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(54) **A SECURITY BOOKLET**

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Description

[0001] The present disclosure is directed towards a security booklet comprising a plurality of leaves attached together by stitching, such as a passport, passbook, identification booklet or the like.

[0002] Security documents and booklets, such as passports, passbooks, identification documents, certificates, licences, cheque books and the like, commonly comprise one or more data pages on which information is provided. A passport booklet typically comprises a cover, a plurality of internal visa pages, a data page and an end page around the visa pages and data page. Typically the visa pages, data page and end page are sewn together by stitching and the end page is subsequently adhered to the cover, which protects and hides one side of the stitching. The data page is typically located between one of the visa pages and the end page and contains printed personal data. The data page may be formed from a fibrous substrate or a polymer and may comprise security features, such as watermarks, laser perforations, security fibres, security threads, security print and the like to prevent counterfeiting and fraudulent alteration. An exemplary booklet construction is disclosed in CA-A-2091109. EP-A-2559550 discloses a security booklet according to the preamble of claim 1 with an insert for a booklet and a method of manufacturing thereof.

[0003] However, rather than attempt to alter the data page and/or visa pages, counterfeiters are known to remove the data page and/or visa pages and re-insert fraudulent pages into the security booklet. They may remove the original stitching, which may contain security features (such as features visible only in ultraviolet light, coloured dyes or the like), and replace it with conventional threads. The present invention is therefore generally directed towards identifying such counterfeit documents.

[0004] The present invention therefore provides a security booklet comprising a plurality of leaves attached together by stitching, the plurality of leaves comprising an inspection page and an adjacent leaf, wherein the stitching is exposed at the inspection page and the adjacent leaf comprises at least one window in which at least part of the exposed stitching is visible when the adjacent leaf is arranged to overlie the inspection page.

[0005] The stitching is therefore exposed at the inspection page when opened at the inspection page. The stitching is also clearly visible to a document inspector through the at least one window. Any misalignment of the stitching and at least one window can therefore be identified easily. Furthermore, personal data relating to the identity of the holder of the security booklet is preferably located in the book block such that the stitching and personal 6750411 data can be viewed simultaneously. This greatly increases the ease with which the integrity of the stitching can be viewed and any tampering identified.

[0006] In a further preferred embodiment the security booklet comprises a cover and a plurality of sheets and the plurality of sheets comprises the plurality of leaves. The plurality of sheets may be attached to one another by stitching along a stitch line to form innermost and outermost sheets. The innermost and/or outermost sheets may comprise the adjacent and inspection leaves. The stitching may be exposed at the innermost and outermost section sheets. The at least one window may extend at least to the stitch line. The plurality of sheets may comprise at least one end page attached to the cover. The sheet(s) forming the at least one end page may be selected such that the plurality of sheets can be opened in two different configurations to reveal the stitching at the innermost and outermost sheets. The sheet(s) forming the at least one end page may also be selected such that at least part of the exposed stitching is visible in the at least one window of the adjacent leaf when the adjacent leaf is arranged to overlie the inspection page.

[0007] Preferably the security booklet comprises at least one further leaf located on the opposing side of the adjacent leaf to the inspection page. Preferably the adjacent leaf comprises a polymer substrate, at least one opaque region and at least one transparent region, the at least one transparent region forming the at least one window. In a preferred embodiment the at least one opaque region is formed by at least one opacifying layer located on at least one surface of a flexible polymer substrate and the at least one transparent region is formed by the at least one opacifying layer being omitted in at least one localised region. In an alternative preferred embodiment the adjacent leaf comprises a rigid polymer substrate. The rigid polymer substrate may comprise first and second outer surfaces, a first and/or second substantially transparent region adjacent the first and/or second outer surface and a substantially opaque region separated from the first and/or second outer surface by the first and/or second substantially transparent region. The rigid polymer substrate may also comprise at least one third substantially transparent region at least partially surrounded by the opaque region. The at least one third substantially transparent region may form the at least one window. In an alternative preferred embodiment the adjacent leaf comprises a fibrous substrate. Preferably the adjacent leaf comprises an elongate impermeable strip partially embedded in the fibrous substrate.

[0008] The present invention yet further provides a method of manufacturing a security booklet comprising the steps of: forming an adjacent sheet comprising at least one window; forming a plurality of section sheets; and stitching the adjacent sheet and plurality of section sheets together such that the stitching is exposed at an inspection page and such that at least part of the exposed stitching is visible in the at least one window when the adjacent sheet is arranged to overlie the inspection page. A further sheet and/or end sheet may be stitched to the outermost sides of the adjacent sheet and plurality of section sheets. The method may further comprise the step of attaching the end sheet to a cover.

[0009] The present invention further provides a secu-

rity booklet comprising a book block, the book block comprising a plurality of sheets folded about a fold line to form a plurality of leaves, the plurality of sheets being attached together by stitching along a stitch line, wherein the fold line and stitch line are separated from one another and the stitching is through the each of the plurality of sheets.

[0010] The stitching is therefore clearly visible at an outer page of the plurality of section sheets (referred to as a "section") and can be hidden on the opposing side of the section. Furthermore, during folding of the security booklet the section does not need to be folded, thereby reducing the folding force required. As a result, any adjacent leaf and/or further leaf located in the security booklet next to the section can be relatively rigid and thus more robust.

[0011] The present invention yet further provides a method of manufacturing a security booklet comprising the steps of: folding a plurality of sheets about a fold line to form a plurality of leaves; and attaching the plurality of sheets together by stitching through the each of the plurality of sheets along a stitch line, the fold line and stitch line being offset from one another.

[0012] By way of example only, embodiments of a security booklet and a method of manufacture in accordance with the present invention are now described with reference to, and as shown in, the accompanying drawings, in which:

Figure 1 is a perspective view of a passport according to the present invention in an open configuration;
Figure 2 is a cross-sectional side elevation of the passport of Figure 1 shown in an exploded configuration with stitching hidden;
Figure 3 is a plan view of the passport of Figure 1 opened between an adjacent leaf and a further leaf;
Figure 4 is a perspective view of a passport according to a further embodiment of the present invention according to claims 1-12 in an open configuration; and
Figure 5 is a cross-sectional side elevation of the passport of Figure 4 shown in an exploded configuration.

Figures 1 to 3 illustrate an exemplary security booklet 10 according to the present invention. The security booklet 10 in this case is a passport and comprises a book block 11 attached to a cover 12. The cover 12 may comprise at least one of paper, fabric, non-woven textile materials, Teslin (RTM) and composites of any such materials. The cover 12 is foldable about a booklet fold line 13.

[0013] The book block 11 comprises a plurality of sheets 18, 24, 31, 35 forming a plurality of leaves 15, 20, 30. In particular, the book block 11 comprises a section 14 comprising a plurality of section leaves 15. Each opposing surface of each section leaf 15 forms a page for receiving the main body of content of the security booklet 10. In the case of the passport the section leaves 15 form visa pages for the printing and attachment of, for example, visas and border authority stamps. The outermost of the section leaves 15 forms first and second outer section pages 16, 17. The section leaves 15 are preferably formed from a fibrous substrate, such as paper, and may include a number of security features, such as security fibres and watermarks. Alternatively, the section leaves 15 may be formed from any suitable material upon which matter can be printed and/or attached.

[0014] In the illustrated embodiment the section 14 comprises a plurality of section sheets 18 folded about a section fold line 19. Each section sheet 18 forms a section leaf 15 on either side of the section fold line 19. Preferably the section fold line 19 is located across the middle of each of the plurality of section sheets 18 such that each section leaf 15 has substantially the same surface area. However, in an alternative embodiment each section leaf 15 may be formed from an individual sheet with free edges at its inner edge.

[0015] The book block 11 further comprises an adjacent leaf 20 located adjacent or next to the section 14. The adjacent leaf 20 comprises first and second opposing surfaces 21, 22 and the first opposing surface 21 contacts the first outer section page 16 when the adjacent leaf 20 is brought together with the first outer section page 16 upon folding about the booklet fold line 13. The adjacent leaf 20 comprises at least one window 23, which will be described in further detail below. The adjacent leaf 20 may be formed from an adjacent sheet 24 which is located around the outermost surfaces of the section leaves 15 and extends from the adjacent leaf 20 across the booklet fold line 13 adjacent the first and second outer section pages 16, 17. The adjacent leaf 20 is folded about the booklet fold line 13.

[0016] The book block 11 may comprise at least one further leaf 30, which may be located on the outer sides of the section 14 and adjacent leaf 20 and on the opposing side of the adjacent leaf 20 to the first outer section page 16. The at least one further leaf 30 may be formed from at least one further sheet 31, which is folded about the booklet fold line 13. In the embodiment of Figures 1 and 2 the further sheet 31 comprises a rigid polymer substrate 32 attached in the book block 11 by a connection tab 33, which may comprise a fabric or the like, extending from an inner edge of the rigid polymer substrate 32. The rigid polymer substrate 32 may be manufactured as disclosed in US-B-6669813 and US-A-2011/0226408 and the connection tab 33 may be manufactured as disclosed in EP-B-1592565. Preferably the rigid polymer substrate 32 comprises polycarbonate. However, the at least one further leaf 30 may comprise a fibrous substrate sheet (with or without security features) or may have any composition as discussed below in respect of the adjacent leaf 20.

[0017] The book block 11 further comprises an end sheet 35 located on the outer sides of the section 14, adjacent leaf 20 and at least one further leaf 30 such that the end sheet 35 forms the outer surfaces of the book block 11. The end sheet 35 is folded about the booklet

fold line 13. The book block 11 is attached to the cover 12 by adhering the outer surface of the end sheet 35 to the inner surface of the cover 12.

[0018] The book block 11 comprises stitching 40, extending along a stitch line 41, through the section 14, the adjacent sheet 24, the at least one further sheet 31 and the end sheet 35. In a standard security booklet 10 a stitch line 41 is located along the booklet fold line 13 and section fold line 19 and stitching passes through each section sheet 18 once (for example as disclosed in CA-A-2091109). In such an arrangement the stitch line may not be immediately visible to an inspector by virtue of being in the narrow channel typically formed at the inner edges of the innermost pages of the security booklet 10 around the booklet fold line 13.

[0019] However, in a preferred embodiment of the invention and as illustrated in Figures 1 to 3, the stitch line 41 is separated, or offset, from the booklet and section fold lines 13, 19. The stitch line 41 is also preferably substantially parallel to the booklet and section fold lines 13, 19. Furthermore, the stitching 40 extends between the first and second outer section pages 16, 17 through each of the plurality of section leaves 15 such that the stitching 40 passes through each section sheet 18 twice. The stitching 40 is therefore at least partially exposed at the surface of the first outer section page 16 and is visible in reflected light at the first outer section page 16 when the security booklet 10 is opened between the first outer section page 16 and the adjacent leaf 20. The first outer section page 16 may, therefore, be referred to as an "inspection page" at which the stitching 40 may be inspected by a document inspector. Furthermore, due to the offset location of the stitch line 41, the exposed stitching 40 is clearly visible by virtue of being separated from the narrow channel formed on the inside of the security booklet 10 around the booklet fold line 13.

[0020] The stitching 40 also extends through the adjacent sheet 24, the at least one further sheet 31 and the end sheet 35 on an opposing side of the booklet fold line 13 to the adjacent leaf 20 and at least one further leaf 30. In particular, the stitching 40 extends through the connection tab 33 of the further sheet 31. In the assembled security booklet 10 the stitching 40 at the outer surface of the book block 11 is hidden and protected by the cover 12 by virtue of the adhesion between the end sheet 35 and the cover 12. As a result, the stitching 40 can only be accessed from one side by a counterfeiter and the difficulty of disassembly of the security booklet 10 is increased.

[0021] The stitch line 41 is separated from the booklet fold line 13 by a distance that enables the stitching 40 to be visible to an inspector, particularly through the at least one window 23 from the second opposing surface 22 of the adjacent leaf 20 (as discussed in further detail below), but which does not significantly impact upon the internal surface area of the plurality of section leaves 15. The stitch line 41 may be separated from the booklet fold line 13 by a distance of up to approximately 30 mm, more preferably approximately 20 mm and more preferably approximately 10 mm, particularly where the security booklet is a standard size passport. The standard size passport may be defined according to a size TD3 Machine Readable Travel Document (MRTD) as defined by the Seventh Edition (2015) of Document 9303 ("Machine Readable Travel Documents") issued by ICAO. In a particular embodiment the stitch line 41 is located in an area on the second opposing surface 22 where the area is defined by the same dimensions used to define Zone I of a size TD3 MRTD.

[0022] The security booklet 10 with the offset arrangement of stitching 40 of Figures 1 to 3 may also be assembled in a different manner to a standard security booklet 10. In particular, in the manufacture of a standard security booklet a plurality of sheets are stitched to an adjacent sheet and end sheet, the end sheet is adhered to a cover and then the booklet is folded about a booklet fold line. However, in order to form the embodiment of Figures 1 to 3, the plurality of section sheets 18 are firstly folded about the section fold line 19. Subsequently the plurality of section sheets 18 are stitched in the offset arrangement of stitching 40 to the adjacent sheet 24, at least one further sheet 31 (if present) and the end sheet 35. The end sheet 35 is attached to the cover 12 and subsequently the security booklet 10 is folded about the section fold line 19. Thus in this final stage the plurality of section sheets 18 need not be folded as they have already been folded.

[0023] The stitching 40 may be formed by any known stitch type. In particularly preferred examples, the line of stitching is formed using a two thread interlock stitch (also known as "lock stitch" or "straight stitch": here the term "interlock stitch" refers to the specific stitch type) or a two thread chain stitch such as that set out in ISO 401. This latter form of stitching is more secure since it is more difficult to unravel. Furthermore, the stitching 40 preferably includes security features that enable the original stitching 40 to be authenticated and recognised by a document inspector and/or to enable a document inspector to identify when the stitching 40 has been replaced. For example, the stitching 40 may comprise threads having a multi-coloured appearance when viewed in reflected visible light, patterns visible only when viewed in reflected ultraviolet light and the like.

[0024] The at least one window 23 is arranged and located such that at least part of the stitching 40 on the first outer section page 16 or inspection page is visible through the at least one window 23 when the security booklet 10 is opened between the adjacent leaf 20 and the at least one further leaf 30. In this open configuration, which is illustrated in Figure 3, the first opposing surface 21 of the adjacent leaf 20 is adjacent to, and possibly substantially in contact with, the inspection page. At least a portion of the at least one window 23 is therefore separated from the booklet fold line 13 by the same distance as the offset distance between the stitch line 41 and the booklet fold line 13. The at least one window 23 is also

at least partially transparent such that the stitching 40 can be viewed through it, although it may not be clear (i. e. colourless).

[0025] In Figures 1 to 3 the adjacent leaf 20 comprises two square windows 23 such that the stitching 40 is visible at two separate locations, although the adjacent leaf 20 may comprise any suitable number of windows 23 and the windows 23 may be of any suitable shape. In a preferred embodiment the shape of the perimeter of at least one window 23 is in the form of an indicia, symbol, logo or the like, which is independently distinguishable to an inspector and thereby forms a security device. For example, the at least one window 23 may be in the shape of a number or the shape of the perimeter of the country in which the security booklet 10 has been issued. In an alternative preferred embodiment the at least one window 23 extends across the entire adjacent leaf 20 in a strip parallel to the booklet fold line 13. Preferably the at least one window 23 occupies less than approximately 50% of the surface area of the adjacent leaf 20 and more preferably occupies less than approximately 30% of the surface area of the adjacent leaf 20.

[0026] The adjacent sheet 24 is constructed such that the at least one window 23 can be incorporated within it and may comprise a fibrous substrate, such as paper or card, a plastic material or the like.

[0027] In the embodiment of Figures 1 to 3 the adjacent sheet 24 comprises a substantially flexible polymer substrate 45 and at least one opacifying layer 46 located on at least one surface of the flexible polymer substrate 45. Such flexible polymer substrates 45 are commonly used to form "polymer" banknotes and can contain a variety of security features. The at least one opacifying layer 46 is omitted in localised regions on opposing sides of the flexible polymer substrate 45 and the flexible polymer substrate 45 is substantially transparent in order to form the at least one window 23.

[0028] The flexible polymer substrate 45 may be a film and may be flexible by virtue of its relative thinness and the relative thinness of the at least one opacifying layer 46. The flexible polymer substrate 45 preferably has a thickness in the range of from approximately 50 μm to approximately 100 μm, more preferably from approximately 60 μm to approximately 80 μm and most preferably approximately 70 μm. When including the at least one opacifying layer 46, the thickness of the adjacent sheet 24 is preferably in the range of from approximately 50 μm to approximately 200 μm and more preferably in the range of from approximately 50 μm to approximately 150 μm. The flexible polymer substrate 45 is formed from one or more polymeric materials, preferably a plastic and more preferably a thermoplastic. The polymeric materials may be synthetic and may, for example, comprise at least one of polypropylene (PP), bi-axially oriented PP (BOPP), polybutylene terephthalate (PBT), polyethylene terephthalate (PET), polyethylene (PE), polycarbonate (PC), polyvinyl chloride (PVC), nylon, acrylic, Cyclic Olefin Polymer (COP) or Cyclic Olefin Copolymer (COC). Suitable blends thereof include Teslin (RTM) and a blend of PE and PP. BOPP is particularly suitable.

[0029] The at least one opacifying layer 46 is substantially opaque to substantially prevent light transmitting through the adjacent leaf 20. The at least one opacifying layer 46 comprises a substantially non-transparent material and provides a suitable background for graphics and any personal data 34 located on it. The at least one opacifying layer 46 may comprise a polymeric, non-fibrous material containing at least a light scattering substance such as a pigment. For example, the at least one opacifying layer 46 may comprise a resin, such as a polyurethane based resin, polyester based resin or an epoxy based resin, and an opacifying pigment, such as titanium dioxide, silica, zinc oxide, tin oxide, clays or calcium carbonate. The at least one opacifying layer 46 preferably forms/covers at least a majority of the first and/or second opposing surfaces 21, 22 of the adjacent leaf 20.

[0030] The flexible polymer substrate 45 may contain no opacifying region or layer within it. The adjacent sheet 24 may further comprise an intermediate "primer layer" (not shown in the drawings) between the flexible polymer substrate 45 and the at least one opacifying layer 46. In such a composition the adjacent sheet 24 may be manufactured by creating a web of flexible polymer substrate 45, applying the at least one opacifying layer 46 to the flexible polymer substrate 45, adding any security features or devices to the at least one opacifying layer 46 and/or flexible polymer substrate 45 and splitting the web into a plurality of adjacent sheets 24.

[0031] The compositions of the rigid and flexible polymer substrates 32, 45 differ in structure and/or materials such that the flexible polymer substrate 45 is a film that is more flexible than the sheet of rigid polymer substrate 32. As a result, different techniques are required to create each of the rigid and flexible polymer substrates 32, 45 and the difficulty of counterfeiting of the security booklet 10 is increased. The different composition may result from differing materials, arrangements of opacifying layers, thicknesses, rigidities and abilities to contain security features. In a particularly preferred embodiment the flexible polymer substrate 45 is formed from a single layer and at least one outer opacifying layer 46 thereon whilst the rigid polymer substrate 32 is formed from a plurality of plastic layers fused together into a substantially non-laminar or unitary structure.

[0032] The embodiment of Figures 1 to 3 is also preferred as the arrangement of offset stitching 40 also reduces the force necessary to fold the security booklet 10 about the booklet fold line 13. The inclusion of the rigid and flexible polymer substrates 32, 45 in the adjacent and further sheets 24, 31 can provide an additional force opposing the folding of the security booklet 10. However, since the plurality of section sheets 18 do not needed to be folded at the same time, this additional opposing force can be compensated for.

[0033] In an alternative embodiment the adjacent leaf 20 comprises the rigid polymer substrate 32. Such a com-

position is particularly preferable in a security booklet 10 without the further leaf 30 in order to reduce its thickness. The rigid polymer substrate 32 preferably comprises a substantially opaque region within its thickness and separated from its first and second outer surfaces of the rigid polymer substrate 32 by first and second substantially transparent regions. The opaque region at least partially borders at least one third substantially transparent region. The first, second and third transparent regions form the at least one window 23 through the rigid polymer substrate 32.

[0034] The rigid polymer substrate 32 may be a synthetic polymer or thermoplastic polymer such as polycarbonate, polyester, polyethylene, polypropylene or polyvinyl chloride. Polycarbonate is particularly suitable due to its high durability, its ease of manufacture and the ease with which security features can be incorporated within it. The thickness of the rigid polymer substrate 32, which is the distance between its outer surfaces, is preferably at least approximately 150 μm and more preferably at least approximately 300 μm. In particular, the rigid polymer substrate 32 may be between approximately 300 μm and approximately 1000 μm thick, more preferably between approximately 600 μm and approximately 800 μm thick and, for example, may be approximately 300 μm or approximately 800 μm thick. The rigid polymer substrate 32 is substantially thicker and more rigid than the flexible polymer substrate 45. In particular, the rigid polymer substrate 32 is at least twice the thickness, and more preferably at least three times the thickness of the flexible polymer substrate 45.

[0035] The rigid polymer substrate 32 is generally manufactured by forming at least one insert, forming a plurality of plastic layers, including the at least one insert therein and laminating the plurality of plastic layers together in a laminator to form the second polymer substrate. The plurality of plastic layers includes opaque inner core layers to form the opaque region and outer transparent layers to form the first and second transparent regions. Each at least one insert is substantially transparent and is positioned in an aperture in the plurality of plastic layers, thereby forming the at least one window 23 after lamination. Suitable methods of manufacture are disclosed in US-B-6669813, US-A-2011/0226408 and WO-A-2015/104011.

[0036] In yet a further embodiment the adjacent leaf 20 comprises a paper or fibrous substrate having transparent regions therein to form the at least one window 23. The at least one window 23 is preferably formed in a similar manner to that disclosed in WO-A-0039391, in which an at least partially transparent elongate security thread is partially embedded in a fibrous substrate layer during the formation of the fibrous substrate layer (i.e. during the paper making process). The elongate security element is exposed at one or more regions, preferably during the paper making process, on each side of the fibrous substrate layer such that at least one transparent window 23 is formed. Alternatively, at least one aperture may be formed in the fibrous substrate layer during the paper making process or at least one aperture may be cut or punched in a fibrous substrate layer after its formation. An at least partially transparent polymer strip, patch or the like is applied to the fibrous substrate to cover the at least one aperture and form the at least one window 23. Other methods for forming transparent regions in paper substrates are described in EP-A-723501, EP-A-724519, WO-A-03054297 and EP-A-1398174.

[0037] Personal data 34, relating to the owner of the security booklet 10, is preferably located in the security booklet 10 such that the stitching 40 is visible when the personal data 34 is inspected. For example, the personal data 34 may be located on the first opposing surface 21 of the adjacent leaf 20 or the first outer section page 16 (i.e. the inspection page) such that the stitching 40 is visible next to it. However, preferably the personal data 34 is located on either the second opposing surface 22 of the adjacent leaf 20 or on the surface of the further leaf 30 adjacent to the second opposing surface 22. As a result, the stitching 40 is visible through the at least one window 23 when the personal data 34 is inspected. This makes it very easy for a document inspector to examine the integrity of the stitching 40 at the same time as reviewing the personal data 34. The document inspector can therefore easily identify tampering of the stitching.

[0038] In the embodiment of Figures 1 to 3 the adjacent leaf 20 is an observations page for receiving official observations from the issuing authority of the security booklet 10 and the further leaf 30 is a data page comprising personal data 34. In alternative embodiments the personal data 34 may be located on one or more of the first outer section page 16, the adjacent leaf 20 (on the first and/or second opposing surfaces 21, 22 thereof) and/or on the at least one further leaf 30. For example, an issuing authority may insert some personal data 34 on the observations page formed by the adjacent leaf 20. In a particular embodiment, which is shown in Figure 4, the adjacent leaf 20 may form the data page with personal data 34 located on the second opposing surface 22.

[0039] The personal data 34 may include, for example, the holder's portrait, text providing the holder's name, nationality and date of birth and a machine readable zone containing data for machine reading. The personal data 34 is known as "variable data" or "biographical data" and identifies the specific holder of the security booklet 10. The Seventh Edition (2015) of Document 9303 ("Machine Readable Travel Documents") issued by the International Civil Aviation Organization (ICAO) describes such biographical data. The personal data 34 may be applied in a suitable manner, such as by printing ink (UV inkjet printing is particularly suitable), laser marking (particularly of the rigid or flexible polymer substrates 32, 45), laser ablation (particularly of the at least one opacifying layer 46) and the like.

[0040] The stitching 40 may be arranged alternatively to the embodiment of Figures 1 to 3 in any suitable manner that enables the exposed stitching 40 to be viewed

through the at least one window 23 when the security booklet 10 is opened between the adjacent leaf 20 and the at least one further leaf 30. Figures 4 and 5 illustrate a further example of a security booklet 50 having a different arrangement of exposed stitching 40. The same reference numerals from Figures 1 to 3 have been used where appropriate in Figures 4 and 5.

[0041] The security booklet 50 comprises a book block 11 having a plurality of sheets 24, 51, 52, 53 forming a plurality of leaves 20, 51A, 51B, 52A, 52B, 53A, 53B, 54 on either side of the booklet fold line 13. In particular, the book block 11 comprises a section 14 comprising a plurality of section sheets 51, 52, 53 attached by stitching 40 along a stitch line 41, which is co-axial with the booklet fold line 13 and section fold line 19. Each section sheet 51, 52, 53 forms a leaf 51A, 51B, 52A, 52B, 53A, 53B on each side of the stitch line 41 and in Figures 4 and 5 have been designated "A" when on one side of the stitch line 41 and "B" when on the opposing side of the stitch line 41.

[0042] The book block 11 further comprises an adjacent sheet 24 next to the first and second outer section pages 16, 17 of the section 14. The adjacent sheet 24 comprises at least one window 23 located adjacent to the booklet fold line 13. In the illustrated embodiment a single window 23 extends along the entire length of the adjacent leaf 20.

[0043] Upon assembly of the book block 11, the stitching 40 extends from a first stitch side 55 at an "innermost" sheet of the book block 11 formed by the section sheet 53, through the section 14 and to a second stitch side 56 at an "outermost" sheet of the book block 11 formed by the adjacent sheet 24. In a typical security booklet the outermost sheet would be adhered to the cover 12 such that the second stitch side 56 is hidden. However, in this embodiment leaves 51A, 52A from different sheets 51, 52 form the end sheet or pages 35 and are adhered to the cover 12. As a result, both first and second stitch sides 55, 56 are exposed and visible when the security booklet 50 is opened in two different configurations. The first stitch side 55 is visible when the security booklet 50 is opened at the section sheet 53 and the second stitch side 56 is visible when the security booklet 50 is opened at the adjacent sheet 24. The security booklet 50 is asymmetrically arranged such that at least the adjacent sheet 24 is located entirely on one side of the centrefold (illustrated by booklet fold line 13 in Figure 5).

[0044] The adjacent sheet 24 therefore forms the adjacent leaf 20 and an inspection page 54 and the stitching 40 is exposed when the security booklet 50 is opened between the adjacent leaf 20 and the inspection page 54. Furthermore, when the adjacent leaf 20 is arranged to overlie the inspection page 54 the stitching is visible through the at least one window 23 as the at least one window 23 extends to at least the stitch line 41 and booklet fold line 13. Preferably the at least one window 23 extends from the adjacent leaf 20 at least partially over the stitch line 41 and into the inspection page 54 in order to improve the visibility of the stitching 40 in such a configuration.

[0045] The embodiment of Figures 4 and 5 provides additional security as both the first and second stitch sides 55, 56 can be examined for evidence of tampering by a counterfeiter. Furthermore, the personal data 34 in Figures 4 and 5 is located on the first opposing surface 21 of the adjacent leaf 20 and can be viewed adjacent to the stitching 40 by opening the security booklet 50 between the adjacent leaf 20 and inspection page 54. In a further embodiment the second opposing surface 22 of the adjacent leaf 20 may comprise personal data 34 thereon which can be inspected at the same time as the stitching 40 through the at least one window 23.

[0046] Various other embodiments fall within the scope of the present invention. The sheets 18, 24, 31, 35, 51, 52, 53, and particularly those forming the data page or have personal data 34 thereon, preferably comprise at least one security device or feature, including, for example, printed ink, laser markings, graphics, laser ablation, threads, strips, patches, foils, hot foils, laminates, embossings, electronic chips, antenna, watermarks, security fibres, security particles and the like. The sheets 18, 24, 31, 35, 51, 52, 53, need not be the same size and some of the leaves 15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B may comprise smaller tabs.

[0047] The at least one further leaf 30 may comprise at least one further window in registration with at least one window 23 of the adjacent leaf 20. Therefore, the stitching 40 can be viewed through the windows 23 of the at least one further leaf 30 and adjacent leaf 20 when the adjacent leaf 20 overlies the inspection page 54 and the at least one further leaf 30 overlies the adjacent leaf 20. The difficulty of counterfeiting is therefore increased as a counterfeiter would need to ensure that there is registration between the windows 23 of the at least one further leaf 30 and adjacent leaf 20 and the stitching 40.

[0048] Furthermore, the perimeter of the at least one window 23 may have a shape in registration with the stitching 40 such that any misalignment between them due to tampering can be detected by a document inspector. For example, the at least one window 23 may be substantially the same size as the stitching 40 such that only the stitching is visible in the at least one window 23 when the adjacent leaf 20 overlies to inspection page 54.

[0049] In an alternative embodiment to that of Figures 1 to 3, the stitching may pass through the adjacent leaf 20 and at least one further leaf 30 such that the stitching is visible on the outermost side of the at least one further leaf 30.

[0050] In an alternative embodiment to that of Figures 4 and 5, the innermost sheet of the book block 11, in this case formed by the section sheet 53, comprises at least one window adjacent to the first stitch side 55 of the stitching 40. For example, the at least one window may extend from the stitch line 41 into one or more of the leaves 53A, 53B and the leaves 53A, 53B may be considered to be the adjacent sheet 24 and inspection sheet 54 in accordance with the present invention. Thus the adjacent sheet

24 and inspection sheet 54 may be located at one or both of the innermost and outermost sheets. In this case the section sheet 53 may be formed in a similar manner to that described in respect of the adjacent sheet 24 above.

Claims

1. A security booklet (10, 50) comprising a plurality of leaves (15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B, 54) attached together by stitching (40), the plurality of leaves (15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B, 54) comprising an inspection page (16, 54) and an adjacent leaf (20), wherein the stitching (40) is exposed at the inspection page (16,54), **characterised in that** the adjacent leaf (20) comprises at least one window (23) in which at least part of the exposed stitching (40) is visible when the adjacent leaf (20) is arranged to overlie the inspection page (16, 54).

2. A security booklet (10) as claimed in claim 1 wherein the plurality of leaves (15, 20, 30) comprises a plurality of section leaves (15) and the inspection page (16) comprises an outer section page (16) of the plurality of section leaves (15).

3. A security booklet (10) as claimed in claim 2 comprising a plurality of section sheets (18) folded about a section fold line (19) to form the plurality of section leaves (15) and/or wherein each of the plurality of section leaves (15) comprises an inner edge, the stitching (40) being located through each section leaf (15) and separated from the inner edge.

4. A security booklet (50) as claimed in claim 1 comprising a cover (12) and a plurality of sheets (24, 51, 52, 53), the plurality of sheets (24, 51, 52, 53) comprising the plurality of leaves (20, 51A, 51B, 52A, 52B, 53A, 53B, 54), wherein:

   the plurality of sheets (24, 51, 52, 53) are attached to one another by stitching (40) along a stitch line (41) to form innermost and outermost sheets (53, 24), the innermost and/or outermost sheet (53, 24) comprising the adjacent and inspection leaves (20, 54) and the stitching (40) being exposed at the innermost and outermost section sheets (53, 24);
   the at least one window (23) extends at least to the stitch line (41); and
   the plurality of sheets (24, 51, 52, 53) comprises at least one end page (35) attached to the cover (12), the sheet(s) (51, 52) forming the at least one end page (35) being selected such that the plurality of sheets (24, 51, 52, 53) can be opened in two different configurations to reveal the stitching (40) at the innermost and outermost sheets (53, 24) and such that at least part of the exposed stitching (40) is visible in the at least one window (23) of the adjacent leaf (20) when the adjacent leaf (20) is arranged to overlie the inspection page (54).

5. A security booklet (10, 50) as claimed in any one of the preceding claims comprising at least one further leaf (30) located on the opposing side of the adjacent leaf (20) to the inspection page (16, 54).

6. A security booklet (10, 50) as claimed in any one of the preceding claims wherein the adjacent leaf (20) comprises a polymer substrate (32, 45), at least one opaque region and at least one transparent region, the at least one transparent region forming the at least one window (23).

7. A security booklet (10, 50) as claimed in claim 6 wherein:

   the at least one opaque region is formed by at least one opacifying layer (46) located on at least one surface of a flexible polymer substrate (45) and the at least one transparent region is formed by the at least one opacifying layer (46) being omitted in at least one localised region; or
   the adjacent leaf (20) comprises a rigid polymer substrate (32), the rigid polymer substrate (32) comprising first and second outer surfaces, a first and/or second substantially transparent region adjacent the first and/or second outer surface, a substantially opaque region separated from the first and/or second outer surface by the first and/or second substantially transparent region and at least one third substantially transparent region at least partially surrounded by the opaque region, the at least one third substantially transparent region forming the at least one window (23).

8. A security booklet (10, 50) as claimed in any one of claims 1 to 5 wherein the adjacent leaf (20) comprises a fibrous substrate and an elongate impermeable strip partially embedded in the fibrous substrate and being exposed in at least one region, the at least one exposed region being at least partially transparent and forming the at least one window (23).

9. A security booklet (10, 50) as claimed in any one of the preceding claims further comprising personal data (34) located therein such that the personal data (34) and stitching (40) are simultaneously visible in reflect light and/or wherein the personal data (34) is located such that the personal data (34) is visible in reflect light simultaneously with at least part of the exposed stitching (40) in the at least one window (23) when the adjacent leaf (20) is arranged to overlie the inspection page (16).

10. A security booklet (10, 50) as claimed in claim 9 wherein the personal data (34) is at least partially located on the adjacent leaf (20) and/or on the at least one further leaf (30) next to the adjacent leaf (20).

11. A method of manufacturing a security booklet (10, 50) comprising the steps of:

forming an adjacent sheet (24) comprising at least one window (23);
forming a plurality of section sheets (18, 51, 52, 53); and
stitching the adjacent sheet (24) and plurality of section sheets (18, 51, 52, 53) together such that the stitching (40) is exposed at an inspection page (16, 54) and such that at least part of the exposed stitching (40) is visible in the at least one window (23) when the adjacent sheet (24) is arranged to overlie the inspection page (16, 54).

12. A method as claimed in claim 11 wherein a further sheet (31) and/or end sheet (35) are stitched to the outermost sides of the adjacent sheet (20) and plurality of section sheets (18, 51, 52, 53).

13. A security booklet (10) comprising a book block (11) the book block (11) comprising a plurality of sheets (18, 24, 31, 35) folded about a fold line (13, 19) to form a plurality of leaves (15, 20, 30), the plurality of sheets (18, 24, 31, 35) being attached together by stitching (40) along a stitch line (41), wherein the fold line (13, 19) and stitch line (41) are separated from one another and the stitching (40) is through the each of the plurality of sheets (18,24,31,35).

14. A security booklet (10) as claimed in claim 13 wherein:

the plurality of sheets (18, 24, 31, 35) comprises a plurality of section sheets (18) and an adjacent sheet (24) and/or at least one further sheet (31) attached to the plurality of section sheets (18) by the stitching (40); and/or
the outermost sheet of the book block (11) forms first and second outer pages (16, 17), the stitching (40) being exposed at the first and second outer pages (16, 17).

15. A method of manufacturing a security booklet (10) comprising the steps of:

folding a plurality of sheets (18, 24, 31, 35) about a fold line (13, 19) to form a plurality of leaves (15, 20, 30); and
attaching the plurality of sheets (18, 24, 31, 35) together by stitching (40) through the each of the plurality of sheets (18, 24, 31, 35) along a stitch line (41), the fold line and stitch line (13, 19, 41) being offset from one another.

Patentansprüche

1. Sicherheitsbuch (10, 50) mit einer Vielzahl von Blättern (15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B, 54), die durch eine Naht (40) miteinander befestigt sind, wobei die Vielzahl von Blättern (15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B, 54) eine Prüfseite (16, 54) und ein benachbartes Blatt (20) umfasst, wobei die Naht (40) auf der Prüfseite (16, 54) exponiert ist, **dadurch gekennzeichnet, dass** das benachbarte Blatt (20) mindestens ein Fenster (23) aufweist, in dem mindestens ein Teil der exponierten Naht (40) sichtbar ist, wenn das benachbarte Blatt (20) so angeordnet ist, dass es die Prüfseite (16, 54) überlagert.

2. Sicherheitsbuch (10) nach Anspruch 1, wobei die Vielzahl von Blättern (15, 20, 30) eine Vielzahl von Abschnittsblättern (15) umfasst und die Prüfseite (16) eine äußere Abschnittsseite (16) der Vielzahl von Abschnittsblättern (15) umfasst.

3. Sicherheitsbuch (10) nach Anspruch 2 mit einer Vielzahl von Abschnittsbögen (18), die an einer Abschnittsfaltlinie (19) gefaltet sind, um die Vielzahl von Abschnittsblättern (15) zu bilden und/oder wobei jedes von der Vielzahl von Abschnittsblättern (15) einen Innenrand aufweist und die Naht (40) durch jedes Abschnittsblatt (15) und getrennt von dem Innenrand verläuft.

4. Sicherheitsbuch (50) nach Anspruch 1 mit einem Einband (12) und einer Vielzahl von Bögen (24, 51, 52, 53), die die Vielzahl von Blättern (20, 51A, 51B, 52A, 52B, 53A, 53B, 54) umfasst, wobei:

die Vielzahl von Bögen (24, 51, 52, 53) durch eine Naht (40) entlang einer Nahtlinie (41) miteinander befestigt sind, um einen innersten und äußersten Bogen (53, 24) zu bilden, wobei der innerste und/oder äußerste Bogen (53, 24) das benachbarte Blatt und das Prüfungsblatt (20, 54) aufweisen und die Naht (40) auf dem innersten und äußersten Abschnittsbogen (53, 24) exponiert ist,
das mindestens eine Fenster (23) sich mindestens bis zu der Nahtlinie (41) erstreckt und
die Vielzahl von Bögen (24, 51, 52, 53) mindestens ein Vorsatz (35) aufweist, das an dem Einband (12) befestigt ist, wobei der Bogen/die Bögen (51, 52), der/die das mindestens eine Vorsatz (35) bildet/bilden, derart ausgewählt wird/werden, dass die Vielzahl von Bögen (24, 51, 52, 53) in zwei verschiedenen Konfiguratio-

nen geöffnet werden kann, um die Naht (40) an dem innersten und äußersten Abschnittsbogen (53, 24) zu zeigen und mindestens ein Teil der exponierten Naht (40) in dem mindestens einen Fenster (23) des benachbarten Blatts (20) sichtbar ist, wenn das benachbarte Blatt (20) so angeordnet ist, dass es die Prüfseite (54) überlagert.

5. Sicherheitsbuch (10, 50) nach einem der vorangehenden Ansprüche mit mindestens einem weiteren Blatt (30), das sich auf derjenigen Seite des benachbarten Blatts (20) befindet, die der Prüfseite (16, 54) gegenüberliegt.

6. Sicherheitsbuch (10, 50) nach einem der vorangehenden Ansprüche, wobei das benachbarte Blatt (20) ein Polymersubstrat (32, 45), mindestens einen undurchsichtigen Bereich und mindestens einen transparenten Bereich aufweist, wobei der mindestens eine transparente Bereich das mindestens eine Fenster (23) bildet.

7. Sicherheitsbuch (10, 50) nach Anspruch 6, wobei:

der mindestens eine undurchsichtige Bereich durch mindestens eine getrübte Schicht (46), die sich auf mindestens einer Oberfläche eines flexiblen Polymersubstrats (45) befindet, gebildet ist, und der mindestens eine transparente Bereich gebildet ist, indem die mindestens eine getrübte Schicht (46) in mindestens einem eingegrenzten Bereich weggelassen ist, oder
das benachbarte Blatt (20) ein starres Polymersubstrat (32) umfasst, das eine erste und zweite Außenfläche, einen ersten und/oder zweiten im Wesentlichen transparenten Bereich, der zu der ersten und/oder zweiten Außenfläche benachbart ist, einen im Wesentlichen undurchsichtigen Bereich, der von der ersten und/oder zweiten Außenfläche durch den ersten und/oder zweiten im Wesentlichen transparenten Bereich getrennt ist, und mindestens einen dritten im Wesentlichen transparenten Bereich, der mindestens teilweise von dem undurchsichtigen Bereich umgeben ist und das mindestens eine Fenster (23) bildet, aufweist.

8. Sicherheitsbuch (10, 50) nach einem der Ansprüche 1 bis 5, wobei das benachbarte Blatt (20) ein faseriges Substrat und einen länglichen, undurchlässigen Streifen, der teilweise in das faserige Substrat eingebettet ist und in mindestens einem Bereich exponiert ist, aufweist, wobei der mindestens eine exponierte Bereich mindestens teilweise transparent ist und das mindestens eine Fenster (23) bildet.

9. Sicherheitsbuch (10, 50) nach einem der vorangehenden Ansprüche, ferner mit derart darin befindlichen personenbezogenen Daten (34), dass die personenbezogenen Daten (34) und die Naht (40) bei reflektiertem Licht gleichzeitig sichtbar sind und/oder wobei die personenbezogenen Daten (34) derart gelegen sind, dass die personenbezogenen Daten (34) bei reflektiertem Licht gleichzeitig mit mindestens einem Teil der exponierten Naht (40) in dem mindestens einen Fenster (23) sichtbar sind, wenn das benachbarte Blatt (20) so angeordnet ist, dass es die Prüfseite (16) überlagert.

10. Sicherheitsbuch (10, 50) nach Anspruch 9, wobei sich die personenbezogenen Daten (34) mindestens teilweise auf dem benachbarten Blatt (20) und/oder auf dem mindestens einen weiteren Blatt (30) neben dem benachbarten Blatt (20) befinden.

11. Verfahren zur Herstellung eines Sicherheitsbuchs (10, 50) mit den Schritten:

Bilden eines benachbarten Bogens (24) mit mindestens einem Fenster (23),
Bilden einer Vielzahl von Bereichsbögen (18, 51, 52, 53) und
derartiges Zusammenheften des benachbarten Bogens (24) und der Vielzahl von Bereichsbögen (18, 51, 52, 53), dass die Naht (40) auf einer Prüfseite (16, 54) exponiert ist und mindestens ein Teil der exponierten Naht (40) in dem mindestens einen Fenster (23) sichtbar ist, wenn der benachbarte Bogen (24) so angeordnet ist, dass er die Prüfseite (16, 54) überlagert.

12. Verfahren nach Anspruch 11, wobei ein weiterer Bogen (31) und/oder Vorsatz (35) mit den äußersten Seiten des benachbarten Bogens (20) und der Vielzahl von Bereichsbögen (18, 51, 52, 53) zusammengeheftet werden.

13. Sicherheitsbuch (10) mit einem Buchblock (11), wobei der Buchblock (11) eine Vielzahl von Bögen (18, 24, 31, 35), die an einer Faltlinie (13, 19) gefaltet sind, um eine Vielzahl von Blätter (15, 20, 30) zu bilden, umfasst, wobei die Vielzahl von Bögen (18, 24, 31, 35) durch ein Naht (40) entlang der Nahtlinie (41) miteinander befestigt sind, wobei die Faltlinie (13, 19) und die Nahtlinie (41) voneinander getrennt sind und die Naht (40) durch jeden der Vielzahl von Bögen (18, 24, 31, 35) geht.

14. Sicherheitsbuch (10) nach Anspruch 13, wobei:

die Vielzahl von Bögen (18, 24, 31, 35) eine Vielzahl von Bereichsbögen (18) und einen benachbarten Bogen (24) und/oder mindestens einen weiteren Bogen (31), der mit der Naht (40) an die Vielzahl von Bereichsbögen (18) befestigt

ist, aufweist und/oder
der äußerste Bogen des Buchblocks (11) eine erste und zweite Außenseite (16, 17) bildet, wobei die Naht (40) auf der ersten und zweiten Außenseite (16, 17) exponiert ist.

15. Verfahren zur Herstellung eines Sicherheitsbuchs (10) mit den Schritten:

Falten einer Vielzahl von Bögen (18, 24, 31, 35) an einer Faltlinie (13, 19), um eine Vielzahl von Blättern (15, 20, 30) zu bilden, und
Miteinanderbefestigen der Vielzahl von Bögen (18, 24, 31, 35) durch die durch jeden der Vielzahl von Bögen (18, 24, 31, 35) entlang der Nahtlinie (41) laufenden Naht (40), wobei die Faltlinie und die Nahtlinie (13, 19, 41) zueinander versetzt sind.

Revendications

1. Livret de sécurité (10, 50) comprenant une pluralité de feuillets (15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B, 54) attachés ensemble par une couture (40), la pluralité de feuillets (15, 20, 30, 51A, 51B, 52A, 52B, 53A, 53B, 54) comprenant une page d'inspection (16, 54) et un feuillet adjacent (20), dans lequel la couture (40) est exposée au niveau de la page d'inspection (16, 54),
caractérisé en ce que
le feuillet adjacent (20) comprend au moins une fenêtre (23) dans laquelle au moins une partie des coutures exposées (40) est visible lorsque le feuillet adjacent (20) est disposé de manière à recouvrir la page d'inspection (16, 54).

2. Livret de sécurité (10) tel que revendiqué dans la revendication 1, dans lequel la pluralité de feuillets (15, 20, 30) comprend une pluralité de feuillets de section (15) et la page d'inspection (16) comprend une page de section extérieure (16) de la pluralité de feuillets de section (15).

3. Livret de sécurité (10) tel que revendiqué dans la revendication 2, comprenant une pluralité de feuilles de section (18) pliées autour d'une ligne de pliage de section (19) pour former la pluralité de feuillets de section (15) et/ou dans lequel chacune de la pluralité de feuillets de section (15) comprend un bord intérieur, la couture (40) étant située à travers chaque feuillet de section (15) et séparée du bord intérieur.

4. Livret de sécurité (50) tel que revendiqué dans la revendication 1 comprenant une couverture (12) et une pluralité de feuilles (24, 51, 52, 53), la pluralité de feuilles (24, 51, 52, 53) comprenant la pluralité de feuillets (20, 51A, 51B, 52A, 52B, 53A, 53B, 54), dans lequel :

la pluralité de feuilles (24, 51, 52, 53) sont attachées les unes aux autres par couture (40) le long d'une ligne de couture (41) pour former les feuilles les plus intérieures et les plus extérieures (53, 24), la feuille la plus intérieure et/ou la plus extérieure (53, 24) comprenant les feuillets adjacents et d'inspection (20, 54) et la couture (40) étant exposée au niveau des feuilles de section les plus intérieures et les plus extérieures (53, 24) ;
ladite au moins une fenêtre (23) s'étend au moins jusqu'à la ligne de couture (41) ; et
la pluralité de feuilles (24, 51, 52, 53) comprend au moins une page de fin (35) attachée à la couverture (12), la ou les feuilles (51, 52) formant ladite au moins une page de fin (35) étant sélectionnées de telle sorte que la pluralité de feuilles (24, 51, 52, 53) peut être ouverte selon deux configurations différentes pour révéler les coutures (40) des feuilles les plus intérieures et les plus extérieures (53, 24) et de telle sorte qu'au moins une partie des coutures exposées (40) soit visible dans ladite au moins une fenêtre (23) du feuillet adjacent (20) lorsque le feuillet adjacent (20) est disposé de manière à recouvrir la page d'inspection (54).

5. Livret de sécurité (10, 50) tel que revendiqué dans l'une quelconque des revendications précédentes comprenant au moins un autre feuillet (30) situé sur le côté opposé du feuillet adjacent (20) à la page d'inspection (16, 54).

6. Livret de sécurité (10, 50) tel que revendiqué dans l'une quelconque des revendications précédentes, dans lequel le feuillet adjacent (20) comprend un substrat polymère (32, 45), au moins une région opaque et au moins une région transparente, ladite au moins une région transparente formant ladite au moins une fenêtre (23).

7. Livret de sécurité (10, 50) tel que revendiqué dans la revendication 6, dans lequel :

ladite au moins une région opaque est formée par au moins une couche opacifiante (46) située sur au moins une surface d'un substrat polymère flexible (45) et ladite au moins une région transparente est formée par ladite au moins une couche opacifiante (46) étant omise dans au moins une région localisée ; ou
le feuillet adjacent (20) comprend un substrat polymère rigide (32), le substrat polymère rigide (32) comprenant des première et deuxième surfaces extérieures, une première et/ou une

deuxième région sensiblement transparente adjacente à la première et/ou à la deuxième surface extérieure, une région sensiblement opaque séparée de la première et/ou de la deuxième surface extérieure par la première et/ou la deuxième région sensiblement transparente et au moins une troisième région sensiblement transparente au moins partiellement entourée par la région opaque, ladite au moins une troisième région sensiblement transparente formant ladite au moins une fenêtre (23).

8. Livret de sécurité (10, 50) tel que revendiqué dans l'une quelconque des revendications 1 à 5, dans lequel le feuillet adjacent (20) comprend un substrat fibreux et une bande imperméable allongée partiellement encastrée dans le substrat fibreux et étant exposée dans au moins une région, ladite au moins une région exposée étant au moins partiellement transparente et formant ladite au moins une fenêtre (23).

9. Livret de sécurité (10, 50) tel que revendiqué dans l'une quelconque des revendications précédentes, comprenant en outre des données personnelles (34) qui y sont situées de telle sorte que les données personnelles (34) et les coutures (40) sont simultanément visibles en lumière réfléchie et/ou dans lequel les données personnelles (34) sont situées de telle sorte que les données personnelles (34) sont visibles en lumière réfléchie simultanément avec au moins une partie des coutures exposées (40) dans ladite au moins une fenêtre (23) lorsque le feuillet adjacente (20) est agencée pour recouvrir la page d'inspection (16).

10. Livret de sécurité (10, 50) tel que revendiqué dans la revendication 9, dans lequel les données personnelles (34) sont au moins partiellement situées sur le feuillet adjacent (20) et/ou sur ledit au moins un autre feuillet (30) à côté du feuillet adjacent (20).

11. Procédé de fabrication d'un livret de sécurité (10, 50) comprenant les étapes suivantes consistant à :

former une feuille adjacente (24) comprenant au moins une fenêtre (23) ;
former une pluralité de feuilles de section (18, 51, 52, 53) ; et
coudre la feuille adjacente (24) et la pluralité de feuilles de section (18, 51, 52, 53) ensemble de telle sorte que la couture (40) soit exposée au niveau d'une page d'inspection (16, 54) et de telle sorte qu'au moins une partie de la couture exposée (40) soit visible dans ladite au moins une fenêtre (23) lorsque la feuille adjacente (24) est disposée pour recouvrir la page d'inspection (16, 54).

12. Procédé tel que revendiqué dans la revendication 11, dans lequel une autre feuille (31) et/ou une feuille de fin (35) sont cousues sur les côtés les plus extérieurs de la feuille adjacente (20) et la pluralité de feuilles de section (18, 51, 52, 53).

13. Livret de sécurité (10) comprenant un bloc de livre (11), le bloc de livre (11) comprenant une pluralité de feuilles (18, 24, 31, 35) pliées autour d'une ligne de pliage (13, 19) pour former une pluralité de feuillets (15, 20, 30), la pluralité de feuilles (18, 24, 31, 35) étant attachés ensemble par couture (40) le long d'une ligne de couture (41), dans lequel la ligne de pliage (13, 19) et la ligne de couture (41) sont séparées l'une de l'autre et la couture (40) se fait à travers chacune des feuilles de la pluralité de feuilles (18, 24, 31, 35).

14. Livret de sécurité (10) tel que revendiqué dans la revendication 13, dans lequel :

la pluralité de feuilles (18, 24, 31, 35) comprend une pluralité de feuilles de section (18) et une feuille adjacente (24) et/ou au moins une autre feuille (31) attachée à la pluralité de feuilles de section (18) par la couture (40) ; et/ou
la feuille la plus extérieure du bloc de livre (11) forme les première et deuxième pages extérieures (16, 17), la couture (40) étant exposée aux première et deuxième pages extérieures (16, 17).

15. Procédé de fabrication d'un livret de sécurité (10) comprenant les étapes suivantes consistant à :

plier une pluralité de feuilles (18, 24, 31, 35) autour d'une ligne de pliage (13, 19) pour former une pluralité de feuillets (15, 20, 30)
attacher la pluralité de feuilles (18, 24, 31, 35) ensemble par couture (40) à travers chacune de la pluralité de feuilles (18, 24, 31, 35) le long d'une ligne de couture (41), la ligne de pliage et la ligne de couture (13, 19, 41) étant décalées l'une par rapport à l'autre.

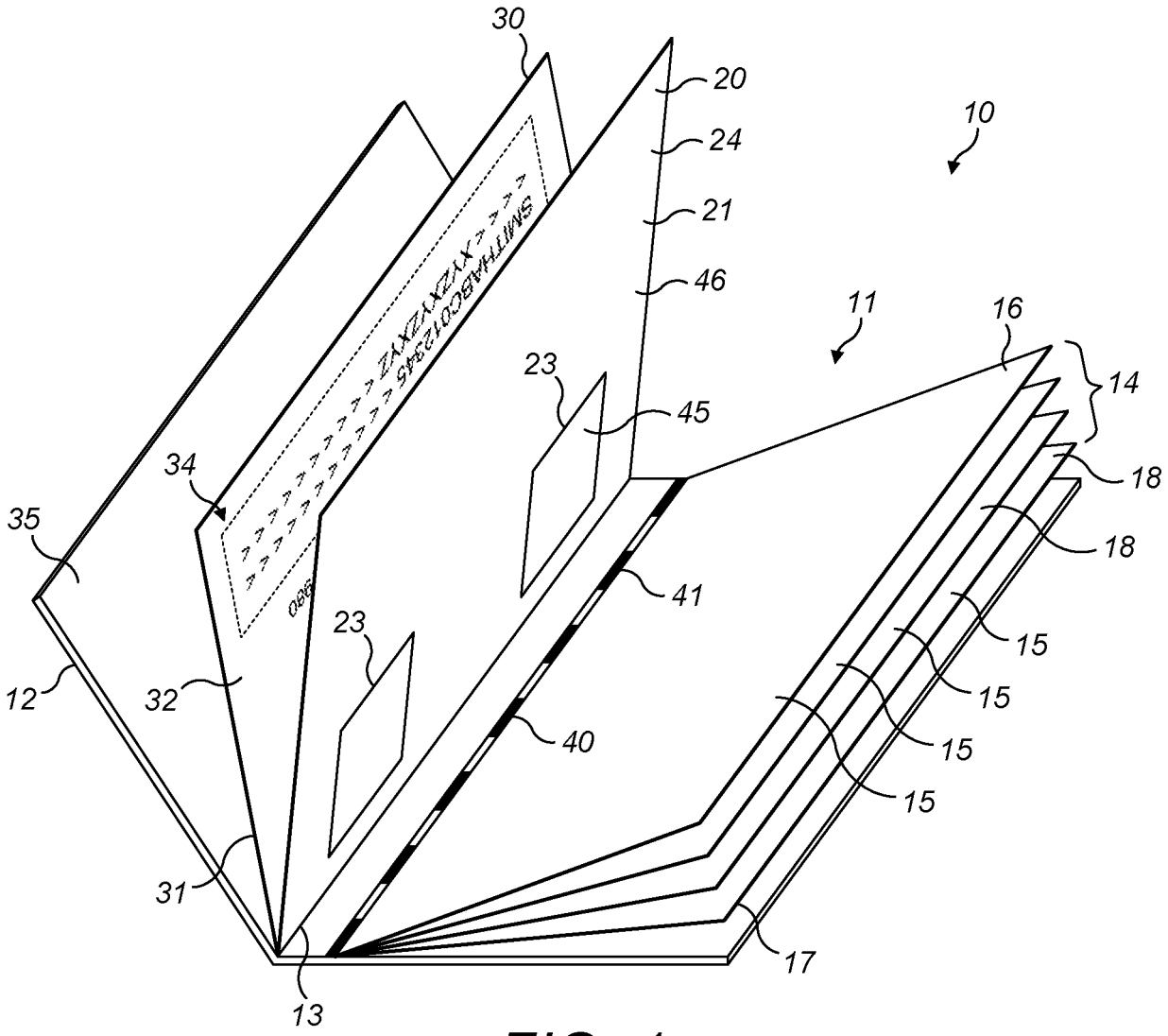
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FIG. 1

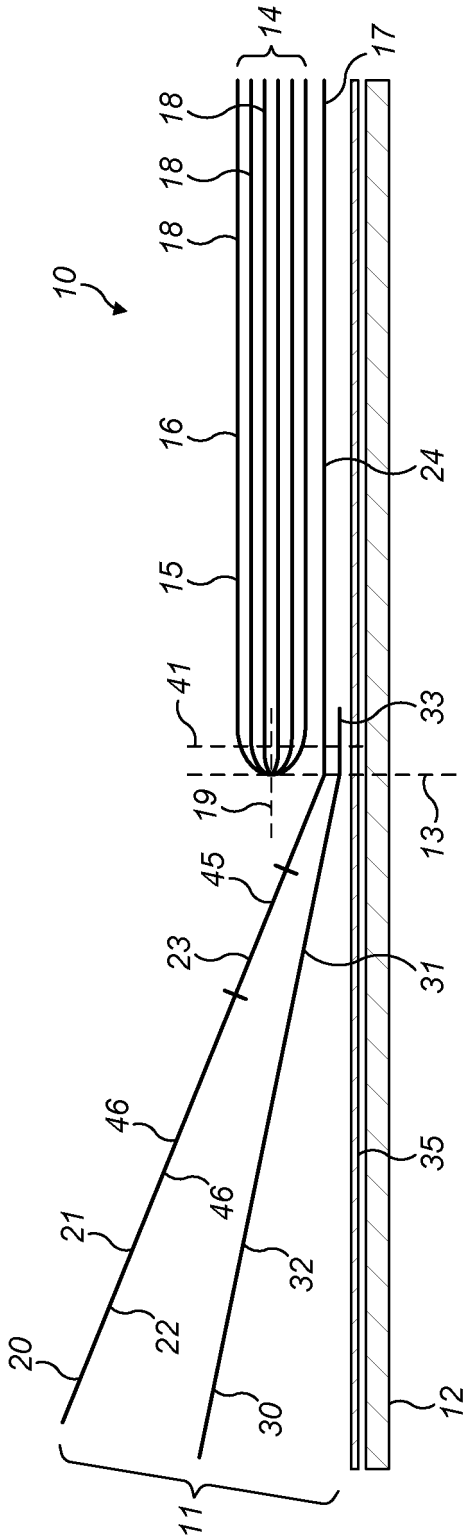
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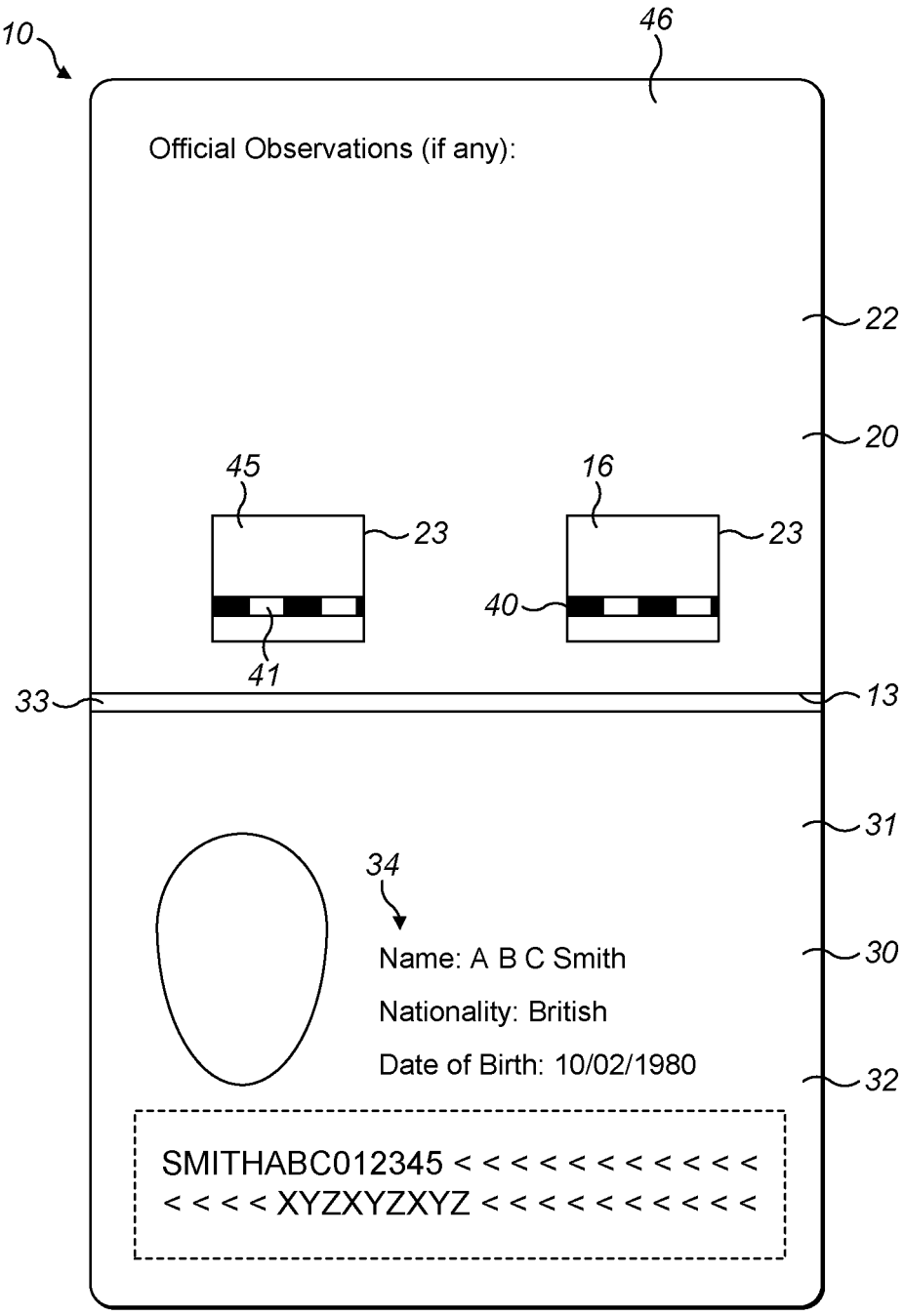
FIG. 2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Official Observations (if any):
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Name: A B C Smith
Nationality: British
Date of Birth: 10/02/1980
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SMITHABC012345 < < < < < < < < < < < <
< < < < XYZXYZXYZ < < < < < < < < < < <

FIG. 3

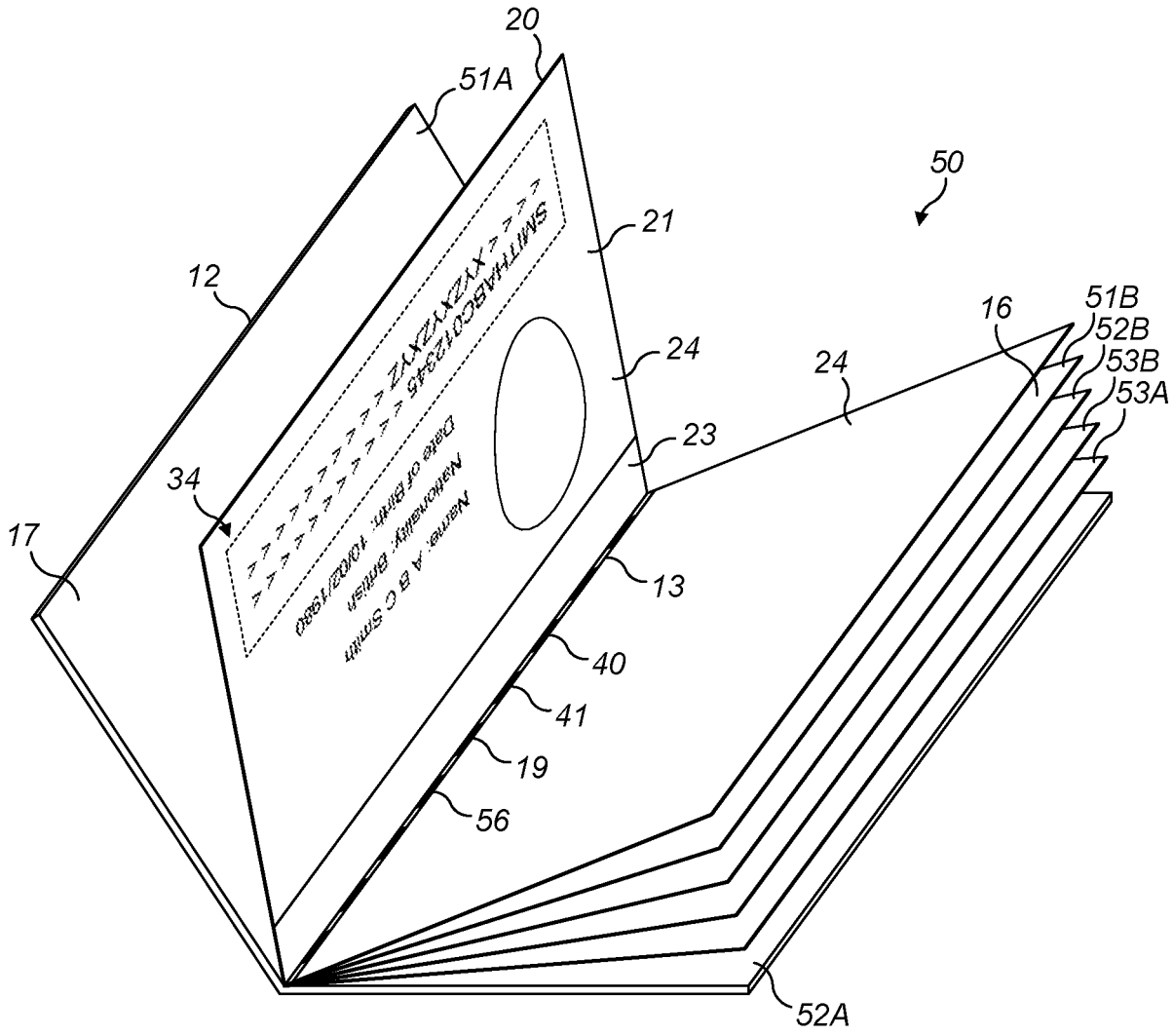
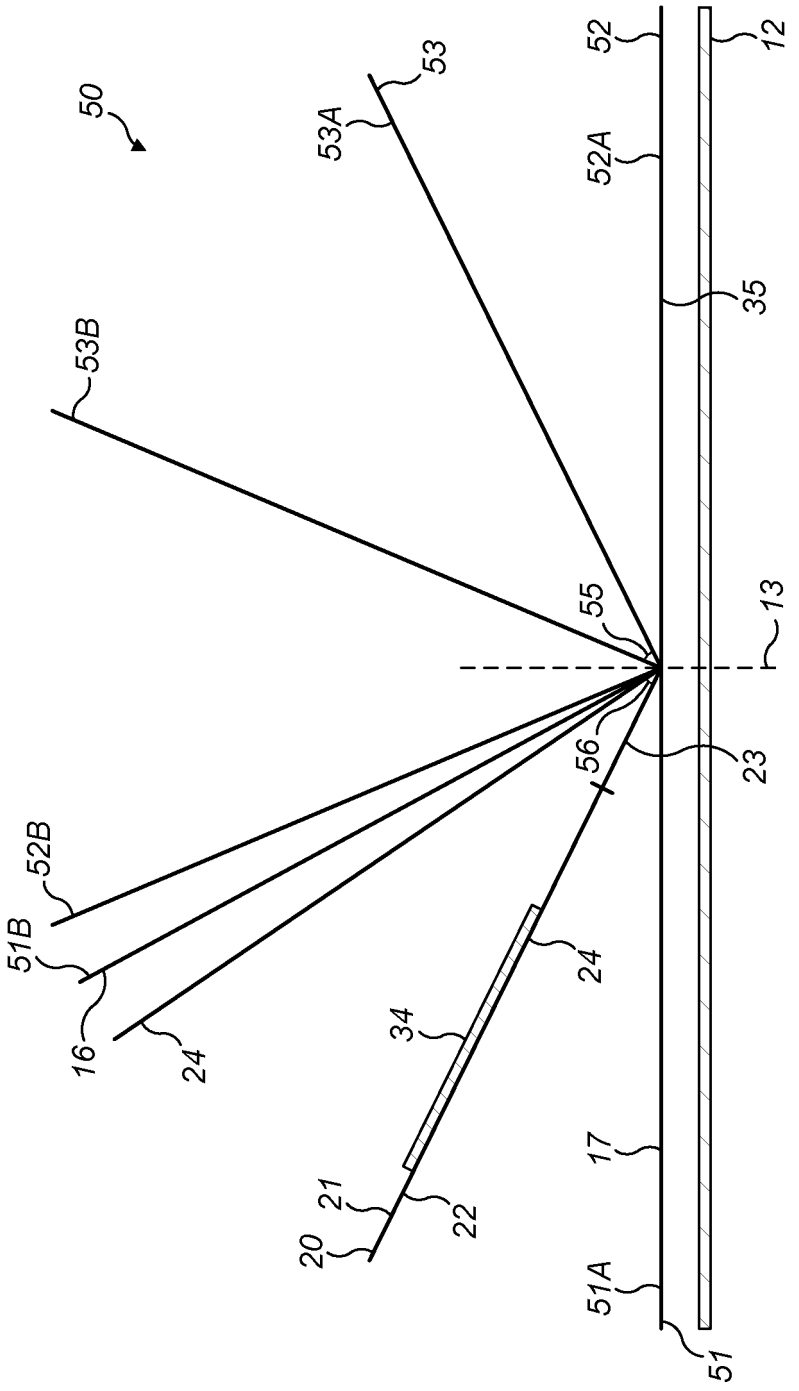


FIG. 4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52A
53B
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52B
51B
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51A
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FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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