Feb. 2, 1971 W. F. KIEFER ET AL 3,560,036

LATCH FOR THE COVER OF AN ELECTRICAL PLATING ROTATING BARREL

Filed Aug. 25, 1969

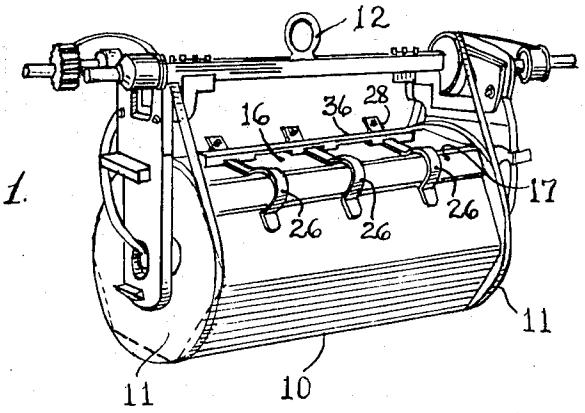

Fig. 1.

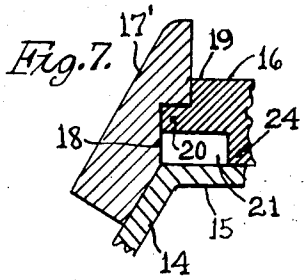

Fig. 7.

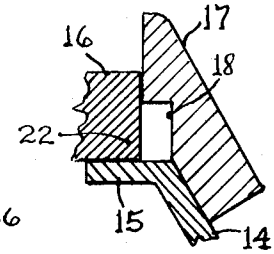

Fig. 8.

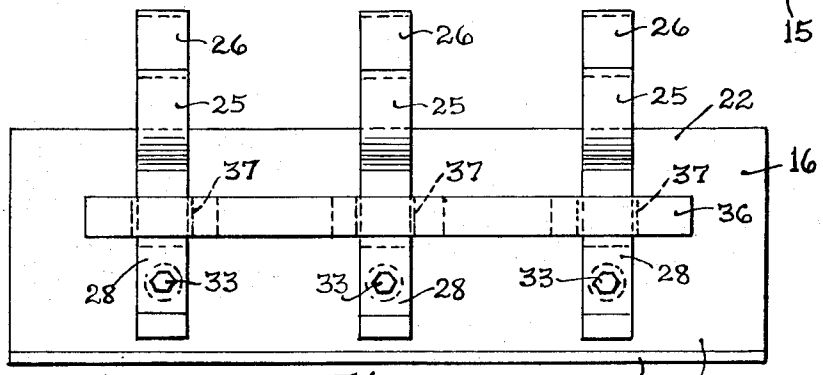

Fig. 2.

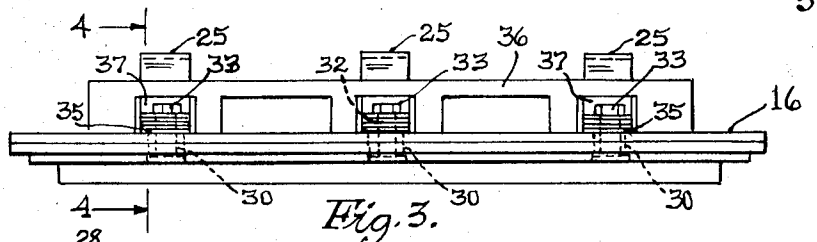

Fig. 3.

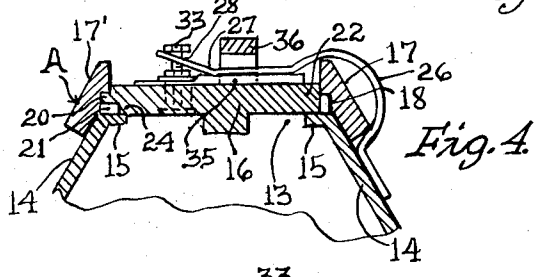

Fig. 4.

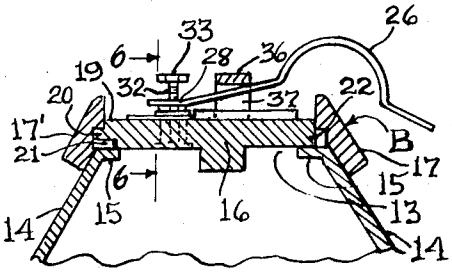

Fig. 5.

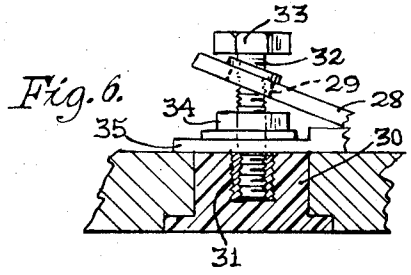

Fig. 6.

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LATCH FOR THE COVER OF AN ELECTRICAL PLATING ROTATING BARREL

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U.S. Cl. 292—87 2 Claims

ABSTRACT OF THE DISCLOSURE

A latch for the cover of an electrical plating rotating barrel in which the latch (of which there is one or more) comprises a latch finger pivotally connected to the cover for removal therewith when the cover is removed from the cover opening in the barrel, the latch having a keeper head adapted to snap over and onto a latch bar provided by the barrel along the edge of the cover opening thereof.

The present invention constitutes an improvement over that shown in U.S. Pat. No. 3,337,442 granted on Aug. 22, 1967.

The cover latch, of which there is one or more, shown in the referred to patent, comprises a latch bar which has opposite open latch heads adapted for latched engagement with parallel latch bars, the latter carried by the barrel. To remove the cover of the barrel, shown in said patent, the bars are completely detached from the barrel and the barrel cover and laid or set aside until further use of such bars is required. Often the bars become misplaced or lost, resulting in loss of operation of the barrel.

The present invention has for its object the provision of a latch for the cover of a barrel which is connected to and removable with the cover when the cover is removed from the cover opening of the barrel.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction and in which:

FIG. 1 is a perspective view of a plating rotating barrel embodying our invention;

FIG. 2 is a top plan view of the cover of the barrel embodied in the invention;

FIG. 3 is an edge view of the cover taken substantially on line 3—3 of FIG. 2;

FIG. 4 is a fragmentary sectional detailed view of the cover taken substantially on line 4—4 of FIG. 3 showing the cover mounted in position upon the barrel and latched thereto;

FIG. 5 is a fragmentary sectional detailed view similar to FIG. 4 but showing the latch in open position;

FIG. 6 is a fragmentary sectional detailed view taken substantially on line 6—6 of FIG. 5;

FIG. 7 is a fragmentary sectional detailed view of the corner portion indicated at A, FIG. 4; and

FIG. 8 is a fragmentary sectional detailed view of the corner portion indicated at B in FIG. 5.

The rotating barrel is indicated at **10** and comprises end walls **11** which, like that barrel **10**, are formed of plastic material. The barrel is adapted to contain the material to be plated. The barrel **10** is rotatably supported by a structure generally indicated at **12**. This structure is shown and described in U.S. Letters Patent No. 3,337,442 hereinbefore referred to and will not be here described. The top of the barrel **10** has an opening **13**. The walls **14** of the barrel have inturned flanges or edges **15** which support the cover **16** of the barrel when mounted in the opening **13**.

Extending on opposite sides of the cover opening **13**

in parallel relation with respect to each other and formed as a part of the barrel **10** are latch bars **17** and **17'**. Each of these latch bars **17** and **17'** is longitudinally grooved as at **18** with the grooves opening toward each other. The cover **16** along one long edge **19** thereof is provided with a tongue **20**. Beneath the tongue **20** the edge **19** is longitudinally recessed as at **21**. When the cover **16** is mounted in the cover opening **13** the tongue **20** will be projected into the groove **18** of the adjacent bar **17'** (FIG. 7) with the edge **24** of the cover resting on the adjacent flange **15**. In such position of the cover the opposite long edge **22** of the cover will be supported on the adjacent flange **15**. By constructing the cover in the form described the cover may be mounted in the opening **13** with the tongue **20** projecting in either of the grooves **18** formed in the bars **17** and **17'**.

The cover as shown in the drawings, includes at least three latch fingers **25**, each of which are of the same construction. Each is formed of suitable heavy spring material. Each includes a curved latch head **26**. The inner end **27** of each latch finger has an angled end portion **28** in which there is an opening **29**. Molded in or otherwise fixedly secured to the cover **16** is an insert plug **30**, which in turn has an insert **31** screw-threaded therein. Threaded in this insert **31** is a pintle **32** having an enlarged head **33**. A lock nut **34** is threaded on the pintle **32** to space the head **33** of the bolt a suitable distance thereabove. The pintle **32** projects through the opening **29** formed in the inner end **27** of the latch finger **25**. The opening **29** is of a diameter larger than the diameter of the pintle **32** to permit the movement of the latch fingers **25** on the pintles **32** into and out of the position shown in FIG. 4.

Beneath each of the latch fingers **25** preferably formed as an integral part of the cover **16** is a bearing plate **35** on which the inner end **27** bears when the latch head **26** is in latched position with respect to the adjacent latch bar **17** as shown in FIG. 4. In such position of the latch finger **25** the end **28** thereof will bear against the head of the bolt **33**, thus to place the latch finger **25** under tension, with the latch head **26** in latched engagement with the adjacent latch bar **17** (FIG. 4).

To complete the invention there is secured to the cover **16** an elongated hand bar **36** provided at predetermined points with respect to its length with cutout portions **37** through which the latch finger **25** extends and is maintained.

The cover **16** may be mounted in the opening **13** with the tongue **20** projecting into either of the grooves **18** formed in the bars **17** and **17'** with the cover supported on the flanges **15**.

By the use of a latch constructed in the manner herein described the cover **16** is securely latched in position in the opening **13**, and as the latch structure is a part of the cover being attached thereto, when the cover is removed the latch structure will remain as a part of the cover structure. This eliminates the possibilities of the latch structure being misplaced or lost as might occur if made a separate part of the cover as in the case of the latch structure shown in the Pat. No. 3,337,442 hereinbefore referred to. The latch structure is simple and has been found to be satisfactory for its intended purpose, namely, that of removably latching the cover in the door opening of the rotatable barrel.

While we have illustrated and described the preferred form of construction for carrying our invention into effect, this is capable of variation and modification without departing from the spirit of the invention. We, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail ourselves of such variations and modification as come within the scope of the appended claims.

Having thus described our invention, what we claim as new and desire to protect by Letters Patent is:

1. The combination with a rotatable plating barrel having a cover opening defined on opposite side edges by inwardly extending flanges of:

(a) a cover for said opening supported on said flanges when mounted in said opening,

(b) a pair of oppositely disposed latch bars carried by said barrel on opposite sides of the opening,

(c) each of said bars having a longitudinally extending groove formed therein,

(d) said cover providing on one edge thereof a tongue insertable in either of said grooves when the cover is positioned in said opening upon said flanges,

(e) latch mechanism for said cover including one or more latch fingers, each having at one end thereof a latch head adapted for snap latched engagement with one of said bars, and

(f) means for pivotally connecting the opposite end of said latch fingers to said cover for removal therewith when the cover is removed from said opening.

2. The combination defined in claim 1 wherein the pivotal means for connecting the latch finger to said cover

comprises a pintle carried by the cover and extending through an opening formed in the shank, said pintle having an enlarged head and being of a diameter larger than the diameter of said opening to permit the latch finger to pivot relative to said pintle to dispose the latch head of said finger into and from snapped engagement with one of said bars.

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