COURT OF FIRST INSTANCE
MILAN LOCAL DIVISION

UPC CFI no. 727/2024, no. 493/2025
DECISION
delivered on 5.5.2026

HEADNOTES

Although statements made by the patent proprietor during examination proceedings before the EPO are not binding, they may nevertheless provide further guidance on interpretation as they reflect the possible opinion of the person skilled in the art.
The applicant's assertions during the grant proceedings can be seen as an indication of the view of the person skilled in the art at the filing date.

KEYWORDS

front loaded, claim interpretation, prosecution file, novelty, inventive step, realistic starting point, attacked embodiment.

CLAIMANT
AGATHON AG
Gurzelenstrasse 1, 4512 Bellach, Switzerland
represented by
Roland Küppers and Tarik Kapic, at *Taylor Wessing*, Benrather Str. 15, 40213 - Düsseldorf, Germany

DEFENDANTS
1) INTERCOM S.R.L.
via Carlo Cattaneo 18/22, 22064 Gorgonzola (MI)
represented by
Carlo Ginevra, Andrea Marchetti and Andrea Mittler, at *Studio Legale Mondini Bonora Ginevra*, corso di Porta Vittoria 5, 20122 - Milano, Italy

2) KNARR VERTRIEBS GMBH
Gunterstraße 31, 95233 Helmbrechts, Germany
represented by
Marcus Otten, at *Samson & Partner Patentanwälte mbB*, Widenmayerstr. 6, 80538 - Munich, Germany

PATENT AT ISSUE
EP 2 363 263 B1 (hereafter referred to as EP'263) entitled "*Centring device for a forming tool*"

DECIDING JUDGE
This decision has been issued by the Court of First Instance - Milan Local Division in the following panel

-	Pierluigi	PERROTTI	presiding judge and judge rapporteur
-	Alima	ZANA	legally qualified judge
-	Anna-Lena	KLEIN	legally qualified judge
-	Frédéric	GAILLARDE	technically qualified judge

LANGUAGE OF PROCEEDINGS
English

SUBJECT-MATTER OF THE PROCEEDINGS
Infringement action and counterclaim for revocation

DATE OF THE ORAL HEARING
24 March 2026

1. Summary of facts

Agathon AG (hereinafter referred to as the claimant or Agathon) is the proprietor of EP'263, that protects a centring device for a forming tool.

On 2.12.2024 Agathon commenced proceedings on the merits against Intercom s.r.l. and Knarr Vertriebs GmbH (hereinafter, respectively, Intercom and Knarr or jointly defendants). It claimed that Intercom manufactured and both defendants offered and placed on the market, imported, stored, supplied or offered to supply and possessed for that purpose centring devices such as Knarr-Article no. 547990 respectively Intercom - Article no. N9079, and Knarr-Article no. 547993 respectively Intercom Article no. 9379 (hereafter also the Products) that infringed claim 1 to 3, 5 to 9 and 11 of EP'263.

By order dated 31.3.2025, the Court authorised the alignment of the terms for the statements of defence, setting a single deadline of 6.6.2025 for both defendants.

On 5.6.2025, the defendants submitted their statement of defence, asserting that the products in question did not infringe upon the patent. Intercom filed a counterclaim for revocation and requested that EP'263 be found entirely invalid due to lack of novelty or - with regard to the dependant claims - to lack of inventive step.

On 8.8.2025 Agathon filed an application to amend the patent pursuant to rule 30.1 RoP, with the submission of four conditional auxiliary requests.

On 8.10.2025 Intercom filed the reply to claimant's application to amend the patent and objected the admissibility of the request to ascertain infringement of an amended version (according to Auxiliary Request 2) of the claims that includes the features of claim 4 of the patent as granted, as these features were not considered at all in the initial requests.

The judge rapporteur held the interim conference on 27.1.2026.

By order dated 28.1.2026 the Court authorised the filing of samples of the allegedly infringing products and of samples of prior art products corresponding to defendants' annexes D5, D6, D7, D8.

Agathon brought the physical exhibits in form of samples of the alleged infringing products on 10.3.2026. A sample of product corresponding to those depicted in catalogues D5–D8 were submitted as physical evidence by Intercom on 17.3.2026.

The parties finally discussed the case at the oral hearing on 24.3.2026.

During the oral hearing, the Panel asked (i) Intercom whether it would be willing to make its counterclaim for revocation conditional upon a finding of infringement and (ii) Agathon whether it would consent to a conditional counterclaim for revocation of the patent in the event of a positive response from Intercom.

However, Intercom's representatives rejected the Panel's proposal, maintaining their request for the patent's revocation in its original form, without any conditions.

The samples of the allegedly infringing products and of the prior art products were examined during the oral hearing.

2. Parties' requests

Agathon requests that the Court:

(a) declares that the First Defendant infringes claims 1 to 3, 5 to 9 and 11 of the patent EP 2 363 263 B1, in particular by manufacturing, offering and placing on the market, importing, storing, supplying or offering to supply and possessing for that purpose products defined under 1.(c) below, in particular centring devices such as the products KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379.

(b) declares that the Second Defendant infringes claims 1 to 3, 5 to 9 and 11 of the patent EP 2 363 263 B1, in particular by offering and placing on the market, importing, storing, supplying or offering to supply and possessing for that purpose products defined under 2.(c) below, in particular centring devices such as the products with KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379.

(c) grants a permanent injunction for direct infringement of the patent EP 2 363 263 B1 by prohibiting the First Defendant from infringing the Patent in Austria, Belgium, Germany, France and Italy in any way, with immediate effect after service of the judgment to be rendered in this matter, in particular by manufacturing, offering and placing on the market, importing, storing, supplying or offering to supply and possessing for that purpose

(i) centring devices according to claim 1 of EP 2 363 263 B1, therefore *centring devices for a forming tool (2), in particular an injection-moulding or die-casting tool, comprising a first mould half (1) and a second mould half (5), which are movable, guided by guiding means (7), from a closed position, in which the respective partition surfaces (3) of the two mould halves (1, 5) are pressed against one another, into an opened position and vice versa, which are <sic. is> formed from a plurality of protruding guiding bodies (4) put on the first mould half (1) and guiding recesses (6) provided on the second mould half (5), by means of which the two mould halves (1, 5) are precisely centred in the closed position, each protruding guiding body (4) being formed from a circular cylindrical bolt (8), on which a rolling body cage (11) is placed with rolling bodies (12) inserted in rows (14, 15, 16) characterized in that the rolling body cage (11) is positioned via positioning means (23) in the opened state in such a way that a first rolling body row (15) directed toward the first mould half (1) rests on the circularly cylindrical surface (17) of the bolt (8) and the second rolling body row (16) abuts an encircling edge (18) concluding the circularly cylindrical surface (17) of the bolt (8), and in that each guiding recess (6) is formed from a sleeve (9) with a circularly cylindrical inner surface (10), which, upon closing of the forming tool, is able to run into the rolling bodies (12) of the rolling body cage (11), in such a way that the sleeve (9) runs practically simultaneously on the first rolling body row (15) and on the second rolling body row (16) and the centring and pretensioning forces are able to be absorbed simultaneously by the first rolling body row (15) and the second rolling body row (16);*
and/or

(ii) centring devices according to claim 2 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to claim 1, characterized in that further rolling body rows (14) are provided in front of the first rolling body row (15) and/or after the second rolling body row (16);*
and/or

(iii) centring devices according to claim 3 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to claim 1 or 2, characterized in that the bolt (8) has a region adjacent to the edge (18) concluding the circularly cylindrical surface (17), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface (17);*
and/or

(iv) centring devices according to claim 5 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to one of the claims 1 to 4, characterized in that the sleeve (9) has a further edge (20) directed toward the rolling body cage (11) and concluding the circularly cylindrical inner surface (10), to which a conical retraction area (21) connects;*
and/or

(v) centring devices according to claim 6 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to one of the claims 1 bis 5, characterized in that the bolt (8) is provided with a head (26), which inserts into and is fixed in the first mould half (1);*
and/or

(vi) centring devices according to claim 7 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to claim 6, characterized in that the positioning means (23) are formed from at least two pins (24), which are introduced in a distributed way over the circumference of the rolling body cage (11) and are aligned parallel to the axis (25) of the bolt (8), and which are displaceable in a guided way in bores (27) made in the head (26) of the bolt (8);*
and/or

(vii) centring devices according to claim 8 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to claim 7, characterized in that the pins (24) are provided with heads (28) at the end region remote from the rolling body cage (11), which heads form stops (30) with shoulders (29) disposed on the bores (27), which stops determine the extended position of the rolling body cage (11);*
and/or

(viii) centring devices according to claim 9 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to claim 8, characterized in that pressure springs (31) are inserted into the bores (27), which springs press the heads (28) of the pins (24) against the shoulders (29);*
and/or

(ix) centring devices according to claim 11 of EP 2 363 263 B1, therefore a *centring device for a forming tool according to one of the claims 1 to 10, characterized in that the rolling bodies (12) are rollers (13) or balls;*
or equivalent centring devices
in particular the products KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379
(Articles 63(1) and 25 and 26 of the UPCA);

(d) grants a permanent injunction for direct infringement of the patent EP 2 363 263 B1 by prohibiting the Second Defendant from infringing the Patent in Austria, Belgium, Germany, France and Italy in any way, with immediate effect after service of the judgment to be rendered in this matter, in particular by offering and placing on the market, importing, storing, supplying or offering to supply and possessing for that purpose centring devices as defined in 2. (c) above
(Articles 63(1) and 25 and 26 of the UPCA);

(e) declares that the Defendants are liable for the damages suffered by AGATHON as of 7 June 2017 (date of grant of the Patent), or at another date to be determined by this Court, as well as any future damage AGATHON will incur as a result of the continuous infringement of the patent EP 2 363 263 B1;

(f) orders the Defendants to pay damages or compensation to AGATHON in the amount to be determined in separate proceedings for the award of damages
(Article 68 UPCA and Rules of Procedure, R. 118.1, R. 125-144);

(g) orders the Defendants to pay interim damages of EUR 50,000, or at least in the amount that is sufficient to cover the expected costs of the procedure for the award of damages and compensation in paragraph (f) above
(Article 68 UPCA and Rules of Procedure, R. 119);

(h) orders the Defendants to provide information to AGATHON within 4 weeks after service of the judgment to be rendered in this matter with a written statement, substantiated with appropriate documentation, drawn up and signed by an independent auditor, or any other professional that this Court deems suitable for providing such statement, comprising:

(i) the origin and distribution channels of the products as defined under 2. (c) above including the full names and addresses of the legal entities that are involved in the manufacture of and trade in these devices;

(ii) the total number of the products as defined under 2. (c) above that the Defendants and/or any of its affiliates still have in stock either administratively or physically in Austria, Belgium, Germany, France and Italy as of the date of judgment;

(iii) the total number of the products as defined under 2. (c) above that the Defendants, including any of its affiliates, have traded, sold, supplied, transferred and/or delivered to its customers and / or distributors in Austria, Belgium, Germany, France

and Italy as of 7 June 2017 (date of grant of the Patent), or another date to be determined by this Court, as well as any and all copies of invoices pertaining to those acts which also shows the price obtained for these products;

(iv) the identity including the full names and address of any non-consumer third person involved in Austria, Belgium, Germany, France and Italy in the production, distribution, trade and/or sale of the products as defined under 2. (c) above or in the use of such products as of 7 June 2017 (date of grant of the Patent) or another date to be determined by this Court;

(v) the internal cost calculated or the purchasing costs paid, as well as the sales prices charged for the products as defined under 2. (c) above in Austria, Belgium, Germany, France and Italy by the Defendants, including their affiliates, as of 7 June 2017 (date of grant of the Patent), or another date to be determined by this Court;

(vi) the total amount of gross and net profit which the Defendants, including their affiliates, have gained as a result of trading the products as defined under 2. (c) above in Austria, Belgium, Germany, France and Italy as of 7 June 2017 (date of grant of the Patent), or another date to be determined by this Court, and the calculation thereof;

(Article 67(1) of the UPCA);

(i) 1. orders the First Defendant to publish a rectification on its websites, including www.intercomonline.it as well as national pages on that websites and/or subdomains, as well as on its social media channels, within 24 hours after service of the judgment in this matter and for a period of three months for each of the countries Austria, Belgium, Germany, France and Italy, with the header "RECTIFICATION" (in capitals), without any comments or remarks in any form whatsoever, exclusively with the following text, or a similar text to be drafted by this Court, and drafted in accordance with good printing practices, either in English or translated in the local language(s) of that country:

"*Respected client,*

We are ordered to inform you that the Unified Patent Court by its judgment of [date] has decided that our products KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379 as manufactured, offered and placed on the market by us infringe the European patent EP 2 363 263 B1 owned by Agathon AG.

We are prohibited from manufacturing, offering and placing on the market, importing, storing, supplying or offering to supply or using this product.

Sincerely,

[name of the responsible defendant and name and signature of a legal representative of this defendant and/or other Defendant´s affiliate companies]"

2. orders the Second Defendant to publish a rectification on its websites, including www.knarr.com as well as national pages on that websites and/or subdomains, as well as on its social media channels, within 24 hours after service of the judgment in this matter and for a period of three months for each of the countries Austria, Belgium, Germany,

France and Italy, with the header "RECTIFICATION" (in capitals), without any comments or remarks in any form whatsoever, exclusively with the following text, or a similar text to be drafted by this Court, and drafted in accordance with good printing practices, either in English or translated in the local language(s) of that country:
"*Respected client,*
We are ordered to inform you that the Unified Patent Court by its judgment of [date] has decided that our products KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379 as offered and placed on the market by us infringe the European patent EP 2 363 263 B1 owned by Agathon AG.
We are prohibited from offering and placing on the market, importing, storing, supplying or offering to supply or using this product.
Sincerely,
[name of the responsible defendant and name and signature of a legal representative of this defendant and/or other Defendant´s affiliate companies]"
(Articles 64 and 80 of the UPCA);

(j) orders the Defendants, at their expense, to recall and/or otherwise definitely remove from the channels of commerce in the countries Austria, Belgium, Germany, France and Italy all products as defined under 2. (c) above by sending registered letters to all of its customers in the aforementioned countries, within fourteen days after service of the judgment to be rendered in this matter, containing exclusively the following text, or a similar text to be drafted by this Court, without captions or notes, either in English or translated in the local language(s) of that country:
"*Dear Sir, Madam,*
We are obliged to inform you that the Unified Patent Court has decided through a judgment of [date] that our products KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379 as marketed by us infringe the European patent EP 2 363 263 B1 owned by Agathon AG.
We are prohibited from manufacturing, offering and placing on the market, importing, storing, supplying or offering to supply or using this product.
Through this letter we request you to immediately cease offering this product (online or offline, in brochures, etc.), and to immediately return all KNARR-Article no. 547990 respectively INTERCOM-Article no. N9079 and KNARR-Article no. 547993 respectively INTERCOM-Article no. N9379 products in your possession to us. We will immediately reimburse the purchase price concerned and all costs made in connection with the return.
Sincerely,
[name of the responsible defendant and name and signature of a legal representative of this defendant and/or other Defendant´s affiliate companies]";
while providing information to AGATHON within 1 month after sending these letters with an overview of all clients, persons and entities that these letters have been sent to as

well as an overview of all clients, persons and entities that have returned the products as defined under 2. (c) above.
(Article 64(1) and (2)(b) and(d) of the UPCA)

(k) orders the Defendants to destroy, at their own expense, any products as defined under 2.(c) above which are still in stock in the countries Austria, Belgium, Germany, France and Italy, as well as all products defined under 2.(c) above returned as referred to in order 1(j) above and any promotional material that include products as defined under 2.(c) above, within 4 weeks after service of the judgment to be rendered in this matter, and to provide information to AGATHON with proper evidence of the full and timely compliance with this order within 10 days after the destruction
(Article 64(1) and (2)(e) of the UPCA);

(l) orders the Defendants to comply with the orders under 2.(c) and 2.(d) as well as 2.(h) – 2.(k), subject to a recurring penalty payment of EUR 10,000 for each violation of, or non-compliance with, the order(s), plus EUR 10,000 for each day, a part of a day counting as an entire day, that the violation or non-compliance continues, or another amount as determined by this Court in the proper administration of justice
(Article 63(2) of the UPCA and Rules of Procedure R. 354.3);

(m) appends an order for the enforcement to its decision, while declaring that the judgment is immediately enforceable (Article 82(1) of the UPCA);

(n) orders the Defendants to bear reasonable and proportionate legal costs and other expenses incurred by AGATHON in these proceedings and orders, insofar such costs are to be determined in separate proceedings for the determination of such costs, that the Defendants pay to AGATHON by means of an interim award of costs an amount of EUR 50,000 within 14 days after service of the judgment in this matter (Article 69 UPCA, Rules of Procedure R. 118.5 and 150.2).

Intercom requests the Unified Patent Court - Milan Local Division to:

i) revoke Agathon's European patent EP 2 363 263 B1 in its entirety for lack of novelty and/or inventive step; in the alternative, should the Court find that not all claims of EP 2 363 263 B1 are invalid, Intercom respectfully requests that the Court revoke the patent in part, to the extent that the claims are invalid;

ii) dismiss all claims brought forward by Agathon;

iii) order Agathon to bear all legal, technical and other costs incurred by Intercom in the main proceedings, these revocation proceedings and in all related proceedings and orders, such costs to be determined in separate costs proceedings pursuant to Rule 151.1 RoP;

iv) by way of an interim award of costs pursuant to Rule 150.2 RoP, order Agathon to pay Intercom the amount of EUR 50,000 within 7 days from the service of the judgment in this matter.

Knarr requests the Unified Patent Court - Milan Local Division to:

i) dismiss all claims brought forward by Agathon;
ii) order Agathon to bear all legal, technical and other costs incurred by Knarr in the main proceedings and in all related proceedings and orders, such costs to be determined in separate costs proceedings pursuant Rule 151.1 RoP;
iii) by way of an interim award of costs pursuant to Rule 150.2 RoP, order Agathon to pay Knarr the amount of EUR 50,000 within 7 days from the service of the judgment in this matter.

3. The patent at issue

Agathon is the sole proprietor of EP'263, entitled *Centring device for a forming tool*. It originates from European patent application 10155698.3 dated 5.3.2010, filed without claiming a priority and published on 7.9.2011 under the number EP 2 363 263 A1. The patent was granted on 7.6.2017 and is currently in force - *inter alia* - in Austria, Belgium, Germany, France and Italy.

No opposition was filed before the EPO.

The Patent in-suit has been initially opted out on 30.6.2023. The opt out was then withdrawn on 26.11.2024.

The patent at issue concerns a centring device for moulding tools, in particular an injection moulding or die casting tool. Such tools consist of a first and a second mould halves which are moved between an open and a closed position. The device ensures precise alignment (centring) of the two mould halves in the closed position to produce accurate moulded parts (see para. [0001]).

Conventional centring devices for forming tools often suffer from significant drawbacks:

- high wear: devices that rely on sliding contact between guide bodies and guide recesses experience high friction and wear. This reduces their accuracy over time and necessitates frequent, costly replacement (para. [0005]).
- concentrated stress: some prior art solutions using rolling bodies (e.g., JP2001121226A) are designed such that a single row of rolling bodies must absorb the entire initial centring and pretensioning forces upon engagement. This leads to high stress on the components (para. [0006]).

The invention therefore proposes a centring device which ensures the desired centring accuracy and a minimum wear resulting in a long service life and replacement cycles.

The core of the invention is a centring device that distributes the centring and pretensioning forces across two rows of rolling elements simultaneously upon engagement. This is achieved through a specific geometric arrangement of the components.

Key features, as defined in claim 1, are the specific positioning of the rolling body cage 11 in the open state of the mould, and its interaction with the sleeve 9 during closing:

- positioning in open state
  positioning means 23 hold the cage 11 such that
  - a first rolling body row 15 rests on the main cylindrical surface 17 of the bolt 8 (para. [0022]; Fig. 4a and 5; Feature 1.8),
  - a second rolling body row 16 abuts an encircling edge 18 at the end of the bolt's main cylindrical surface (para. [0022]; Fig. 4a and 5; Feature 1.9)

FIG. 4a

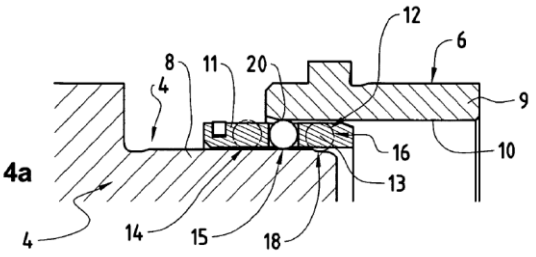
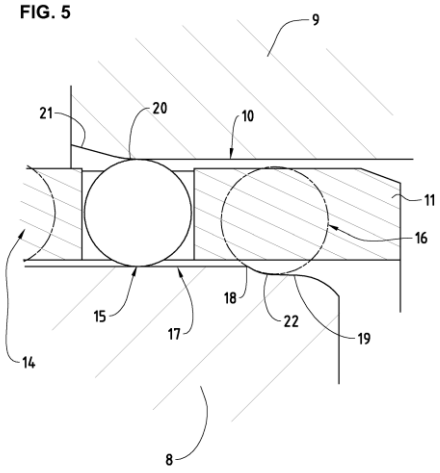


FIG. 5



- simultaneous engagement during closing
  as the mould closes, the sleeve 9 is designed to run onto the rolling body rows in such a way that it engages the first row 15 and the second row 16 practically simultaneously. This ensures that the centring and pretensioning forces are immediately distributed and absorbed by both rows at the same time (claim 1; para. [0009] and [0025]).

The patent comprises 11 claims, of which claim 1 is independent.
Claim 1 of the patent reads as follows (the following features' breakdown has been accepted by all parties):

1.1 centring device for a forming tool (2), in particular an injection-moulding or die-casting tool,
1.2 comprising a first mould half (1) and a second mould half (5),
1.3 which are movable, guided by guiding means (7), from a closed position, in which the respective partition surfaces (3) of the two mould halves (1, 5) are pressed against one another, into an opened position and vice versa,
1.4 which centring device are [*sic. is*] formed from a plurality of protruding guiding bodies (4) put on the first mould half (1) and guiding recesses (6) provided on the second mould half (5),
1.5 by means of which the two mould halves (1, 5) are precisely centred in the closed position,
1.6 each protruding guiding body (4) being formed from a circularly cylindrical bolt (8),
1.7 on which a rolling body cage (11) is placed with rolling bodies (12) inserted in rows (14, 15, 16),

characterized in that

1.8 the rolling body cage (11) is positioned via positioning means (23) in the opened state in such a way that a first rolling body row (15) directed toward the first mould half (1) rests on the circularly cylindrical surface (17) of the bolt (8) and

1.9 the second rolling body row (16) abuts an encircling edge (18) concluding the circularly cylindrical surface (17) of the bolt (8), and

1.10 in that each guiding recess (6) is formed from a sleeve (9) with a circularly cylindrical inner surface (10), which, upon closing of the forming tool, is able to run into the rolling bodies (12) of the rolling body cage (11),

1.11 in such a way that the sleeve (9) runs practically simultaneously on the first rolling body row (15) and on the second rolling body row (16) and the centring and pretensioning forces are able to be absorbed simultaneously by the first rolling body row (15) and the second rolling body row (16).

Claims 2 et seq. read as follows:

2. centring device for a forming tool according to claim 1,
characterized in that further rolling body rows (14) are provided in front of the first rolling body row (15) and/or after the second rolling body row (16).

3. centring device for a forming tool according to claim 1 or 2
characterized in that the bolt (8) has a region adjacent to the edge (18) concluding the circularly cylindrical surface (17), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface (17)

4. centring device for a forming tool according to claim 3
characterized in that the transition from the edge (18) to the further circularly cylindrical surface (19) is provided with a curvature (22), which is adapted to the curvature of the rolling bodies (12)

5. a centring device for a forming tool according to one of the claims 1 to 4
characterized in that the sleeve (9) has a further edge (20) directed toward the rolling body cage (11) and concluding the circularly cylindrical inner surface (10), to which a conical retraction area (21) connects

6. centring device for a forming tool according to one of the claims 1 to 5
characterized in that the bolt (8) is provided with a head (26), which inserts into and is fixed in the first mould half (1).

7. centring device for a forming tool according to claim 6
characterized in that the positioning means (23) are formed from at least two pins (24), which are introduced in a distributed way over the circumference of the rolling body cage (11) and are aligned parallel to the axis (25) of the bolt (8), and which are displaceable in a guided way in bores (27) made in the head (26) of the bolt (8).

8. centring device for a forming tool according to claim 7

characterized in that the pins (24) are provided with heads (28) at the end region remote from the rolling body cage (11), which heads form stops (30) with shoulders (29) disposed on the bores (27), which stops determine the extended position of the rolling body cage (11).

9. centring device for a forming tool according to claim 8
characterized in that pressure springs (31) are inserted into the bores (27), which springs press the heads (28) of the pins (24) against the shoulders (29).

10. centring device for a forming tool according to one of the claims 7 to 9
characterized in that the connection between the pins (24) and the rolling body cage (11) takes place via a retaining ring (35), which in inserted into a groove (33) surrounding the rolling cage body (11), and which protrude into slits (34), which are made on the pins (24)

11. centring device for a forming tool according to one of the claims 1 to 10
characterized in that the rolling bodies (12) are rollers (13) or balls.

4. Claim construction

The interpretation of the claims is governed by Art. 69 EPC and the Protocol on the Interpretation of Art. 69 EPC in conjunction with Art. 24 (1)(c) UPCA. The same approach to claim construction is to be used when assessing infringement and validity; thus, Art. 69 EPC must be the governing principle in claim interpretation also in the context of validity.

According to the interpretations defined by the Court of Appeal (see UPC CoA no. 335/2024, decision of 26 February 2024), the patent claim is not only the starting point, but the decisive basis for determining the protective scope of a European patent under Art. 69 EPC in conjunction with the Protocol on the Interpretation of Art. 69 EPC.

The interpretation of a patent claim does not depend solely on the strict, literal meaning of the wording used. Rather, the description and the drawings must always be used as explanatory aids for the interpretation of the patent claim and not only to resolve any ambiguities in the patent claim.

However, this does not mean that the patent claim merely serves as a guideline and that its subject-matter also extends to what, after examination of the description and drawings, appears to be the subject-matter for which the patent proprietor seeks protection.

The patent claim is to be interpreted from the point of view of a person skilled in the art.

In applying these principles, the aim is to combine adequate protection for the patent proprietor with sufficient legal certainty for third parties.

These principles for the interpretation of a patent claim apply equally to the assessment of the infringement and the validity of a European patent.

The discussion between the parties focused mainly on the interpretation of features 1.8, 1.9 and 1.11.

1.8 the rolling body cage (11) is positioned via positioning means (23) in the opened state in such a way that a first rolling body row (15) directed toward the first mould half (1) rests on the circularly cylindrical surface (17) of the bolt (8) and
1.9 the second rolling body row (16) abuts an encircling edge (18) concluding the circularly cylindrical surface (17) of the bolt (8)
The configuration in the open state is supported by the description (para. [0029]) and illustrated in figure 6: *"The positioning means 23 are visible, by which the rolling body cage 11 with the rollers 13 contained therein is brought into the previously described position with the forming tool open. These positioning means 23 are formed from pins 24, which are distributed around the circumference of the rolling element cage 11 and are aligned parallel to the axis 25 of the bolt 8 [...] Compression springs 31 are inserted into the bores 27, which press the heads 28 of the pins 24 against the shoulders 29 and ensure that the rolling element cage 11 assumes the correct position when the forming tool is opened".*

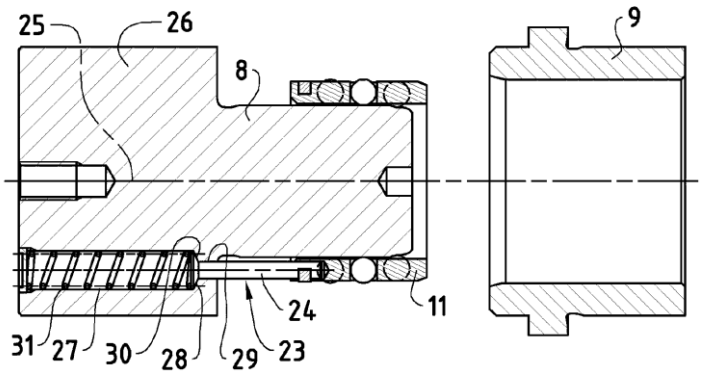


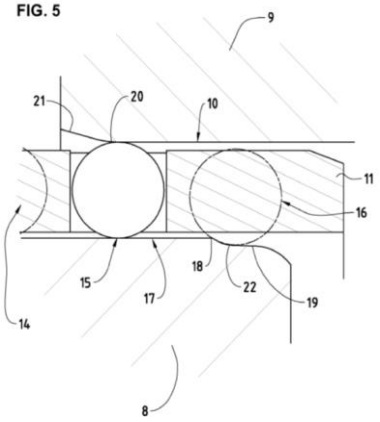
FIG. 6

During the oral hearing, Agathon repeatedly emphasised that the patent explains how to distinguish between an open and a closed position of the centring device, as described, respectively, in the para. [0022], [0023] and [0027]. According to the claimant's interpretation, the entire intermediate phase during which the transition from the opened state to the closed state takes place should be regarded, for all intents and purposes, as "opened state", at least until the first and second rolling body rows are placed under pre-tension practically simultaneously.
More precisely, according to Agathon, the simultaneous loading of the first and second rolling body rows, as described in the patent in suit (see para. [0023]), is only achieved by the rolling body cage being moved along the bolt by the sleeve and the second rolling body row running onto the circular cylindrical surface. From a technical and functional point of view, it makes no difference whether the second rolling body row abuts the encircling edge or rests elsewhere on the conical top. In both cases, the second rolling body row is not preloaded in the same way as the first rolling body row when the device is open, and simultaneous loading and thus distribution of the applied forces occurs as the sleeve runs onto the rolling body cage and moves the second rolling body row onto the cylindrical surface of the bolt. The centring device is open until the second rolling body row reaches and abuts against the edge of the cylindrical surface

of the bolt and, thereby, is preloaded practically simultaneously with the first rolling body row running along the cylindrical surface of the bolt.

Defendants pointed out that in figure 5 the shape of the tapering portion beyond (i.e., in the figure, on the right of) the edge 18 is carefully chosen to match the size, shape and position of rolling body row 16, such that the second rolling body row 16 touches the edge 18, ensuring that "*the sleeve runs practically simultaneously on the first rolling body row*".

FIG. 5



During examination before the European Patent Office the claimant submitted that it was "essential" or "decisive" (in the German original: "entscheidend") for the simultaneous preloading that the second rolling body row abuts the edge (submission by Agathon before the EPO dated 23.11.2016). In response to this submission and arguments by Agathon, the EPO had issued the communication of intention to grant the patent-in-suit. In view of legal certainty, the complete turnaround in the statements made by the applicant/proprietor must be taken into account in the assessment.

The Court considers that the term "*abuts*" can be interpreted in accordance with the following passages of description:
para. [0022] "*a second row of rolling elements 16 rests against an edge 18 surrounding the bolt 8… The rollers of the second row 16 lie on another circular cylindrical surface 19… This further circular cylindrical surface 19 has a diameter approximately 0.5 mm smaller than the circular cylindrical surface 17 of the bolt 8*"
para. [0023] "*these rollers… are therefore in a withdrawn position relative to the sleeve 9*"
para. [0024] "*these [rollers] pass over the edge 18*"
It results from above that "in abutment" - "*abuts*" means that in the opened position, the rollers of the second rolling body row 16:

- are in contact with edge 18,

and

- are susceptible of passing over this edge by an outward radial displacement, as illustrated by the following extracts of figures 4a and 4b and by the red arrow:

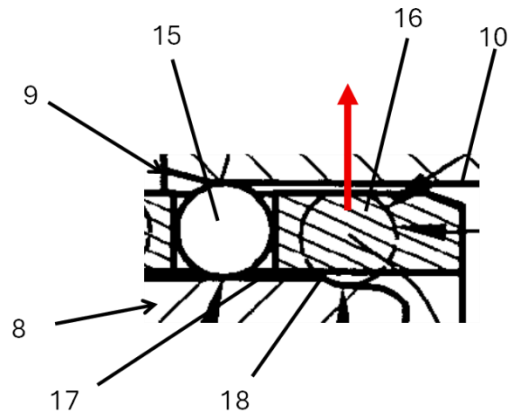


FIG. 4a

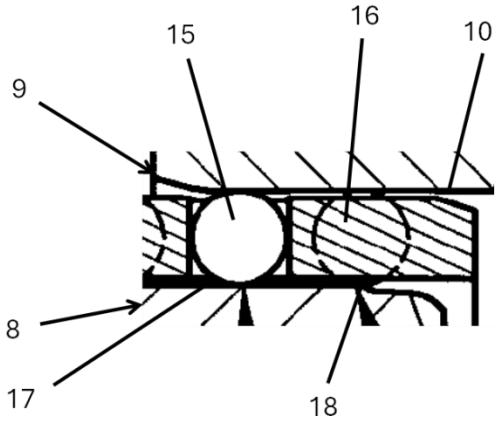


FIG. 4b

The positioning of the second rolling body row described above is not arbitrary. Conversely, it is strictly necessary to achieve the desired technical effect, as outlined in feature 1.11. The text of the patent does not contain any reference to an intermediate stage between the open and closed states. The configuration in the open state must include both of the above specified elements.
The Court therefore disagrees with the claimant's broad interpretation of "opened state" - to be interpreted in a stricter meaning, not including any transitional phase towards the closed position - and with the consequential idea that "*it makes no difference whether the second rolling body row abuts the encircling edge or rests elsewhere on the conical top*".
Ultimately, this means that, in the open position, the second rolling body must actually rest against (be in contact with) the edge surrounding the bolt.

The UPC Court of Appeal has clarified that the patent claim must be interpreted from the perspective of the person skilled in the art. The applicant's assertions during the grant proceedings can be seen as an indication of the view of the person skilled in the art at the filing date see (UPC CoA no. 402/2024 and 405/2024, order of 20 December 2024; UPC CoA no. 534/2024 and 19/2025, decision of 3 October 2025; see also UPC CFI no. 630/2025, LD Düsseldorf, order of 31 October 2025).
Although statements made by the patent proprietor during examination proceedings before the EPO are not binding, they may nevertheless provide further guidance on interpretation as they reflect the possible opinion of the person skilled in the art.
Agathon's statement that it was "essential" or "decisive" for the simultaneous preloading that the second rolling body row abuts the edge further confirms the correctness of the interpretation hereby adopted by the Court.

1.11 in such a way that the sleeve (9) runs practically simultaneously on the first rolling body row (15) and on the second rolling body row (16) and the centring and pretensioning forces

are able to be absorbed simultaneously by the first rolling body row (15) and the second rolling body row (16).
The claimant's position is that it can be appreciated from paragraphs [0023] to [0025], in relation to figures 4a to 4c, that the rolling body cage 11, particularly the first and second rolling body rows 15, 16, need to be precisely positioned on the bolt 8, so that as soon as an edge concluding the circularly cylindrical inner surface 10 runs over the rolling bodies 13 of the first rolling body row 15, these start to rotate and thus the rolling body cage 11 is advanced onto the bolt 8 and the rolling bodies 13 of the second rolling body row 16 are set into motion, pass the edge 18 and right away, i.e. simultaneously, are subject to pre-tensioning forces.
The sleeve 9 runs practically simultaneously on the first rolling body row 15 and on the second rolling body row 16 so that the centring and pre-tensioning forces are able to be absorbed simultaneously by the first rolling body row 15 and the second rolling body row 16. This structure also allows to maintain or even increase the precision of centring with respect to the prior art centring devices.
According to the claimant, the person skilled in the art will immediately understand the necessity to adjust precisely the dimensions of the circular cylindrical bolt 8 and of the rolling body cage 11 because such an adjustment is absolutely crucial if all claimed features, and in particular the feature 1.10 and 1.11 need to be realised. In other words, a person skilled in the art understands that not every rolling of the sleeve into subsequent rolling body rows allows for a simultaneous absorption of the centring and pre-tensioning forces by the first rolling body row 15 and the second rolling body row 16.

According to the defendants the patent fails to disclose how to provide the precise adjustment of the circular cylindrical bolt 8 and of the rolling body cage 11 to one another. The patentee confuses functional wording with mere suitability.

The Court considers that the way the simultaneous contact of sleeve 9 with first 15 and second 16 rolling body rows is provided results from the following passages of description:
para. [0023]: "*As can be seen, the sleeve 9 passes over the second row 16 of the rollers 13 arranged in the rolling element cage 11 […] As the sleeve 9 moves further forward, the further edge 20 of the sleeve 9, which closes off the circular cylindrical inner surface 10 of the sleeve 9, comes into contact with the first row 15 of the rolling bodies 13 arranged in the rolling body cage 11.*" and
para. [0024]: "*As soon as the further edge 20 passes over the rolling bodies 13 of the first row 15, these rolling bodies 13 of the first row 15 begin to rotate, the rolling body cage 11 is pushed onto the bolt and sets the bodies 13 of the second row 16 in motion. These pass over the edge 18 and enter between the circular cylindrical surface 17 of the bolt 8 and the circular cylindrical inner surface 10 of the sleeve 9 and immediately come under preload*".
It results from above that feature 1.11 provides for a movement of rolling bodies of second row 16 between:

- a radially inward, unloaded position, where these rolling bodies are in abutment with the edge 18 of bolt 8 (see figures 4a and 5) - thereby allowing displacement of sleeve 9 over these rolling bodies without compressing them against bolt 8

  and
- a radially outward, loaded position, where these rolling bodies are compressed between cylindrical surface 17 of bolt 8 and inner surface 10 of sleeve 9 (figure 4b) - thereby sharing the load with first rolling body row 15.

Movement from said unloaded to loaded positions takes place in the following manner:

a) sleeve 9 runs over second rolling body row 16 without putting load on this row, until sleeve 9 reaches first rolling body row 15

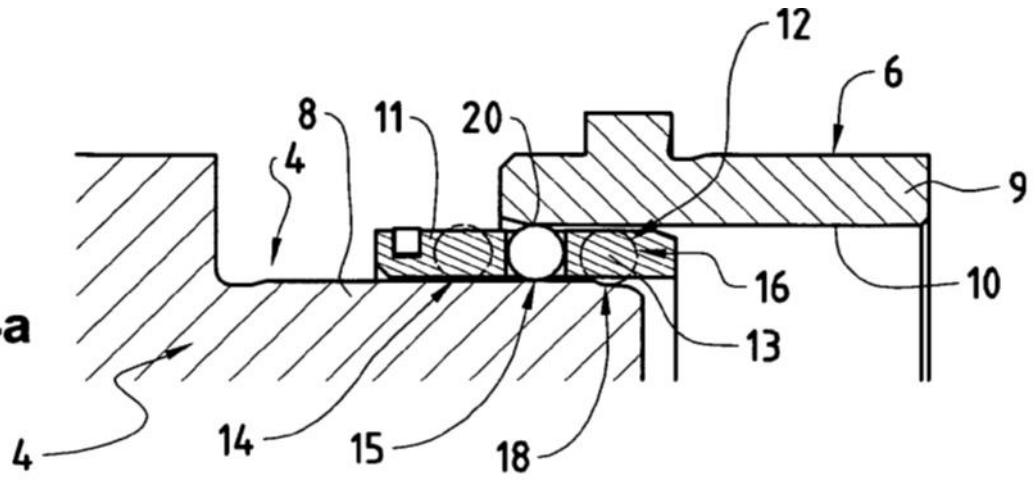


FIG. 4a

b) running of sleeve 9 on first rolling body row 15 in the direction of blue arrow has the effect of pulling the rolling body cage 11 in this same direction, which itself pulls radially outward the second rolling body row 16 over edge 18

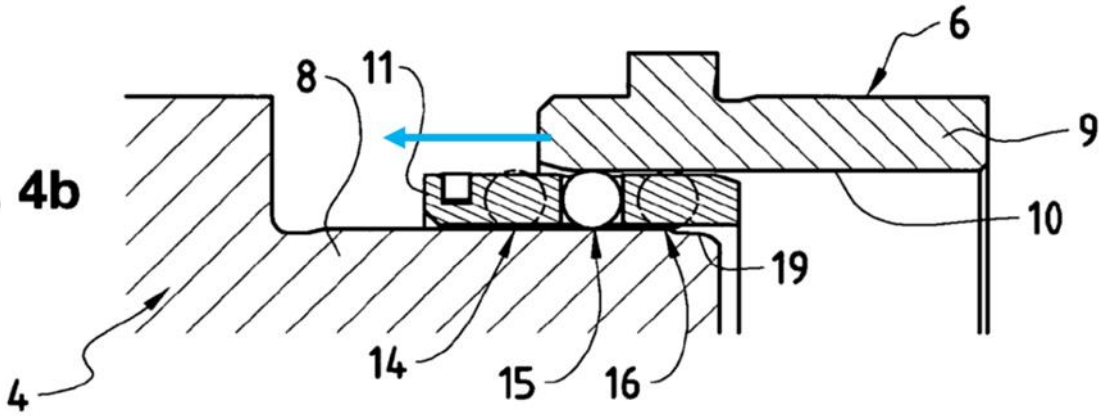


FIG. 4b

Due to the "*abutment*" feature 1.9, movement of rolling bodies of second row 16 between said unloaded and loaded positions takes place as soon as sleeve 9 begins to run on the first rolling body row 15.
As a result, as soon as first rolling body row 15 is loaded between bolt 8 and sleeve 9, second rolling body row 16 comes to be loaded between these elements, thereby allowing simultaneous loading of first 15 and second 16 rolling body rows.
In view of above, it can be said that the function of features 1.8 to 1.11 is to provide for movement of second rolling body row 16 between a radially inward, unloaded position and a radially outward, loaded position immediately after the sleeve 9 has engaged with the first rolling body row 15, the result being that first 15 and second 16 rolling body rows absorb simultaneously centring and pretensioning forces.

5. Counterclaim for revocation

5.1. Prior art documents

Intercom has identified several prior art references, listed below, which form the basis of its counterclaim for the revocation of EP'263:

- **D1** US 3,469,894, US patent filed on 12.10.1967 (granted on 30.9.1969), titled *die set leader pin with sectional bearing cage*;
- **D2** US 3,614,178, US patent filed on 20.1.1970 (granted on 19.10.1971), titled *ball bearing for die set leader pin*;
- **D3** US 2,774,430, US patent filed on 8.11.1955 (granted on 18.12.1956), titled *latching means for die set retainers*;
- **D4** US 6,182,552, US patent filed on 10.7.1998 (granted on 6.2.2001), titled *holding device for a cage for roll bodies on a pillar of a tool*;
- **D5 - D8**, printed catalogues relating to centring devices, in detail:
  (a) **D5** Agathon catalogue, year 2002;
  (b) **D6** Fibro catalogue, 07/2001;
  (c) **D7** Fibro catalogue, year 2007;
  (d) **D8** Intercom catalogue, year 2003;
- **D9** US 5,156,462, US patent filed on 6.8.1991 (granted on 20.10.1992), titled *ball guide*.

5.2. Lack of novelty

The defendants primarily request that the patent be declared invalid due to lack of novelty, in accordance with the provisions of Article 54 EPC, according to which "1. *An invention shall be considered to be new if it does not form part of the state of the art.* 2. *The state of the art shall be held to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.*"
For the purposes of Art. 54 EPC, an invention shall be considered new if it does not form part of the state of the art. The state of the art, in accordance with Art. 54(2) EPC, shall be held to comprise everything made available to the public by means of a written or oral description, by

use, or in any other way, before the date of filing or before the date of priority of the European patent application.
As already clarified in UPC case law, it is a prerequisite for the acceptance of lack of novelty that the claimed subject matter is directly and unambiguously derivable from the prior art. The technical disclosure in a prior art document must be considered as a whole (UPC CoA no. 182/2024, order of 25 September 2024, para. 123). The Court must ascertain what the skilled person would derive directly and unambiguously using his/her common general knowledge and seen objectively and relative to the date of filing, from the whole of the prior art document, whereby implicitly disclosed subject-matter, i.e. matter that is a clear and unambiguous consequence of what is explicitly mentioned, shall also be considered as part of its content.
An invention is to be considered part of the state of the art when it is found clearly, integrally, directly and unambiguously in one single piece of prior art and it is identical in its constituent elements, in the same form, with the same arrangement and the same features (UPC CFI no. 233/2023, LD Munich, decision of 31 July 2024; UPC CFI no. 239/2024, CD Paris, decision of 28 July 2025). This principle applies also when a novelty attack is based on a single piece of prior art made available to the public by use (UPC CFI no. 178/2024 - 432/2024, LD Milan, decision of 27 October 2025).
In accordance with these principles, the Court finds that the counterclaim for revocation of the patent on the grounds of lack of novelty based on D3 is partially well-founded. It is considered unfounded in relation to the other prior art documents cited by the defendants.

5.2.1. Lack of novelty in light of D3

D3 relates to “guide appliances” for the use in punch presses and other reciprocatory machine tools, which appliances serve the purpose of maintaining the elements of the punch press or other machine tool in proper alignment. For this purpose, D3 teaches a post 15 surrounded by a bearing retainer 16 with multiple rows of ball-bearing elements 18. Post 15 and bearing retainer 16 are received by a cylindrical bushing 13. The ball-bearing elements 18a, 18b of one of the rows are displaceable in radial direction. By using a spring 22 for positioning this row of ball-bearing elements 18a, 18b, it is held to sit either against a shoulder of the (outer) bushing 13 (cf. embodiment of Fig. 2) or against a groove 23 of the (inner) post 15 (cf. embodiment of Fig. 3).

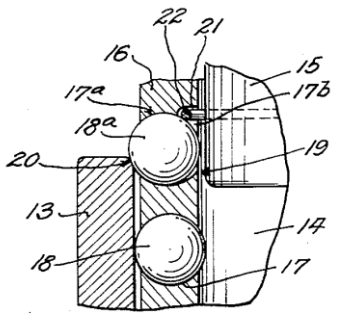


FIG. 2.

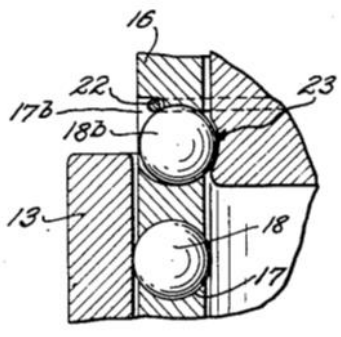


FIG. 3.

According to Intercom, the combination of the spring and the row of displaceable ball-bearing elements 18a, 18b allows to achieve a technical effect of maintaining a predefined position of bearing retainer 16 in an opened position of the guide appliance and of simultaneous contact of two rows of ball-bearing elements during the closing movement.
D3 teaches the skilled person the benefits of using the pressure-loading contact of the ball elements 18 when the post 15 descends at the start of the working strike (cf. col. 4, ll. 10-13; col. 4, ll. 55-57). For illustration, it discusses two complementary embodiments, namely one where one row of ball elements 18a "*move radially inwardly*" (col. 4, ll. 25 with reference to Fig. 2) and one where one row of ball elements 18b are "*displaced outwardly*" (col. 4, ll. 55-57 with reference to Fig. 3). The skilled person understands that these two embodiments of D3 are illustrative of one same idea implementing in the opened state a pre-defined positioning for the retainer cage 16 and thereby pre-defining the contact and loading of ball elements upon closing movement.
In detail, both embodiments comprise a row of ball-bearing elements 18a, 18b which are "*displaced*", either outwardly or inwardly (elements 18a in Fig. 1 and 2; elements 18b in Fig. 3). The other, non-displaced ball-bearing elements 18 of the bearing retainer 16 may in the opened state either be in contact with the bushing 13 (in Fig. 1, ball elements "below" displaceable elements 18a, i.e., "directed toward" the lower/die holder 11) or with the post 15 (in Fig. 1, ball elements "above" displaceable elements 18a, i.e., "directed toward" the upper holder/punch 10).
The upper, non-displaceable ball-bearing elements 18 rest on the post 15 in the open state and, thus, form a first rolling body row in the sense of feature 1.8.
The displaceable ball-bearing elements 18a, 18b form a second rolling body row in the sense of feature 1.9. In particular, ball-bearing elements 18b of Fig. 3 abut an encircling edge concluding a cylindrical surface of post 15.
In the opened position, ball-bearing elements 18b are seated in a recess or groove 23 shown in Fig. 3. This recess or groove is at the lower end of post 15 and thereby concludes the cylindrical surface of that post 15. The displaceable ball elements 18b are held in the opened position by spring 22 (col 3, 74 – col 4, l. 5; col. 4, ll. 40-44). Hence, spring 22 acts as the claimed positioning means. Fig. 3 further shows the recess or groove 23 to have a concavely shaped cross-section. The location where the cylindrical surface of post 15 meets or transitions into the groove 23 constitutes an edge. Ball-bearing element 18b is explicitly shown to abut this edge. Hence, features 1.8 and 1.9 are disclosed.
D3 shows bushing 13, which has a circularly cylindrical inner surface (col. 3, ll. 7-13) forming a sleeve for post 15 and runs into the ball elements 18 (including elements 18a, 18b; col. 3, ll. 34-44) during the working stroke closing motion. 1.10 is therefore disclosed.
Finally, for both embodiments of Fig. 2 and 3 (outward resp. inward displacement of one row of ball elements 18a, 18b), D3 teaches that it is the downward movement of the post 15 which moves inwardly (resp. outwardly) ball elements 18a, 18b against elastic force of spring 22. At

least for the latter of the two embodiments (namely, of a row of inwardly displaceable ball elements per Fig. 3), features 1.10 and 1.11 of claim 1 of EP'263 are anticipated.
This becomes immediately apparent when considering the identically corresponding structural and functional relationships: in embodiments of the patent-in-suit (e.g. Figs. 4a/4b), the "second" row 16 is forced over the edge 18 by the relative movement of cage 11 relative to bolt 8. This relative movement is initiated once the "first" row 15 starts rolling between bolt 8 and sleeve 9. Once there is contact between sleeve 9, first row 15 and bolt 8, the second row 16 is pushed over the edge so as to be loaded by the sleeve 9 practically simultaneously.
A corresponding sequence is taught in D3: in Fig. 3 row 18b is forced out of the recess 23 by the relative movement of retainer 16 relative to post 15. This relative movement is initiated once the "upper" row 18 (row above 18b, not shown in Fig. 3) starts rolling between post 15 and bushing 13. Once there is contact between bushing 13, upper row 18 (not shown) and post 15, row 18b is pushed over the edge so as to be loaded practically simultaneously with upper row 18 by the bushing 13.

Agathon objects that D3 does not disclose features 1.8, 1.9, 1.10 and 1.11.
D3 shows a resilient ring or band 22 (cf. positioning means 23) for causing the rolling bodies to move radially inwardly (i.e. towards the pin 15, embodiment of figure 3) or outwardly (i.e. away from the pin 15, embodiment of figure 2) and for supporting the cylindrical bushing 13 on the pin 15. As the pin 15 is inserted into the cylindrical bushing 13, the rolling body rows engage one after the other with both an outer surface of the pin 15 and an internal cylindrical bore 14 of the cylindrical bushing 13. This means that cylindrical bushing would run into the rolling body rows one after the other and not simultaneously.
D3 does neither disclose that the rolling body cage (retainer 16) is positioned via positioning means (ring or band 22) in the opened state in such a way that a first rolling body row directed toward the first mould half (upper member 10) rests on the circularly cylindrical surface of the bolt 8 (pin 15) and the second rolling body row abuts an encircling edge concluding the circularly cylindrical surface of the bolt nor an circularly cylindrical inner surface (internal cylindrical bore 14), which, upon closing of the forming tool, is able to run into the rolling bodies (ball-bearing elements 18) of the rolling body cage, in such a way that the sleeve (cylindrical bushing 13) runs practically simultaneously on the first rolling body row and on the second rolling body row and the centring and pre-tensioning forces are able to be absorbed simultaneously by the first rolling body row and the second rolling body row. Instead, it has to be assumed that the cylindrical bushing 13 runs into the first rolling body row and the second rolling body row one after the other.

The Court holds the following opinion.
D3 discloses antifriction guide assemblies 12 for a die set - it being mentioned that a plurality of such assemblies can be provided for a die set (col. 3, l. 1-2).
D3 discloses latching means to hold a bearing retainer 16 in position when the guide assembly is in open position, i.e. when the pin 15 is not inside the bushing 13.

In embodiment of figures 1 and 2, a resilient ring 22 presses certain ball elements 18a radially outwards so they engage a shoulder 20 on the bushing 13. This holds the bearing retainer 16 up in bushing 13 when the pin 15 is withdrawn (open position) from the bushing 13.
In embodiment of figure 3, a resilient ring 22 presses certain ball elements 18b radially inwards so they engage a recess 23 on pin 15. This holds bearing retainer 16 on pin 15 when the latter occupies its elevated (open) position (col. 4, l. 44-47).
In embodiment of figure 4, a spring ring 22 presses latch members 26 which interact with a lower annular groove 24 of pin 15 and with a shoulder 25 located at the extremity of this pin 15.
As explained by D3, when pin 15 descends into bushing 13, the holding means of the bearing retainer 16 are to be unlatched, so as to provide for relative movement between bearing retainer 16 and pin 15 (col. 3, l. 44-47; col. 4, l. 20-27, 59-64; col. 5, l. 19-27, 39-46).
In embodiment of figures 1 and 2 (below), such unlatching is provided when pin 15 comes into contact with ball bearings 18 that are located just below latching balls 18a: compressive action of pin 15 on said lower ball elements 18 against inner wall of bushing 13 has the effect of pulling down bearing retainer 16 into bushing 13 at a speed twice smaller than that of pin 15 (col. 4, l. 10-13, 20-27).
This relative movement between bearing retainer 16 and pin 15 has the effect of displacing radially inwards latching balls 18a, thereby allowing unlatching of bearing retainer 16 from pin bushing 13.

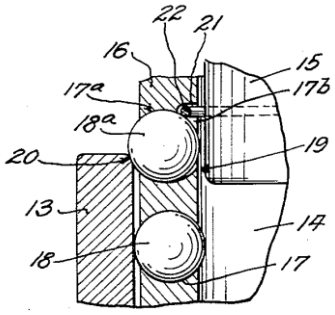


FIG. 2.

In embodiment of figures 4 and 5 (below), and although not explicitly mentioned in the description, it can clearly be understood that said unlatching is provided when ball elements 18 that are located just above latching elements 26 enter into bushing 13: compressive action of inner wall of bushing 13 on said upper ball elements 18 against pin 15 has the effect of pulling up bearing retainer 16 along pin 15 at a speed twice smaller than that of pin 15.
This relative movement between bearing retainer 16 and pin 15 has the effect of displacing radially outwards latching elements 26, thereby allowing unlatching of bearing retainer 16 from pin 15.

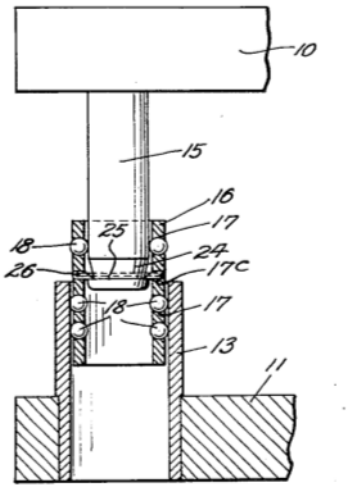


FIG. 4.

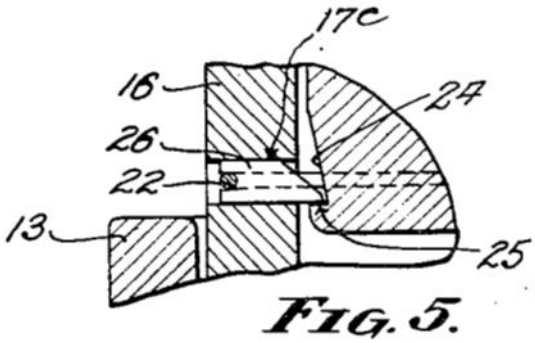


FIG. 5.

Embodiment of figure 3 (below) is very similar to the embodiment shown in figures 4 and 5: in this embodiment, latching elements 26 are replaced by latching balls 18b which are pushed by inner wall of bushing 13 into recess 23 located at lower end of pin 15 by resilient ring 22.

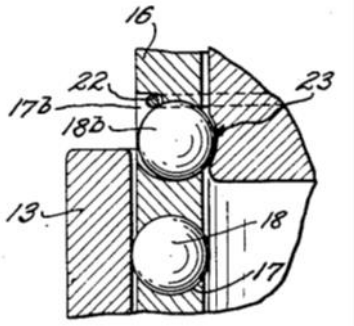


FIG. 3.

Like embodiment of figures 4 and 5, and although not represented on partial view of figure 3, there is necessarily a row of upper ball elements above latching balls 18b that pull up bearing retainer 16 along pin 15 upon penetration of pin 15 into bushing 13.
Without such row of upper ball elements being compressed between inner wall of bushing 13 and pin 15, no effort causing disengagement of bearing retainer 16 from pin 15 could be generated, and these two elements would permanently form one block.
In particular, pin 15 would not be able to reach ball elements 18 located just below latching balls 18b and exert a compressive effort thereon against inner wall of bushing 13, because pin 15, bearing retainer 16 and said lower ball elements 18 keep moving altogether – unless there is a traction effort exerted on said bearing retainer 16 by said upper ball bearings.

This operation mode of embodiment of figure 3 is in line with operation modes of all above embodiments: unlatching of hold (open) position of bearing retainer 16 is obtained by traction, i.e. axial effort imparted by ball elements of the retainer 16 that pass from an un-compressed state to a state where they are compressed between inner wall of bushing 13 and pin 15.
This relative movement between bearing retainer 16 and pin 15 has the effect of displacing radially outwards latching balls 18b, thereby allowing unlatching of bearing retainer 16 from pin 15.

Among above embodiments, that of figure 3 is of particular relevance against claims 1, 2, 5, 6 and 11 of EP'263. In the following analysis, references to figures of EP'263 have been barred in the claims and replaced by references to figures of D3 in order to show identity.
D3 discloses features 1.1 to 1.7, which are classical features of a centring device for a die-cast tool.
In particular, feature 1.4 is disclosed at col. 2, l. 72 – col. 3, l. 2 of D3.
Regarding features 1.8 to 1.10: references have been added in red when necessary on below figure 3 taken from D3 – using in particular analogous figure 4 where first row of ball elements R1 (18) is visible.

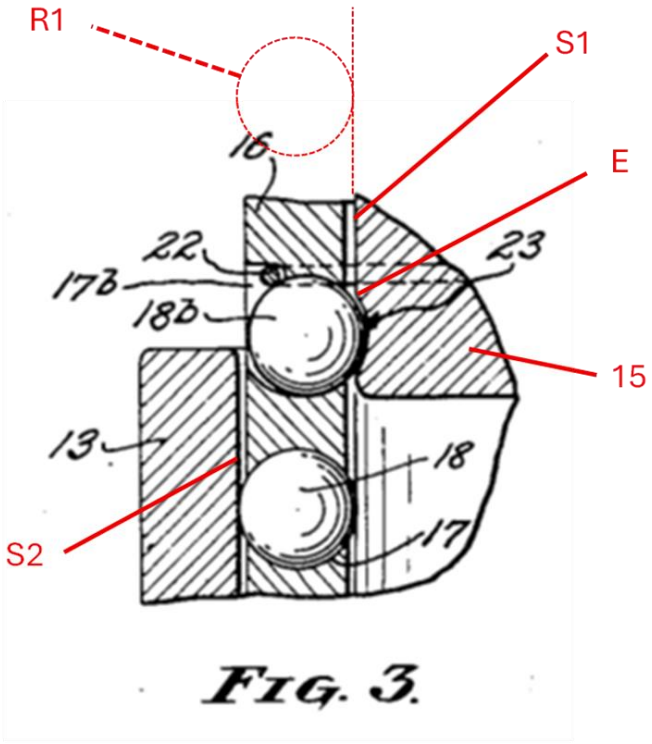


FIG. 3.

***1.8**: The rolling body cage ~~(11)~~ (16) is positioned via positioning means ~~(23)~~ (22) in the opened state in such a way that a first rolling body row ~~(15)~~ (R1) directed toward the first mould half ~~(1)~~ (10) rests on the circularly cylindrical surface ~~(17)~~ (S1) of the bolt ~~(8)~~ (15) and*

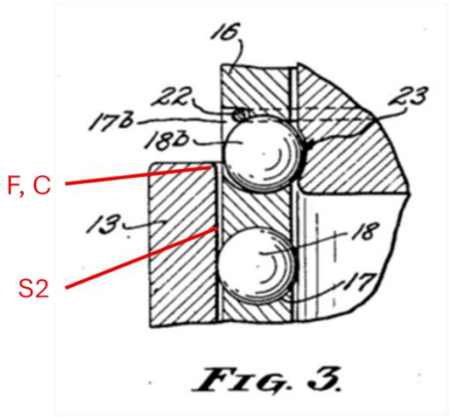
***1.9**: The second rolling body row ~~(16)~~ (18b) abuts an encircling edge ~~(18)~~ (E) concluding the circularly cylindrical surface ~~(17)~~ (S1) of the bolt ~~(8)~~ (15), and*
***1.10**: In that each guiding recess is formed from a sleeve ~~(9)~~ (13) with a circularly cylindrical inner surface ~~(10)~~ (S2), which, upon closing of the forming tool, is able to run into the rolling bodies ~~(12)~~ (R1, 18b, 18) of the rolling body cage ~~(11)~~ (16),*
***1.11**: In such a way that the sleeve ~~(9)~~ (13) runs practically simultaneously on the first rolling body row ~~(15)~~ (R1) and on the second rolling body row ~~(16)~~ (18b) and the centring and pretensioning forces are able to be absorbed simultaneously by the first rolling body row ~~(15)~~ (R1) and the second rolling body row ~~(16)~~ (18b).*
In D3, figure 3 illustrates an open state of bearing cage 16 where resilient ring 22 maintains latching balls 18b into recess 23 of pin 15 and first row of ball elements R1 is in contact with the cylindrical surface of pin 15.
With such a position of bearing cage 16, first row R1 of ball elements rest on the cylindrical surface S of pin 15, and second row 18b of ball elements abut on the edge E separating said cylindrical surface and a reduced profile diameter section located at the free end of pin 15.
Resilient ring 22 of D3 thus appears to be positioning means within the meaning of 1.8 and 1.9.
As explained above, when pin 15 descends into bushing 13, the bushing 13 comes into contact with first row R1 of ball elements 18 and compresses them against pin 15, thereby causing upper displacement of bearing cage along pin 15, and simultaneous radially outward displacement and disengagement of latching balls 18b from recess 23.
Thus, by passing over edge E of recess 23, second row 18b of ball elements immediately reaches a compression state between cylindrical surface S1 of pin 15 and inner surface S2 of bushing 23.
As a result, compressive forces can be absorbed simultaneously by both rows of ball elements.
The presence of features from 1.1 to 1.7 is undisputed and also features 1.8 to 1.11 are anticipated by D3.
Therefore, claim 1 lacks novelty in view of D3.

***2.** Centring device for a forming tool according to claim 1, characterized in that further rolling body rows ~~(14)~~ (18) are provided in front of the first rolling body row ~~(15)~~ (R1) and/or after the second rolling body row ~~(16)~~ (18b).*
Figure 3 of D3 clearly shows, in addition to first and second rows of ball elements R1, 18a, a further row of ball elements 18, located below 18a.
Features of claim 2 are therefore anticipated by D3 and claim 2 lacks novelty in view of D3.

***3.** Centring device for a forming tool according to claim 1 or 2, characterized in that the bolt ~~(8)~~ (15) has a region adjacent to the edge ~~(18)~~ (E) concluding the circularly cylindrical surface ~~(17)~~ (S1), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface ~~(17)~~ (S1).*

D3 does not disclose that recess 23 has a further circularly cylindrical surface of smaller diameter than the diameter of pin 15: recess 23 is a groove with a circular cross section (see above figure 3 of D3).
Therefore claim 3 is new over D3.
Claim 4 is also new due to its dependence on claim 3.
5. *Centring device for a forming tool according to one of the claims 1 to 4, characterized in that the sleeve ~~(9)~~ (13) has a further edge ~~(20)~~ (F) directed toward the rolling body cage ~~(11)~~ (16) and concluding the circularly cylindrical inner surface ~~(10)~~ (S2), to which a conical retraction area ~~(21)~~ (C) connects.*
Such further edge (F) and conical area (C) can be observed on figure 3 of D3.

D3



Therefore claim 5 lacks novelty over D3 when depending on claim 1 or 2.

6. *Centring device for a forming tool according to one of the claims 1 to 5, characterized in that the bolt ~~(8)~~ (15) is provided with a head (26), which inserts into and is fixed in the first mould half ~~(1)~~ (10).*
There is no specific definition of the head 26 in the patent.
Therefore, the part of pin 15 of D3 that connects with movable plate 10 can be considered to be a head within the meaning of claim 6 of the patent.
Therefore claim 6 lacks novelty over D3 when depending on claims 1 or 2 or 5.

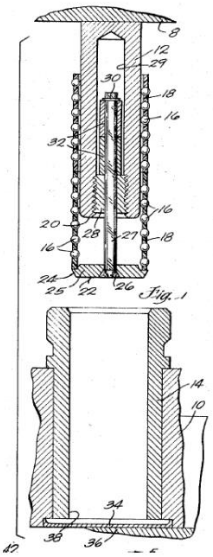
7. *Centring device for a forming tool according to claim 6, characterized in that the positioning means (23) are formed from at least two pins (24), which are introduced in a distributed way over the circumference of the rolling body cage ~~(11)~~ (16) and are aligned parallel to the axis (25) of the bolt ~~(8)~~ (15), and which are displaceable in a guided way in bores (27) made in the head (26) of the bolt ~~(8)~~ (15).*
As results from above, resilient ring 22 of D3 appears to be positioning means within the meaning of claims 1 and 7 of the patent.

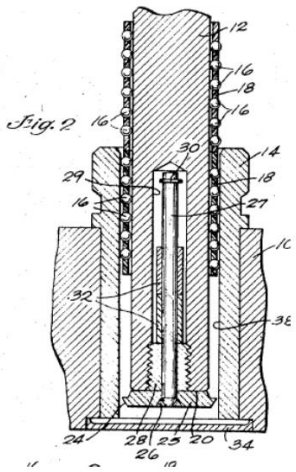
Therefore the centring device of claim 7 differs over that of D3 in that positioning means 23 comprise at least two pins 24, which are introduced in a distributed way over the circumference of the rolling body cage 11 and are aligned parallel to the axis 25 of the bolt 8, and which are displaceable in a guided way in bores 27 made in the head 26 of the bolt 8.
Therefore claim 7 is new in view of D3.
Claims 8 to 10 are also new in view of D3 due to their dependence on claim 7.

11. *Centring device for a forming tool according to one of the claims 1 to 10, characterized in that the rolling bodies ~~(12)~~ (18, 18b) are rollers (13) or balls.*
As illustrated by D3, elements 18 are ball elements (col. 3, l. 28), and can also be rollers (col. 5, l. 50).
Therefore claim 11 lacks novelty over D3 when depending on claims 1, 2, 5 and 6.

It is necessary to also examine the other novelty attacks raised by Intercom, based - respectively - on D1, D2 or D5 - D8, in order to verify whether these prior art references have a greater and more extensive effect on novelty than D3.

5.2.2. Lack of novelty in light of D1
D1 discloses a die set comprising a die carrier plate 10 (cf. first mould half 1) and a punch carrier 8 (cf. second mould half 5), a leader pin 12 (cf. bolt 8), a bushing 14 (cf. sleeve 9) and a cage 18 (cf. rolling body cage 11) with bearing balls 16 (cf. rolling bodies 13). In the opened state, the cage 18 is supported in a position in which the cage 18 normally projects below a lower extremity 20 of the leader pin 12 by a cap 22 (cf. positioning means 23) that is connected to the leader pin 12 by a rod 27. (see below Fig. 1 and Fig. 2)





In the defendant's view, D1 explicitly discloses all features of claim 1 except 1.4 i.e. a plurality of protruding bodies. This feature is implicitly disclosed, as plurality of protruding bodies is

necessary due to the weight and the size of the mould halves (see counterclaim for revocation, para. 16).
In D1 the rolling body rows 16 of the cage 11 are not touching the pin 12 and the bushing 14 as well, and they are able to slightly move orthogonally with respect to the longitudinal axis of the pin 12 and of the bushing 14: "*the resilience of the plastic material is sufficient in relation to the very small projection of the lips 50 so that the balls can readily be forced past the retaining lip or lips into the respective pockets and they can likewise be displaced outwardly by exerting radial pressure*" (column 3, lines 35-40).
This means that, starting from the position shown in figure 1 of D1, the first rolling body row 16 that touches the internal wall of bushing 14 (but not the external wall of pin 12) slides slightly inward without causing any movement of pin 12 with respect to cage 11.
Only when the internal wall of the bushing 14 touches the first rolling body row 16 engaged with the pin 12, where an outward "radial pressure" is exerted, the cage 11 runs up with respect to the pin 12. This causes the first rolling body row 16 not engaged with pin 12 to simultaneously run up along the external wall of the pin 12. In other words, the position of the second rolling body row 16 is suitable for the simultaneous running of the sleeve/bushing 14 on the first rolling body row 16 and on the second rolling body row 16 as claimed in EP'263.
It is directly and unambiguously derivable from D1 that only when the interior of the bushing 14 engages the first ball 16 already engaged with the pin 12, does cage 11 begin to move along pin 12.
The slightly flush orthogonal mounting of the balls on the cage is a typical structural feature of centring devices for forming tools: it enables the cage to move along the pin only when the balls are simultaneously pressed by both the bushing and the pin.

The claimant objects that D1 does not disclose that the rolling body cage (cage 18) is positioned via positioning means (cap 22) in the opened state in such a way that a first rolling body row directed toward the first mould half (carrier plate 10) rests on the circularly cylindrical surface of the bolt (leader pin 12) and the second rolling body row abuts an encircling edge concluding the circularly cylindrical surface of the bolt. In fact, from figure 1 of D1 it is apparent that either a first rolling body row rests on the circularly cylindrical surface of the bolt or a second rolling body row abuts an encircling edge concluding the circularly cylindrical surface of the bolt.
The cage 18 starts to slide towards the punch carrier 8 on the leader pin 12 even before the leader pin 12 itself is inserted into the bushing 14.
D1 further does not disclose that the guiding recess is formed from a sleeve (bushing 14) with a circularly cylindrical inner surface, which, upon closing of the forming tool, is able to run into the rolling bodies (bearing balls 16) of the rolling body cage (cage 18), in such a way that the sleeve runs practically simultaneously on the first rolling body row and on the second rolling body row and the centring and pre-tensioning forces are able to be absorbed simultaneously by the first rolling body row and the second rolling body row. On the contrary, according to D1, the sleeve runs into the rolling body rows one after another and only in the lowermost position

of the bolt, the rolling bodies will provide maximum support between the bolt and the sleeve (cf. Column 2 lines 61 to 68).
Agathon adds that the rolling bodies in D1 are arranged in an asymmetrical manner, namely in the form of a double helix with winding going around the circumference of the pins as represented in figure 1 of D1, with the windings of the helix illustrated by means of arrows.

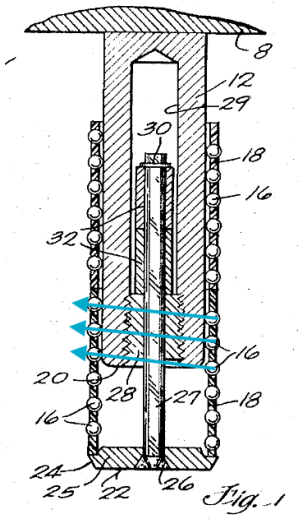


Fig. 1

Taking this last exception as starting point, the Court first points out that the definition of (rolling body) row is not disputed between the parties.
The patent in suit defines a first rolling body row and a second rolling body row. The use of the term "*row*" reflects the fact the rolling bodies of the rolling body cage are arranged along a continuous straight line, i.e. that all rolling bodies of one row are equidistant from the base or from the tip of the pin. This is clearly shown in figure 6 of the patent in suit, where it is visible that all rolling bodies of a single row lay at the same distance from the tip of the pin.

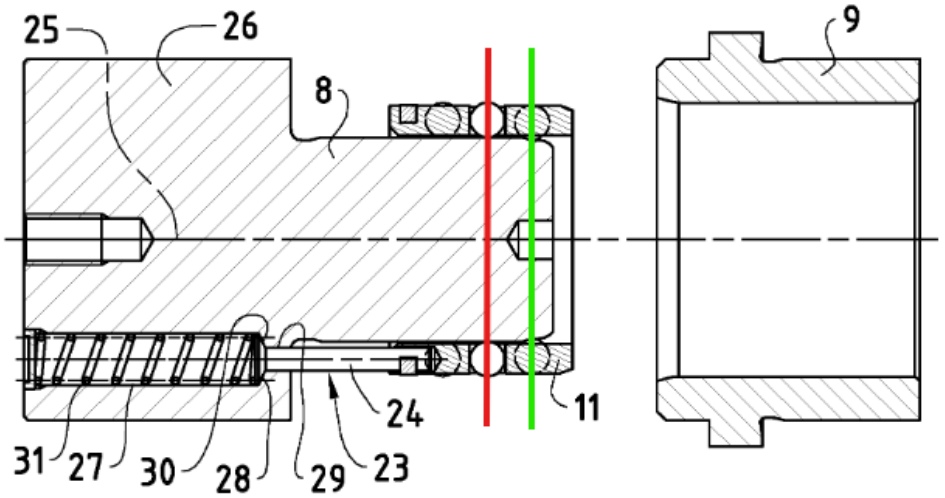
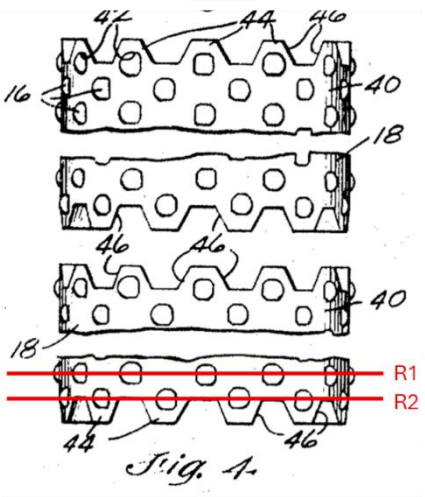


FIG. 6

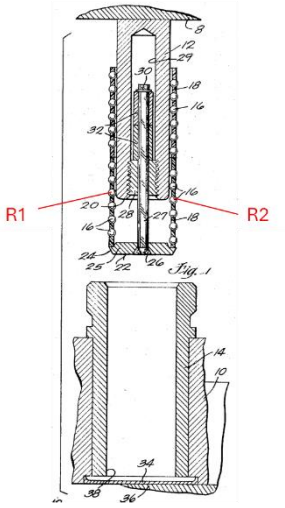
Contrary to what is asserted by Agathon *(*cf. rejoinder to counterclaim reply, page 6), in D1 the rolling bodies are not distributed in helix, but in rows R1, R2 that are alternated as it can be clearly seen in figure 4 of D1.

D1



With regard to features 1.9 and 1.11, in the open position of D1, the first rolling body row R1 rests on the cylindrical surface of the bolt 12, but the second rolling body row R2 does not abut the extremity / edge of bolt 12 (see Fig. 1)

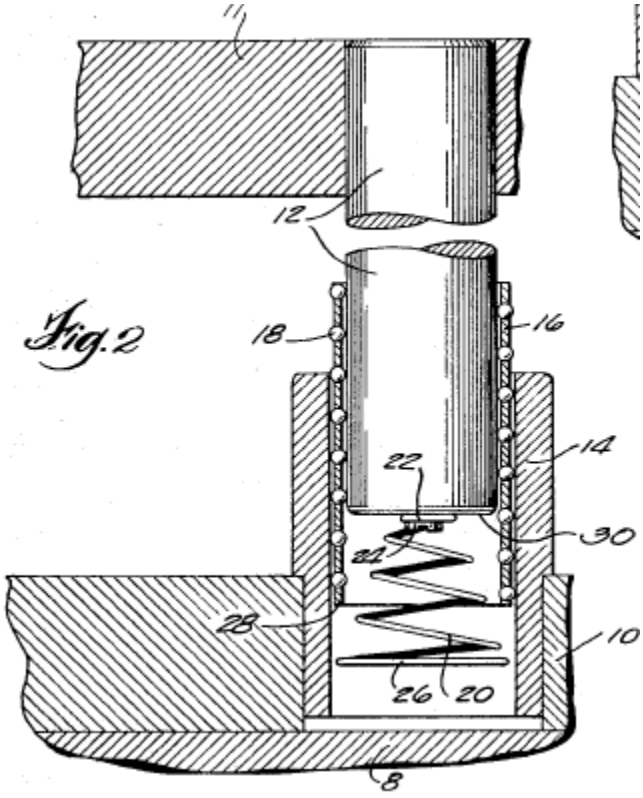
D1



Therefore, D1 does not anticipate nor even suggests features 1.9 and 1.11 of claim 1 and teaches the prior-art solution of the sleeve passing over a first and a second rolling body row one after the other, without any simultaneous pretensioning.

5.2.3. Lack of novelty in light of D2

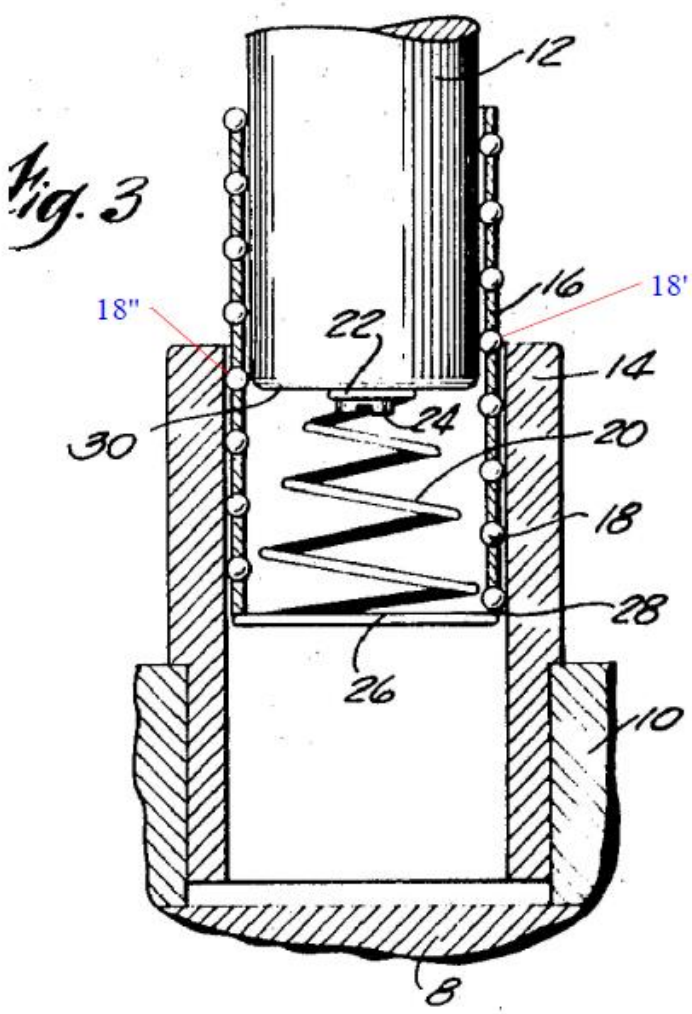
D2 discloses a die set comprising an upper plate 11 (cf. first mould half 1) and a lower plate 10 (cf. second mould half 5), a leader pin 12 (cf. bolt 8), a bushing 14 (cf. sleeve 9) and a cage 16 (cf. rolling body cage 11) with balls 18 (cf. rolling bodies 18). In the opened state, the cage 16 is supported in a position wherein a lower end 28 of the cage 16 extends over a lower end 30 of the leader pin 12 by a terminal spring coil 26 of a spring 20 (cf. positioning means 23) that is connected to the leader pin 12. This is the figure 2 of D2.



Intercom reiterates that D2, just like D1, explicitly discloses all features of claim 1, except for feature 1.4 (the plurality of protruding bodies), which is necessary due to the weight and size of the mould halves anyway (see counterclaim for revocation, para. 22).

Figure 3 of D2 shows the moment when cage 16 begins to run up pin 12: bushing 14 engages the first rolling body row 18’ (numbering added in the modified Figure 3 below) and, practically simultaneously, the second rolling body row 18’’ (numbering likewise added in the modified

Figure 3 below) runs up pin 12, thereby providing a simultaneous preloading on both rolling body rows 18’ and 18”.

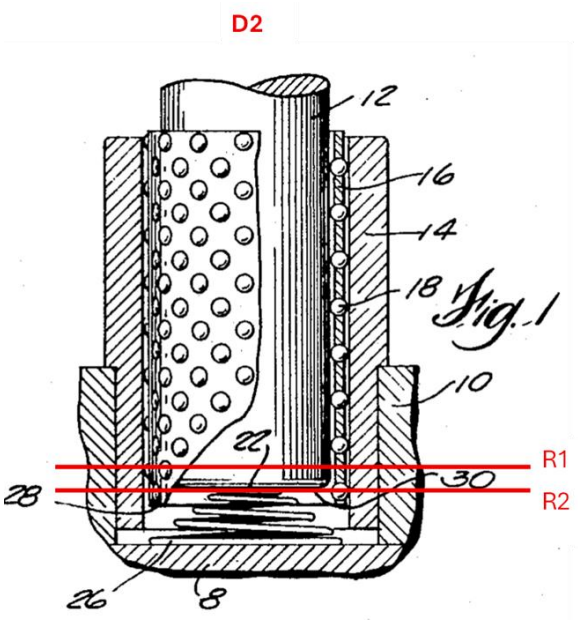


It should be noted that the second rolling body row 18” touches the edge delimiting the circular cylindrical surface of pin 12, as illustrated in figure 5 of EP’263.
Moreover, D2 states at column 2, lines 4–6, that “*the balls 18 are rotated on the inner surface of the bushing 14 by the friction of the upward movement of the leader pin 12*”. Thus, cage 16 cannot move up pin 12 unless bushing 14 engages the first rolling body row 18’ and, practically simultaneously, the second rolling body row 18”.

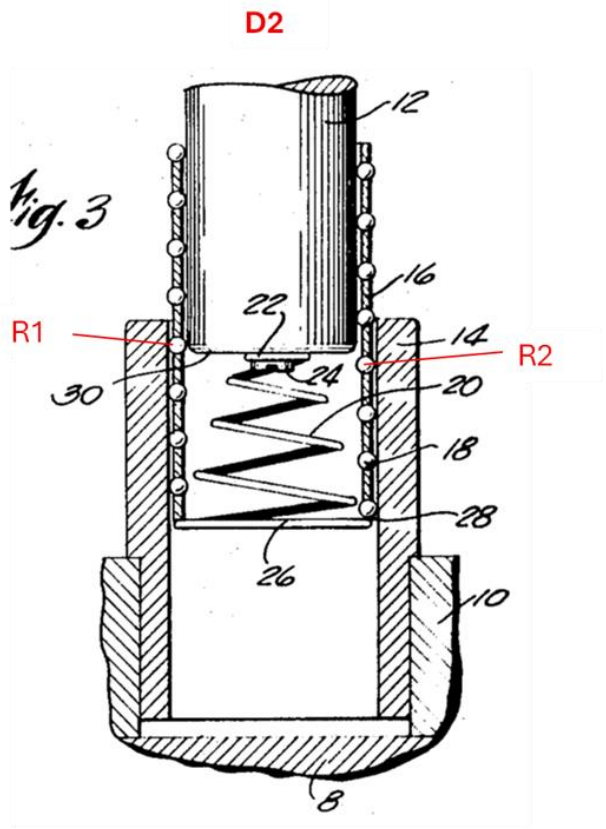
The claimant objects that D2 does not disclose that the rolling body cage (cage 16) is positioned via positioning means (spring 20) in the opened state in such a way that a first rolling body row directed toward the first mould half (upper plate 11) rests on the circularly cylindrical surface of the bolt (leader pin 12) and the second rolling body row abuts an encircling edge concluding the circularly cylindrical surface of the bolt.

D2 further does not disclose a sleeve (bushing 14) with a circularly cylindrical inner surface, which, upon closing of the forming tool, is able to run into the rolling bodies (balls 18) of the rolling body cage, in such a way that the sleeve runs practically simultaneously on the first rolling body row and on the second rolling body row and the centring and pre-tensioning forces are able to be absorbed simultaneously by the first rolling body row and the second rolling body row. Instead, it has to be assumed that the bushing 14 runs into the first rolling body row and the second rolling body row one after the other.
Claim 1 of EP'263 requires this positioning ("*rolling body cage 11 positioned in such a way that the second rolling body row touches the edge delimiting the circularly cylindrical surface of the pin*") to be held in the opened state, i.e. when the two mould halves are not pressed against one another (see para. [0022] of the patent), which is obviously not the case in figure 3 shown above
In addition, claim 1 of the patent requires that the rolling body cage 11 is positioned in this position via positioning means (23), which are not present in D2.
The feature relating to rows of rolling bodies is missing in D2, as figures of D2 also clearly show the offset between the individual rolling bodies on both sides of the pin.

As already observed for D1, the Court reiterated that also D2 discloses a device in which rolling body rows are alternated (see figure 1 below).



The device is not shown in the open position but it can be seen on figure 3 of D2 that the first rolling body row R1 is under load between sleeve 14 and cylindrical surface of bolt 12 while second rolling body row R2 is not under load.



The device of D2 does not provide for simultaneous loading of first R1 and second R2 rolling body rows. Therefore, D2 does not anticipate at least feature 1.11 of claim 1. Therefore claim 1 of EP'263 is new over D2.

5.2.4. Lack of novelty in light of D5 - D8

D5, D6, D7 and D8 are printed catalogues showing centring devices.

Agathon did not object to publication date of these catalogues (see pages 8 and ff., defence to the counterclaim of 8.8.2025) nor their actual existence.

Following an indication from the Court regarding the possibility of examining product samples corresponding to the devices depicted in the catalogues, during the interim conference that was held on 27 January 2026, Intercom and Knarr requested authorisation to submit samples of prior art products corresponding to those visible in annexes D5, D6, D7 and D8. Agathon objected to the examination of examples of prior art products during the oral hearing as the defendants never offered to make these available to the Court. The defendants did not prove when and if the products photographed in documents D5, D6, D7 and D8 were actually manufactured and marketed. Furthermore, the origin of the samples and their complete correspondence with the

products shown in the photos would be uncertain. This objections were reiterated during the oral hearing.
A single sample of product corresponding to those depicted in catalogues D5–D8 was submitted as physical evidence by Intercom on 17.3.2026. During the oral hearing, the representatives of Intercom specified that this sample was slightly modified for a better explanation of its features.

The claimant's objection regarding the inadmissibility of the defendants' submission of a product sample is well-founded.
The request to file a physical sample was actually made for the first time during the interim conference and was therefore submitted too late, given that proceedings before the Unified Patent Court require the immediate disclosure of all facts and evidence, in compliance with the general principle of a front-loaded proceedings.
In addition to the lateness of the request, the Court notes that there is no information about the sample's origin and the date it was produced. The priority of the product with respect to the patent date cannot be established.
Consequently, all defensive arguments based on the examination of the sample submitted by Intercom on 17.3.2026 are dismissed as inadmissible.

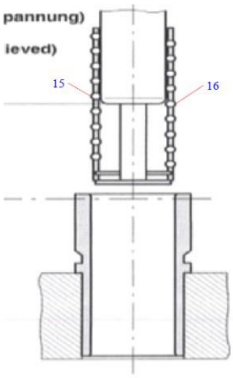
The claimant also contends that there is no evidence that products with the characteristics described in catalogues D5–D8 were distributed on the market and therefore actually disclosed.
Regarding this issue, the Court deems it sufficient to acknowledge that the aforementioned documents are commercial catalogues summarising the primary features of specific products. They are intended for distribution to customers and potential buyers to make the products known and encourage orders.
It is therefore entirely logical to assume that the publication and distribution of the catalogues - that is promotional activity - was subsequently followed by actual commercialisation.
The drawings published in the catalogues can therefore be considered when comparing the technical features as visible in these documents with the teachings of EP'263.

Following Intercom's perspective, D5-D8 concern a centring device for a forming tool, in particular an injection-moulding or die-casting tool, comprising a first mould half and a second mould half, which are movable, guided by guiding means, from a closed position, in which the respective partition surfaces of the two mould halves are pressed against one another, into an opened position and vice versa.
Looking specifically to the figures taken from catalogues D5-D8, the centring device comprises a protruding guiding body put on the first mould half and a guiding recess provided on the second mould half, by means of which the two mould halves are precisely centred in the closed position. The protruding guiding body is formed from a circularly cylindrical bolt, on which a rolling body cage is placed with rolling bodies inserted in rows.
The rolling body cage is positioned via positioning means in the opened state in such a way that a first rolling body row 15 (reference added) directed toward the first mould half rests on the

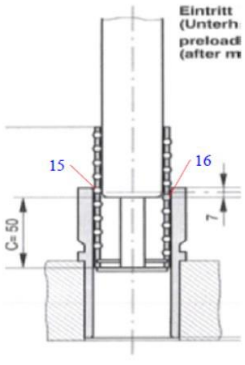
circularly cylindrical surface of the bolt and the second rolling body row 16 (reference added) abuts an encircling edge concluding the circularly cylindrical surface of the bolt.
The guiding recess is formed from a sleeve with a circularly cylindrical inner surface, which, upon closing of the forming tool, is able to run into the rolling bodies of the rolling body cage, in such a way that the sleeve runs practically simultaneously on the first rolling body row 15 and on the second rolling body row 16 and the centring and pre-tensioning forces are able to be absorbed simultaneously by the first rolling body row 15 and the second rolling body row 16.

According to Agathon, on the other hand, none of the documents D5, D6, D7, or D8 discloses the characterizing features 1.8 to 1.11, that is, that the rolling body cage is positioned via positioning means in the opened state in such a way that a first rolling body row directed toward the first mould half rests on the circularly cylindrical surface of the bolt and the second rolling body row abuts an encircling edge concluding the circularly cylindrical surface of the bolt, and in that each guiding recess is formed from a sleeve with a circularly cylindrical inner surface, which, upon closing of the forming tool, is able to run into the rolling bodies of the rolling body cage, in such a way that the sleeve runs practically simultaneously on the first rolling body row and on the second rolling body row and the centring and pre-tensioning forces are able to be absorbed simultaneously by the first rolling body row and the second rolling body row.
To the contrary, the figures clearly show that either a first rolling body row rests on the circularly cylindrical surface of the bolt or a second rolling body row abuts an encircling edge concluding the circularly cylindrical surface of the bolt.

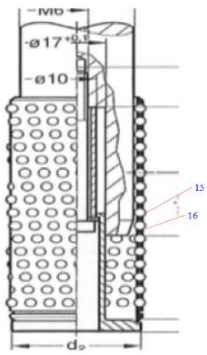
The Courts underlines that the same remarks as those related to D1 and D2 are applicable *mutatis mutandis* to D5 to D8. In all these documents, it is clearly visible from the drawings (see below) that first and second rolling body rows are loaded successively, i.e. one after the other.
As a result, none of these documents anticipates nor even suggests at least feature 1.11 of claim 1.
Therefore, claim 1 is new over any of D5 to D8.



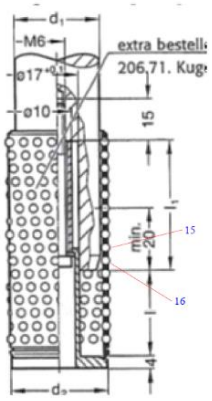
Aga02 (D5)



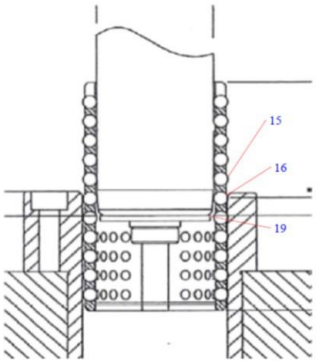
Aga02 (D5)



Fib01 (D6)



Fib07 (D7)



Int03 (D8)

5.3. Inventive step

The Court notes that the counterclaim for revocation of the patent on the grounds of a lack of inventive step - as it relates to the remaining valid claims following the partial dismissal of the novelty attack - is largely inadmissible as it is not adequately substantiated.
Agathon's objection of inadmissibility on this basis is therefore partially well-founded.

An examination of Intercom's counterclaim for revocation, dated 5 June 2025, reveals the following observations:

- claim 5 is assumed not to be inventive over D1 or D2 or D3 based solely on the arguments that D1 "*shows such shaped edge surface of the sleeve 14*" and that "*such conical transition was a commonplace practice for the skilled person to facilitate introduction of a bolt (and cage) into a sleeve*" (para. 64);
- claim 6 is assumed not to be inventive over D1 or D2 or D3 based solely on the arguments that all these documents "*show such arrangement of the bolt*" (para. 66);
- claim 7- 10 are considered "*not inventive over D1 in combination with D2 and/or D3 and/or D4 and/or D9 and common general knowledge*" (para. 80).

As the claimant correctly pointed out, there is no detailed explanation of the reasons that would have led the person skilled in the art to arrive at the subject matter of the patent in suit, starting from one of the prior art documents.
With regard to claims 7–10 in particular, the defendant has failed to provide any general description of what constitutes common general knowledge.

Conversely, the arguments supporting the request to determine the lack of an inventive step according to Art. 56 EPC with regard to claims 3 and 4 are sufficiently substantiated and must therefore be considered on their merits.

The approach taken by the Unified Patent Court when establishing inventive step is as follows (see UPC CoA no. 457/2024 and no. 528/2024, decisions of 25 November 2024).

It first has to be established what the object of the invention is, i.e. the objective problem. This must be assessed from the perspective of the person skilled in the art, with their common general knowledge, as at the application or priority date (also referred to as the effective date) of the patent. This must be done by establishing what the invention adds to the state of the art, not by looking at the individual features of the claim, but by comparing the claim as a whole in the context of the specification and the drawings, thus also considering the inventive concept underlying the invention (the technical teaching), which must be based on the technical effect(s) that the person skilled in the art, on the basis of the application, understands is (are) achieved with the claimed invention.
In order to avoid hindsight, the objective problem should not contain pointers to the claimed solution. The claimed solution is obvious when at the effective date the person skilled in the art, starting from a realistic starting point in the state of the art in the relevant field of technology and wishing to solve the objective problem, would (and not only "could") have arrived at the claimed solution.
The relevant field of technology is the specific field relevant to the objective problem to be solved as well as any field in which the same or similar problem arises and of which the person skilled in the art in the art of the specific field must be expected to be aware.
A starting point is realistic if the teaching thereof would have been of interest to a person skilled in the art who, at the effective date, wishes to solve the objective problem. This may for instance be the case if the relevant piece of prior art already discloses several features similar to those relevant to the invention as claimed and/or addresses the same or a similar underlying problem as that of the claimed invention. There can be more than one realistic starting point, and the claimed invention must be inventive starting from each of them.
The person skilled in the art has no inventive skills and no imagination and requires a pointer or motivation that, starting from a realistic starting point, directs them to implement a next step in the direction of the claimed invention. As a general rule, a claimed solution must be considered not inventive/obvious when the person skilled in the art would take the next step, prompted by the pointer or as a matter of routine, and arrive at the claimed invention.
For an inventive step to be present, it is not necessary to show improvement of the technical teaching as defined by the patent claims over the prior art. Inventive step may also be found if the patent claims disclose a non-obvious alternative to solutions known in the prior art.

In accordance with these principles, the Court has reached the following conclusion with regard to inventive step.

5.3.1. Inventive step of claims 3 and 4 over D1 or D2 or D3

Claim 3 reads as follows: *centring device for a forming tool according to claim 1 or 2, characterized in that the bolt (8) (15) has a region adjacent to the edge (18) concluding the circularly cylindrical surface (17), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface (17).*

According to the description of the patent, the technical effect associated with this further cylindrical surface (19) with a smaller diameter is to allow "*the position of the rolling elements of the second row of rolling elements to be determined in the open position of the forming tool in such a way that they do not protrude too much from the rolling element cage, which prevents the rolling element cage from being subjected to excessive stress, thus affecting its service life*." (para. [0011]).
This result therefore represents an improvement on existing centring devices in the prior art. According to Intercom, the introduction of this additional feature would have been obvious starting from any of the centring devices described and manufactured in accordance with the teachings of D1 or D2 or D3 (see para. 61 of the counterclaim).

The person skilled in the art starting from embodiment of figure 3 of D3 and intending to obtain the above described technical effect, would not transform the circular-section recess 23 of D3 into a cylindrical surface, because:

- said technical effect is already obtained in D3; in fact, as results from above, second row of ball elements 18b of figure 3 of D3 are pushed into recess 23 by spring 22 as long as bushing 13 has not reached first row R1 of ball elements, thereby preventing said second row 18b from protruding too much from bearing cage 16, and
- transforming the circular-section recess 23 of D3 into a cylindrical surface according to claim 3 of the patent would allow the bearing cage 16 of D3 to escape and fall down from pin 15 in the open position, since there would no longer be any obstacle for preventing second row of ball elements 18b from sliding down along pin 15.

Therefore, claim 3 involves an inventive step over D3, as the person skilled in the art would never have considered this document as starting point, because it expressly teaches against - and therefore discourages - the implementation of features of claim 3.

At the same time, it is unrealistic to assume that the person skilled in the art would have considered D1 or D2 as alternative starting points, since they do not disclose a rolling body cage with rolling bodies capable of radial displacement. In other words, as it has already been assessed above, these prior art documents do not include features 1.9 and 1.11 of claim 1 of EP'263. Therefore, it is hardly conceivable that the improvement set out in claim 3 of the patent at issue could have been implemented in these different embodiments.

Claim 3 is inventive over D1 or D2 or D3. Claim 4 depends on claim 3 and involves an inventive step too.

5.4. Outcome of the counterclaim for revocation

Taking into account all the above considerations, the Court finds that the counterclaim for revocation on the grounds of lack of novelty is partially well founded. The counterclaim for revocation on the grounds of lack of inventive step is partially inadmissible, and where admissible, unfounded.

Consequently, claims 1, 2, 5 (when dependent on claims 1 or 2), 6 (when dependent on claims 1, 2 or 5) and 11 (when dependent on any of the aforementioned claims) are invalid for lack of novelty over D3.
On the other hand, claim 3, 4, 5 (when depending on claim 3 or 4), 6 (when depending from claims 3 or 4), 7, 8, 9, 10, 11 (when depending on any of the above valid claims) remain valid.

6. Auxiliary requests

On 8.8.2025 Agathon filed four conditional auxiliary requests pursuant to R. 30.1 RoP, to be examined in the order in which they have been numbered, as it was expressly clarified during the interim conference of 27.1.2026. The claimant filed the application to amend the patent including four alternative sets of claims in the language in which the patent was granted (German) and in the language of the proceedings (English).

6.1. Auxiliary request 1

The first auxiliary request AR1 is a combination of claim 1 and 3 as initially granted[1], with the text of this last claim incorporated in claim 1. The subsequent dependent claims are renumbered accordingly, with no further changes.

[1] 1. Centring device for a forming tool (2), in particular an injection molding or die-casting tool, comprising a first mould half (1) and a second mould half (5), which are movable, guided by guiding means (7), from a closed position, in which the respective partition surfaces (3) of the two mould halves (1, 5) are pressed against one another, into an opened position and vice versa, which centring device are <sic. is> formed from a plurality of protruding guiding bodies (4) put on the first mould half (1) and guiding recesses (6) provided on the second mould half (5), by means of which the two mould halves (1, 5) are precisely centred in the closed position, each protruding guiding body (4) being formed from a circularly cylindrical bolt (8), on which a rolling body cage (11) is placed with rolling bodies (12) inserted in rows (14, 15, 16), characterized in that the rolling body cage (11) is positioned via positioning means (23) in the opened state in such a way that a first rolling body row (15) directed toward the first mould half (1) rests on the circularly cylindrical surface (17) of the bolt (8) and the second rolling body row (16) abuts an encircling edge (18) concluding the circularly cylindrical surface (17) of the bolt (8), and in that each guiding recess (6) is formed from a sleeve (9) with a circularly cylindrical inner surface (10), which, upon closing of the forming tool, is able to run into the rolling bodies (12) of the rolling body cage (11), in such a way that the sleeve (9) runs practically simultaneously on the first rolling body row (15) and on the second rolling body row (16) and the centring and pretensioning forces are able to be absorbed simultaneously by the first rolling body row (15) and the second rolling body row (16), and in that the bolt (8) has a region adjacent to the edge (18) concluding the circularly cylindrical surface (17), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface (17).
2. Centring device for a forming tool according to claim 1, characterized in that further rolling body rows (14) are provided in front of the first rolling body row (15) and/or after the second rolling body row (16).
~~3. Centring device for a forming tool according to claim 1 or 2, characterized in that the bolt (8) has a region adjacent to the edge (18) concluding the circularly cylindrical surface (17), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface (17).~~
~~4~~ 3. Centring device for a forming tool according to claim ~~3~~ 1, characterized in that the transition from the edge (18) to the further circularly cylindrical surface (19) is provided with a curvature (22), which is adapted to the curvature of the rolling bodies (12).
~~5~~ 4. Centring device for a forming tool according to one of the claims 1 to ~~4~~ 3, characterized in that the sleeve (9) has a further edge (20) directed toward the rolling body cage (11) and concluding the circularly cylindrical inner surface (10), to which a conical retraction area (21) connects.
~~6~~ 5. Centring device for a forming tool according to one of the claims 1 to ~~5~~ 4, characterized in that the bolt (8) is provided with a head (26), which inserts into and is fixed in the first mould half (1).

The defendants did not object to the admissibility of this auxiliary request.
Pursuant to R. 30 RoP, the requirements of Articles 84, 123(2) and (3) EPC are clearly met, given that AR1 is simply a combination of claims 1 and 3 as initially granted. There is no real doubt concerning (i) clarity, (ii) the lack of any addition of subject matter extending beyond the content of the application as filed or (iii) the possible extension of the scope of protection.
Intercom reiterated all the attacks on the validity, even with reference to the new claim 1.
However, the Court has already confirmed the validity of claim 3. Incorporating the features of claim 3 into claim 1 renders the new claim 1 valid as reformulated according to AR1.
Claims 2 to 10 depend on the new claim 1 and are therefore valid too.

7. Conclusions on invalidity

The counterclaim for revocation filed by Intercom concerning EP'263 B1 is dismissed, in the sense that the patent is maintained in an amended form according to Auxiliary Request 1 submitted by Agathon on 8.8.2025, as attached in the Annex to this decision, both in German (language of the patent) and in English (language of the proceedings)

8. Infringement

Agathon provided the following list of alleged infringing centring devices, with the respective identifying code numbers for Knarr and Intercom:

Knarr Art.-No.	**Intercom Art.-No.**
547990/15-50	**N9079-15X050**
547990/25-55	N9079-25X055
547990/32-58	N9079-32X058
547993/15-60	N9379-15X060
547993/25-65	**N9379-25X065**
547993/40-68	N9379-40X068

~~7~~ 6. Centring device for a forming tool according to claim ~~6~~ 5, characterized in that the positioning means (23) are formed from at least two pins (24), which are introduced in a distributed way over the circumference of the rolling body cage (11) and are aligned parallel to the axis (25) of the bolt (8), and which are displaceable in a guided way in bores (27) made in the head (26) of the bolt (8).
~~8~~ 7. Centring device for a forming tool according to claim ~~7~~ 6, characterized in that the pins (24) are provided with heads (28) at the end region remote from the rolling body cage (11), which heads form stops (30) with shoulders (29) disposed on the bores (27), which stops determine the extended position of the rolling body cage (11).
~~9~~ 8. Centring device for a forming tool according to claim ~~8~~ 7, characterized in that pressure springs (31) are inserted into the bores (27), which springs press the heads (28) of the pins (24) against the shoulders (29).
~~10~~ 9. Centring device for a forming tool according to one of the claims ~~7~~ 6 to ~~9~~ 8, characterized in that the connection between the pins (24) and the rolling body cage (11) takes place via a retaining ring (35), which is inserted into a groove (33) surrounding the rolling cage body (11), and which protrudes into slits (34), which are made on the pins (24).
~~11~~ 10. Centring device for a forming tool according to one of the claims 1 to ~~10~~ 9, characterized in that the rolling bodies (12) are rollers (13) or balls.

The claimant also provided photos and samples of two of the six alleged infringing products (the first and the fifth of the list, marked in bold)

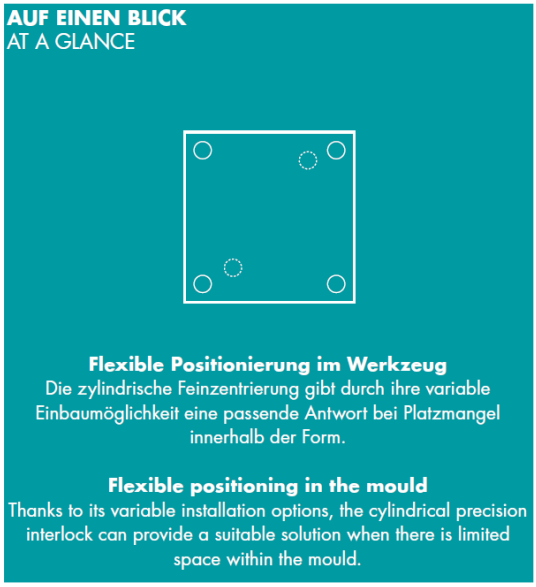
The defendants argued that there was clear evidence of no patent infringement relating to the other four devices.
This objection is unfounded.
As has already been clarified in previous decisions of this court, the "attacked embodiment" is regularly determined by the factual design of a certain product or a process with regard to the features of the invoked patent claim as asserted in the statement of claim. This can be a specific product determined, for example, by its product name, product sheet and technical design. However, the attacked embodiment may also comprise all products that generally have the technical features specified by the claimant, which allegedly realise the technical teaching of the patent claim. This may also include products unknown to the claimant or, in the case of an injunction, future products insofar as they essentially correspond to the features of the product presented by the claimant in his statement of claim, which he considers decisive for the patent infringement. In such a case, it is usually sufficient if the claimant has exemplified the infringement on a sample of the attacked embodiment (see UPC CFI LD Munich no. 63, 64 and 65/2024 - no. 449, 450 and 451/2024, decision of 11 March 2026).

The defendants also objected to the admissibility of technical drawings submitted by the claimant with annexes 27 / 28 and 33 / 34.
The judge rapporteur already ruled out this objection with order of 28.1.2026, as the documents were filed in immediate response to defendants' arguments.
The Panel reiterates this conclusion but shall also add that the documents cannot be regarded as relevant for the purposes of the decision since (i) they have been formed unilaterally and therefore out of the adversarial principle and (ii) they are completely contested as an untrue representation of the alleged infringing products.
In any case, the arguments derived from these technical drawings may only suggest that there is no patent infringement, as will be explained in more detail below.

Clearly, the assessment of infringement of EP'263 must be carried out with reference to the amended version of the patent.
The presence of features 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8 and 1.10 in the alleged infringing devices is undisputed.
On the other hand, the parties discussed about features 1.4, 1.9, 1.11, and those described in claim 3, as included in the amended version of the patent (new claim 1).

1.4 *which centring device are* [sic. is] *formed from a plurality of protruding guiding bodies (4) put on the first mould half (1) and guiding recesses (6) provided on the second mould half (5),*
In claimant's view, the provision of several centring devices is common practice, since a single centring device would allow further rotation around it and therefore could not ensure "correct

centring of the mould halves" and "high precision alignment of individual mould components", as advertised for the infringing products.
The submitted brochure (see annex A2 and A3, page 3) clearly indicates the utilisation of at least two guiding and centring devices for a forming tool. In the image below, there are two types of circles (indicating guiding and centring devices): four circles drawn with a full line (in the four corners of the tool) and two circles drawn with dotted line (more towards the centre of the tool).



It seems clear that the flexible positioning mentioned in the legend of the figure is represented by the circles drawn with dotted line, in order to show possible alternative positions of the guiding and centring devices.

On the opposite, defendants opine that there is no plurality of protruding guiding bodies.
The figure at the top left of page 3 of Annexes A2 and A3 merely illustrates that one of the main characteristics of the centring device is its "flexible positioning in the mould". Indeed, the image depicts the various points in the mould where the (single) centring device might be installed.

The Court observes that defendants contradict themselves.
With regard to novelty attack based on D1 or D2, Intercom expressly argued that it is necessary to provide the plurality of protruding guiding bodies due to the weight and the size of the mould halves.
It is therefore common understanding of the parties, based on real-life usage experience, that a plurality of protruding guiding bodies is indeed required.

1.9 *the second rolling body row (16) abuts an encircling edge (18) concluding the circularly cylindrical surface (17) of the bolt (8), and*

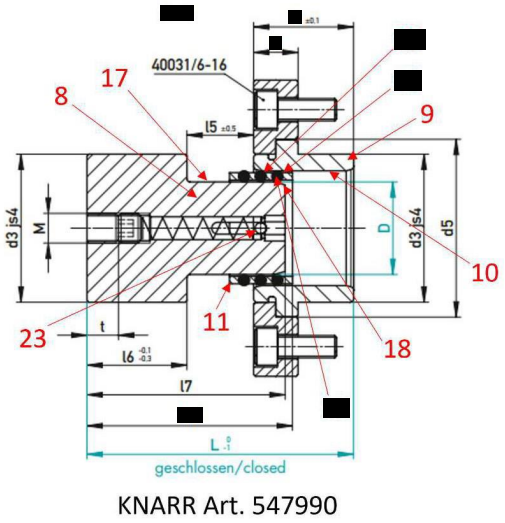
The claimant argues that the defendants try to circumvent feature 1.9 by increasing the distance between the second rolling body row 16 and the edge 18 just as much so that the second rolling body row 16 does not abut edge 18 anymore while keeping the above-mentioned functionality according to the patent in suit. To enable a movement of the entire rolling body cage 11, i.e. of all rolling body rows of the rolling body cage, onto the bolt 8, in the opened position, a certain free distance between the rolling body cage and the shoulder ("*Schulter*" in Annex A27 and A28) is required. It may be considered doubtful that the second body row is resting on the encircling edge. If it is not, the design in under doctrine of equivalent.

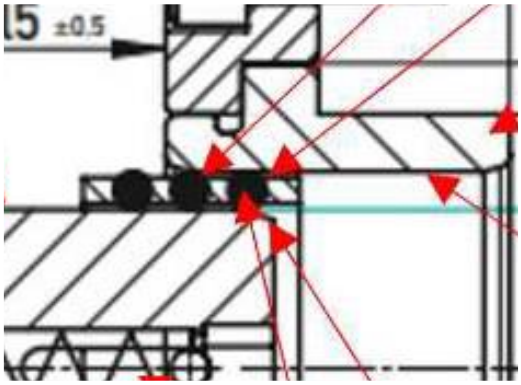
Defendants reply that drawings in annex A4 do not allow to understand the arrangement of the second rolling body row, because the centring devices are not shown in the open position and the engagement of the first and second rolling body rows by the sleeve has already started.
In addition, they observe that figures and samples of the devices confirm that this feature is not implemented.

1.11 *in such a way that the sleeve (9) runs practically simultaneously on the first rolling body row (15) and on the second rolling body row (16) and the centring and pretensioning forces are able to be absorbed simultaneously by the first rolling body row (15) and the second rolling body row (16).*
In order to establish that an infringement has occurred, the claimant relies on a claim interpretation according to which it makes no difference whether the second rolling body row abuts the encircling edge or rests elsewhere on the conical top. In both cases, the second rolling body row is not preloaded in the same way as the first rolling body row when open, and simultaneous loading and thus distribution of the applied forces occurs as the sleeve runs onto the rolling body cage and moves the second rolling body row onto the cylindrical surface of the bolt. The centring device is open until the second rolling body row reaches and abuts against the edge of the cylindrical surface of the bolt and, thereby, is preloaded practically simultaneously with the first rolling body row running along the cylindrical surface of the bolt.

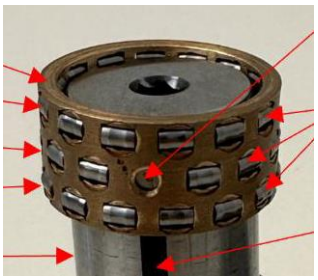
Defendants opine that it is incorrect to state that it makes no difference whether the second rolling body row abuts the encircling edge or rests elsewhere on the conical top. The relative position of the encircling edge (18) of the circularly cylindrical surface and the second rolling body row (16) is crucial for achieving the desired effect of the first and second rolling body rows simultaneously absorbing the centring and pretensioning forces in order to solve the problem of reducing the wear of the rolling body cage (cf. para. [0007]). According to EP'263, the elimination or minimisation of any temporal offset is achieved by eliminating or minimising any spatial offset between the second rolling body row (16) and the encircling edge (18) (cf. para. [0024]-[0025], Figs. 4a-d, 5).
Ultimately, the defendants argue that the technical solution adopted in the alleged infringing embodiments is the same as that described in the prior art. According to this, the sleeve runs onto the first and second rolling bodies subsequently, rather than practically simultaneously.

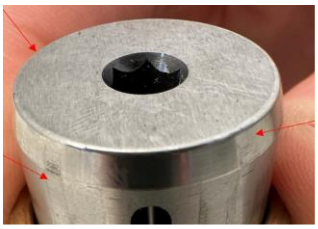
The Court observes that neither the drawings (Fig. 1, also enlarged in detail) nor the photographs (Fig. 2 et seq.) reproduced in Annex 4 of the claimant's submission are capable of providing conclusive evidence of the actual presence of feature 1.9, as they do not show precise information on the configuration of the device in the opened state. It cannot therefore be deducted that the second rolling body row (i) abuts the edge concluding the circularly cylindrical surface of the bolt and (ii) is in contact with the conical extremity of the bolt.





figures 2 and 4 (details)





The direct examination of the two product samples submitted as physical exhibits by Agathon during the oral hearing further confirmed this conclusion.

Notwithstanding the aforementioned irrelevance of claimant's Annex 27 and 28, these technical drawings also evidently show that, when Intercom's and Knarr's products are in the opened state, the alleged second rolling body row 16 sits at a distance to and does not touch line E, i.e. the rolling body row is not placed so as to "*abut the edge*", as claimed in EP'263, even if it is assumed to sit on the conical surface.

According to the claim interpretation of feature 1.9 adopted by this Court, "*abuts*" means that in the opened position, the rollers of the second rolling body row 16 are in contact with edge

18, and are susceptible of passing over this edge by an outward radial displacement. The positioning of the second rolling body row described above is not arbitrary. Conversely, it is strictly necessary to achieve the desired technical effect, as outlined in feature 1.11. The configuration in the open state must include both of the above specified features.
In other words, it should be noted that the entire content of EP'263 teaches the skilled person that only if the second rolling body row 16 "abuts" edge 18 in the open position "via positioning means" does the claimed "simultaneous" loading of the first and second rolling body rows 15, 16 occur. This point has already been clarified in relation to the interpretation of the claim. The claimant itself emphasises that the person skilled in the art would read the patent in suit as a whole and understand that the gist of the invention relates to the practically simultaneous preloading of the first and second rolling body rows and to achieving a reduction of the load peaks. The above does not occur in defendants' products, in which the second rolling body row 16 does not abut the edge in the opened state.
This a very significant difference: in the alleged infringing products, in the opened position, there is a spatial offset between the second rolling body row and the edge forming the transition between the circular cylindrical surface and the conical top. Hence, the sleeve does not run onto the first and the second rolling body row practically simultaneously, but one after the other as provided in all the prior art documents (particularly D1 or D2) submitted by the defendants (except D3). This means that the technical effect of reducing the load peak by simultaneously distributing it across the first and second rolling body rows is not achieved.
Consequently, as the contested Intercom products correspond to embodiments already disclosed in the prior art, they cannot be deemed to infringe EP'263 either literally or under the doctrine of equivalents. Therefore, the Formstein/Gillette defence raised by Intercom and Knarr is well-founded.

As features 1.9 and 1.11 have been found not to be implemented in the defendants' centring devices, the infringement action is dismissed.
It is not necessary to determine whether the other features of claim 1 or of the other dependent claims are present.

9. Value of the case and legal costs

Following the interim conference, the judge-rapporteur set a value of 500.000 Eur for the infringement claim and of 500.000 Eur for the counterclaim for revocation.
No further factual circumstance has come to light that could justify a change to that decision, which is therefore upheld by the Panel.

According to the ceiling for recoverable costs adopted by the Administrative Committee on 24.4.2023, as set forth in R. 152.2 RoP, there is a maximum limit of 56.000 Eur for cases with a value of up to 500.000 Eur.
Therefore, in the case at hand the ceiling for recoverable costs for the infringement action and the counterclaim for revocation is set at 56.000 Eur each, that is 112.000 Eur in total.

Pursuant to Art. 69.1. UPCA, the claimant - as unsuccessful party - shall bear the costs of the infringement action brought against the defendants.
On this specific point, the Court observes that the defences put forward by Intercom and Knarr regarding patent infringement are identical and, as such, reflect a unified and coordinated defence strategy. This circumstance justifies a unitary assessment of the two defendants' position for the purposes of determining the costs to which they are entitled as successful parties. The Court therefore deems reasonable, fair and consistent with the principle of proportionality, to award costs as if the action were brought against a single defendant and then divided into two equal parts, in the absence of any evidence that allows to attribute the actual authorship of the defences to Intercom rather than to Knarr. The Court has not been made aware of internal agreements between the defendants on this aspect.
In light of these considerations, Agathon is ordered to reimburse Knarr and Intercom for 50% each of the legal costs incurred for the patent infringement proceedings.
The successful parties will be awarded costs in accordance with rules 150 et seq. RoP.

At the same time, both Agathon and Intercom are partly successful on the validity issue since (i) Intercom's counterclaim for a declaration of nullity of the patent as originally granted was upheld only in part and (ii) the patent is maintained in an amended form, in accordance with Auxiliary Request 1 filed by the claimant.
With regard to the counterclaim for revocation, the Court therefore orders that each party shall bear its own costs.

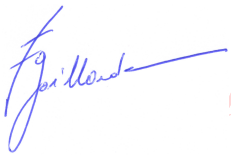
DECISION

for all these reasons, after having heard the parties, the Court decides as follows:

- the counterclaim for revocation filed by Intercom s.r.l. concerning the European patent EP 2 363 263 B1 is dismissed, in the sense that European patent EP 2 363 263 B1 is maintained in an amended form according to Auxiliary Request 1 submitted by Agathon AG on 8.8.2025, as attached in the Annex to this decision, both in German (language of the patent) and in English (language of the proceedings);
- the Registry shall send a copy of this decision to the European Patent Office and to the national patent office of any Contracting Member States concerned, after the time limit for appeal has expired;
- the infringement action is dismissed;
- Agathon AG and Intercom s.r.l. shall each bear their own costs for the counterclaim for revocation;
- Agathon AG shall bear 50% of the costs associated with the infringement proceedings brought against Intercom s.r.l.;
- Agathon AG shall bear 50% of the costs associated with the infringement proceedings brought against Knarr Vertriebs GmbH;
- the value in dispute for the infringement action and the counterclaim for revocation is set at 500.000 EUR each;

- the ceiling for recoverable costs for the infringement action and the counterclaim for revocation is set at 56.000 each.

Milan, 5 May 2026.

Pierluigi Perrotti presiding judge and judge rapporteur	Pierluigi Perrotti Firmato digitalmente da Pierluigi Perrotti Data: 2026.05.04 10:36:12 +02'00'
Alima Zana legally qualified judge	ZANA ALIMA Firmato digitalmente da ZANA ALIMA Data: 2026.04.27 14:45:40 +02'00'
Anna-Lena Klein legally qualified judge	ANNA-LENA KLEIN Firmato digitalmente da ANNA-LENA KLEIN Data: 2026.04.27 14:28:21 +02'00'
Frédéric Gaillarde technically qualified judge	 Signature numérique de FRÉDÉRIC, FRANÇOIS, CHRISTIAN GAILLARDE Date : 2026.04.27 09:16:58 +02'00'
for the Deputy Registrar	

INFORMATION ABOUT APPEAL

An appeal against the present Decision may be lodged at the Court of Appeal, by any party which has been unsuccessful, in whole or in part, in its submissions, within two months of the date of its notification (Art. 73 UPCA, rule 220.1(a), 224.1(a) RoP).

INFORMATION ABOUT ENFORCEMENT

An authentic copy of the enforceable decision or order will be issued by the Deputy Registrar upon request of the enforcing party, R. 69 RegR. (Art. 82 UPCA, Art. 37.2 UPCS, rules 118.8, 158.2, 354, 355.4 RoP)

ANNEX TO THE DECISION

Auxiliary Request 1 - German language

1. Zentriereinrichtung für ein Formwerkzeug (2), insbesondere Spritzgiess - oder Druckgiess - werkzeug, umfassend eine erste Formhälfte (1) und eine zweite Formhälfte (5), welche durch Führungsmittel (7) geführt von einer geschlossenen Position, bei welcher die jeweiligen Trennflächen (3) der beiden Formhälften (1, 5) aneinander gepresst sind, in eine geöffnete Position verfahrbar sind und umgekehrt, welche Zentriereinrichtung aus mehreren an der ersten Formhälfte (1) angebrachten vorstehenden Führungskörpern (4) und an der zweiten Formhälfte (5) angebrachten Führungsvertiefungen (6) gebildet sind, durch welche die beiden Formhälften (1, 5) in der geschlossenen Position genau zentriert sind, wobei jeder vorstehenden Führungskörper (4) aus einem kreiszylindrischen Bolzen (8) gebildet ist, auf welchen ein Wälzkörperkäfig (11) mit in Reihen (14, 15, 16) eingesetzten Wälzkörpern (12) aufgesetzt ist, dadurch gekennzeichnet, dass der Wälzkörperkäfig (11) über Positioniermittel (23) im geöffneten Zustand derart positioniert ist, dass eine gegen die erste Formhälfte (1) gerichtete erste Wälzkörperreihe (15) auf der kreiszylindrischen Fläche (17) des Bolzens (8) aufliegt und die zweite Wälzkörperreihe (16) an einer die kreiszylindrische Fläche (17) des Bolzens (8) abschliessende umlaufende Kante (18) anliegt, und dass jede Führungsvertiefung (6) aus einer Hülse (9) mit einer kreiszylindrischen Innenfläche (10) gebildet ist, die beim Schliessen des Formwerkzeugs auf die Wälzkörper (12) des Wälzkörperkäfigs (11) auffahrbar ist, derart, dass die Hülse (9) praktisch gleichzeitig auf die erste Wälzkörperreihe (15) und auf die zweite Wälzkörperreihe (16) aufläuft und die Zentrier- und Vorspannkräfte gleichzeitig durch die erste Wälzkörperreihe (15) und die zweite Wälzkörperreihe (16) aufnehmbar sind, und der Bolzen (8) einen an die die kreiszylindrische Fläche (17) abschliessende Kante (18) anschliessenden Bereich aufweist, der durch eine weitere kreiszylindrische Fläche (19) gebildet ist, die einen kleineren Durchmesser als die kreiszylindrische Fläche (17) aufweist.
2. Zentriereinrichtung für ein Formwerkzeug nach Anspruch 1, dadurch gekennzeichnet, dass vor der ersten Wälzkörperreihe (15) und/oder nach der zweiten Wälzkörperreihe (16) weitere Wälzkörperreihen (14) vorgesehen sind.
3. Zentriereinrichtung für ein Formwerkzeug nach Anspruch 1, dadurch gekennzeichnet, dass der Übergang von der Kante (18) zur weiteren kreiszylindrischen Fläche (19) mit einer Rundung (22) versehen ist, die an die Rundung der Wälzkörper (12) angepasst ist.
4. Zentriereinrichtung für ein Formwerkzeug nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, dass die Hülse (9) eine gegen den Wälzkörperkäfig (11) gerichtete, die kreiszylindrische Innenfläche (10) abschliessende weitere Kante (20) aufweist, an welche sich ein konischer Einfahrbereich (21) anschliesst.
5. Zentriereinrichtung für ein Formwerkzeug nach einem der Ansprüche 1 bis 4, dadurch gekennzeichnet, dass der Bolzen (8) mit einem Kopf (26) versehen ist, welcher in die erste Formhälfte (1) eingesetzt und befestigt ist.

6. Zentriereinrichtung für ein Formwerkzeug nach Anspruch, dadurch gekennzeichnet, dass die Positioniermittel (23) aus mindestens zwei Stiften (24) gebildet sind, welche verteilt über den Umfang am Wälzkörperkäfig (11) angebracht sind und parallel zur Achse (25) des Bol-zens (8) ausgerichtet sind, und welche in im Kopf (26) des Bolzens (8) angebrachten Bohrungen (27) geführt verschiebbar sind.
7. Zentriereinrichtung für ein Formwerkzeug nach Anspruch 6, dadurch gekennzeichnet, dass die Stifte (24) an den dem Wälzkörperkäfig (11) abgewandten Endbereich mit Köpfen (28) versehen sind, die mit an den Bohrungen (27) angeordneten Schultern (29) Anschläge (30) bilden, welche die ausgefahrene Position des Wälzkörperkäfigs (11) bestimmen.
8. Zentriereinrichtung für ein Formwerkzeug nach Anspruch 7, dadurch gekennzeichnet, dass in die Bohrungen (27) Druckfedern (31) eingesetzt sind, welche die Köpfe (28) der Stifte (24) gegen die Schultern (29) drücken.
9. Zentriereinrichtung für ein Formwerkzeug nach einem der Ansprüche 6 bis 8, dadurch gekennzeichnet, dass die Verbindung zwischen den Stiften (24) und dem Wälzkörperkäfig (11) über einen Sprengring (35) erfolgt, welcher in eine den Wälzkörperkäfig (11) umlaufende Nut (33) eingelegt ist, und welcher in Schlitze (34) hineinragt, die an den Stiften (24) angebracht sind.
10. Zentriereinrichtung für ein Formwerkzeug nach einem der Ansprüche 1 bis 9, dadurch gekennzeichnet, dass die Wälzkörper (12) Rollen (13) oder Kugeln sind.

Auxiliary Request 1 - English language

1. Centring device for a forming tool (2), in particular an injection molding or die-casting tool, comprising a first mould half (1) and a second mould half (5), which are movable, guided by guiding means (7), from a closed position, in which the respective partition surfaces (3) of the two mould halves (1, 5) are pressed against one another, into an opened position and vice versa, which centring device are <sic. is> formed from a plurality of protruding guiding bodies (4) put on the first mould half (1) and guiding recesses (6) provided on the second mould half (5), by means of which the two mould halves (1, 5) are precisely centred in the closed position, each protruding guiding body (4) being formed from a circularly cylindrical bolt (8), on which a rolling body cage (11) is placed with rolling bodies (12) inserted in rows (14, 15, 16), characterized in that the rolling body cage (11) is positioned via positioning means (23) in the opened state in such a way that a first rolling body row (15) directed toward the first mould half (1) rests on the circularly cylindrical surface (17) of the bolt (8) and the second rolling body row (16) abuts an encircling edge (18) concluding the circularly cylindrical surface (17) of the bolt (8), and in that each guiding recess (6) is formed from a sleeve (9) with a circularly cylindrical inner surface (10), which, upon closing of the forming tool, is able to run into the rolling bodies (12) of the rolling body cage (11), in such a way that the sleeve (9) runs practically simultaneously on the first rolling body row (15) and on the second rolling body row (16) and the centring and pretensioning forces are able to be absorbed simultaneously by the first rolling body row

(15) and the second rolling body row (16), and in that the bolt (8) has a region adjacent to the edge (18) concluding the circularly cylindrical surface (17), which region is formed by a further circularly cylindrical surface (19), which has a smaller diameter than the circularly cylindrical surface (17).

2. Centring device for a forming tool according to claim 1, characterized in that further rolling body rows (14) are provided in front of the first rolling body row (15) and/or after the second rolling body row (16).

3. Centring device for a forming tool according to claim 1, characterized in that the transition from the edge (18) to the further circularly cylindrical surface (19) is provided with a curvature (22), which is adapted to the curvature of the rolling bodies (12).

4. Centring device for a forming tool according to one of the claims 1 to 3, characterized in that the sleeve (9) has a further edge (20) directed toward the rolling body cage (11) and concluding the circularly cylindrical inner surface (10), to which a conical retraction area (21) connects.

5. Centring device for a forming tool according to one of the claims 1 to 4, characterized in that the bolt (8) is provided with a head (26), which inserts into and is fixed in the first mould half (1).

6. Centring device for a forming tool according to claim 5, characterized in that the positioning means (23) are formed from at least two pins (24), which are introduced in a distributed way over the circumference of the rolling body cage (11) and are aligned parallel to the axis (25) of the bolt (8), and which are displaceable in a guided way in bores (27) made in the head (26) of the bolt (8).

7. Centring device for a forming tool according to claim 6, characterized in that the pins (24) are provided with heads (28) at the end region remote from the rolling body cage (11), which heads form stops (30) with shoulders (29) disposed on the bores (27), which stops determine the extended position of the rolling body cage (11).

8. Centring device for a forming tool according to claim 7, characterized in that pressure springs (31) are inserted into the bores (27), which springs press the heads (28) of the pins (24) against the shoulders (29).

9. Centring device for a forming tool according to one of the claims 6 to 8, characterized in that the connection between the pins (24) and the rolling body cage (11) takes place via a retaining ring (35), which is inserted into a groove (33) surrounding the rolling cage body (11), and which protrudes into slits (34), which are made on the pins (24).

10. Centring device for a forming tool according to one of the claims 1 to 9, characterized in that the rolling bodies (12) are rollers (13) or balls.