

K'Nex Fruit Machine by Elap – Reel Spinning and Braking

This document shows the key elements of how the reels are spun and brought to a halt.

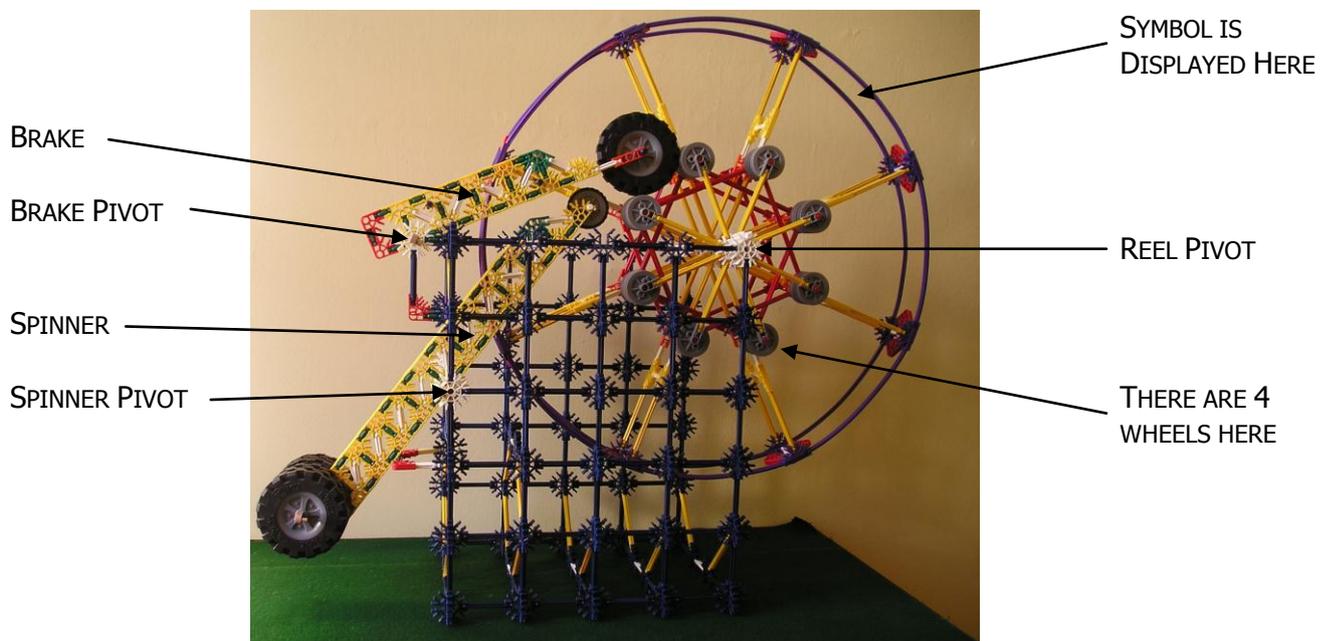
The construction of the reels appears in a separate document, 'Reel Construction.pdf'.

Each reel consists of three main parts:

- The rim, to which the symbols are attached
- A section which is used to spin and stop the reels
- A section which is used to determine the value of the displayed symbol.

In this document, the section which consists of the slots which are used to determine the value of the displayed symbol has been removed so that the method used for the spinning and braking of a reel can be described.

Shown below is a reel at rest, *i.e.* before the handle has been pulled. Note the spacings between the pivots (which are the centre holes of white connectors) of the reel, spinner and brake: the reel and brake pivots are separated horizontally by four blue rods and a green one; the spinner pivot is four blue rods to the left of the reel pivot and two blue rods below it.



When the handle of the fruit machine is pulled, the brake gets raised so that the spinner can move downwards to get ready for the spin, as shown below.



PROP

The prop at the bottom left has been inserted for the purposes of this document to show where the spinner is just before it is released.

The wheel on the end of the spinner nestles closely between two of the sets of wheels on the reel, thus enabling maximum energy to be imparted to the reel when the spinner is released. The spinner is given its force through the use of weights (actually, tyred wheels), because there are no springs in the set of K'Nex pieces.

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When the spinner is released, the weight on the left causes it to fly upwards on the right, thus spinning the reel; the heavier the weight, the faster the reel will be spun, but if it is too heavy, the rod forming the axle will bend too much (a 192mm black rod is used, being much stronger than a grey one).

To stop a reel spinning, the brake is simply released – being pivoted on the far left, the weight of the wheel is enough to slow down the reel and bring it to rest, as shown in the first picture above.

