m507 Summary

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Abstract

The goal of this project was to create a device using one of the mechanical movements describes in the 507 mechanical movements. Early on it was decided to use the gearing to gear the motor into a simple clock. Mechanical movement 68 was used in conjunction with the prime mover. This provided a simple way to gear the 30rpm motor with 2 teeth into a larger gear, along with introducing a stop in order to prevent the gear from sliding back. Mechanical movement 34 was used as an endpoint. With the orbit gear being attached to the faceplate with exactly 60 teeth. The gearing makes certain that as long as the prime mover does a constant 30 rpm that the outer gear will make one revolution every minute. The prime mover was attached to the 2 tooth gear through use of a motor hub. 2 m 1.6 screws were used to attach the motor to the base plate. the circular gear and ten tooth gear were attached to each other through the use of 1/8th inch pins. A ball bearing was pressed into the circle gear, and a nut and bolt was used to attach them to the base plate. The orbit gear and the faceplate where also attached to each other through the use of 1/8th inch pins. A ball bearing was reamed into the faceplate, and a bolt and nut where used to secure it to the baseplate. 3 custom 3/16th inch washer and 3 plastic 1/16th inch washers were used to suspend it

Status

Currently the design is complete and fully operational.

Introduction and Operation

Overall the gearing is somewhat simple. A gear with 2 teeth is attached to the motor, which revolves at 30 rpm. Once every half revolution it ticks a specially made gear designed to stop itself without other teeth to interact with. Attached to this gear is a gear with then teeth, which in turn, interacts with the orbit gear with 60 teeth. Overall the gear should do one revolution every minute under ideal circumstances.

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Design, Construction & Operation

Below is a table of the gears designed for this project, pictures and video of the final mechanism? Parts and renders are not to scale.

 

 

 



