

[72] Inventors **Leon Lautin**
43 White Drive N., Cedarhurst, N.Y. 11516
Alton K. Allen, 11 Flower Lane, Great
Neck, N.Y. 11024

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[54] **KEYED LUGGAGE MEMBERS**
6 Claims, 8 Drawing Figs.

[52] U.S. Cl..... **190/58,**
16/127

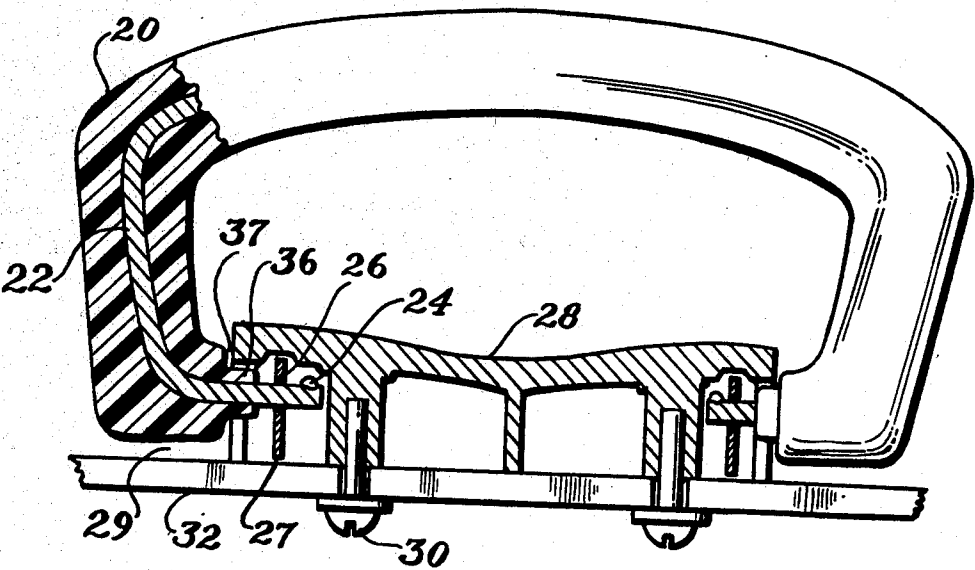
[51] Int. Cl..... **A45c 13/26**

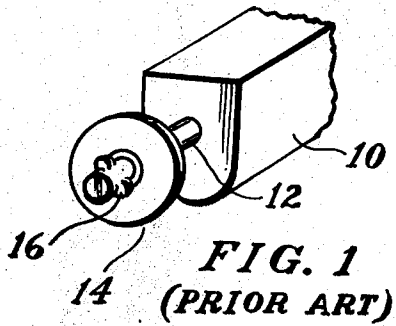
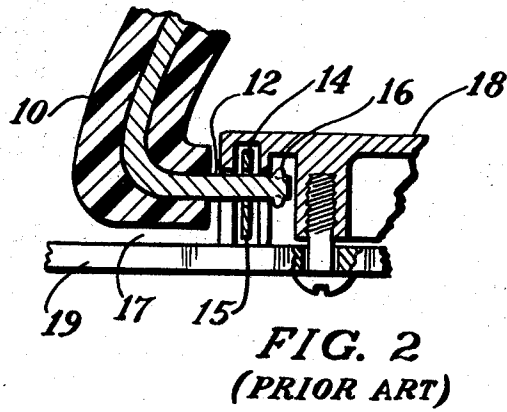
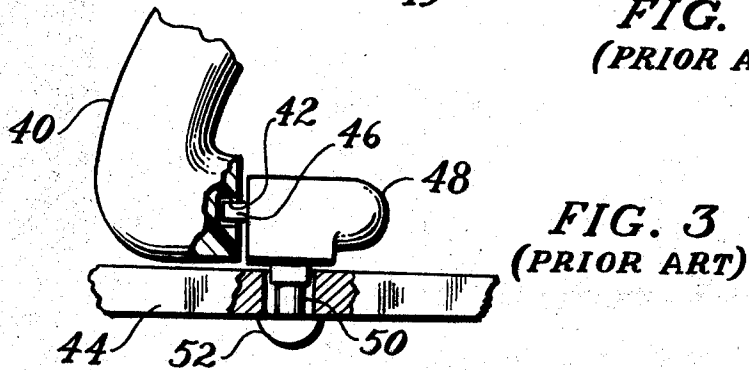
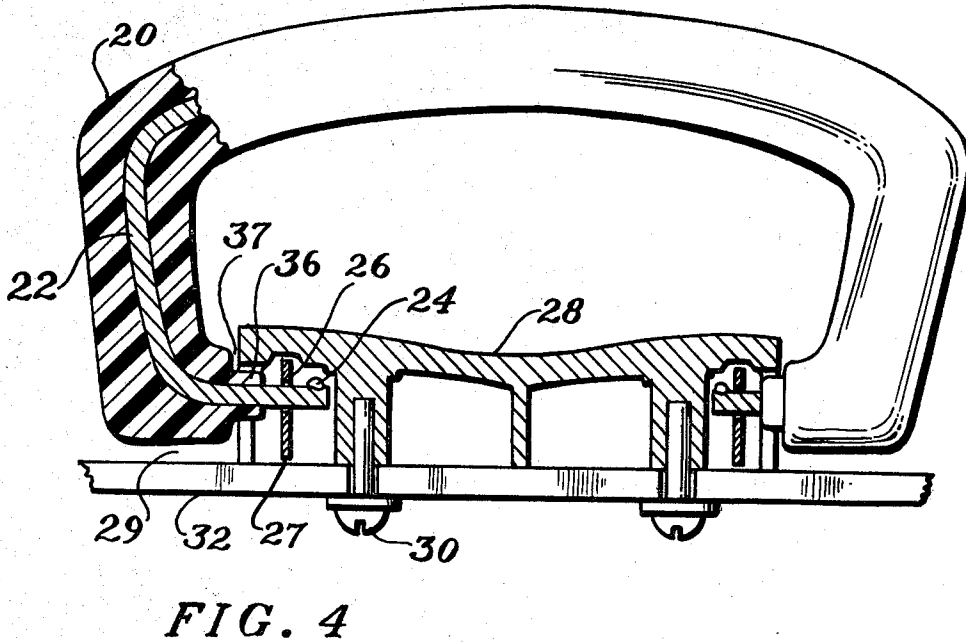
[50] Field of Search..... **190/39, 57,**
58, 58-1, 58-3; 16/112, 126, 127

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Primary Examiner—Donald F. Norton
Attorney—Leonard H. King

ABSTRACT: A nonmetallic, wire-reinforced luggage handle is attached to a mounting member by means of keys on both ends of the handle wire, which mate with keyways in the mounting member.





INVENTORS
LEON LAUTIN
ALTON K. ALLEN
 BY *Leonard H. King*
 ATTORNEY

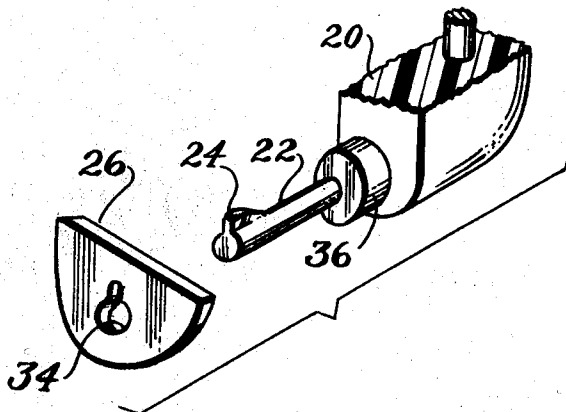


FIG. 5

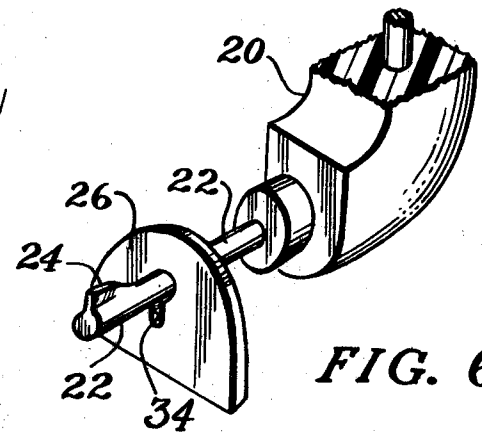


FIG. 6

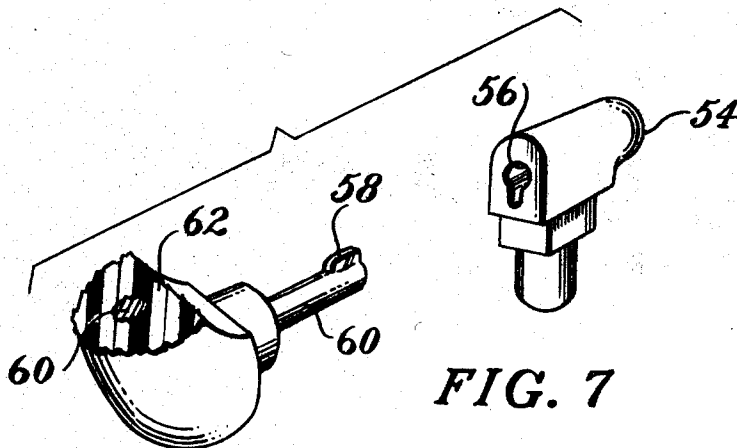


FIG. 7

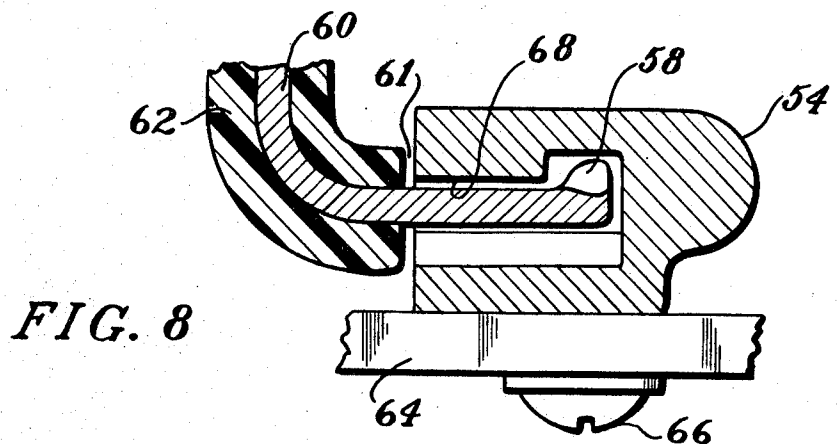


FIG. 8

INVENTORS.
LEON LAUTIN
ALTON K. ALLEN
BY *Leonard H. King*
ATTORNEY

KEYED LUGGAGE MEMBERS

This invention relates to luggage handles and the mounting means therefor to luggage, and more particularly to luggage handles composed of nonmetallic or plastic materials in which a reinforcing wire is embedded and on the ends of which wire keys are formed, and to mounting means in which matching keyways are created to simplify manufacture and assembly of the mating parts.

BACKGROUND OF THE INVENTION

It has been recognized that there is significant price and other advantage in the use of nonmetallic or plastic luggage handles as compared to the more expensive metallic types. However, plastic materials are less sturdy and therefore a reinforcing wire embedded in the plastic to provide increased stiffness has been recognized as desirable. It has been the practice, prior to this invention, to mold such luggage handles with the wire embedded therein, and to then, during assembly, place a washer on the exposed ends of the wire at each side of the handle and then crimp the ends to lock the washer in place for use in mounting the luggage handle. This procedure was generally used with nonmetallic handles of the wire-embedment type, whether a one-piece or a two-piece mounting means was employed. The primary purpose of the washer was to raise the bottom edge of the handle above the luggage, to prevent the handle from rubbing against the luggage as the handle was rotated, and a secondary purpose was to provide a better wearing surface than that usually employed in the material of the mounting means for rubbing against the crimped end of the wire. It has been found during manufacture that the need to first form the complete handle, to then insert the washers, and to then crimp the ends of the embedded wire, presents problems in manufacture. The problems include waste, since improper crimping often requires discard of the entire handle, and intricacies in manufacture which causes delays and consequent expense. Prior means of avoiding this problem included use of an all plastic handle, which was weak and unsatisfactory in heavy duty service, and use of a metallic handle which was expensive.

SUMMARY OF THE INVENTION

The present invention eliminates the above-described disadvantages by allowing the crimping of the end of the embedded stiffening wire to be performed prior to bending it and molding the handle around it. When the handle is subsequently used with a single piece mounting, the washers are inserted through the keyway punched into them and rotated 180° to lock them in place; when used with a two-piece mounting, the corresponding keyway is formed directly in the mounting member, eliminating the need for a separate washer. In this way, if the crimping operation, for example, is not proper, the wire is rejected prior to forming or molding; if the bending is not proper, it is discarded prior to molding, etc. Further, no small parts such as washers must be held in place during the wire-crimping operation. In this way, waste of material and labor is significantly reduced while achieving an identical or superior end effect in performance and appearance.

It is a primary object of this invention to provide a strong luggage handle which is simple and inexpensive to manufacture and assemble in quantity production.

It is a further object to minimize the number of parts required to be made and assembled in a luggage mount and handle combination.

It is a third object to provide one luggage handle design usable in a simple manner with various mounting means.

Still another object is to achieve a handle with a removable washer.

These and other features, objects and advantages of the invention will, in part, be pointed out with particularity and will, in part, become obvious from the following more detailed description of the invention taken in conjunction with the accompanying drawing which forms an integral part thereof.

BRIEF DESCRIPTION OF THE DRAWING

In the various FIGS. of the drawing like reference characters designate like parts.

In the drawing:

FIG. 1 is an isometric view of one lower end of a prior art plastic handle with a wire embedment, a washer, and a crimped end;

FIG. 2 is a partial sectional view taken in elevation of a prior art assembly showing a plastic handle, a wire embedment, a washer, a crimped end of the wire embedment, and mounting means to luggage;

FIG. 3 is a partial side elevation of a metallic handle showing one of a two-piece mounting means of the prior art;

FIG. 4 is a partially sectionalized elevation view of a handle and mounting means of this invention shown attached to a top section of luggage;

FIG. 5 is an isometric view of a lower end section of a handle of this invention and a matching washer with keyway;

FIG. 6 is an isometric view of a lower end section of a handle of this invention showing a washer with keyway, in place on the handle reinforcing rod;

FIG. 7 is a partial isometric view of one lower end of a handle of this invention and one of a two-part mounting means containing a matching keyway; and

FIG. 8 is a longitudinal sectional view taken in elevation of a lower end of a handle of this invention and a corresponding mounting member, attached to a piece of luggage.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, there is shown in FIGS. 1 and 2 the method of manufacture and assembly used in the prior art for a reinforced plastic handle. Handle 10, with reinforcing metal rod 12 embedded therein, is formed as shown but without end crimp 16 existing. Washer 14 is put in place on both ends (only one end is shown in the FIGS. referred to above) and the crimping operation is then performed to lock the washer in place and for further use in locking the handle in place and to the luggage by means of mounting member 18, shown in FIG. 2. FIG. 2 also shows how washer 14 presses against the luggage at point 15 such that there is a gap 17 maintained between handle 10 and the luggage surface 19. It may also be observed that handle 10 with wire embedment 12 was completely formed in this prior art before washers 14 were added and crimping operation 16 performed, therefore requiring discard of the total part 10 if damage occurred thereto during crimping operation 16, which operation was of necessity performed on the completed luggage handle.

Referring now to FIG. 4, there is shown a functionally similar arrangement as was shown in the prior art of FIG. 2. Handle 20 with wire embedment 22 is held in place by mounting member 28, and washer 26 presses against luggage 32 at point 27, maintaining gap 29 between the luggage and the handle. Details of the design of the washer 26 containing keyway 34, as well as the end of handle 20 with rod 22 and key 24, are shown in FIGS. 5 and 6, the former being shown prior to assembly of part 26 through key 24 onto shaft 22, and the latter subsequent to such assembly and 180° rotation of part 26 about axis 25 into condition for mounting into member 28. It may be seen that a primary difference herein over the prior designs lies in the fact that handle 20 with reinforcing wire embedment 22 can be formed subsequent to the creation of key 24 in a press or like machine, and washer 26 can later be inserted and removed at will subsequent to the complete formation of the handle. Therefore, if damage occurs to wire 22 during formation of key 24 or, if damage subsequently occurs to wire 22 during bending, for example, an entire handle member is not rendered unusable. This is accomplished by making the washer 26 insertable subsequent to formation of the handle, and yet by making it keyed and locked after 180° rotation, the same effect is achieved as in the prior art device shown in FIG. 2. Since the handle cannot be rotated more than approximate-

ly 90° from the upright position when attached to the luggage, the key can never be opened subsequent to assembly, and therefore the handle remains always locked in position during use.

It is of course not necessary that mounting member 28 be in one piece, but it may be in two identical pieces, separately mounted to the luggage on the left and the right with no central connecting section. When manufactured in this way, all design features are identical to what has been described above. However, if item 28, the mounting member, is made in two identical parts to be used on the left and right sides, a further simplification can be effected, as shown in FIGS. 7 and 8. This is true because a two-part mounting means can be spaced closer together during assembly onto opposite ends of a handle, and then spread into final position, a step which cannot be accomplished when using a one-piece mounting means as in item 28. Further, by making this mounting member 54 keyed in a similar manner to that of washer 26 in the prior embodiment, the need for a separate washer can be eliminated and part 54 can serve both as mounting means and washer, providing locking in a similar way by 180° rotation about axis 57 after assembly. Handle 62 with wire embedment 60 and formed key 58 (which parts are essentially identical to handle 20 with embedded wire 22 and formed key 24 of the previous embodiment) are inserted into the keyed aperture 56 in part 54. In FIGS. 7 and 8, part 54 is shown rotated 180° to the condition shown in cross section in FIG. 8. FIG. 8 further shows part 54 mounted by means of screw 66 to luggage section 64.

It should be noted that part 54 forms an attractive, bullet-shaped, mounting member which now simulates in external appearance the prior art design shown in FIG. 3. To accomplish the design of FIG. 3, however, prior to the present invention, required the use of an expensive metal handle containing depression 42 into which protrusion 46 on mounting member 48 entered. Screw 52 was used in threaded hole 50 to mount the part to luggage section 44.

Inward tension at gaps 61 in FIG. 8 and 37 in FIG. 4 is generally utilized to maintain the handle in any preset position. Luggage handles embodying the above-described features may be made in various designs without departing from the invention. Also, they may be made in various sizes and of various nonmetallic materials. The principle features in which novelty is believed to reside are: the key-type crimp on the ends of the protrusion of the reinforcing rod embedded in the plastic handle; and the corresponding keyway in a washer or in

the mounting member, which keyway matches the key and, upon 180° rotation, provides locking after insertion of the key.

There has been disclosed heretofore the best embodiment of the invention presently contemplated and it is to be understood that various changes and modifications may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. A handle for use with a luggage case, said handle comprising:

- a. an elongated section adapted to be gripped by hand;
- b. a leg extending from each of the opposed ends of said elongated section;
- c. an elongated metallic rod extending through said handle, the ends of said rod protruding past the ends of said legs in a direction towards one another;
- d. a key formed at each protruding end of said rod;
- e. key receiving means for each key, said key receiving means having a keyhole into which said key is inserted in a first position, said key being rotatable after insertion to a locked position; and
- f. a flat formed on said key receiving means, said flat being positioned in close proximity to the luggage case in the assembled condition whereby each said key is prevented from moving angularly to said first position.

2. The handle in accordance with claim 1 wherein each said key receiving means is a D-shaped flat washer in which said keyhole is formed.

3. The handle in accordance with claim 2 wherein there is further included a mounting member adapted to be secured to the luggage case, said mounting member having a recess for receiving each said washer and for preventing movement thereof in an axial direction relative to the protruding ends of said rod.

4. The handle in accordance with claim 3 wherein there is provided a single mounting member positioned intermediate said protruding rod ends.

5. The handle in accordance with claim 1 wherein each said key receiving means is an axially elongated mounting member having a substantially flat bottom surface adapted to be secured to the luggage case and having axially positioned recesses in which said keyholes are formed.

6. The handle in accordance with claim 5 wherein a separate mounting member is provided for each said protruding rod end.

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