Feb. 4, 1964 E. BURRELL 3,120,116

LOCKING DEVICE FOR OPEN POST

Filed May 14, 1962

FIG. 1

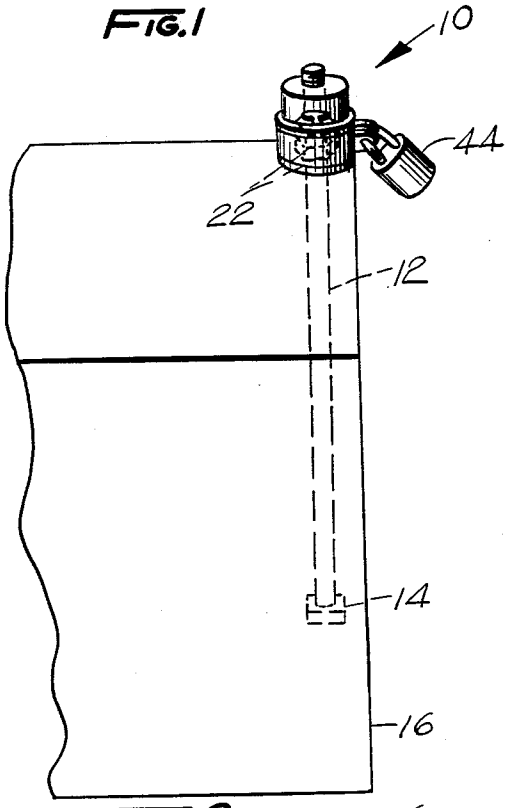


FIG. 2

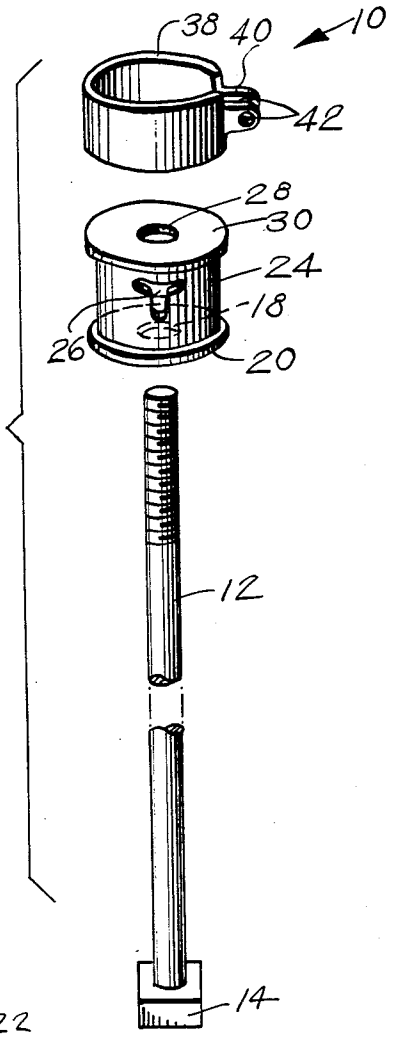


FIG. 3

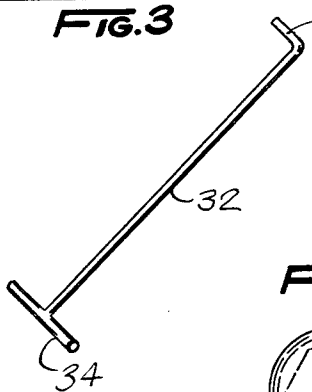
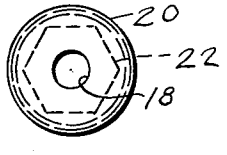


FIG. 4



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LOCKING DEVICE FOR OPEN POST

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This invention relates to locking devices and more particularly to a locking device for automobile batteries, tool boxes and the like.

It is an object of the present invention to provide a locking device that will prevent the theft of automobile batteries, art pictures, tool boxes, and will lock any open stud, post, or bolts.

Another object of the present invention is to provide a locking device that can be used on tools, punch presses, and can be set for close tolerances, thus keeping the operator from changing gauges.

A further object of the present invention is to provide a locking device that will have a collar and padlock that may be used for further protection if needed.

Other objects of the invention are to provide a locking device bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is a perspective view of a locking device comprising the present invention;

FIGURE 2 is an exploded perspective view of the present invention;

FIGURE 3 is a perspective view of the key used in conjunction with the present invention; and

FIGURE 4 is a bottom plan view of the case shown in FIGURE 2.

Referring now more in detail to the drawing, a locking device 10 made in accordance with the present invention is shown including an elongated threaded bolt 12 having a head 14 which may, for example, be part of an automobile battery case 16. A central and circular opening 18 in lower circular spacer 20 and a similarly central and circular opening 28 in upper circular spacer 30 slidably receive bolt 12. A pair of hexagonal jam nuts with flat side faces 22 within the cylindrical casing 24 threadedly receives one end of bolt 12. Casing 24 is provided with a T-shaped opening 26 having horizontal and vertical portions. An elongated nut turning tool or key 32 is provided with a cross bar 34 which is at right angles to key 32 at one end. The other end of key 32 is provided with a right angle projection 36. Key 32 when inserted in T slot 26 of casing 24 provides for tightening or loosening of the nuts 22 in the locking device 10 as explained below. A circular collar 38 having a pair of projecting lugs 40 with openings 42 may be received over casing 24 between spacers 20 and 30. This makes T-shaped opening 26 inaccessible and provides for maximum security. The hasp of a padlock 44 is freely received through the openings 42 of lugs 40 on the collar 38.

Upper and lower spacers 20 and 30, and casing 24 are formed into a single assembly, as by brazing or welding the parts together, or they may be otherwise formed as a single piece, with the jam nuts 22 inside. If the clearance between the nuts 22 and the interior of casing 24 is fairly small, there will be no difficulty encountered in then threading bolt 12 part of the way into the two nuts by turning the entire casing and nut assembly with a slight axial pressure towards bolt 12.

Once the assembly is threaded part way onto the bolt, operation of the nut lock is as follows: Cross bar 34 is

inserted into T slot 26 so that it is against one flat face of each of the jam nuts and so that it is substantially parallel to bolt 12. Key 32 may then be used as a lever with which to revolve both jam nuts and the spacer-casing assembly, all as a unit. The clearance between the flat faces of jam nuts 22 and the interior of casing 24 is small enough that upon key 32 being revolved, cross bar 34 will jam between the flat faces of both jam nuts and the interior of casing 24. It is thus that both jam nuts and the spacer-casing assembly are caused to revolve unitarily. Since cross bar 34 contacts both jam nuts, they are maintained, during the revolving in the same spatial relationship to each other, and so do not contact each other, and so do not "jam" during these revolutions. (The nuts would have to be in slightly separated, "non-jammed" position at the start of this operation. If they were not, they would have to be manipulated into such "open" or "unjammed" relationship by the use of right angle projection 36 of key 32, as will be explained later.)

When the spacer-casing assembly and nuts 22 have been threaded far enough onto bolt 12 they are then locked by removing cross bar 34 and inserting right angle projection 36 into the horizontal portion of T-shaped opening 26 so that projection 36 is transverse to the axis of bolt 12 and is lying against one of the flats of one of the jam nuts only. Key 32 may then be turned so as to wedge projection 36 between casing 24 (which is freely revolvable) and the jam nut, and to revolve only the jam nut against which the projection lies. Thus, that jam nut is tightened against its companion jam nut, after which key 32 is removed, and the spacer-casing and jam nuts then form a post lock on the end of bolt 12.

To remove the post lock, the procedure is reversed. Projection 36 of key 32 is inserted into the horizontal portion of opening 26, is placed in engagement with a flat face of one jam nut, and wedged against the revolvable casing. Key 32 is then revolved enough to loosen the jam nut and separate it slightly from its companion. Key 32 is then withdrawn, and reversed end-for-end, and cross bar 34 is inserted in opening 26 parallel to the axis of bolt 12, and lying against one flat face of each jam nut. Key 32 is then revolved in a direction to withdraw nuts 22 from bolt 12. Upon first being turned a small amount, cross-bar 34 will wedge between revolvable casing 24 and nuts 22, and continued revolutions of key 32 will remove jam nuts 22, and the casing-spacer assembly from bolt 12.

For maximum security a secondary precaution may be followed by the installation of the circular collar 38 over the casing 24. The collar 38 is placed around the casing 24 between the spacers 20 and 30 and a padlock 44 is inserted into the openings 42 of lugs 40 and closed thus affording maximum protection.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. A locking device for an open post threaded on one end, comprising a pair of jam nuts having flat side faces, enclosed in a revolvable cylindrical casing assembly, said nuts having sufficient radial clearance to revolve within said casing, and insufficient end clearance to turn end-over-end within said assembly, said assembly having openings in either end for slidably receiving the threaded end of said post, and openings on the cylinder wall adapted to receive wedging means.

2. A locking device for an open post threaded on one end, comprising a pair of jam nuts having flat side faces enclosed in a revolvable cylindrical casing assembly consisting of a cylindrical casing and a pair of end pieces, said nuts having sufficient radial clearance to revolve within said casing, and insufficient end clearance to turn

end-over-end within said assembly, said end pieces having openings in either end adapted to slidably receive the threaded end of said post and said cylindrical casing having an opening adapted to freely receive wedging members.

3. The locking device of claim 2 wherein said cylindrical casing opening is T-shaped.

4. The locking device of claim 2 wherein the pair of end pieces are circular and are of larger diameter than said cylindrical casing whereby end collars are formed at the opposed ends of said cylindrical casing which are adapted to receive cylindrical casing enclosing means having locking means, and having cylindrical casing enclosing means having locking means, whereby said opening in said casing may be lockably closed by said locking means.

5. The device of claim 4 wherein said cylindrical casing enclosing means consists of a flexing collar having opposed parallel lugs with openings therein adapted to receive said locking means.

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