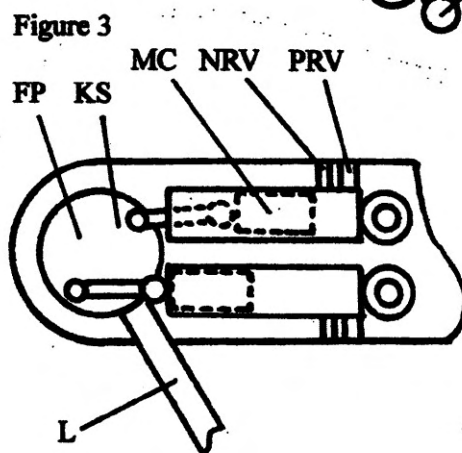
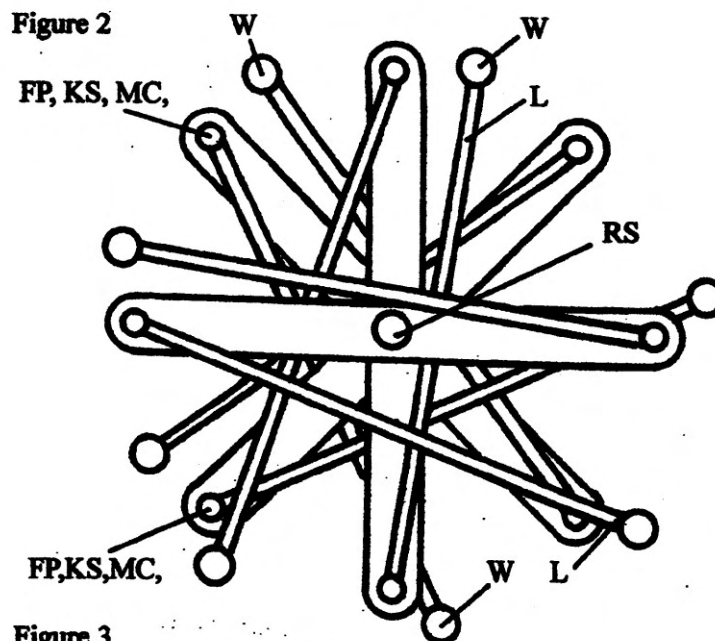


and the examiner, Mr. Peter Middleton, also attended.

The application

- 5 According to the application the invention seeks to harness energy from multiple falling weighted levers mounted on a rotating framework. Figure 2 of the application, which is reproduced below, shows the levers (L) pivotally mounted on a framework. Weights (W) are attached at one end of the levers and as the framework rotates about a pivot point (RS), the pivoted levers will at various times fall causing them to rotate relative to the framework. This relative rotation is used to drive hydraulic cylinders (MC) mounted on the framework (see figure 3 below). The hydraulic cylinders discharge into a high pressure hydraulic circuit that includes an accumulator.



- 6 According to the application, the applicant has discovered what he refers to as

the “multi-lever phenomenon”. According to this, the more pivoting levers that are provided, the more balanced the device becomes and, providing the device is rotated slowly enough, then once the device is primed by rotating it one turn using some form of external energy, then it will rotate by itself indefinitely producing more energy than is required to prime and set the device in motion.

7 The original set of claims, which were filed on the filing date contained three claims. An amended set of claims was then filed along with the applicant’s letter of 9 November 2007. These consist of four claims containing two independent claims. The two independent claims read:

1. Wherein a Gravity Engine uses the multi lever phenomenon to convert the force of gravity into mechanical rotary force to do work. The Multi Lever Phenomenon is a phenomenon wherein the more pivoting weighted levers that are added to a wheel in a even manner the more balanced the wheel becomes and the more leverage force you will get from it, percentage wise, thus there is a point when self rotation can be achieved, this is because the levers on one side would counterbalance the levers on the other side, thus needing less force to rotate the wheel. If there is a sufficient number of levers and the leverage ratios of the levers are large enough and they are provided with a means to extract there leverage energy’s then the wheel converts a larger leverage force than the force required to rotate the wheel, so the potential for self rotation is relevant. I have discovered that one of the reason for the multi Lever phenomenon, is that because the device rotates slower than the speed of gravity’s 9.8 meters a second acting on the falling levers, means that mechanical advantage (Leverage) is gained from gravity, this is gained at the cost of a small lever system imbalance, this also means that gravity’s energy input is larger than the devices rotary output which means my leverage devices comply with the natural laws of mechanics and physics, the levers of the almost balanced primary leverage system may be connected to and operate a number of hydraulic master cylinders to convert the mechanical advantage gained from gravity into usable force to drive a rotary propulsion system, that will rotate the device thus becoming a gravity engine. The physic applied to the gravity engine are that of an open system as the gravity engine requires the earth gradational field as a force input.

4. Wherein, a device may comprise the Multi Lever Phenomenon to use the force of gravity to do work.

The law

8 Section 1(1)(c) states:

“A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say-

(a).....;

(b).....;

(c) *it is capable of industrial application;*

(d).....”

9 Section 4(1) explains that an invention shall be taken to be capable of industrial application if it can be made or used in any kind of industry, including agriculture. It is however, settled law that machines alleged to operate in a manner which is clearly contrary to well-established physical laws are regarded as not having industrial application.

10 Section 14(3) of the Patents Act 1977 states:

“The specification of an application shall disclose the invention in a manner which is clear enough and complete enough for the invention to be performed by a person skilled in the art.”

The issues

11 In his examination reports of 17 July 2007 and 16 November 2007, the examiner laid out the grounds on which he considered the application for a patent should be refused. I will deal with each of these issues in turn.

Industrial application

12 From the outset, the examiner maintained that the invention did not operate in a manner consistent with established scientific principles as it proposed the generation of more energy than was originally required to put the system in motion. This in contrary to the law of conservation of energy which states that energy may not be created or destroyed only converted from one form to another.

13 Mr. Whatford, on the other hand suggests that, by reason of the balanced nature of the wheel with the levers, the apparatus will in fact provide the energy by utilising gravity as the energy source.

14 Mr. Whatford admitted in the hearing that his invention did in fact work contrary to the well-established law of conservation of energy however this doesn't in fact mean that the apparatus will not work in the way in which he has claimed.

15 I asked Mr. Whatford if he had produced a prototype or any working model of his invention, to which he stated that he had produced a working model of a balanced wheel with levers but that he had to take it apart due to lack of storage space. Mr. Whatford did however provide me at the hearing with some photographs of his previous working model. He also brought along to the hearing two experiments to support his claim that his invention would work.

16 The first of these experiments shown in the following photograph¹ was intended to demonstrate that a falling pivoted lever having a weight attached to one end

¹ Taken at the hearing and used with the agreement of Mr Whatford.

would produce more “leverage” than expected if the pivot point of the lever also moved downwards at the same time as the lever was falling. Despite Mr Whatford repeating the experiment a number of times, I was not convinced that anything out of the ordinary was demonstrated. Mr Whatford was unable to convince me that the readings on the various spring balances, so far as they could be determined, were not those that could be satisfactorily explained if the dynamics of the system as a whole, which includes the weight of the levers themselves and the effect of the spring balances on the system, is analysed using the existing laws of energy conservation and motion. The “unexpectedly high” reading on the lower spring balance as the weight reached the bottom of its travel was higher than the static state reading because as the weight was brought to a stop, the kinetic energy of the weight (gained as its initial potential energy was converted to kinetic energy) was transferred to the spring balance. Hence there was no unexpected “increased leverage”.



- 17 The second of Mr. Whatford’s experiments (shown in the photograph below) was intended to show how a balanced wheel with levers would work in the way in which he has alleged. This experiment unfortunately proved even less than the

first experiment even taking into account that the scale of the device in the experiment was considerably smaller than the actual device envisaged by Mr Whatford. For example, the apparatus in the experiment only comprised 2 pivoting levers as opposed to the 20 or more that are likely to be necessary in the full device. Also in the full device the length of each lever is likely to be 10m or more and each lever would have mounted at its free end a weight of 2000Kg or more.

- 18 All that the experiment served to show is that an unbalanced wheel once set in motion will come to rest at a point of equilibrium.



- 19 In fairness to Mr Whatford I am prepared to accept that his full scale device would be considerably more balanced than the device in his experiment. I also accept that a well designed balanced device, even a device of considerable size, will only require a small amount of power to move it. Mr Whatford referred me to a particularly good example of this; the Falkirk wheel which raises and lowers canal boats 24m between the Forth & Clyde and Union canals in Scotland. Because of

the ingenious and balanced design of the device, the Falkirk wheel can be rotated even when fully loaded with boats and water weighing hundreds of tones using little more energy than required to boil a handful of kettles. However as I explained to Mr Whatford, even such a well designed device needs an external energy input to work.

- 20 In contrast Mr Whatford is claiming that his device, once primed would not only run indefinitely but would also produce considerable amounts of surplus energy using only gravity and his “multi-lever phenomenon”. As Mr. Whatford admitted himself, this would clearly be contrary to the established laws of conservation of energy.
- 21 It is clear that Mr Whatford believes passionately in his invention. However after carefully considering all that was said and shown at the hearing, and all of the correspondence on the file, I can see no way in which the invention could work as he claims in his application without contravening well established physical laws. I therefore find that the invention as claimed is not capable of industrial application as required by section 1(1)(c) of the Act.

Is there enough information?

- 22 The examiner has argued that the application does not contain enough information about the invention for it to be performed by a person skilled in the art. Specifically it is not clear how the device could be made to generate more energy than is originally put into the system. Again having considered all the material very carefully I am in no doubt that the application is neither clear nor complete enough for the invention to be performed by a person skilled in the art, as required by section 14(3) of the Act.

Conclusion

- 23 I find that the invention does not comply with sections 1(1)(c) or 14(3). Furthermore I can see nothing in the application that could form the basis of an allowable amendment that would meet these objections. I therefore refuse the application.

Appeal

- 24 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

Phil Thorpe

Deputy Director acting for the Comptroller