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(54) Protective display device.

(57) A protective display device (10 ;50) for flat articles such as photographs or recipe cards. The device comprises a sleeve (12 ;52) and a flap (26 ;66) attached thereto by means of a hinge (36 ;76). The flap has a coating of a repositionable sive (32 ;78) to permit the device to be adhered to, repositioned on, and removed from substrates upon which the article is to be or has been displayed. The flap may be folded over and adhered to the sleeve when it is desired to store the device, thereby protecting the repositionable adhesion coating and reducing the dimension of the device.

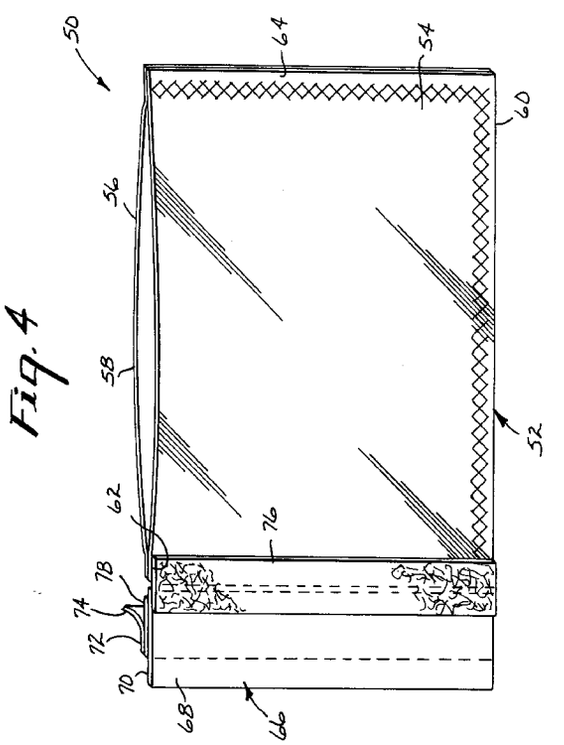


Fig. 4

EP 0 582 509 A1

Field of the Invention

This invention relates to a device for displaying articles.

Background of the Invention

Devices for displaying items are known, having been described, for example, in U.S. Patent Nos. 4,771,557 and 5,025,581.

Summary of the Invention

This invention provides a novel device for protecting and displaying a substantially flat article, comprising:

a sleeve for receiving and retaining the article, and comprising a transparent front member and a back member, and being defined by a top edge, a bottom edge and two side edges, the front member and the back member being joined along at least the bottom edge, and the front member and the back member forming an opening along substantially the entire length of at least one of the side edges or the top edge through which the article can be inserted into the sleeve;

a flap having a front surface and a back surface, the back surface having a coating over at least a portion thereof of a repositionable adhesive;

and a flexible hinge attaching the flap to an edge of the sleeve, with the back surface of the flap and the repositionable adhesive coating thereon being situated on the same side of the device as the back member of the sleeve;

wherein the repositionable adhesive permits the device to be repeatedly adhered to and removed from a substrate, and the hinge permits contact of the back surface of the flap with the back member of the sleeve so that the flap can be folded over and adhered to the back member to protect the repositionable adhesive coating and reduce the overall dimensions of the device when the device is being stored.

The device of the present invention is particularly useful for displaying recipe cards and photographs. The presence of the repositionable adhesive permits the device to be adhered to a surface such as a refrigerator, and thereafter be repositioned thereon or removed therefrom without marring the surface or leaving significant adhesive residue on the surface. In the event the back member of the sleeve is also transparent, presence of the repositionable adhesive coating on the flap permits convenient access to both sides of the article without removing the device from the substrate to which it has been adhered.

Moreover, the design of the device of the present invention conveniently permits the flap or flaps to be folded over and adhered to the sleeve of the device to reduce the dimensions of the device and protect the repositionable adhesive coating from soiling or the like. This feature is particularly convenient when the article held in the sleeve is a recipe card which may then be stored, without removing it from the device, in a box of dimensions tailored to the dimensions of the recipe card.

A particularly preferred device of the present invention is characterized by the flap being joined to the top edge of the sleeve. The front member and back member are joined along that top edge, but form openings along both of the side edges of the sleeve to permit an article to be conveniently inserted into or removed from the sleeve.

Brief Description of the Drawing

Fig. 1 is a top view of one embodiment of a device according to the present invention;

Fig. 2 is a cross-section of the device illustrated in Fig. 1 taken along the line 2-2;

Fig. 3 is a cross-section of the embodiment illustrated in Fig. 1 with the flap folded over and adhered to the back member of the sleeve; and

Fig. 4 is a perspective view of another embodiment of a device according to the present invention.

Detailed Description of the Preferred Embodiments of the Invention

As shown in Figs. 1 and 2, device 10 which is preferably substantially rectangular comprises sleeve 12 comprising front member 16 and back member 14 and defined by top edge 18, bottom edge 20 and two side edges 22 and 24. Front member 16 and back member 14 are joined along bottom edge 20 and top edge 18 by any conventional means such as by heat bonding, use of a suitable adhesive, or the like. Front member 16 and back member 14 remain unjoined along side edges 22 and 24 to provide openings through which an article such as a recipe card may be inserted into sleeve 12. Sleeve 12 will have dimensions sufficient to accept and retain the article desired to be displayed in device 10. Preferably, sleeve 12 will have dimensions of about 5 x 5 cm to about 20 x 20 cm, more preferably about 6 x 10 cm to about 10 x 16 cm. In the case where the article is an ordinary 3 x 5 inch (7.62 x 12.7 cm) recipe card, side edges 22 and 24 preferably will each be slightly longer than about 3 inches (7.62 cm) and top edge 18 and bottom edge 20 preferably will each be slightly longer than about 5 inches (12.7 cm).

While device 10 is shown having front member 16 and back member 14 joined along top edge 18, it is to be understood that front member 16 and back member 14 may be joined together in a variety of configurations provided of course that an article placed within the sleeve will be retained therein during the

course of routine handling and use of device 10. For example, front member 16 and back member 14 may be joined only along bottom edge 20. Further by way of example, front member 16 and back member 14 may be joined along top edge 18, bottom edge 20 and one of side edge 22 or side edge 24. Still further by way of example, front member 16 and back member 14 may be joined along bottom edge 20 and one of side edge 22 or side edge 24, leaving the other side edge and top edge 18 open.

Flap 26 of device 10 is defined by front surface 28 and back surface 30 and has a double coated tape 32 attached to back surface 30. The exposed surface 38 of tape 32 is a repositionable adhesive coating. Liner 34 can be provided to cover the repositionable adhesive coating prior to initial use of the device. Flap 26 is attached to top edge 18 of sleeve 12 by means of hinge 36 which may, for example, comprise a nonwoven pressure-sensitive adhesive tape. As shown in Fig. 3, hinge 36 permits flap 26 to be folded over sleeve 12 and adhered by means of the repositionable adhesive coating of tape 32 to back surface 34 of back member 14. It is contemplated that hinge 36 and flap 26 may be made of the same material.

Front member 16 may comprise essentially any transparent film. Generally the film will be about 0.5 mil (0.012 mm) to 8 mils (0.2 mm) in thickness, and will preferably be about 1 mil (0.025 mm) to about 4 mils (0.1 mm) in thickness. Preferred films are biaxially oriented polypropylenes and biaxially oriented polyesters. The most preferred film is the low haze, 1.6 mil, biaxially oriented polypropylene film available under the trade designation Scotchpar™KF306FO from 3M Company of St. Paul, MN.

Back member 14 may comprise, for example, a transparent film, a colored (translucent) film or paper. The preferred back member 14 comprises a transparent film such as one of the films discussed above in the context of front member 16. The back (outer) surface of back member 14 may, if desired, be coated with a release coating (not illustrated) to facilitate removal of flap 26 therefrom after flap 26 has been adhered to back member 14 as illustrated in Fig. 3.

Flap 26 may comprise, for example, polypropylene, polyester or paper. The preferred material for flap 26 is the 3.2 mil (0.081 mm), biaxially oriented polypropylene film available under the trade designation Kimdura™ Synthetic Paper from Kimberly-Clark Corporation of Munising, MI.

The repositionable adhesive coating on tape 32 may be any conventional repositionable adhesive which permits device 10 to be adhered to and removed from a variety of substrates multiple times without significant loss of adhesive capability. Examples of repositionable adhesives which may be used include the tacky, solid microsphere adhesives disclosed in U.S. Patent Nos. 3,691,140 and 4,166,152. Other suitable repositionable adhesives include those comprising non-tacky microspheres such as the adhesives disclosed in U.S. Patent No. 4,735,837. Still other suitable repositionable adhesives comprise tacky, hollow microsphere adhesives such as the adhesives disclosed in U.S. Patent No. 5,045,569.

The preferred repositionable adhesive comprises tacky, solid microspheres of a type disclosed in said U.S. Patent Nos. 3,691,140 and 4,166,152, and a non-spherical acrylate copolymer of the type disclosed in U.S. Patent No. Re. 24,906. The most preferred repositionable adhesive comprises a 90:10 ratio by weight of a mixture of said solid microspheres and a non-spherical 95.5:4.5 isooctyl acrylate:acrylic acid pressure-sensitive adhesive polymer.

The adhesive coating on the other side of double coated tape 32 preferably comprises a relatively permanent pressure-sensitive adhesive such as an acrylate copolymer of the type disclosed in said U.S. Patent No. Re. 24,906. A preferred adhesive is a 95.5:4.5 isooctyl acrylate:acrylic acid copolymer.

The backing of double-coated tape 32 may comprise any suitable paper or film. The preferred backing is 1 mil polyester film.

Repositionability of flap 26 may also be achieved by other techniques, such as by use of a pressure-sensitive adhesive which has been pattern coated onto flap 26 or onto a tape which is then adhered to flap 26.

A suitable liner 34 is available under the trade designation Daubert™ X302 from Daubert Coated Products, Inc.

It is preferred that the adhesion level provided by the repositional adhesive coating on flap 26 be about 30 to about 80 gram/cm width when tested according to Test Method A described below. This level of adhesion helps to assure that device 10 remains adhered to the substrate as desired, but at the same time permits it to be removed easily when desired without damaging the surface of the substrate. Further, the release value of the repositionable adhesive coating from back member 14 of sleeve 12 preferably will be about 2 to about 20 gram/cm width when measured according to ASTM P3330-78, Method C.

Hinge 36 may comprise any substantially flexible material which permits proper functioning of hinge 36 as described above. For example, hinge 36 may comprise any substantially conformable film or paper. The preferred hinge 36 comprises a conformable nonwoven tape such as Micropore™ tape which is commercially available from 3M Company in St. Paul, MN. The adhesive of the tape is used to adhere hinge 36 to both flap 26 and sleeve 12.

The device shown in Fig. 4 differs from device 10 illustrated in Figs. 1 to 3 only in that the flap is attached to the side of the sleeve as described hereinafter. This construction facilitates particularly convenient access to both sides of the article. More particularly,

device 50 comprises sleeve 52 comprising front member 54 and back member 56 and defined by top edge 58, bottom edge 60 and two side edges 62 and 64. Front member 54 and back member 56 are joined along bottom edge 60. In the embodiment shown in Fig. 4, front member 54 and back member 56 are also joined along side edges 62 and 64. Front member 54 and back member 56 remain unjoined along top edge 58 to provide an opening through which the article may be inserted into or removed from sleeve 52. As is the case with device 10 illustrated in Figs. 1 to 3, front member 54 and back member 56 may be joined in other configurations so long as sleeve 52 remains capable of retaining an article inserted therein during routine handling and use of the device.

Flap 66 of device 50 is defined by front surface 68 and back surface 70 and has a double-coated tape 72 attached to back surface 70. Exposed surface 78 of tape 72 comprises a repositionable adhesive. Liner 74 covers the repositionable adhesive coating prior to initial use of device 50. Flap 66 is attached to side edge 62 of sleeve 52 by means of hinge 76.

Device 50 may comprise the various respective materials described in the context of device 10.

TEST METHOD

Test Method A

This Test Method A is generally described in ASTM P3330-78, Method C. Test Method A is conducted as follows. A 2 x 5 inch (5.08 x 12.7 cm) strip of double faced adhesive tape available from 3M under the trade designation "410" is applied to the steel panel of a 90 degree test fixture. A sheet material to be tested is applied to the double faced type with the adhesive coating of the sheet material to be measured facing outwardly. A 1.25 x 7 to 9 inch (3.2 x 17.8 to 22.9 cm) polyester film 0.9 mil (0.2 mm) in thickness (available under the trade designation OR-16™ from 3M Company of St. Paul, MN) is applied to the adhesive surface being measured with two passes of a 4.5 lb (9.9 kg) roller. One end of the polyester film is then placed in the upper jaw of a Instron tensile tester (available from Instron Corp. of Canton, MA) and is pulled at a 90 degree angle relative to the steel plate at the rate specified in ASTM P3330-78, Method C. A 1000g load cell is used. The adhesion value in grams per centimeter of width is then determined. Three samples of a given sheet material are tested and the values are averaged.

The above-described method is designated "Test Method A" in the instant specification and claims.

Claims

1. A device for protecting and displaying a substantially flat article, comprising:

a sleeve for receiving and retaining said article, and comprising a transparent front member and a back member, and being defined by a top edge, a bottom edge and two side edges, said front member and said back member being joined along at least said bottom edge, and said front member and said back member forming an opening along substantially the entire length of at least one of said side edges or said top edge through which said article can be inserted into said sleeve;

a flap having a front surface and a back surface, said back surface having a coating over at least a portion thereof of a repositionable adhesive;

and a flexible hinge attaching said flap to an edge of said sleeve, with said back surface of said flap and said repositionable adhesive coating thereon being situated on the same side of said device as said back member of said sleeve;

wherein said repositionable adhesive permits said device to be repeatedly adhered to and removed from a substrate, and said hinge permits contact of said back surface of said flap with said back member of said sleeve so that said flap can be folded over and adhered to said back member to protect said repositionable adhesive coating and reduce the overall dimensions of said device when said device is being stored.

2. A device according to Claim 1, wherein said article is an index card or a photograph.

3. A device according to Claim 1, wherein said flap is attached by said hinge to said top edge of said sleeve.

4. A device according to Claim 3, wherein said front member and said back member are joined along said top edge of said sleeve.

5. A device according to Claim 3, wherein said front member and said back member are joined along said top edge of said sleeve and form an opening along at least one of said side edges of said sleeve.

6. A device according to Claim 3, wherein said front member and said back member are joined along said top edge of said sleeve and form openings along both of said side edges of said sleeve.

7. A device according to Claim 3, wherein said sleeve is substantially rectangular with said top and bottom edges being longer than said side edges and said flap is substantially rectangular.

8. A device according to Claim 1, wherein said flap is substantially rectangular and is attached by said hinge to one of said side edges of said sleeve.

9. A device according to Claim 1, wherein said repositionable adhesive coating is covered with a release liner.

10. A device according to Claim 1, wherein said back member comprises a transparent film.

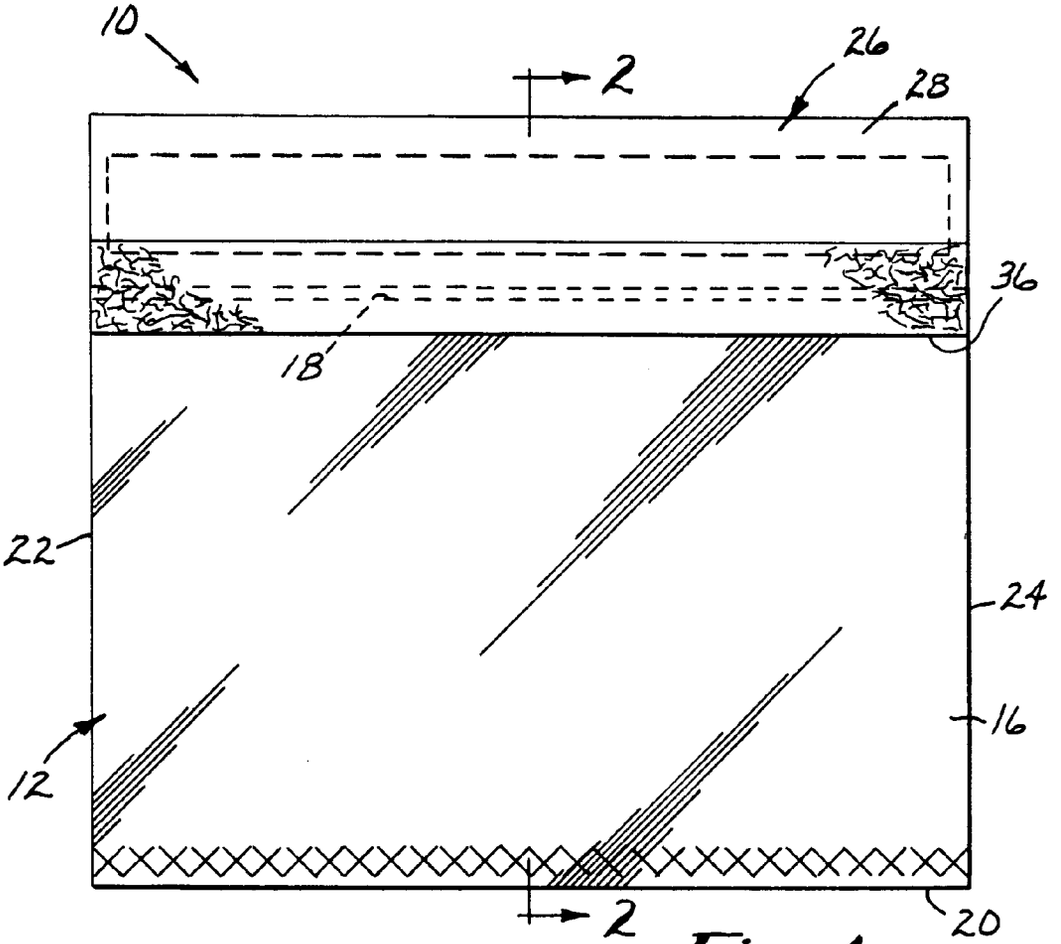


Fig. 1

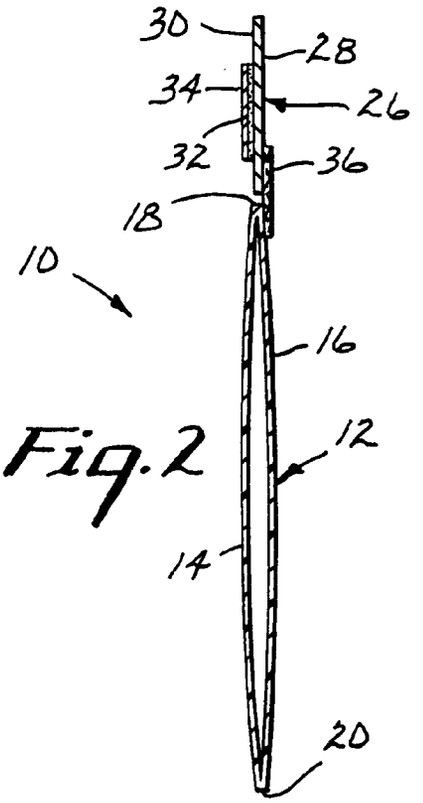


Fig. 2

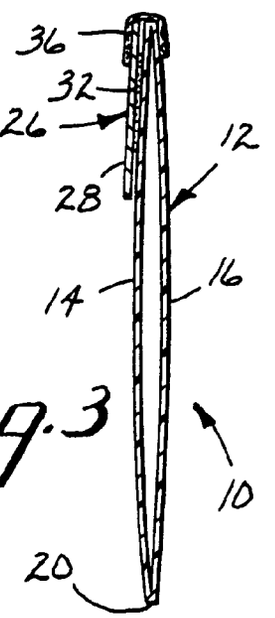
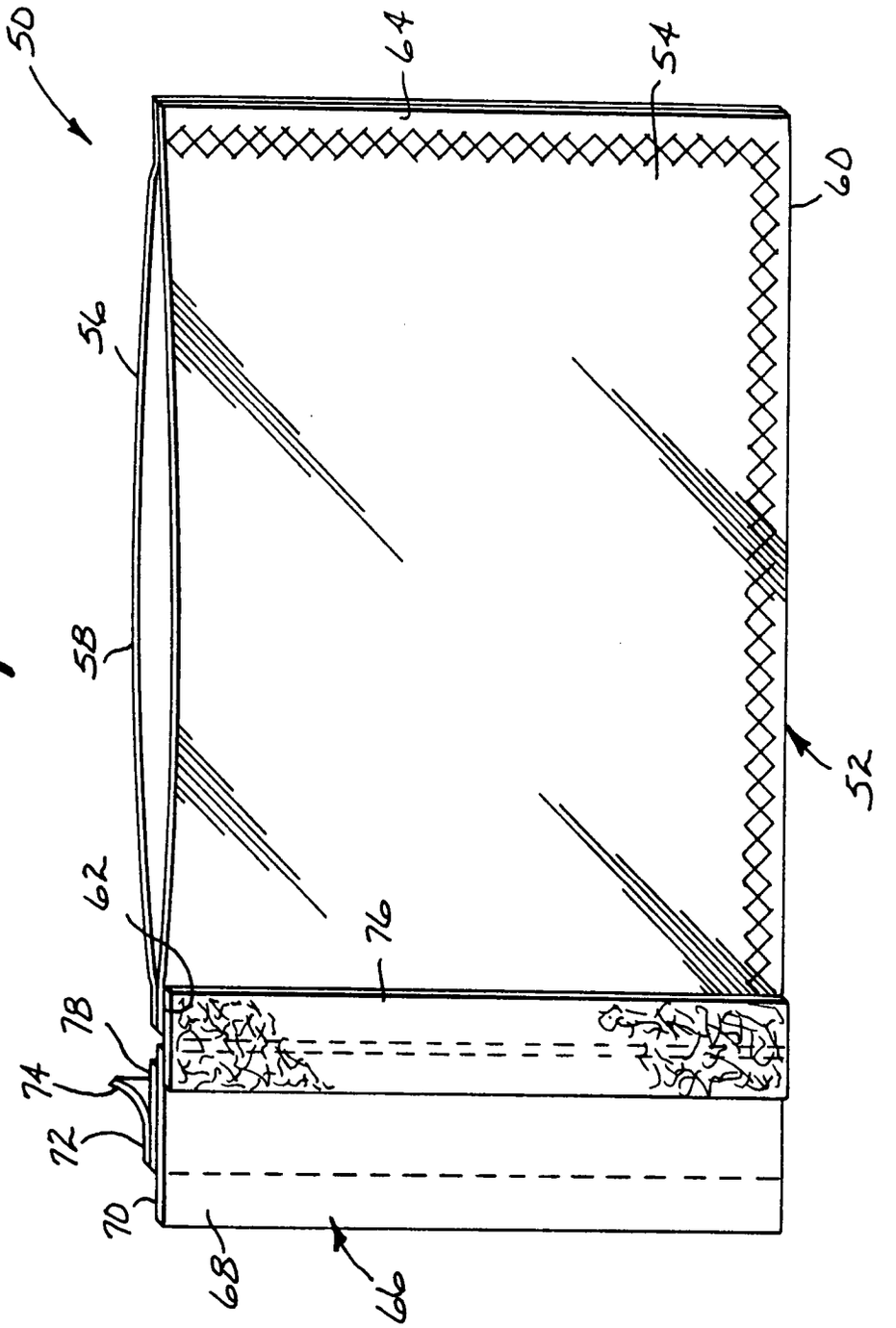


Fig. 3

Fig. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 93 40 1966

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
A	DE-U-86 15 802 (PRINZ VERLAG GMBH) * the whole document * ---	1	B42F5/04 G09F3/20
A	US-A-3 940 778 (CRAIG;KARSTED) * the whole document * -----	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)

B42F
G09F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18 November 1993	MADSEN, P

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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