Feb. 16, 1971 D. C. BRAYSHAW 3,562,849

HINGED HANDLE ASSEMBLY

Filed May 1, 1969 2 Sheets-Sheet 1

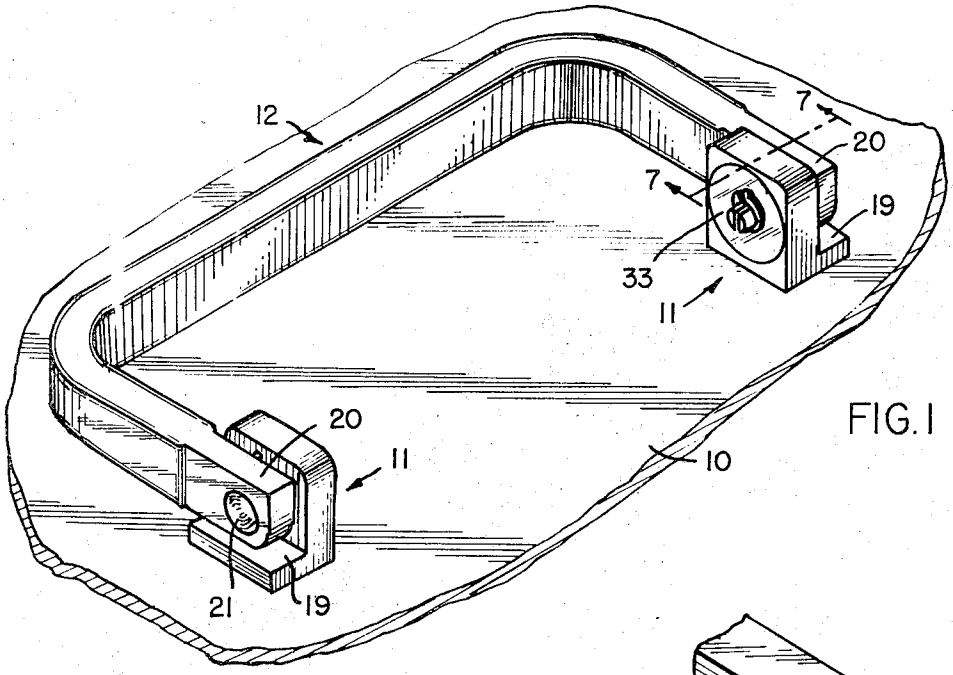


FIG. 1

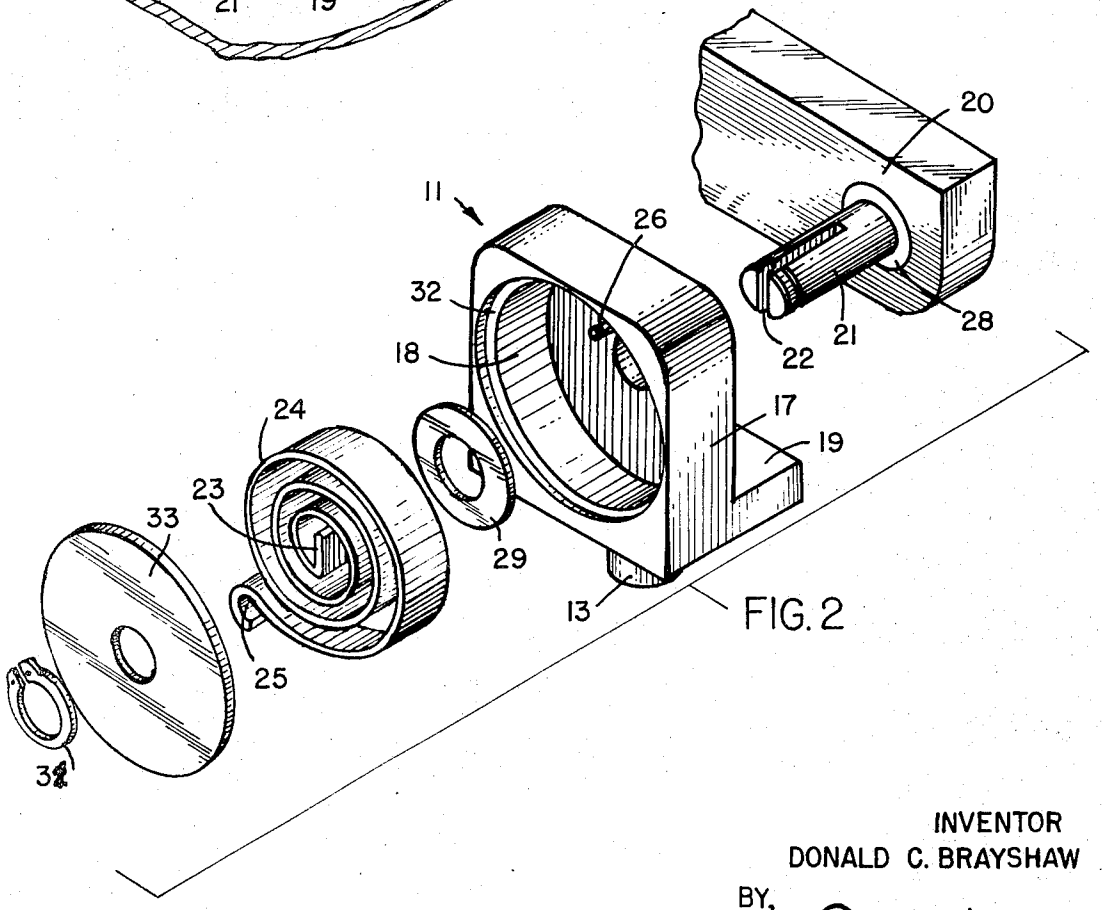


FIG. 2

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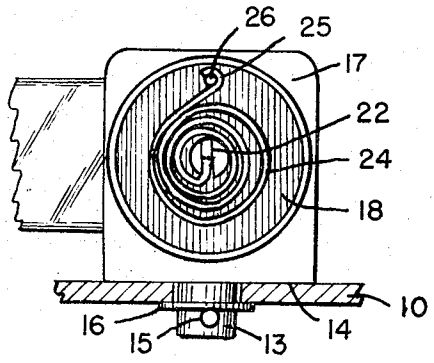


FIG. 3

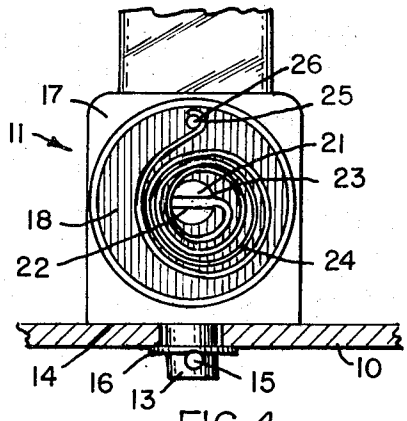


FIG. 4

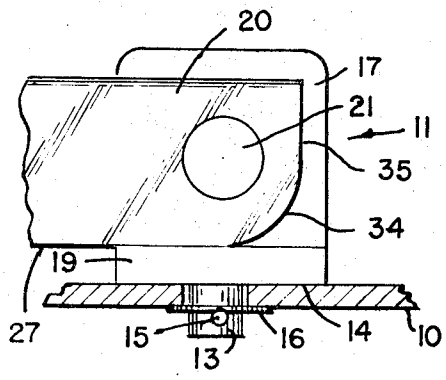


FIG. 5

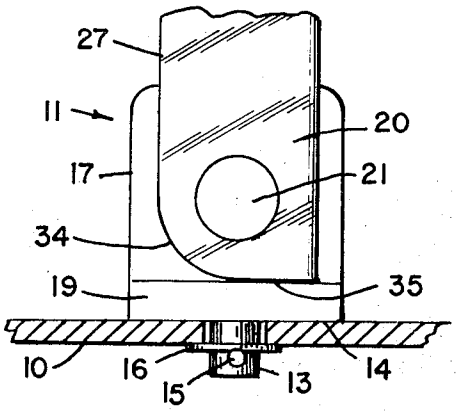


FIG. 6

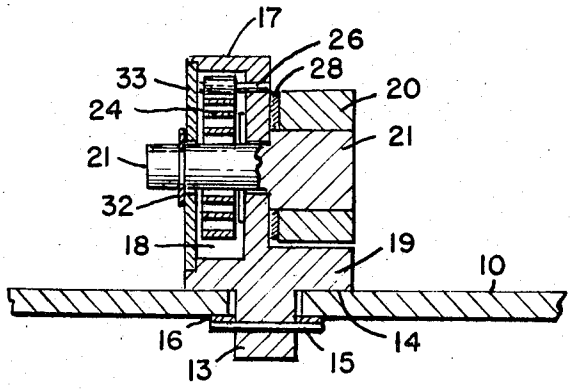


FIG. 7

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HINGED HANDLE ASSEMBLY

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Int. Cl. A47b 95/02; E05b 1/100
U.S. Cl. 16—126 9 Claims

ABSTRACT OF THE DISCLOSURE

A hinged handle assembly is disclosed in which the ends of a hand grip are connected by pivots to uprights on supports attached to a wall of an object. Each upright has a chamber through which the connecting pivot extends and to which the inner end of a coil spring is connected. The other end of the spring is attached to the upright and the springs urge the grip into an inoperative position relative to the wall. The upright has a shoulder and the end portions of the grip and the shoulders having portions engageable to limit the extent to which the grip may be swung both with and against the spring action.

The present invention relates to hinged handle assemblies.

The advantages of having a hinged handle yieldably biased into an inoperative position have been recognized but have not been freely realized, particularly when strength, long life, and compact grip supports are requirements.

The principal objective of the invention is to provide hand grip assemblies that will meet the above generally stated requirements, an objective attained by providing supports attached to a wall of an object and having an upright and a shoulder at its bottom projecting from one end face. End portions of the hand grip carry fixed pivots rotatably supported by the upright and at least one of the uprights has a chamber opening through its other face through which the pivot extends that is supported by that upright. A coil spring within the chamber anchored to the pivot and to that upright, yieldably urges the hand grip into an inoperative position relative to the wall and the end portions of the hand grip and the shouders have surfaces that are mutually engageable to limit the extent to which the hand grip may be swung both with and against the action of the springs.

In the accompanying drawings, there is shown an embodiment of the invention illustrative of these and other of its objectives, novel features, and advantages.

In the drawings:

FIG. 1 is a perspective view of a handle assembly in accordance with the invention,

FIG. 2 is an exploded view and on an increased scale, of the connection between one end portion of the grip and one of the supports,

FIG. 3 is a view of one of the end supports with the closure of its chamber removed to show the spring with the grip inoperatively positioned thereby,

FIG. 4 is a like view but with the grip positioned for use,

FIG. 5 is a view showing the relationship between an end portion of the grip and the shoulder of the support with the grip inoperatively positioned,

FIG. 6 is a like view showing that relationship when the grip is positioned for use, and

FIG. 7 is a section taken approximately along the lines 7—7 of FIG. 1.

In the drawings, a fragment of a wall of a case, drawer, or other object is indicated at **10** to which supports for a hand grip are secured, the supports being generally

indicated at **11** and the grip being generally indicated at **12** and shown as U-shaped.

Each support **11** is shown as having an attaching stud **13** depending from its flat bottom surface **14** and extending through the wall **10** and anchored by a transverse pin **15** bearing against a washer **16** interposed between it and the wall **10**. Each support includes an upright **17** having a circular chamber **18** opening through one end face and a bottom shoulder **19** extending in the opposite direction. The shoulder **19** and the end face of the upright **17** proximate thereto are plane surfaces and disposed at right angles to each other. It is preferred that the supports **11** be disposed with their chambers **18** opening toward each other.

The end portions **20** of the grip **12** are parallel and spaced apart to receive the supports **11** between them. The end portions **20** carry fixed pivots **21**, each rotatably supported by the proximate upright **17** and extending axially through its chamber **18**. The free end of each pivot **21** has an end slot **22** to slidably receive and hold the inner end **23** of a coil spring **24** whose outer end terminates in a hook **25** caught on a pin **26** fixed within the chamber **18**. The spring is tensioned when installed to yieldably hold the grip **12** in its inoperative position in which, see FIGS. 1 and 5 the edge **27** of each end portion **20** rests against the appropriate shoulder **19**. As may best be seen in FIGS. 3 and 4, each pin **26** is located in vertical alignment with the axis of the pivots **21** and the pivots have their slots **22** in alignment therewith when the grip **12** is inoperatively positioned to ensure that, in the assembled handles, the springs function uniformly.

Washers **28** and **29** are supported by each pivot **21**, one washer **28** between each end portion **20** and the proximate face of the support **11** to which it is connected and one washer **29** between each spring **24** and the end wall of its chamber **18**. Each pivot **21** has an annular groove adjacent its free end to hold a keeper **31** against the recessed margin **32** of the chamber **18** by which a cover disc **33** is detachably held.

As may best be seen in FIGS. 5 and 6, the edge **27** of each grip end portion **20** has a rounded junction **34** with the extremity **35** thereof enabling the grip **12** to be swung into an operative position approximately at right angles to the support **10** before the extremity **35** butts against the shoulder **19**.

It will thus be apparent that hinged handle assemblies in accordance with the invention are well adapted to meet a wide range of requirements ensuring satisfactory service with the convenience of a handle yieldably and securely held in an inoperative position.

I claim:

1. A hinged handle assembly comprising a pair of end supports for attachment to a wall of an object, each support including an upright and a shoulder projecting laterally from the bottom thereof, the proximate end face of the upright and the shoulder being plane surfaces and disposed at right angles to each other, a grip including end portions having parallel faces spaced and disposed so that each may lie close to the appropriate one of said first named end faces, a pivot fast on each end portion of the grip rotatably supported by the proximate upright, at least one upright having a chamber opening through a face opposite the shoulder into which the pivot supported by that upright extends, a coil spring in said chamber fastened at its outer end to a chamber wall and at its inner end to said pivot and urging the hand grip into an inoperative position relative to the wall, at least one end portion of the hand grip and the proximate shoulder including surfaces engageable to limit the extent to which the hand grip may be swung in at least one direction.

2. The hinged handle assembly of claim 1 in which both uprights have a chamber, a coil spring is in each chamber with its outer end fastened to a chamber wall and its inner end fastened to the pivot extending therein.

3. The hinged handle assembly of claim 1 in which at least one end portion of the hand grip and the proximate shoulder include surfaces engageable to limit the extent to which the hand grip may be swung in the other direction.

4. The hinged handle assembly of claim 1 in which each end portion of the hand grip and the shoulder of the upright to which it is attached includes surfaces engageable to limit the extent to which the hand grip may be swung in either direction.

5. The assembly of claim 2 in which the chambers open towards each other.

6. The assembly of claim 1 in which the pivot extends through the chamber of the support to which it is attached, a cover has a hole through which the pivot also extends and which is engageable with the upright to close the chamber, and a fastener on the free end of each pivot holds the cores in its chamber closing position.

7. The assembly of claim 6 in which the face of the upright through which the chamber opens has a recess marginally of the chamber in support of the margins of the cover.

8. The assembly of claim 4 in which the extremity of each end portion of the grip is engageable with the shoulder of the support to which it is connected when the grip is operatively positioned and an edge portion engageable with that shoulder when the grip is inoperatively positioned and the junction between that edge and the extremity is rounded thereby to enable the grip to swing from one position to the other.

9. The assembly of claim 1 in which the width of each shoulder is substantially equal to the thickness of the upright above the shoulder and of the end portion of the grip connected thereto.

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