ABSTRACT

A picture frame, method and system for attaching a frame to a wall surface is described, in which the picture frame includes a frame and backing. The backing has at least a central hole formed therein so as to be positioned at the central axis of the frame to receive a fastener so that the picture frame is rotatable about its central axis on the surface. In the system, a template includes indicia marking the central axis of the picture frame so that the frame is swiveled about its central axis while attached to the wall. The picture frame aligns with the indicia marking the frame central axis on the template for marking the wall surface, the template is removed, and a fastener secures the frame via its backing, the picture frame maintaining its center axis while being rotatable about the fastener on the wall surface.
FIG. 2

LEVELS OF SECURITY

LOW
MEDIUM
HIGH

FIG. 3
PICTURE FRAME, METHOD AND SYSTEM FOR ATTACHING A PICTURE FRAME TO A WALL SURFACE

PRIORITY STATEMENT


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BACKGROUND

[0003] 1. Field
[0004] The example embodiments in general relate to a picture frame, methods and systems of attaching picture frames to wall surfaces.
[0005] 2. Related Art
[0006] Frames such as picture frames are known in the conventional art. But, the conventional related art fails to provide frames that are configured in so as to rotate and maintain a desired distance from other objects on a flat surface such as a wall surface. The conventional art also fails to provide frames that may be rotated or reoriented by hand while maintaining its central axis upon the flat surface or wall.
[0007] Typically when hanging picture frames on a surface or wall, existing hardware on the frame (or on the frame back board) is affixed to the top or sides of the frame. Alternatively a wire is strung across the back of frame, going side to side. When the frame is oriented in a portrait position, hardware is attached to the top or sides of the frame. When the frame is oriented in a landscape position, the hardware is again affixed to top or side of frame. This necessitates two different and separate positions for surface hardware (and frame hardware) if it is desired to maintain the center axis of frame on a particular surface position or point.
[0008] By the same token, if one simply keeps a single nail or hook position on a flat/wall surface and reorients the frame from landscape to portrait (or vice versa), the bottom and or top of the frame must be raised and/or lowered accordingly. Further the necessity of having to hang two different sets of surface hardware in order to maintain the frame centered at a particular point has the following shortcoming. When the frame is reoriented from the portrait to the landscape position, the hardware invariably is seen above the frame now in the landscape position; this proves unsightly. This process is further complicated when having multiple frames in a wall surface working in unison to achieve a desired effect. Changes in a single frame orientation (within a group or sequence) have an undesirable effect on the entire group, typically changing the spacing between adjacent frames and requiring the moving of additional frames in the group.
[0009] In the conventional art, there are picture leveling templates designed to aid a user in arranging picture frames on a wall surface. While these conventional templates may assist with leveling and spacing of picture frames, the templates do not account or allow for rotation and repositioning of the picture frame. In other words, conventional templates do not allow for a frame or other object to be mounted on a wall surface so that the frame or object is rotatable about its central axis therein.

SUMMARY

[0010] An example embodiment is directed to a picture frame configured to be attached to a surface. The picture frame includes a frame, and a backing including a central hole formed therein so as to be positioned at the central axis of the frame and configured to receive a fastener there through so that the picture frame is rotatable about its central axis on the surface.

[0011] Another example embodiment is directed to a picture frame configured to be attached to a surface. The picture frame includes a frame, and a backing having a front and a rear surface. The rear surface includes mounting hardware on at least two sides spaced equidistant from a center axis point of the frame so that the frame is repositionable about its center axis on the surface.

[0012] Another example embodiment is directed to a compensator device for a picture frame, the frame having a backing. The compensator device includes a planar member for attachment between the backing and a hanging surface on which the frame is to be mounted. The planar member has a front surface facing a rear surface of the backing and a rear surface facing the hanging surface. The planar member is aligned with the frame so that the center axis of the planar member is aligned with the center axis of the frame, and so that the compensator device maintains the center axis of the frame on the hanging surface regardless of the size, shape or orientation of the frame while compensating for a distance from the backing to the hanging surface.

[0013] Another example embodiment is directed to a swivel device for securing a picture frame to a wall surface, the picture frame having a backing. The swivel device includes a front swiveling section attached directly to a rear surface of the backing at a central axis point of the frame. The front section is adapted to provide 360° rotation of the frame about its central axis. A fixed rear section of the device attaches to the front section, the rear section configured for attachment to a wall surface.

[0014] Another example embodiment is directed to a method of hanging a picture frame on a wall. In the method, a frame with backing is placed against the wall, the backing including a central hole formed therein that is positioned at the central axis of the frame. A fastener is inserted through the central hole into the wall, the frame swiveling about the fastener, the frame maintaining its central axis position as a desired position is attained.

[0015] Another example embodiment is directed to a system for attaching a picture frame to a wall surface. The system includes a template for use against the wall surface, the template including indicia thereon. The indicia further includes indicia marking the central axis of a picture frame to permit any picture frame to be aligned thereon for attachment to the wall surface so that the frame is swiveled about its central axis in any direction while attached to the wall. The picture frame has a backing, the picture frame aligned with the indicia marking the frame central axis on the template for marking the wall surface and thereby the template removed. A fastener is adapted to secure the frame via its backing through its center axis, the picture frame maintaining its center axis while being rotatable about the fastener on the wall surface.
Another example embodiment is directed to a method for attaching a picture frame to a wall surface. In the method, a template is placed against a wall, the template including indicia indicative of the central axis of the frame. The wall surface is marked through the indicia and the template removed. A picture frame is mounted using the markings on the wall surface, the picture frame being rotatable or repositionable about its central axis on the surface so that existing holes in the wall can be re-used.

Another example embodiment is directed to a method for attaching a picture frame to a wall surface. In the method, a template is placed against a wall, the template including at least a center hole indicia indicative of the central axis of the frame. The wall surface is marked through the center hole indicia and the template removed. A picture frame is mounted using the markings on the wall surface, the picture frame being rotatable about its central axis on the surface.

Another example embodiment is directed to a system for attaching a picture frame to a wall surface. The system includes a template for use against the wall surface, the template including at least a center hole indicia indicative of the central axis of the frame. The picture frame has a backing, the backing including a central hole formed therein that is positioned at the central axis of the frame. The picture frame is adapted to be placed over the template with the central hole aligning with the center hole indicia on the template, the center hole indicia marked on the wall surface and template removed. A fastener is adapted to secure the frame through the wall marking, the picture frame maintaining its center axis while being rotatable about the fastener on the wall surface.

Another example embodiment is directed to a system for attaching a picture frame to a wall surface. The system includes a template for use against the wall surface, the template including indicia on a front thereof marking the central axis of a picture frame to permit any picture frame to be aligned thereon for attachment to the wall surface so that the frame is repositionable about its central axis using a wall surface marking made at the indicia marking the frame central axis. The picture frame has a backing, the picture frame aligned with the indicia marking the frame central axis on the template for marking the wall surface and thereafter the template being removed. A fastener is adapted to secure the frame via its backing through its center axis, the picture frame removed and re-attachable to the wall surface using the existing hole in the wall surface.

Another example embodiment is directed to a system for attaching a plurality of picture frames to a wall surface. The system includes a template comprising a plurality of separable picture frame hanging modules for use against the wall surface, each module including indicia indicative of the central axis of the frame for attachment of the picture frame to the wall surface. The system also includes at least two picture frames, each picture frame including a backing. Each picture frame is aligned with indicia marking the frame central axis on its hanging module for marking the wall surface and thereafter the template removed. A fastener is adapted to secure each frame via its corresponding backing through its center axis, each picture frame maintaining its center axis while being rotatable about its corresponding fastener on the wall surface.

Another example embodiment is directed to a method for attaching multiple picture frames to a wall surface. In the method, a template is placed against the wall surface, the template including multiple frame hanging modules, each hanging including indicia indicative of the central axis of a frame. The wall surface is marked through the indicia of each hanging module for each frame to be hung, and the template is removed. Two or more picture frames are mounted using the markings on the wall surface, the picture frames being rotatable or repositionable about its central axis on the surface. The mounted picture frames are rotatable into one of a portrait position and a landscape position without being removed from the wall surface and without interfering with adjacent picture frames in a sequence.

Another example embodiment is directed to a template for mounting one or more objects on a surface. The template includes at least one planar sheet of pliable material for use against the surface, the sheet having a pair of opposite side edges, a top edge, bottom edge, front and rear surfaces, and one or more object indicia disposed on one of the front and rear of the sheet, each object indicia having a center axis of rotation aligning with a center axis of an object to be mounted. The template further includes one or more fastener placement indicia configured to be marked so that one or more marks are made on the object and mounted on the wall surface. The object is rotatable in either direction about its center axis on a single central fastener, or repositionable about one or more fasteners other than the central fastener while maintaining its center axis constant.

Another example embodiment is directed to a picture frame configured to be attached to a surface. The picture frame includes a frame and a transparent backing, the backing configured with one of mounted hardware or a hanging hole to receive a fastener there through.

Another example embodiment is directed to a method for determining locations of printed indicia for a template used to hang objects in a group on a surface so that on object in the group does not interfere with another when rotating the object on the surface or repositioning the object at the same point on the surface in the group. The method includes hanging one of the objects on a wall surface at its center axis point in one of a landscape or portrait orientation, after which the frame is rotated along the wall surface to a portrait orientation. From the rotation, a longest diagonal distance from an outside corner point of the object to the center axis point of the object as the object rotates from a landscape to portrait orientation is determined as a minimum distance between adjacent objects on the surface so that an object can rotate on the surface and not interfere with an adjacent object in the group. The method further includes determining that half of the object's major axis length is a limiting distance for removing and repositioning the object on the wall in a different orientation without interfering with an adjacent object. Indicia is provided on the template based on the determined limiting distances for object rotation and repositioning.

BRIEF DESCRIPTION OF THE DRAWINGS

Example embodiments will become more fully understood from the detailed description given herein below and the accompanying drawings, wherein like elements are represented by like reference numerals, which are given by way of illustration only and thus are not limiting of the example embodiments herein.

FIG. 1A is a front perspective view of a picture frame with sides in an open position ready to receive documents and in position to be attached to a surface.
FIG. 1B is a top plan view of two frames, one in portrait position over another in landscape position, positioned so as to show hole indicia line up and position.

FIG. 2 is a top plan view of two frames in different orientations.

FIG. 3 is a front perspective view of three frames showing various attachment schemes.

FIG. 4 is a perspective front view of the frame of FIG. 1 to illustrate additional example fastener indicia or hardware usable with the frame.

FIG. 5A is a plan view of an outline of a frame in a portrait position.

FIG. 5B is a front perspective view of a frame in a portrait position with a center fastener being placed.

FIG. 6A is a plan view of an outline of a frame rotated at a 45 degree angle.

FIG. 6B is a front perspective view of a frame placed against a wall and in a rotational position of 45 degrees, between a portrait position and a landscape position.

FIG. 7 is a plan view of an outline of a frame in a landscape position.

FIG. 8A is a plan view of an outline of a frame in a portrait position with additional fastener holes in a deliberate pattern surrounding a central hole.

FIG. 8B is a front perspective view of a frame in position for attachment in a portrait position.

FIG. 9A is a plan view of an outline of a frame rotated at a 45 degree angle.

FIG. 9B is a front perspective view of a frame placed against a surface and in a rotational position of 45 degrees, between a portrait position and a landscape position.

FIG. 10A is a plan view of an outline of a frame in a landscape position showing frame rotated to landscape position and showing existing holes in frame lining up with existing holes on a surface.

FIG. 10B is a front perspective view of a frame undergoing attachment via existing holes.

FIG. 11 is a front perspective view of a frame with two fasteners attached.

FIG. 12 is a front perspective view of a frame with five fasteners attached.

FIG. 13 is a front perspective view of a frame with four fasteners attached.

FIG. 14 is a front perspective view of a frame with three fasteners attached in a vertical configuration.

FIG. 15 is a front perspective view of a frame with three fasteners attached in a horizontal configuration.

FIG. 16 is a front perspective view of a frame with five fasteners attached in a symmetrical configuration.

FIG. 17 is front view of a template for hanging a frame in accordance with a method and system of the example embodiments.

FIG. 18 is front view of a multi-frame template for hanging a plurality of frames in accordance with a method and system of the example embodiments.

FIG. 19 is a front view of a brick layout template to illustrate the use of gutter brick pattern indicia to align individual hanging modules.

FIG. 20 is a sectional view of a spacer and compensator attached to a wall surface with a fastener.

FIG. 21 presents front and rear views of a compensator in an example embodiment.

FIG. 22 is a rear perspective view of a frame.

FIG. 23 is a rear plan view of a frame with a compensator.

FIG. 24 is sectional view of a spacer and compensator in position for attachment to a wall surface.

FIG. 25 is a rear plan view of a frame in a portrait position.

FIG. 26 is a rear plan view of a frame in a landscape position.

FIG. 27 is a rear plan view of a frame with mounting hardware placed in a symmetrical configuration allowing reorientation while maintaining a central axis.

FIG. 28 is a rear plan view of a frame with mounting hardware placed in a symmetrical configuration.

FIG. 29 is a side perspective view of a swivel device in position for assembly, according to an example embodiment.

FIG. 30 is a side perspective view of a backing, spacer, and frame in spaced relation according to an example embodiment.

FIG. 31 is a side perspective view of the backing, spacer, and frame according to another example embodiment.

FIG. 32 is a perspective view of a spacer according to another example embodiment.

FIG. 33 is a perspective view of the spacer from FIG. 32 attached to the back of a frame.

DETAILED DESCRIPTION

The example embodiments to be described in more detail hereafter are designed to overcome shortfalls herefore described by presenting a combination and configuration of components, such as backings, hole patterns, frames and other components that collectively mount upon a surface such as a wall, ceiling or other planar structure, so that a structure such as a contiguous picture frame or object is able to rotate in a manner so as to preserve a desired space from other frames or objects on the surface. The example frame, methods and systems described in more detail hereafter enable a picture frame or object to be rotated from a portrait to landscape position or to landscape to portrait position via the frame’s/ object’s central axis and by use of existing holes on the surface. This may allow for quick rotation and/or reorientation of a frame/object, while the frame/object always maintains a central axis of rotation.

As to be shown and described in further detail hereafter, the example embodiments provide a simplified way to hang/mount frames or objects that can swivel or be reoriented, repositioned within a predictable rotational circumference, thus allowing easy rotation and reorientation of the frame or object from landscape to portrait and back again. The systems and methods herein also facilitate the planning/layout of multiple frames or objects with their accompanying rotational fields/circumferences upon each other.

As used herein, the term “rotation” or “rotating” denotes the movement of a frame or object rotating upon a wall or surface. The term “reposition” denotes where a user lifts a frame/object off a wall or surface, reorients the frame/object, and places the frame/object back on the wall/surface. Both rotation and reposition of a frame/object, as described herein achieve the same final result of reorienting while maintaining the central axis of the frame/object on the without need for making additional holes in the wall/surface, or adding mounting hardware. The terms “frame” and “object” may be interchanged in the description of the example embodiments. “Object” as occasionally used herein may represent a ...
plate, electronic device such as a flat screen television, monitor, iPAD®, PDA, electronic picture frame, or other structure that can be configured to be hung or mounted on a surface such as a wall, for example.

FIG. 1A is a front perspective view of a picture frame with sides in an open position ready to receive documents and in position to be attached to a surface; and FIG. 1B is a top plan view of two frames, one in portrait position over top another in landscape position, positioned so as to show hole indicia line up and position. The picture frame 10 of FIG. 1A includes a frame 20 that may be of any size or shape. Picture frame 10 includes a cover 30 which may be composed of glass or any clear plastic sheeting material such as PLEXIGLAS®, for example. Alternatively, cover 30 could be a sheet of paper or content or an insertable object. The frame 20 is shown with its sides snapped open, with the cover 30 over top a backing 40. The backing 40 is insertable into the frame 20 behind the cover 30 or may serve as a back of frame 20 for example. The backing 40 may be opaque, translucent or transparent, as shown in FIG. 1B.

The backing 40 includes a central hole 50 formed there through and configured to receive a fastener 75. The central hole 50 is positioned at the central axis of the frame 20 and configured to receive the fastener 75 so that the frame 20 is rotatable about its central axis on a surface, such as a wall. In one example where the backing 40 is transparent, the central hole could be aligned with an existing mark on the wall.

To hang the picture frame 10, the frame 20 with backing 40 is thus placed against the wall surface, with central hole 50 positioned at the central axis of the frame. A fastener 75 is then inserted through the central hole into the wall surface. The frame 20 may thus swivel about the fastener 75, maintaining its central axis position as a desired position is attained.

The backing 40 may include additional holes 56, 58 in equal spaced relation from and on either side of the central hole 50 along a horizontal axis through the central hole 50. Holes 56, 58 may be adapted to receive additional fasteners 75 for added security. Likewise, backing 40 may further include additional holes 52, 54 in equal spaced relation from and on either side of the central hole 50 along a vertical axis through the central hole 50. Holes 52, 54 may be adapted to receive additional fasteners 75 for added security.

These additional holes thus are equidistant from the central axis of rotation (center point) of the frame 20. In either the portrait or landscape position, holes 52, 54, 56, 58 retain their same position relative to the central hole 50, thus no new hole positions need be made when made when swiveling between landscape and portrait orientations on the surface. This will be shown in further detail below.

Accordingly, to hang picture frame 10, the frame 20 is simply placed against a surface such as a wall. A fastener 75 (such as a screw) is simply inserted through central hole 50 to secure the frame 20 thereto. The frame 20 thus swivels about fastener 75, and hence its central axis or center point, thereby maintaining its central axis position as any desired position is attained. Additional fasteners 75 can be inserted into one or more of the peripheral holes 52, 54, 56, 58; one or both of the frame 20 and backing 40 could include additional hardware for securing the picture frame 10 in place in its final position.

In another embodiment, the frame 20 with backing 40 of FIG. 1A could be utilized as a surface template itself. One could utilize a leveling device or a mark on a wall surface to align the frame 20, mark one or more of the holes 50, 52, 54, 56, 58 with a pen, pencil or other object (so as to indicate fastener location), and either remove the frame to mount hanging hardware/fasteners on the wall for hanging a frame such as picture frame 10 thereon, or drill/insert fasteners through the formed holes in backing 40 directly into the wall surface without marking to secure the picture frame 10, as previously described.

In FIG. 1B, a picture frame 10' is shown as a frame in portrait position on top of the same frame in landscape position. In this embodiment, backing 40' is transparent and includes fastener placement indicia 90 thereon. Indicia 90 may be provided to aid in locating and leveling the frame 20 on a wall surface. Indicia 90 in this example is shown as a “T” grid which encompasses the central hole 50 at the frame 20' center axis, as well as the peripheral holes 52, 54, 56 and 58. This indicia 90 is printed on the transparent backing 40' of both frames; thus in both orientations the holes line up. To hang the picture frame 10', one can simply line the frame 20' up on the wall with an existing mark on the wall surface that can be viewed through the clear backing 40' with the holes 50, 52, 54, 56, 58, insert a fastener into hole 50, swivel as necessary to position and level, then install fasteners into the peripheral holes and tighten.

Thus, the holes in both orientations line up regardless of landscape or portrait orientation of the frame, i.e., the center axis does not change; the center point of rotation remains constant. Although the hole positions of the peripheral holes are shown in a “T” orientation, the holes (and indicia 90) could be placed in another position on backing 40, such as in an “X” position. Alternatively, the indicia 90 on the transparent backing 40' can be embodied in a form of a grid disposed thereon that permits aligning and leveling the frame 20', such as with an existing leveling device (i.e., a bubble level) and/or with a mark present or made on the wall surface that can be viewed through backing 40', for example. Further, fewer or greater number of peripheral holes than shown could be included within fastener placement indicia 90 printed on transparent backing 40'.
example, if the central fastener is removed and peripheral fasteners are employed (e.g., one or two peripheral holes are employed; a picture frame may still be repositioned between portrait and landscape orientations without making any new holes in the surface).

0080 FIG. 4 is a perspective front view of the frame of FIG. 1 to illustrate additional example fastener indicia or hardware usable with the frame 20. Although the frame 20 has been shown being attached to a surface with a fastener 75 embodied as a screw, through at least central hole 50 and one or more additional holes 52, 54, 56, 58, either formed in backing 40 (FIG. 1A) or by marking fastener placement indicia 90 printed on backing 40, each of which denotes the frame central axis, various types of fasteners may be employed. For example, fastener 75 can be one of a screw, nail, hook, adhesive article, and other fastening mechanism. The shape of any hole formed in the backing 40 to accommodate a particular fastener type is not limited to a particular dimension, as shown in FIG. 4 for example.

0081 Further, in addition to the frame being able to be swiveled and repositioned about its central axis, the frame 20 can include additional hardware or fastener mechanism on one or both of the backing 20 and back sides of the frame 20. FIG. 4 shows merely one example where additional holes may be formed in backing 40 to accommodate particular mounting hardware or fastening means for attaching the picture frame 20 to a surface. These holes 80 are also equidistant from the center point so that the frame still maintains its central axis on any rotational movement or reposition thereof from one orientation to another.

0082 FIGS. 5A to 7 should be referred to for the following discussion, which illustrates how a subject frame may be spaced with other similar frames so that contact may be avoided when rotating a frame within a sequence of frames on a surface. The notation of “M” denotes “middle.” The Y axis is shown through FIGS. 5A, 6A and 7 to illustrate that the center point of the frame remains constant throughout an orientation shift.

0083 Here, only the central hole and a single fastener are employed to hang a frame on a wall surface. FIG. 5B illustrates a clear backing having indicia showing the central hole such as is shown in FIG. 1B. FIG. 6D illustrates a backing having holes therein as shown in FIG. 1A. In either case, this frame (shown as a front loading frame in this example), is attached directly to the surface by a single fastener through the central hole. The fastener acts as a pivoting point to allow reorientation from portrait to landscape, as shown in FIG. 7. The center point remains constant, thus if this is used to hang multiple frames in sequence, one is able to orient surrounding frames far enough away from the swiveling frame so as not to interfere with its complete or partial rotation.

0084 FIGS. 8A to 103 should be referred to for the following discussion. These figures include possible attachment points A, B, C, D and M fastener, and are shown to maintain uniform symmetry as a frame rotates from a portrait position to a landscape position. The notation of “M” denotes “middle.” Here, the backing of FIG. 1A is shown, where additional fasteners can be added in the pre-formed holes that are equidistant from the central hole and hence central axis or center point of the frame to further secure the frame to the wall surface. This is shown best in FIG. 8B. The frame can still be rotated so long as a fastener exists in the central hole. However the frame can be repositioned in a new orientation even if there is no fastener in the central hole without adding additional holes into the surface.

0085 Referring to FIGS. 9A and 9B, if a central fastener is present, remove all peripheral fasteners and rotate the frame on the center fastener to the new position. At the new position, reinstall the peripheral fasteners through the existing holes in the backing, which align with the existing holes in the surface/wall (See FIGS. 10A and 10B).

0086 If the frame was hung using peripheral holes and fasteners but not the central hole, the peripheral fasteners are removed, the frame is repositioned to a new orientation over the existing holes in the surface/wall (which will align with holes in the backing) and fasteners are reinstalled in the peripheral holes of the backing to the existing holes of the surface/wall. No new holes in the surface have been made, and the center point of the frame remains constant throughout the orientation shift, as can be seen in FIGS. 8A, 9A and 10A.

0087 FIGS. 11 through 16 illustrate various example security levels attainable with the fasteners to attach a frame to a wall surface. These are merely exemplary, other combinations are possible. Any number of fastener placement combinations may be possible, so long as rotation and/or reorientation of the frame while maintaining its central axis (or frame center point) at the surface position is maintained. The FIG. 11 combination permits the frame to swivel 90° counter clockwise using two fasteners and three holes. The second fastener serves to secure the frame to the wall while maintaining the desired orientation. The FIG. 12 combination of fasteners may act to maintain the frame on the surface more secure, as corner fastener are located closer to frame corners. Principles of rotation and reorientation are maintained with the central fastener at the central axis.

0088 The FIG. 13 combination permits frame reorientation with security, as the holes are spaced equidistant from the frame central axis or center point. However, as there is no central hole, the swivel feature is absent. FIGS. 14 and 15 permit swivel and additional security, but do not allow landscape frame orientation. The FIG. 15 combination is that shown in FIGS. 3, 8B, 9B and 10B for high security: full swivel and reposition in either direction by removing and then reinstalling peripheral fasteners, as previously discussed.

0089 FIG. 17 is front view of a template for hanging a frame in accordance with a method and system of the example embodiments. In general, the example embodiments envision a system and method employing a template 100 which accommodates swiveling frames and/or standard frames that may be adapted to rotate about their central axis or which can be repositioned about their central axis.

0090 In general, the system includes the template 100 for use against the wall surface. The template 100 including indicia on a front thereof, the indicia including indicia marking the central axis of a picture frame to permit any picture frame to be aligned thereon for attachment to the wall surface so that the frame is swivelled about its central axis in any direction while attached to the wall. The picture frame to be hung has a backing, and the picture frame is to be aligned with the indicia marking the frame central axis on the template 100 for marking the wall surface. Thereafter, the template 100 is removed, a fastener securing the frame via its backing through its center axis. The system enables the picture frame to maintain its center axis while being rotatable about the fastener on the wall surface.

0091 In one example method, the template is placed against the wall, the wall surface marked through the indicia
which locates the central axis for any frame on the template 100. The template 100 is then removed and the picture frame is mounted at the mark on the wall surface, the picture frame being rotatable or repositionable about its central axis on the surface so that existing holes can the wall are re-used.

[0092] In another example method, with the template applied to a surface, one aligns a central hole 50 (not shown) of a swiveling frame, such as shown in one of the preceding figures, with center hole indicia 111 on template 100. A fastener is used to secure the frame through the center hole 50 at the wall mark, the picture frame maintaining its center axis while being repositionable and rotatable about the fastener on the wall surface. Additional fasteners may be inserted through aligned indicia/holes before the template 100 is removed and fasteners fully tightened.

[0093] Accordingly, the template 100 includes indicia that locate the central axis or center point of any swiveling frame to be hung, permitting at least repositioning about the frame’s central axis so as to use existing holes.

[0094] Turning now to FIG. 17, template 100 allows hanging a swivel frame or other frame in various orientations, such as portrait or landscape positions, for later repositioning on the surface using existing holes. In one example, the template 100 is formed of sheeting material that may have adhesive on a rear side therefore for temporary attachment to a wall surface. Template 100 includes frame indicia 120, 120’ (although shown in portrait and landscape orientation, this frame indicia may also be square or round, as with a plate), and fastener placement indicia 110, 110’ for both orientations. These include the aforementioned center hole indicia 111 (locator for frame central axis indicia), as well as one or more peripheral hole indicia 112 and 113 for additional security. Bubble level indicia 115 may be provided so as to accommodate a bubble level having some type of adhesive for attachment to the template sheet.

[0095] For different template layouts when using more than one template in combination, there is provided a 2” gutter brick pattern 118 and a 1” gutter brick pattern 119, depending on which layout rotation is desired; this is described in further detail in FIG. 19. For additional swivel frame alignment, the template 100 includes black arrows with gutter 125 in the vertical and horizontal directions at frame corner points, a central arrow with gutter 130 in the vertical and horizontal directions, 1” gutter trim lines 140, and 2” gutter trim lines 145. A cutting guide 135 is provided on template 10, described in more detail in a next embodiment.

[0096] A further example method using the features of template 100 to hang a swivel frame on a surface is described. The template 100 is placed at the desired height on the wall and affixed thereto via backing adhesive after being leveled. A frame is attached to the wall through its center hole 50, which is aligned with the center hole indicia 111. In an example where fastener 75 is a screw, the frame 20 is screwed to the wall using a center screw (although the fastener is not fully tightened to permit rotation).

[0097] Now the various alignment indicia (frame indicia 120/120’, arrows 125, 130, trim lines 135, 145) is employed to align frame 20 with the template 100 to ensure accuracy. Of course once the picture frame is secured in place with additional fasteners or hardware, it can be repositioned on the wall about the center screw without making new holes. In this example, the frame 120 is hung in a portrait orientation using medium security, so fasteners are inserted at indicia 112 and tightened (partially), template 100 is then removed, all fasteners fully tightened.

[0098] Although shown as indicia 110, 112 and 113 on template 100, alternatively these elements could be represented by holes in template 100. Accordingly, a user could simply mark the locations on the wall surface, remove the template, and mount the frame/object (drill, hammer, adhere, etc.).

[0099] The template 100 envisioned in FIG. 17 has been developed after careful consideration of certain dimensions of content within a picture frame, the frame itself, and the turning radius of a frame or object on a surface. In one embodiment, a template was constructed based on 8½”×11” size content sheets; the frame configured to hold 8½”×11” material. However, the example templates 100, 100’ are configured for use with any sized object; the object dimensions are used to determine a minimum distance between objects on a surface.

[0100] Specifically, a method for determining the locations for indicia on the template was developed so that any object (such as a frame) in any sequence could be hung using the template while ensuring that rotation of one object to another orientation would not interfere with an adjacent object/frame on the surface. As one example, it has been found that when developing a template configured to hang swivel frames (such as shown in previous embodiments) or one or more conventional frames, so that the frames can be adapted to rotate on mounting hardware, the following process is used to determine a limiting dimension to avoid adjacent frame interference. An object such as a frame is placed on the wall at its center axes point in a first orientation (portrait or landscape). It is then rotated on the wall to a second orientation (the other of landscape/portrait). This creates a complete circumference for the frame’s center point or center axis, where measurements to the farthest outside corner dimensions of the frame can be recorded. The limiting dimension determined from these measurements is a diagonal distance from the outside corner point of the frame to the center point or center axis of the frame, when rotating the object frame (about its center axis) from the landscape to portrait position (or vice versa). There must be at least that distance to an adjacent frame on the wall (side, above or below) to avoid interference therewith.

[0101] However, the distance is shorter when repositioning a frame (taking the frame off the wall but using existing holes so as not to change the center axis). The limiting dimension in this case is determined as half the width of the major axis length (e.g., if the object is rectangular, ½ the longest side; if square, ½ the width of any side, etc.). Accordingly, with these determined limiting dimensions, various indicia can be incorporated into the template 100/100’ for the object(s) of interest, taking account of the minimum distances (e.g., frame indicia 120/120’, arrows 125, 130, trim lines 140, 145, etc) so as to avoid frame/object interference. The choice of a gutter for the template for frames configured to swivel may be subjective and is based on the desired additional spacing between adjacent frames on all four sides or to other objects, for example.

[0102] FIG. 18 is front view of a multi-frame template for hanging a plurality of frames in accordance with a method and system of the example embodiments. As the elements of template 100’ are the same as in FIG. 17, a detailed explanation is omitted for brevity. Whereas FIG. 17 illustrates a “single module” template, the template 100’ of FIG. 18 is a multi-frame template having a plurality of frame hanging
modules to accommodate a number of frames to be hung in any desired sequence or orientation on a surface such as a wall or ceiling.

[0103] The template 100' shown in FIG. 18 is a 3x3 matrix; however, using the cutting guides 135, and the gutter brick pattern 118, 119 indicia thereon, various template 100' layout configurations can be created from part of the matrix, multiple matrices cut up and rejoined, etc. for any desired sequence of hanging modules. Some examples include vertical or horizontal groups, the 3x3 shown, up/down a stairway, brick layout, etc. The system and method for hanging frames with the multi-frame template is thus similar as that described with reference to FIG. 17, the primary difference being deciding initially the configuration of modules in planning out the sequence of swiveling frames on a particular surface area.

[0104] FIG. 19 is a front view of a brick layout template to illustrate the use of gutter brick pattern indicia to align individual hanging modules. The brick layout template may be created by cutting selected hanging modules from the 3x3 matrix of FIG. 18 using cutting guides 135, and then using a gutter brick pattern (here the 2nd pattern 118), as illustrated by element 175, to align individual hanging modules in a skew so as to form a customized template layout. As can be seen from the example of FIG. 19, the gutter pattern aligns centers of offset modules in the lower row with the gutter pattern indicia davits in the immediate upper module to achieve the skew.

[0105] FIG. 20 is a sectional view of a spacer and compensator attached to a wall surface with a fastener; FIG. 21 is front and rear views of the compensator; FIG. 22 is a rear perspective view of a frame; FIG. 23 is a rear plan view of the frame with compensator; and FIG. 24 is a sectional view of the frame, spacer and compensator in position for attachment to a wall surface.

[0106] Referring to FIG. 20 to FIG. 24 a compensator 200 is shown in use with a spacer 250 and with a frame 20. A function of compensator 200 is to compensate for a given thickness and/or distance of the frame molding from the wall so as to bring the frame hanging hardware or holes closer to a wall or hardware. The spacer 250 may include an attachment means 280 for attaching the compensator 200 to the backing 40 of frame 20, for example. This could be an adhesive in one example, although it could be another type of attachment means (small screws, rivets, etc.).

[0107] FIG. 21 indicates possible hardware positions 210 on front and back surfaces 201, 202 of compensator 200. FIG. 22 indicates center axis (noted only by the designator 50', which is for description purposes only) on backing 40. This illustrates the center point of the frame. FIG. 23 also illustrates this center axis at 50' at the middle of compensator 200. This signifies that compensator 200 is in alignment with the center axis of frame 20, and the compensator 200, when attached to frame 20 via spacer 250, can be repositioned with frame so that the frame maintains its center axis of rotation. As can be seen, the possible hardware positions 210 in FIG. 23 are equidistant from the central axis at 50'. In the sectional view of FIG. 24, each of the central axis of frame 20, spacer 250 center and compensator 200 are in alignment and in position for attachment to a wall. By this alignment and with the hardware positions shown in FIG. 23, the picture frame can be reoriented/repositioned about the frame central axis using existing hole positions.

[0108] FIG. 25 and FIG. 26 demonstrate that the compensator 200 maintains a center axis within all frames fastened to a wall, regardless of the size, shape or orientation of the frames. These figures also demonstrate the consistent center axis and height of fixed hardware positions that are maintained as the frames are repositioned between a portrait position and a landscape position.

[0109] FIG. 27 is a rear plan view of a frame with mounting hardware placed in a symmetrical configuration allowing reorientation while maintaining a central axis; and FIG. 28 is a rear plan view of the same frame with mounting hardware placed in a symmetrical configuration. Referring to FIGS. 27 and 28, there is shown two or more mounting hardware 300 in spaced relation (shown as saw tooth hangers in this example), although the hardware is not so limited and can be embodied as any type of known picture hanging or mounting hardware) on the backing 40 of a frame 20. The dashed lines 310 represent equidistant positions of the mounting hardware 300 circling a center axis of each frame 20. The center axis of the frame 20 in this example may be illustrated by element number 50' in the figures. Although this is a non-swiveling embodiment, this configuration permits a picture frame (or other object) to be repositioned/reoriented while maintaining its center point, i.e., maintaining its central axis of rotation constant upon a surface.

[0110] FIG. 29 is a side perspective view of a swivel device in position for assembly, according to an example embodiment. In FIG. 29, there is shown a swivel device 400 that may be configured for attachment to both a frame 20 (or other object) and a wall surface so that the frame 20 (or object) is able to rotate or swivel about its center axis while maintaining the frame or object’s central axis (center point of rotation) on the surface. The central axis of the frame is denoted at 50'. The swivel device 400 enables the frames to achieve 360' rotation about its central axis at 50', as shown by arrows 405.

[0111] The swivel device 400 may have a number of means to provide swiveling for frame 20. In this example, the swivel device 400 has a two piece frame construction with ball bearing swivel means. There is a front section 410 housing a swivel mechanism 415 (ball bearing) that attaches directly to a rear surface of the backing 40 at the central axis point of the frame 40. The front section 410 with swivel mechanism 415 is adapted to provide 360 rotation of the frame 20 about its central axis at 50'. Device 400 includes a fixed rear section 420 that fits together or otherwise attaches to the front section 410. The swivel device front section 410 is configured to be attached to or adhere (such as by an adhesive or other fastening mechanism) to the rear of backing 40 at the central axis 50', thus allowing the frame 20 to swivel up to 360' while maintaining its center point position on the wall surface. Additionally, the swivel device 400 may have multiple positions it can be set to; rotation can be set at a particular degree position as desired (i.e., 45°, 90°, 135°, 180°, 360°, etc.).

[0112] The rear section 420 is adapted to slide or snap fit/friction fit into a cradle 430 for supporting the rear section 420. The cradle 430 may be affixed to the wall surface directly by its rear surface 435 (such as by an adhesive), and/or via a fastener 437, for example). In an alternate embodiment, a cradle may be attached to backing 40 with front section 410 supported therein, the rear section 420 directly attached to the wall via an adhesive.

[0113] FIG. 30 is a side perspective view of a backing, spacer, and frame in spaced relation according to an example embodiment. In an example, a spacer 550 may be provided to fill a void between the backing 40 and frame 20, bringing frame mounting hardware closer to a wall surface so as to engage the mounting hardware. In this example, spacer 550
may be configured as a hollow, box-like element closed on all sides and of a rigidity to act as a support and provide pressure against content 99 between the frame 20 and a cover/glass, and further acting as a platform for the backing 40. The spacer 550 may be sized to fit any sized void between the frame 20 and backing 40. Spacer 550 can be used regardless of the type or position of the mounting hardware.

[0114] As shown in FIG. 30, the backing 40 and the spacer 550 have corresponding central holes 50, 55 that align with the frame 20’s central axis, shown at 50°. These holes align so that mounting hardware such as fastener 75 can fully engage the frame 20. Moreover, with this configuration, the frame 20 is able to swivel up to 360° while maintaining its center point position on the wall surface. The central axis maintains its position during reorientation between different positions (landscape/portrait and degree positions in between, etc.).

[0115] FIG. 31 is a side perspective view of the backing, spacer, and frame according to another example embodiment. As FIG. 31 is similar to FIG. 30, only the differences are described for purposes of brevity. Here, two or more peripheral holes 52, 54, 56, 58 are included in the backing 40 and align with additional peripheral holes 52’, 54’, 56’ and 58’ in spacer 550. Unlike FIG. 30, there is no center hole, but the central axis is denoted at 50°, and the peripheral holes are equidistant there from on both backing 40 and spacer 550. As the central axes of backing 40, spacer 550 and frame 20 all align, the holes are equidistant there from and also all align for mounting hardware such as one or for fasteners 75, which can be any type of mounting hardware (screw, nail, hook, adhesive, other). The aligned holes ensure the spacer 550 does not impede the fasteners from fully engaging the frame 20 for securely attaching it to the wall surface. The holes also may represent hardware positions, such as saw tooth hangers as shown in FIG. 28. Although this is a non-swiveling embodiment, this configuration permits a picture frame (or other object) to be reoriented/repositioned while maintaining its center point, i.e., maintaining its central axis of rotation constant upon a surface.

[0116] FIG. 32 is a perspective view of a spacer according to another example embodiment; and FIG. 33 is a perspective view of the spacer from FIG. 32 attached to the back of a frame. Referring to FIG. 32, there is shown a round spacer 550’ having a thickness and a central hole 50° formed there through. The central hole 50° is designed to receive a fastener to attach the spacer 550’ between a frame backing 40 and a wall/surface. As previously noted, the spacer 550’ creates space between the frame 20 and wall surface. The spacer 550’ with hole 50° positioned at the central axis of frame provides a swivel frame which is able to swivel up to 360° while maintaining its center point position on the wall surface. The central axis maintains its position during reorientation between different positions (landscape/portrait and degree positions in between, etc.).

[0117] FIG. 33 illustrates the frame 20 with spacer 550’ having additional holes 52”, 54”, 56”, and 58”. These holes are equidistant from central hole 50°. The spacer 550’ can be attached to any frame 20 backing 40” so that the central hole 50° is lined up with the frame center point, each of the holes marked and the spacer attached to the frame and wall surface via fasteners 75. Accordingly, a swivel frame is provided with the spacer 550’ creating a space between the frame 20 and wall/surface, permitting both the frame to extend out from the wall while not obstructing any of the rotational movements of the frame 20.

[0118] The example embodiments being thus described, it will be obvious that the same may be varied in many ways. For example, the frames/objects are not limited to the landscape or portrait orientations; 360 degree rotation (fixed at any degree along the path of rotation, or at and angle while being repositioned) can be achieved when hanging objects where there is not necessarily a top, bottom or side to an object, if other than a standard rectangular or square frame. Such variations are not to be regarded as departure from the example embodiments, and all such modifications as would be obvious to one skilled in the art are intended to be included herein.

1.-20. (canceled)
21. A system for attaching a picture frame to a wall surface, comprising:
   a template for use against the wall surface, the template including indicia thereon, the indicia including indicia marking the central axis of a picture frame to permit any picture frame to be aligned thereon for attachment to the wall surface so that the frame is swiveled about its central axis in any direction while attached to the wall, the picture frame having a backing, the picture frame aligned with the indicia marking the frame central axis on the template for marking the wall surface and thereafter the template removed, a fastener adapted to secure the frame via its backing through its center axis, the picture frame maintaining its center axis while being rotatable about the fastener on the wall surface.
22. The system of claim 21, wherein the indicia includes fastener placement indicia.
23. The system of claim 22, wherein the fastener placement indicia includes a central hole indicia marking the frame central axis, the template marked at the center hole and the picture frame secured by a fastener to the wall surface at the mark, the mark used for rotating or repositioning the frame between a landscape and portrait orientation.
24. The system of claim 23, wherein the fastener placement indicia includes additional fastener location indicia equidistant to the center hole indicia and spaced there from along one of a horizontal and vertical axis through the center hole indicia.
25. (canceled)
26. A method for attaching a picture frame to a wall surface, comprising:
   placing a template against the wall surface, the template including at least a central hole indicia indicative of the central axis of the frame, marking the wall surface through the center hole indicia, removing the template, mounting a picture frame using the marking on the wall surface, the picture frame being rotatable about its central axis on the surface.
27. The method of claim 26, wherein the picture frame has a backing, the backing including a central hole formed therein that is positioned at the central axis of the frame, and
   wherein mounting includes inserting a fastener through the central hole of the backing into the marking on the wall surface, the picture frame being repositionable and rotatable about its central axis on the fastener.
28. The method of claim 27, further comprising:
   tightening down the fastener upon achieving a desired frame position on the wall.
The method of claim 27, wherein
the template includes additional fastener location indicia equidistant to the center hole indicia and spaced there from along one of a horizontal and vertical axis through the center hole indicia,
the backing includes at least two additional holes in equal spaced relation from and on either side thereof along one of a horizontal and vertical axis through the central hole, the at least two additional holes adapted to receive fasteners,
marking further includes marking the wall surface through the additional fastener location indicia,
mounting further includes inserting one or more fasteners through the at least two additional holes in the backing and into the additional markings in the wall surface, and tightening down all fasteners.

The method of claim 26, further comprising orienting the frame between portrait and landscape positions on the wall surface, the frame central axis remaining constant during repositioning.

A system for attaching a plurality of picture frames to a wall surface, comprising:

- A template comprising a plurality of separable picture frames hanging modules for use against the wall surface, each module including indicia indicative of the central axis of the frame for attachment of the picture frame to the wall surface, and
- At least two picture frames, each picture frame including a backing, each picture frame aligned with indicia marking the frame central axis on its hanging module for marking the wall surface and thereafter the template removed, a fastener adapted to secure each frame via its corresponding backing through its center axis, each picture frame maintaining its center axis while being rotatable about its corresponding fastener on the wall surface.

The system of claim 36, wherein a plurality of picture frames are rotatable into one of a portrait position and a landscape position without being removed from the wall surface and without interfering with adjacent picture frames in a sequence.

The system of claim 36, wherein
the indicia includes a center hole indicia marking the central axis of the frame, and
the backing further includes a central hole at the frame central axis that aligns with the indicia marking the central axis of the frame on its corresponding hanging module.

The system of claim 38, wherein
the indicia includes additional fastener location indicia equidistant to the center hole indicia and spaced there from along one of a horizontal and vertical axis through the center hole indicia, and
the backing further includes at least two additional holes in equal spaced relation from the central hole, each aligned with additional fastener indicia on its corresponding hanging module and adapted to receive a corresponding fastener there through.

The system of claim 36, wherein one or more of the hanging modules is detachable from the template and re-combinable to form a single template of any desired size or configuration and with any desired space between individual modules or groups of modules in the re-formed template.

The system of claim 36, wherein the indicia further includes gutter pattern indicia located along a periphery of each hanging module to facilitate offset alignment of individual or groups of modules.

A template for mounting one or more objects on a surface, comprising:

- At least one planar sheet of pliable material for use against the surface, the sheet having a pair of opposite side edges, a top edge, bottom edge, front and rear surfaces, one or more object indicia disposed on one of the front and rear of the sheet, each object indicia having a center axis of rotation aligning with a center axis of an object to be mounted, and
- One or more fastener placement indicia configured to be marked so that one or more marks are made on the surface and the object secured to the surface at the one or more marks with one or more fasteners, the object rotatable in either direction about its center axis on a single central fastener, or repositionable about one or more fasteners other than the central fastener while maintaining its center axis constant.

The template of claim 43, further comprising a plurality of sheets that are separable and re-attacheable into a new template layout, the template further comprising gutter pattern indicia located along a periphery of each sheet to facilitate offset alignment of individual or groups of sheets.

The template of claim 43, further comprising bubble level indicia centered at the top edge.

The template of claim 43, wherein the object is a picture frame, the template further comprising picture frame indicia in landscape and portrait orientations.

The template of claim 43, wherein the one or more fastener placement indicia includes a center hole indicia at the center axis and additional hole indicia providing additional hole options for the surface, the additional hole indicia equidistant to the center hole indicia and spaced there from along one of a horizontal and vertical axis through the center hole indicia.

- (canceled)