

plate. Rotation of the fan and the drive plate is said to create a depression above the plate sufficient to lift the plate along with the vessel.

- 5 The application has nine claims including a single independent claim 1, seven dependent claims 2-8 and an omnibus claim 9. Claim 1 reads as follows:

“1. A means for purveying energy for the future comprising an engine in the form of contra-rotational drive plate and fan that serves to create a pressure differential above and below drive plate without consuming fuel in the process.”

The law

- 6 The examiner has maintained the view that the invention as described contravenes Newton’s third law of motion and the principle of the conservation of energy and as such is not capable of industrial application contrary to the requirements of section 1(1)(c) of the Patents Act 1977 (“the Act”).

- 7 Section 1(1) of the Act reads as follows:

“1(1) 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;”

- 8 The Act defines “industrial application” in Section 4(1), which reads:

“4(1) Subject to subsection (2) below, 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.”

- 9 It is accepted practice, that processes or articles alleged to operate in a manner which is clearly contrary to well-established physical laws, such as perpetual motion machines, are regarded as not having industrial application.

- 10 The examiner has also raised an objection under section 14(3) of the Act stating that the application is not sufficient for the invention to be performed by a person skilled in the art.

- 11 Section 14(3) of the Act reads:

“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.”

Arguments

- 12 The examiner is of the opinion that the invention operates in a manner that is contrary to well established physical laws and as such is not capable of industrial application. The physical laws to which he is referring are Newton's third law of motion and the principle of the conservation of energy.
- 13 Firstly, let us consider, Newton's third law of motion which states that:
- “For every action there must be an equal and opposite reaction”*
- 14 The examiner argues that in order for the device to provide lift there must be an equal and opposite reaction on the environment, external to the closed vessel. He goes on to suggest that when the drive plate and fan rotate, any low pressure generated in the gap between them will tend to pull them together and that any forces experienced by the fan and the drive plate are felt equally and oppositely by the upper and lower halves of the vessel to which they are secured. He concludes that the forces within the casing will therefore cancel each other out and that no force will be felt outside of the closed vessel. He concludes that Newton's third law would have to be violated for the device to experience any lift as there is no reaction with the environment.
- 15 Mr Thompson argues that his device operates in much the same way as an aircraft wing. The fan blades drive atmosphere into the face of the drive plate creating a region of low pressure immediately above the plate which generates lift. He goes on to suggest that the atmospheric shear formed above the drive plate produces a “revivifying depression” which carries a proportion of atmospheric pressure along with it and that the force acting on the upper surface of the drive plate decreases as the speed of rotation increases. He also suggests that the relative speed of the air circulating below the drive plate is lower and that this creates a difference in pressure between the upper and lower surfaces of the plate which would tend to force the plate upwards into the lower pressure region thereby enhancing the lift.
- 16 Mr Thompson appears to accept that a downward force will act on the fan and that this will reduce the amount of available lift. However, he alleges that only a small proportion of the lift will cancel out due to the lower edges of the fan blades encroaching into the depression created above the drive plate and that this will be proportional to the cross-sectional area of the blades.
- 17 Having carefully considered all of the arguments made in the correspondence and at the hearing, it seems to me that the invention relies on the assumption that an arrangement as described including a contra-rotating fan and drive plate will create a depression above the drive plate sufficient to lift the plate, the vessel and any vehicle to which it is attached. Whilst I am prepared to accept that in such an arrangement the drive plate may well experience a lifting force, I cannot see how the force being generated will be in any way sufficient to overcome any resultant force acting downward on the fan and/or the vessel walls. Furthermore, I cannot escape the fact that the device is contained within a closed vessel, and as such cannot react in any way against the surrounding environment to produce a lifting force. I therefore agree with the examiner's argument that Newton's third law would have to

be broken for the vessel to experience any lift. As such, I conclude that the invention is not capable of industrial application.

18 Now let us turn to the principle of the conservation of energy which states that:

“Energy may be transformed from one form to another, but it cannot be created or destroyed”

19 The examiner has identified a number of paragraphs throughout the application where the applicant alleges that “more energy can be got out of the engine than is put in” and that the device has a “mechanical efficiency greater than unity”. He concludes that in order for the device to operate in this way the principle of the conservation of energy would have to be violated.

20 Mr Thompson alleges that the efficiency of the device is greater than unity but seems to acknowledge, in his letter dated 27 January 2004, that all machines suffer losses due to friction and that no machine in existence can have a mechanical efficiency greater than 1. However, he goes on to suggest that his device does not suffer any such losses. He argues that the rotating disc incurs minimal skin drag, no parasitic or profile drag and hence requires less energy to generate lift than an aircraft wing. He says that his engine is potentially more efficient than an aircraft wing and has “the capacity to put out more energy than is put in” but again acknowledges that this apparently “defies the conservation of energy”.

21 Furthermore, Mr Thompson suggests that the faster the disc rotates, the more efficient the device becomes until eventually its efficiency exceeds one and the device functions without consuming any fuel.

22 Having again considered all of the arguments laid before me, it remains inescapable that all machines expend energy in terms of heat, resulting from the action of frictional forces for example, and that no machine can ever be 100% efficient or have efficiency greater than one. In the absence of any evidence to suggest that this device is anything other than a conventional machine, I am bound to conclude that the principle of the conservation of energy would have to be violated for the device to operate in the way described and as such the invention would again be excluded as incapable of industrial application.

23 Finally, the examiner suggests that whilst a person skilled in the art could make the device, provide electrical energy to power the motors and make the drive plate and fan rotate, it would require significant additional disclosure for the device to operate as described. He therefore considers that the application, as it stands, is not complete enough to meet the requirements of section 14(3) of the Act. Having established that the invention as described is incapable of industrial application, I think it inevitable that the specification cannot be said to disclose the invention in a manner which is clear enough or complete enough for the invention to be performed and I can see nothing in the arguments to convince me otherwise.

Summary

- 24 The invention as described relates to a device, alleged to generate lift within a closed vessel, isolated from the environment and against which it cannot react. In my view, there is no way that such a device could operate without violating Newton's third law of motion. Furthermore, there is nothing in the submissions before me to convince me that this device is anything other than a conventional machine, which means that its efficiency must be less than one for it to comply with the principle of the conservation of energy. I conclude therefore that the invention is not capable of industrial application. Moreover, I can find nothing in the application to overcome this fundamental objection. I therefore refuse the application under section 18(3) as being excluded under section 1(1)(c).

Appeal

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

P R SLATER

Deputy Director acting for the Comptroller