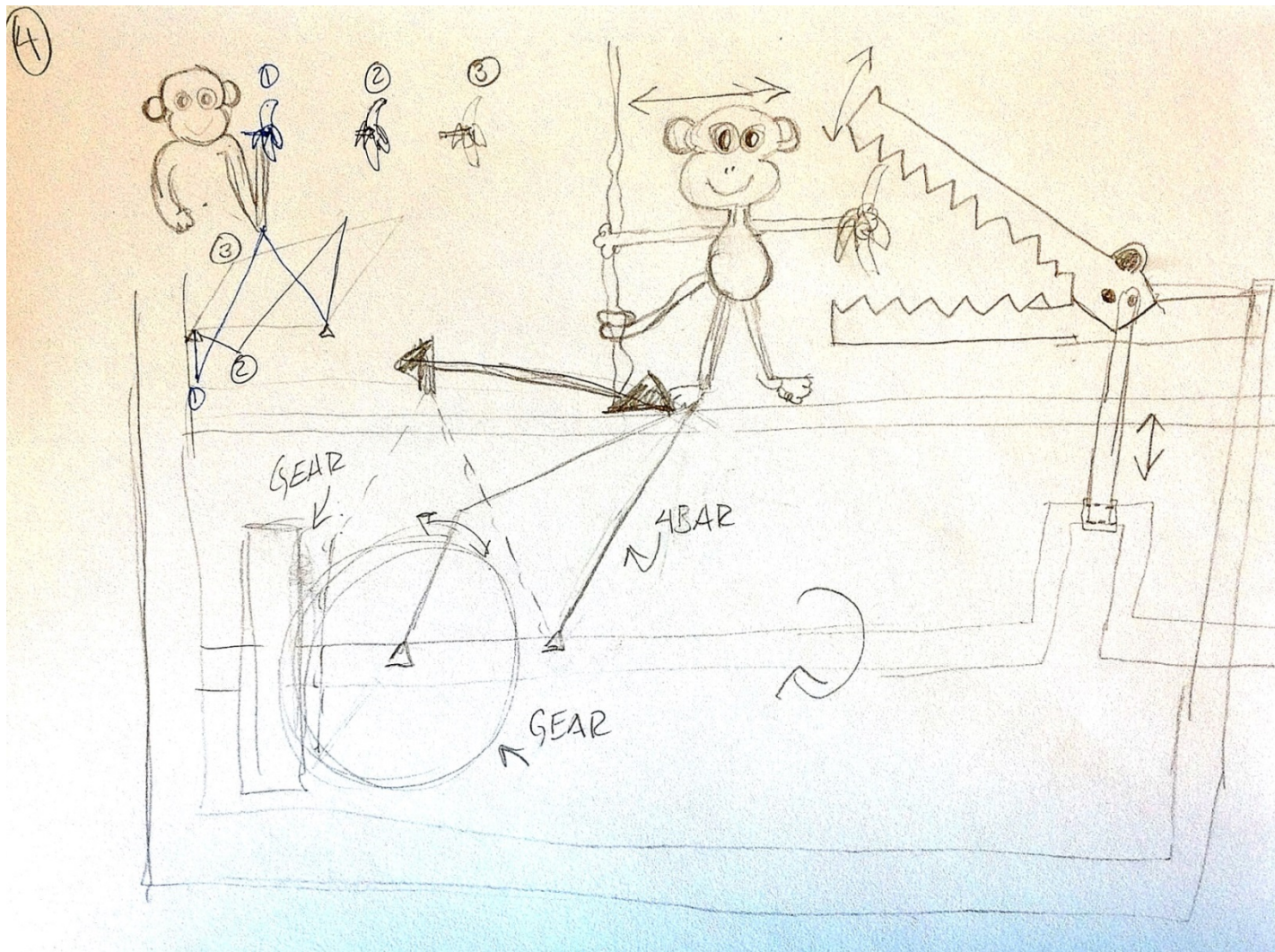


Here, options for the croc are explored in a bit more detail, and the path is shown with respect to the croc's mouth.

The 4-bar is explored as well.



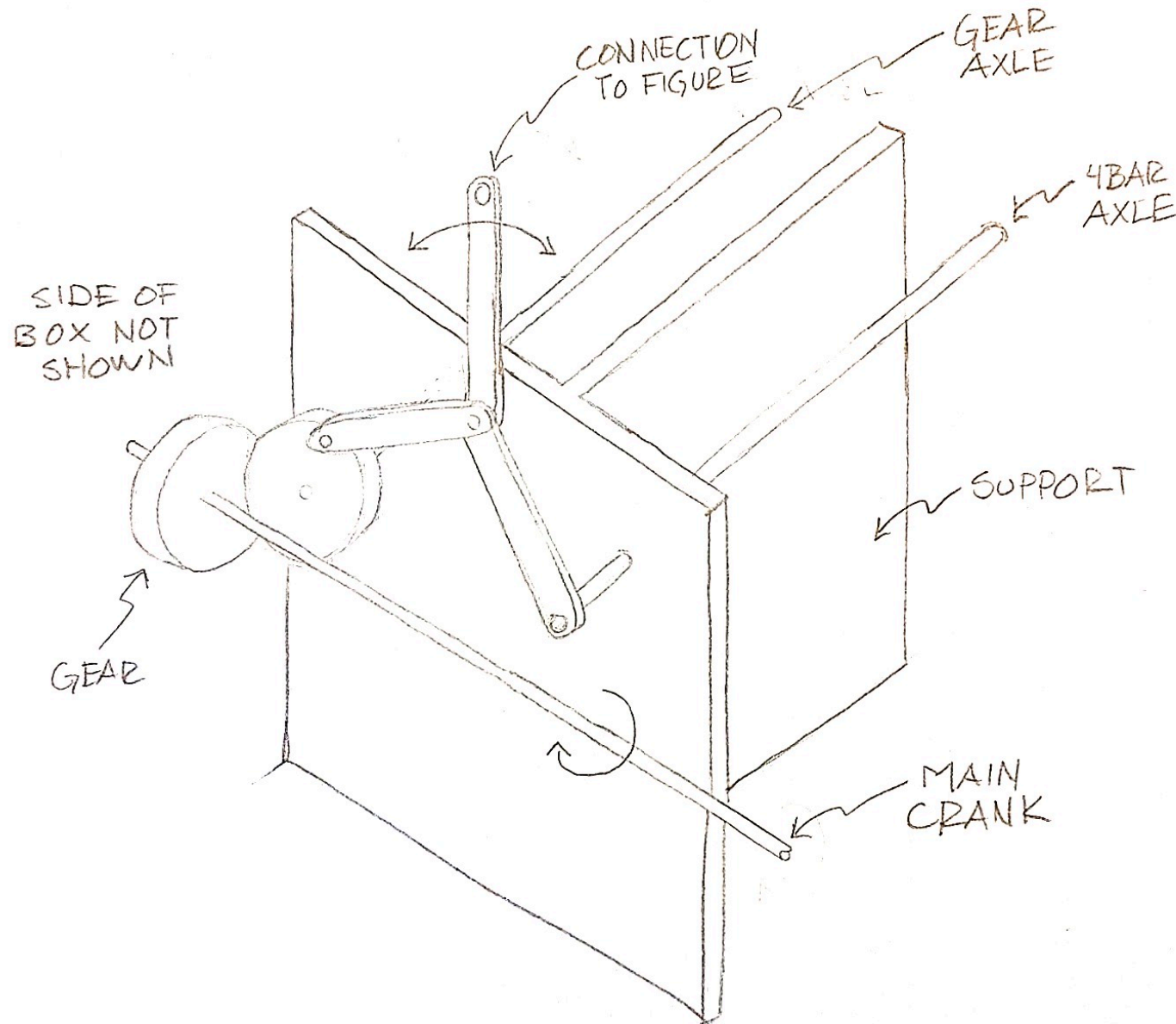
Here more detail is set out, based on the previous sketches. The 4-bar is sketched in 3 positions, both extremes and a mid position.



Here it's all pulled together for the first time, but in a very rough, approximate fashion.

The designer is still considering a crank to move the jaw, and indicates how the "left-right" shaft rotation will be transformed to a "front-back" rotation, via perpendicular gears.

Some more descriptive annotation about motion details should be added.

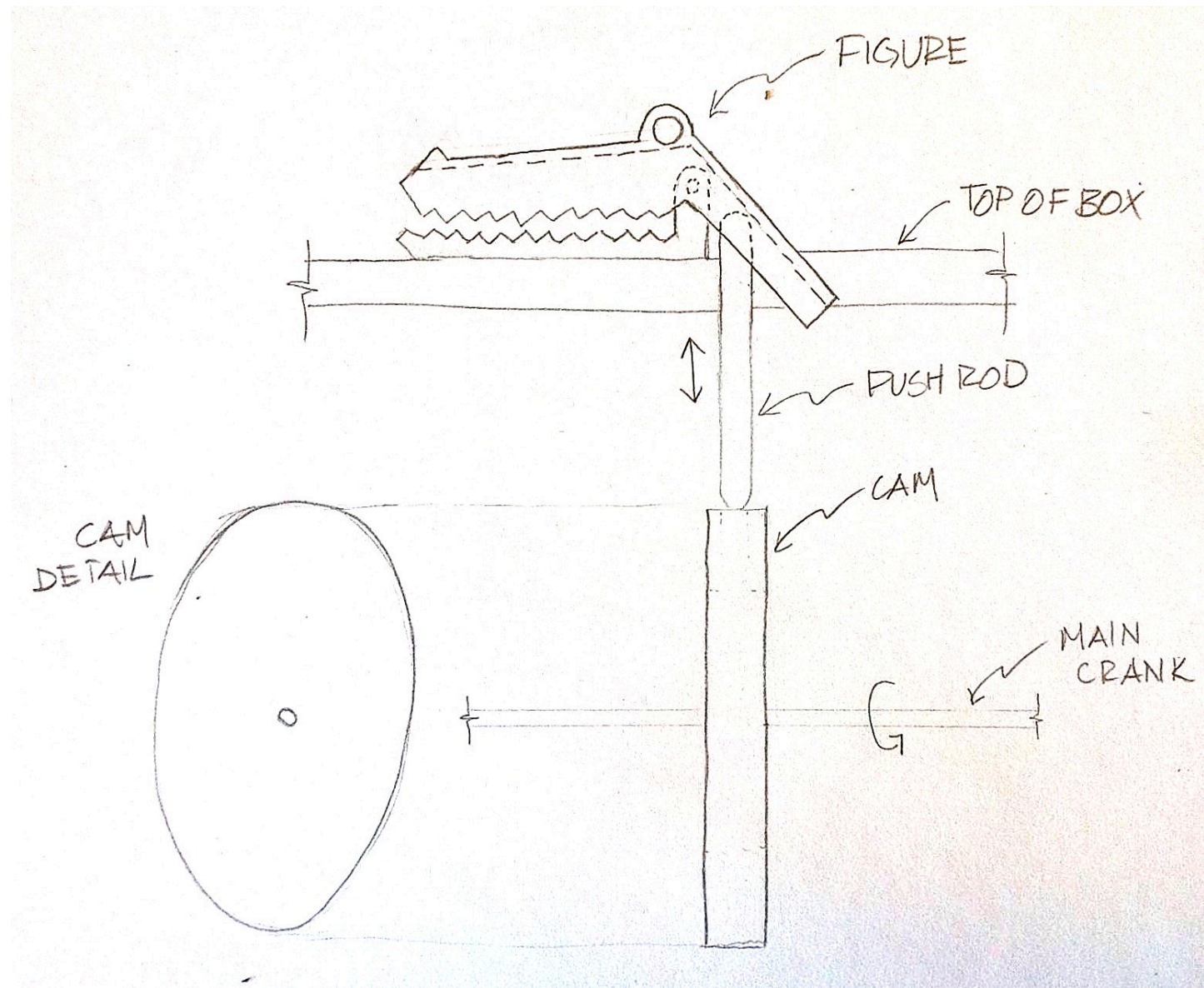


Here we see a first cut at showing not only the mechanism for moving the monkey, but the necessary support structure.

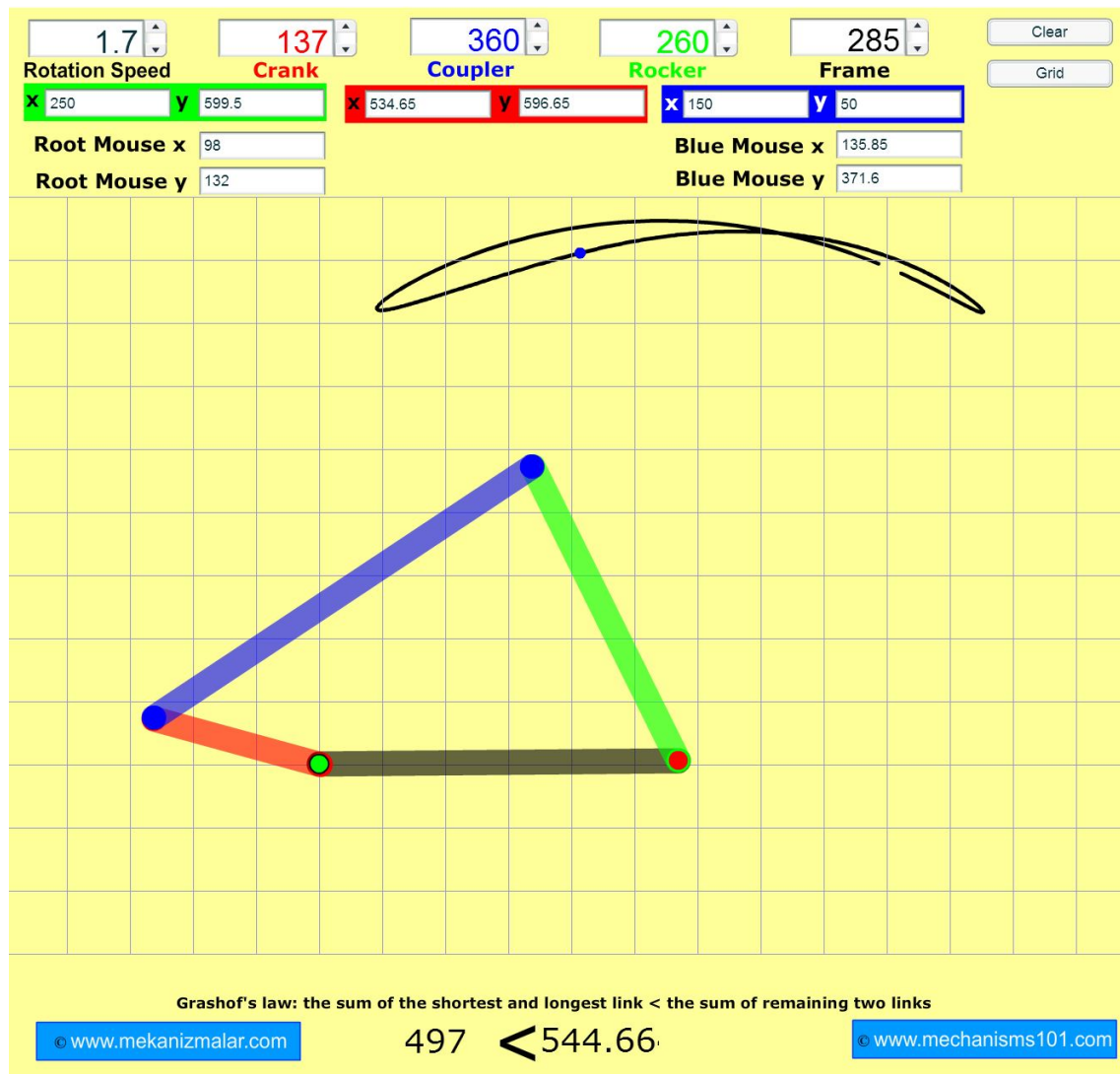
This is one of the key sketches, showing how the entire 4-bar and driving shaft with gears works, and is supported.

It would be even better if the left and back walls were shown, perhaps in an additional sketch, so we can determine if additional support is needed for the partition.

Looking at this, we see how it is actually made. The only missing element is how the jaw is moved.

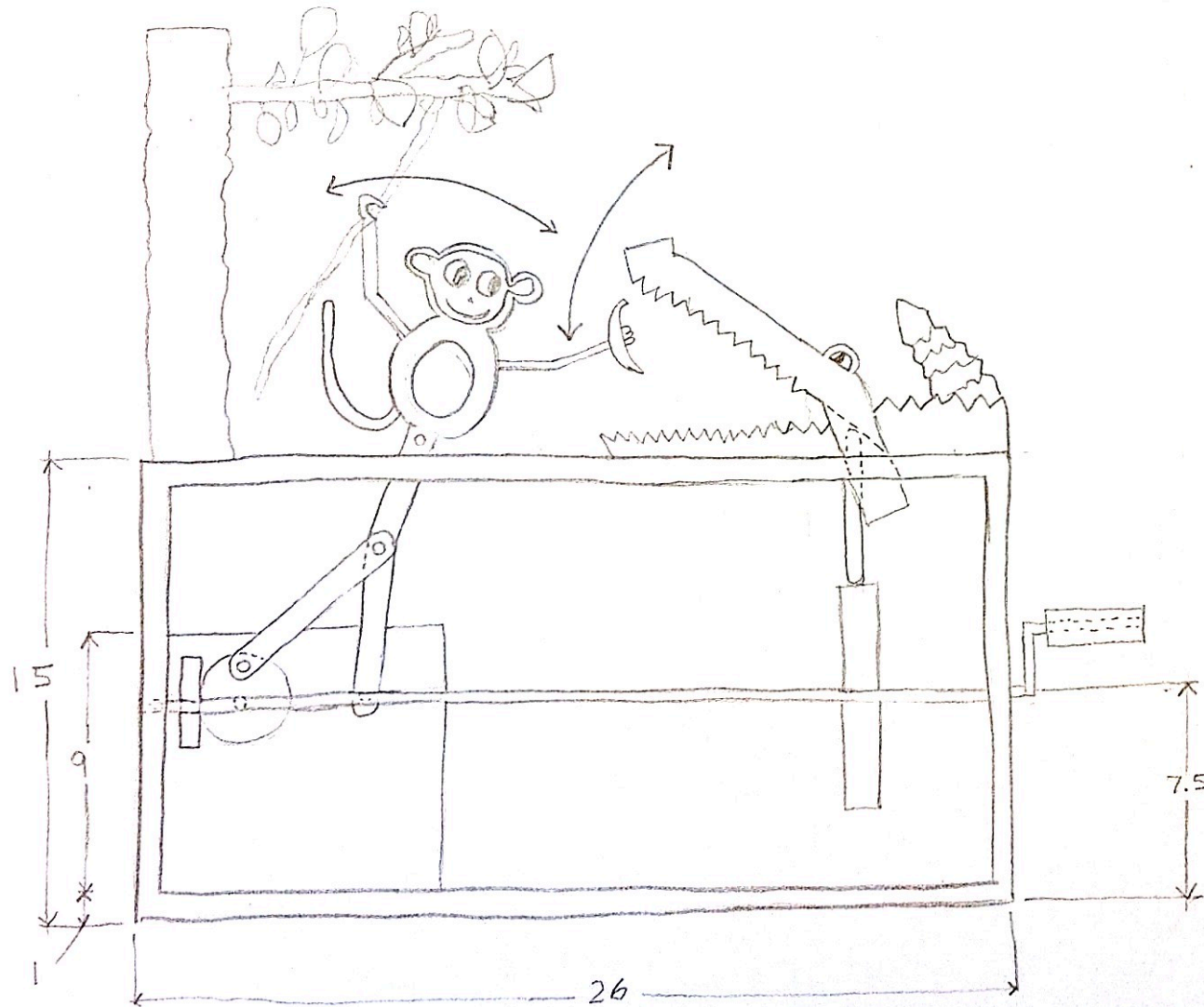


Detail for the cam (the designer has decided this will be a more robust, and easier to make, way to move the jaw).



Here the designer work out details of crank, coupler, follower and frame lengths for the 4-bar in order to achieve a desired path shape for the monkey to follow.

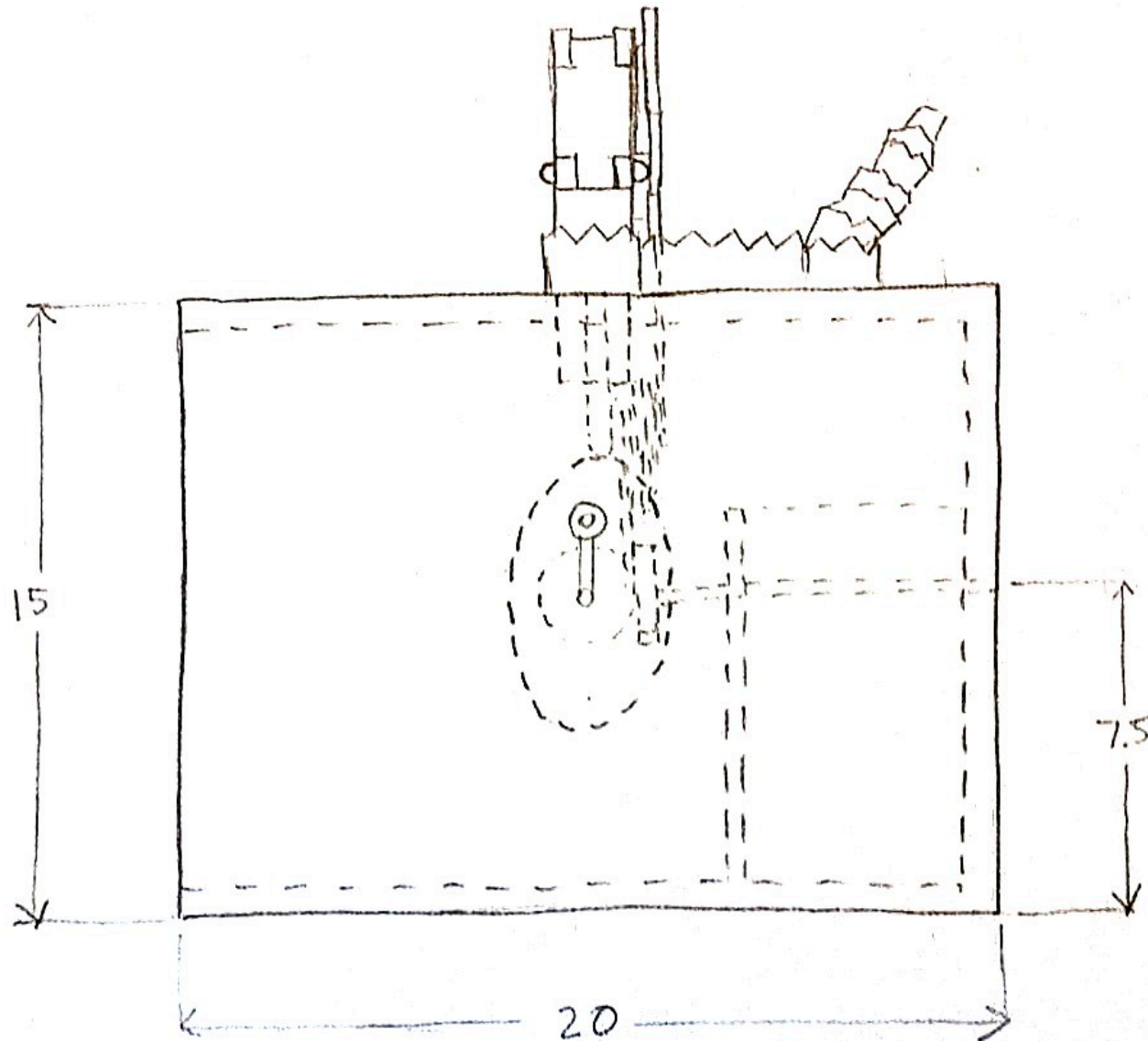
These are applied in the detailed front view seen on the next page.



Now, with an understanding of what goes where, we can do the various orthographic projections to get actual sizes.

This front view is the critical one for dimensioning the 4bar, monkey and croc jaws.

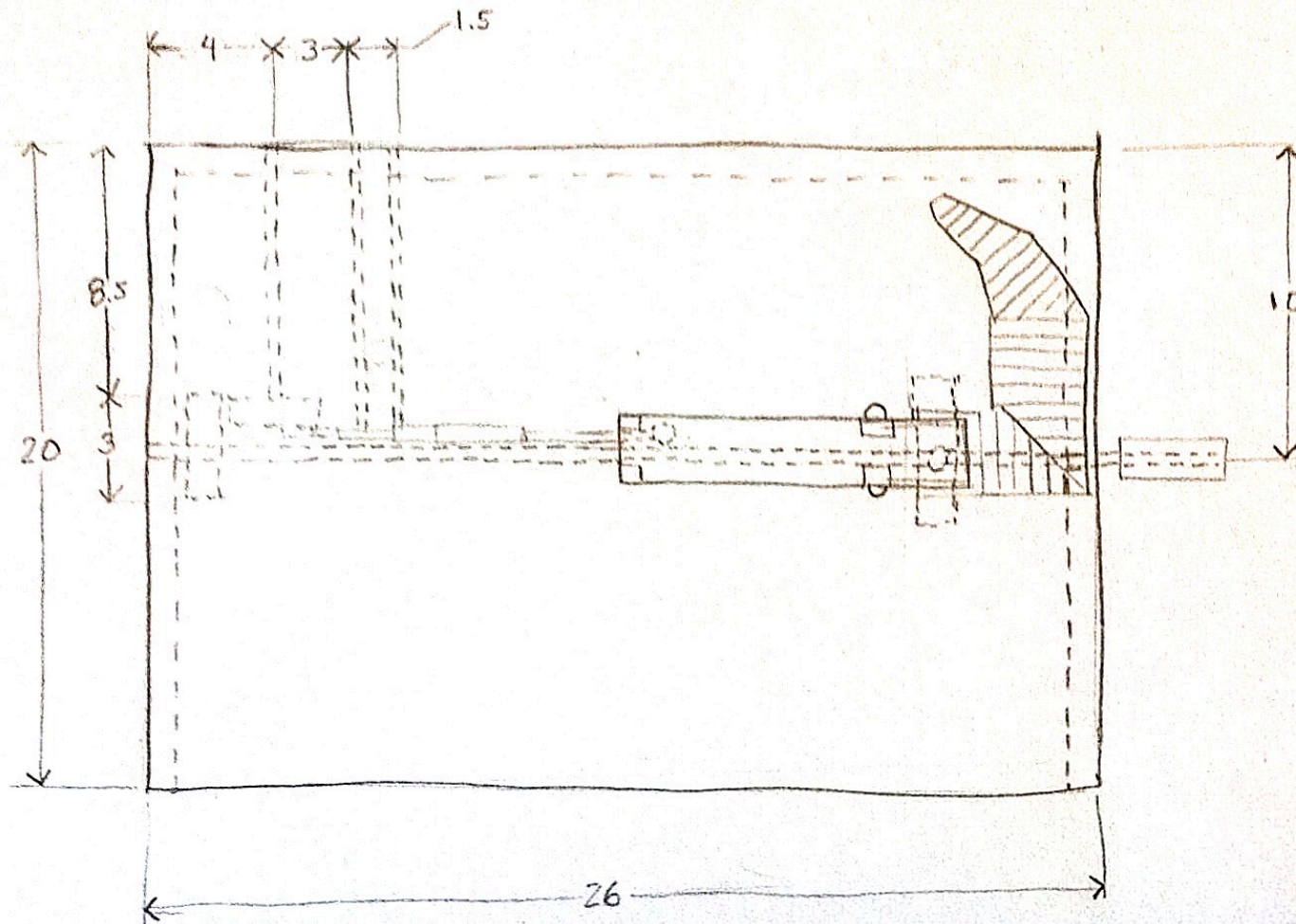
Using the dimensions (note many are yet to be added!!), we could go to the 4bar simulator and try out different configurations to see what final sizes we want.



This Right view shows details of the “front-back” spacing, for main axle, 3bar support partition, and croc jaw location.

Note many dimensions are missing here, though!

A cross-section might be more useful, showing more clearly the cam, 4bar and support components directly, rather than with hidden lines.



The last ortho view is needed to specify details of axle and partition locations, as well as the location of the croc and tail.