July 11, 1967 L. WEINSTEIN 3,330,525

PICTURE HANGER ASSEMBLY

Filed Oct. 22, 1965 2 Sheets-Sheet 1

FIG. 1.

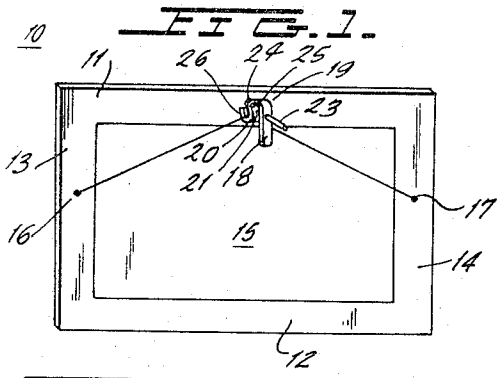


FIG. 2.

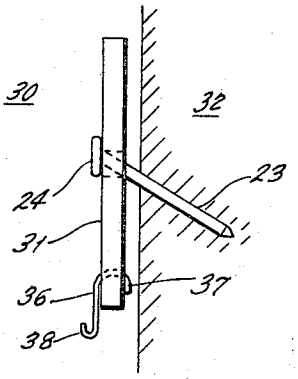


FIG. 3.

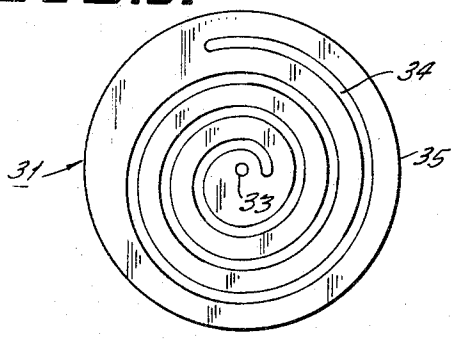


FIG. 3a.

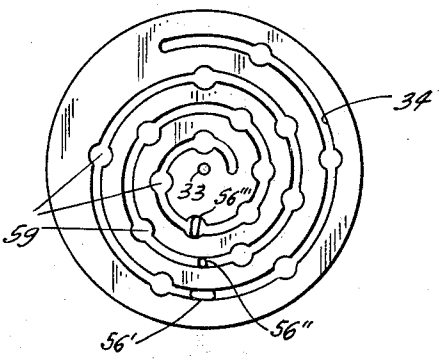


FIG. 3b.

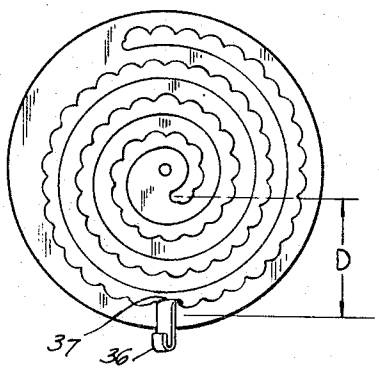
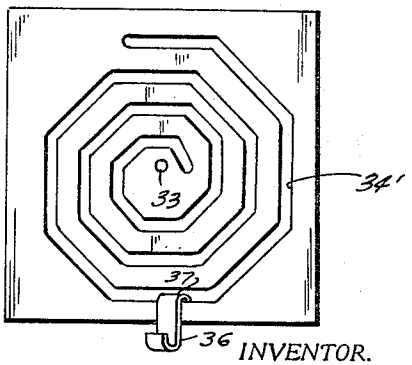


FIG. 3c.



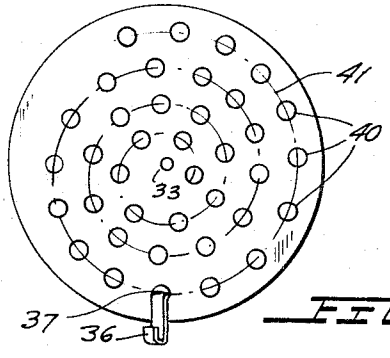


FIG. 3d.

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July 11, 1967 L. WEINSTEIN 3,330,525

PICTURE HANGER ASSEMBLY

Filed Oct. 22, 1965 2 Sheets-Sheet 2

FIG. 3e.

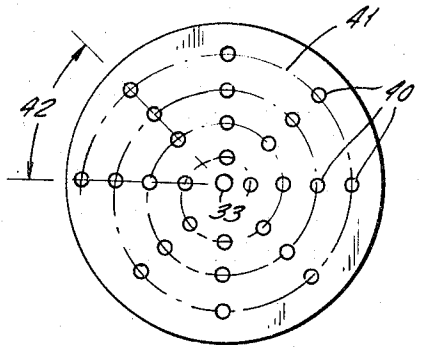


FIG. 3g.

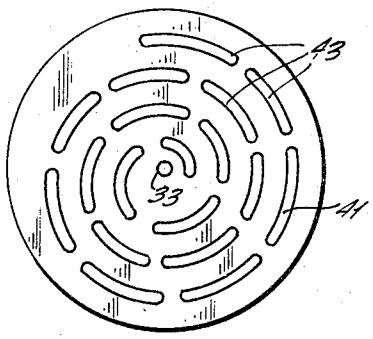


FIG. 3f.

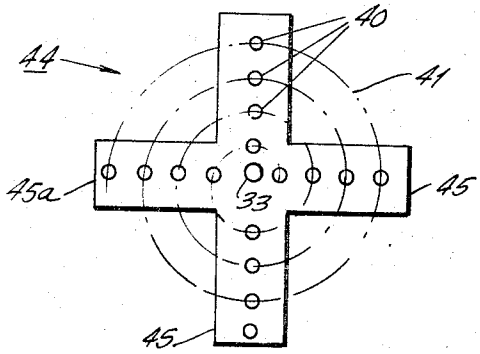


FIG. 5.

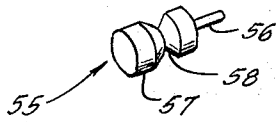


FIG. 6.

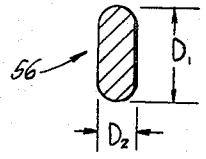
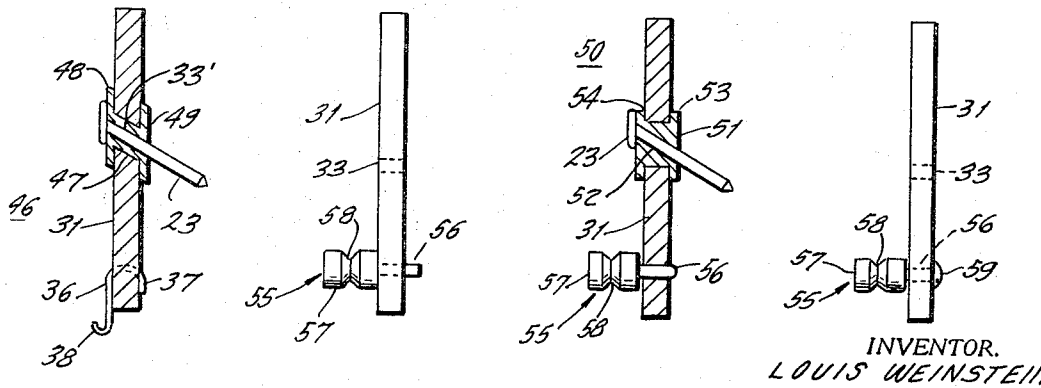


FIG. 4a. FIG. 4b FIG. 4c. FIG. 4d.



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3,330,525

PICTURE HANGER ASSEMBLY

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12 Claims. (Cl. 248—496)

The instant invention relates to hanging devices and more particularly to picture hanging assemblies which simply and readily permit the vertical adjustment of pictures and other objects suspended from such assemblies.

There arise numerous instances where it is desired to hang an art object upon a wall or other surface at a specific height. The design of conventional picture hangers makes it very difficult to determine where the nail element of the picture hanger assembly must be driven to achieve this objective.

As a further example, there are situations wherein it is desired to hang pictures of identical dimensions, side by side on a wall. It is very difficult to drive the nails of the picture hangers into the wall and be assured that the pictures will be hung at exactly the same height.

As a still further example, when hanging large pictures having heavy frames, it is undesirable to use a wire across the rear of the frame and support the picture on a single picture hanger. This is due to the fact that the weight of the frame places too much strain upon the frame causing it to "bend" out of shape at the corners. A better method is to utilize two separate picture hangers supporting the picture along the opposite vertical sides of the frame. It is therefore extremely important to mount the picture hangers on the wall so that the horizontal sides of the frame will be exactly horizontal.

The instant invention is characterized by providing a simple, inexpensive picture hanger which is easy to make, as simple to mount as conventional picture hangers, and provides a substantially infinite number of adjustable positions for controlling the height of the art object being hung.

The instant invention is comprised of a substantially flat and preferably disc-shaped member having a centrally located aperture and a continuous spiral shaped slot winding about the central aperture. A nail is inserted through the central aperture. One end of a member hooked at both ends is hung in the spiral shaped slot. The other hooked end is available to receive the wire or loop normally provided at the back of the picture.

By rotating the flat member about the nail inserted through the central opening an arcuate portion of varying distance from the central opening may be positioned immediately below the central opening. Rotation of the flat member in the clockwise or counterclockwise direction from this position will raise or lower the picture suspended from the assembly. The total amount of adjustment is dependent only upon the size of the flat member used and the total number of turns of the spiral.

The continuous slot need not be a perfect spiral configuration, but can be irregular in its configuration so long as it generally spirals outwardly from the centrally located aperture. Whereas the continuous generally spiral shaped slot is preferred, an alternative approach comprised of a plurality of discontinuous openings generally arranged at spaced intervals along an imaginary line which generally spirals outwardly from the central aperture may also be employed. The openings may be of any desired shape so as to receive one end of a double hook member.

In the case where the continuous and smooth spiral shaped slot is employed, the outwardmost edge of the spiral shaped slot may be provided with an undulating edge so as to prevent any movement of the double hooked member from its desired position along the spiral shaped slot or passageway.

In the case where the plurality of openings are arrange at varying distances from the central opening, the fl member need not be rectangular or square shaped b may, for example, be triangular or X or cross shaped desired. In the case of a substantially cross shaped men ber, the openings extending along each of the arms a spaced at differing distances from the openings of th remaining arms so as to provide a substantially larg variety of openings positioned at differing distances fro the central aperture in order to assure vertical adjustabilit either up or down over a relatively substantial range.

As an alternative to the double hooked member fo coupling the flat sheet containing the openings to the pi ture frame or other object being hung, a pin means ma be inserted into the slot or openings, as the case may b which may be either removable in the case of discontinu ous openings so as to be movable from one opening to an other, or may be provided with fastening means to preven its removal from the flat plate member, in the case wher the generally shaped spiral passageway is continuous.

The flat plate may be formed of a metal of suitabl strength or may be formed of a plastic member. The cen tral opening of the plate may be provided with a hollo cylindrical shaped member about which the plate is de signed to rotate and which is provided with an angula opening so as to receive an angularly aligned nail whil maintaining the substantially flat plate along a substantial ly vertical plane.

It is therefore one object of the instant invention t provide a novel assembly for hanging pictures or othe art objects.

Another object of the instant invention is to provide a novel assembly for hanging pictures or other art object upon a vertical wall, which assembly provides for simpl adjustment of the object being hung in a substantially in finite number of vertical positions either upwardly o downwardly.

Still another object of the instant invention is to provid a novel assembly for hanging pictures or other art object comprised of a first means for securing the assembly t a vertical support and second means being provided wit a generally continuous passageway generally spiraling out wardly from a central opening provided in the second means and third means capable of being positioned any where along the passageway for supporting the object being hung at any one of a large variety of vertical positions.

Still another object of the instant invention is to provide a novel assembly for hanging pictures, art objects and the like, being comprised of first means for securing the assembly to a vertical support; second means having an aperture for receiving the first means and being provided with a generally continuous passageway spiraling generally outwardly around said central aperture and receiving a third means for supporting the object being hung wherein the second means is rotatable about its central axis to adjust the height of the object either upwardly or downwardly at an infinite number of levels.

These and other objects of the instant invention will become apparent when reading the accompanying description and drawings in which:

FIGURE 1 is a perspective view showing the conventional manner in which pictures are hung.

FIGURE 2 shows an end view of a prferred embodiment designed in accordance with the principles of the instant invention.

FIGURE 3 shows a plan view of the circular disc employed in the assembly of FIGURE 2.

FIGURES 3*a*–3*g* are plan views showing alternative embodiments for the disc of FIGURE 3.

FIGURES 4*a*–4*d* show alternative embodiments for the picture hanging assembly of FIGURE 2.

FIGURE 5 is a perspective view of the pin means employed in the embodiments of FIGURES 4*b*–4*d*.

FIGURE 6 shows a cross-sectional view of the pin embodiment of FIGURE 4*d*.

Referring now to the drawings, FIGURE 1 shows the rear side of a picture frame assembly comprised of the frame portion having horizontal sides **11** and **12** and vertical sides **13** and **14**, respectively. A wire **15** of suitable strength is secured by fastening means such as nails **16** and **17** provided along the vertical sides of the frame. The conventional picture hanging assembly is comprised of a thin, flat metallic member **18** which is bent at **19** and **20** so as to form a generally S shaped configuration. Suitable openings are provided at **21** and **22** for receiving the nail **23**. Nail **23** is driven into a suitable vertical support such as a wall until its nail head **24** bears against the member **18** at **25**. The hooked portion **26** receives the wire **15**, thus completing the picture hanging assembly. In the case where two pictures are to be hung side by side and the pictures have frames of the exact outer dimensions it is conventional to measure down from the ceiling in order to establish where the nails **23** should be driven into the wall or other vertical support. An extreme amount of care is to be exerted in making the measurements and in driving the nails into the vertical support or else the pictures will be out of alignment. While it is possible to tighten up the wires **15** this nevertheless is not a simple adjustment to make and is thereby very time consuming. Also the ceiling may be uneven.

With the assembly **30**, shown in FIGURE 2 of the instant invention, substantially all of the extreme care which must normally be employed in hanging pictures or other art objects is totally avoided. The assembly **30** of FIGURE 2 is comprised of a nail **23** which passes through a central aperture in the substantially flat plate **31** and which is driven into a vertical support or wall **32**, preferably until its nail head **24** is in close proximity to the outward surface of the plate member **31**. Turning to a consideration of FIGURE 3, the plate **31** can be seen to be formed of a suitable plastic or metallic material having a central aperture **33** and a continuous narrow slot which spirals generally outwardly from the central aperture toward the outer periphery **35** of plate **31**.

Returning to a consideration of FIGURE 2, a double hooked member **36** being provided with hooked portions **37** and **38** is arranged so that one of its hook portions **37** is suspended from the spiral shaped passageway **34** provided in plate **31**. The other hook portion **38** is designed to receive the wire, loop or other member provided at the rear of the picture frame or other art object in order to hang such object upon the assembly **50**.

In the embodiment of FIGURE 3*b* the outward edge of the spiral shaped passageway is provided with an undulating edge to receive the upper hooked portion **37** of the double hooked member **36** so as to prevent the double hooked member **36** once positioned in the desirable location, from moving from that position. From a consideration of FIGURE 3*b* it can be seen that the hook may be adjusted to be positioned beneath the central opening **33** anywhere within the distance D from central opening **33**.

FIGURE 3*c* shows a generally spiral shaped passageway **34'** which is comprised of a plurality of spaced segments. In this embodiment the undulating outer edge of FIGURE 3*b* is not needed since it is possible to position the double hooked member **36** either along a straight line portion or at one of the locations between two straight line portions such as, for example, the location **39**.

FIGURE 3*d* shows still another preferred embodiment in which the continuous passage may be replaced by a plurality of openings **40** generally arranged with their centers lying along an imaginary line **41** which spirals generally outwardly from the central opening **33**. The double hooked member **36** may be positioned in any one of the openings **40** and may be removed and replaced within any other one of the openings depending upon the height at which the object is desired to be hung.

In the embodiment of FIGURE 3*e* the openings **40** may be arranged along a plurality of radial lines **42** such that the openings still are positioned along an imaginary line **41** which spirals generally outwardly from the central opening **33** toward the outer periphery of the disc.

In the embodiment of FIGURE 3*g* a plurality of discontinuous elongated arcuate shaped slots **43** may replace the openings **40** of the FIGURES 3*d* and 3*e*. Again, it should be noted that the arcuate shaped slots, or passages **43** lie along an imaginary line **41** which spirals generally outwardly from the central opening **33** toward the outer periphery of the disc **31**.

In addition to employing the circular shaped disc of FIGURES 3–3*b* and 3*d*, 3*e* and 3*g*, or the rectangular shaped disc of FIGURE 3*c*, other shapes may be employed. For example, a cross or X-shaped plate **44**, as shown in FIGURE 3*f*, may be provided with a plurality of openings **40** which extend outwardly along each of the arms **45** so that the centers of the openings lie generally along an imaginary line **41** which spirals generally outwardly from the central opening **33** toward the outermost edges **45***a* of the arms **45**. The openings **40**, instead of being substantially circular shaped may be of any other desired shape or, may be arcuate shaped slots of the type shown in FIGURE 3*g*. The plate may be provided with a greater or lesser number of arms than that shown in FIGURE 3*f* or may, for example, be rectangular shaped or triangular shaped if desired.

An alternative embodiment for the assembly **30** of FIGURE 2 is shown in FIGURE 4*a*. The assembly **46** of FIGURE 4*a* is comprised of a substantially cylindrical member **47** having flanges **48** and **49** at its opposite ends for receiving the disc **31**. The disc **31** is preferably provided with a diagonally aligned opening **33'** to receive cylinder **47** in order to align the disc **31** substantially in a vertical plane when the nail **23** is driven into the wall or other vertical support at an angle. The disc **31** may then be rotated about cylinder **47** in order to appropriately adjust the height of the object being hung.

In the embodiment **50** of FIGURE 4*c* the disc **31** may be formed of a suitable plastic member having a thickness to provide it with sufficient strength to support the object to be hung. The central member **51** may also be formed of a plastic material and is provided with a diagonally aligned opening **52** for receiving nail **23**. Member **51** is provided with flanges **53** and **54** in order to secure the disc **31** thereto.

As an alternative to the double hooked member **36** previously described, the embodiment **50** of FIGURE 4*c* employs a peg-shaped member **55** having first and second portions **56** and **57** of differing diameters. The portion **56** is inserted through the passageway or openings. The portion **57**, having the larger shaped diameter is provided with a V-shaped groove **58** completely surrounding portion **57** in order to receive the wire, loop or other device mounted upon the rear of the picture or other object to be hung. FIGURE 5 is a perspective drawing showing the peg-type member **55** in greater detail.

In the case where the peg-shaped member is inserted in a continuous passageway of the types shown in FIGURES 3–3*c*, the rear end of portion **56** may be flattened to form the head **59** or the head may be threaded or force fitted on portion **56**, as shown in FIGURE 4*d* so as to prevent the peg-shaped member **55** from being removed from the disc **31**.

The portion **56** of peg-shaped member **55** may be provided with a cross-sectional configuration such as that shown in FIGURE 6 wherein the distance between the vertical sides D_2 is substantially less than the distance between the horizontal sides D_1. This configuration may be advantageously employed in the following manner:

By rotating the peg-shaped member so that the portion **56** occupies the position **56'** shown in FIGURE 3*a*, the

peg-shaped member may be freely moved along the continuous passageway. After the desired position is reached, the peg-shaped member may be rotated through a quarter-turn to occupy the position **56''** shown in FIGURE 3*a*, so that it makes frictional engagement between the opposing sides of the passageway **34**, thus locking it into position. As an alternative embodiment the passageway **34** may be provided with a plurality of substantially circular shaped positions **59** arranged at spaced intervals along the continuous passageway **34**. The peg-shaped member **55** may then be rotated one-quarter turn, as previously described, so as to occupy the position **56'''** within one of the substantially circular shaped openings so as to be locked into position.

It can clearly be seen from a consideration of all the embodiments set forth herein that the instant invention provides a novel assembly for hanging pictures and other objects from a vertical support wherein the height adjustment of the object being hung is performed simply and without the need for exerting extreme care in the height adjustment operation of the objects and with the capability of adjusting the height of the object being hung and with an infinite variety of positions within a substantially large distance.

In cases where the assemblies are designed to support objects which are extremely heavy, the discs may be stamped from material having superior strength characteristics or the thickness of the material may be increased to provide the increased strength. The outer diameters of the discs or other shaped plates may take on a variety of values, depending only upon the needs of the user.

Although there has been described a preferred embodiment of this novel invention, many variations and modifications will now be apparent to those skilled in the art. Therefore, this invention is to be limited, not by the specific disclosure herein, but only by the appending claims.

What is claimed is:

1. An assembly for hanging pictures and other objects to a vertical support comprising;

first means for securing said assembly to said vertical support;

second means having a central aperture for receiving said first means and being provided with a passageway spiraling generally outwardly about said central opening;

third means having a first end being supported by said passageway and a second end for supporting the object being hung.

2. The assembly of claim **1** wherein said first means is a nail.

3. The assembly of claim **1** wherein said third means is a double hooked member having a first hook suspended by said passageway and a second hook for supporting the object being hung.

4. The assembly of claim **1** wherein said second means is a substantially flat member and said passageway being a narrow continuous elongated slot spiraling generally outwardly from said central aperture toward the outer periphery of said flat member.

5. The assembly of claim **4** wherein the outer edge of said slot is provided with an irregular shaped configuration to prevent said third means from moving relative to said flat member.

6. The assembly of claim **1** wherein said second means is a substantially flat member having a plurality of openings arranged at spaced intervals along an imaginary line spiraling generally outwardly from the central aperture toward the periphery of said flat member.

7. The assembly of claim **1** wherein said second means is a substantially flat disc-shaped member.

8. The assembly of claim **1** wherein said second means is a substantially rectangular shaped member.

9. The assembly of claim **1** wherein said second means is a substantially cross-shaped member.

10. The assembly of claim **1** wherein said third means is comprised of a peg shaped member having first and second portions of differing diameters;

the smaller diameter portion being inserted into said passageway;

the larger diameter portion having a notch along its surface for suspending the object to be hung.

11. The assembly of claim **10** wherein said smaller diameter portion has a substantially oval shaped cross-section.

12. The assembly of claim **4** wherein said second means is further comprised of a cylindrical member positioned within said central opening and having a diagonally aligned opening for receiving said first means; said second means being rotatable relative to said cylindrical member.

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JOHN PETO, *Primary Examiner.*