## EUROPEAN PATENT OFFICE U.S. PATENT AND TRADEMARK OFFICE

## CPC NOTICE OF CHANGES 908

DATE: AUGUST 1, 2020

## PROJECT RP0595

## The following classification changes will be effected by this Notice of Changes:

| Action                                   | Subclass | Group(s)                                |
|--|----------|---|
|  |          |   |
| SCHEME:                                  |          |   |
| Symbols Deleted:                         | G03F     | 1/0007, 1/0015, 1/0023, 1/003, 1/0038,  |
|  |          | 1/0046, 1/0053, 1/0061, 1/0069, 1/0076, |
|  |          | 1/0084, 1/0092, 1/02, 1/04, 1/06, 1/08, |
|  |          | 1/10, 1/103, 1/106, 1/12, 1/14, 1/142,  |
|  |          | 1/144, 1/146, 1/148, 1/16               |
|  |          |   |
| Warnings Deleted:                        | G03F     | 1/00, 1/16                              |
|  |          |   |
| Notes Deleted:                           | G03F     | 1/0053                                  |
|  |          |   |
| DEFINITIONS:                             |          |   |
| Definitions Deleted:                     | G03F     | 1/003, 1/0053, 1/08, 1/144              |
| (no frozen (F) symbol definitions should |          |   |
| be deleted)                              |          |   |

The following subgroups are also impacted by this Notice of Changes (indicate subclasses/groups outside of the project scope, such as those listed in the CRL):

G03F7/70283, G03F7/70433, G03F7/70666, G01N21/956, G03F9/70, G03H1/02, H01L21/027, H01L21/308, G03F7/70283, G03F7/70433, G03F7/70666, G01N21/956, G03F9/70, G03H1/02, H01L21/027, H01L21/308, G03F9/70, G03H1/02, H01L21/027, H01L21

This Notice of Changes includes the following [Check the ones included]:

| I. CLA | ASSIFICATION SCHEME CHANGES                                |
|--------|--|
|        | A. New, Modified or Deleted Group(s)                       |
|        | B. New, Modified or Deleted Warning(s)                     |
|        | C. New, Modified or Deleted Note(s)                        |
|        | D. New, Modified or Deleted Guidance Heading(s)            |
| 2. DEI | FINITIONS  |
|        | A. New or Modified Definitions (Full definition template)  |
|        | B. Modified or Deleted Definitions (Definitions Quick Fix) |
| 3. 🖂   | REVISION CONCORDANCE LIST (RCL)                            |
| 4. 🖂   | CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)          |
| 5. 🖂   | CHANGES TO THE CROSS-REFERENCE LIST (CRL)                  |

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## 1. CLASSIFICATION SCHEME CHANGES

## A. New, Modified or Deleted Group(s)

SUBCLASS G03F - PHOTOMECHANICAL PRODUCTION OF TEXTURED OR PATTERNED SURFACES, e.g. FOR PRINTING, FOR PROCESSING OF SEMICONDUCTOR DEVICES; MATERIALS THEREFOR; ORIGINALS THEREFOR; APPARATUS SPECIALLY ADAPTED THEREFOR

| Type* | Symbol      | Indent<br>Level<br>Number of<br>dots (e.g.<br>0, 1, 2) | Title  "CPC only" text should normally be enclosed in {curly brackets}**  | Transferred to#  |
|-------|-------------|--|---|--|
| D     | G03F 1/0007 | 1  | {using an elastic substrate or involving an optical distortion, e.g. for printing on non flat surfaces}   | <administrative 60="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0015 | 1  | {by drawing, writing, e.g. on a photosensitive<br>surface, or by engraving, e.g. using a stylus;<br>using a typewriter; using chemical copy<br>sheet}   | <administrative 50="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0023 | 2  | {the masking pattern being obtained by the application of an ink, e.g. by traditional printing, by ink jet printing, by using a typewriter, or by the selecitive application of a powder, e.g. a toner} | <administrative 50="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/003  | 2  | {the masking pattern being obtained by thermal means, e.g. by laser ablation (thermal transfer from a ribbon, e.g. G03F 1/0023)}  | <administrative 50="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0038 | 2  | {using chemical means, e.g. chemical camera copying}  | <administrative 50="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0046 | 1  | {Phase shift masks}   | <administrative 26="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0053 | 2  | {Hybrid phase shift masks, i.e. combining plural types of phase-shifting pattern in a single common pattern}  | <administrative 26="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0061 | 2  | {Alternating phase shift masks, i.e.<br>Levenson-Shibuya type}  | <administrative 30="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0069 | 3  | {Auxiliary patterns or specific arrangements of the phase-shifting elements to avoid phase-conflicts, i.e. phase-shifter layout strategies for alternating masks}                                       | <administrative 30="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0076 | 2  | {Masks with semi-transparent phase shifters, i.e. attenuated phase-shifting masks}  | <administrative 32="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0084 | 2  | {Masks where at least part of the patterns<br>comprise no opaque or semi-opaque pattern<br>elements, i.e. phase-edge masks}   | <administrative 34="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/0092 | 1  | {Auxiliary processes relating to originals, e.g. repair, washing or inspection}   | <administrative 68="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/02   | 1  | {by photographic processes for production of originals simulating relief}   | <administrative 88="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/04   | 1  | {by montage processes}  | <administrative 90="" g03f1="" to="" transfer=""></administrative> |

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| Type* | Symbol     | Indent<br>Level<br>Number of<br>dots (e.g.<br>0, 1, 2) | Title  "CPC only" text should normally be enclosed in {curly brackets}**  | Transferred to#  |
|-------|------------|--|---|--|
| D     | G03F 1/06  | 1  | {from printing surfaces, e.g. using a heat or<br>pressure sensitive foil, by pulling an<br>impression, e.g. on a photosensitive sheet}              | <administrative to<br="" transfer="">G03F1/92&gt;</administrative> |
| D     | G03F 1/08  | 1  | {Originals having inorganic imaging layers, e.g. chrome masks (G03F 1/12 takes precedence; X-Ray absorbers G03F 1/148)}                             | <administrative 20="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/10  | 1  | {by exposing and washing out pigmented or coloured organic layers; by colouring macromolecular patterns}  | <administrative 68="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/103 | 2  | {the masking pattern being obtained by modification of the polymeric pattern by energetic means, e.g. by carbonisation or by ion implantation}      | <administrative 68="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/106 | 2  | {the masking means, e.g. the dye or pigment<br>being incorporated into the photosensitive<br>material}  | <administrative to<br="" transfer="">G03F1/68&gt;</administrative> |
| D     | G03F 1/12  | 1  | {by exposing silver-halide-containing photosensitive materials or diazo-type materials}   | <administrative 88="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/14  | 1  | {Originals characterised by structural details, e.g. supports, cover layers, pellicle rings}  | <administrative 62="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/142 | 2  | {Pellicles, pellicle rings or continuous protective layers}   | <administrative 62="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/144 | 2  | {Auxiliary patterns; Corrected patterns,<br>e.g. proximity correction, grey level masks<br>(G03F 1/0046, G03F 1/146, G03F 9/00 take<br>precedence)} | <administrative 36="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/146 | 2  | {Originals for X-Ray exposures, X-Ray masks}  | <administrative 22="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/148 | 3  | {X-Ray absorbers}   | <administrative 22="" g03f1="" to="" transfer=""></administrative> |
| D     | G03F 1/16  | 1  | {Originals having apertures, e.g. for corpuscular lithography}  | <administrative 86="" g03f1="" to="" transfer=""></administrative> |

\*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T = existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

- \*\*No {curly brackets} are used for titles in CPC only <u>subclasses</u>, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} <u>are</u> used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required "anchor" symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.

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- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- "Transferred to" column <u>must</u> be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the "Transferred to" column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY, ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("Transferred to") symbol, however it is required to specify "<no transfer>" in the "Transferred to" column for such cases.
- For finalisation projects, the deleted "F" symbols should have <no transfer> in the "Transferred to" column.
- For more details about the types of scheme change, see CPC Guide.

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## B. New, Modified or Deleted Warning(s)

## SUBCLASS G03F - PHOTOMECHANICAL PRODUCTION OF TEXTURED OR PATTERNED SURFACES, e.g. FOR PRINTING, FOR PROCESSING OF SEMICONDUCTOR DEVICES; MATERIALS THEREFOR; ORIGINALS THEREFOR; APPARATUS SPECIALLY ADAPTED THEREFOR

| Type* | <b>Location</b> | Old Warning   | New/Modified Warning |
|-------|-----------------|---|----------------------|
| D     | G03F 1/00       | Groups G03F 1/0007 - G03F 1/16 are no longer used for the classification of documents as of 2012-01-01. The backfile of these groups is being reclassified into groups G03F 1/20 - G03F 1/92 as follows: G03F 1/0007 - G03F 1/0092 and G03F 1/08 - G03F 1/16 into groups G03F 1/20 - G03F 1/86; G03F 1/02 into G03F 1/88; G03F 1/04 into G03F 1/90; G03F 1/06 into G03F 1/92. Until reclassification is complete, groups G03F 1/16 and G03F 1/20 - G03F 1/16 and G03F 1/20 - G03F 1/192 should be considered in order to perform a complete search. | Delete the WARNING.  |
| D     | G03F 1/16       | Groups G03F1/20 - G03F1/92 are incomplete pending reclassification of documents from groups G03F1/0007 - G03F1/16. Until reclassification is complete, groups G03F1/0007 - G03F1/16 and G03F1/20 - G03F1/92 should be considered in order to perform a complete search.   | Delete the WARNING.  |

<sup>\*</sup>N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

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## C. New, Modified or Deleted Note(s)

# SUBCLASS G03F – PHOTOMECHANICAL PRODUCTION OF TEXTURED OR PATTERNED SURFACES, e.g. FOR PRINTING, FOR PROCESSING OF SEMICONDUCTOR DEVICES; MATERIALS THEREFOR; ORIGINALS THEREFOR; APPARATUS SPECIALLY ADAPTED THEREFOR

| Type* | <u>Location</u> | Old Note   | New/Modified Note |
|-------|-----------------|--|-------------------|
| D     | G03F 1/0053     | <ul> <li>in this group the term "hybrid" is meant to involve the combination of plural types of phase-shifting pattern in a single common pattern; a mere structural, e.g. geometrical, association of masks with separate patterns is not considered hybrid;</li> <li>hybrid masks combining a binary pattern with a phase-shifting pattern are only classified in the group corresponding to the phase-shifting aspect, the binary pattern being considered a trivial feature in this context</li> </ul> | Delete the NOTE.  |

N = new note, M = modified note, D = deleted note

NOTE: The "Location" column only requires the symbol PRIOR to the location of the note. No further directions such as "before" or "after" are required.

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## 2. B. DEFINITIONS QUICK FIX

| Symbol     | Location of change<br>(e.g., section title) | Existing reference symbol or text | Action; New symbol; New text    |
|------------|---|-----------------------------------|---------------------------------|
| G03F1/003  | Entire Definition                           |                                   | <u>Delete</u> entire definition |
| G03F1/0053 | Entire Definition                           |                                   | <u>Delete</u> entire definition |
| G03F1/08   | Entire Definition                           |                                   | <u>Delete</u> entire definition |
| G03F1/144  | Entire Definition                           |                                   | <u>Delete</u> entire definition |

- The table above is used for corrections or modifications to existing definitions, e.g. delete an entire definition or part thereof; propose new wording or modify wording of a section, change the symbol the definition is associated with, change or delete a reference symbol, etc.
- Do not delete (F) symbol definitions.

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## 3. REVISION CONCORDANCE LIST (RCL)

| Type* | From CPC Symbol | To CPC Symbol(s)   |  |
|-------|-----------------|--|--|
|       | (existing)      |  |  |
| D     | G03F 1/0007     | <administrative 1="" 60="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0015     | <administrative 1="" 50="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0023     | <administrative 1="" 50="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/003      | <administrative 1="" 50="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0038     | <administrative 1="" 50="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0046     | <administrative 1="" 26="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0053     | <administrative 1="" 26="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0061     | <administrative 1="" 30="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0069     | <administrative 1="" 30="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0076     | <administrative 1="" 32="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0084     | <administrative 1="" 34="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/0092     | <administrative 1="" 68="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/02       | <administrative 1="" 88="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/04       | <administrative 1="" 90="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/06       | <administrative 1="" 92="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/08       | <administrative 1="" 20="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/10       | <administrative 1="" 68="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/103      | <administrative 1="" 68="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/106      | <administrative 1="" 68="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/12       | <administrative 1="" 88="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/14       | <administrative 1="" 62="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/142      | <administrative 1="" 62="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/144      | <administrative 1="" 36="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/146      | <administrative 1="" 22="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/148      | <administrative 1="" 22="" g03f="" to="" transfer=""></administrative> |  |
| D     | G03F 1/16       | <administrative 1="" 86="" g03f="" to="" transfer=""></administrative> |  |

<sup>\*</sup> C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the "To" column, do not use ranges of symbols.
- For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY, ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("To") symbol, however it is required to specify "<no transfer>" in the "To" column for such cases.
- RCL is not needed for finalisation projects.

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## 4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

| CPC         | <u>IPC</u> | Action* |  |
|-------------|------------|---------|--|
|             |            |         |  |
| G03F 1/0007 |            | DELETE  |  |
| G03F 1/0015 |            | DELETE  |  |
| G03F 1/0023 |            | DELETE  |  |
| G03F 1/003  |            | DELETE  |  |
| G03F 1/0038 |            | DELETE  |  |
| G03F 1/0046 |            | DELETE  |  |
| G03F 1/0053 |            | DELETE  |  |
| G03F 1/0061 |            | DELETE  |  |
| G03F 1/0069 |            | DELETE  |  |
| G03F 1/0076 |            | DELETE  |  |
| G03F 1/0084 |            | DELETE  |  |
| G03F 1/0092 |            | DELETE  |  |
| G03F 1/02   |            | DELETE  |  |
| G03F 1/04   |            | DELETE  |  |
| G03F 1/06   |            | DELETE  |  |
| G03F 1/08   |            | DELETE  |  |
| G03F 1/10   |            | DELETE  |  |
| G03F 1/103  |            | DELETE  |  |
| G03F 1/106  |            | DELETE  |  |
| G03F 1/12   |            | DELETE  |  |
| G03F 1/14   |            | DELETE  |  |
| G03F 1/142  |            | DELETE  |  |
| G03F 1/144  | DELETE     |         |  |
| G03F 1/146  |            | DELETE  |  |
| G03F 1/148  |            | DELETE  |  |
| G03F 1/16   |            | DELETE  |  |

## \*Action column:

- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with "NEW."
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with "UPDATED."
- For a (D) CPC entry or indexing entry complete the Action column with "DELETE." IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with "NEW".
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with "CPCONLY" and complete the action column with "NEW".

- F symbols are <u>not</u> included in the CICL table above.
- T and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.

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### 5. CROSS-REFERENCE LIST (CRL)

Scheme references impacted by this revision project

| <b>Location of reference</b> | Referenced subclass or | Action; New reference symbol; New |
|------------------------------|------------------------|-----------------------------------|
| to be changed                | group to be changed    | <u>text</u>                       |
| G03F7/70283                  | G03F1/14               | G03F1/00                          |
| G03F7/70433                  | G03F1/14               | G03F1/00                          |
| G03F7/70666                  | G03F1/0092             | G03F1/68                          |

## Definitions references impacted by this revision project

| <u>Location of reference</u><br><u>to be changed</u> | Referenced subclass or group to be changed | Section of definition  | Action; New reference symbol; New text |
|--|--|------------------------|--|
| G01N21/956   | G03F1/0092                                 | Informative references | G03F1/68                               |
| G03F9/70   | G03F1/14                                   | Informative references | G03F1/62                               |
| G03H1/02   | G03F1/0046                                 | Informative references | G03F1/26                               |
| H01L21/027   | G03F1/16                                   | Limiting references    | G03F1/86                               |
| H01L21/308   | G03F1/16                                   | Limiting references    | G03F1/86                               |

- The CRL tables above are used for changes to locations <u>outside</u> of the project scope. Changes to references in scheme
  titles or definitions <u>inside</u> the project scope will be reflected in the "scheme change" template or one of the "definition"
  templates.
- In addition to other changes proposed in the tables above, in the column titled "Referenced subclass or group to be changed," <u>referenced</u> D symbols should indicate an action of "delete" or should indicate a replacement symbol and <u>referenced</u> F symbols should indicate a replacement symbol.
- When a reference is deleted, text related to that reference will also be deleted unless other references or a range of references associated with the same text remain.