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(54) **MAGNETIC DISPLAY DEVICE**

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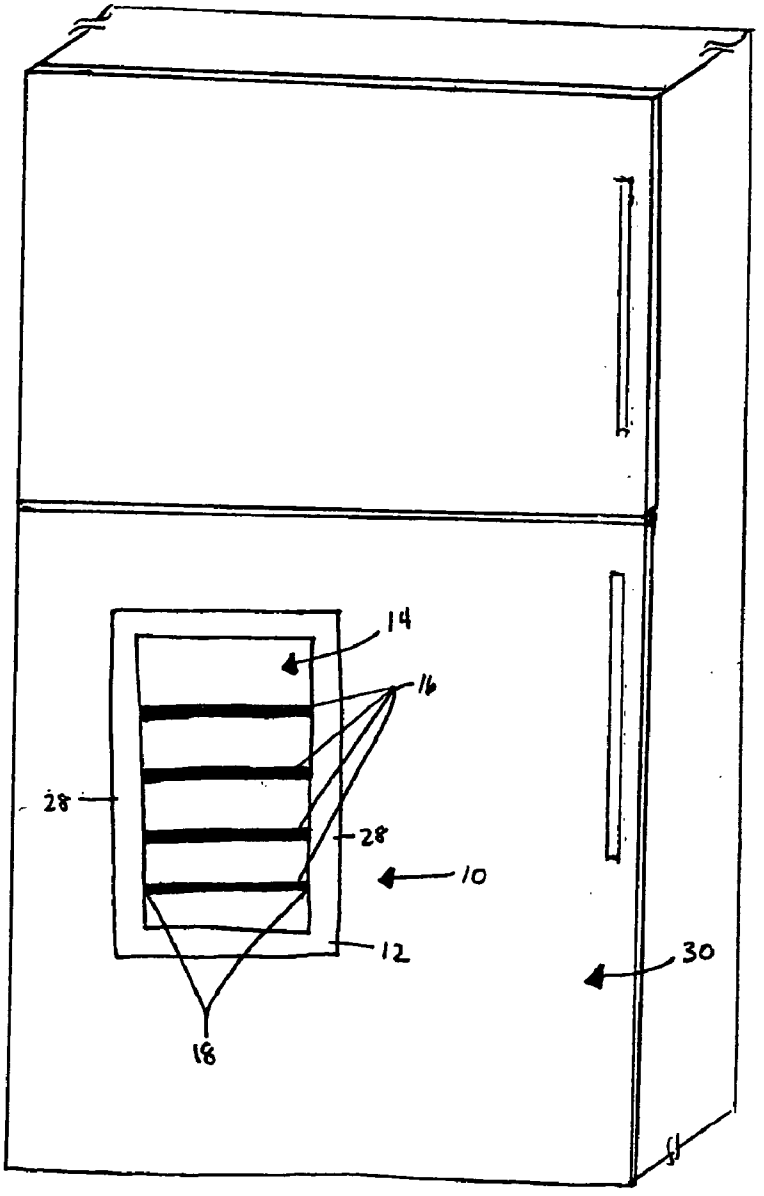
(57) **ABSTRACT**

A display device includes a frame having an open interior, and at least one elongated support member. The support member spans the open interior of the frame, with its ends fastened to the frame. At least one means for attachment is fixed to a back surface of the frame for attaching the frame to a support surface.



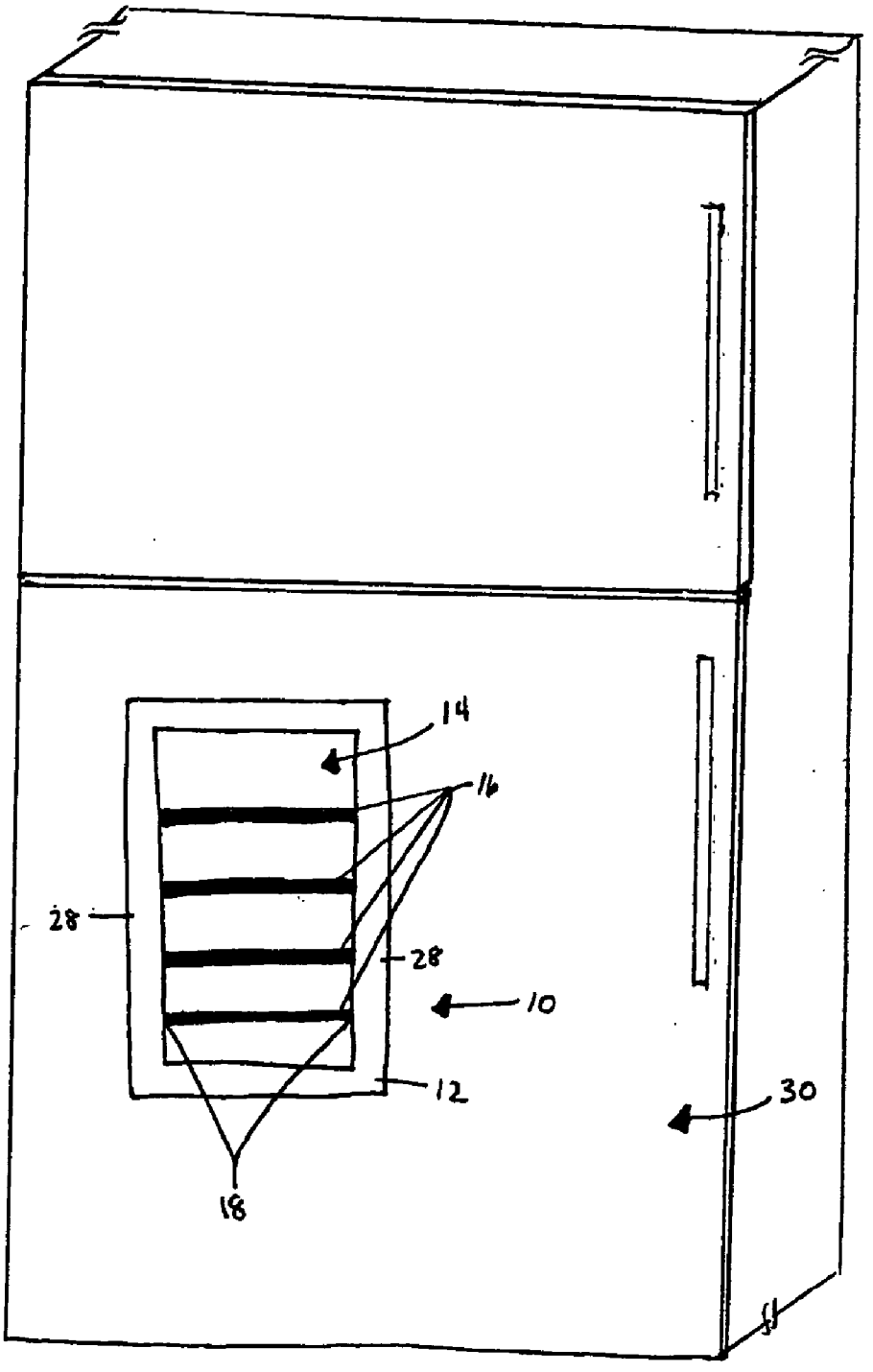


FIG. 1

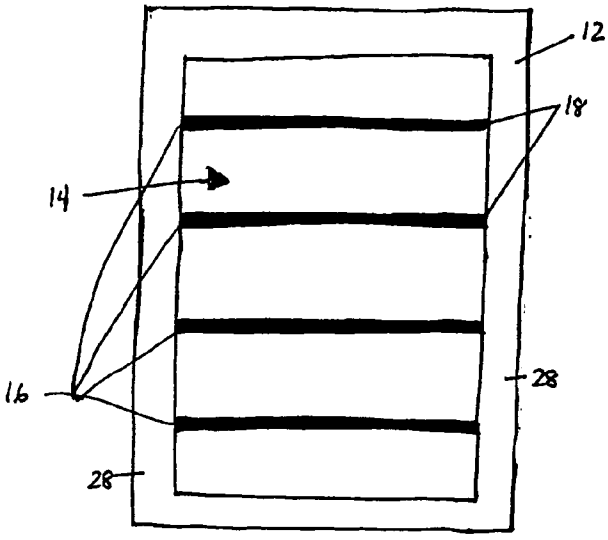


FIG. 2

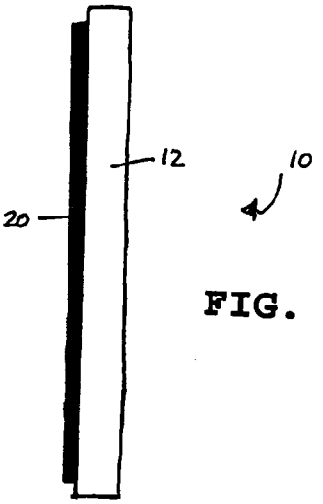


FIG. 3

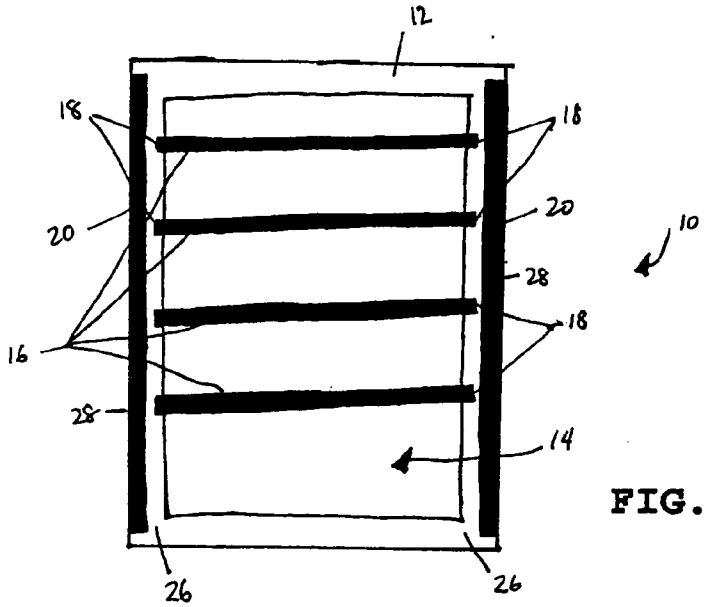


FIG. 4

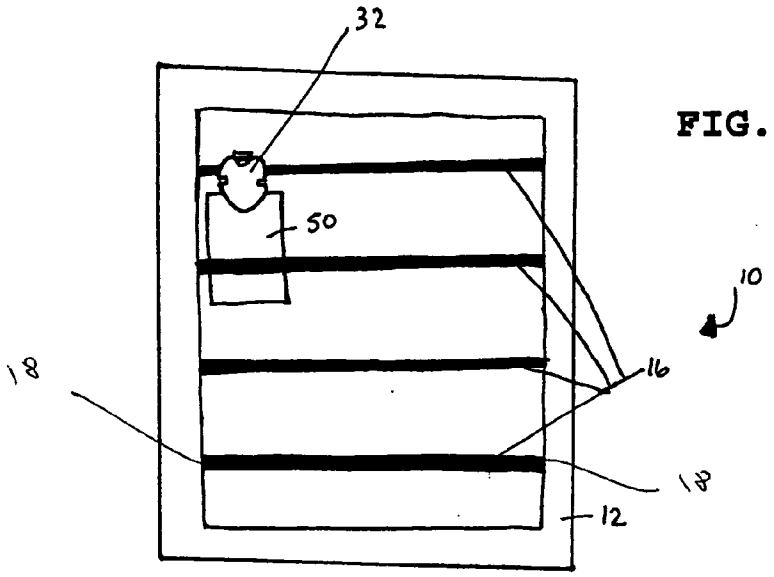


FIG. 5

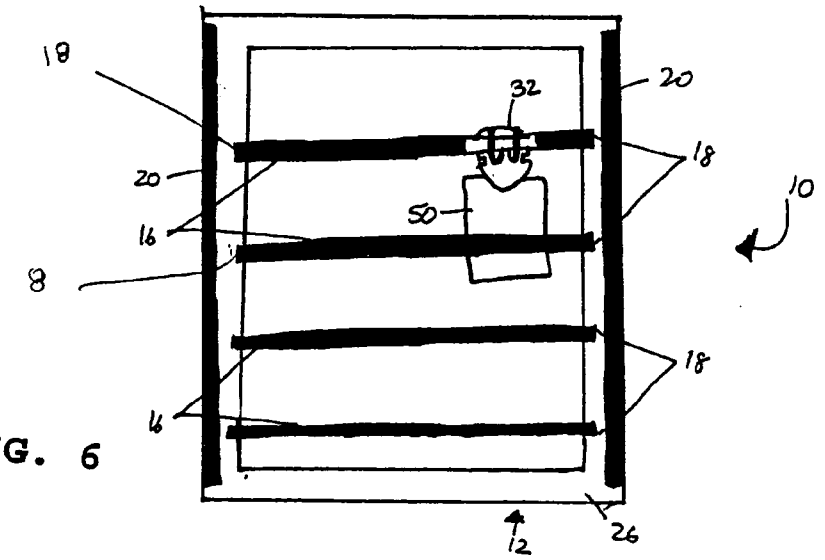


FIG. 6

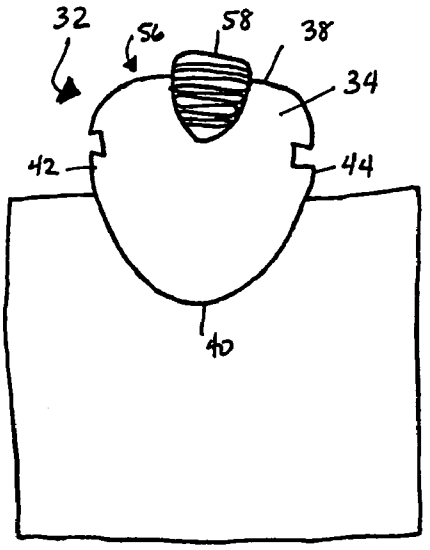


FIG. 7

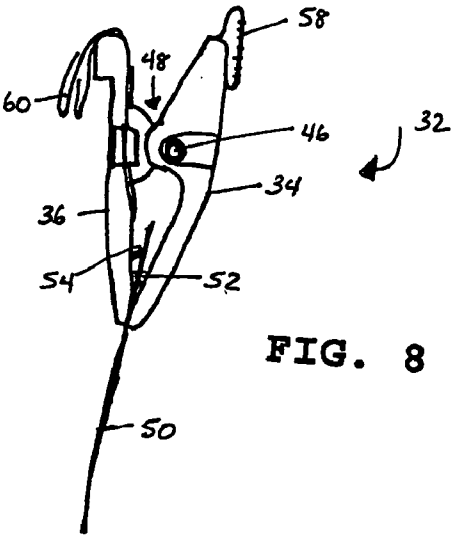


FIG. 8

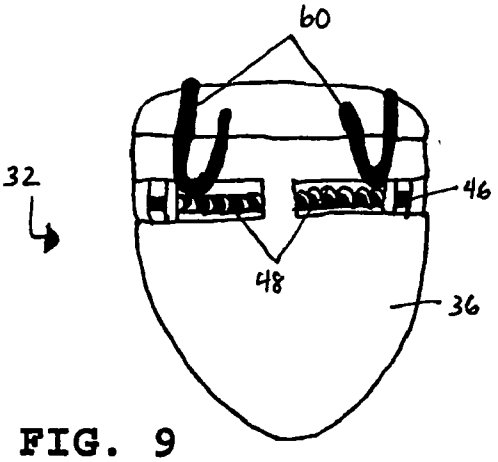


FIG. 9

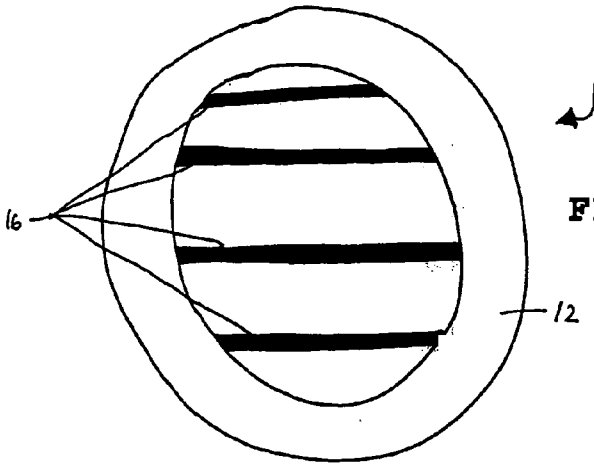


FIG. 10A

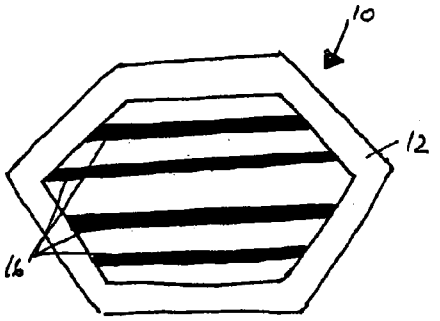


FIG. 10B

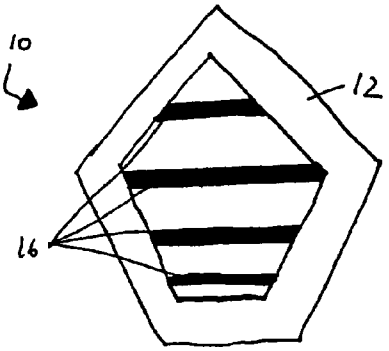


FIG. 10C

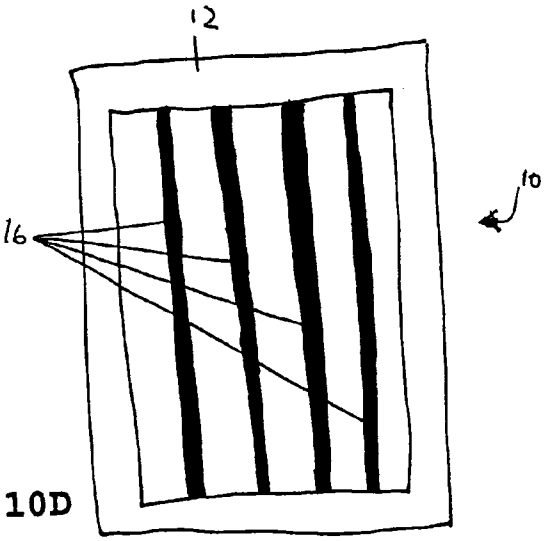


FIG. 10D

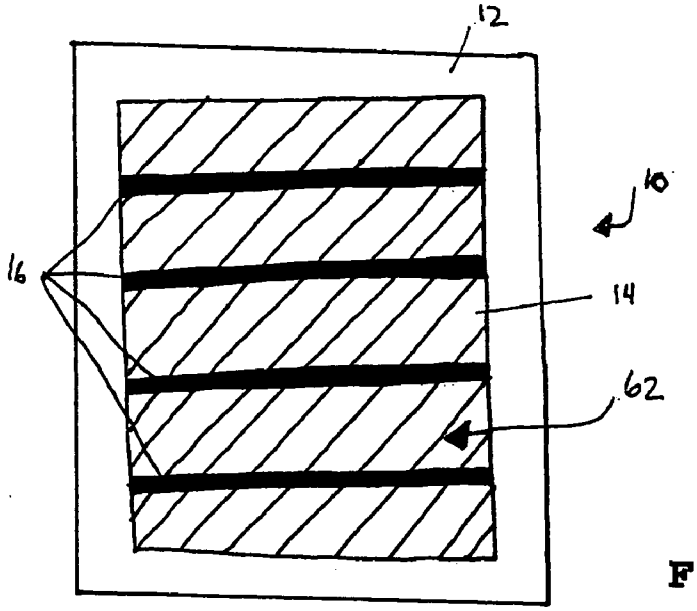


FIG. 11

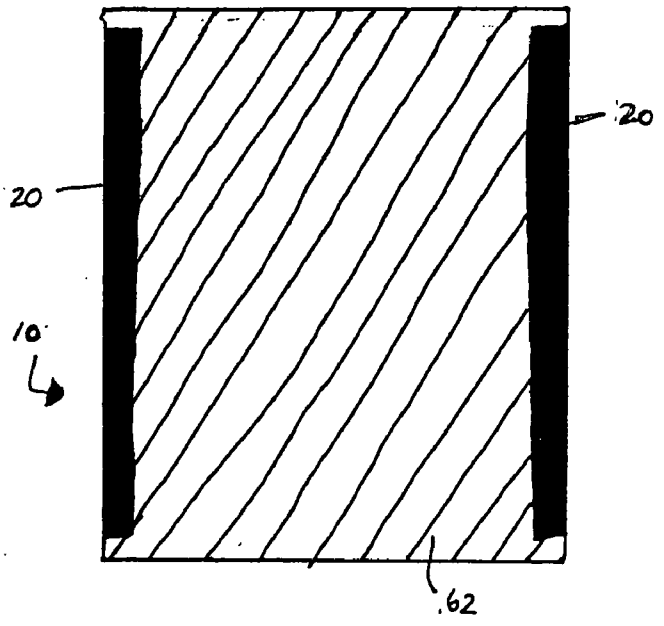


FIG. 12

MAGNETIC DISPLAY DEVICE

BACKGROUND OF THE INVENTION

[0001] The present invention is directed to a display device. More particularly, the present invention pertains to a magnetic display device having a frame with an open interior, at least one elongated support member, and at least one attachment means.

[0002] The prior art references disclose many different types of magnetic displays. Most commonly, individual, variously-sized magnets are placed over papers or photographs to be displayed. Magnetic attractive force holds the magnets and the display articles against a metallic support surface of a home appliance or structure, such as a refrigerator, file cabinet, or locker. Often, one magnet is used to hold more than one article. However, the magnetic strength provided by a single magnet is often insufficient to support a thick sheet of paper, such as a greeting card. When a magnet's holding power is exceeded, the held articles may fall to the floor. This may be annoying and may also result in losing the articles for display.

[0003] In addition, the use of multiple magnets to hold many articles, and their frequently random placement on the support surface, creates a cluttered and unappealing appearance, and fails to provide a means for organizing the articles. The common practice of stacking articles under one or more magnets also presents the consumer with a difficulty in locating the desired articles.

[0004] Known attempts to overcome the disadvantages inherent in the use of individual magnets for holding articles include magnetic frames and display sleeves. An example of such a picture frame may be disclosed in U.S. Pat. No. 4,912,864, issued to Price (the '864 patent). The '864 patent is directed to a rectangular magnetized picture frame made of four tubes with magnetic strips adhesively secured to the rear faces of the tubes. Alternately, corner connectors joining the tubes are made of magnetic materials.

[0005] Another such frame may be disclosed in U.S. Pat. No. 6,688,029, issued to Dunn (the '029 patent). The '029 patent discloses a metal frame with magnets inserted into holes cut into each side of the frame. A common shortcoming found in both of these frames is the necessity for consumers to spend considerable time inserting the article to be displayed into the frame, or carefully holding the article against the support surface while attempting to center the frame about the article. In addition, both of these frames have specific dimensions, thus can only display a limited array of articles with similar dimensions. Further, extracting an article and replacing it with another requires additional time adjusting the frame.

[0006] Another known magnetic fastener includes magnetic sheet material cut into picture frame shapes. The exposed side of the magnetic surface may be coated with colors or designs to increase aesthetic appeal. However, the magnetic sheet material from which the frame shapes are cut is relatively fragile, leading to easy tearing.

[0007] Yet another known display device may be disclosed in U.S. Pat. No. 6,364,126, issued to Enriquez (the '126 patent). The '126 patent is directed to a magnetic refrigerator organizer featuring overlapping display sleeves. Notes, photographs, business cards and the like may be inserted into the sleeves for organization and display. Similar to the frames disclosed in the '864 and '029 patents, inserting and extracting display articles requires the consumer to spend a considerable amount of time adjusting the device. Not all articles are visible at all times, which is disadvantageous.

[0008] Another known display device may be disclosed in U.S. Pat. No. 6,405,465, issued to Dwyer et al. (the '465 patent). The '465 patent is directed to a method of displaying at least one article on a refrigerator, including a magnetically mounted display board, a display panel attached to the board, and a transparent layer for protecting displayed articles. Although display articles are easily attached to the display board, the display board relies on adhesive attachment of the display articles. Over time, the adhesives tend lose their stickiness, requiring frequent reapplication of potentially damaging adhesive to the display articles.

[0009] Accordingly, there exists a need for a lightweight display device having easily positionable means for holding articles of various size for display. Because the device of the present invention does not limit the size and shape of articles to be displayed, as prior art display devices do, a wide variety of irregular and oversized articles may be displayed. Such a device is easily removable from a support surface, yet remains firmly in place until intentionally moved.

BRIEF SUMMARY OF THE INVENTION

[0010] A display device includes a frame having an open interior portion, at least one elongated support member, and a fastener or fastening means fixed to a back surface of the frame for mounting the frame on a support surface. The support member has first and second ends, which are fastened to opposite sides of the frame, and span the open interior of the frame. Each of the support member's ends is fastened to the frame, preferably to the back surface of the frame.

[0011] Preferably, the frame has three or more sides, but may be in any suitable shape, such as a square, rectangle, polygon, circle, oval and the like. The support members may be either horizontally or vertically oriented, and may be formed from wire (stretched or stiff), string, cord, monofilament, or suitable plastic, wood or metal rod.

[0012] In a preferred embodiment, the fastener is magnetic to permit attachment of the frame to a magnetically attractive support surface. For mounting on non-magnetically attractive support surfaces, the fastener may include, for example, non-magnetic means, such as releasable adhesives, hooks, screws, or any other suitable means. Preferably, the device includes at least one removable clip for holding display articles on the support members, positionable over a portion of the support member.

[0013] In an alternate embodiment, the display device may include a solid backing, such paper, plastic, cardboard and the like, that covers the open interior and a portion of the back surface of the frame. The backing may itself be magnetic, or may have at least one magnetic attachment means for mounting the frame to the magnetically attractive support surface.

[0014] Further objects, features, and advantages of the present invention, together with the organization and manner of use thereof, will become apparent from the following

description of the invention when taken in conjunction with the accompanying drawings, wherein like reference numerals designate like elements throughout the several views.

[0015] While the present invention is susceptible to various modifications and alternative forms, specific embodiments thereof are shown by way of example in the accompanying drawings, and will be described in detail. It should be understood that the drawings and detailed description thereof are not intended to limit the invention to the particular form disclosed, but rather the invention is intended to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] **FIG. 1** is a front view of the display device according to one specific embodiment of the present invention, shown mounted on a refrigerator;

[0017] **FIG. 2** is a front view of the display device of **FIG. 1**;

[0018] **FIG. 3** is a side view of the display device of **FIG. 1**;

[0019] **FIG. 4** is a back view of the display device of **FIG. 1**;

[0020] **FIG. 5** is a front view of the display device of **FIG. 1**, showing a clip holding an article for display;

[0021] **FIG. 6** is a back view of the display device of **FIG. 5**;

[0022] **FIG. 7** is a front view of the clip shown in **FIGS. 5 and 6**, shown holding an article for display;

[0023] **FIG. 8** is a side view of the clip shown in **FIGS. 5 and 6**, shown holding an article for display;

[0024] **FIG. 9** is a back view of the clip shown in **FIGS. 5 and 6**;

[0025] **FIG. 10A-10C** illustrate specific alternate embodiments of the display device;

[0026] **FIG. 10D** shows an alternate embodiment of the present invention, illustrating vertical orientation of support members;

[0027] **FIG. 11** is a front view of an alternate embodiment of the display device of the present invention, shown with a backing covering the open interior and back surface of the frame; and

[0028] **FIG. 12** is a back view of the alternate embodiment of **FIG. 11**.

DETAILED DESCRIPTION OF THE INVENTION

[0029] Referring to **FIGS. 1-6**, the present invention is directed to a display device **10**. The device **10** includes a frame **12** having an open interior portion **14**, at least one elongated support member **16** having two ends **18**, and at least one fastener strip or attachment means **20**. The frame **12** is illustrated as being rectangular, but may be formed in any suitable or aesthetically pleasing shape, such as a square, triangle, circle, oval, any polygon or even an irregular shape. Some of these alternate shapes are shown in **FIGS. 10A-10C**. Preferably, the frame **12** is made of a lightweight material, such as wood, plastic, or aluminum, but any suitable material may be used.

[0030] The support members **16** span the open interior portion **14** of the frame **12**, preferably at approximately even intervals for aesthetic appeal. Each support member **16** has first and second ends **18**, which are fastened to opposite sides of the frame. Preferably, the ends **18** are fastened to a back surface **26** of the frame **12** so as not to be visible from the front of the frame. The support members **16** may be fastened by any suitable fastener, for example by screws, nails, staples, pegs, chemical adhesive, or may be "looped" through appropriate apertures (not shown) in the frame. For frame shapes that incorporate opposing sides, such as rectangles, the ends **18** of the support members **16** may be fastened to opposing sides **28** of the frame **12**. If the frame **12** is circular or oval in shape the support members **16** may form a chord perpendicular to and axis or diameter of the frame.

[0031] Although the illustrated embodiments show four support members **16**, a greater or fewer number of support members may be used, depending on the shape and size of the frame **12**. In addition, although the support members **16** are shown in **FIGS. 1-6** as having a horizontal orientation, the support members **16** may also be vertically oriented, as illustrated in **FIG. 10D**. The support members **16** may be formed of wire stretched and fastened to the frame, or may be formed of stiff wire, metal rod, plastic rod, wooden rod, monofilament, and the like. Any suitable material and corresponding method of fastening may be used without departing from the scope and spirit of the invention.

[0032] The fastener strip or attachment means **20** is preferably formed of a magnetic strip of material affixed to the back surface **26** of the frame **12**. As is known, such magnetic material is typically formed of a flexible material impregnated with magnetic material. The fastener strip **20** may be fixed to the back surface **26** of the frame **12** with adhesives, staples, nails, screws, or any other suitable means. As illustrated in **FIG. 4**, the fastener strip **20** is preferably magnetic, for securing the display device **10** to a magnetically attractive support surface **30** (**FIG. 1**), such as a refrigerator, file cabinet, or locker, or any other metal surface. Because the interior **14** of the frame **12** is open, the support surface **30** may be seen through the frame. Although **FIGS. 3, 4**, and **6** depict the attachment strip **20** as two magnetic strips extending along the entire length of opposing sides **28** of the frame **12**, other types of magnetic fasteners may be employed, such as shorter magnetic strips, or individual magnets. The attachment strips **20** depicted in **FIG. 3** are shown with an exaggerated thickness for purposes of clarity, and are not drawn to scale. Further, for non-magnetic support surfaces **30**, the attachment means **20** may include releasable adhesives, hooks, screws, or any other suitable means of securing the display device **10** to a support surface.

[0033] In the specific embodiment of **FIGS. 5-6**, a clip **32** is shown removably positioned over a portion of the support member **16**. As shown in **FIGS. 7-9**, the clip **32** includes front and back pieces **34, 36**, each with curved top, bottom, right, and left edges **38, 40, 42, 44**. The front and back portions **34, 36** are operatively coupled to one another with a post **46** inserted along the right and left sides **42, 44** of both pieces **34, 36**. A circular spring **48** surrounds a portion of the

post **46** located between the right and left sides **42**, **44** of the front and back pieces **34**, **36** of the clip **32**.

[**0034**] In normal operation, the spring **48** maintains the bottom edges **40** of the front and back pieces **34**, **36** of the clip **32** are in a closed state, abutting each other. When the top edges of the clip **32** are squeezed together, the bottom edges **40** separate permitting placement of an article **50** between the bottom edges. Accordingly, when the top edges **38** are released, the bottom edges **40** return to their closed state, now firmly grasping the article **50**. The clip may releasably retain any article selected by the user, such as paper, photographs, notes, letters, documents, cloth, fabric, or any other suitable item typically having indicia thereon. Optional teeth **52** may be formed on inner surfaces **54** of the front and back pieces **34**, **36** of the clip **32**, for increased grasping security.

[**0035**] An upper portion **56** of the front piece **34** may include a ridged gripping portion **58** overhanging the top edge **38**. The gripping portion **58** facilitates squeezing the top edges **38** of the front and back pieces **34**, **36** together.

[**0036**] Substantially U-shaped hooks **60** also may be attached to the back piece **36** of the clip **32**, as shown in **FIGS. 8-9**. The hooks **60** may removably secure the clip **32** to a portion of the support member **16**. Although the hooks **60** are depicted as substantially U-shaped, they may be formed in any shape capable of securing the clip **32** to the support member **16**. In addition to allowing the clip **32** to be removed entirely from the support member **16**, the hooks permit the clip **32** slide along the support member to a desired position so that the article **50** may be displayed along the support member at any convenient or aesthetically pleasing position. The ease of removing and opening/closing the clip **32** provides consumers with a quick, simple means of switching between articles to be displayed. Any suitable clip may be used. For example, a spring-biased clothespin may be used to secure articles.

[**0037**] Use of the display device to display articles is straightforward (see **FIGS. 5-6**). An article **50** intended for display is inserted between the front and back pieces **34**, **36** of the clip **32**. The clip **32** then is positioned, via its hooks **60**, on the support member **16**. The clip **32** may be slid to a desired position along the support member **16** without removing the clip from the member. Alternately, the article **50** intended for display may be inserted between the front and back pieces **34**, **36** of the one clip **32** while the clip remains positioned, via its hooks **60**, on the support member **16**. The user may easily change the articles for display by unclipping one article and re-clipping another it its place. Once clipped, articles **50** are free to overhang any of the sides **28** of the frame **12**. Because the size of the article **50** displayed is not limited by the frame **12**, a wide variety of articles may be displayed using the device of the present invention.

[**0038**] In a specific alternate embodiment shown in **FIGS. 11-12**, the display device **10** includes a solid backing **62**, which covers the open interior **14** and part or all of the back surface **26** of the frame **12**. The backing **62** may itself be magnetic, or may be made of stock paper, cardboard, plastic and the like. The backing **62** may be attached to the frame **12** using any suitable fastening method, such as for example, screws, nails, staples, hook and loop, and the like. In contrast to the embodiment disclosed in **FIGS. 1-6**, the backing in this specific embodiment hides the underlying support surface.

[**0039**] While the invention has been described in connection with certain embodiments, it should be understood that it is not intended to limit the invention to these particular embodiments. To the contrary, it is intended to cover all alternatives, modifications, and equivalents falling within the spirit and scope of the invention.

What is claimed is:

1. A display device for displaying objects having indicia thereon, the device comprising:

a frame having an open interior portion;

at least one support member having first and second ends, said first and second ends fastened to opposite sides of the frame and spanning the open interior portion;

the support member configured to releasably support the objects having indicia; and

a fastener configured to removably mount the frame on a flat vertically oriented support surface.

2. The device of claim 1, wherein the ends of the at least one support member are fastened to a back surface of the frame.

3. The device of claim 1, wherein the objects having indicia are selected from the group consisting of a photograph, memo, note, card, paper object, cloth, and fabric.

4. The device of claim 1, wherein the frame is formed in a shape selected from the group consisting of a square, rectangle, triangle, circle, oval, and polygon.

5. The device of claim 1, wherein the at least one support member is horizontally oriented.

6. The device of claim 1, wherein the at least one support member is vertically oriented.

7. The device of claim 1, wherein the at least one support member is selected from the group consisting of wire, metal rod, plastic rod, wooden rod, metal bar, string, cord, and monofilament.

8. The device of claim 1, wherein the fastener is a magnetic strip affixed to a back portion of the frame.

9. The device of claim 1, wherein the fastener is in the form of a hooks adapted to receive hanging wire or string.

10. The device of claim 1, wherein the support surface is formed of metal.

11. The device of claim 1, further including at least one clip for retaining the objects having indicia on the support member.

12. A display device for displaying objects having indicia thereon, the device comprising:

a frame having an open interior portion;

at least one elongated support member having first and second ends, said ends fastened to opposite sides of the frame, respectively, and spanning the open interior portion; and

a magnetic fastening material affixed to a back surface of the frame configured to removeably mount the frame on a corresponding flat metal support surface in a vertical orientation.

13. The device of claim 12, wherein the objects having indicia are selected from the group consisting of a photograph, memo, note, card, paper object, cloth, and fabric.

14. The device of claim 12, wherein the frame is formed in a shape selected from the group consisting of a square, rectangle, triangle, circle, oval, and polygon.

15. The device of claim 12, wherein the at least one support member is horizontally oriented.

16. The device of claim 12, wherein the at least one support member is vertically oriented.

17. The device of claim 12, wherein the at least one support member is selected from the group consisting of wire, plastic rod, metal rod, wooden rod, string, cord, and monofilament.

18. A display device for displaying objects having indicia thereon, the device comprising:

a frame having an open interior portion;

at least one elongated support member having first and second ends, said ends fastened to opposite sides of the frame, respectively, and spanning the open interior portion;

attachment means for removeably mounting the frame on a corresponding flat metal support surface in a vertical orientation; and

at least one removable clip attached to the support member configured to releasably retain the objects having indicia thereon.

19. The device of claim 18, wherein the objects having indicia are selected from the group consisting of a photograph, memo, card, note, paper object, cloth, and fabric.

20. The device of claim 19, wherein the frame is formed in a shape selected from the group consisting of a square, rectangle, triangle, circle, oval, and polygon.

* * * * *