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(54) A STORAGE HAMPER

(57) The present invention relates to a storage hamper and more particularly pertains to a collapsible storage hamper for storing different articles. It comprises a pair of twistable frames (1), two or more supporting strips (2) and a flexible hamper body (3). The top of the flexible hamper body (3) has an opening (31), the front side (32) and the rear side (33) are two separate pieces, the left side (34), the right side (35) and the bottom (36) can be one or more pieces, and the front piece, the rear piece, the left piece, the right piece and the bottom piece are sewed together to form the flexible hamper body (3); the edge of each of the front piece and the rear piece is made into a sleeve, and each sleeve contains inside one of the frames (1) contained therein; the left piece, the right piece or the bottom piece are sewed to have two or more tube-shaped sleeves each with an opening at one end, and each of the supporting strips (2) is inserted into or removed from the opening of the corresponding tube-shaped sleeve; one or more dividing layers (5) can be added vertically in the middle of the flexible hamper body (3). The present invention has the advantages of being simple in structure, flexible in shape, convenient for storage and portable of practical use.

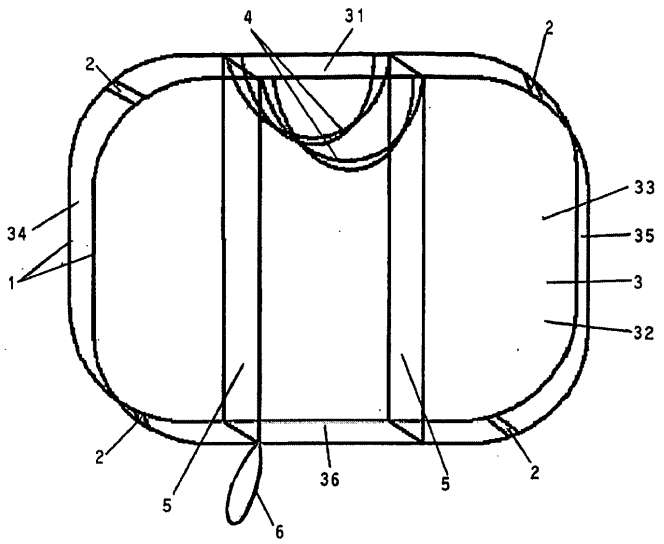


FIG. 3

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Description

Technical Field

[0001] The present invention relates to a storage hamper and more particularly pertains to a collapsible storage hamper for storing a variety of articles such as dirty clothes, towels or toys.

Background Art

[0002] As there are numerous household items at home, most families use storage cabinets, boxes or hampers for storing the articles in order to keep their homes clean and tidy. However, storage containers available in the marketplace are generally made of non-collapsible materials such as plastic, bamboo or metal. The existing storage containers are therefore non-collapsible and inconvenient to be stored or transported. As illustrated in Figs. 1 and 2, a collapsible storage hamper was disclosed in US 5,464,113, but the collapsible structure thereof limits its length, width and height, and thus restricts its shape, size and capacity, thereby failing to satisfy consumers' needs.

Disclosure of the Invention

[0003] In view of the aforesaid disadvantages now present in the prior art, the present invention provides a collapsible storage hamper with no restrictions on its shape, size and capacity. The present invention has the advantages of being simple in structure, flexible in shape, convenient for storage and portable of practical use. The storage hamper can be folded compactly reducing its size to only one third of its outer perimeter when it is fully expanded, thereby saving storage space enormously.

[0004] To attain this, the present invention generally comprises a pair of twistable frames, two or more supporting strips and a flexible hamper body, wherein the top of the flexible hamper body has an opening, its front side and rear side are two separate pieces, its left side, right side and bottom can be one or more pieces, and the front piece, the rear piece, the left piece, the right piece and the bottom piece are sewed together to form the flexible hamper body; the edge of each of the front piece and the rear piece is made into a sleeve, and each sleeve contains inside one of the frames; the left piece, the right piece or the bottom piece are sewed to have two or more tube-shaped sleeves each with an opening at one end, and each of the supporting strips is inserted into or removed from the opening of the corresponding tube-shaped sleeve.

[0005] The frames are elastic rods made of metal or plastic.

[0006] The supporting strips are hollow tubes or rods made of plastic, metal or wood.

[0007] There are two or more supporting strips. When there are two supporting strips, the two strips are preferably inserted and disposed on the left side and the right side of the flexible hamper body at a level parallel to each other or that one is higher than the other. When there are three supporting strips, two of the strips are preferably inserted and disposed on the top left side and the top right side of the flexible hamper body parallel to each other and the remaining strip is inserted and disposed at the bottom of the flexible hamper body in the middle. When there are four supporting strips, two of them are preferably inserted and disposed on the top left side and the top right side of the flexible hamper body parallel to each other, and the remaining two are preferably inserted and disposed on the bottom left side and the bottom right side of the flexible hamper body parallel to each other. When there are more than four supporting strips, the strips are generally inserted and disposed on the left side, the right side and at the bottom of the flexible hamper body at a level parallel to one another.

[0008] The flexible hamper body is made of soft materials such as cloth, gauze, net or soft plastic. It can be made of one or more kinds of materials, but it is made of at least one layer of the said material.

[0009] The flexible hamper body can be formed by sewing together five pieces, namely, a front piece, a rear piece, a left piece, a right piece and a bottom piece.

[0010] The flexible hamper body can be formed by sewing together four pieces, namely, a piece extending from the middle of the bottom to the left side, another piece extending from the middle of the bottom to the right side, a front piece and a rear piece.

[0011] The flexible hamper body can be formed by sewing together three pieces, namely, a piece extending from the left side, to the bottom and up to the right side integrally, a front piece and a rear piece.

[0012] The flexible hamper body can be in any shape, but has at least an opening at the top.

[0013] An elastic band can be affixed to the bottom of either the front side or the rear side of the flexible hamper body for the purposes of fastening the collapsed storage hamper. The elastic band is made of elastic materials such as stretch cloth or rubber bands.

[0014] A handle is disposed in the middle at the top of each of the front side and the rear side of the flexible hamper body for the purposes of carrying and transporting easily. The handle is made of soft materials such as cloth, fabric or soft plastic.

[0015] One or more dividing layers can be added vertically in the middle of the flexible hamper body for the purposes of separating different types of articles. The dividing layer is made of soft materials such as cloth, gauze, net or soft plastic.

[0016] To use the storage hamper, the user may first loosen the elastic band. The elastic rods will then extend and the frame will restore to its original shape, thereby propping up the front piece and the rear piece of the storage hamper simultaneously. The user then inserts the supporting strips from the openings of the tube-shaped sleeves into the sleeves respectively to fix the shape of

the storage hamper. The user may then use the storage hamper for storing articles. After finishing using the storage hamper, the user may remove the supporting strips from the tube-shaped sleeves. The user then makes the pair of the frames to lie over each other and then twists the overlapped frames and folds up the storage hamper to reduce its size to only one third of its outer perimeter when it is fully expanded. The user then uses the elastic band to tie up the collapsed storage hamper to save storage space and facilitate ease of carrying.

[0017] With the adoption of the aforesaid technical proposal, the present invention has the advantages of being simple in structure, flexible in shape, convenient for storage and portable of practical use.

Brief Description of Drawings

[0018]

FIG. 1 shows a schematic diagram of the existing collapsible storage hamper before being collapsed.
FIG. 2 shows a schematic diagram of the existing collapsible storage hamper after being collapsed.
FIG. 3 shows a schematic diagram of the embodiment of the present invention before being collapsed.
FIG. 4 shows a schematic diagram of the embodiment of the present invention when being collapsed.
FIG. 5 shows a schematic diagram of the embodiment of the present invention after being collapsed.

Best Mode for Carrying out the Invention

[0019] The present invention is further described by the following embodiment with the accompanying drawings.

[0020] As illustrated in FIG. 3, the present invention comprises a pair of twistable frames 1, four supporting strips 2 and a flexible hamper body 3. The flexible hamper body 3 has an opening 31 at the top. The front side 32 and the rear side 33 are two separate pieces made of nylon net. The left side 34, the right side 35 and the bottom 36 are integrally formed into one piece which is made of soft plastic. The three pieces are sewed together to form the flexible hamper body 3. The edge of each piece of the front side 32 and the rear side 33 is made into a sleeve made of soft plastic containing inside one of the frames 1. The frames 1 are rectangular elastic rods made of plastic with a width of 1.5 cm and a perimeter of 210 cm. The front side 32 and the rear side 33 are propped up by the frames 1 to form two rectangles with four round corners each. Four tube-shaped sleeves, each with an opening at one end, are disposed at levels parallel to one another at the top and bottom on the left side 34 and the right side 35 respectively. The supporting strips 2, which are hollow and made of plastic, can be inserted into the tube-shaped sleeves. The four supporting strips 2 are inserted into the tube-shaped sleeves from the respective openings to fix the shape of the storage hamper for the user to store articles therein.

[0021] A handle 4 made of soft plastic is disposed in the middle at the top of each of the front side 32 and the rear side 33 for ease of carrying.

[0022] Two dividing layers 5 made of nylon net can be added vertically in the middle of the flexible hamper body 3 for separating different types of articles.

[0023] An elastic band 6 made of a rubber band is affixed to the bottom of the front side 32 of the flexible hamper body 3 for fastening the collapsed storage hamper.

[0024] As illustrated in Figs. 4 and 5, after finishing using the storage hamper, the four supporting strips 2 are removed from the tube-shaped sleeves via the openings. The pair of frames 1 is overlapped and twisted and the storage hamper is thereby collapsed. The size of the collapsed storage hamper is reduced to one third of its outer perimeter when it is fully expanded, that is, 70 cm, and the diameter of the collapsed storage hamper is 30 cm. The collapsed storage hamper is tied up by the elastic band 6 which is affixed to the bottom of the flexible hamper body 3 to save storage space and facilitate ease of carrying.

[0025] The foregoing embodiment is a preferred embodiment of the present invention, but the present invention is capable of other embodiments and of being practiced and carried out in various ways. The foregoing embodiment should not be regarded as limiting.

[0026] For example, the frames can be elastic rods made of metal or plastic. The length of the elastic rods varies with the dimension of the storage hamper and has no special limitation. The cross-section of the elastic rods can be in the shape of a square or a circle. The width of the elastic rods also varies with the dimension of the storage hamper and has no special limitation.

[0027] The supporting strips can be hollow tubes or rods made of plastic, metal or wood. The length of the supporting strips constitutes the depth of the storage hamper, and there is no special limitation on it. Depending on the dimension of the storage hamper, the length is usually not less than 10 cm, otherwise the opening at the top of the storage hamper will be too small and it will be difficult to put in or take out the articles. The diameter of the supporting strips varies with the dimension of the storage hamper. As long as the supporting strips can fix the shape of the storage hamper, there is no special limitation on their diameter.

[0028] There can be two or more supporting strips, preferably two to four. When there are two supporting strips, the two strips are preferably disposed on the left side and the right side of the flexible hamper body at a level parallel to each other or that one is higher than the other. When there are three supporting strips, two of the strips are preferably disposed on the top left side and the top right side of the flexible hamper body parallel to each other and the remaining strip is disposed at the bottom of the flexible hamper body in the middle. When there are four supporting strips, two of them are preferably dis-

posed on the top left side and the top right side of the flexible hamper body parallel to each other, and the remaining two are preferably disposed on the bottom left side and the bottom right side of the flexible hamper body parallel to each other.

[0029] The flexible hamper body is made of soft materials such as cloth, gauze, net or soft plastic. There is no special limitation on the materials used. It can be made of one or more kinds of materials, but it is made of at least one layer of the said material.

[0030] The flexible hamper body can be formed by sewing together five pieces, namely, a front piece, a rear piece, a left piece, a right piece and a bottom piece.

[0031] The flexible hamper body can be formed by sewing together four pieces, namely, a piece extending from the middle of the bottom to the left side, another piece extending from the middle of the bottom to the right side, a front piece and a rear piece.

[0032] The flexible hamper body can be formed by sewing together three pieces, namely, a piece extending from the left side, to the bottom and up to the right side integrally, a front piece and a rear piece.

[0033] The flexible hamper body can be in any shape, but has at least an opening at the top.

[0034] An elastic band can be affixed to the bottom of either the front side or the rear side of the flexible hamper body for the purposes of fastening the collapsed storage hamper. The elastic band is made of elastic materials such as stretch cloth or rubber bands without any special limitation on the materials used.

[0035] A handle is disposed in the middle at the top of each of the front side and the rear side of the flexible hamper body for the purposes of carrying and transporting easily. The handle is made of soft materials such as cloth, fabric or soft plastic without any special limitation on the materials used.

[0036] One or more dividing layers can be added vertically in the middle of the flexible hamper body for the purposes of separating different types of articles. The dividing layer is made of soft materials such as cloth, gauze, net or soft plastic without any special limitation on the materials used.

[0037] The foregoing modifications, changes and combinations are considered to be embodiments of the present invention and are not herein described in full detail.

Industrial Applicability

[0038] The present invention relates to a collapsible storage hamper, wherein a flexible hamper body is propped up by frames and supporting strips to fix the shape of the storage hamper for storage purpose. Since the frames are made of twistable materials, the supporting strips can be easily removed from the tube-shaped sleeves with openings on one side thereof after finishing using the storage hamper. The user may then twist the frames and fold up the flexible hamper body to reduce its size to one third of its size when it is fully expanded. The user may then tie up the collapsed storage hamper to save storage space and facilitate ease of carrying. The present invention has the advantages of being simple in structure, flexible in shape, convenient for storage and portable of practical use. It is suitable for industrial applications.

Claims

1. A collapsible storage hamper comprising a pair of twistable frames, two or more supporting strips and a flexible hamper body, wherein the top of the flexible hamper body has an opening, its front side and rear side are two separate pieces, its left side, right side and bottom can be one or more pieces, and the front piece, the rear piece, the left piece, the right piece and the bottom piece are sewed together to form the flexible hamper body; the edge of each of the front piece and the rear piece is made into a sleeve, and each sleeve contains inside one of the frames; the left piece, the right piece or the bottom piece are sewed to have two or more tube-shaped sleeves each with an opening at one end, and each of the supporting strips is inserted into or removed from the opening of the corresponding tube-shaped sleeve.

2. A collapsible storage hamper as in Claim 1, wherein the frames are elastic rods made of metal or plastic.

3. A collapsible storage hamper as in Claim 1, wherein the supporting strips are made of plastic, metal or wood.

4. A collapsible storage hamper as in Claim 1, wherein the front piece and the rear piece of the flexible hamper body and the edges thereof are made of one kind of material of cloth, gauze, net or soft plastic, or a combination of different materials with at least one layer is made of the said material.

5. A collapsible storage hamper as in Claim 1 or 4, wherein the left side, the right side and the bottom of the flexible hamper body are divided into three pieces.

6. A collapsible storage hamper as in Claim 1 or 4, wherein the flexible hamper body is divided into two pieces extending from the middle of the bottom one to the left side and another to the right side.

7. A collapsible storage hamper as in Claim 1 or 4, wherein the left side, the bottom and the right side of the flexible hamper body are connected integrally to form one piece.

8. A collapsible storage hamper as in Claim 1, 4, 5, 6

or 7, wherein an elastic band is affixed to one side of the bottom of the flexible hamper body.

9. A collapsible storage hamper as in Claim 1, 4, 5, 6, 7 or 8, wherein a handle is disposed in the middle at the top of each of the front side and the rear side of the flexible hamper body.

10. A collapsible storage hamper as in Claim 1, 4, 5, 6, 7, 8 or 9, wherein one or more dividing layers is added vertically in the middle of the flexible hamper body.

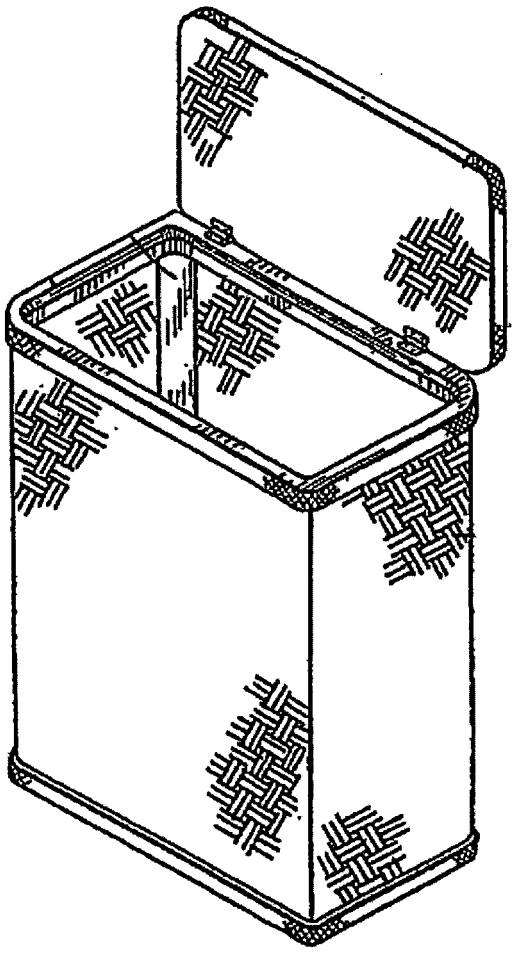


FIG. 1

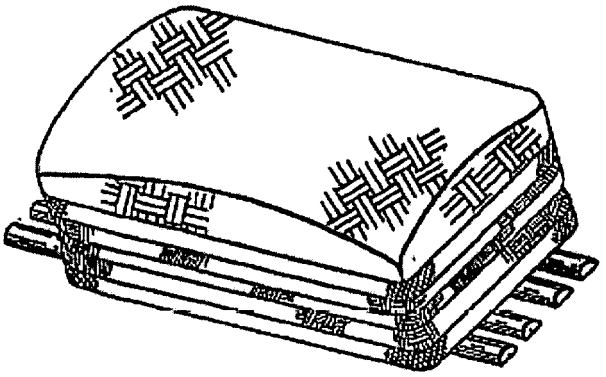


FIG. 2

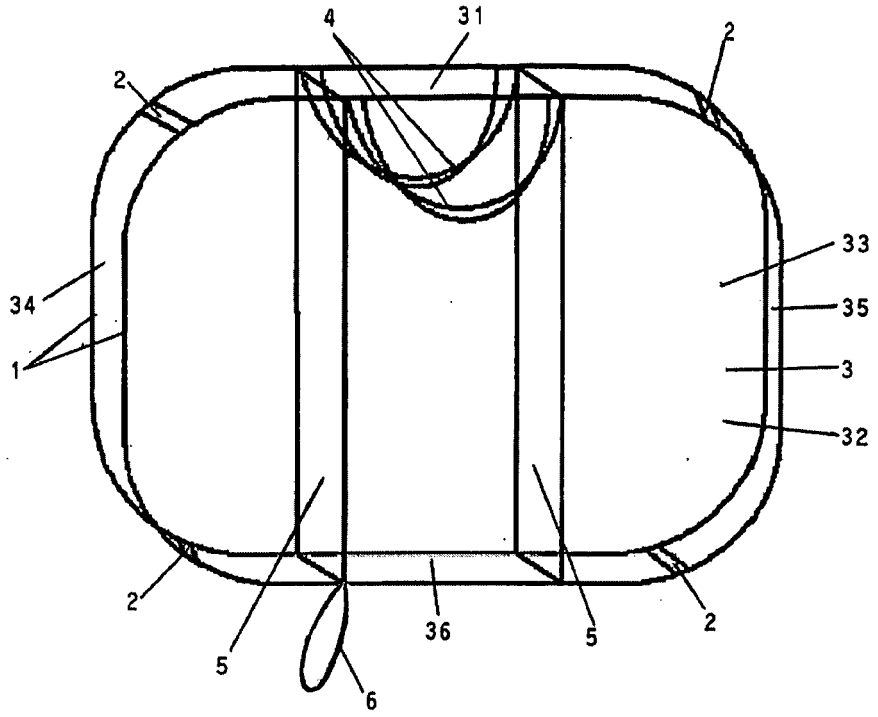


FIG. 3

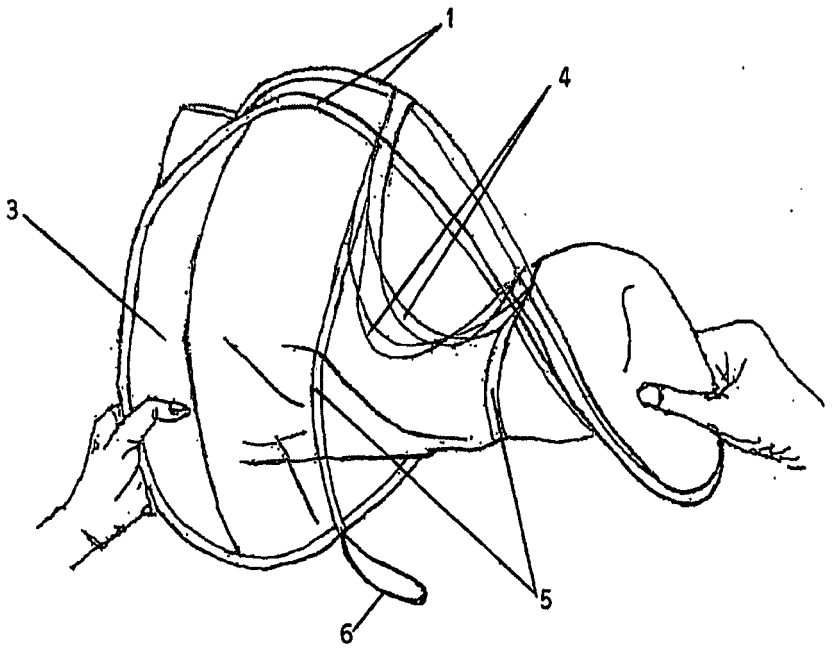


FIG. 4

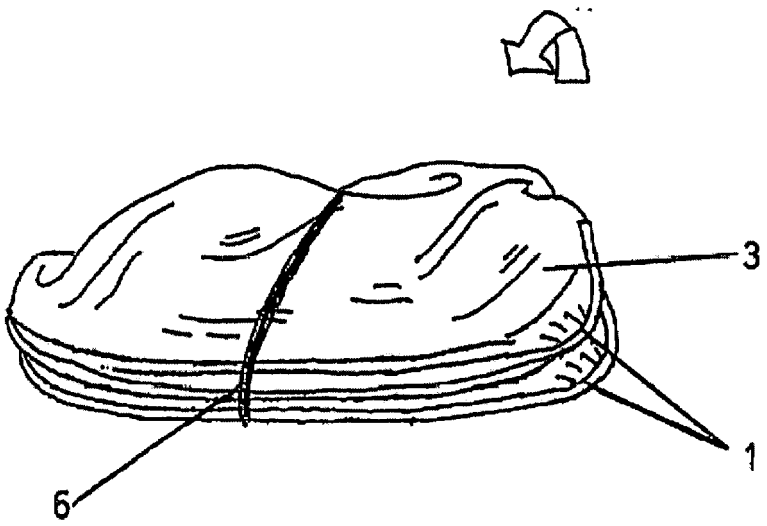


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN03/00691

A. CLASSIFICATION OF SUBJECT MATTER

IPC[7] B65D6/24, A45C7/00

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)

IPC[7] B65D , A45C

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)

WPI, EPODOC, PAJ, CNPAT HAMPER, TWIST, FRAME, COLLAPSIBLE, FLEXIBLE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN1375431A (QUNMART IND CO LTD) , Oct.23, 2002 (23.10.02) Whole document	1-10
A	JP8-310601A (SUZUKI SABURO) , Nov.26, 1996 (26.11.96) Whole document	1-10
A	JP10-109703A (TECHNO STAR: KK) , Apr.28, 1998 (28.04.98) Whole document	1-10
A	CN2113648U (HEXIAOLIANG) , Aug.26, 1992 (26.08.92) , Whole document	1-10
A	CN2204118Y (HEXIAOLIANG) , Aug.2, 1995 (02.08.95) , Whole document	1-10

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

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

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
May.19, 2004 (19.05.04)	03 · JUN 2004 (03 · 06 · 2004)
Name and mailing address of the ISA/CN 6 Xitucheng Rd., Jimen Bridge, Haidian District, 100088 Beijing, China Facsimile No. 86-10-62019451	Authorized officer 孙征文 Telephone No. 86-10-62084770

Form PCT/ISA /210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN03/00691

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT
Information on patent family members

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Form PCT/ISA /210 (patent family annex) (July 1998)