

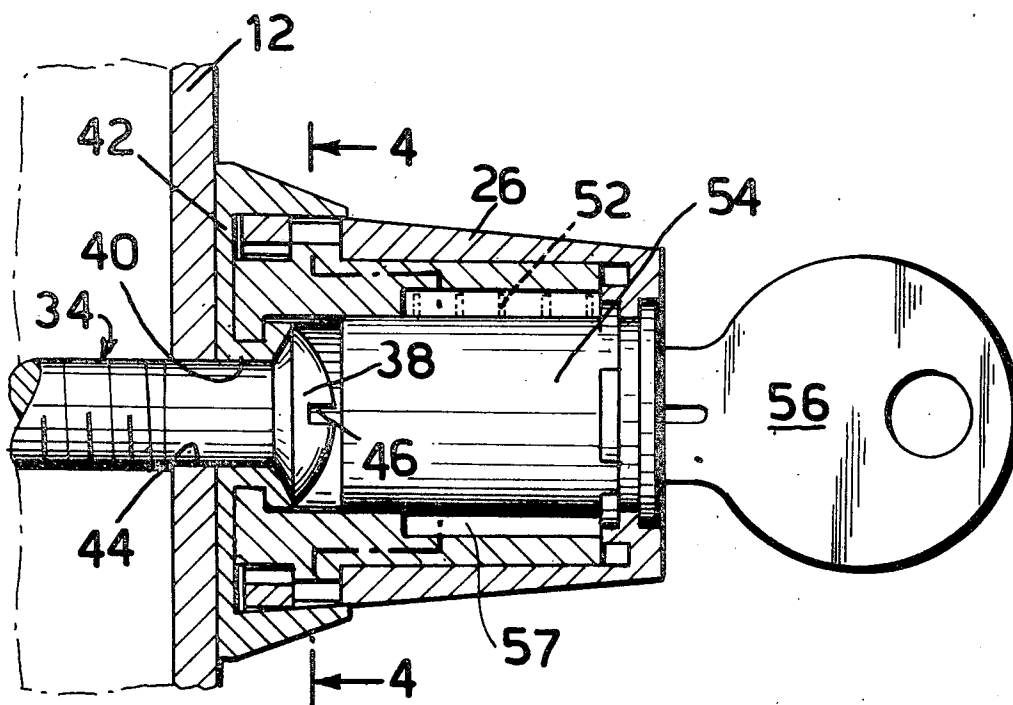
[54] **DEVICE FOR SECURING ARTICLES ON A MOUNTING BASE**[76] Inventors: **M. Leonard Singer**, 1500 Cardinal Dr., Little Falls; **Robert M. Woletz**, 294 Buttonwood Dr., Paramus, both of N.J.[22] Filed: **Aug. 16, 1971**[21] Appl. No.: **172,018**[52] U.S. Cl. **70/232**[51] Int. Cl. **F16b 41/00**[58] Field of Search..... **70/232, 230, 158, 70/58; 215/98**[56] **References Cited****UNITED STATES PATENTS**

3,605,460	9/1971	Singer et al.	70/232
1,900,146	3/1933	Winkler	70/232
3,564,879	2/1971	Bennett	70/232

Primary Examiner—Marvin A. Champion*Assistant Examiner*—William F. Pate, III.*Attorney*—John J. McGlew et al.[57] **ABSTRACT**

A device for locking a holding bolt which is engaged with an article such as a typewriter, radio set, etc., for securing it on a mounting base in order to prevent pilfering thereof comprises a first tubular member having

an end wall with a substantially flat exterior face which is adapted to be positioned against the mounting base for the article. The end wall has an opening therethrough for the shank of a bolt which is of a size to permit passage of the shank but prevent withdrawal of the bolt which has either a nut threaded thereon or a widened head portion. The first tubular part includes a widened base portion which forms an annular groove around an upstanding central tube portion. The upstanding tube has a projecting portion on each diametrically opposite side which engages within a recess defined from the bottom edge of a second tube which is engaged over the upstanding first tube. The annular edge of the second tube fits in the recess formed between the widened base portion and the upstanding tubular portion. The projection of the upstanding first tubular part and the second tubular part may be rotated to position the projection of the first tubular part behind a blocking shoulder which prevents withdrawal of the two tubular elements. The second tubular part includes a locking mechanism in the form of projecting elements which engage in diametrically opposite longitudinally extending grooves on the interior of the first tubular part and prevents relative rotation when the projections extend outwardly. The projections are made to move inwardly to permit relative rotation of the two cylinders and hence withdrawal of one in respect to the other when a key is positioned in the lock to move them out of an operative position.

3 Claims, 5 Drawing Figures

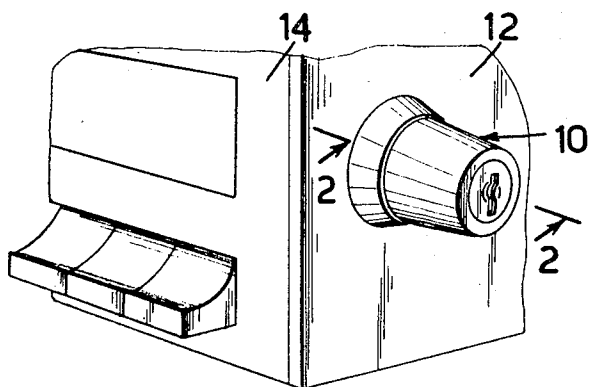


FIG. 1

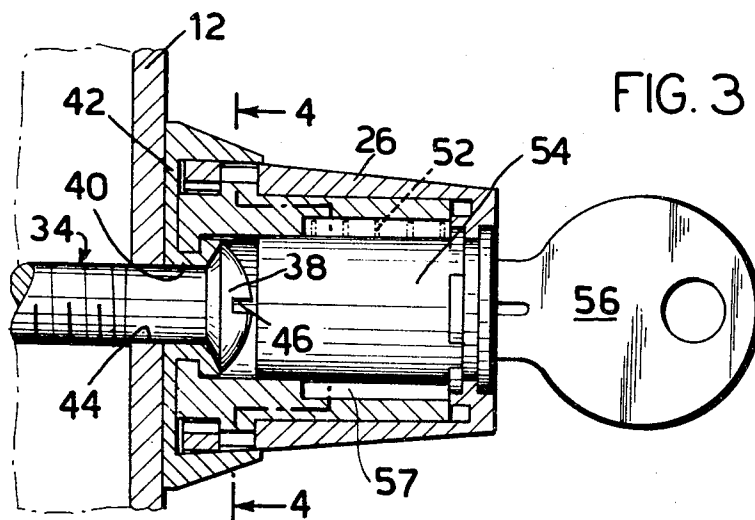


FIG. 2

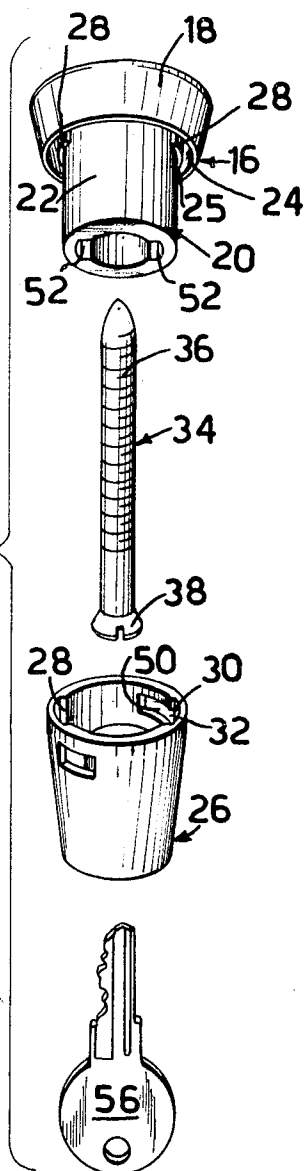


FIG. 3

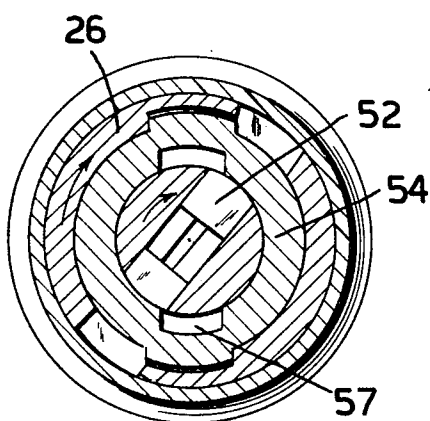


FIG. 4

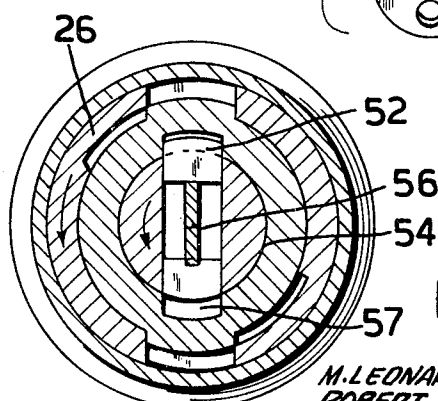


FIG. 5

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DEVICE FOR SECURING ARTICLES ON A MOUNTING BASE

SUMMARY OF THE INVENTION

This invention relates in general to the construction of locking devices and in particular to a new and useful device for locking the securing bolt for articles such as typewriters, stereo sets, etc.

The present invention is an improvement over the prior art primarily in respect to the details of construction of the locking mechanism which includes two interengageable tubular parts. The first tubular part has a widened base which forms an annular recess around an upstanding tubular central part for the second tubular part. The two parts interengage with a bayonet type of joint, wherein one part rotates relative to the other in order to lock a projection of one in a recess of the other. One of the tubular parts, for example, the outer tubular part carries a locking mechanism which holds the two parts against relative rotation and hence prevents disengagement of the bayonet joint when the locking mechanism is so set. The locking mechanism is engageable by a key which causes the withdrawal of two projecting parts of the second tubular element so that these two projecting parts do not engage within longitudinally extending grooves of the first tubular part so that it does not block relative rotation of the two parts. Once the projecting part of the second tubular element is withdrawn, the two tubular elements may be rotated relative to each other in order to effect disengagement of the bayonet joint.

Accordingly, it is an object of the invention to provide a locking device which includes a first tubular part to which a threaded element such as a securing bolt for the article to be secured is passed and which further includes a covered tubular part which engages with the first part in locking engagement therewith and which may be interengaged by means of a bayonet type locking joint which is disengageable only upon the release of a projecting element.

A further object of the invention is to provide a locking mechanism which includes a first tubular part having a widened base portion which forms an annular groove for receiving a second interengageable tubular locking part, the first tubular part having an opening therethrough for the passage of a bolt shank and it is covered on the exterior by a second tubular part which interlocks therewith by means of a interengageable bayonet joint which is locked by a key operated locking mechanism.

A further object of the invention is to provide a locking device which is simple in design, rugged in construction, and economical to manufacture.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and specific objects attained by its uses, reference should be had to the accompanying drawing and descriptive matter in which there is illustrated a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a side perspective view of a locking device shown in a locking position to hold a stereo set in a mounting bracket of a car;

FIG. 2 is a section taken along the line 2—2 of FIG. 1;

FIG. 3 is an exploded perspective view of a locking mechanism showing the various elements;

FIG. 4 is a section taken along the line 4—4 of FIG. 2; and

FIG. 5 is a view similar to FIG. 4, but showing the parts in a locked position.

GENERAL DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings in particular, the invention embodied therein comprises a locking device generally designated 10, which is shown in a locking position engaged over a mounting base 12 for a stereo or radio set 14.

In accordance with the invention, the locking device 10 includes a first tubular part or member 16 having a widened annular base portion 18 and an outstanding tubular part or portion 20. The outstanding tubular portion 20 includes and exterior wall 22 which is of a lesser diameter than the interior wall 24 of the widened base portion so as to form an annular groove 25 for receiving a second tubular part generally designated 26. The outstanding tubular portion 20 of the first tubular part 16 includes a projection 28 on each side which extends diametrically outwardly into the annular groove 24. The second tubular part 26 includes an annular end face 30 with a cutaway area or recess portion 32 on each side of a size to accommodate the respective projections 28.

When a device such as the stereo set 14 is to be secured in position, a locking bolt generally designated 34 is positioned such that its threaded shank portion 36 engages through the mounting base 12 and into a receiving threaded portion of the stereo set 14. In the embodiment illustrated, the bolt 34 has a widened head portion 38 but this end may be threaded if desired and covered by a nut (not shown). The head 38, or a nut as the case may be, is of a size such that it will not fit through an opening 40 of the end wall 42 of the first tubular part 16. End wall 42 is flat and it is arranged against the mounting base 12 to align the opening 40 thereof with an opening 44 of the base and to permit passage of the shank portion of the bolt 34. When the bolt is sufficiently tightened such as by turning it with a screwdriver by engagement in an opening 46 of the head 38, the outer cover part or second tubular part 26 is applied over the first part and the end face 30 fits into the annular groove 24. When the second tubular part 26 is in this annular groove 24 it is in a protected position, in which it may not be engaged by a crow-bar tool for separation of the two parts to pilfer the article held by the bolt 34 so that the two tubular members may be retained in a locked position once that is effected.

In accordance with a feature of the invention, the outer tubular part 26 engages with the inner tubular part 20 by means of a bayonet type of interlocking joint. For this purpose, recess 32, which is defined in the end face 30, extends first upwardly and then laterally into a centrally extending recess or access area 50 behind which the projections 28 are engaged when the outer tubular part 26 is rotated into a locked position after it is initially engaged over the projections 28 as they move into the recess 32.

When the outer cover 26 is initially placed on the inner tubular part 20, the recesses 32 on each side must

be first aligned with the projections 28. In this aligned position, lock projections 52, which are made to extend outwardly from each side of an internal cylinder 54 whenever a locking key 56 is removed, must engage in respective longitudinally extending grooves 57 which are defined on respective diametrically opposite sides of the outstanding tubular part 22 of the first tubular member 16. This is only possible, however, when the two parts are so aligned that the projections 28 are located in the recess area 50. Therefore, the two parts cannot be interengaged until a key 56 is inserted to cause withdrawal of the outstanding projections 52 to permit the engagement of the outer tubular part over the projections 28. After this is accomplished, with the key inserted and the projections 52 withdrawn, the two parts 26 and 16 may be rotated relative to each other in order to move the projections 28 into the locking recess area 50. Thereafter, the key is removed so that the projections 52 extend outwardly and prevent relative rotation of the two cylinder parts 26 and 16 so that they cannot be disengaged. The outer second tubular part 26 includes a covering part formed in part by the lock cylinder 54 so that there is no access to the bolt head 38 and it cannot be loosened.

In this manner, the locking device provides a simple mechanism composed of two interengageable parts which may be easily fitted together in order to secure the lock in place by engaging over a threaded securing bolt thereof. The device is inexpensive to manufacture and requires only two interengageable parts to accomplish the result.

While a specific embodiment of the invention has been shown and described in detail to illustrate the application of the principles of the invention, it will be understood that the invention may be embodied otherwise without departing from such principles.

What is claimed is:

1. A device for locking a holding bolt engaged with an article such as a typewriter, radio set, etc., for securing the article on a mounting base to prevent pilfering thereof, comprising a first tubular member having an end wall with a substantially flat exterior face adapted to be positioned against a mounting base for the article and having an opening through said end wall of a size to permit passage of a bolt therethrough, said first tubular member including a large diameter base portion and an inner tubular part spaced inwardly from said base portion and an annular groove formed between said base portion and said inner tubular part, said first tubular member having a lock projection on each diametrically opposite side, a second tubular member adapted to cover said first tubular member and having an end which is engageable in the annular groove, said second tubular member having an accommodating recess at each side for each lock projection on said first tubular member and having the laterally extending locking recess for said projection extending inwardly in respective opposite lateral directions from each associated accommodating recess, said second tubular member being positionable to engage in the accommodating recess with the lock projections in the accommodating recess and being rotatable to lock said lock projections behind said locking recess, said second tubular member having a locking tumbler extending centrally inwardly into the interior of said tubular part and having at least one extendible and retractable holding projection, a

key engageable in said locking tumbler and being adapted to retract said holding projection inwardly into said tumbler upon insertion thereof, said first tubular member having an axially extending groove accommodating said tubular projection, and locking said outer tubular part in respect to rotation to said inner tubular part, said projection being movable inwardly to permit rotation of said outer tubular part relative to said inner tubular part when the key is inserted.

2. A device for locking a holding bolt engaged with an article such as a typewriter, radio set, etc., for holding the article on a mounting base to prevent withdrawal and pilfering thereof, comprising a first tubular member having an end wall with a substantially flat exterior face adapted to be positioned against a mounting base for the article and having an opening through said end wall of a size to permit passage of a bolt therethrough, and a second tubular member of a size to fit over said first tubular member and cover it and the end of the securing bolt so that it may not be unloosened, said first and second tubular members having bayonet-type interengageable portions which may be engaged and disengaged by relative rotation of said second tubular part relative to said first tubular member, and means for locking said first and second tubular members against relative rotation, said locking means including an interior cylinder carried on said second tubular member which fits into the interior of said first tubular member, and projection means thereon engageable outwardly from said interior cylinder upon removal of a key therefrom, said first tubular member having an interior with a recess for accommodating said projection means to permit axial movement of said parts relative to each other but preventing the rotation thereof when said projection means extend outwardly, and having an integral widened base portion and an upstanding tubular part extending outwardly from said base portion and a protective annular base portion surrounding said projection means and defining an annular groove in said base portion, said second tubular member fitting into the annular groove of said first member, said projection means including a locking projection extending outwardly from each side of said tubular part of said first tubular member, said second tubular member having an entering recess and a lateral locking recess, said locking projection fitting into said recess and forming with said locking recess an engageable bayonet joint, said first and second tubular members being rotatable to position the projection of said first tubular member into the locking recess of said second tubular member in a locked position.

3. A device for locking a holding bolt, according to claim 2, wherein said second tubular member has a locking tumbler extending centrally inwardly into the interior of said tubular part of said first member and having at least one extendible and retractable holding projection, a key engageable in said locking tumbler and being adapted to retract said holding projection inwardly into said tumbler upon insertion thereof, said first tubular part having an axially extending groove accommodating said tubular projection and locking said first and second tubular parts against relative rotation, said projection being movable inwardly to permit rotation of said second tubular part relative to said first tubular part when said key is inserted.

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