

EN

EUROPEAN QUALIFYING EXAMINATION 2023

Pre-examination

(INFORMAL VERSION

As extracted from Wiseflow and Examiner's report)

PART 1

Question 1

You are a professional representative before the EPO. Today, 6 March 2023, you receive an email from your client, Alvar, a national of Finland. He wants you to file a European patent application EP-A in his name, claiming priority from FI-A, a Finnish patent application. FI-A was jointly filed in the name of Alvar and Aino on 4 March 2022. A copy of FI-A is attached to the email. No other document or information is sent with the email.

For each of statements 1.1–1.4, indicate whether the statement is true or false:

1.1 On the basis of the information given above, you can file a European patent application EP- A in Alvar's name at the EPO today and it will be accorded 6 March 2023 as the date of filing.

1.2 You can validly file EP-A in Finnish..

1.3 On the basis of the information given above, you can be sure that EP-A can validly claim priority from FI-A.

1.4 Alvar as a natural person is not entitled to a reduction of the filing fee.

Question 2

Paula is resident in Romania and has no EPO mailbox for electronic notification. On 13 February 2023, Paula filed the European patent application EP-P as a first filing. The EPO noticed that the drawings mentioned in the description were missing. In a communication dated 22 February 2023, the EPO invited Paula to file the missing drawings.

For each of statements 2.1–2.4, indicate whether the statement is true or false:

- 2.1** If applicants are not invited by the EPO to file missing parts of the description or missing drawings, they may validly file them within two months of the date of filing.
- 2.2** If Paula ignores the invitation by the EPO to file missing parts of the description or missing drawings, EP-P will be deemed to be withdrawn.
- 2.3** If Paula files the missing drawings on 3 May 2023, EP-P will receive 3 May 2023 as its date of filing.
- 2.4** Paula may validly file the missing drawings for EP-P on 6 June 2023, provided she pays the fee for further processing.

Question 3

Saïd intends to file the following patent applications in French language:

- (1) a European patent application EP-S
- (2) an international patent application PCT-SE.

PCT-SE will be jointly filed in the name of Saïd and Eric. Eric lives in Paris. Saïd lives in Lebanon and is of Lebanese nationality. Lebanon is not a PCT member state.

For each of statements 3.1–3.4, indicate whether the statement is true or false:

- 3.1** Saïd can validly file EP-S with the EPO.
- 3.2** If, two months after validly filing PCT-SE, Saïd moves to Paris, the EPO will, upon request, record the change of residence in relation to PCT-SE.
- 3.3** PCT-SE can be validly filed with the EPO as receiving Office.
- 3.4** PCT-SE can be validly filed with the International Bureau as receiving Office.

Question 4

In 2020, company A was interested in exploiting a new medical device it had developed, and, for this purpose, details of the device were disclosed in confidence to company B. Unknown to company A, company B filed a European patent application EP-B with an effective filing date of 6 June 2021. Made aware of the publication of EP-B, company A sought before a national court to be recognised as entitled to the grant of a European patent for the invention disclosed in EP-B. By a final decision of the national court dated 10 January 2023, it has been adjudged that company A is entitled to the grant of a European patent for the invention disclosed in EP-B. This final decision is recognised by all contracting states designated in the application EP-B.

For each of statements 4.1–4.4, indicate whether the statement is true or false:

- 4.1** If EP-B is still pending and has not yet been granted, company A may prosecute EP-B as its own application in place of company B.
- 4.2** If EP-B is still pending and has not yet been granted, a request that company B must withdraw EP-B, filed by company A at the EPO, will be allowed.
- 4.3** If EP-B is still pending and has not yet been granted, company A may validly request that EP-B be refused.
- 4.4** If EP-B has been deemed to be withdrawn and is thus no longer pending, company A may still file a new European patent application EP-A in respect of the same invention, wherein EP-A shall be deemed to have been filed on 6 June 2021.

Question 5

On 31 January 2022, Susanne, a German national living in Germany, filed a PCT application PCT-S in German, validly claiming priority from her European patent application EP-S, filed on 29 January 2021 in German. PCT-S contains claim 1 as originally disclosed in EP-S and claim 2 directed to an improved embodiment that was not disclosed in EP-S. PCT-S was published in German on 7 August 2022.

Susanne sold PCT-S to Ian, a British national. The international search report issued by the EPO as International Searching Authority states that claim 1 is not novel over the prior art and the subject-matter of claim 2 is novel and involves an inventive step. Ian wants to enter the regional phase before the EPO for PCT-S. Today is 6 March 2023.

For each of statements 5.1–5.4, indicate whether the statement is true or false:

- 5.1** When entering the regional phase before the EPO, Ian can file an English translation of PCT-S so that the language of the proceedings of the regional phase of PCT-S will be English.
- 5.2** The time limit for entering the regional phase before the EPO for PCT-S claiming priority from EP-S ends on 31 July 2023.
- 5.3** Today, 6 March 2023, Ian can withdraw the priority claim of PCT-S in the international phase so that the time limit for entering the regional phase before the EPO for PCT-S expires on 2 September 2024.
- 5.4** Withdrawing the priority claim of EP-S will affect the effective date of claim 2.

PART 2

Question 6

European patent application EP-P was filed as a first filing on 2 December 2019 and was published on 13 June 2021. On 28 November 2021, you received the first communication from the examining division under Article 94(3) EPC regarding EP-P. European patent application EP-D was filed with the EPO on 8 December 2022 as a divisional application of EP-P. Today, 6 March 2023, EP-P is still pending. Some of the claims of EP-D contain subject-matter that was not originally disclosed in EP-P. The renewal fees for EP-D have not yet been paid.

For each of statements 6.1–6.4, indicate whether the statement is true or false:

- 6.1** An EP divisional application cannot be validly filed after 24 months from the issuance of the first communication under Article 94(3) EPC in respect of EP-P and therefore EP-D was not validly filed as a divisional application.
- 6.2** The renewal fee, already fallen due, may be validly paid for EP-D on 11 April 2023 without an additional fee.
- 6.3** At present, EP-D is deemed to have 8 December 2022 as its date of filing.
- 6.4** In the present case EP-P will be regarded as prior art under Article 54(2) EPC against EP-D.

Question 7

A company having its principal place of business in France files an international patent application at the French national patent office. The language of this international patent application is English. As a receiving Office, the French national patent office accepts international patent applications filed in French only. The International Searching Authority for this international patent application is the European Patent Office, which accepts the following languages for international search: English, French and German.

For each of statements 7.1–7.4, indicate whether the statement is true or false:

- 7.1** The international patent application will be transmitted to the International Bureau.
- 7.2** The international patent application will be considered to have been received by the French national patent office on behalf of the International Bureau as receiving Office.
- 7.3** The search fee is collected by the International Searching Authority for its own benefit.
- 7.4** A translation is required by the European Patent Office for the international search.

Question 8

A European patent application, EP-A, was filed in English on 2 September 2021 claiming priority from a Swedish national patent application, SE-A, which was filed on 2 September 2020. EP-A was published on 9 March 2022. EP-A is pending.

For each of statements 8.1–8.4, indicate whether the statement is true or false:

- 8.1** The European examination proceedings are in progress. Third-party observations written in English are filed today and explain why a scientific journal article published in Swedish on 10 August 2020 is novelty-destroying for the claimed subject-matter of EP-A. The third-party observations are filed anonymously at the European Patent Office, together with a copy of the Swedish publication.
In view of this, the third-party observations are validly filed.
- 8.2** Third-party observations must cite prior art documents.
- 8.3** The decision to grant a patent based on EP-A has already been sent to the applicant. Third-party observations are received by the EPO just before the publication of the mention of the grant. They cite a new document destroying the novelty of the allowed claims.
In view of this, the examining division will consider them and resume the examination proceedings.
- 8.4** A patent based on EP-A has been granted. The mention of the grant was published on 1 March 2023. Third-party observations are validly filed today.
In view of this, the person filing the third-party observations will be a party to the opposition proceedings if opposition proceedings start.

Question 9

When filing a European patent application with 14 claims, the applicant also submits a request for examination by filing the written request and paying the examination fee. The European Patent Bulletin mentions the publication of the European search report on 20 January 2023. The European search opinion states that claim 1 lacks novelty. The applicant receives an invitation under Rule 70(2) and Rule 70a(2) EPC dated 13 February 2023 setting a time limit of six months running from the publication of the European search report.

For each of statements 9.1–9.4, indicate whether the statement is true or false:

- 9.1** The application shall be deemed to be withdrawn if the applicant files a reply to the invitation on 14 August 2023
- 9.2** If the applicant omits in his timely reply to the European search opinion to indicate that he wishes to proceed further with the application, the application is deemed to be withdrawn.
- 9.3** The applicant can validly file a request for accelerated examination before timely filing of a valid reply to the invitation.
- 9.4** If the applicant validly replies to the invitation and files three additional claims, he must pay the claims fees for two claims within one month of filing the claims.

Question 10

Applicant Andrew names Berta as sole inventor in his European patent application EP-A.

For each of statements 10.1–10.4, indicate whether the statement is true or false:

- 10.1** The EPO informs Berta in a communication about her designation as inventor in the European patent application EP-A.
- 10.2** Berta can waive her right to be mentioned as inventor in the published European patent application EP-A.
- 10.3** If Carla was incorrectly designated as inventor in the European patent application EP-A, there is no way to request rectification of the incorrect designation.
- 10.4** Berta can pay any fees to the EPO.

Part 3

Description of the application

Cleaning utensil

[001] The present invention relates to a cleaning utensil, in particular a cleaning cloth.

[002] Cleaning utensils such as cloths, mops and brushes may be used to clean many types of surface. Different types of cleaning utensils may be more effective depending on the type and amount of dirt which has to be removed from the surface.

[003] Figure 1 illustrates a first embodiment of a cleaning cloth 1 which comprises an upper layer 2 and a lower layer 3. The lower layer 3 is made of a sponge material and the upper layer 2 is made of fibres 4 that are woven to form a textile. The lower layer 3 may be used to distribute water and cleaning solution over a surface in order to wet and soften the dirt which has to be removed. The textile surface of the upper layer 2 is stiffer than the sponge surface of the lower layer 3 and provides a more abrasive cleaning of the surface to better remove dirt from the surface. The sponge surface of the lower layer 3 may also be used to remove dirt loosened from the surface by the textile surface of the upper layer 2. The cleaning cloth 1, therefore, includes two different types of cleaning surface which can be used for different cleaning actions for an improved cleaning effect.

[004] Figure 2 illustrates a second embodiment of the cleaning cloth 1 that additionally includes a reinforcement layer 5 that is positioned between the lower sponge layer 3 and the upper layer 2 of woven fibres 4 forming the textile. The reinforcement layer 5 provides an additional mechanical reinforcement of the cleaning cloth 1 which is useful when using the cloth 1 to clean large surfaces. In some embodiments, the reinforcement layer 5 comprises a sponge material which has a higher water absorption capacity than the material of the lower sponge layer 3 and the upper textile layer 2. For example, the sponge material of the reinforcement layer 5 may include a higher degree of porosity which enables it to store a larger amount of water. Thus, the sponge material of the reinforcement layer 5 can release water to the upper and lower layers 2, 3 to prevent the upper and lower layers 2, 3 from becoming too dry. This release of water into the upper and lower layers 2, 3 improves the cleaning action of the cleaning cloth 1.

[005] Figure 3 illustrates a third embodiment of the cleaning cloth 1 illustrated in Figure 1 which includes a different arrangement of the fibres 4 of the upper layer 2. The lower layer 3 includes the sponge material. In this third embodiment, a first portion of the fibres 4 is woven to form a web 7 and a second portion of the fibres 4 has upstanding ends 8 or loops 9 protruding upwardly from the web 7. The loops 9 and upstanding ends 8 provide more abrasive cleaning of a surface and also capture dirt removed from the surface thus improving the cleaning efficiency.

[006] The fibres 4 of the upper layer 2 of each of the first, second and third embodiments may preferably comprise two portions that include fibres of different weights in order to enhance the cleaning effect. The heavier fibres provide an enhanced mechanical cleaning action by virtue of their stiffness and the lighter fibres ensure sufficient flexibility of the cloth when cleaning non-planar surfaces. If used in the third embodiment, the lighter fibres are used to provide the web 7 and the heavier fibres are used to form the upstanding ends 8 and loops 9 protruding from the face of the web 7.

[007] Preferably, the fibres 4 of the first portion have a weight equal to or less than 25 decitex and the fibres 4 of the second portion have a weight of at least 100 decitex. The weight of the fibre refers to the mass per unit length, which is measured in decitex (grams per 10 000 m). The lighter fibres of the first portion make up 65% to 75% of the total mass of the fibres and the heavier fibres of the second portion make up 25% to 35% of the total mass of fibres.

[008] In each of the first, second and third embodiments, the fibres 4 comprise one of the following polymers: a polypropylene, a polyamide, a polyester or a combination of these polymers. The sponge material of the first, second and third embodiments may be a natural sponge or a synthetic sponge.

Drawings of the application

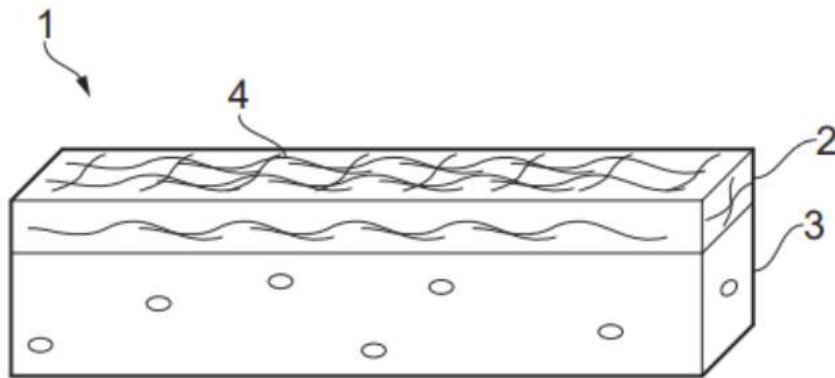


FIG. 1

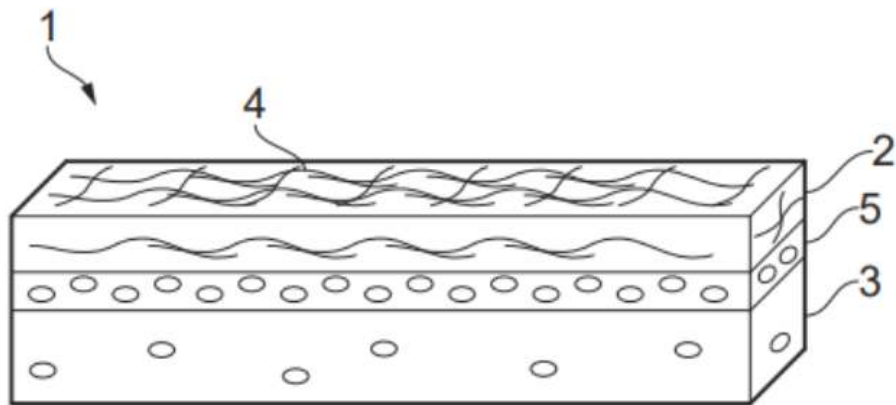


FIG. 2

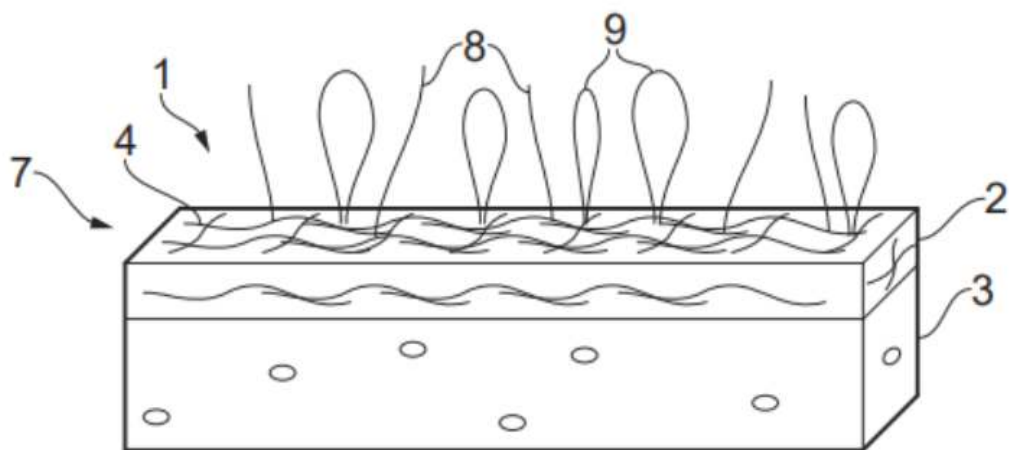


FIG. 3

Claim Set I:

I.1 Cleaning utensil comprising:

- a first layer comprising a sponge material;
- a second layer comprising fibres.

I.2 Cleaning utensil according to claim I.1, wherein the cleaning utensil is a cleaning cloth, and the sponge material comprises a synthetic sponge.

I.3 Cleaning utensil according to claim I.1, wherein the fibres comprise polypropylene.

I.4 Cleaning utensil according to claim I.1, wherein the cleaning utensil is a cleaning cloth, and the second layer comprises fibres having loops or upstanding ends.

I.5 Cleaning utensil according to claim I.1, wherein the cleaning utensil is a cleaning cloth, and a first portion of the fibres of the second layer is woven to form a web and a second portion of the fibres of the second layer has upstanding ends or loops protruding upwardly from the web.

I.6 Cleaning utensil according to claim I.5, further comprising a reinforcement layer arranged between the first layer and the second layer.

I.7 Cleaning utensil according to claim I.1, wherein the second layer comprises a first portion of fibres having a first weight and a second portion of fibres having a second weight, wherein the first weight is equal to or less than 25 decitex and the second weight is at least 100 decitex.

Assume that the following document D1 is prior art under Article 54(2) EPC.

Document D1: Cleaning cloth

[001] Figure 1 illustrates a cleaning cloth 10. The cleaning cloth 10 comprises a first layer 11 comprising fibres woven to form a textile, a second layer 12 comprising a natural sponge material and a third layer 13 comprising fibres woven to form a textile. The second layer 12 is arranged between the first layer 11 and the third layer 13 such that the sponge material is held in a pouch formed of woven fibres. In some embodiments, the fibres of both the first layer 11 and the third layer 13 comprise polypropylene with an antibacterial coating.

[002] The fibres of each of the first and third layers 11, 13 comprise two portions having different weights in order to improve the cleaning action. The fibres of the first portion have a weight of 20 to 35 decitex and the fibres of the second portion have a weight of at least 150 decitex. The weight of the fibre refers to the mass per unit length, which is measured in decitex (grams per 10 000 m). The lighter fibres make up 54% to 64% of the total mass of the fibres and the heavier fibres make up 36% to 46% of the total mass of fibres.

[003] The sponge material of the second layer 12 has a greater water absorption capacity than the outer textile layers 11, 13 and can release water into the outer textile layers 11, 13 in use to increase the cleaning efficiency of the cleaning cloth 10.

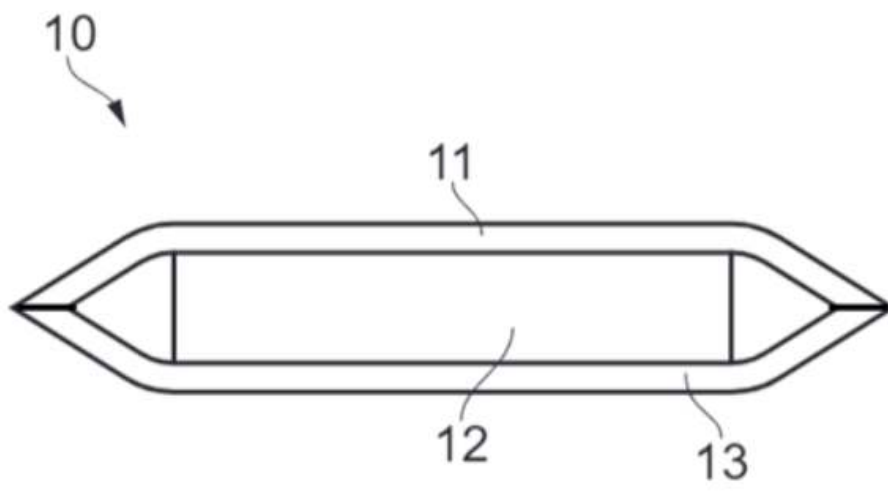


FIG. 1

Question 11

Assume that the claim set I was filed with the above description of the invention.

For each of statements 11.1–11.4, indicate whether the statement is true or false:

11.1 Claim I.1 covers the second embodiment

11.2 Claim I.1 covers the third embodiment

11.3 Claim I.4 is disclosed in the application as filed.

11.4 Claim I.3 covers all alternatives of the first embodiment.

Question 12

Assume that the claim set I was filed after the description and drawings in response to a communication under Rule 58 EPC.

For each of statements 12.1–12.4, indicate whether the statement is true or false:

12.1 Claim I.1 meets the requirements of Article 123(2) EPC.

12.2 Claim I.4 meets the requirements of Article 123(2) EPC.

12.3 Claim I.5 meets the requirements of Article 123(2) EPC.

12.4 Claim I.6 meets the requirements of Article 123(2) EPC.

Question 13

For each of statements 13.1–13.4, indicate whether the statement is true or false:

13.1 The subject matter of claim I.1 is novel over D1.

13.2 The subject matter of claim I.3 is novel over D1.

13.3 The subject matter of claim I.4 is novel over D1.

13.4 The subject matter of claim I.7 is novel over D1.

Question 14

For each of the statements 14.1–14.4, indicate whether the statement is true or false:

14.1 Claim I.1, amended during examination proceedings as follows (amendments are underlined), meets the requirement of Article 123(2) EPC:

Cleaning utensil comprising:

a first layer comprising a sponge material;

a second layer comprising fibres; and

a reinforcement layer arranged between the first layer and the second layer, wherein the reinforcement layer comprises a sponge material.

14.2 Claim I.2, amended during examination proceedings as follows (amendments are underlined), meets the requirement of Article 123(2) EPC:

Cleaning utensil according to claim I.1, wherein the cleaning utensil is a cleaning cloth and the sponge material comprises a synthetic or a natural sponge.

14.3 Claim I.3, amended during examination proceedings as follows (amendments are underlined), meets the requirement of Article 123(2) EPC:

Cleaning utensil according to claim I.1, wherein the fibres comprise ~~polypropylene~~ a polymer.

14.4 Claim I.7, amended during examination proceedings in such a way that it is dependent on claim I.5, meets the requirement of Article 123(2) EPC.

Claim II.1 corresponds to claim I.1 amended to include the features of claim I.5:

II.1 Cleaning utensil comprising:

a first layer comprising a sponge material;

a second layer comprising fibres.

wherein the cleaning utensil is a cleaning cloth, and a first portion of the fibres of the second layer is woven to form a web and a second portion of the fibres of the second layer has upstanding ends or loops protruding upwardly from the web.

Claim III.1 corresponds to claim I.1 amended to include the features of claim I.5, 1.7 and the additional features of the mass of the fibres disclosed in the description:

III.1 Cleaning utensil comprising:

a first layer comprising a sponge material;

a second layer comprising fibres.

wherein the cleaning utensil is a cleaning cloth and a first portion of the fibres of the second layer is woven to form a web and a second portion of the fibres of the second layer has upstanding ends or loops protruding upwardly from the web, wherein the second layer comprises a first portion of fibres having a first weight and a second portion of fibres having a second weight, wherein the first weight is equal to or less than 25 decitex, and the second weight is at least 100 decitex, wherein the first portion of the fibres make up 65% to 75% of the total mass of the fibres and the second portion of the fibres make up 25% to 35% of the total mass of the fibres..

Question 15

For each of 15.1–15.4, indicate whether the statement is true or false:

- 15.1** An objective technical problem solved by the subject-matter of claim I.2 over D1 can be formulated as how to provide a material for releasing water into the first layer to increase the cleaning efficiency.
- 15.2** Using the problem-solution approach applied to the subject-matter of claim II.1, an objective technical problem can be formulated as how to improve the cleaning action of a layer comprising fibres.
- 15.3** Using the problem-solution approach applied to the subject-matter of claim II.1, an objective technical problem can be formulated as how to provide a more abrasive cleaning action.
- 15.4** A valid argument that the cleaning utensil of claim III.1 involves an inventive step is that the claimed ranges of the fibre portions are not obvious from D1 since D1 gives the skilled person no hint at a technical advantage associated with a larger portion of lighter fibres so that the skilled person would not increase the portion of the lighter fibres to more than the maximum 64% disclosed in D1.

Part 4

Description of the invention

PCT 2021/321654, filed 16.08.2019

[001] Some writing instruments, e.g. pens and markers, include erasable inks which allow markings formed with the ink to be erased efficiently. It is desirable that erasable inks provide good writing performance when compared with non-erasable inks.

[002] This invention provides erasable inks that provide good writing performance when used in writing instruments such as pens. The erasable inks are water-based inks that have a short "waiting time", i.e. inks that can be erased soon after they are applied on a surface made, for instance, of paper. Because the water-based inks are based on using water as a solvent rather than on using other solvents, the erasable inks of the invention are relatively non-toxic and odour-free.

[003] All the amounts are expressed, as per the convention in the technical area, as % w/w, corresponding to a weight percent (%) of a given compound per weight of the erasable ink composition.

[004] In one aspect, the invention features an erasable ink composition that includes (a) water, (b) a colouring agent, (c) a releasing agent, and optionally (d) a film-forming polymeric binder.

[005] The erasable ink compositions of the present invention preferably contain from about 1.0% to 30% w/w of the colouring agent, in the form of a pigment on a solid basis, more preferably about 1.5% to 5% w/w of colouring agent. So to avoid that the colour intensity is too weak for proper reading, the erasable ink has to contain more than 0.75% w/w of the colouring agent.

[006] The releasing agent allows the erasable ink composition to be erased from a surface made of paper. It is a finding of the inventors that if the releasing agent includes a modified siloxane, the erasing is even more improved. When the releasing agent includes a modified siloxane, it has to contain less than 1% w/w of colloidal silica. To enhance erasability, it is necessary that the releasing agent has a water solubility ranging from about 0.5% to 70%.

[007] The erasable ink compositions preferably contain from about 0.3% to 30% w/w of the releasing agent, more preferably from about 1% to 7% w/w of said releasing agent. If the amount of the releasing agent is too high, the erasable ink composition may smear, whereas if the amount of the releasing agent is too low, then its erasability may be compromised.

[008] When present, the polymeric binder is a resin, such as a polyvinyl-based resin (e.g. a resin of PVC or of polyvinyl butyral (PVB)), an acrylic-based resin or a melamine resin. The preferred polymeric binder includes a plasticised polyvinyl butyral resin. It allows the erasable ink composition to shine under the light.

[009] Some implementations include one or more of the following features. The water is present in an amount ranging from about 40% to about 90% w/w, the colouring agent is present in an amount ranging from about 1.5% to about 30% w/w, the releasing agent is present in an amount ranging from about 0.3% to about 30% w/w and the optional polymeric binder is present in an amount ranging from about 1% to about 15% w/w, wherein the percentages are by weight of the erasable ink composition.

[010] In another aspect, the invention relates to a pen comprising an outer body, a writing tip at one end of said body, a reservoir included within said body and connected to said writing tip, and within said reservoir a water-based erasable ink as described above.

[011] Example: An erasable ink composition was formed by mixing the ingredients shown in Table 1, wherein the amounts are percentages by weight of the erasable ink composition:

Ingredient	Amount (w/w)	Description
Water	60%	Solvent
Polyvinyl butyral	23%	Binder
Ethylhexyl Phthalate	8%	Plasticiser
Blue pigment	3.5%	Colouring agent
Polyethylene oxide modified poly (dimethyl) siloxane	5%	Releasing agent
Oleic acid	0.5%	Emulsifier

[012] This ink was applied to a piece of paper. After 30 seconds, an eraser was used to remove the ink of the paper. The ink erased cleanly, leaving no visible residue or staining. A second marking was applied to the piece of paper and allowed to dry for a longer period (60 seconds). This marking also erased cleanly. The ink exhibited an erasability of 95% after a waiting time of 10 seconds, and an erasability of 100% when completely dry.

Claims as filed with the description on 16.08.2019:

I.1 An erasable ink composition comprising:

- (a) water;
- (b) a coloring agent; and
- (c) a releasing agent.

I.2 An erasable ink composition comprising:

- (a) water;
- (b) a coloring agent;
- (c) a releasing agent; and
- (d) a film-forming polymeric binder.

I.3 An erasable ink composition according to claim I.2, wherein the water is present in an amount ranging from about 40% to about 90% w/w.

I.4 An erasable ink composition according to claim I.2, wherein the coloring agent is present in an amount ranging from about 0.5% to about 30% w/w.

I.5 An erasable ink composition according to claim I.2, wherein the releasing agent includes a modified siloxane and is present in an amount ranging from about 0.3% to about 30% w/w.

I.6 An erasable ink composition according to claim I.2, wherein the polymeric binder is present in an amount ranging from about 1% to about 15% w/w and comprises a polyvinyl butyral resin.

I.7 An erasable ink composition according to claim I.2, wherein said erasable ink has an erasability of greater than 95% when erased within five minutes of applying the ink to the sheet of paper.

1.8 A pen comprising: an outer body; a writing tip at one end of said body; a reservoir included within said body and connected to the writing tip; and within said reservoir a water-based erasable ink composition, comprising:

- (a) water;
- (b) a coloring agent in an amount of 1.5% to about 30% w/w;
- (c) a releasing agent having a water solubility ranging from about 0.5% to about 70% of the erasable ink composition; and
- (d) a film-forming polymeric binder.

D11 – Advertisement in *The Local Sun*, published on the 15 August 2019

[001] For a number of years, there has been a desire to produce a pen that produces an erasable, pencil-like trace. The particular choice of colouring pigments is important for maintaining the erasability of traces formed by the erasable ink composition.

[002] Similarly, numerous water-based erasable ink compositions exist in the prior art. Typically, such water-based compositions include a block copolymer such as styrene-butadiene and a pigment. Generally, such erasable ink compositions also include one or more additives such as releasing and spreading agents, antioxidants, surfactants, gelatinisers, lubricants and various waxes.

[003] The erasable ink composition of our new pen produces traces that are substantially erasable with a common pencil eraser and are erasable for at least one day after the traces are formed on paper.

[004] Some specificities of our product are:

- The pigment, of any colour, is present in an amount of 2% to 25% weight per weight (w/w).
- An organic ester-based solvent system is present in an amount of 25% to 55% w/w.
- The solvent system comprises a component selected from the group consisting of an optionally substituted cycloalkane, an optionally substituted cycloalkanone, an optionally substituted cycloalkene, and mixtures thereof; and an organic ester. The solvent system may comprise additionally other types of commonly known solvents.
- A polymeric binder being a liquid butene polymer combined to a plasticiser.

D12 – Editorial paper published in *Pen Technology* on 1 March 1995

[001] Erasable ink compositions, and more particularly erasable ink compositions for use in writing instruments, are becoming more and more popular. However, erasable ink compositions should not only be erasable but also provide good writing performance when used in writing instruments.

[002] The simplest erasable ink composition for use in a writing instrument, such as a pen, comprises a solvent and a pigment. Preferably, said pigment has a flake-like morphology. The pigment, whatever its colour, is dispersed in the solvent. It seems that for the most efficient systems, the erasable ink compositions include from about 5% to about 20% w/w of the flake-like pigment and from about 74% to about 94% w/w of the water-based solvent system. Such erasable ink compositions exhibit an erasability of at least 80%.

[003] Optionally, the erasable ink composition can comprise a dispersant. Typically, the dispersants are water-soluble polymers that include polymeric chains. When present, the dispersant is typically included at about 1% to 4% w/w, and most preferably about 1.5% to 2% w/w. Examples of suitable dispersants include, but are not limited to, nonionic copolymers or anionic substituted alkoxyated polymers. One of the advantages of the dispersant is that it forms a film at the surface of the writing as well as to have a releasing effect.

Question 16

For each of statements 16.1–16.4, indicate whether the statement is true or false:

- 16.1** The following feature is described as essential in the description: The erasable ink composition comprises from about 1.5% to about 30% w/w of the colouring agent by weight of the erasable ink composition
- 16.2** The following feature is described as essential in the description: The releasing agent is a modified siloxane
- 16.3** The following feature is described as essential in the description: The modified siloxane- containing releasing agent comprises less than 1% w/w of colloidal silica.
- 16.4** The following feature is described as essential in the description: The polymeric binder is a polyvinyl butyral resin.

After receipt of the search report from the EPO, the applicant envisages to replace claims I.1 and I.8, respectively as follows

I.1bis An erasable ink composition comprising:

- (a) water;
- (b) a coloring agent; and
- (c) a film-forming polymeric binder.

1.8bis A pen comprising: an outer body; a writing tip at one end of said body; a reservoir included within said body and connected to the writing tip; and within said reservoir a water-based erasable ink composition, comprising:

- (a) water in an amount ranging from about 40% to about 90% w/w;
- (b) a coloring agent in an amount ranging from 1.5% to about 30% w/w;
- (c) a releasing agent having a water solubility ranging from about 0.5% to about 70%; and
- (d) a film-forming polymeric binder.

Question 17

For each of statements 17.1–17.4, indicate whether the statement is true or false:

17.1 Claim I.1bis, if filed as envisaged, would meet the requirement of Article 123(2) EPC.

17.2 Claim I.4 meets the requirement of Article 84 EPC.

17.3 Claim I.5 contains all the essential features.

17.4 Claim I.8bis, if filed as envisaged, would meet the requirement of Article 123(2) EPC.

Question 18

For each of statements 18.1–18.4, indicate whether the statement is true or false:

18.1 Claim I.1 is novel over D11.

18.2 Claim I.1 is novel over D12.

18.3 Claim I.3 is novel over D12.

18.4 Claim I.6 is novel over D12.

Question 19

For each of 19.1–19.4, indicate whether the statement is true or false:

- 19.1** D11 mentions that water in the solvent system has disadvantages.
- 19.2** D11 teaches that an essential element of all erasable ink compositions is the presence of a releasing agent.
- 19.3** D12 discloses a pen that contains an erasable ink composition.
- 19.4** D12 does not teach that the erasability of the erasable ink composition is dependent on the drying time.

Consider that the following new set of claims (II.1 to II.3) was filed by the applicant during the examination proceedings to expedite prosecution and the patent was granted five months ago with the following set of claims:

II.1 An erasable ink composition, comprising:

- (a) from about 40% to about 90% w/w of water;
- (b) from about 1.5% to about 30% w/w of a coloring agent;
- (c) from about 0.3% to about 30% w/w of a releasing agent; and preferably
- (d) from about 1% to about 15% w/w of a film-forming polymeric binder.

II.2 An erasable ink composition, comprising:

- (a) from about 40% to about 90% w/w of water;
- (b) from about 1.5% to about 30% w/w of a coloring agent;
- (c) from about 0.3% to about 30% w/w of a modified siloxane releasing agent

II.3 An erasable ink composition, wherein said erasable ink has an erasability of greater than 95% when erased within five minutes of applying the ink to the sheet of paper.

Question 20

For each of the statements 20.1–20.4, indicate whether the statement is true or false:

- 20.1** In an opposition procedure, an opponent will likely be successful with a novelty attack against claim II.1 over D12.
- 20.2** In an opposition procedure, an opponent will likely be successful with a novelty attack against claim II.2 over D11.
- 20.3** In an opposition procedure, an opponent will likely be successful with an attack under Article 83 EPC against claim II.3.
- 20.4** In an opposition procedure, an opponent will likely be successful with an attack under Article 123(2) EPC against claim II.2.