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(54) **LUGGAGE HANDLE SYSTEM**

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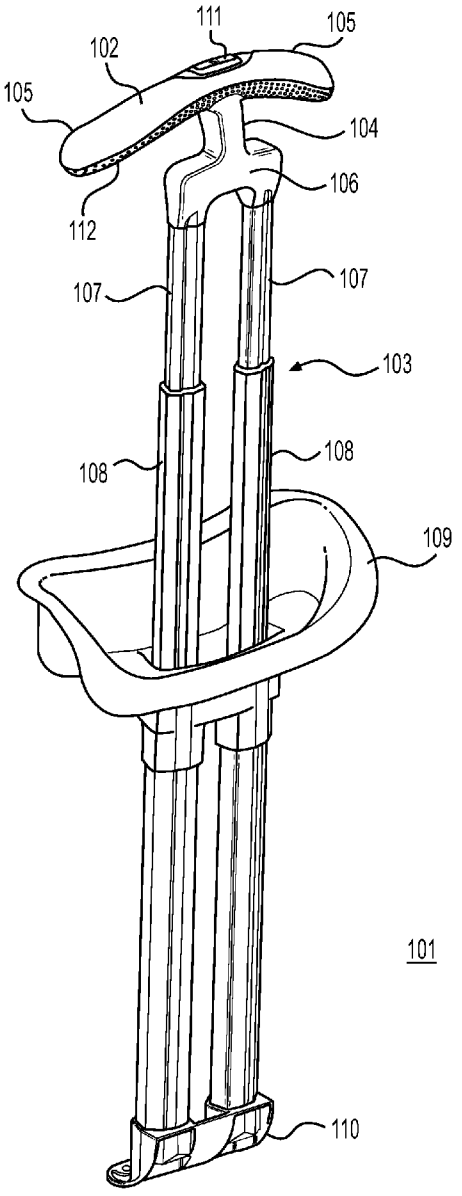
(57) **ABSTRACT**

A luggage handle system having a single-to-double tube structure or a "T"-grip affixed to an inverted "U"-frame structure. The structure of the luggage handle system allows for a user to apply sufficient torque to the luggage to maneuver it effectively, while providing a handle that is easy to hold, ergonomic, and comfortable to the luggage user.



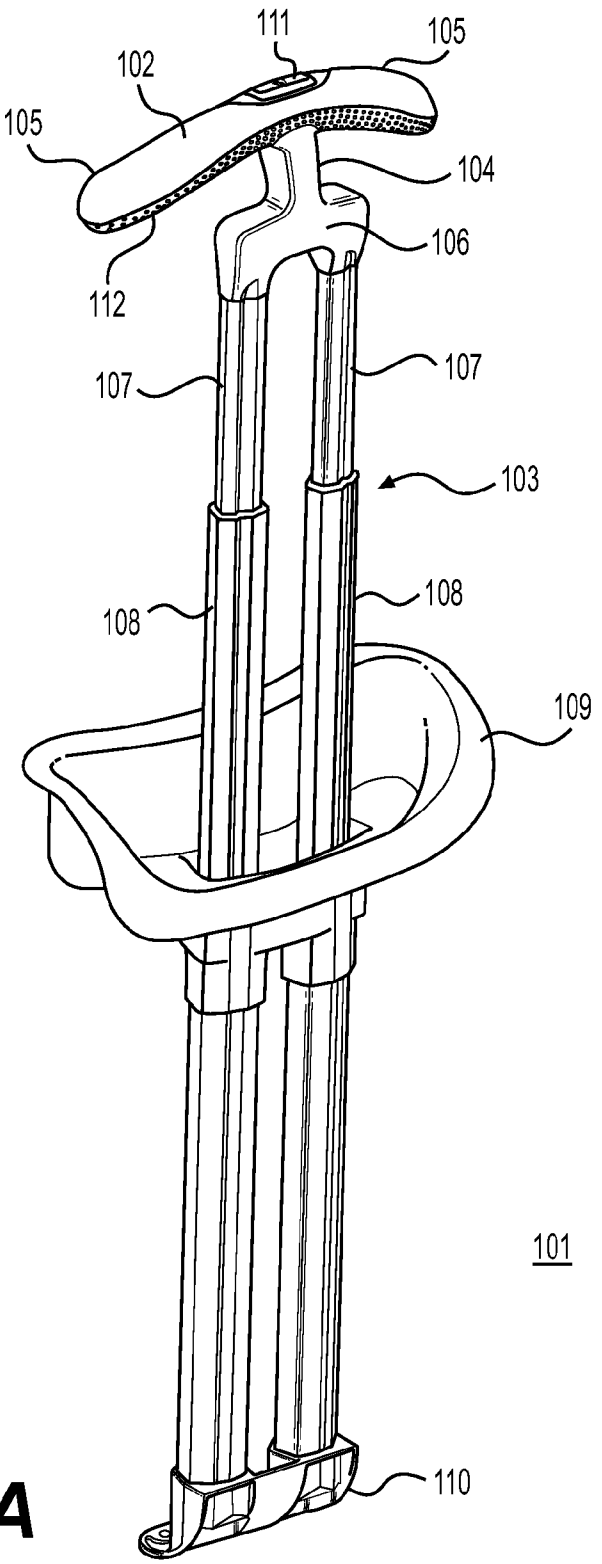


FIG. 1A

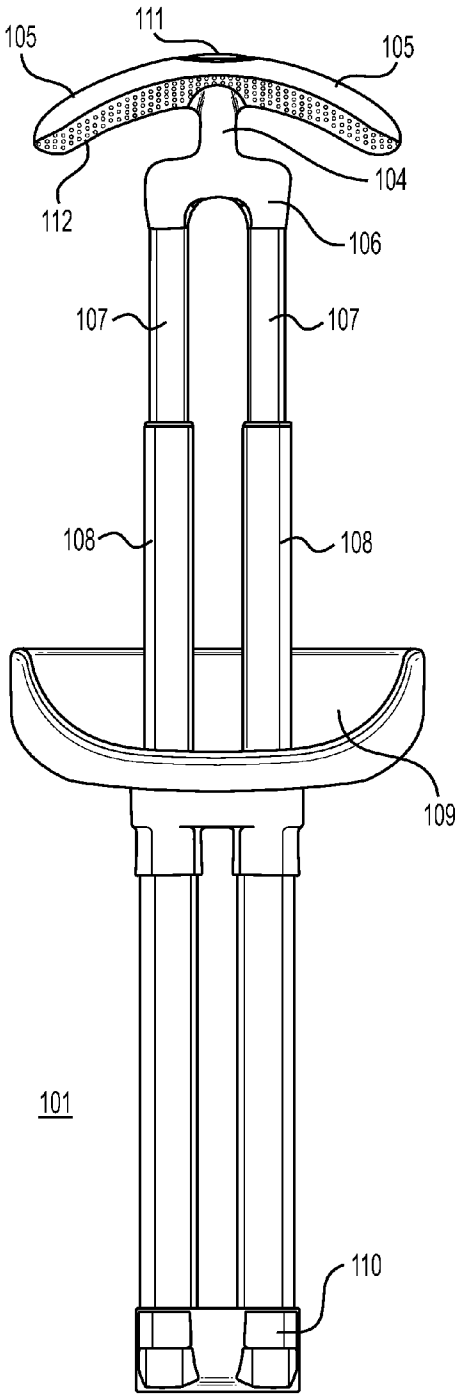

105
111
105
104
112
106
107
107
108
108
109
101
110

FIG. 1B

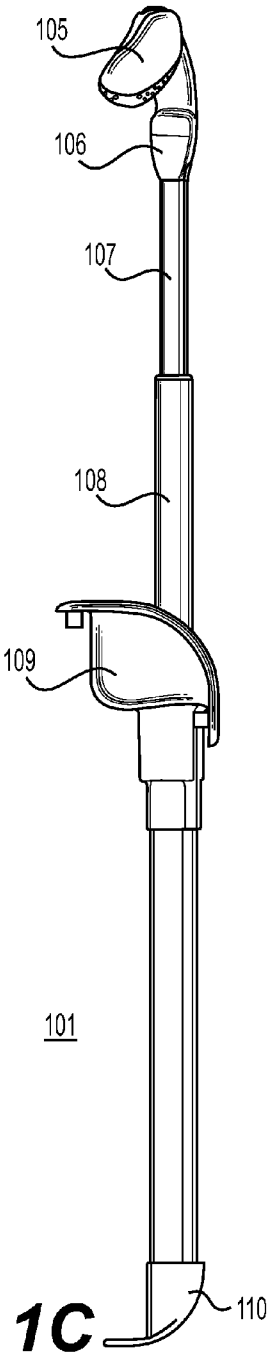

105
106
107
108
109
101
110

FIG. 1C

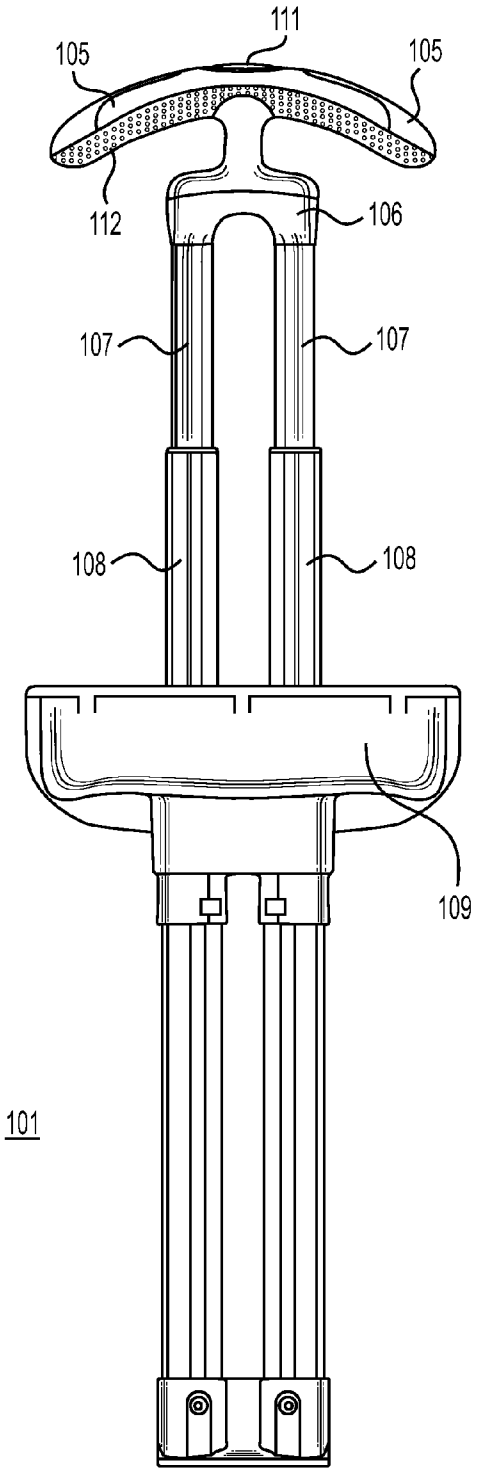


FIG. 1D

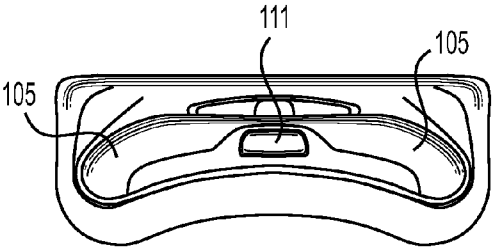


FIG. 1E

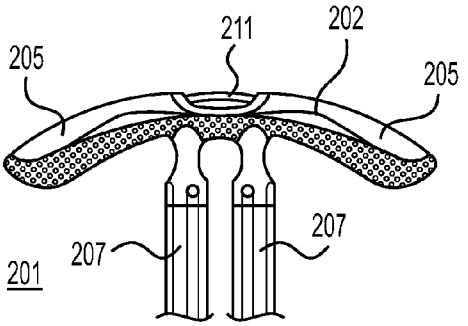


FIG. 2

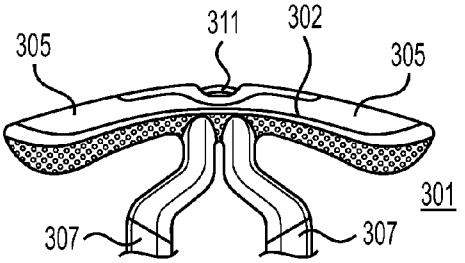


FIG. 3

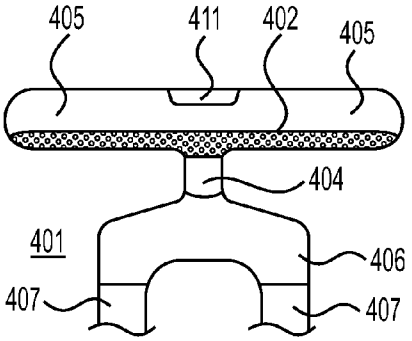


FIG. 4

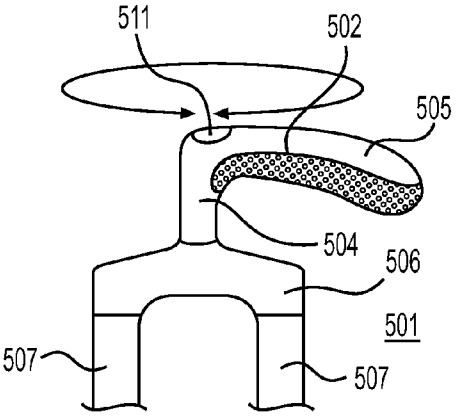


FIG. 5

LUGGAGE HANDLE SYSTEM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Provisional Application No. 62/080,164, filed Nov. 14, 2014, entitled "Luggage Handle System," which is hereby incorporated by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] The present invention relates generally to luggage, and, in particular, to a luggage handle system having a single-to-double tube structure or a "T"-grip affixed to an inverted "U"-frame structure.

[0003] In recent years, there has been a shift from two-wheeled luggage systems, in which luggage is tipped onto its wheels and pulled behind a user, to four-wheeled luggage systems, in which luggage is pushed or maneuvered in front of or along side of a user.

[0004] One example of a two-wheeled system is shown in U.S. Pat. No. 4,995,487 entitled, "Wheeled Suitcase and Luggage Support," which is hereby incorporated by reference in its entirety. The aforementioned patent generally discloses a suitcase having a laterally extendable handle. This handle can be moved from a lowered, compact position to a raised position, where the suitcase is tilted from an upright standing position to a canted position in which it is supported by its two wheels. U.S. Pat. No. 5,469,602, entitled "Collapsible Handle of Baggage," which disclosure is hereby incorporated by reference in is entirety, shows another example of an extendable handle used for baggage.

[0005] These types of double-tube retractable systems have been used in four-wheel systems. However, this poses a number of problems. For example, many of these handles have flat grips with sharp end corners. As such, a user's palm and wrist, which naturally moves or gravitates toward a corner of the handle, is forced into an unnatural position, causing the user to quickly experience palm fatigue while pushing his/her four-wheeled case. Furthermore, the double tubes themselves interfere with a user's grip, prohibiting comfortable handling. Moreover, because the point at which force being applied to by the user to push the luggage can be unbalanced in these configurations, the luggage can be susceptible to tipping.

[0006] Single-tube handle systems are also generally known in the art. U.S. Pat. No. 7,559,115, entitled "Retractable Luggage Pull Rod with Rotating Hook," U.S. Pat. No. 8,056,185, entitled "Grip Structure of a Retractable Handle for Travel Bag," and U.S. Patent Publication No. 2006/0130275, each of which is hereby incorporated by reference in their entireties, show examples of such single-tube handle systems. While these single-tube handle systems allow for different grip configurations providing versatility in hand positions for a user, single-tube systems generally do not allow a user to apply adequate torque to the luggage to turn and maneuver the luggage effectively.

[0007] Certain single-tube handle systems are known to employ T-grip handles. These types of T-grip handles are designed so that the single pole extends between the fingers of a user's hand and pulled by the user. As such, the entire top of the "T" is sized to be approximately (or slightly greater) than the width of a user's hand to facilitate pulling. This type of handle would not be ideal for a four-wheel luggage system, as it could cause strain to a user's hand from the single pole abutting against and applying undue pressure in between the user's fingers.

[0008] Accordingly, there is a need for an improved luggage handle system for four-wheeled luggage addressing the drawbacks of previous luggage handle systems.

SUMMARY OF THE INVENTION

[0009] In accordance with the present invention, various embodiments of a luggage handle system are disclosed. In various embodiments, not limited to any particular design, the present disclosure generally provides for a luggage handle system for luggage that is to be pushed by a user, for example, for four-wheeled luggage. The improved structure in accordance with the present invention allows a user to apply sufficient torque to the luggage to maneuver it effectively, while providing a handle that is easy to hold, ergonomic, and comfortable to the luggage user.

[0010] Unlike previous T-grip handles, which are generally grabbed at its center by a user, the T-grip handle in accordance with the present invention is such that a user grips one side of the "T" at any given time, allowing the user to use his or her entire hand to cup the handle, without interference, to push the luggage. This grip can reduce strain and stress on a user's fingers and wrists.

[0011] The double-tube or inverted "U" of the luggage handle system provides increased stability and maneuverability to the luggage, as well as allowing a user to apply sufficient torque to turn and maneuver the luggage while pushing it along.

[0012] Accordingly, the present invention can allow a user to comfortably grip the handle, while maintaining the benefit of the stability and maneuverability provided by a double-tube system.

[0013] The above summary is not intended to represent each embodiment or every aspect of the present invention. Particular embodiments may include one, some, or none of the listed advantages.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] A more complete understanding of the present invention may be obtained by reference to the Detailed Description when taken in conjunction with the accompanying Drawings.

[0015] FIG. **1**A is a front-side view of the luggage handle system in accordance with one aspect of the present invention;

[0016] FIG. **1**B is a front view of the luggage handle system of FIG. **1**A;

[0017] FIG. **1**C is a side view of the luggage handle system of FIG. **1**A;

[0018] FIG. **1**D is a rear view of the luggage handle system of FIG. **1**A;

[0019] FIG. **1**E is a top view of the luggage handle system of FIG. **1**A; and

[0020] FIGS. **2-5** are various embodiments of the handle for the luggage handle system in accordance with an aspect of the present invention.

DETAILED DESCRIPTION OF THE DRAWINGS

[0021] Referring now to FIGS. **1A-1E**, luggage handle system **101** is shown. Luggage handle system **101** generally comprises a "T"-grip handle **102** attached to an inverted "U"-frame portion **103**.

[0022] "T"-grip handle **102** has a single tube or pole **104** with first and second gripping members **105** formed at one end of single tube or pole **104** to generally create a "T" shape. Single tube or pole **104** may be straight or slightly curved toward one side. Each gripping member **105** is sized such that a user can cup or hold either gripping member **105** on either side of the single tube or pole **104**. Accordingly, the length of each gripping member **105** is sized to be approximately (or longer than) the width of user's hand. For example, the length of each gripping member **105**, while not limited to these numbers, can be in the range of 2.5-6 inches. It is understood that the length of the gripping member can vary depending on the type of user of the luggage. For example, a gripping member for luggage designed for a child or smaller adult may be shorter. As mentioned above, previous T-grips are generally sized so that the entire top of the T-portion is approximately the size of a user's hand.

[0023] Because the user's hand is only gripping one of the two gripping members **105** at any given time, the area between a user's thumb and index finger can be used to push the luggage, thereby reducing strain on the user's fingers and wrist and without interference from the inverted U-shape portion **103**. Ultimately, this can enable a user to control the luggage with more ease.

[0024] Inverted U-frame portion **103** has a connecting bar **106** with first and second inner tubes or inner telescoping members **107** extending therefrom. Connecting bar **106** and first and second inner tubes **107** generally create a "U"-shape.

[0025] First and second inner tubes **107** telescope with first and second outer tubes or outer telescoping members **108** to create a retractable system. First and second outer tubes or outer telescoping members **108** extend through bezel cup **109** and into bracket **110**. Bezel cup **109** and bracket **110** allow the handle system to be affixed to a piece of luggage. Bezel cup **109** can also provide a space for which the handle **102** to be stored while not in use so as to not protrude, for example, during transport. Luggage handle system **101** can also be such that handle **102** remains protruding from bezel cup **109** even in a refracted position, for example, for use in hard-case luggage.

[0026] First and second inner tubes **107** and first and second outer tubes **108** create a double tube system, which can allow a user to apply more torque to the luggage to control and maneuver it efficiently than in a single-tube system. First inner and second inner tubes **107** are generally parallel with each other. Similarly, first and second outer tubes **108** are generally parallel with each other. The first and second inner tubes **107** (and thus first and second outer tubes) can be spaced at a variety of distances and orientations.

[0027] First and second inner tubes **107** and first and second outer tubes **108** telescope with each other to allow the system to be expandable and retractable. Release button **111** is provided on the T-grip handle **102** to allow a user to release the telescoping tubes to expand to an ideal length for a particular user. For example, an ideal length can be a length that is level with a user's elbow, and would naturally vary from user to user. That length can be, for example, between 36-39 inches.

[0028] In order to reduce slipping and improve grip, gripping members **105** can further comprise a rubberized and/or textured material **112**. The rubberized and/or textured material **112** can be provided on an underside of handle **102** or throughout the entire handle **102**.

[0029] FIGS. **2-5** show variations of the luggage handle system in accordance with an aspect of the present invention.

[0030] FIG. **2** shows an exemplary luggage handle system **201** having handle **202**. Handle **202** has first and second gripping members **205**. In this embodiment, first and second inner tubes **207** (which would telescope with first and second outer tubes (not shown)) connect to the handle, creating a general "T"-shape. Also shown in this figure is release button **211**, found on handle **202**.

[0031] FIG. **3** shows another exemplary luggage handle system **301** having handle **302** with gripping members **305**. In this embodiment, first and second inner tubes **307** (which would telescope with first and second outer tubes (not shown)) are spaced further apart (in the range of, but not limited to, 4"-7") and connect to handle **302**. First and second inner tubes **307** are angled inward toward a center of the handle **302**, creating the shape generally shown in FIG. **3**. Also shown in this figure is release button **311**, found on handle **302**.

[0032] FIG. **4** shows another exemplary luggage handle system **401** having handle **402** with gripping members **405**. In this embodiment, first and second inner tubes **407** (which would telescope with first and second outer tubes (not shown)) are connected to connecting bar **406**, creating an inverted "U"-shaped portion. This "U"-shaped portion is connected to single tube or pole **404**, which then connects to handle **402**. Handle **402** also has a release button **411**. In this embodiment, the gripping members are not curved, and are generally parallel to the ground.

[0033] FIG. **5** shows another exemplary luggage handle system **501** having handle **502** with a single gripping member **502**. In this embodiment, first and second inner tubes **507** (which would telescope with first and second outer tubes (not shown)) are connected to connecting bar **506**, which then connects to single tube or pole **504**. Handle **502** is able to pivot or swivel around the 360-degree axis of the single tube or pole **504** as indicated by the arrow in the figure, so that a user can grip the handle **502** at various positions. Release button **511** can serve to do one or both of releasing the extendable telescoping members and actuate the pivot or swivel the handle.

[0034] While the exemplary luggage handle system shown in FIGS. **1A-1E** generally has upper and lower telescoping members, there can be any number of telescoping members to create any number staged system.

[0035] Furthermore, gripping members can be bulb-shaped at its ends to provide another ergonomic configuration for a user. In a bulb-shaped configuration, gripping members may, although not necessarily, have a length shorter than the width of an average user's hands.

[0036] As these and other variations and combinations of the features discussed above can be utilized without departing from the invention as defined by the claims, the foregoing description of exemplary embodiments should be taken by way of illustration rather than by way of limitation of the invention as defined by the claims. It will also be understood that the provision of examples of the invention (as well as clauses phrased as "such as," "e.g.", "including" and the like) should not be interpreted as limiting the invention to the specific examples; rather, the examples are intended to illustrate only some of many possible aspects.

1. A retractable luggage handle system comprising:

a handle member; and

an inverted U-shaped portion connected to said handle member;

wherein the handle member comprises first and second gripping members and a single pole to create a T-shape; and

wherein the inverted U-shaped portion comprises first and second telescoping members and a connecting bar.

2. The retractable luggage handle system according to claim **1**, wherein said first and second gripping members are each sized to be gripped independently by a user's hand.

3. The retractable luggage handle system according to claim **1**, wherein said first and second gripping members each have a length equal to at least the width of an average user's hand.

4. The retractable luggage handle system according to claim **1**, wherein said first and second gripping members are curved.

5. The retractable luggage handle system according to claim **4**, wherein said first and second gripping members are curved toward the U-shaped portion.

6. The retractable luggage handle system according to claim **1**, wherein the first and second telescoping members are parallel to each other.

7. The retractable luggage handle system according to claim **1**, wherein said first and second gripping members have bulb-shaped ends.

8. The retractable luggage handle system according to claim **1**, wherein said first and second gripping members each have a length in the range of 2.5 to 6 inches.

9. A luggage handle system comprising:

first and second parallel inner telescoping members, each having first and second ends;

first and second outer parallel telescoping members designed to mate with first and second inner telescoping members;

said first ends of said first and second inner telescoping members connected by a bar perpendicular to said first and second inner telescoping members; and

a T-grip handle extending from a mid-point of said perpendicular bar.

10. The luggage handle system according to claim **9**, wherein the T-grip handle comprises two laterally-extending handles extending from a stem portion, each of said two handles being sized to be gripped independently by a user's hand.

11. The luggage handle system according to claim **10**, wherein a release button is provided on said T-grip handle.

12. The luggage handle system according to claim **10**, wherein textured material is provided on an underside of each of said two handles.

* * * * *