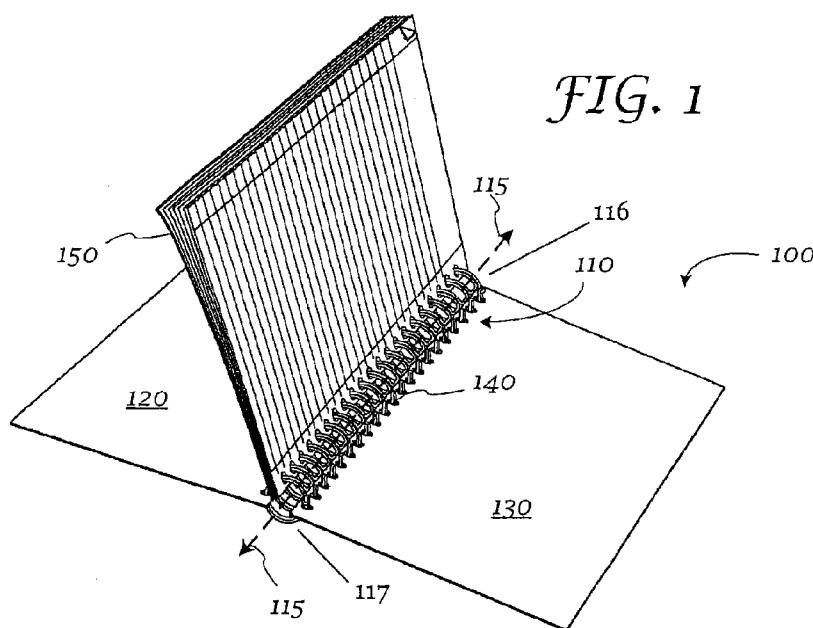




- (51) **International Patent Classification:**
B42F 13/26 (2006.01) *B42F 13/16* (2006.01)
- (21) **International Application Number:** PCT/US2012/047205
- (22) **International Filing Date:** 18 July 2012 (18.07.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/509,040 18 July 2011 (18.07.2011) US
61/616,096 27 March 2012 (27.03.2012) US
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- (74) **Agents:** ELLEMAN, Steven, J. et al.; Thompson Hine LLP, 10050 Innovation Drive, Suite 400, Dayton, OH 45342-4934 (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) **Title:** BINDING SYSTEM FOR RETAINING BOUND COMPONENTS



(57) **Abstract:** A binding apparatus including a plurality of generally coaxially arranged binding coils. Each binding coil includes a pair of generally parallel wires terminating in a tip. Each binding coil is coupled to an adjacent binding coil by a connection portion extending generally parallel to an axis of the binding apparatus. At least one binding coil is directly circumferentially attached to it-self, or to a connection portion.

**Published:****(88) Date of publication of the international search report:**

18 July 2013

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/047205

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

It is failed to find a technically special relationship over the prior art, US 2011-0033727 A1 or JP 10-138678 A, among independent claims 1(or 9), 8, 10, 11, 14, 15(or 79), 32(or 33), 35(or 40, 43), 44, 46, 48, 52, 56, 57, 72, 77, 94, 95, 99 and 104(or 108, 109, 110, 111) because they relate to apparatus or method having different way of closing binding coils. Hence, there is lack of unity "a posteriori" (PCT Rules 13.1 and 13.2).

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-7, 9

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

A. CLASSIFICATION OF SUBJECT MATTER***B42F 13/26(2006.01)i, B42F 13/16(2006.01)i***

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)

B42F 13/26; B42F 13/16

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: twin, double, ring, wire, coil, binding, closure, locking and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011-0033727 A1 (GROB, ANDRE et al.) 10 February 2011 See paragraph 66 and figures 3, 4.	1-7,9
Y	JP 2003-025781 A (KOKUYO CO., LTD.) 29 January 2003 See paragraphs 27, 29 and figures 5, 7.	1-7,9
Y	JP 2002-019363 A (SASAKA KOGYO CO., LTD. et al.) 23 January 2002 See abstract and figure 5.	1-7,9
A	JP 10-138678 A (TOKAWA, SHIRO) 26 May 1998 See abstract and figures 1-8.	1-7,9



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

02 May 2013 (02.05.2013)

Date of mailing of the international search report

03 May 2013 (03.05.2013)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Eun Ju

Telephone No. 82-42-481-5469



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/047205

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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JP 2002-019363 A	23.01.2002	JP 4772948 B2	14.09.2011
JP 10-138678 A	26.05.1998	None	