



IPC/C 366/96 Rev.8
ORIGINAL: English/French
DATE: May 4, 2000

WORLD INTELLECTUAL PROPERTY ORGANIZATION
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COMMITTEE OF EXPERTS OF THE IPC UNION
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IPC REVISION PROJECT FILE/DOSSIER DE PROJET DE RÉVISION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	DE	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	E 04 F
KIND OF REVISION: TYPE DE RÉVISION :	Creation of subgroups Création de sous-groupes		

ANNEX/ ANNEXE	CONTENT/CONTENU	SEE/VOIR C 366/96	ORIGIN/ ORIGINE	DATE
1	Revision request with detailed proposal / Demande de révision avec proposition détaillée		DE	28.02.96
2	Comments (re Annex 1) / Observations (réf. annexe 1)	Rev.1	GB	31.07.96
3	Comments (re Annex 1) / Observations (réf. annexe 1)	Rev.1	RO	-10.96
4	Comments (re Annex 1) / Observations (réf. annexe 1)	Rev.1	SE	21.10.96
5	Comments (re Annex 1) / Observations (réf. annexe 1)	Rev.1	EP	05.11.96
6	Comments (re Annex 1) / Observations (réf. annexe 1)	Rev.1	FR	-11.96
7	Rapporteur report / Rapport du rapporteur	Rev.2	DE	29.04.97
8	Citation of examples (re PCIPI/SI/XIX/5, page 8) / Citation d'exemples (réf. PCIPI/SI/ XIX/5, page 9)	Rev.3	DE	01.08.97
9	Comments (re PCIPI/SI/XIX/5, page 8) / Observations (réf. PCIPI/SI/ XIX/5, page 9)	Rev.4	EP	25.08.97
10	Comments (re PCIPI/SI/XIX/5, page 8) / Observations (réf. PCIPI/SI/ XIX/5, page 9)	Rev.5	SE	20.10.97
11	Rapporteur report / Rapport du rapporteur	Rev.6	DE	12.11.97
12	Decision of the Working Group / Décision du groupe de travail	Rev.7	WG	07.99

RAPPORTEUR : DE TECHNICAL FIELD/DOMAINE TECHNIQUE : M

ANNEX/ ANNEXE	CONTENT/CONTENU	SEE/VOIR C 366/96	ORIGIN/ ORIGINE	DATE
13	Proposal / Proposition	Rev.7	DE	11.99
14	Decision of the Working Group / Décision du groupe de travail	Rev.8	WG	12.99
15	Comments / Observations	Rev.8	EP	03.00
16	Comments / Observations	Rev.8	JP	03.00
17	Comments / Observations	Rev.8	FR	03.00
18	Comments / Observations	Rev.8	CA	03.00
19	Comments / Observations	Rev.8	SE	03.00
20	Comments / Observations	Rev.8	RO	03.00
21	Rapporteur report / Rapport du rapporteur	Rev.8	DE	05.00

EXCERPT FROM DOCUMENT IPC/WG/2/3/
EXTRAIT DU DOCUMENT IPC/WG/2/3

Project C 366 (mechanical) – Comments were invited on the revised proposal by Germany (see Annex 13 to the project file).

Projet C 366 (mécanique) – Des observations ont été demandées au sujet de la proposition révisée de l'Allemagne (voir l'annexe 13 du dossier de projet).

**Project: C 366 Subclass: E04F**

We fully support the new revised proposal from the German patent office in particular because the aspects of maingroup E04F13/00 are structured in a new and comprehensible way, an improvement compared to the former proposals. By restricting the new groups to "specially adapted" elements or fastening means the overlap with existing schemes of F16B and E04B is taken care off.

H. Mende

Japanese Patent Office

10 march 2000

Project: **C-366**

Subclass: E04F

We support the revised DE proposal.

We use a similar FI to those new subgroups E04F 13/07, 13/30-13/62, 13/143 and 13/163 subdivided under 13/00, 13/08, 13/14 and 13/16, and find no trouble in conformity between our FI and proposed subgroups.

Also, there would be no special problem in appropriateness of creating new groups and harmony with other fields.

Projet IPC / C 366

Sous-classe E04F

Au WG 2/3 des observations ont été demandées sur la proposition du rapporteur

Nous n'avons pas beaucoup d'activité dans ce domaine

Nous proposons dans un premier temps d'adopter les nouvelles entrées 13/07, 13/30, 13/50 et de poser la question pour savoir si des subdivisions supplémentaires sont nécessaires

CA COMMENTS	
IPC Project: C366/96	Date: March 24, 2000
Class \ Subclass: E04F	Page 1 of 1

Comments were invited on:

- The revised proposal by Germany (annex 13 to the project file)

CA is in general agreement with the revised proposal submitted by **DE** (annex 13) dated November, 1999. In the revised elaboration, the subject matter has been basically divided between plastic materials that harden (13/02+) and covering or lining elements of a structural nature (13/07+). These elements include single elements, multiple similar elements, combinations of non-similar elements as well as substructures and fasteners. Separating the documents based on **A** a number of similar elements@ (as in the current 13/08) no longer seems useful. **CA** offers the following comments with a view to simplifying the resulting breakdown.

13/07

CA is not in favour of this sub-generic group because it will deplete the main group 13/00 of all of its content.

13/08

CA suggests deletion of this group since the distinction of **A** a number of similar elements@ is no longer useful, in our opinion.

13/09

CA proposes this as a one-dot group with the title of **A**characterized by material@ since this title better describes the nature of the indented subgroups, 13/10 to 13/18.

13/10 to 13/62

In line with the above changes, **CA** suggests that these groups move one dot left.

CA offers the following partial schedule that would result if our suggestions are implemented:

- 13/00 Coverings or linings.....
- 13/02 .of plastic materials hardening.....
- 13/09 .characterized by material (13/02 takes precedence)
- 13/30 .specially adapted, structural or shaped.....
- 13/50 .fastening means specially adapted.....

13/143

We would like to point out the spelling error.

13/34

We find the term **Atechnical equipment@** to be confusing. Neither are we in favour of the previous term **Ainstallations@**.

In the discussion of this project, the question of sub-structures remains to be clearly defined. **CA** suggests that sub-structures be considered part of each title unless specifically provided for.

John Chiarelli/Gerry Guzzo

Swedish Patent and Registration Office

IPC Revision Project C 366, subclass E04F

March 11th, 2000

COMMENTS relating to Annex 14

Comments were invited on the revised proposal by Germany (see Annex 13 to the project file).

The proposal is a clear improvement, but we still have some reservations:

- 13/38 is not covered by the title of 13/30. Should it say "*characterised by the joints between neighbouring - -*"?
- 13/40 fits better among the material-oriented groups that are subordinated to 13/08.
- We are not in favour of 13/42. It will create big overlaps with related places, such as D06N and D21H 27/18.
- We are not in favour of 13/50 and its subgroups. They will create confusion, and they will not lead to any improved search efficiency, since the corresponding groups in F16B will still almost always have to be searched. 13/52 and 13/60 could possibly be accepted, but not 13/54, 13/56, 13/58 and 13/62.

Anders Bruun

**OFICIUL DE STAT PENTRU
INVENTII SI MARCI**

RO. COMMENTS

**Date: 10.03.2000
Page: 1 of 1**

Project: **C366**

Class/Subclass **E 04 F**

Comments were invited on the revised proposal by Germany (Annex 13).

We generally agree with the revised proposal of the German Patent Office.

An overlap seems to exist between

N 13/07@----Fastening means therefor

and N 13/50 @Fastening means specially adapted for covering or lining elements.

BUCURA IONESCU

DEUTSCHES PATENTAMT German Patent Office	Class/Subcl.: E 04 F
	Date : 04.05.2000
Third Rapporteur Report — C 366	

Rev.:IPC/WG/2/3**Introduction**

Comments were invited on the revised proposal by DE (see Ann. 13 to the project file).

Comments

Comments were received by EP, JP, FR, SE and RO.

EP, JP and RO support the revised proposal unreservedly.
FR prefers as a first step only a frame structure consisting of groups 13/07, 13/30 and 13/50.
CA does not want to keep 13/08, neither to introduce 13/07, the latter because of conflict with 13/00. Instead a one-dot group

13/09 . characterized by material(13/02 takes precedence)

is proposed.

SE has reservations about proposed groups 13/38, 13/40, 13/42, 13/50 and subgroups thereof because of overlap with F16B.

Rapporteur's evaluation and recommendation

It seems to be clear that the majority of commenting offices is in favour of a more detailed scheme beginning after 13/06.

Sufficient justification for 13/07 seems to be given by the wording "...of covering or lining elements": Therefore all coverings or linings not composed of 'covering or lining elements' will be assigned to 13/00, as there are for example decorative coverings of bonded glass balls or beads forming a continuous layer.

R therefore recommends to adopt 13/07 perhaps with an additional specification in view of pavement-like covering elements with equal or even greater dimension at right angles to the surface to be covered:

N 13/07 . composed of relatively flat covering or lining elements; sub-structures....

R also prefers 13/08 over proposed 13/09 by CA because of the importance of similar or equal covering or lining elements. Sub-groups of 13/08 anyway refer to materials in the hitherto tried and tested scheme.

According to SE-comment 13/38 should better read:

N 13/38 ...characterized by the joints between neighbouring

R also recommends to place 13/40 under 13/08 as

N 13/20 ... Compound or layered covering or lining elements, e.g. of the sandwich type

As to 13/42 R sees no crucial overlap with D06N for 'fibrous web' cannot be understood as 'support plate or grid'. As to D21H 27/18 R thinks the contents of this group refers to special masses for surface coverings where paper or board is the starting or main material. 'Paper- or board-based structures' therefore do not encompass base or support plates or grids for exterior covering elements fixed on it. R therefore recommends to adopt 13/42. Concerning proposed 13/50 it would be only necessary to consult F16B in borderline cases where the special adaptations for the fastening of covering or lining elements are questionable. R therefore recommends to adopt 13/50 and sub-groups thereof. The following documents may illustrate the need for the latter groups:

US 36 62 644 for 13/54
GB 21 88 080 A for 13/56
GB 23 24 549 A for 13/58
US 59 27 033 for 13/62

However, to make things clearer, R proposes to add a reference in the list after the subclass title F16B:

E04F 13/50 Fastening means specially adapted for covering or lining elements

Bruckmayer



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8	Comments / Observations	Rev.3	EP	03.00
9	Comments / Observations	Rev.3	JP	03.00
10	Comments / Observations	Rev.3	FR	03.00
11	Comments / Observations	Rev.3	CA	03.00
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13	Comments / Observations	Rev.3	RO	03.00

RAPPORTEUR : DE TECHNICAL FIELD/DOMAINE TECHNIQUE : M

EXCERPT FROM DOCUMENT IPC/WG/2/3/
EXTRAIT DU DOCUMENT IPC/WG/2/3

Project C 367 (mechanical) – Comments were invited on the Rapporteur's proposal (see Annex 6 to the project file).

Projet C 367 (mécanique) – Des observations ont été demandées au sujet de la proposition du rapporteur (voir l'annexe 6 du dossier de projet).

Project: C 367 Subclass: E04G

Comments were invited on Rapporteur's proposal (see Annex 6 to the project file).

Although the new proposal has taken into account most of the last round comments we believe that some of the subgroup titles have to be further improved:

- 1/141 We are still not in favour to create this group because of the overlap with E06C. The fact that all of the cited example documents are classified in ECLA-subclass E06C is a clear indication of this problem.
- 1/16, 1/17 With the modified wording of 1/14 and 1/17 stressing the "preassemble" aspect, the borderline between groups 1/02, 1/14 and 1/17 is clarified. Nevertheless the existing group 1/16 contains a lot of documents showing "structures assembled on site" which will be not covered by the scope of 1/17. It seems to us that a part of this deleted group has to be transferred to the new group 5/20.
- 1/18 We would prefer multiple classification in this case and delete the precedence note to 1/32.
- 1/23 The scope of all subgroups of 1/18 includes the feature "adjustable in height". Therefore we propose to delete the term "adjustably". We believe that the number of documents for scaffolding resting on the ground using cables is very small. A similar group under 3/00 "supported by the building" (see 3/30 of our counterproposal) would be more interesting.
- 1/26 We would prefer the SE-proposal to extend the scope of main group 5/00 and not create a new main group 6/00.
- 1/28 We are still prefer to delete this group which contains a troublesome and arbitrary definition ("low height"). Group 1/32 should be modified to one dot level in this case.
- 1/30 This group should be maintained if 1/141 is not created!
- 1/38 We expect overlap with ladder like elements which are partly supported by the building. At least a reference is needed.
- 3/00 Our experts would like to refer to our counterproposal we introduced in Annex 5 (see below) because the way a scaffold is supported on the building is a better criterion than the kind of building. The proposed scheme is in use in the EPO already for many years and has proved to be very efficient.
- 5/08 We don't see the reason to delete the "consoles" from this title and transfer them to the group 3/07 where the scope is limited to scaffolds supported partly by the building.
- 5/081 to 5/085 We don't believe that the material used is a good criterion for classifying.
- 5/10 What is the difference to the scope of 1/24 "comprising special base constructions" and does this subject matter really fit under the main group title "Component parts"?

- 6/00 As already pointed out (see 1/26) we would prefer to broaden the title of 5/00 and subordinate the subgroups as proposed in the first proposal.
- 6/02 We support the SE comment that the title should be: "Steps or ladders specially adapted for mounting on scaffolds".

We would like to add at least two subgroups for the connection of scaffolding bars from our more extended counterproposal in Annex 5:

- 7/34 § § for connecting bars or members which are parallel or in end to end relation
- 7/36 § § for connecting crossing or intersecting bars or members

Counterproposal for E04G 3/00 (see Annex 5)

- D 3/02 (transferred to 3/20 to 3/34)
- D 3/04 (transferred to 3/20 to 3/34)
- D 3/06 (covered by 3/20)
- D 3/08 (covered by 3/22)
- D 3/10 (transferred to 3/20 to 3/34)
- D 3/12 (covered by 3/26)
- D 3/14 (transferred to 3/20 to 3/34)
- D 3/16 (transferred to 3/20 to 3/34)
-
- N 3/20 § supported by cantilevers or other provisions mounted in openings in the building, e.g. window openings (3/28 takes precedence)
- N 3/22 § supported by the wall (3/28 takes precedence; wall-anchors for supporting scaffolds 5/04; consoles 5/06)
- N 3/24 § supported by the roof or the ceiling (3/28 takes precedence)
-
- N 3/26 § specially adapted for working roofs (3/28 takes precedence)
-
- N 3/28 § Movable or shiftable scaffolds with provisions for positioning the platform at different vertical or horizontal positions
- N 3/30 § § hanging on flexible supporting-elements, e.g. cables
-
- N 3/32 § § § Hoisting devices or safety devices against dropping, provided on the suspended scaffold
- N 3/34 § § Supporting-structures provided on the roof

H. Mende

Japanese Patent Office

10 march 2000

Project: **C-367**

Subclass: E04G

With respect to 3/02 to 3/34, we support EPO counterproposal, as they would allow us to effectively classify movable or shiftable scaffolds from the structural aspect.

We support the Rapporteur proposal for other subgroups.

Projet IPC / C 367
Sous-classe E04G

Au WG 2/3 des observations ont été demandées au sujet de la proposition du rapporteur

Nous préférons que la discussion s'établisse sur la base des pages 3 et 4 de l'annexe 5

CA COMMENTS	
IPC Project: C367/96	Date: March 27, 2000
Class \ Subclass: E04G	Page 1 of 1

Comments were invited on:

-The Rapporteur's proposal (See annex 6 to the project file)

In line with the comments of GB, SE and EP, CA is not in favour of the transfer of entries 1/04-1/10 to proposed entries 1/021 and 1/023. We believe that construction of the scaffolding and not the material used should be the proper basis for classification.

CA also supports the clear distinction now proposed by the Rapporteur (Annex 6 to the project file) between subgroup 1/14 A two dimensional members A, subgroup 1/17 A three dimensional members A and subgroup 1/02 which will take A one dimensional members A.

CA also strongly supports the establishment of new Main Group 6/00 for the A Auxiliary structures for scaffolding A.

CA basically agrees with all of the Rapporteur's latest proposal (Annex 6 to the project file) and welcomes the efforts made to clarify the language with solid and distinct titles.

John Chiarelli

Swedish Patent and Registration Office

IPC Revision Project C 367, subclass E04G

March 11th, 2000

COMMENTS relating to Annex 7

Comments were invited on the Rapporteur's proposal (Annex 6 to the project file).

We have the following comments:

1/14	x	We do not understand the intention behind the words "or related"
1/141 – 1/15	+	
1/16	x	Should it be "Covered by 1/00"?
1/17 – 1/38	+	
3/07	-	Overlaps with 3/06 – "consoles" are "cantilevers"
3/08	+	
3/09	x	Is the wording clear? We would prefer a more functionally-oriented definition.
3/11 – 5/10	+	
5/20	x	"Struts or stiffening rods - - - "
6/00	+	
6/02	x	The word "mounting" is unclear - "Steps or ladders for ascending the scaffold"?
6/04 – 7/32	+	

Anders Bruun

**OFICIUL DE STAT PENTRU
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RO. COMMENTS

**Date: 10.03.2000
Page: 1 of 1**

Project: C367

Class/Subclass E 04 G

Comments were invited on the Rapporteurs's proposal.

We generally sustain R's proposal, with some remarks:

-the wording of N 1/23 should be

N 1/23 @Scaffolding comprising platforms adjustably suspended ----

- in our opinion, there is a difference between scaffolds comprising consoles (as in N 3/07) and consoles as such in 5/06. We would rather maintain 5/06 in the actual form and not create the new entry N 1/38.

- we consider new entries N 5/081, N 5/083 and N 5/085 not search-effective and overloading the classification.

BUCURA IONESCU



IPC/C 369/96 Rev.6
ORIGINAL: English/French
DATE: March 27, 2000

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PROPOSAL BY: PROPOSITION DE :	EP	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	F 04 C
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1	Revision request with detailed proposal / Demande de révision avec proposition détaillée		EP	30.01.96
2	Revision request with detailed proposal / Demande de révision avec proposition détaillée		EP	30.01.96
3	Comments (re Annexes 1, 2) / Observations (réf. annexes 1, 2)	Rev.1	GB	31.07.96
4	Comments (re Annexes 1, 2) / Observations (réf. annexes 1, 2)	Rev.1	RO	-10.96
5	Comments (re Annexes 1, 2, 3) / Observations (réf. annexes 1, 2, 3)	Rev.1	SE	21.10.96
6	Comments with counter-proposal (re Annexes 1, 2) / Observations avec contre-proposition (réf. annexes 1,2)	Rev.1	DE	15.10.96
7	Comments (re Annexes 1, 2) / Observations (réf. annexes 1, 2)	Rev.1	CA	18.10.96
8	Comments (re Annexes 1-7) / Observations (réf. annexes 1-7)	Rev.2	EP	01.03.97
9	Rapporteur report / Rapport du rapporteur	Rev.3	EP	15.04.97

RAPPORTEUR : EP **TECHNICAL FIELD/DOMAINE TECHNIQUE :** M

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10	Comments with counter-proposal (re Annex 1) / Observations avec contre-proposition (réf. annexe 1)	Rev.4	JP	30.10.97
11	Decision of the Working Group / Décision du groupe de travail	Rev.5	WG	07.99
12	Comments / Observations	Rev.5	EP	10.99
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16	Comments / Observations	Rev.5	GB	11.99
17	Comments / Observations	Rev.5	SE	11.99
18	Rapporteur report / Rapport du rapporteur	Rev.5	EP	11.99
19	Comments / Observations	Rev.6	JP	03.00
20	Comments / Observations	Rev.6	DE	03.00

Japanese Patent Office

10 march 2000

Project: **C-369**

Subclass: F04C

We find some inconsistency in the hierarchical position of proposed subgroups for regulation or control of rotary-piston positive-displacement pump, etc. and think that F04C 14/12, F04C 28/12, and F01C 20/12 should be 2-dot subgroups for more usefulness and consistency of the scheme of these groups.

In many cases, the volume of the working chamber is variable when controlling the pump by changing the eccentricity of an element with respect to another element (e.g. see US5545018). There may be exceptions (chamber not variable), but we do not think it technologically meaningful to create a subgroup for pump control “characterized by changing the eccentricity of several elements” in the same hierarchical position as 14/08, “characterized by varying the volume of the working chamber”.

Deutsches Patent- und Markenamt German Patent and Trademark Office	Class/Subcl.: F04C
	Date : 02.05.2000
DE - Comments — C 369	

Re.: IPC/WG/1

We would like to propose some modifications to the scheme proposed by the EPO (annex 18).

First of all we think that it is necessary to split up subgroup F04C 28/16 into group 28/16 (510 doc.) for slides (sliding valves) and group 28/.. (336 doc.) for rotary slides (or rotary slide valves) because nearly all screw compressors use slides and most vane compressors use rotary slides. See the EPO's internal subdivision and the comment by SE.

We feel that the wording of groups F04C 28/00, 27/14, 28/20, 28/24 and 28/30 should be amended to make their scope clearer.

The hierarchical position of 28/32 should be changed. We would prefer to insert this group after F04C 28/06.

N F04C 28/06

N F04C 28/.. • *characterised by stopping, starting, idling or no-load operation*

N F04C 28/14 • *characterised by **varying the time of beginning/ending of the compression***

N F04C 28/16 •• *using **slides*** (US4575323)

N F04C 28/.. •• *using **rotary slides*** (US 5017097; EP 0256624A1)

N F04C 28/.. •• *using **lift valves*** (DE19519262A1u.DE19543691A1)

N F04C 28/20 • *characterised by using **control** valves using valves regulating pressure and flow rate*

N F04C 28/22 •• *using a bypass channel*

N F04C 28/.. ••• ***at the inlet*** (US4569636)

N F04C 28/.. ••• ***at the outlet*** (US1803660)

N F04C 28/24 •• *being obtained by displacing a lateral sealing face **or by regulated lift valves***

N F04C 28/30 • *safety **measures***

N F04C 28/34 • ***Diagnosis systems*** (WO 94/09275)



IPC/C 371/96 Rev.6
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RAPPORTEUR : SE **TECHNICAL FIELD/DOMAINE TECHNIQUE :** M

ANNEX/ ANNEXE	CONTENT/CONTENU	SEE/VOIR C 371/96	ORIGIN/ ORIGINE	DATE
14	Decision of the Working Group / Décision du groupe de travail	Rev.5	WG	07.99
15	Comments / Observations	Rev.5	EP	10.99
16	Comments / Observations	Rev.5	CA	10.99
17	Comments / Observations	Rev.5	RO	10.99
18	Comments / Observations	Rev.5	FR	11.99
19	Rapporteur report / Rapport du rapporteur	Rev.5	SE	11.99
20	Comments / Observations	Rev.6	JP	12.99
21	Decision of the Working Group / Décision du groupe de travail	Rev.6	WG	12.99
22	Proposal / Proposition	Rev.6	SE	03.00
23	Comments / Observations	Rev.6	EP	03.00
24	Comments / Observations	Rev.6	JP	03.00
25	Comments / Observations	Rev.6	RO	03.00
26	Rapporteur report / Rapport du rapporteur	Rev.6	SE	05.00

J P COMMENTS

Date 16.11.99

PCI/C-371 ; Subclass F23B

- 1. We are in favor of a restricted revision of the subclass F23B based on the initial proposal (Transfer of F23B 114 to F23B 702).**
- 2. We do not feel the complete revision of F23B would worth the efforts, since F23B deal with mature technology and its future growth is not expected to increase.**

EXCERPT FROM DOCUMENT IPC/WG/2/3/
EXTRAIT DU DOCUMENT IPC/WG/2/3

Project C 371 (mechanical) – It was decided to proceed with the complete revision of subclass F 23 B. It was indicated that a relatively small size of subclass F 23 B facilitated its restructuring and implementation of new features envisaged by the IPC reform, for example, the introduction of classification definitions.

Sweden was invited to submit a detailed proposal concerning subclass F 23 B. Informal comments on the proposals contained in Annexes 6 to 8 to the project file were requested for submission by e-mail to Sweden before the date indicated for the detailed proposal (see Annex C to this report).

Comments were invited on the proposal to be submitted.

Projet C 371 (mécanique) – Il a été décidé de réviser complètement la sous-classe F 23 B. Il a été indiqué que comme cette sous-classe est relativement restreinte, sa restructuration et la mise en œuvre des nouveaux éléments envisagés dans le cadre de la réforme de la CIB, par exemple l'introduction de définitions dans la classification, s'en trouveront facilitées.

La Suède a été invitée à soumettre une proposition détaillée concernant la sous-classe F 23 B. Des observations non officielles ont été demandées sur les propositions figurant dans les annexes 6 à 8 du dossier de projet; ces observations devront être communiquées par courrier électronique à la Suède avant la date indiquée pour la proposition détaillée (voir l'annexe C du présent rapport).

Des observations, qui pourront notamment faire l'objet d'une correspondance informelle adressée par courrier électronique, ont été demandées au sujet de la proposition qui sera présentée.

Swedish Patent and Registration Office

IPC Revision Project C 371, subclass F23B

January 28th, 2000

PROPOSAL

IPC/WG2/3, paragraph 16, invited Sweden to submit a detailed proposal for a complete revision of subclass F23B.

This document gives the background to the revision, a proposal for classification definitions relating to the subclass and a proposal for a new classification and indexing scheme. Time has not allowed us to propose a complete informative layer and classification definitions for the different groups, but we hope that this document will still serve as a useful basis for discussions regarding the future development of the subclass and IPC in general.

Background to the revision

As has been pointed out in several comments, the subdivision of F23B is inconsistent and based on several different, sometimes rather irrelevant, criteria. The borderlines are often not clear and the intended coverage of the groups is often not obvious from their wording. The four one-dot groups of 1/00 are all more or less irrelevant. The proposal has been based on the following evaluation of the existing subdivision:

1/02 . for indirect heating of a medium in a vessel. This is not a very relevant basis for subdivision. It is based on application and not on function. Furthermore, the large majority of combustion apparatus is used for the purpose of indirect heating of a medium in a vessel.

1/04 . . External furnaces. In our opinion this is the only relevant group in the 1/02 area. "Burner-type" apparatus, intended as an alternative to oil or gas burners, is a reasonable well-defined and active field.

1/06 . . . for heating water-tube boilers, e.g. Tenbrink flue furnaces. This is an irrelevant group. It is very difficult to see what kind of matter it is intended to cover. The example "Tenbrink flue furnaces" is completely useless – nobody knows what it is!

1/08 . . Internal furnaces, i.e. with furnaces inside the vessel. A large part of this matter is outdated technology, but it is not completely dead.

1/10 . . . for heating locomotive boilers. This is outdated technology – it has to be checked whether the group should be kept as a safe storage place for dead documents or if the matter can be transferred to other groups.

The application information given by classification in groups 1/04 and 1/08 is of some interest, but we see it as secondary information. The application of a combustion apparatus often influences the layout of it, but the invention only rarely lies in the adaptation in itself. Therefore we see this as typical indexing information, useful for search, but not really invention information.

1/12 . . with a plurality of combustion chambers. This is valid group of a type that should perhaps be present in all subclasses.

1/14 . Combined gas-producer and boiler, e.g. returning gases to flame. This is a problematic group with unclear scope, and it was one of the reasons for starting the revision project at all.

1/16 . the combustion apparatus being modified according to the form of grate or other fuel support. This group does not cover any coherent art, and does not make much sense even as a head group to groups 1/18 – 1/28. The words "modified according to" are difficult to interpret.

1/18 . . using inclined grate. Although this group makes some sense, it covers both apparatus using fuel-feeding grates and apparatus using stationary grates. This results in incoherent coverage.

1/20 . . using step-type grate. The borderline between "step-type grate" and "inclined grate" is unclear. The intention behind the group is not obvious.

1/22 . . using travelling grate. The word "travelling" is not clear and is interpreted in different ways by different offices. If used as a synonym to "fuel feeding" it does not make sense and conflicts with the majority of fuel-feeding grates in 1/18. If the coverage is limited to grates that travel as a whole, for example chain grates, it is a worthwhile group.

1/24 . . using rotating grate. The title is clear, but it covers three completely different types of apparatus – with vertical axis, with horizontal axis with the fuel supported inside the rotating grate, and with horizontal axis with the fuel supported outside the rotating grate.

1/26 . . using imperforate fuel supports. The intention behind the group is probably that it should cover apparatus where the primary air is not supplied from below the bed of fuel. This is not made clear by the wording. The group covers a wide range of different apparatus.

1/28 . . using ridge-type grate, e.g. for combustion of peat, sawdust, or pulverulent fuel. The term "ridge-type" is not clear – we presume that the characterising feature should be where in the fuel bed the primary air is supplied, not how the grate is shaped.

1/30 . characterised by the form of the combustion chamber. This group does not cover any coherent art, and does not make much sense even as a head group to groups 1/32 – 1/38.

1/32 . . rotating. "Rotating" is not a form. The borderline between 1/24 and 1/32 is not clear. Is a rotating perforated drum a grate or a combustion chamber?

1/34 . . annular. The intended coverage is not clear, and it is interpreted differently by different offices.

1/36 . . shaft type. The intended coverage is again not clear, and is interpreted differently by different offices.

1/38 . . for combustion of peat, sawdust, or pulverulent fuel on a grate or other fuel support. The group is based on application and does not cover any coherent art.

3/00 Combustion apparatus which is portable or removable with respect to the boiler or other apparatus which is heated. A group of this coverage makes some sense.

5/00 Combustion apparatus with arrangements for burning uncombusted material from primary combustion. This is arguably an outdated basis for subdivision, since virtually all combustion apparatus nowadays is equipped with some kind of afterburning arrangements, such as secondary air supply means.

Furthermore, the intended coverage is not clear – a source of confusion regarding this group and its subgroups is that it is not clear whether it is solid or gaseous uncombusted material that is intended.

It should be noted that the existing 5/00 is not a place for "arrangements for burning uncombusted material" per se, but a place for apparatus with such arrangements. It thus conflicts with all other groups of the subclass. If a group for this matter is desirable it should be a detail place for arrangements of general applicability. The obvious place for afterburning apparatus per se is F23G 7/06, since gaseous products of primary combustion can be seen as "low-grade fuel of gaseous nature" as mentioned in the note after F23G.

5/02 . in main combustion chamber. Again it is not clear whether it is solid or gaseous uncombusted material that is intended. As regards gaseous material, it is probably outdated as a basis for subdivision – almost all combustion apparatus is provided with means for supplying secondary air.

5/04 . in separate combustion chamber; on separate grate. As regards the first part of the title, it is not clear whether it is solid or gaseous uncombusted material that is intended. If a group for this matter is desirable it should probably be a detail place for arrangements of general applicability. The obvious place for afterburning apparatus per se is F23G 7/06, since gaseous products of primary combustion can be seen as "low-grade fuel of gaseous nature" as mentioned in the note after F23G.

7/00 Combustion techniques; Other solid-fuel combustion apparatus. The term "combustion techniques" is unclear, is it something else than "methods"? Anyway, a separate place for methods appears unnecessary. A residual place will always be necessary.

The basic points of the proposal

The main intention of the proposal is to keep the coverage of F23B unchanged. The borderline between F23B and F23G is awkward and probably impossible to define clearly. It might be questioned whether F23G is justified as a separate subclass, or whether it should be abolished and transferred to F23B and F23C, but that is a question that goes beyond this proposal. The proposed definitions make an effort of clarifying the borderline, but multiple classification in F23G and other subclasses of F23 will always be necessary.

There is one exception to the principle of leaving the borderlines intact. Groups F23B 5/04, F23C 6/04 and F23G 7/06 obviously conflict in the field of afterburning devices. It is proposed to move all non-catalytic afterburning devices per se to F23G 7/06, including the ones presently classified in F23C 6/04. The field of catalytic afterburning devices is also affected by the possible creation of main group F23C 13/00 in project C 417.

The existing subdivision is often based on superficial features, which are not immediately related to the function. Combustion apparatus is often a combination of different subsystems that are each provided for in subclasses F23H – F23Q. It has previously often been difficult to classify an apparatus as a whole, rather than classifying its constituent parts in several different subclasses, for example in F23K and F23L. The intention of the proposal is to make a basic subdivision of F23B based on functional subtypes of combustion apparatus, with the main emphasis on the how the fuel moves through the combustion chamber. This subdivision forms the new groups 11/00 – 17/00. In addition to that, main groups 19/00 – 23/00 focus on general special features.

The proposal is based on the counterproposals by Sweden and EPO (Annexes xxx and xxx), and an effort has been made to take all parts of these, as well as the existing scheme, into account.

The attached "definitions" take into account the existing notes on class and subclass level, and attempt to give a little more information than the mere notes and references. The classification scheme only includes limiting references. Some informative references are given on subclass level, but definitions and informative notes for the different groups have not been elaborated yet.

It might be worth thinking further about the order of the groups of the subclass. There are no rules about this in the IPC and the practise varies considerably. The layout of groups is based on a scheme that is found in some mechanical subclasses: Simple "whole things" – more complex "whole things" – special applications and special features – combinations – details – residual.

We also propose an indexing scheme relating to adaptations of combustion apparatus to boilers, even though indexing schemes are perhaps not likely to be considered for future versions of the core level IPC.

No groups are proposed for combustion apparatus specially adapted for particular fuels. If necessary, an indexing scheme could cover this matter too.

Anders Bruun

PROPOSAL FOR CLASSIFICATION DEFINITIONS FOR SUBCLASS F23B

F23B is the general function place covering methods and apparatus for combustion of solid fuels. The apparatus for combustion of solid fuel can be a self-contained device, but is often part of, or used in connection with, other apparatus, such as heating boilers.

The following matter is not covered by F23B:

F23B does not cover methods or apparatus for combustion of both solid fuel and fluent fuel, simultaneously or alternatively. This matter is covered by F23C 1/00 or F23D 17/00.

F23B does not cover methods or apparatus for combustion of solid fuel suspended in air, e.g. combustion in fluidised beds or combustion of pulverised fuel using burners where the fuel is transported into the combustion chamber by an air stream. This matter is covered by F23C 10/00 or F23D 1/00.

F23B does not cover methods or apparatus for combustion of solid fuel suspended in a liquid, e.g. combustion of coal-water slurry. This matter is covered by F23C or F23D.

F23B does not cover methods or apparatus for combustion of fuels that are solid at room temperatures, but burned in melted form, e.g. candle wax. This matter is covered by C11C, F23C or F23D.

Relationship between F23B and detail subclasses of class F23.

Subclasses **F23H - F23Q** are to be seen as detail places in relation to F23B. Classification is made in F23B if the apparatus as a whole is of interest, or if a detail is of use only for a particular type of combustion apparatus and not specifically provided for in any of subclasses F23H - F23Q. If a detail of a combustion apparatus is of interest, classification is made in the relevant subclass providing for such matter.

Relationship between F23B and application subclasses of class F23.

F23G is to be seen as an application place in relation to F23B. An exact borderline between F23B and F23G can therefore not be defined. In case of doubt, classification should be made in both subclasses, or in both F23G and a detail subclass related to F23B

Classification is made in **F23B** if the method or apparatus is

- specially adapted for a "normal" commercial fuel, such as coal, firewood, wood chips, pellets, sawdust or straw, or
- not specially adapted for a particular fuel.

Classification is made in **F23G** if a method or apparatus is specially adapted for combustion of the following fuels:

- Human or animal carcasses

- Waste or other fuels presenting particular fuel-related environmental problems requiring particular methods or apparatus for combustion, for example toxic, explosive, radioactive or corrosive fuels
- Waste having a special physical form requiring particular methods or apparatus for combustion, for example packaged waste, rubber tyres or discarded cars
- Low-grade fuels presenting particular problems of combustion requiring specially adapted methods or apparatus for combustion, for example fuels containing high amounts of water or non-combustible substances.

F23R is also to be seen as an application place in relationship to F23B. Classification is made in F23R if the apparatus or method is specially adapted for generating combustion products of high pressure or high velocity.

Relationship between F23B and other application places

Combustion of solid fuel is often used for purpose of heating or performing different operations. F23B is therefore related to several places providing for uses of heat. In many of these fields the solid fuel combustion apparatus can be considered a detail of a bigger entity. The following is a non-exhaustive list of examples of such classes or subclasses:

- A21B Baking ovens
- A47J Cooking apparatus
- F21 Lighting
- F22B Generating steam
- F24B Domestic stoves or ranges for local heating or cooking
- F24H Heating of fluids, e.g. air or water
- F27 Apparatus for heat treatment of materials or articles

Classification should be made in F23B if features relating to the combustion apparatus per se are of interest apart from its applications.

Relationship between F23B and places for gasification or destructive distillation

C10B covers destructive distillation of carbonaceous material for production of gas, coke, tar or similar matter. **C10J** covers production of combustible gases containing carbon monoxide from solid carbonaceous fuels. Classification is made in these places if the combustible substances produced, e.g. gases, are burned in an apparatus separate from the gasification or distillation apparatus. If complete combustion takes place in the same apparatus as the gasification, for example in different parts of the same combustion chamber or in an afterburner immediately connected to the a primary combustion chamber, classification is made in F23B.

In class F23, the following terms or expressions are used with the meaning indicated:

- "**combustion**" means the direct combination of oxygen gas, e.g. in air, and a burnable substance. Any other heat-producing combination of chemical substances, e.g. hydrogen peroxide and methane, iron oxide and aluminium, is covered by section C or by subclass F24J
- "**combustion chamber**" means a chamber in which fuel is burned to establish a self-supporting fire or flame and which surrounds that fire or flame

- **"burner"** means a device by which fluent fuel is passed to a combustion space where it burns to produce a self-supporting flame
- **"air"** means a mixture of gases containing free oxygen and able to promote or support combustion

In F23B, the following terms or expressions are used with the meaning indicated:

- **"primary air "** means air supplied to the burning fuel in order to liberate combustible gases
- **"secondary air"** means air supplied to the combustible gases liberated by the primary air in order to complete their combustion. The term "secondary air" covers "tertiary air" etc.
- **"flue gases"** means any gaseous products of combustion
- **"grate"** means a perforated surface, e.g. a grid, which supports or delimits a bed of burning fuel and serves to supply primary air
- **"boiler"** means any apparatus using the heat generated by the combustion, e.g. air heaters or water heaters
- **"ash"** means any solid combustion residues, for example remaining in the fuel bed or suspended in the flue gases
- **"combustion zone"** means the part of the apparatus where the reaction takes place between primary air and fuel

PROPOSAL

C	F23B	COMBUSTION APPARATUS USING ONLY SOLID FUEL (for combustion of fuels that are solid at room temperatures, but burned in melted form, e.g. candle wax, C11C, F23C, F23D; using solid fuel suspended in air F23C, F23D 1/00; using solid fuel suspended in liquids F23C, F23D 11/00; using solid fuel simultaneously with or alternatively to fluent fuel F23C, F23D 17/00; combustion chambers specially adapted for afterburning gaseous products of primary combustion F23C 13/xx, F23G 7/06)	
N	11/00	Combustion apparatus without fuel feeding means, in which the fuel burns essentially without moving	EP148282
N	11/02	. with combustion air supplied through a grate	EP866266, US5937768, US5941234, EP340859, WO8203443
N	13/00	Combustion apparatus in which the fuel is fed into or through the combustion zone by gravity, e.g. from a fuel storage situated above the combustion zone	DE3605212 FR2303235
N	13/02	. the fuel being fed to the combustion zone by free fall or by sliding along inclined surfaces, e.g. from a conveyor terminating above the fuel bed (13/04, 15/08 take precedence)	DE19806257, EP945676, EP882931, US5873356, US5904105, WO8601873, WO8605257
N	13/04	. the fuel forming a column, stack or thick layer with the combustion zone at its bottom	DE19729506, FR2752915, FR2465951
N	13/06	. . with the combustion zone at the bottom of fuel-filled conduits ending at the surface of a fuel bed	WO9833015, WO9900626, US4543890
N	13/08	. . with fuel-deflecting bodies forming free combustion spaces inside the fuel layer (13/10 takes precedence)	FR2608736, FR971576, FR1175017
N	13/10	. . the flue gases being removed downwards through one or more openings in the fuel-supporting surface	EP964202, DE19646525, DE4007849, FR2592944
N	13/12	. . the movement of combustion air and flue gases being substantially transversal to the movement of the fuel	WO9851965, DE880379

N	15/00	Combustion apparatus with active means for feeding fuel into the combustion chamber (17/00 takes precedence)	DE3020874
N	15/02	. along the fuel-supporting surface	DE19828767, WO8301497, WO9831968, WO9837363
N	15/04	. . into a pot- or trough-shaped grate (15/06 takes precedence)	US5070798
N	15/06	. from below through an opening in the grate or fuel supporting surface	DE19541517, DE19712317, WO9917061, GB2326224
N	15/08	. the fuel being scattered over the grate	US5794548
N	17/00	Combustion apparatus with driven means for agitating the burning fuel; Combustion apparatus with driven means for feeding the burning fuel through the combustion chamber	DE3211249, WO8501096, WO8401808
N	17/02	. the grate or fuel supporting surface being movable, e.g. vibratable or rotatable, or having movable parts	WO9851965, WO9900626
N	17/04	. . with a grate or fuel supporting surface that is rotatable around a horizontal or inclined axis and supporting the fuel on its inside	WO9839600, GB2079910, DE19817122
N	17/06	. . with means for transporting fuel along the fuel-supporting surfaces	EP60236 WO8300911
N	17/08	. . . with fuel feeding fuel-supporting surfaces	US5904105, WO9839601, EP48089
N	17/10	. . . . with fuel feeding elements that are movable, but remain essentially in the same place, e.g. reciprocating grate bars	DE3326694
N	17/12	. . . . characterised by the fuel moving through different combustion stages, e.g. drying stage, gasifying stage and afterburning stage	DE19737938, EP595067, US4385567
N	17/14	. . . . with a fuel-supporting surface which moves through the combustion chamber, e.g. with chain grate	US5794548, EP235938, FR2487484
N	17/16	. . . . characterised by the fuel moving through different combustion stages, e.g. drying stage, gasifying stage and afterburning stage	GB2040420, FR2661733, FR2445930
N	19/00	Combustion apparatus characterised by means for handling flue gases or gases given off by the fuel	DE915018
N	19/02	. characterised by the arrangement of means for guiding the flow of flue gases, e.g. baffles	DE198288767
N	19/04	. characterised by means for supplying combustible gases liberated from the fuel to the combustion chamber	FR2445930
N	19/06	. characterised by means for returning flue gases to the combustion	FR2752915,

		chamber	US5937772, EP498014
N	21/00	Combustion apparatus characterised by means for returning solid combustion residues to the combustion chamber	DE19817119, US5937772
N	23/00	Combustion apparatus specially adapted for portability or transportability	WO8807652, DE3915824, DE348686
N	25/00	Combustion apparatus characterised by the combination of two or more combustion chambers	EP931981, EP184119, GB2077892, DE3026547
N	27/00	Combustion apparatus not provided for in groups 11/00 - 25/00	US5785012
N		<u>Indexing scheme related to adaptation of combustion apparatus to boilers</u>	
N	101:00	Adaptation of combustion apparatus to boilers in which the combustion chamber is situated inside the boiler vessel, e.g. surrounded by cooled surfaces	DE19712317, EP84852, FR2487484
N	103:00	Adaptation of combustion apparatus for placement in or against an opening of a boiler, e.g. for replacing an oil burner	WO8300911, FR2516206
N	103:02	. for producing an essentially horizontal flame	WO9833015, WO9900626, WO8301672
	F23C		
C	6/04	. in series connection (combustion chambers specially adapted for afterburning gaseous products of primary combustion F23G 7/06)	
	F23G		
C	7/00	Incinerators or other apparatus specially adapted for consuming particular waste or low grade fuels; e.g. chemicals (1/00 takes precedence; incinerator closets A47K 11/02 - - -	
C	7/06	. of waste gases or noxious gases, e.g. exhaust gases; Combustion chambers specially adapted for afterburning gaseous products of primary combustion (exhaust apparatus for machines, engines in general or combustion engines F01N; using catalytic material F23C 13/00)	DE4007581, US5823122, EP148282, EP905442

Transfer notes

D	1/00	(transferred to 11/00 – 27/00)	
D	1/02	(transferred to 11/00 – 27/00)	
D	1/04	(transferred to 11/00 – 27/00)	
D	1/06	(transferred to 11/00 – 27/00)	
D	1/08	(transferred to 11/00 – 27/00)	
D	1/10	(transferred to 11/00 – 27/00)	
D	1/12	(transferred to 23/00)	
D	1/14	(transferred to 19/04 – 06, F23G 7/06)	
D	1/16	(transferred to 11/00 – 17/00)	
D	1/18	(transferred to 11/00 – 17/00)	
D	1/20	(transferred to 11/00 – 17/00)	
D	1/22	(transferred to 17/14)	
D	1/24	(transferred to 17/02 – 17/04)	
D	1/26	(transferred to 11/00 – 17/00)	
D	1/28	(transferred to 11/00 – 13/00)	
D	1/30	(transferred to 11/00 – 19/02)	
D	1/32	(transferred to 17/00 – 17/04)	
D	1/34	(transferred to 11/00 – 17/00)	
D	1/36	(transferred to 13/00 – 17/00)	
D	1/38	(transferred to 11/00 – 17/00)	
D	3/00	(transferred to 23/00)	
D	5/00	(transferred to 11/00 – 27/00, F23C 13/xx, F23G 7/06)	
D	5/02	(transferred to 11/00 – 27/00)	
D	5/04	(transferred to 11/00 – 19/00, 23/00 – 27/00, F23C 13/xx, F23G 7/06)	
D	7/00	(transferred to 11/00 – 27/00)	



Project: C 371 Subclass: F23B

We appreciate the effort of SE office to present a complete revision of subclass F23B in a well structured and comprehensive presentation. We substantially support the SE-proposal, although we would like to propose a few amendments to the wording or scope of some groups:

- C 17/00 Combustion apparatus with driven means for agitating the burning fuel;
Combustion apparatus with driven means *for advancing the burning fuel* through
the combustion chamber
- the expression "for advancing the burning fuel" seems us to be more appropriate. This applies also to the following subgroups:
- C 17/06 § § - - - for *advancing* fuel - - -
- C 17/08 § § § with fuel *advancing* fuel-supporting surfaces
- C 17/10 § § § § with fuel *advancing* elements that are movable *and* remain
essentially in the same place, e.g. reciprocating grate bars *or*
roller grates
- D 17/12
- We prefer not to have this subgroup. When the fuel advances through the combustion chamber, in most cases it is for having different combustion stages. In our view the subgroup 17/10 is well defined and a further five dot subdivision is no improvement.
- C 17/14 - - - which *advances* through - - -
- D 17/16
- We prefer not to have this subgroup (see comment for 17/12).
- C 19/00 Combustion apparatus characterised by means for *circulating* flue gases
or gases given off by the fuel *to the combustion zone*
- We believe that the word "handling" it's too general in this context and the expression "to the combustion zone" should be added to the end of the title.
- D 19/02
- We prefer not to have this subgroup because it creates overlap with F23M9/08.
- D 19/04
- We prefer not to have this subgroup. Group 19/06 is well defined and we consider it sufficient for a proper classification.
 - We prefer to introduce a further subgroup to 25/00 similar to group 6/04 in F23C:
- N 25/02 § in series connection, e.g. for post combustion

Indexing scheme:

We would prefer a more general scheme not limited to adaptations of combustions apparatus to boilers. We would like to propose a scheme for indexing documents according to the shape of the combustion chamber e.g. with the wording of the groups 1/30 to 1/36 which will be deleted.

- N 105:00 Combustion apparatus characterized by the form or shape of the
combustion chamber
- N 105:02 § Rotary drums

N 105:04 § annular
N 105:06 § Shaft type

Definitions appearing after the subsection title:

We think that the terms and expressions should be added to the existing note after subsection title F23 and not added as a separate note after F23B, because the terms are also useful definitions for the other subclasses of this section. We would suggest also different and more general wordings for some of the terms:

- "primary air" means the first amount of air supplied to the fuel in order to start combustion or to liberate combustible gases
- "secondary air" means further amounts of air supplied to complete the combustion. The term covers also "tertiary air" etc.
- "combustion zone" means any part of the apparatus where a reaction takes place between air and fuel

H. Mende

Japanese Patent Office

10 march 2000

Project: **C-371**

Subclass: F23B

At present, we classify combustion techniques of RDF (Refuse derived fuel) in F23G based on the type of combustion apparatus and hope that combustion of RDF would be discussed to be covered in F23G.

OFICIUL DE STAT PENTRU

Date: 01.03.00

INVENTII SI MARCI

RO COMMENTS

Page: 1 of 1

Project: IPC **C371**

Class/Subclass **F23B**

Comments were invited on the proposal submitted by EPO Sweden.

We agree with the Swedsh comments regarding the necessity to complete revision of the subclass F23B.

In this respect, we support the idea that F23B should be the general function place covering methods and apparatus for combustion of solids fuels, and the apparatus can be a self-contained device, but is often part of, or used in connection with, other appratus, such as heating boilers.

We sustain the exclusions from classification in F23B and the relationship between F23B and the detail subclasses of F23B.

We finde that the Adefinition@give more information than more of mere notes and references.

In our opinion, the indexing scheme for combustion apparatus specially adapteded for particular fuels would be necessary.

N.MURARUS

Swedish Patent and Registration Office

IPC Revision Project C 371, subclass F23B

April 17th, 2000

RAPPORTEUR REPORT

(relating to IPC/WG/2/3, paragraph 16, and comments from EP, JP and RO)

IPC/WG/2 decided to proceed with the complete revision of subclass F23B. Sweden was invited to submit a detailed proposal concerning subclass F23B. Comments were invited on the proposal to be submitted.

The Swedish proposal, including some background information and Classification Definitions for the subclass, is presented in Annex 22 of the projects file. Comments have been received from EP, JP and RO (Annexes 23 – 25). The comments are generally in favour of the proposal, but some suggestions for improvements are made:

EP propose replacing the words “feeding” and “transporting” in groups 17/00, 17/06, 17/08 and 17/10 with the word “advancing”. **Rapporteur** thinks this is an improvement.

EP also propose replacing the word “moves” in 17/14 with “advances”. **Rapporteur** is not sure that this is an improvement and suggests that English-speaking members of the Working Group decide which wording is best.

EP propose to replace “elements that are movable, but remain essentially in the same place” with “elements that are movable and remain essentially in the same place” in 17/10. **Rapporteur** thinks there is no difference in meaning and suggests that English-speaking members of the Working Group decide which wording is best.

EP suggest adding “roller grates” to the example after 17/10. **Rapporteur** supports this proposal.

EP suggest not adopting groups 17/12 and 17/16, since when the fuel advances through the combustion chamber, it is in most cases for providing different combustion stages. In their view groups 17/10 and 17/14 are well defined and further five dot groups are no improvement. **Rapporteur** understands the arguments, but is not fully convinced. The Working Group should discuss the need for these groups, and whether an improved wording could make their intended scope clearer.

EP think the word “handling” in 19/00 is too general in the context and that the expression “to the combustion zone” should be added to the end of the title. They propose the wording “Combustion apparatus characterised by means for circulating flue gases or gases given off by the fuel to the combustion zone”. **Rapporteur** agrees that the wording of the SE proposal is too non-specific, but thinks the EP proposal would perhaps narrow the coverage too much. The intention of the main group was that it should be a general group covering arrangements for guiding or circulating gases. The Working Group should discuss the intended coverage of 19/00, and how this should be reflected in the

wording. An attempt at a more accurate wording of the main group and some of its subgroups is included in the attached proposal.

EP suggest not adopting group 19/02, since they say it would create overlap with F23M 9/06.

Rapporteur thinks there is no overlap, since F23M is a detail place in relation to F23B. Baffles or deflectors for combustion products per se are covered by F23M, but the arrangement of baffles in a combustion apparatus is covered by F23B. The question reflects one of the fundamental shortcomings of the relationship between the existing F23B and the detail subclasses F23H – F23Q: the detail subclasses have often been used for classification of combustion apparatus as a whole, since in many cases there have been no appropriate places in F23B. This has resulted in the detail subclasses, such as F23M, taking a lot of documents that should have been classified in F23B or F23C. With the definition of F23H - F23Q as detail places in the proposed classification definitions the situation will become clearer.

EP suggest not adopting group 19/04, since they consider 19/06 to be sufficient. **Rapporteur** thinks that the example document is perhaps not so well chosen, since it also shows returning of flue gases to the combustion chamber, the matter covered by 19/06. However, the intention of the group was to cover supplying of uncombusted gases, for example generated during drying of the fuel, to the combustion chamber. This is a feature that is not classifiable elsewhere. Such gases are not covered by the term “flue gases” specified in the proposed classification definitions.

EP propose to introduce a subgroup to 25/00 for combustion apparatus characterised by having two combustion chambers in series connection, e.g. for post-combustion. **Rapporteur** thinks this proposal will have to be seen in the light of the question of what to do with combustion chambers for afterburning. **SE** propose to refer this matter out of F23B (see the first two paragraphs of page 4 of Annex 22), since flue gases can be seen as a waste gases or low-grade gaseous fuel, making classification in F23G more logical. If this is done, it seems little will be left in **EP**' s proposed 25/02. **This question is important not only for this project, but also for project C417. It has to be discussed by the Working Group.**

EP propose an additional indexing scheme, not limited to adaptations of combustion apparatus to boilers. They propose a scheme for indexing documents according to the shape of the combustion chamber e.g. with the wording of the groups 1/30 to 1/36 which will be deleted:

- N 105:00 Combustion apparatus characterised by the form or shape of the combustion chamber
- N 105:02 . Rotary drums
- N 105:04 . annular
- N 105:06 . Shaft type

Rapporteur thinks the proposed terms would fit better as classification entries, since they relate to the function of the apparatus. The proposed 105:02 duplicates the coverage of 17/04. 105:06 covers more or less the same matter as 13/04. The coverage of 105:04 is unclear, as pointed out by **SE** in their proposal. The Working Group should discuss whether the proposed indexing schemes should be expanded.

No comments have been received on the proposed transfer notes.

Classification Definitions

The comments are generally in favour of the proposed Classification Definitions, although some points are questioned:

EP propose that the list of defined terms and expressions should be added to the note after F23, because the terms are also useful definitions for the other subclasses of this section. **Rapporteur** agrees, but then the terms would have to be validated through the rest of class F23. **Rapporteur** is prepared to do this if it is considered desirable. It has also been proposed during the discussions about the general principles of the IPC to make the subclasses more “self-contained”. This would argue against putting this kind of material at class level, which is a level without any exact coverage.

EP suggest different and more general wordings for some of the terms:

- "primary air" means the first amount of air supplied to the fuel in order to start combustion or to liberate combustible gases
- "secondary air" means further amounts of air supplied to complete the combustion. The term covers also "tertiary air" etc.
- "combustion zone" means any part of the apparatus where a reaction takes place between air and fuel

Rapporteur thinks it is very important that the terms are correctly defined and in line with current use in the field, and invites the Working Group to suggest improved wording. The terms “primary combustion” and “secondary combustion” should probably also be added to the list of defined terms.

JP suggest that combustion techniques of RDF (Refuse Derived Fuel) should be covered by F23G, based on the type of combustion apparatus. **Rapporteur** thinks the approach for a borderline between F23G and F23G proposed by SE in the classification definitions should be able to take care of the problem – it appears that the borderline can only be defined in terms of adaptation of the apparatus. If the apparatus is specially adapted, such as would be the case for particular types of RDF with particular properties, classification would have to be made in F23G. If the RDF is of a type that can be burned in any “normal” solid fuel combustion apparatus, classification should be made in F23B.

How should we go forward with this project?

It appears that it would be possible to adopt major parts of the proposal. However, SE put forward this project as a “prototype” subclass for the reformed IPC. With this in mind, it might be better to discuss and settle only the technical matters, and leave the exact wording and layout of the scheme, and its definitions, for a later point when more fundamental points of the reform have been settled. It would for example be good to have definitions also for the individual groups of scheme. It might for example be an interesting exercise to see how a general precedence rule could be implemented in the subclass.

The proposal, including a couple of the modifications suggested in the comments, is presented below. Where modifications have not been included, the questioned text is indicated with italics.

The classification definitions are not repeated. A format for presentation of classification definitions is at the moment being discussed by the ad hoc IPC Reform Working Group, and it seems unwise to do further work before this format has been agreed.

RAPPORTEUR' SPROPOSAL

C	F23B	COMBUSTION APPARATUS USING ONLY SOLID FUEL (for combustion of fuels that are solid at room temperatures, but burned in melted form, e.g. candle wax, C11C, F23C, F23D; using solid fuel suspended in air F23C, F23D 1/00; using solid fuel suspended in liquids F23C, F23D 11/00; using solid fuel simultaneously with or alternatively to fluent fuel F23C, F23D 17/00; <i>afterburning of flue gases in a separate combustion chamber F23G 7/06</i>)
N	11/00	Combustion apparatus without fuel feeding means, in which the fuel burns essentially without moving
N	11/02	. with combustion air supplied through a grate
N	13/00	Combustion apparatus in which the fuel is fed into or through the combustion zone by gravity, e.g. from a fuel storage situated above the combustion zone
N	13/02	. the fuel being fed to the combustion zone by free fall or by sliding along inclined surfaces, e.g. from a conveyor terminating above the fuel bed (13/04, 15/08 take precedence)
N	13/04	. the fuel forming a column, stack or thick layer with the combustion zone at its bottom
N	13/06	. . with the combustion zone at the bottom of fuel-filled conduits ending at the surface of a fuel bed
N	13/08	. . with fuel-deflecting bodies forming free combustion spaces inside the fuel layer (13/10 takes precedence)
N	13/10	. . the flue gases being removed downwards through one or more openings in the fuel-supporting surface
N	13/12	. . the movement of combustion air and flue gases being substantially transversal to the movement of the fuel
N	15/00	Combustion apparatus with active means for feeding fuel into the combustion chamber (17/00 takes precedence)
N	15/02	. along the fuel-supporting surface
N	15/04	. . into a pot- or trough-shaped grate (15/06 takes precedence)
N	15/06	. from below through an opening in the grate or fuel supporting surface
N	15/08	. the fuel being scattered over the grate
N	17/00	Combustion apparatus with driven means for agitating the burning fuel; Combustion apparatus with driven means for advancing the burning fuel through the combustion chamber
N	17/02	. the grate or fuel supporting surface being movable, e.g. vibratable or rotatable, or having movable parts
N	17/04	. . with a grate or fuel supporting surface that is rotatable around a horizontal or inclined axis and supporting the fuel on its inside
N	17/06	. . with means for advancing fuel along the fuel-supporting surfaces
N	17/08	. . . with fuel advancing fuel-supporting surfaces
N	17/10	. . . . <i>the fuel supporting surface having</i> fuel advancing elements that are movable, but remain essentially in the same place, e.g. reciprocating grate

		bars
N	17/12	. . . . . characterised by the fuel moving through different combustion stages, e.g. drying stage, gasifying stage and afterburning stage
N	17/14	. . . . . with a fuel-supporting surface which moves through the combustion chamber, e.g. with chain grate
N	17/16	. . . . . characterised by the fuel moving through different combustion stages, e.g. drying stage, gasifying stage and afterburning stage
N	19/00	Combustion apparatus characterised by means creating a distinct flow path for flue gases or non-combusted gases given off by the fuel
N	19/02	. by means for guiding the flow of flue gases, e.g. baffles
N	19/04	. by means for supplying non-combusted gases liberated from the fuel to the combustion chamber
N	19/06	. by means for returning flue gases to the combustion chamber
N	21/00	Combustion apparatus characterised by means for returning solid combustion residues to the combustion chamber
N	23/00	Combustion apparatus specially adapted for portability or transportability
N	25/00	Combustion apparatus characterised by the combination of two or more combustion chambers
N	27/00	Combustion apparatus not provided for in groups 11/00 - 25/00
N		<u>Indexing scheme related to adaptation of combustion apparatus to boilers</u>
N	101:00	Adaptation of combustion apparatus to boilers in which the combustion chamber is situated inside the boiler vessel, e.g. surrounded by cooled surfaces
N	103:00	Adaptation of combustion apparatus for placement in or against an opening of a boiler, e.g. for replacing an oil burner
N	103:02	. for producing an essentially horizontal flame
	F23C	
C	6/04	. in series connection (afterburning of flue gases in a separate combustion chamber F23G 7/06)
	F23G	
C	7/00	Incinerators or other apparatus specially adapted for consuming particular waste or low grade fuels; e.g. chemicals (1/00 takes precedence; incinerator closets A47K 11/02 - - -

C	7/06	. of waste gases or noxious gases, e.g. exhaust gases (exhaust apparatus for machines, engines in general or combustion engines F01N); Combustion chambers specially adapted for afterburning gaseous products of primary combustion (afterburning in the same combustion chamber as the primary combustion F23B, F23C)
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Transfer notes

F23B

D	1/00	(transferred to 11/00 – 27/00)	
D	1/02	(transferred to 11/00 – 27/00)	
D	1/04	(transferred to 11/00 – 27/00)	
D	1/06	(transferred to 11/00 – 27/00)	
D	1/08	(transferred to 11/00 – 27/00)	
D	1/10	(transferred to 11/00 – 27/00)	
D	1/12	(transferred to 23/00)	
D	1/14	(transferred to 19/04 – 06, F23G 7/06)	
D	1/16	(transferred to 11/00 – 17/00)	
D	1/18	(transferred to 11/00 – 17/00)	
D	1/20	(transferred to 11/00 – 17/00)	
D	1/22	(transferred to 17/14)	
D	1/24	(transferred to 17/02 – 17/04)	
D	1/26	(transferred to 11/00 – 17/00)	
D	1/28	(transferred to 11/00 – 13/00)	
D	1/30	(transferred to 11/00 – 19/02)	
D	1/32	(transferred to 17/00 – 17/04)	
D	1/34	(transferred to 11/00 – 17/00)	
D	1/36	(transferred to 13/00 – 17/00)	
D	1/38	(transferred to 11/00 – 17/00)	
D	3/00	(transferred to 23/00)	
D	5/00	(transferred to 11/00 – 27/00, F23C 13/xx, F23G 7/06)	
D	5/02	(transferred to 11/00 – 27/00)	
D	5/04	(transferred to 11/00 – 19/00, 23/00 – 27/00, F23G 7/06)	
D	7/00	(transferred to 11/00 – 27/00)	



IPC/C 387/97 Rev.2
ORIGINAL: English/French
DATE: March 27, 2000

WORLD INTELLECTUAL PROPERTY ORGANIZATION
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GENEVA/GENÈVE

COMMITTEE OF EXPERTS OF THE IPC UNION
COMITÉ D'EXPERTS DE L'UNION DE L'IPC

IPC REVISION PROJECT FILE/ DOSSIER DE PROJET DE RÉVISION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	PT	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	B 60 J
KIND OF REVISION: TYPE DE RÉVISION :	Creation of subgroups Création de sous-groupes		

ANNEX/ ANNEXE	CONTENT/CONTENU		SEE/VOIR C 387/97	ORIGIN/ ORIGINE	DATE
1	Revision request with detailed proposal	/ Demande de révision avec proposition détaillée		PT	17.01.97
2	Comments	/ Observations		EP	07.98
3	Comments	/ Observations		US	07.98
4	Comments	/ Observations		JP	07.98
5	Comments	/ Observations		CA	07.98
6	Comments	/ Observations		FR	07.98
7	Comments	/ Observations		GB	07.98
8	Comments	/ Observations		JP	07.98
9	Rapporteur report	/ Rapport du rapporteur		PT	02.99
10	Comments	/ Observations	Rev.1	SE	05.99
11	Comments	/ Observations	Rev.1	JP	05.99
12	Comments	/ Observations	Rev.2	JP	03.00

RAPPORTEUR : PT TECHNICAL FIELD/DOMAINE TECHNIQUE : M

Japanese Patent Office

10 march 2000

Project: **C-387**Subclass: B60J

Re: Annex 9

1. Should 11/04 be one-dot or two-dot subgroup?
 - * It should be one-dot subgroup and 11/07 is not necessary.
2. Is it necessary to create 11/07?
 - * Although there are many documents related to “covers wound on rollers”, 11/07 would not be necessary if 11/04 is created as one-dot group.
3. Is it necessary to create a subgroup for “characterized by the material of the covers”?
 - * It is necessary to create one-dot subgroup to cover “characterized by the material of the covers”, as there are many documents related to such covers characterized by “material” (e.g. WO95/27632).

We propose as follows by arranging Annex 9:

- 11/00 Removable external protective coverings for vehicles e.g. parking covers (parking covers for cycles B62J 19/00, tent-like garages E04H)

- 11/02 •specially adapted for covering at least the roof

- 11/04 •specially adapted for covering specific parts of the vehicle, e.g. for doors or wheels (11/02 takes precedence)

- 11/06 • for windows or windscreens
- 11/08 • for wheels
- 11/10 •covers wound on rollers
- 11/12 •characterized by the material of the covers



IPC/C 389/97 Rev.2
ORIGINAL: English/French
DATE: May 23, 2000

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IPC REVISION PROJECT FILE/ DOSSIER DE PROJET DE RÉVISION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	RU	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	B 61 L
KIND OF REVISION: TYPE DE RÉVISION :	Clarification of wordings Clarification de libellés		

ANNEX/ ANNEXE	CONTENT/CONTENU	SEE/VOIR C 389/97	ORIGIN/ ORIGINE	DATE
1	Revision request with detailed proposal / Demande de révision avec proposition détaillée		RU	08.98
2	Comments (re Annex 1) / Observations (réf. annexe 1)		EP	08.98
3	Comments (re Annex 1) / Observations (réf. annexe 1)		DE	08.98
4	Comments / Observations		SE	08.98
5	Comments / Observations		US	08.98
6	Comments / Observations		CA	08.98
7	Comments / Observations		FR	08.98
8	Comments / Observations		GB	08.98
9	Rapporteur report / Rapport du rapporteur		RU	02.99
10	Rapporteur proposal / Proposition du rapporteur		RU	02.99
11	Rapporteur report / Rapport du rapporteur	Rev.1	RU	10.99
12	Rapporteur proposal / Proposition du rapporteur	Rev.1	RU	10.99
13	Comments / Observations	Rev.2	JP	12.99
14	Rapporteur report / Rapport du rapporteur	Rev.2	RU	05.00
15	Rapporteur proposal / Proposition du rapporteur	Rev.2	RU	05.00

RAPPORTEUR : RU **TECHNICAL FIELD/DOMAINE TECHNIQUE :** M

J P COMMENTS

Date 16.11.99

PCIPC-389 ; Subclass B61L

Re : Annex 12

B61L2318

We do not agree with the RU proposal(Annex12). The proposed wording changes the scope of the subgroup. It would mean "maintaining a safe relationship between vehicle speed and traffic density", having nothing to do with "control warning or like safety means between vehicles or vehicle trains".

We provide a counter proposals follows:

"special adapted for maintaining a safe relationship between vehicles or vehicle trains in dependence upon speed and traffic density, e.g. in view of track section length"

B61L 2334

We agree with the RU proposal(Annex12).

FEDERAL INSTITUTE OF INDUSTRIAL PROPERTY

RU rapporteur report	
Project: C 389	Date: 23.05.00 4:01 PM
Class/subclass: B 61L	Page 1 of 1

This is a modified rapporteur report revised in order to take into account JP comments which had not been received in time.

JP propose another wording of 23/18: "specially adapted for maintaining a safe relationship between vehicles or vehicle trains in dependence upon speed and traffic density, e.g. in view of track section length".

JP agree with the wording of 23/34.

R believes that it is the most accurate wording of 23/18 which keeps the primary scope of the subgroup and proposes to adopt it.

R's proposal is enclosed.

S.Kovaleva

RU RAPPORTEUR PROPOSAL**Project: C 389 Class/Sub-class: B 61L****Office: RU****Date: 23.05.00 4:02 pm****Page 1 of 1**

Type of amendment: C = Change of scope

Translation of:

D = Deletion of the entry

N = Creation of the entry

Type	Place	Wording
C	23/18	. . . specially adapted for maintaining a safe relationship between vehicles or vehicle trains in dependence upon speed and traffic density, e.g. in view of track section length
	23/34	. for indicating the distance between vehicles or vehicle trains by the transmission of signals therebetween

S.Kovaleva



IPC/C 393/97 Rev.2
ORIGINAL: English/French
DATE: May 10, 2000

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IPC REVISION PROJECT FILE/DOSSIER DE PROJET DE RÉVISION CIB

PROPOSAL BY: PROPOSITION DE :	NO	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	E 21 B
KIND OF REVISION: TYPE DE RÉVISION :	Creation of subgroups Création de sous-groupes		

ANNEX/ ANNEXE	CONTENT/CONTENU		SEE/VOIR C 393/97	ORIGIN/ ORIGINE	DATE
1	Revision request with detailed proposal	/ Demande de révision avec proposition détaillée		NO	04.03.97
2	Comments	/ Observations		EP	07.98
3	Comments	/ Observations		GB	07.98
4	Rapporteur report	/ Rapport du rapporteur		NO	02.99
5	Proposal	/ Proposition	Rev.1	EP	10.99
6	Rapporteur report	/ Rapport du rapporteur	Rev.1	NO	11.99
7	Decision of the Working Group	/ Décision du groupe de travail	Rev.2	WG	12.99
8	Comments	/ Observations	Rev.2	EP	03.00
9	Comments	/ Observations	Rev.2	CA	03.00
10	Comments	/ Observations	Rev.2	RO	03.00
11	Comments	/ Observations	Rev.2	DE	04.00
12	Rapporteur report	/ Rapport du rapporteur	Rev.2	NO	05.00

RAPPORTEUR : NO **TECHNICAL FIELD/DOMAINE TECHNIQUE :** M

EXCERPT FROM DOCUMENT IPC/WG/2/3/
EXTRAIT DU DOCUMENT IPC/WG/2/3

Project C 393 (mechanical) – Comments were invited on the proposal submitted by the EPO (see Annex 5 to the project file).

Projet C 393 (mécanique) – Des observations ont été demandées au sujet de la proposition présentée par l'OEB (voir l'annexe 5 du dossier de projet).

**Project: 393****Subclass: E21B**

We appreciate the approval of the Rapporteur to our counterproposal but we believe that the reference in E21B10/42 (...wear resisting parts 10/46) should not direct to 10/54 as proposed by the Rapporteur. The group 10/42 can contain other drag type drill bits having no teeth or blades with wear resisting parts not covered by 10/54. To avoid this confusion we propose to modify the title of group 10/54:

C 10/54 § § the bit being of blade type (inserts per se 10/56, 10/58)

H. Mende

CA COMMENTS	
IPC Project: C393/97	Date: March 27, 2000
Class \ Subclass: E21B	Page 1 of 1

Comments were invited on:

- The proposal submitted by the European Patent Office (See annex 5 to the project file)

CA is in agreement with the proposal submitted by The European Patent Office (annex 5) dated October 6, 1999 except that the examples **A** e.g. fork type rotary drill bits or fish tail bits **A** in subgroup 10/42 and **A** e.g. fork type **A** in subgroup 10/54 should be removed because we believe that these examples form a very small fraction of the drag type bit.

John Chiarelli

**OFICIUL DE STAT PENTRU
INVENTII SI MARCI**

RO COMMENTS

Date: 01.03.00

Page: 1 of 1

Project: IPC **C393**

Class/Subclass **E21B**

Comments were invited on the proposal submitted by EPO (Annexes 5 to the project file).

We share the same opinion of EPO that most documents related to the drag tipe bits, i.e. rotary bits without moving parts, are covered by the existing groups 10/42 and 10/54 and a new entry for drag type bits would create considerable overlap, and in this respect we agree with the new title of the group 10/42.

We support the informative reference after 10/565 and the introduction of 10/605 for Astructure of nozzeles@

Regarding the title of the main group 27/00 and the deletion of 31/08, we support them.

N.MURARUS

DEUTSCHES PATENTAMT German Patent Office	Class/Subclass: E21B
	Date: 2000-04-05
Comments C393	

Re: IPC/WG/2

Comments were invited on the proposal submitted by the EPO (see Ann. 5 to the project file).

We substantially agree to the EPO-proposal.

Styret for det industrielle rettsvern(NO)

Patentavdelingen

Project PCIPI/C393/97

Page 1 of 1

Date 2000.04.10

RAPPORTEUR'S REPORT ON PROJECT PCIPI/C393/97.

The project concerns a proposal for new subgroups within E 21 B 10/00. Comments were invited on the proposal submitted by the EPO (Annex 5).

To avoid confusion whether the reference in E 21 B 10/42 should direct to 10/46 or 10/54 the EP proposed to modify the title of group 10/54 to:

C 10/54 .. the bit being of blade type (inserts per se 10/56, 10/58)

NO agrees in that the reference in 10/42 should direct to 10/46. However NO believes that the introduction of a new type of bits, namely “blade type” should be avoided. NO proposes to modify the title of group 10/54 to:

C 10/54 .. the bit having blades, e.g. fork-type rotary drill bits (inserts per se 10/56, 10/58)

Comments have been submitted by CA, DE and RO

CA is in agreement with the proposal submitted by the EPO in Annex 5, except that the examples ”e.g. fork type rotary drill bits or fish tail bits” in subgroup 10/42 and “e.g. fork type” in subgroup 10/54 should be removed because CA believes that these examples form a very small fraction of drag type bit.

DE substantially agrees to the EPO proposal.

RO is in agreement with the EPO in the new title of the group 10/42. RO believes that most of the documents related to the drag type bits are covered by the existing groups 10/41 and 10/54, and that a new entry for drag type bits would create considerable overlap. RO also supports the informative reference after 10/565, the introduction of 10/605, the change of scope in 27/00 and the deletion of 31/08.

Rapporteurs recommendation:

Rapporteur recommends to adopt the proposal submitted by the EPO in Annex 5, except for 10/54 where rapporteur recommends:

C 10/54 .. the bit having blades, e.g. fork-type rotary drill bits (inserts per se 10/56, 10/58)

Wilfried Zach



IPC/C 394/97 Rev.2
ORIGINAL: English/French
DATE: April 28, 2000

WORLD INTELLECTUAL PROPERTY ORGANIZATION
ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE
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COMMITTEE OF EXPERTS OF THE IPC UNION
COMITÉ D' EXPERTS DEL' UNION DEL' IPC

IPC REVISION PROJECT FILE/ DOSSIER DE PROJET DE RÉVISION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	RU	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	F 04 D
KIND OF REVISION: TYPE DE RÉVISION :	Creation of subgroups Création de sous-groupes		

ANNEX/ ANNEXE	CONTENT/CONTENU		SEE/VOIR C 394/97	ORIGIN/ ORIGINE	DATE
1	Revision request with detailed proposal	/ Demande de révision avec proposition détaillée		RU	
2	Comments	/ Observations		EP	07.98
3	Comments	/ Observations		DE	02.99
4	Rapporteur report	/ Rapport du rapporteur		RU	02.99
5	Rapporteur proposal	/ Proposition du rapporteur		RU	02.99
6	Comments	/ Observations	Rev.1	DE	05.99
7	Proposal	/ Proposition	Rev.1	EP	10.99
8	Rapporteur report	/ Rapport du rapporteur	Rev.2	RU	12.99
9	Rapporteur proposal	/ Proposition du rapporteur	Rev.2	RU	12.99
10	Comments	/ Observations	Rev.2	JP	12.99
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12	Comments	/ Observations	Rev.2	EP	03.00
13	Comments	/ Observations	Rev.2	CA	03.00
14	Comments	/ Observations	Rev.2	DE	03.00
15	Rapporteur report	/ Rapport du rapporteur	Rev.2	RU	04.00

RAPPORTEUR : RU

TECHNICAL FIELD/DOMAINE TECHNIQUE : M

ANNEX/ ANNEXE	CONTENT/CONTENU	SEE/VOIR C 394/97	ORIGIN/ ORIGINE	DATE
16	Rapporteur proposal / Proposition du rapporteur	Rev.2	RU	04.00

FEDERAL INSTITUTE OF INDUSTRIAL PROPERTY

RU Rapporteur report	
Project: C 394	Date: 12/11/99 3:51 PM
Class/subclass: F 04D	Page 1-? of 2-?

This is the second rapporteur report. It is based on the first rapporteur report on which an additional comment from DE and a counterproposal from EP were received.

Detailed discussion

DE note that their previous comment was not complete and contained errors.

DE feel that the new scheme might be consistent with the existing scheme to have only a main group for lubrication and supports or support systems, but also for shafts, since the number of documents in this subgroup is considerable. **DE** submit an amended scheme.

Having analysed the said scheme **R** cannot consider it consistent with the existing scheme. **R** also notes that it does not contain entries for supports or support systems.

However proposed scheme is very close to the first rapporteur proposal.

EP suggest for discussion a counterproposal submitted by 24.09.99.

It contains two main parts under existing 29/04. One of them is intended for shafts, bearing and lubrication specially adapted for liquid pumps (29/045) and the other one for elastic fluid pumps (29/046).

In the **R's** opinion the subgroups of 29/045 or 29/046 are acceptable. But **R** is not sure whether it would be expedient to create the classification scheme from two separate parts with the same subgroups if one and the same object can be used both for liquid pumps and for elastic fluid pumps.

R fully supports a new subgroup 29/05 (**EP** counterproposal) as an important place for such kind of objects.

R's general opinion

R took into account the entries which could be useful for the search and classification. However **R** feels the lack of comments from the other patent offices so **R** proposes to discuss two alternative classification schemes for F 04D 29/04, proposed by **EP** and rapporteur.

R's proposal is enclosed.

L.Tsikounova

RU RAPPORTEUR MODIFIED PROPOSAL**Project: C 394 Class/Sub-class: F 04D****Office: RU****Date: 12/11/99 3:51 PM****Page 1 of 1**

Type of amendment: C = Change of scope

Translation of:

D = Deletion of the entry

N = Creation of the entry

Type	Place	Wording	
C	29/04	.Shafts	
N	29/041	. . Joining shafts together	EP proposal
N	29/043	. Support systems	
N	29/045	. Bearing, e.g. with rolling contact	
N	29/047	. . hydrostatic or hydrodynamic	EP proposal
N	29/049	. . magnetic or electromagnetic	EP proposal
N	29/05	. Axial unloading	
N	29/051	. . by thrust - balancing dummy piston, disc or the like	
N	29/053	. . by means of openings in the rotor	
N	29/055	. Axially shiftable rotors	EP proposal
	29/06	. Lubrication (of machines or engines in general F 01M)	

L. Tsikounova

J P COMMENTS

Date 16.11.99

PCI/C-394 ; Subclass F04D

Re: Annex 7

1. We prefer EP proposal in Annex 7 to Rapporteur proposal for the following reason.

In many cases, the structure and action of pumps are greatly different depending on whether the working fluid being fluid or gas. And EP proposal subdivided groups based on the type of the working fluid. However, we would like to modify the wording of 29 04 from "shafts" in EP proposal "shafts;bearings".

(Counter Proposal)

C 29 04 . shafts;bearings

2. Regarding lubrication, we also prefer subdivision based on the type of the working fluid for the same reason as above.

(Counter Proposal)

N 29 061 .. specially adapted for liquid pumps

N 29 063 .. specially adapted for elastic fluid pumps

EXCERPT FROM DOCUMENT IPC/WG/2/3/
EXTRAIT DU DOCUMENT IPC/WG/2/3

Project C 394 (mechanical) – Comment were invited on the Rapporteur's proposal, in the light of the counter-proposal by the EPO (see Annexes 9 and 7 to the project file, respectively).

Projet C 394 (mécanique) – Des observations ont été demandées au sujet de la proposition du rapporteur, compte tenu de la contre-proposition de l'OEB (voir les annexes 9 et 7, respectivement, du dossier de projet).

**Project: C 394 Subclass: F04D**

- Comments were invited on the Rapporteur's proposal, in the light of the counter-proposal of the EPO (see Annexes 9 and 7 of the project file, respectively)

We believe that a subdivision based on the working fluid as proposed in Annex 7 is a better approach, because constructional features and working method of liquid pumps and pumps for elastic fluids can be quite different. We have used this approach many years now and it has proven to work very well. If a document has the features that it can be used for the two type of pumps we see no problem to classify the document in both places. JP supports our counter proposal (see Annex 10) and even proposes to divide the subgroup for lubrication according to this principle. We have no objections to change the hierarchy of the lubrication subgroup and introduce two new subgroups as proposed by JP:

- C 29/04 § Shafts; Bearings
- C 29/06 § Lubrication
- N 29/061 § § specially adapted for liquid pumps
- N 29/063 § § specially adapted for elastic fluid pumps

H. Mende

CA COMMENTS	
IPC Project: C394/97	Date: March 3, 2000
Class \ Subclass: F04D	Page 1 of 1

As was pointed out in JP comment (Annex 7), we believe that the structure of pumps often differs depending on whether the working fluid is liquid or elastic. We, nevertheless, support the Rapporteur's proposal (with reservation) to create separate subgroups for liquid and elastic fluids as it is not uncommon to have the addressed details used independently for both types of fluid. We therefore propose to follow the same logic as for the rotors (29/18 and 29/26). There would be a subgroup for shafts and bearings in general (including for liquid fluids), and another one for shafts and bearings adapted specially for elastic fluids. This scheme would provide greater flexibility and result in a simpler indentation.

- C 29/04 . Shafts or bearings (specially for elastic fluids 29/05)
- N 29/041 . . Axial thrust balancing
- N 29/043 . . Axially shiftable rotors (29/041 takes precedence)
- N 29/045 . . Shafts
- N 29/0451 . . . joining shafts together
- N 29/047 . . Bearings
- N 29/0471 . . . hydrostatic or hydrodynamic
- N 29/0473 . . . magnetic or electromagnetic
- N 29/0475 . . . roller bearings
- N 29/05 . Shafts or bearings specially for elastic fluids
- N 29/051 . . Axial thrust balancing
- N 29/053 . . Axially shiftable rotors (29/051 takes precedence)
- N 29/055 . . Shafts
- N 29/0551 . . . joining shafts together
- N 29/057 . . Bearings
- N 29/0571 . . . hydrostatic or hydrodynamic
- N 29/0573 . . . magnetic or electromagnetic
- N 29/0575 . . . roller bearings
- C 29/06 . Lubrication

Deutsches Patent- und Markenamt German Patent and Trademark Office	Class/Subcl.: F04D
	Date : 20.03.2000
DE - Comments — C 394	

Re: IPC/WG/2/3

Comments were invited on the Rapporteur's proposal, in the light of the counter-proposal by the EPO.

We are in favour of a scheme distinguishing between liquid pumps and pumps for elastic fluids, since this corresponds to our internal subdivision and has proved very effective.

Therefore we support the EPO's counter-proposal. However we feel that groups 29/0453 and 29/0463 (axial shiftable rotors) are not necessary since these subject matters are not of great importance. The documents cited in support can either be classified in 29/0451;29/0461 (axial thrust balancing) or in 15/00 (control). Regarding proposed group 29/05 we feel that the subject matter covered by this group can easily be classified in groups 29/0455 or 29/0465.

We also support JP's counter-proposal in annex 10 regarding group 29/04 and the proposed new groups 29/061 and 29/063.

FEDERAL INSTITUTE OF INDUSTRIAL PROPERTY

RU Rapporteur Report	
Project: C 394	Date: 28.04.00 10:54 AM
Class/subclass: F 04D	Page 1 of 1

Introduction

This is the third rapporteur report. In the previous rapporteur report it was proposed to discuss two alternative classification schemes for group F 04D 29/04 submitted by EP and the rapporteur. Comments were invited on which of these schemes was preferable.

Comments

Comments have been received from EP, CA and DE.

EP confirms the former proposal and supports JP opinion to divide the group for lubrication (29/06) according to the type of the working fluid.

CA believes that the structure of pumps differs depending on whether the working fluid is liquid or elastic and proposes an amended scheme for shafts or bearings. CA follows the same logic as for rotors (29/18 and 29/26):

29/04 . Shafts or bearings (specially for elastic fluids 29/05)

29/05 . Shafts or bearings specially for elastic fluids

The further subdivision of these entries is taken from EP proposal.

DE supports EP proposal, but thinks that groups 29/0453 and 29/0463 (Axial shiftable rotors) and 29/05 (Joining shafts together) are superfluous. DE fully supports JP proposal regarding group 29/04 and new groups 29/061 and 29/063.

The rapporteur's opinion

All commenting offices believe that construction features of liquid pumps and pumps for elastic fluids can be quite different and prefer to create separate groups for them as it was proposed by EP. All offices support JP proposal to divide the group for lubrication (29/06) according to the type of the working fluid.

The rapporteur is in favour of CA proposal to introduce new groups for shafts and bearings as for rotors (29/18 and 29/26). It would allow to avoid multiple classification as it was in EP version.

Regarding DE proposal to remove groups for axial shiftable rotors and joining shafts together the rapporteur thinks there are enough documents concerned (see the estimated file size in Annex 7 to the project file) and proposes to keep them.

The rapporteur's proposal is enclosed.

S.Kovaleva

RU RAPPORTEUR PROPOSAL**Project: C 394 Class/Sub-class: F 04D****Office: RU****Date: 28.04.00 10:56 am****Page 1 of 1**

Type of amendment: C = Change of scope

Translation of:

D = Deletion of the entry

N = Creation of the entry

Type	Place	Wording
C	29/04	. Shafts or bearings (specially for elastic fluids 29/05)
N	29/041	. . Axial thrust balancing
N	29/043	. . Axially shiftable rotors (29/041 takes precedence)
N	29/045	. . Shafts
N	29/0451	. . . Joining shafts together
N	29/047	. . Bearings
N	29/0471	. . . hydrostatic or hydrodynamic
N	29/0473	. . . magnetic or electromagnetic
N	29/0475	. . . Roller bearings
N	29/05	. Shafts or bearings specially for elastic fluids
N	29/051	. . Axial thrust balancing
N	29/053	. . Axially shiftable rotors (29/051 takes precedence)
N	29/055	. . Shafts
N	29/0551	. . . Joining shifts together
N	29/057	. . Bearings
N	29/0571	. . . hydrostatic or hydrodynamic
N	29/0573	. . . magnetic or electromagnetic
N	29/0575	. . . Roller bearings
C	29/06	. Lubrication (of machines or engines in general F 01M)
N	29/061	. . specially adapted for liquid pumps
N	29/063	. . specially adapted for elastic fluid pumps

S.Kovaleva



IPC/C 417/98 Rev.1
ORIGINAL: English/French
DATE: May 24, 2000

WORLD INTELLECTUAL PROPERTY ORGANIZATION
ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE
GENEVA/GENÈVE

COMMITTEE OF EXPERTS OF THE IPC UNION
COMITÉ D'EXPERTS DE L'UNION DE L'IPC

IPC REVISION PROJECT FILE/DOSSIER DE PROJET DE RÉVISION DE LA CIB

PROPOSAL BY: PROPOSITION DE :	SE	REVISION OF IPC AREA: RÉVISION DU DOMAINE DE LA CIB :	F 23 C
KIND OF REVISION: TYPE DE RÉVISION :	Creation of subgroups Création de sous-groupes		

ANNEX/ ANNEXE	CONTENT/CONTENU	SEE/VOIR C 417/98	ORIGIN/ ORIGINE	DATE
1	Revision request with detailed proposal / Demande de révision avec proposition détaillée		SE	12.98
2	Comments / Observations		EP	05.99
3	Comments / Observations		CA	05.99
4	Comments / Observations		RO	05.99
5	Comments / Observations		US	05.99
6	Comments / Observations		GB	09.99
7	Rapporteur report / Rapport du rapporteur		SE	09.99
8	Decision of the Working Group / Décision du groupe de travail	Rev.1	WG	03/00
9	Comments / Observations	Rev.1	EP	03/00
10	Comments / Observations	Rev.1	SE	03/00
11	Comments / Observations	Rev.1	RO	03/00
12	Comments / Observations	Rev.1	DE	05.00
13	Comments / Observations	Rev.1	CA	05.00
14	Rapporteur report / Rapport du rapporteur	Rev.1	SE	05.00

RAPPORTEUR : SE **TECHNICAL FIELD/DOMAINE TECHNIQUE :** M

EXCERPT FROM DOCUMENT IPC/WG/2/3/
EXTRAIT DU DOCUMENT IPC/WG/2/3

Project C 417 (mechanical, e-forum) – Comments were invited on the Rapporteur's proposal (see Annex 7 to the project file), in particular on the desirability of precedence references within group F 23 C 13/00 and of precedence references between groups 10/00 and 13/00 and other main groups of subclass F 23 C.

Projet C 417 (mécanique, forum électronique) – Des observations ont été demandées au sujet de la proposition du rapporteur (voir l'annexe 7 du dossier de projet), notamment sur l'opportunité de prévoir des renvois de priorité dans le groupe F 23 C 13/00 et entre les groupes 10/00 et 13/00 et d'autres groupes principaux de la sous-classe F 23 C.

Project: C 417 Subclass: F23C

- Comments were invited on the Rapporteur's proposal (see Annex 7 to the project file), in particular on the desirability of precedence references within group F23C13/00 and of precedence between groups 10/00 and 13/00.

1. As we pointed out in our former comments (Annex 2) we are in favour of removing the precedence notes in groups 3/00 to 10/00, because we are afraid of losing information when we suppress multiple classification where it is necessary.
2. We support the US proposal and we would appreciate when the wording of the other main groups will be harmonised in a consistent way.
3. We believe that the proposed precedence references are not needed. The title should be clear to allow classification at the appropriate place. Accordingly the case cited by the Rapporteur should be classified in 13/08 if preheating is the aim of the invention, in 13/04 if afterburning is the characterizing feature or in 13/02 if the arrangement of the catalytic elements is significant. Precedence rules for documents disclosing features of different subgroups might lead to loss of information.
4. The references should direct from the general place F23C to the specific places F23D and F23G. However if it is the intention to have all catalytic combustion apparatus collected in F23C, including also catalytic waste gas incinerators, we consider mandatory a reference in F23G7/06 pointing to F23C13/00. It could appear redundant, but it avoids wrong classification. If on the contrary the aim is to keep the catalytic waste gas incinerators apart from other apparatus, then - because F23G7/06 does not mention catalytic combustion - a reference in F23C13/00 pointing to F23G7/06 is needed to clearly indicate where this subject matter has to be classified.

H. Mende

Swedish Patent and Registration Office

IPC Revision Project C 417, subclass F23C

March 11th, 2000

COMMENTS relating to IPC/WG/2/3, paragraph 16

Comments were invited on the Rapporteur's proposal (see Annex 7 to the project file), in particular on the desirability of precedence references within group F23C 13/00 and of precedence references between groups 10/00 and 13/00 and other main groups of subclass F23C

The precedence references pointing to 10/00 were introduced during the last revision period, because there were obvious overlaps between 10/00 and the other groups. At that time it was considered necessary to avoid such overlaps. During the course of the IPC reform, the opinions on this kind of overlaps have changed.

F23C is not subdivided according to "types of apparatus", but according to "features". In "feature" subdivisions precedence references do not work well. We have noticed that the precedence references within the subclass, like most precedence references, do not lead to improved search efficiency. They also make Boolean searches between the main groups impossible. Although the precedence references were introduced for a good reason at the time, we think it would be better to delete them.

The exception is the reference in F23C 6/00 – if this is removed there is serious overlap between F23C 6/04 and the proposed F23C 13/06. However, the question of where afterburning of flue gases should be classified is also discussed in project C371, so any decision should wait until that question is decided.

We think the precedence reference in 13/06 could be removed, but the ones in 13/02 and 13/04 should be kept.

With these exceptions we support the proposal.

Anders Bruun

**OFICIUL DE STAT PENTRU
INVENTII SI MARCI**

RO COMMENTS

Date: 01.03.00

Page: 1 of 1

Project: IPC **417**

Class/Subclass **F23C**

Comments were invited on the Rapporteur's proposal, (Annexe 7 to the project file), in particular on the desirability of precedence references between groups 10/00 and 13/00 and main groups of subclass F23C.

Generally we agree with the Rapporteur's proposal presented in Annex 7.

Concerning the precedence references, we would prefer a multiple classification instead of the precedence references.

The references in F23C subclass title to F23D and F23R appear to be not necessary and, in this respect, should be deleted. The matter which are classified here should be transferred in F23C13/00.

N.MURARUS

DEUTSCHES PATENTAMT German Patent Office	Class/Subclass: F23C
	Date: 2000-04-05
Comments C 417	

Re: IPC/WG/2/3

Comments were invited on the R's proposal (see Ann. 7 to the project file), in particular on the desirability of precedence references within group F23C 13/00 and of precedence references between groups 10/00 and 13/00 and other main groups of subclass F23C.

We support R-proposed F23C 13/00 and subgroups of it. The proposed precedence references could be dispensed with on behalf of multiple classification.

CA COMMENTS	
IPC Project: C417/98	Date: March 3, 2000
Class \ Subclass: F23C	Page 1 of 1

Rapporteur expressed concerns regarding to the necessity of precedence references both to 10/00 and 13/00. Regardless of the issues raised in the previous revision exercise resulting in 10/00, we are not in favour of the precedence references pointing to this group. Most of the specific features relating to the groups 1/00 to 9/00 are not covered by 10/00. Features specific to those groups are very likely lost when documents having fluidised bed features are collected in 10/00 only. We feel that amending the title to read **A**Combustion apparatus characterized by the utilization of fluidised bed together with the possibility of using multiple classification would reduce the loss of valuable information.

We similarly believe that 13/00 should not be given precedence over the preceding groups. We also support the wording proposed by US (**A**Combustion apparatus characterized by the utilization of catalytic material) although we do not see the need to harmonise the wording of all main groups.

Although we are still of the opinion that the precedence references between the subgroups of 13/00 appear to be somewhat confusing, we were unable to arrive at a better alternative. We support the modified wording of 13/06.

We support Rapporteur's opinion that references in F23D 14/18 and F23G 7/06 pointing to F23C 13/00 would be unnecessary.

Swedish Patent and Registration Office

IPC Revision Project C 417, subclass F23C

April 18th, 2000

COMMENTS

relating to IPC/WG/2/3, paragraph 16

Comments were invited on Rapporteur's proposal (see Annex 7 to the project file), in particular on the desirability of precedence references within group F23C 13/00 and of precedence references between groups 10/00 and 13/00 and other main groups of subclass F23C.

Comments have been received from CA, DE, RO, SE and EP. The following points have been raised:

Precedence references between the main groups:

- CA are not in favour of precedence references pointing to 10/00 or 13/00.
- DE think that the proposed precedence references could be dispensed with on behalf of multiple classification.
- RO prefer a multiple classification instead of the precedence references.
- SE state that F23C is not subdivided according to "types of apparatus", but according to "features", and that in such subdivisions precedence references do not work well. The exception is the reference in F23C 6/00 – if this is removed there is serious overlap between F23C 6/04 and the proposed F23C 13/06, unless this material is moved to F23G.
- EP are in favour of removing the precedence notes in groups 3/00 to 10/00, because they are afraid of losing information when multiple classification is suppressed.

It appears there is a clear majority in favour of deleting the precedence references pointing to 10/00 and not introducing new ones pointing to 13/00. The Working Group should discuss the need of a reference in 6/04. Rapporteur has tried to analyse the main group titles and the need for references – see below!

Precedence references within 13/00

- SE think the precedence reference in 13/06 could be removed, but the ones in 13/02 and 13/04 should be kept.
- CA can not find a better solution than the proposed precedence references between the subgroups of 13/00
- EP believe that the proposed precedence references are not needed. The title should be clear to allow classification at the appropriate place. Accordingly the case cited by the Rapporteur should be classified in 13/08 if preheating is the aim of the invention, in 13/04 if afterburning is the characterising feature or in 13/02 if the arrangement of the catalytic elements is significant.

The situation is not so clear. The Working Group should discuss the need of references. Rapporteur's proposal includes the SE suggestion.

Other references:

- CA support Rapporteur's opinion that references in F23D 14/18 and F23G 7/06 pointing to F23C 13/00 would be unnecessary.

- **RO** think the references in F23C subclass title to F23D and F23R appear unnecessary and **should be deleted. The matter which is classified here should transferred in F23C13/00.**
- **EP** state that the references should point from the general place F23C to the specific places F23D and F23G.

The normal solution is to have references in a function place pointing to application places. **Rapporteur** thinks the proposed references are acceptable.

Afterburning of flue gases:

- **SE** point out that the question of where afterburning of flue gases should be classified is also discussed in project C 371. Any decision must therefore be made with that project in mind.
- **EP** state that if it is the intention to have all catalytic combustion apparatus collected in F23C, including also catalytic waste gas incinerators, they consider a reference in F23G 7/06 pointing to F23C 13/00 necessary. If on the contrary the aim is to keep the catalytic waste gas incinerators apart from other apparatus, then - because F23G 7/06 does not mention catalytic combustion - a reference in F23C 13/00 pointing to F23G 7/06 is needed to clearly indicate where this subject matter has to be classified.

Rapporteur thinks it makes sense to gather all combustion of low-grade gaseous fuel in F23G. This would mean transferring all separate afterburning combustion chambers to this place, primarily to F23G 7/06. If this is done, a separate group for catalytic combustion could be placed there. It appears that documentation size would present no problems – the corresponding ECLA group F23G 7/06C contains some 450 documents.

Group titles:

- **EP** support the US proposal ("Combustion apparatus characterised by the utilisation of catalytic material") and would appreciate if the wording of the other main groups would be harmonised in a consistent way.
- **CA** support the wording proposed by US although they do not see the need to harmonise the wording of all main groups.

Rapporteur thinks that 13/00 represents a functional subtype of combustion apparatus, and that the words "characterised by" are therefore not suitable. **Rapporteur** thinks the question of group titles arises from the mixture of main group types:

- 1/00 is of the "specially adapted for" type
- 3/00 is of the "characterised by feature" type
- 5/00, 6/00 and 9/00 are of the "characterised by the arrangement of" type
- 7/00 is worded as a detail place, but the subgroups are more of the "characterised by the arrangement of" type
- 10/00, 11/04 and 13/00 are "functional subtype of apparatus" places
- 11/00 is a residual place

This situation is not very satisfactory, but typical of the IPC. Ideally the titles should give an indication of the type of place. If the Working Group wants to discuss improvement of the main group titles, **Rapporteur** suggests the following (11/04 is included, since it has the same function in the scheme as a main group):

- 1/00 Combustion apparatus specially adapted for combustion of two or more kinds of fuel simultaneously or alternatively
- 3/00 Combustion apparatus characterised by the shape of the combustion chamber (unchanged)

- 5/00 Combustion apparatus characterised by the arrangement or mounting of burners
- 6/00 Combustion apparatus characterised by the combination of two or more combustion chambers (unchanged)
- 7/00 Combustion apparatus characterised by arrangements for air supply
- 9/00 Combustion apparatus characterised by arrangements for returning combustion products or flue gases to the combustion chamber
- 10/00 Apparatus in which combustion takes place in a fluidised bed of fuel or other particles
- 11/04 Apparatus in which combustion takes place in pulses influenced by acoustic resonance in a gas mass
- 13/00 Apparatus in which combustion takes place in the presence of catalytic material

Rapporteur has also tried to analyse the need of precedence references. Groups 1/00 – 9/00 do not represent functional subtypes of combustion apparatus. Therefore references between these groups can only be necessary if the same matter is obviously covered by two different places. It appears there is only two such cases:

- 1/00 and 6/00, where Rapporteur thinks a normal limiting reference should be placed in 1/00
- 1/00 and 5/00, where there is an existing precedence reference pointing to 1/00. It appears this reference could be kept.

In general there should be no overlap between 1/00 – 9/00 and the functional subtypes groups. However, there are some cases where more specific subgroups in the functional subtypes groups at least partly cover the same matter:

- 6/04 and the proposed 13/06. This relates to the “afterburning” question and needs to be discussed separately
- 7/00 and 10/20, where Rapporteur thinks a normal limiting reference should be placed in 7/00
- 9/00 and 10/02 and 10/26, where Rapporteur thinks normal limiting references should be placed in 9/00

3/00 should give precedence to the “functional sub-types” groups 10/00, 11/04 and 13/00, since a particular adaptation of the shape of a combustion chamber to a particular functional subtype would not be of interest in general or in any other functional subtype.

Some overlap exists between the “functional sub-types” groups. An example is apparatus where combustion takes place in a fluidised bed of catalytic particles. It should be discussed whether multiple classification is desirable in such cases. There are arguments both for and against.

The present reference in 1/00 to 9/00 is inaccurate and unnecessary.

Anders Bruun

Rapporteur' s Proposal

Rapporteur makes two different proposals for F23C, a “minimum interference” version, which only includes the modifications necessary for accomodating 13/00 and its subgroups, and a “complete” version, which includes revised main group titles and revised references between different groups of F23C. The Working Group should decide which of the proposal that should be used as a working document.

The proposals are made under the assumption that separate afterburning combustion chambers are transferred to F23G 7/06. If this is not done, group 13/06 from the previous Rapporteur' s proposal will need to be considered.

“Minimum interference version”

F23C

- C 1/00 - - - fuel being fluent (with after-burning arrangements- - -
- C 3/00 - - - the combustion chamber
- C 5/00 - - - combustion apparatus (1/00 takes precedence)
- C 6/00 - - - more combustion chambers
- C 6/04 • in series connection (consuming smoke or fumes in separate combustion apparatus [F23G 7/06](#))
- C 7/00 Air-supply arrangements (in general [F23L](#))
- C 9/00 - - - or flue gases
- C 11/00 Combustion apparatus using fluent fuel, not provided for in groups [1/00](#) to [10/00](#) or [13/00](#)
- N 13/00 Apparatus where combustion takes place in the presence of catalytic material (radiant gas burners using catalysis for flameless combustion [F23D 14/18](#); catalytic combustion chambers using liquid or gaseous fuel for generating combustion products under high pressure or high velocity [F23R 3/40](#))
- N 13/02 • characterised by the arrangement of two or more catalytic elements in series connection ([13/08](#) takes precedence)
- N 13/04 • in combination with non-catalytic combustion ([13/08](#) takes precedence)
- N 13/08 • characterised by arrangements for starting the operation, e.g. for heating the catalytic material to operating temperature
- N 13/10 • characterised by the choice of catalytic material (catalysts [B01J 21/00](#) to [38/00](#))

”Complete version”

F23C

- C 1/00 Combustion apparatus specially adapted for combustion of two or more kinds of fuel simultaneously or alternatively (combustion apparatus characterised by the combination of two or more combustion chambers [6/00](#))

- C 3/00 Combustion apparatus characterised by the shape of the combustion chamber (10/00, 11/04, 13/00 take precedence)
- C 5/00 Combustion apparatus characterised by the arrangement or mounting of burners (1/00 takes precedence)
- C 6/00 Combustion apparatus characterised by the combination of two or more combustion chambers
- C 6/04 • in series connection (consuming smoke or fumes in separate combustion chambers F23G 7/06)
- C 7/00 Combustion apparatus characterised by arrangements for air supply (inlets for fluidisation air 10/20)
- C 9/00 Combustion apparatus characterised by arrangements for returning combustion products or flue gases to the combustion chamber (fluidised bed combustion apparatus with means for recirculation of particles entrained from the bed 10/02; fluidised bed combustion apparatus with devices for removal and partial reintroduction of material from the bed 10/26)
- 10/00 Apparatus in which combustion takes place in a fluidised bed of fuel or other particles
- C 11/00 Combustion apparatus using fluent fuel, not provided for in groups 1/00 to 10/00 or 13/00
- 11/04 Apparatus in which combustion takes place in pulses influenced by acoustic resonance in a gas mass
- N 13/00 Apparatus in which combustion takes place in the presence of catalytic material (radiant gas burners using catalysis for flameless combustion F23D 14/18; catalytic combustion chambers using liquid or gaseous fuel for generating combustion products under high pressure or high velocity F23R 3/40)
- N 13/02 • characterised by the arrangement of two or more catalytic elements in series connection (13/08 takes precedence)
- N 13/04 • in combination with non-catalytic combustion (13/08 takes precedence)
- N 13/08 • characterised by arrangements for starting the operation, e.g. for heating the catalytic material to operating temperature
- N 13/10 • characterised by the choice of catalytic material (catalysts B01J 21/00 to 38/00)

F23G

- C 7/00 Incinerators or other apparatus specially adapted for consuming particular waste or low grade fuels; e.g. chemicals (1/00 takes precedence; incinerator closets A47K 11/02 - - -)
- C 7/06 • of waste gases or noxious gases, e.g. exhaust gases (exhaust apparatus for machines, engines in general or combustion engines F01N); Combustion chambers specially adapted for afterburning gaseous products of primary combustion (afterburning in the same combustion chamber as the primary

combustion F23B, F23C)

N 7/07 • • in which combustion takes place in the presence of catalytic material