

**Internal distribution code:**

- (A) [ - ] Publication in OJ
- (B) [ - ] To Chairmen and Members
- (C) [ - ] To Chairmen
- (D) [ X ] No distribution

**Datasheet for the decision  
of 9 January 2025**

**Case Number:** T 0432/23 - 3.5.05

**Application Number:** 18169119.7

**Publication Number:** 3370126

**IPC:** G05B19/4061

**Language of the proceedings:** EN

**Title of invention:**

Method and system to prevent interferences and to control collisions of mechanical members

**Patent Proprietor:**

I.M.A. Industria Macchine Automatiche S.p.A.

**Opponents:**

G.D Società per Azioni  
Focke & Co. (GmbH & Co. KG)

**Headword:**

Decelerating or stopping mechanical members/I.M.A.

**Relevant legal provisions:**

EPC Art. 76(1), 100(c)  
RPBA 2020 Art. 12(6)

**Keyword:**

Added subject-matter - main request and 1st to 6th, 9th and 10th auxiliary requests (yes)

Admittance of claim requests not admitted by the opposition division - 7th, 8th and 11th auxiliary requests (no): correct exercise of discretion



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0

Case Number: T 0432/23 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 9 January 2025**

**Appellant:** I.M.A. Industria Macchine Automatiche S.p.A.  
(Patent Proprietor) Via Emilia 428-442  
40064 Ozzano Dell Emilia (Bologna) (IT)

**Representative:** Petraz, Gilberto Luigi  
GLP S.r.l.  
Viale Europa Unita, 171  
33100 Udine (IT)

**Respondent 1:** G.D Società per Azioni  
(Opponent 1) Via Battindarno, 91  
40133 Bologna (IT)

**Representative:** Studio Torta S.p.A.  
Via Viotti, 9  
10121 Torino (IT)

**Respondent 2:** Focke & Co. (GmbH & Co. KG)  
(Opponent 2) Siemensstrasse 10  
27283 Verden (DE)

**Representative:** Aulich, Martin  
Meissner Bolte Patentanwälte  
Rechtsanwälte Partnerschaft mbB  
Hollerallee 73  
28209 Bremen (DE)

**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 4 January 2023  
revoking European patent No. 3370126 pursuant to  
Article 101(3)(b) EPC.**

**Composition of the Board:**

<b>Chair</b>	K. Bengi-Akyürek
<b>Members:</b>	N. H. Uhlmann
	C. Heath

## Summary of Facts and Submissions

- I. The patent proprietor (appellant) appealed against the opposition division's decision to revoke the present European patent mainly for added subject-matter (Article 76(1) EPC).
- II. The board summoned the parties to oral proceedings and set out its preliminary opinion.
- III. Oral proceedings before the board were held on 9 January 2025. The parties' final requests were as follows:

The appellant requests that the decision under appeal be set aside and that the patent be maintained according to one of the following claim requests:

- **main request:** the patent as granted;
- **auxiliary requests 1 and 2:** filed on 8 October 2021;
- **auxiliary requests 3 to 5:** filed on 2 September 2022;
- **auxiliary request 6:** filed during the first-instance oral proceedings on 3 November 2022 (labelled "AUXILIARY REQUEST 8" on top of page 1);
- **auxiliary requests 7 and 8:** filed during the first-instance oral proceedings on 3 November 2022;
- **auxiliary requests 9 and 10:** filed on 2 September 2022 as then auxiliary requests 6 and 7;
- **auxiliary request 11:** filed during the first-instance oral proceedings on 3 November 2022.

Both respondents request that the appeal be dismissed.

At the end of the oral proceedings, the board's decision was announced.

IV. Claim 1 of the **main request** (patent as granted) reads as follows (board's labelling):

- (a) "Method to prevent interferences and to control collisions between mechanical members (17, 23) of at least two operating units (11, 111) for executing an operating cycle,
- (b) each of the at least two operating units (11, 111) being associated with a position detector or with a position simulator, and being equipped with at least one electric motor (15, 21) supplied with a corresponding current for driving a respective mechanical member (17, 23),
- (c) said method being managed by a management and control unit (13),
- (d) said method comprising two phases:
- (e) - a first phase of preventing interferences between the mechanical members (17, 23) following trajectories that interfere with each other,
- (f) said first phase comprising comparing, at a determinate instant of time, the actual position of each of the mechanical members (17, 23) with the future position of possible interference of the mechanical members,
- (g) wherein if the comparison indicates the possibility of interference, the management and control unit (13) intervenes to block the electric motor (15, 21) of each of the mechanical members (17, 23) in order to decelerate or stop the respective mechanical member (17, 23);

- (h) - a second phase of detecting collisions in which, at said determinate instant of time, the actual intensity of current supplied to the at least one electric motor (15, 21) of each of the at least two operating units (11, 111) is verified, dividing said operating cycle into "n" sub-phases, for each sub-phase "n" each actual intensity of current being compared with a reference current value,
- (i) wherein if, at the determinate instant of time for the sub-phase "n", at least one of the current supplied to the electric motors (15, 21) is outside a window of acceptability made from two thresholds applied to the reference current value, defined at the determinate instant of time, one threshold being bigger and one threshold being smaller than the reference current value,
- (j) a collision is detected and the management and control unit (13) then controls the intensity of current supplied to each electric motor (15, 21) in order to decelerate or stop the respective mechanical member (17, 23)."

V. Claim 1 of **auxiliary request 1** refers in features (a) and (h) to "two operating units" instead of "at least two operating units".

VI. Claim 1 of **auxiliary request 2**, differs from claim 1 of auxiliary request 1 in that feature (g) was modified as follows (board's labelling and emphasis):

- (g2) "wherein if the comparison indicates the possibility of interference, the management and control unit (13) intervenes to block the electric motor (15, 21) of each of the mechanical members (17, 23) and commands braking, in order

to decelerate or stop, or acceleration, of the respective mechanical member (17, 23)".

VII. Claim 1 of **auxiliary request 3** is identical to claim 1 of auxiliary request 1.

VIII. In claim 1 of **auxiliary request 4**, the following wording was added between features (f) and (g):

"wherein this comparison is done considering the dynamics with which the members are proceeding and the dynamics with which the members are able to stop, using the maximum allowed torque, and".

IX. Claim 1 of **auxiliary request 5** is based on claim 1 of auxiliary request 4. Feature (g) has been amended as follows (board's labelling and emphasis):

(g5) "wherein if the comparison indicates the possibility of interference, the management and control unit (13) calculates the stopping times and coordinates of at least one of said two mechanical members (17, 23) and intervenes for braking and blocking the mechanical members (17, 23) by means of the electric motor (15, 21) of each of the mechanical members (17, 23) in order to command braking of the respective mechanical member (17, 23)".

X. Claim 1 of **auxiliary request 6** differs from claim 1 of auxiliary request 1 in that feature (f) now reads as follows (board's labelling and emphasis):



(f6) "said first phase comprising comparing, at a determinate instant of time, the actual position of each of the mechanical members (17, 23), which is verified as a function of the current dynamics and the braking or acceleration times and spaces, with the future position of possible interference of the mechanical members (17, 23);",

feature (g) now reads as follows:

(g6) "wherein if the comparison indicates the possibility of interference, the management and control unit (13) calculates stopping times and coordinates of the mechanical members (17, 23) and intervenes to block the electric motor (15, 21) of each of the mechanical members (17, 23) by supplying to the corresponding motor a current in order to decelerate or stop the respective mechanical member (17, 23);"

and feature (j) reads as follows:

(j6) "a collision is detected and the management and control unit (13) then controls the intensity of current supplied to each electric motor (15, 21) in order to ~~decelerate or~~ stop the respective mechanical member (17, 23)".

XI. Claim 1 of **auxiliary request 7** is based on claim 1 of auxiliary request 6. It includes feature (f) as in claim 1 of the main request, and the wording referred to above with regard to auxiliary request 4 has been added between features (f) and (g6).

XII. Claim 1 of **auxiliary request 8** differs from claim 1 of auxiliary request 7 in that feature (j) now reads as follows (board's labelling and emphasis):

(j8) "a collision is detected and the management and control unit (13) then controls the intensity of current supplied to each electric motor (15, 21) limiting said intensity of current in order to decelerate or stop the respective mechanical member (17, 23)".

XIII. Claim 1 of **auxiliary request 9** differs from claim 1 of auxiliary request 5 in that feature (j) now reads as follows (board's labelling and emphasis):

(j9) "a collision is detected and the management and control unit (13) then controls the intensity of current supplied to each electric motor (15, 21) and block it in order to decelerate or stop the respective mechanical member (17, 23)".

XIV. Claim 1 of **auxiliary request 10** is based on claim 1 of auxiliary request 9. The following wording was added after feature (j9):

"wherein for each of said sub-phase 'n', a step of self learning of the reference current value is performed in which reference current values are memorized in tables, using self-learning procedures, said tables being interrogated in order to obtain the reference to be compared with the actual value of current supplied, and wherein the reference current value is self-learnt by said management and control unit (13) as a function of a

cadence of the operating cycle and the sub-phase 'n'."

- XV. Claim 1 of **auxiliary request 11** is based on claim 1 of auxiliary request 4. It includes feature (g6), while feature (j) now reads as follows (board's labelling and emphasis):

(j11) "a collision is detected and the management and control unit (13) then controls the intensity of current supplied to each electric motor (15, 21) in order to decelerate or stop the respective mechanical member (17, 23) due to collision with infinite deceleration".

### **Reasons for the Decision**

1. The patent in suit pertains to a method aimed at preventing collisions between two mechanical members of an automation unit.
2. **Main request - claim 1 - Articles 100(c) and 76(1) EPC**
  - 2.1 According to the appealed decision, Reasons 3.6, **feature (j)** extends beyond the content of the earlier application as filed (Articles 100(c) and 76(1) EPC). The board confirms this finding.
  - 2.2 The appellant pointed to page 4, lines 11 to 19 of the earlier application as filed as a basis.

However, this passage in fact teaches that, when the current is outside of the "minimum-maximum band" (this condition largely corresponds to feature (i)), the

"second control" (1) "intervenes and proceeds with the blocking". The "second control" also (2) "limits the current to the maximum limit allowed point-by-point". Hence, the skilled reader cannot derive from this disclosure that the current is controlled in order to *decelerate* or *stop* the respective mechanical member. Reaction (1) of the second control does not relate to any control of a current. The further reaction (2) does, moreover, not necessarily lead to a deceleration or a stopping of the mechanical member, because the "maximum limit allowed point-by-point" is not further specified.

2.3 The appellant explained further that according to these lines on page 4, which read in relevant part

"The second control (second phase) manages the current supplied to the electric motors so that if the current [...] were to be outside the minimum-maximum band [...] the second control intervenes and proceeds with the blocking.",

the "second control" managed the current such that the "second control" intervened and proceeded with the blocking. Thus, the wording used in feature (j) "control unit then controls the intensity of current supplied to each electric motor" was directly and unambiguously derivable from the phrase "manages the current supplied to the electric motors" and the wording "in order to decelerate or stop the respective mechanical member" was similarly derivable from the expression "the second control intervenes and proceeds with the blocking".

2.4 The board is not convinced.

- Firstly, it is self-evident that the passage on page 4 does not provide a basis for the **deceleration** step referred to in feature (j).
- Secondly, according to lines 11 and 12 of page 4, it is merely the "current" that is **managed**. However, the more specific expression used in feature (j), i.e. "controls the intensity of current", cannot be derived from the broad and general notion that the "current is managed".
- Thirdly, line 17 of page 4 refers to "blocking" and does not disclose which component is actually to be blocked. Furthermore, none of the claimed "decelerate" and "stop" steps is derivable therefrom. In particular, the terms "to stop" and "to block" do not have the same meaning.

2.5 The appellant referred furthermore to page 1, lines 13 to 14 and 23 to 29 of the description of the earlier application as originally filed and argued that the mechanical members were connected to the shafts of electric motors and that the purpose of the invention was to provide a method to control interference that prevents collisions and/or to detect the collision between the mechanical members of operating units. Hence, it was disclosed that the mechanical members were driven by and mechanically connected to the electrical motors and that collisions were detected or prevented by appropriately controlling the electrical motors (board's emphasis).

This argument is not convincing either, because, unlike feature (j), these passages do not pertain to actions performed after a collision has been detected.

2.6 In addition, the appellant pointed to claim 10 of the earlier application as filed as providing a basis for feature (j).

Yet, the board concurs with the respondents that, according to claim 10, the motor is blocked, but not necessarily as a result of the control of the "intensity of the current". Also, claim 10 does not provide a basis for the wording "to decelerate or stop".

2.7 Furthermore and as correctly pointed out by the respondents,

- the teaching provided at page 9, lines 7 to 9 pertains to the "first phase" according to the terminology of claim 1, while feature (j) belongs to the "second phase" and
- the disclosure at page 9, lines 10 to 12 and Figure 9 refers to the specific situation of a "collision with infinite deceleration" and to a specific development of the current.

2.8 Lastly, the appellant referred to Figure 11 and the corresponding passage on page 10 of the earlier application as filed and argued that, according to item 33, when any one of the currents was outside of the windows both mechanical members A and B were

stopped. Thus, there was a basis for the claimed "stopping of the respective mechanical member".

The board agrees that Figure 11 discloses that the **mechanical members are stopped**. However, neither Figure 11 nor the corresponding text of the description explains how the members are actually stopped. Also in view of claim 10 of the earlier application as filed (which teaches that the **motor is blocked**), there is no basis for directly and unambiguously deriving feature (j).

2.9 In addition, the board endorses the finding in the impugned decision (Reasons 3.6.1) that the "blocking" disclosed on page 4 does not form a basis for deriving, directly and unambiguously, the claimed "to decelerate or stop" either.

2.10 For these reasons, the ground for opposition under Article 100(c) prejudices the maintenance of the patent as granted.

**3. Auxiliary requests 1 to 5 - claim 1 - Article 76(1) EPC**

3.1 The objected-to feature (j) was not modified in claim 1 of these auxiliary requests.

3.2 Hence, auxiliary requests 1 to 5 do not comply with Article 76(1) EPC for the reasons given above with regard to the main request.

**4. Auxiliary request 6 - claim 1 - Article 76(1) EPC**

4.1 The amendment made in **feature (j6)** does not overcome the objection raised above with regard to claim 1 of the main request under Article 76(1) EPC (cf. *inter alia* points 2.2 to 2.8 above).

4.2 Hence, auxiliary request 6 is likewise not allowable under Article 76(1) EPC.

## 5. **Auxiliary requests 7, 8 and 11 - Admittance**

5.1 Claim 1 of auxiliary request 7 includes the same **feature (j6)** as claim 1 of auxiliary request 6, while claim 1 of auxiliary request 8 includes **feature (j8)** and claim 1 of auxiliary request 11 includes **feature (j11)**.

5.2 Auxiliary requests 7, 8 and 11 were filed in the course of the oral proceedings before the opposition division and were not admitted into the proceedings.

5.3 As correctly stated in the appealed decision, these claim requests were late-filed and could not be seen as an appropriate reaction to a change of the subject of the opposition proceedings.

5.4 The opposition division applied the correct criterion of "clear allowability" and rightly found that claim 1 of **auxiliary requests 7 and 8** is *prima facie* not allowable, for the reasons given in the impugned decision with regard to the main request and auxiliary request 6. Furthermore, **auxiliary request 11** was extremely late-filed and did not converge with auxiliary requests 9 and 10. Also here, the opposition division applied the correct criterion of "clear allowability" and rightly found that claim 1 was not



clearly allowable, for being *prima facie* not compliant with Article 84 EPC.

5.5 In view of the above, the decision of the opposition division not to admit auxiliary requests 7, 8 and 11 does not suffer from an error in the use of discretion.

5.6 Furthermore, the board is not aware of any circumstances of the appeal case which would justify the admittance of auxiliary requests 7, 8 and 11.

5.7 Consequently, the board decided not to admit auxiliary requests 7, 8 and 11 into the appeal proceedings (Article 12(6), first sentence, RPBA).

## **6. Auxiliary requests 9 and 10 - Article 76(1) EPC**

6.1 Claim 1 of auxiliary requests 9 and 10 includes **feature (j9)**.

6.2 The appellant argued, at the oral proceedings before the board, as to compliance with Article 76(1) EPC that the addition of the wording "and block it" was based on claim 10 of the earlier application as filed. It pointed furthermore to page 4, line 17; Figures 9 and 11; page 9, lines 8 to 12 and page 10, lines 12 to 21.

6.3 However, the board holds that feature (j9) cannot be derived, directly and unambiguously, from the earlier application as filed. In particular and in addition to the objections set out above with regard to feature (j) of claim 1 of the main request, no basis is apparent for the "control unit" performing two actions, namely (1) controlling the intensity of the current and (2) blocking the electric motor "in order to decelerate or

stop the respective mechanical member". Rather, feature (j9) is the result of combining distinct passages of the earlier application as filed. However, no pointer is disclosed for such a particular combination.

6.4 For these reasons, auxiliary requests 9 and 10 are not allowable under Article 76(1) EPC either.

## Order

### **For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated