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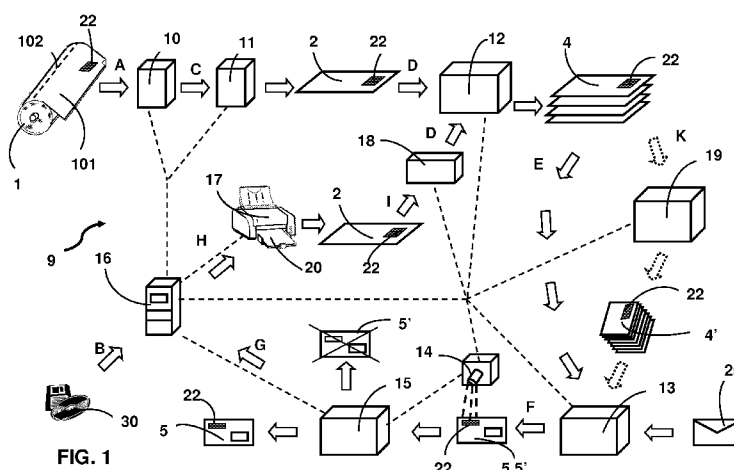
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(54) Title: A METHOD AND A SYSTEM FOR AUTOMATIC STUFFING OF PRINTED DOCUMENTS



(57) Abstract: The invention relates to a method and a system for automatic stuffing of printed documents (2) into corresponding envelopes (5), the documents being sequentially printed on a web (101) of a typographic reel (1), the first page of each document bearing an identifying code (22). The system comprises: an unreeling and separating device (10, 11) of the web; a storing device (12); a stuffing device (13); an envelope-verifying device (14); a reject device (15) for non-conforming envelopes; processing means (16) for detecting a code of a document relating to a non-conforming envelope; printing means (17) for printing the document on single sheets (20); and single sheet supply means for printing the document on single sheets; and feeding means (18) of single sheets activatable for supplying the storing device with the printed sheets via the printing means. The method includes printing the document on single sheets; and the successive use of single printed sheets by means of the printing means, so as to obtain a conforming envelope for each relative document.



A METHOD AND A SYSTEM FOR AUTOMATIC STUFFING OF PRINTED DOCUMENTS

FIELD OF INVENTION

- 5 The present invention relates to automatic stuffing of printed documents for a successive dispatch of the corresponding envelopes by mail or courier. In particular, the invention relates to a method and a system for automatically stuffing the printed documents which can comprise one or more sheets of printable material.

10 DESCRIPTION OF THE PRIOR ART

- Various types of companies, in particular banks, post offices, telephone companies and public corporations, have the need to send, to a large number of different destinations, a considerable number of printed paper documents such as, for example, bills, invoices, bank statements, advertising letters and the like. These documents can include a series of specific information for each addressee and often contain reserved information that must be treated according to existing standards relating to privacy.

- Many of the above-mentioned businesses use external companies, known in the sector as "mailing services", which can act on the part of third parties to perform services including printing, folding, stuffing and dispatch of the paper documents. For this purpose, the mailing service companies use special web (wound continuous paper sheet) printing systems for printing on web typographic reels of large dimensions, and automatic stuffing systems. The printing systems are able to process a file, generally in a graphic format, supplied by their customer company and comprising a series of encoded data codifying the data to be reproduced in a plurality of printed documents. The printing systems include: a device for unreeling the web from a fresh typographical reel starting from a first external end of the sheet; printing means, typically digital, for printing a portion of the sheet while it is being unreeled; and a winding device for winding, starting from the first end, the printed portion of the web. In this way a first printed typographical reel is obtained on which the documents of the plurality of documents are sequentially printed, generally organizing them on the basis of a dispatch parameter (for example a code relating to a postal address of the

receiving party). Each document of the plurality of documents is paginated at least on a page and at least the first page of each document includes an identifying code of the relative document.

5 The printed typographical reel is then processed by the automatic stuffing system. For this purpose it has to be manually loaded in an unreeling device included in the system which partially unwinds the relative web.

10 Thereafter, every page relative to each single printed document on an unwinding portion of web is automatically separated by a separating device, included in the system and arranged downstream of the unwinding device, so as to obtain at least a relative single printed sheet for each single printed document. Each single sheet bears, printed on a relative side thereof, a page of the respective document. The single sheets are automatically fed to a storing device, which is a part of the system and is arranged downstream of the sub-dividing device. The storing device, by reading the identifying code printed on the first page of each document, is able to determine
15 the number of sheets which make up the document and consequently automatically forms a document unit for each document, stacking the relative single sheets in such a way that the relative identifying code printed on the relative first page of each document is visible.

20 The above-mentioned stuffing system can comprise one or more devices, known as sheet-placing devices, for inserting in each document unit one or more insertions that can be constituted by single sheets and/or planar articles. The stuffing system further comprises: a stuffing device, arranged downstream of the storing device, for automatically stuffing the formed document units (flat or folded) and obtain corresponding envelopes in which the relative identifying code is visible from outside.

25 Typically the document units are folded so as to be stuffed in envelopes of a smaller format than that of the single sheets that make it up. In this case, the system includes a special folding device, also known as the sheet-folder, arranged upstream of the storing device or (if present) the sheet-placing devices and in any case downstream of the stuffing device. Given the speed at which the stuffing system operates, many non-conformities can occur, for example the web might tear, the single sheets might get
30 jammed. In such cases a document unit is not obtained for each document of the plurality of documents, and it can even happen that non-conforming units are formed, for example where an identifying code is not visible.

These systems comprise: a verifying device, arranged in such a way as to verify the conformity of each unit obtained by the stuffing device and automatically read the identifying code relative to each conforming unit; a reject device, connected to the verifying device and arranged in such a way as to be activated so as to automatically
5 reject the units judged non-conforming by the verifying device; and processing means connected to the verifying device for automatically and together processing the file and the identifying codes read by the verifying device.

Once all the single sheets obtained from the first typographic reel have been processed, the processing means generate a further file, a printing file, which encodes
10 only the data connected to the documents of the plurality of documents relative to the identifying codes not read by the verifying device. The printing file is loaded into the printing system on the web so as to obtain a second printed reel, known as the printing reel, in which only the documents of the plurality of documents relative to the identifying codes not read by the verifying device.

15 The second printed reel must be loaded in the unwinding device and processed by the automatic stuffing system in the same way as the first printed reel. It follows the further process non-conformities can be verified which will give rise to a further printing file and a further typographic printing reel to be processed in turn using the automatic stuffing system, and so on up to when a conforming envelope is obtained
20 for each document of the plurality of documents, initially printed on the first reel. Therefore, in order to stuff the whole plurality of documents numerous reiterations of the production cycle can be necessary, involving a respective number of reels to be printed.

25 The stuffing process and automatic stuffing systems of known type exhibit numerous disadvantages. In particular, when the documents to be dispatched contain sensitive data, the printing on the web requires an appropriate management of the treated data which enables keeping a trace on all the prints launched and the print reels obtained and which takes account of the type of sensitive data and the existing norms and standards on the subject of privacy.

30 Further, in order to contain the costs and maximise the production capacity, mailing service companies have to avoid downtimes on the automatic stuffing system. Consequently, once a first printed reel relating to a first client has been processed by the stuffing system, a second printed reel is not waited for, but a printed reel relative to

a second client is processed. This can involve a format change or a change of type of the inserts of the document unit and the type of envelope with consequent set-up times of the stuffing system. Each time a successive printed reel is to be processed, relating to the first client, it is newly necessary to reset the stuffing system with the same relative setting as the first printed reel of the first client. This involves a considerable increase in times and costs of working. Further, the envelopes obtained by the second and following print reels are in any case produced in different times with respect to the envelopes obtained by the first printed reel. Consequently a delay can ensue in the delivery of the relative documents which can cause payment of a penalty should the mailing service not respect the dispatch times set down in customer contracts.

In addition to the above, when the number of documents to be printed is small, as happens after various iterations of the production cycle, it becomes particularly uneconomical to print a small number of pages on a web reel.

Further, the envelopes obtained following insertion of the print reel can be relative to different destinations; for example they can be relative to different postcodes, or can be relative to the same province or region. In particular the conforming envelopes obtained from several print reels are not ordered according to the same postcode sequence as the first print reel. In this case, the dispatch costs of the envelopes are greater, with respect to those applicable to the envelopes having the same postcode sequence of the first reel, as the subject carrying out the dispatching will have to proceed to a preliminary sorting on the basis of destination or postcode.

SUMMARY OF THE INVENTION

The main aim of the present invention consists in reducing and/or eliminating the above-cited drawbacks relating to the systems and methods of automatic stuffing of printed documents of known type.

A further aim of the invention is to provide a method and a system for automatic stuffing of printed documents with a high production capacity and having a low production cost for the envelopes.

These aims are obtained with a method and a system for automatic stuffing according to the content of the independent claims.

The method and the automatic stuffing system of the invention enable printing a single reel for a determined client and preventing printing of the print files on corresponding fresh typographic reels, preventing the relative manual loading of fresh reels in the web printing system and the manual loading in the automatic stuffing system of the printing reels. Further, the printing on the single sheets of the documents of the plurality of documents, relating to non-read identifying codes by the verifying device, can occur while the first printed reel is processed by the stuffing system.

The method and the system of the invention enable processing the single printed sheets with the printing means immediately after having processed the single printed reel relative to the determined client and, in the case of a plurality of iterations, immediately after the preceding iteration. Therefore one single set-up of the stuffing system is sufficient for each client.

Further, all the envelopes relating to the entire plurality of documents can be delivered contemporaneously to the subject who will carry out the dispatching. This enables reducing the time and production costs of the envelopes of the whole plurality of documents. In particular the time and production costs connected to the last iterations of the production cycle, when the number of pages to be printed is small, are much lower with respect to the prior art.

In addition, the management of sensitive data contained in the printed documents is simplified, as the printing on the single sheets is carried out in the same period in which the single printed reel is processed.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the method and the realisation of the automatic stuffing system specific to the invention will be described in the following, in accordance with what is set out in the claims and with the aid of the accompanying table of drawings, in which figure 1 illustrates both a diagram (not in scale), of the stuffing system and the various steps of the stuffing method.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to figure 1, reference number 9 denotes the automatic stuffing system

of the invention, which enables actuating the method of the invention. The method comprises steps of:

- 5 A) providing a typographic reel 1 on a web 101 on which a plurality of documents has been sequentially printed, with each document of the plurality of documents paged on at least a page and with at least a first page of each document reporting an identifying code 22 of the relative document;
- B) making available a series of encoded data codifying the information printed in the plurality of documents, the series of data being processable electronically in order to print at least a document of the plurality of documents;
- 10 C) automatically separating from the printed web 101 the at least a page of each document of the plurality of documents, such as to obtain at least a relative single printed sheet 2 for each document of the plurality of documents, the printed single sheet 2 having, printed on a side thereof, the at least a page of the relative document;
- D) automatically forming a document unit 4 for each document of the plurality of documents, piling the relative at least a single printed sheet 2) in such a way that the relative code (22) reported on the first page of the relative document of the plurality of documents is visible from outside each document unit 4;
- 15 E) automatically stuffing each formed document unit 4 for obtaining corresponding stuffed envelopes 5, 5' each containing a document unit 4 wherein the relative code 22 is visible from outside each envelope 5, 5';
- 20 F) automatically verifying the conformity of each envelope 5, 5' obtained, automatically discarding each non-conforming stuffed envelope 5' and automatically reading the code 22 relating to each conforming stuffed envelope 5;
- G) automatically processing the series of encoded data and the codes 22 read during the verification step such as to detect at least a code 22 that has not been read, if present, and in order to generate a further series of encoded data codifying the printed information in at least a document of the plurality of documents relating to the at least a non-read code 22, the further series of data being usable to print the document;
- 25 characterised by:
- 30 H) automatically printing on at least a single sheet 20 the at least a document of the plurality of documents relating to the at least a non-read code 22 in order to obtain a

relative single printed sheet 2 on a side thereof the at least a page of the document is printed; and

l) reiterating steps D-H until a conforming stuffed envelope 5 has been obtained for each single document of the plurality of documents.

- 5 The identifying code 22 can be an alphanumeric code, a bar code, either single- or bi-dimensional.

The automatic stuffing system of printed documents comprises:

an unreeling device 10 for unreeling a typographic reel 1 having a relative web 101;

- 10 a separating device 11 arranged downstream of the unreeling device 10 for, when on each web 101 a plurality of documents has been continuously printed with each document of the plurality of documents, having been paginated at least on a page thereof, automatically separating from a portion of the web 101 unreeled by the unreeling device 10 the at least a relative page such as to obtain at least a relative single printed sheet 2 for each single document of the plurality of documents. This is
15 one for example by cutting or tearing the web along a dotted line 102 delimiting the page. The at least a single printed sheet 2 exhibits, printed on a relative side thereof, the at least a page of the relative document;

- 20 a storing device 12 arranged downstream of the separating device 11, activatable such as automatically to form a document unit 4 for each single document, piling the relative at least a single printed sheet 2, obtainable from the separating device 11, such that an identifying code 22 of each document, reported on a relative first page of the single document, is visible;

- 25 a stuffing device 13, arranged downstream of the storing device 12, for automatically stuffing each document unit 4 formable by the storing device 12 and obtaining corresponding stuffed envelopes 5, 5' in which the code 22 is visible from outside each stuffed envelopes 5, 5';

at least a verifying device 14, arranged such as to verify the conformity of each stuffed envelopes 5, 5' obtainable from the stuffing device 13 and such as to automatically read the code 22 relating to each conforming stuffed envelope 5;

- 30 at least a reject device 15, connectable to the verifying device 14 and activatable such as automatically to reject stuffed envelopes 5' judged to be non-conforming by the

verifying device 14;

processing means 16 connectable to the verifying device 14 and activatable to automatically and conjointly process a series of encoded data encoding the printed information in the plurality of documents and the codes 22 read by the verifying device
5 14 such as to detect at least a code 22 not read by the verifying device 14 and such that when at least a non-read code 22 is detected, to generate at least a further series of encoded data codifying the printed information in a document of the plurality of documents relating to the at least a non-read code 22;

printing means 17 designed for printing on single sheets 20, the printing means 17
10 such as to print the encoded information in the further series of encoded data on at least a single sheet 2 obtaining at least a single printed sheet 2 having, printed on a side thereof, the at least a page of the document of the plurality of documents relating to the non-read code 22; and

feeding means 18 of single sheets 2, with said single sheets 2 printable by the printing
15 means 17, the feeding means 18 being arranged upstream of the storing device 12 and activatable to feed the storing device 12 with said single sheets 2, when they are loaded in the feeding means.

The feeding means 18, when connected to the processing means, can be automatically activated by the processing means so as to feed the storing means
20 exclusively with single sheet loaded in the feeding means 18. The printing means can advantageously be constituted by common printers for PCs usable for printing on single sheets 20.

Typically the series of data codifying the printed information in the plurality of documents is supplied by the client of the mailing service company in an electronic
25 format and is comprised in a file (the "printing file") which, as indicated in figure 1, can be registered on any memory support 30 such as a CD, a DVD or a USB memory stick. Alternatively the file can be sent to via e-mail.

The printing means 17 are preferably connectable to processing means 16 and, when connected, are automatically activatable by the processing means 16.

30 The formation of the document unit 4 can be done by reading and decoding the code 22 indicating the number of pages which constitute the relative document and thus the number of single printed sheets 2 to be stacked. The document unit 4 can therefore

comprise a single printed sheet 2, when the number of pages to be stacked is 1, or a stack of single printed sheets 2, when the number is greater than 1. Therefore the storing device 12 can comprise reading means (not shown) of the code 22 and possibly further processing means (not shown) for decoding the code with the aim of
5 defining the number of single printed sheets 2 to be stacked. Alternatively, when the processing means 16 are connected to the storing device 12, the further processing means are no longer necessary.

The reading means can comprise an optic sensor or more preferably a television camera. The system of the invention can include at least a sheet-placing device (not
10 shown) for inserting, in the document unit 4, one or more insertions, typically paper sheets of the dimension of the single printed sheets 2. As shown in figure 1, the system 9 can further comprise a sheet-folding device 19, arranged between the storing device 12, of the sheet-placing device (when included) and the stuffing device
13, for folding the document unit 4, should the envelopes to be obtained require a
15 smaller format to that of the single sheets which make up the documents. In this case, in outlet from the sheet-folding device 19 a folded document unit 4' is obtained having smaller dimensions than those of the corresponding document unit 4 formed by the storing device 12 or obtained in outlet from the sheet-placing device when present.

The envelope 5 can be one with at least a transparent window 25, arranged in such a
20 way that the code 22, reported in the relative document unit, is visible from outside the envelope 5. Alternatively the envelope can be constituted by a transparent wrapping. The stuffing device 13 can therefore be predisposed so as to insert each document unit 4, 4' into a corresponding preformed envelope 25, fed into the stuffing device 13 in known ways, or be configured so as to insert the document unit 4,4' into a
25 continuous tube of paper or transparent wrapping material, which is then transversally cut to form, after gluing, an envelope containing the document unit 4, 4'.

The step of printing can be advantageously begun automatically following detection during the processing step of a single non-read code 22 during the step of verification, in order to singly print a document of the plurality of documents relating to the single
30 non-read code 22. This further accelerates the production of the conforming stuffed envelopes 5. In this case the processing means 16 are activatable to detect a single non-read identifying code 22 at a time, and so as to generate immediately following the detection a single further series of codifying data at a time so as to enable singly printing each document of the plurality of documents relating to a non-read identifying

code 22 by the verifying means.

The step of reiteration begins before the step of separating the web 101 into single printed sheets 2 is terminated.

This means that the conforming envelopes 5 can be obtained without interrupting the sequence of postcodes in the printed reel 1. For this reason systems 9 are preferred
5 which comprise selecting means (not illustrated) functionally interposed between the supply means 18 and the storing device 12 and activatable so as to supply the storing device 12 only with single sheets 2 loadable on the feeding means of single sheets 2. When connected to the processing means 16, the selection means are
10 advantageously automatically activatable thereby. Also preferred are methods according to the invention in which the series of encoded data comprises a parameter for each document of the plurality of documents; wherein the plurality of documents has been printed on the web 101 by ordering the documents of the plurality of documents on the basis of a value of the parameter, where the processing step
15 comprises an automatic control such as to establish whether a conforming stuffed envelope 5 has been obtained for each document of the plurality of documents to which a determined parameter value is associated.

In this case, the processing means 16 are configured so as to establish whether a conforming stuffed envelope 5 has been obtained for each document of the plurality of
20 documents to which the determined parameter value is associated. The parameter can indicate for example the postcode or a datum relating to the address the envelope is to be sent to.

The step of separating the web 01 into single printed sheets 2 is advantageously halted up to when the automatic control establishes that a conforming envelope 5 has
25 been found for each document of the plurality of documents to which the determined value of the parameter is associated. This enables obtaining conforming envelopes 5 with the same sequence as the parameter (for example the postcode) of the plurality of printed documents on the reel 1.

The step of verifying more preferably also comprises an automatic verification of the
30 conformity of each document unit 4, 4' formed; the automatic rejecting of each non-conforming document unit 4, 4' and the automatic reading of the identifying code 22 relative to each conforming document unit 4, 4'. Consequently the verifying device 14 can be advantageously configured so as to further verify the conformity of each

document unit 4, 4', once formed by the storing device 12 and/or in outlet from the sheet-placing device and/or the sheet-folding device. Further, the verifying device 14 can automatically read the identifying code 22 relative to each conforming document unit 4, 4'; and the reject device 15 can be configured so as to be activated also so as to automatically reject the document units 4, 4' judged to be non-conforming to the verifying device 14.

In this case, the processing step advantageously comprises a further automatic control for establishing whether a document unit 4, 4' has been obtained for each document of the plurality of documents, advantageous for each document to which the determined value of the parameter is associated. In this way the printing can immediately be performed on single sheets 20 of a document to which the determined value of the parameter is associated and which is relative to a non-read identifying code 22 during the verification of the conformity of each document unit 4, 4'. In this way the production times of the conforming envelopes 5 are further reduced. It follows that those system 9 are preferable in which the processing means 16 are configured such as to establish whether a conforming document unit 4, 4' has been obtained for each document of the plurality of documents to which a determined value of the parameter is associated. The verifying means 14 preferably comprise at least a television camera for reading the identifying code 22.

Systems 9 are preferred in which the processing means 16 are connected to all the devices and/or the means provided in the system 9. In particular, processing means 16 are connectable with the unreeling device 10 and/or the separating device 11 and/or with the storing device 12 and/or the sheet-placing device (when included), the sheet-folding device 13 (when included) and/or the stuffing device 13 and/or the reject device 15 and/or the printing means 17, and/or the sheet-feeding means 18.

In figure 1, each of the connections relative to the processing means are schematically denoted with broken lines. The above has also been described by way of non-limiting example, so that any variants of a practical-applicational nature are understood to fall within the protective scope of the invention as described above and as claimed in the following.

CLAIMS

- 1). A method for automatic stuffing of printed documents, comprising steps of:
- A) providing a typographic reel (1) on a web (101) on which a plurality of documents has been sequentially printed, with each document of the plurality of documents paged on at least a page and with at least a first page of each document reporting an identifying code (22) of the relative document;
- 5 B) making available a series of encoded data codifying the information printed in the plurality of documents, the series of data being processable electronically in order to print at least a document of the plurality of documents;
- C) automatically separating from the printed web (101) the at least a page of each document of the plurality of documents, such as to obtain at least a relative single printed sheet (2) for each document of the plurality of documents, the printed single sheet (2) having, printed on a side thereof, the at least a page of the relative document;
- 10 D) automatically forming a document unit (4) for each document of the plurality of documents, piling the relative at least a single printed sheet (2) in such a way that the relative code (22) reported on the first page of the relative document of the plurality of documents is visible from outside each document unit (4);
- 15 E) automatically stuffing each formed document unit (4) for obtaining corresponding stuffed envelopes (5, 5') each containing a document unit (4) wherein the relative code (22) is visible from outside each envelope (5, 5');
- 20 F) automatically verifying the conformity of each envelope (5, 5') obtained, automatically discarding each non-conforming stuffed envelope (5') and automatically reading the code (22) relating to each conforming stuffed envelope (5);
- G) automatically processing the series of encoded data and the codes (22) read during the verification step such as to detect at least a code (22) that has not been read, if present, and in order to generate a further series of encoded data codifying the printed information in at least a document of the plurality of documents relating to the at least a non-read code (22), the further series of data being usable to print the document;
- 25
- 30 characterised by:

H) automatically printing on at least a single sheet (20) the at least a document of the plurality of documents relating to the at least a non-read code (22) in order to obtain a relative single printed sheet (2) on a side thereof the at least a page of the document is printed; and

- 5 1) reiterating steps D-H until a conforming stuffed envelope (5) has been obtained for each single document of the plurality of documents.
- 2). The method of the preceding claim, wherein the step of printing begins automatically following detection during the processing step of a single non-read code (22) during the step of verification, in order to singly print a document of the plurality of
10 documents relating to the single non-read code (22).
- 3). The method of any one of the preceding claims, wherein the step of reiteration begins before the step of separating the web (101) into single printed sheets (2) is terminated.
- 4). The method of any one of the preceding claims, wherein the series of encoded
15 data comprises a parameter for each document of the plurality of documents; wherein the plurality of documents has been printed on the web (101) by ordering the documents of the plurality of documents on the basis of a value of the parameter, where the processing step comprises an automatic control such as to establish whether a conforming stuffed envelope (5) has been obtained for each document of
20 the plurality of documents to which a determined parameter value is associated.
- 5). The method of the preceding claim, wherein the step of separating the web (101) into single printed sheets (2) is suspended until the automatic control establishes that a conforming stuffed envelope (5) has been obtained for each document of the plurality of documents to which the determined parameter value has been associated.
- 25 6). An automatic stuffing system of printed documents, comprising:
- an unreeling device (10) for unreeling a typographic reel (1) having a relating web (101);
- a separating device (11) arranged downstream of the unreeling device (10) for, when
30 on each web (101) a plurality of documents has continuously printed with each document of the plurality of documents having been paginated at least on a page,

- automatically separating from a portion of the web (101) unreeled by the unreeling device (10) the at least a relative page such as to obtain at least a relative single printed sheet (2) for each single document of the plurality of documents with the at least a single printed sheet (2) heaving, printed on a relative side thereof, the at least
- 5 a page of the relative document;
- a storing device (12) arranged downstream of the separating device (11), activatable such as automatically to form a document unit (4) for each single document, piling the relative at least a single printed sheet (2), obtainable from the separating device (11), such that an identifying code (22) of each document, reported on a relative first page
- 10 of the single document, is visible;
- a stuffing device (13), arranged downstream of the storing device (12), for automatically stuffing each document unit (4) formable by the storing device (12) and obtaining corresponding stuffed envelopes (5, 5') in which the code (22) is visible from outside each stuffed envelopes (5, 5');
- 15 at least a verifying device (14), arranged such as to verify the conformity of each stuffed envelopes (5, 5') obtainable from the stuffing device (13) and such as to automatically read the code (22) relating to each conforming stuffed envelope (5);
- at least a reject device (15), connectable to the verifying device (14) and activatable such as automatically to reject stuffed envelopes (5') judged to be non-conforming by
- 20 the verifying device (14);
- processing means (16) connectable to the verifying device (14) and activatable to automatically and conjointly process a series of encoded data codifying the printed information in the plurality of documents and the codes (22) read by the verifying device (14) such as to detect at least a code (22) not read by the verifying device (14)
- 25 and such that when at least a non-read code (22) is detected, to generate at least a further series of encoded data codifying the printed information in a document of the plurality of documents relating to the at least a non-read code (22);
- characterised in that it further comprises:
- printing means (17) designed for printing on single sheets (20), the printing means
- 30 (17) such as to print the encoded information in the further series of encoded data on at least a single sheet (2) obtaining at least a single printed sheet (2) having, printed

on a side thereof, the at least a page of the document of the plurality of documents relating to the non-read code (22); and

5 feeding means (18) of single sheets (2), with said single sheets (2) printable by the printing means (17), the feeding means (18) being arranged upstream of the storing device (12) and activatable to feed the storing device (12) with said single sheets (2).

7). The system of the preceding claim, wherein the printing means (17) are connectable to processing means (16) and, when connected, are automatically activatable by the processing means (16).

10 8). The system of any one of the preceding claims, wherein the processing means (16) are activatable such as to detect a single non-read code (22) at a time, and to immediately generate, following this detection, a single further series of encoded data at a time to enable singly printing each document of the plurality of documents relating to a non-read code (22) by the verifying device (14).

15 9). The system of any one of the preceding claims, comprising selecting means activatable to feed into the storing device (12) only single sheets loadable on the single-sheet feeding means (18).

20 10). The system of any one of the preceding claims, wherein when the series of encoded data comprises a parameter for each document of the plurality of documents and the plurality of documents has been printed on the web (101) and the documents of the plurality of documents being ordered on the basis of a value of the parameter, the processing means (16) are configured such as to establish whether a conforming stuffed envelope (5) has been obtained for each document of the plurality of documents to which a determined value of the parameter has been associated.

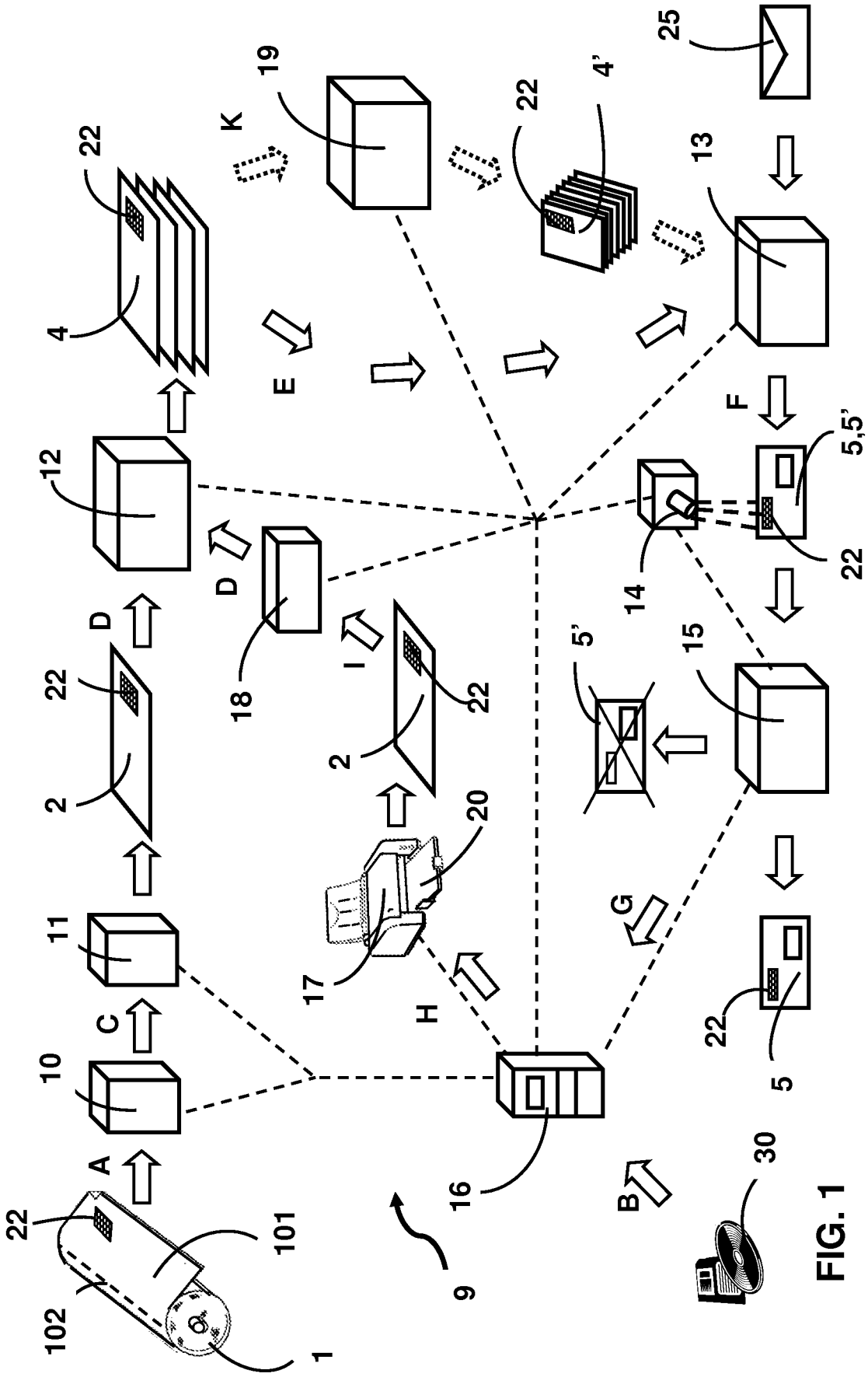


FIG. 1

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2013/058424

A. CLASSIFICATION OF SUBJECT MATTER
 INV. B65H39/10 B65H43/04 B65H29/62
 ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 B65H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 745 590 A (POLLARD LARRY C [US]) 28 April 1998 (1998-04-28) the whole document -----	1,6

Further documents are listed in the continuation of Box C.
 See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 14 February 2014	Date of mailing of the international search report 25/02/2014
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer <p style="text-align: center; font-size: 1.2em;">Ureta, Rolando</p>
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2013/058424

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5745590	A	28-04-1998	NONE