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**Datasheet for the decision
of 22 April 2015**

Case Number: T 0772/14 - 3.2.08

Application Number: 09252267.1

Publication Number: 2169269

IPC: F16H25/24

Language of the proceedings: EN

Title of invention:

Actuator

Patent Proprietor:

Goodrich Actuation Systems Ltd.

Opponent:

SAGEM DEFENSE SECURITE

Headword:

Relevant legal provisions:

EPC Art. 56, 123(2)

Keyword:

Amendments -

extension beyond the content of the application as filed (no)

Inventive step - (yes)

Decisions cited:

Catchword:



Beschwerdekammern
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Case Number: T 0772/14 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 22 April 2015

Appellant: SAGEM DEFENSE SECURITE
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted on
30 January 2014 concerning maintenance of the
European Patent No. 2169269 in amended form.

Composition of the Board:

Chairman M. Alvazzi Delfrate
Members: M. Foulger
C. Schmidt

Summary of Facts and Submissions

- I. The appellant (opponent) lodged an appeal against the interlocutory decision of the Opposition Division, dispatched on 30 January 2014. The Opposition Division found that account being taken of the amendments, according to then valid first auxiliary request, made by the patent proprietor during the opposition proceedings, the patent and the invention to which it related met the requirements of the EPC.

The notice of appeal and the statement setting out the grounds of appeal were filed within the given time limits.

- II. Oral proceedings took place before the Board of Appeal on 22 April 2015.
- III. The appellant requested that the decision under appeal be set aside and the patent be revoked.
- IV. The respondent (patent proprietor) requested that the appeal be dismissed, or alternatively that the patent be maintained in amended form according to the first auxiliary request filed on 7 October 2014, or the second or third auxiliary requests filed on 3 December 2014.
- V. Claim 1 of the main request reads as follows:
"An actuator comprising a rotatable actuator member (14, 114) rotatable about an axis and a lock arrangement (28, 128) operable to lock the actuator member (14, 114) against rotation, the lock arrangement (28, 128) comprising a movable lock member (30, 130, 230a, 230b), the lock member being movable between a locked position in which it co-operates with a stop

(34, 134) to resist rotation of the actuator member (14, 114), and a released position, and an actuation device (62, 162) operable to move the lock member (30, 130, 230a, 230b), characterised in that the actuation device (62, 162) is operable to move the lock member (30, 130, 230a, 230b) towards its released position and the lock member (30, 130, 230a, 230b) is movable along the axis between its locked and released positions; wherein a first, release spring (42, 142, 242) is provided which urges the lock member (30, 130, 230a, 230b) towards its released position, and a second, lock spring (44, 144, 244) is provided which urges the lock member (30, 130, 230a, 230b) towards the locked position; and wherein the lock spring (44, 144, 244) engages a movable stop or abutment (48, 148, 248), movable to vary the spring loading applied to the lock member (30, 130, 230a, 230b); characterised in that: the movable abutment (48, 148, 248) is spring biased by a third, pusher spring (58, 158, 258)."

The remaining requests do not play a role in the present decision.

VI. The following document is relevant for the present decision:

D1: US 3,442,176 A

VII. The appellant argued essentially the following:

Article 123(2) EPC

Claim 1 as granted contained subject-matter which extended beyond the content of the application as filed, in particular the features whereby the rotatable actuator member is "rotatable about an axis" and

the lock member is "movable along the axis" between its locked and released positions, were not disclosed in the application as originally filed.

The fact of being axially movable along an axis did not necessarily mean that the lock member should be movable along the same axis as the axis of rotation of the rotatable actuator member. Other arrangements were hereby imaginable.

In paragraph [0020] of the application as originally filed, the fact of being axially movable was linked inextricably to the feature of the spline. Indeed it was the spline that allowed an axial movement along the axis of rotation. Moreover this axial movement was described as being a limited axial movement. Therefore including the axial movement along the axis without the spline and the fact the axial movement was limited amounted to an intermediate generalisation contravening Article 123(2) EPC.

Article 56 EPC

D1 was seen as the most relevant prior art and disclosed an actuator according to the preamble of claim 1.

Moreover the third, pusher spring was merely defined as providing a bias for the movable abutment. The lock spring of D1 could also be seen as biasing the movable abutment. The subject-matter of claim 1 therefore merely differed in that a third spring was provided which had the same function as the lock spring. The person skilled in the art knew that in order to provide a certain spring rate either one larger spring or two smaller springs could be used. Thus the person skilled

in the art was left with a simple choice between two equally valid alternatives which would be made without the exercise of inventive activity.

VIII. The respondent argued essentially the following:

Article 123(2) EPC

It was implicit from the fact that the actuator member was described as "rotatable" that it was also rotatable about an axis.

The drawings of both embodiments clearly and unambiguously disclosed that the lock member was movable along that axis. The skilled person would not regard the spline as being essential to lock the actuator member against rotation. Moreover that the actuator member was locked against rotation was already included in the wording of the claim so no unallowable intermediate generalisation could be recognised.

Article 56 EPC

D1 was seen as the closest prior art and disclosed the preamble of claim 1. The subject-matter of claim 1 therefore differed from this known actuator in that the movable abutment was spring biased by a third, pusher spring.

The effect of the characterising feature, i.e. the pusher spring, was to better control the movement of the abutment. This overcame the disadvantages described in [0005] of the patent and had the effect of optimising the solenoid size. The prior art did not contain any hint to the claimed solution and

consequently the subject-matter of claim 1 involved an inventive step.

Reasons for the Decision

1. The appeal is admissible.
2. Article 123(2) EPC

The fact that the actuator member was consistently described as "rotatable" implies directly and unambiguously that it is rotatable about an axis. In the embodiment of fig. 1, the actuator member is in the form of a screw shaft and is supported for rotation by bearings (see application, [0017]). The alternative embodiment shown in figs. 5-7 describes that the actuator member is supported for rotation by bearings and takes the form of a shaft (see application, [0028]). Thus the rotatable actuator member (14,114) is directly and unambiguously disclosed, in the application as originally filed, as being rotatable about an axis. Moreover in both these embodiments the lock member clearly moves along said axis (see figs. 1,5-7).

The appellant argued that the axial movement of the lock member is inextricably linked to the splined connection between the rotatable actuator member and the lock member. The claim however defines the lock arrangement as being operable to lock the actuator member against rotation (claim 1, lines 2-3). Moreover the axial movement of the lock member is also defined in the claim. Thus the functional effects of the spline, whereby the actuator member is locked against rotation, are already in the claim as originally filed.

Hence, the person skilled in the art would have immediately recognised that the realisation of these effects by a splined connection was not essential and consequently that the axial movement described in the claim was not inextricably linked to the presence of the splines.

Furthermore the lock member having only limited axial freedom is given by the fact that there are two springs acting on it in opposing directions. The person skilled in the art would realise that the essential aspect here is the locking of the actuator member against rotation which was in the claim as originally filed - therefore no essential feature has been omitted.

Thus no unallowable intermediate generalisation can be recognised and the subject-matter of claim 1 does not extend beyond the content of the application as originally filed.

3. Article 56 EPC

3.1 Closest prior art

It is not disputed that D1 represents the closest prior art and that D1 discloses an actuator according to claim 1 save for the presence of a third spring.

3.2 Difference with the prior art and technical effect thereof.

The subject-matter of claim 1 differs from the actuator known from D1 in that the movable abutment is spring biased by a third, pusher spring.

The appellant's argument, whereby the difference was to

be seen merely in the provision of two springs acting on the lock member rather than the single spring disclosed in D1, is not convincing because claim 1 specifies that the third spring serves the purpose of spring biasing the movable abutment. The feature, whereby the movable abutment is spring biased by a third, pusher spring, when read in combination with the feature of the preamble of claim 1 whereby the movable abutment is movable to vary the spring loading applied to the lock member, implies that the third pusher spring has the effect of biasing the movable abutment in order to vary the spring loading applied to the lock member so that it can be better controlled. In the embodiment of fig. 1 this biasing function is achieved by locating the third spring between the abutment and the housing so that it does not act directly on the lock member. By contrast, the lock spring (70) of D1 is located directly between the abutment member and the lock member. The lock spring is subsequently not in a position to bias, i.e. to influence, the movable abutment because it itself provides the said spring loading.

3.3 Problem to be solved

The problem to be solved is therefore not a simple choice between two equally valid alternatives but to improve the control of the movable abutment. A better control of the abutment furthermore overcomes the disadvantages presented in [0005] of the patent and allows a smaller solenoid to be used.

3.4 Solution

This problem is solved according to claim 1 in that the movable abutment is spring biased by a third, pusher

spring. There is no hint in the cited prior art to provide such a third spring. As discussed above the lock spring of D1 has a different function to that of the pusher spring defined in claim 1 and therefore simply providing two springs in the place of the single spring of D1 would not lead to the subject-matter of claim 1.

The subject-matter of claim 1 therefore involves an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



V. Commare

M. Alvazzi Delfrate

Decision electronically authenticated