Feb. 11, 1969 A. S. MOHR 3,427,642

ANIMATED DISPLAY DEVICE

Filed July 22, 1966

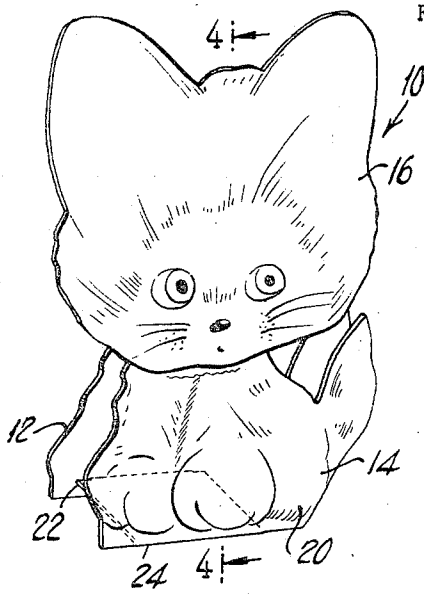


Fig. 1.

Fig. 2.

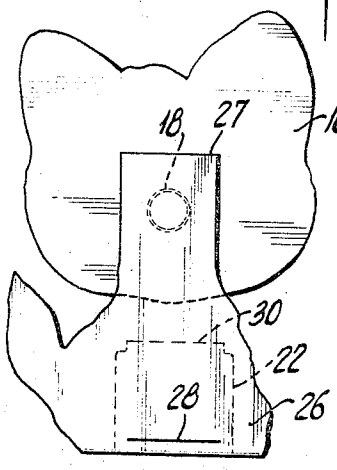


Fig. 4.

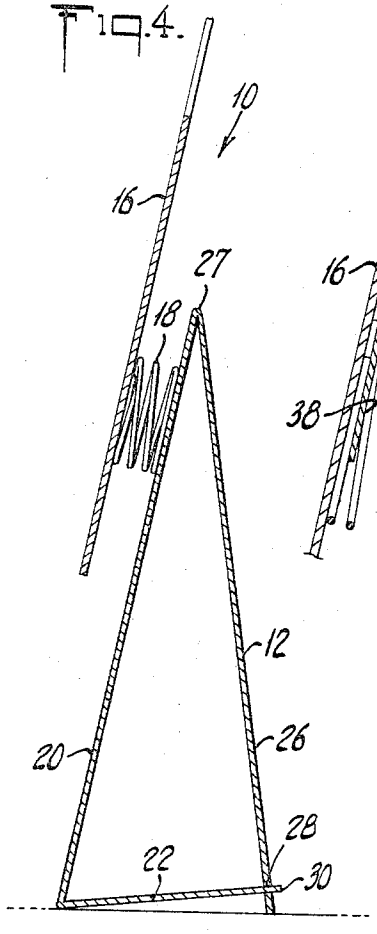


Fig. 5.

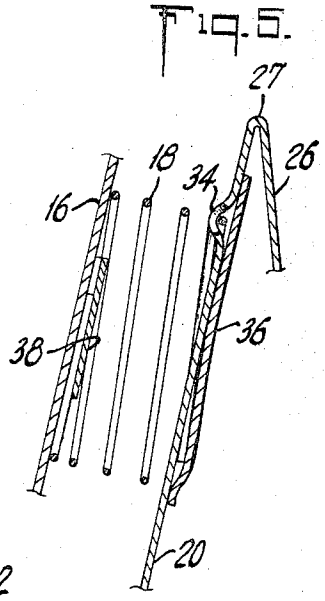
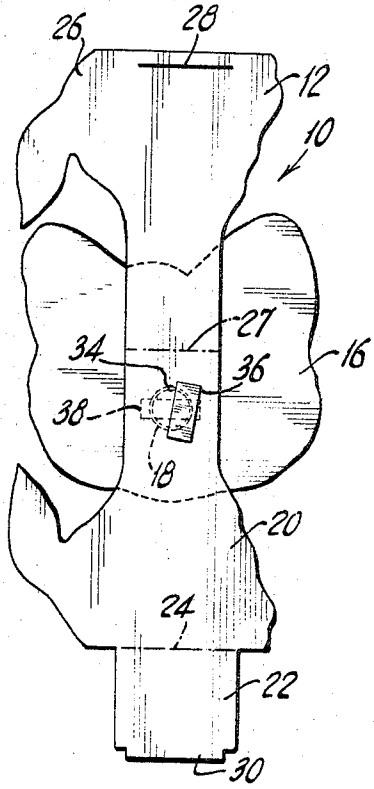


Fig. 3.



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ANIMATED DISPLAY DEVICE

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Int. Cl. G09f 1/08; A63h 13/00, 9/00

ABSTRACT OF THE DISCLOSURE

A greeting card having a freely oscillatable member coupled to the card via a coiled spring with one coil passing through the card and supported over a relatively large area of the rear surface to resist any tearing of the material during oscillation of the member.

This invention relates to a display device in general and more particularly relates to display devices, such as greeting cards, which provide free and separate movement of one part of the greeting card without disturbing the remainder of the device and which part is connected in such a manner to allow the device to be made from paper material.

It is a principal object of the present invention to provide a display device having an attachment articulatedly mounted on an easily torn material, which allows the attachment to be freely oscillated or rocked without disturbing the remaining portion of the device.

It is another object of the present invention to provide a greeting card formed of one sheet of material in the form of a body of an animal, having an articulated head mounted on the body, so that the head can be freely oscillated without rocking the body.

A still further object of the present invention is to provide a display device, such as a greeting card, having an articulated portion securely mounted to the body of the device so as not to tear or puncture the body and yet to allow free rocking and swaying movement of the portion and which device is readily collapsible to a flat position for insertion in an envelope.

A still further object of the present invention is to provide a greeting card scored and foldable from a single piece of sheet material, such as cardboard having an oscillating and rocking member positively mounted on it by means of a coil spring without using staples or other metallic connections, and which card can be collapsed to a flat position.

Another object of the present invention is to provide a folded display device with the provision of an articulated member, which device is easy to manufacture and fabricate, simple in construction, positive-acting in operation, capable of mass production, economical, and is durable in use and storage.

Other and more detailed objects of the present invention will be apparent from the following description of the preferred embodiment selected for illustration in the attached drawing, wherein:

FIGURE 1 is a front perspective view of one embodiment of the present invention showing a display device in the form of a kitten having the head mounted for oscillating movement;

FIGURE 2 is a rear elevational view of the device in collapsed position;

FIGURE 3 is an expanded flat view of the device showing the body cut from a single sheet of material and the head mounted to the body;

FIGURE 4 is an enlarged, cross-sectional side elevational view taken along line 4—4 of FIGURE 1; and

FIGURE 5 is an enlarged fragmentary view showing the coil spring connecting the head to the body.

The drawing shows one embodiment of the present invention in the form of a greeting card **10**, constructed from a single piece of material **12**, such as light cardboard. The card, as here shown, illustrates a body **14** of a kitten having a member of head **16** freely attached to body **14** by means of a flexible coil spring **18**. Body **14** is formed of a front panel **20** and a rear panel **26** hingedly joined about a fold line **27**. As seen best in FIGURE 3, front panel **20** of card **10** is provided with an extension **22** integrally connected along a fold line **24**. Extension **22** has a lip **30** extending outwardly therefrom forming a tab. Adjacent the free edge of rear panel **26** is a slit **28**, which frictionally receives tab **30** when card **10** is in assembled position. Front panel **20** and rear panel **26** are integrally connected along fold line **27**, which forms the neck of the animal. On front panel **20** spaced downwardly from fold line **27** in the neck portion of the animal is an aperture or opening **34**. In mounting head **16** on body **14** one end of a coil spring **18** is inserted through opening **34** and the coil advanced about a half to a full turn, so that a portion of the helix extends through opening **34** and abuts the inner surface of the front panel **20** as seen best in FIGURES 3 and 5. A strip of pliable material **36** is disposed across the exposed portion of coil spring **18** and adhesively attached to the inner surface of panel **20** to prevent accidental unwinding of coil **18**. The opposite end of coil **18** is mounted flush against the inner surface of head **16**. A pliable strip **38** overlies the end coil and extends beyond the circumference of the coil **18** and is adhesively attached to the surface of head **16** to securely hold the end coil flush against the inner surface **16**, as seen best in FIGURE 5. Strips **36** and **38** are attached to device **10** with a suitable adhesive, or each could be a self-sticking tape or adhesive tape. Coil **18** has the individual helices spaced apart a predetermined distance, so that the head or surface is spaced from the body when the coil is in unstressed condition. The strand of material forming coil **18** has sufficient rigidity to hold head **16** spaced from the front panel **20** as shown in FIGURE 4, but is undamped and allows free rocking and shaking movement about the axis of coil spring **18** when head **16** is pivoted, so that head **16** is freely articulated. Coil **18** is mounted with respect to panel **20**, so that its longitudinal axis is about at right angles to the plane containing panel **20**.

The body of card **10** is formed from a single sheet of material and base or extension **22** is folded about fold line **24** and the rear panel **26** is folded about fold line **27**. Locking tab **30** is inserted into slot **28**, so that the card **10** will stand in upright position as shown best in FIGURE 4. Head **16** is freely oscillated about the axis of spring **18** on body **14**, whenever the head is slightly rotated or touched. The card is collapsed with extension **22** folded about fold line **24** abutting the inner surface of front panel **20** and rear panel **26** is folded about fold line **27** and juxtaposed to the inner surface of front panel **20**. Head **16** is juxtaposed against the outer surface of front panel **20** by compressing coil **18**. With head **16** so positioned, card **10** can be inserted easily into a conventional envelope, not shown.

Advantageously, outer surface of front panel **20** and head **16** is provided with various illustrations, as shown and the outer surface of rear panel **12** or the bottom surface of extension **22** may have various verses, rhymes or other messages, if desired.

In a further embodiment the articulated surface or member could be mounted on the inner surface of a two-panel greeting card, so that the greeting card when closed compresses the articulated member and opening the greeting card allows the member to spring out and vibrate and

oscillate about the longitudinal axis of the spring by reason of the release of the compressing force. Since there is little damping of the oscillation, the movement of the member continues for quite a few seconds.

The present invention provides a member so connected to a panel made of material which could be torn or ripped easily such as thin paperboard or cardboard, that the member is easily oscillated and vibrated with respect to the panel, without ripping or tearing of the panel material, even with relatively hard use. The present invention is useful as centerpiece or decoration for parties and the like. It can take the form of various animals and characters, where rocking and oscillating movement is required.

From the foregoing explanation it will be apparent to those skilled in the art that the present invention lends itself to various cards, folders, books and the like and that various changes may be made in the design and arrangement of parts or in the material or construction without departing from the spirit and scope of this invention, which is expressed in the appended claims.

What is claimed is:

1. A display device having a freely oscillatable member comprising at least one panel made of a tearable material, said member spaced from and overlying one surface of said panel, and a coiled helical spring coupling said panel and said member to provide essentially parallel movement of said member to said panel.

2. A display device in accordance with claim **1**, in which said panel is in the shape of an animal body and said member is in the shape of the head of said animal, and further including a base interconnected to said panel for supporting said display device in standing position, said base being collapsible.

3. A display device in accordance with claim **1**, wherein said coil has adjacent helices spaced apart in unstressed condition and has sufficient rigidity to maintain said spaced apart relation in unstressed condition.

4. A display device in accordance with claim **3**, wherein the longitudinal axis of said coil is about 90° to the planes containing said member and said panel, respectively.

5. A display device in accordance with claim **1**, wherein said panel has an opening therein and the end helix of said spring facing said panel extends through said opening and abuts the surface opposite to said one panel surface.

6. A display device in accordance with claim **5** further including a pliable strip overlying and extending beyond the end helix of said spring and affixed to the surface of said member facing said one surface of said panel for attaching said coil to said member and a second pliable strip overlying the portion of the coil extending through said opening in said panel and being affixed to said opposite panel surface for attaching said coil to said panel.

7. A display device in accordance with claim **3** further including a second panel integrally connected to said one panel along a fold line and overlying said one surface of said panel, said coil being compressed in response to said second panel being folded over said member and said one panel in closed position, said member springing away from said one panel in response to said second panel being pivoted away from said one panel so that said member shakes and vibrates freely.

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U.S. Cl. X.R.

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