# United States Patent [19]

**Tsang**

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[54] **TIE-KNOT UNIT**


[76] Inventor: **Chout Wun Tsang,** 35 Main King Bldg., 11/Floor Man Ying St., Jordan Road, Kowloon, Hong Kong



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[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** ..... **24/153,** 2/152

[51] **Int. Cl.** ..... **A47b 19/00**

[58] **Field of Search** ..... 2/152, 153, 154; 24/153



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*Primary Examiner*—Francis K. Zugel
*Assistant Examiner*—Garry Moore
*Attorney*—Roylance, Abrams, Berdo & Kaul



[57] **ABSTRACT**

A tie-knot unit formed by an outer casing including forward and rear casing members hingedly interconnected at their upper ends. The casing has two upper openings, aligned on opposite sides of the hinge, and a bottom opening through which the ends of the tie can hang. A separator means is provided within the casing to separate that portion of the tie entering through one upper opening from that portion of the tie entering through the other upper opening, as said portions pass downwardly toward and through the bottom opening.


**4 Claims, 10 Drawing Figures**

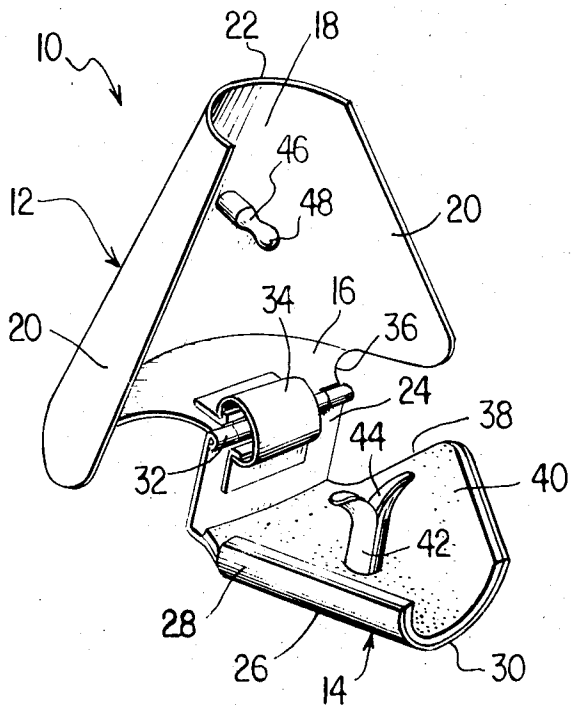


FIG. 1

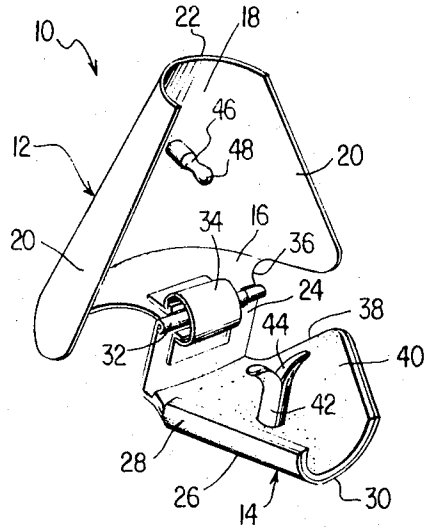



FIG. 2

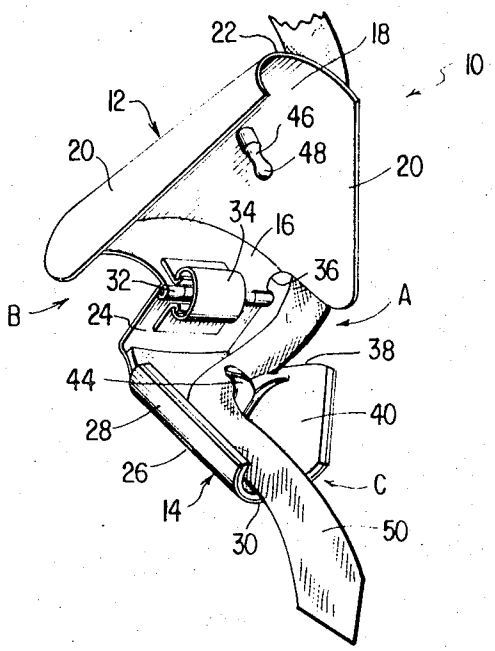



FIG. 3

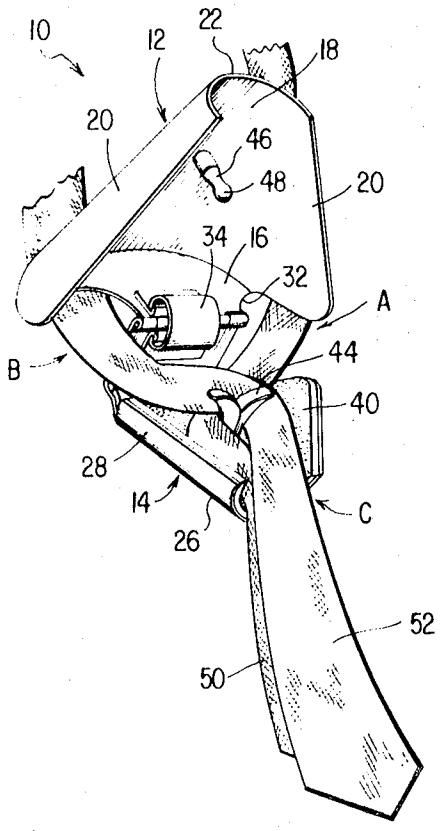
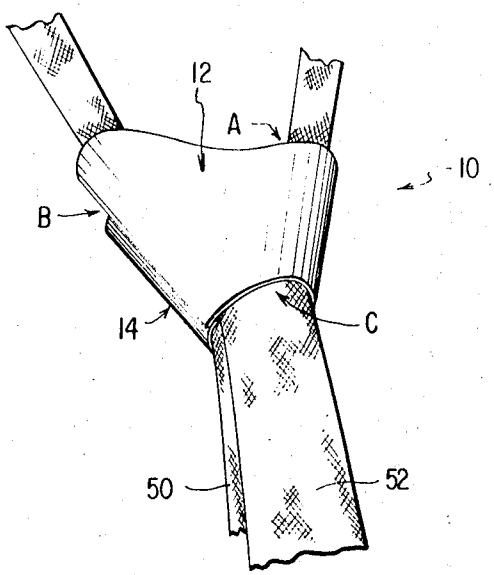



FIG. 4




INVENTOR
CHOUT WUN TSANG

BY Loglance, Abrams, Berdo & Kaul

ATTORNEYS.

FIG. 5

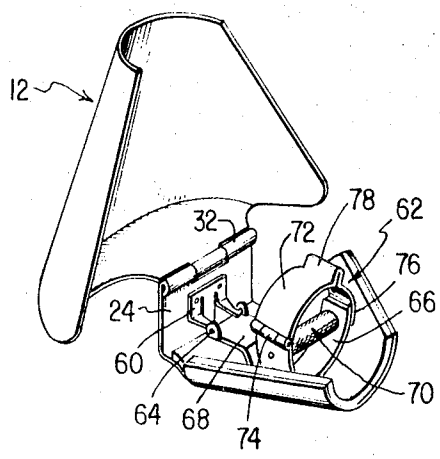



FIG. 6

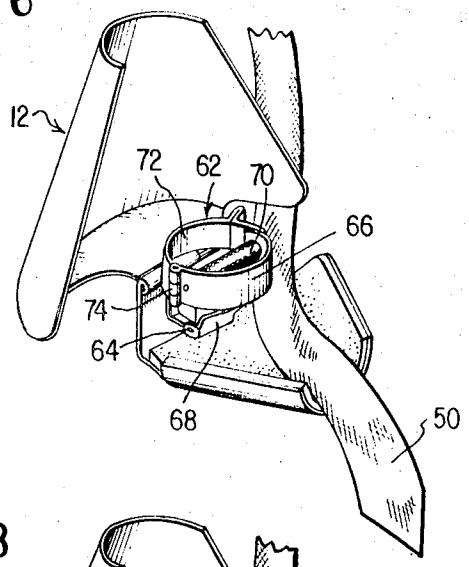



FIG. 7

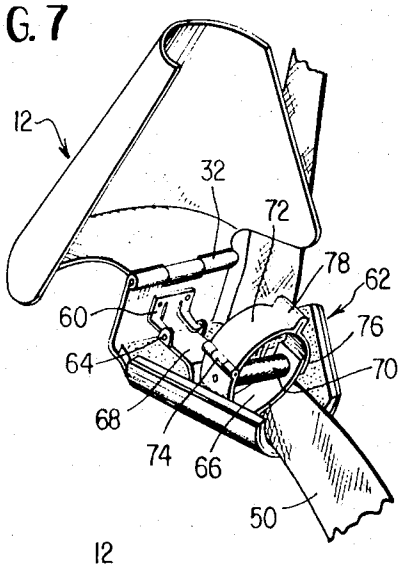
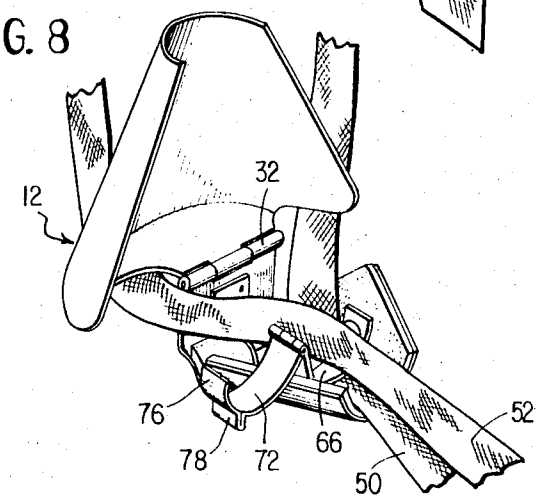



FIG. 8



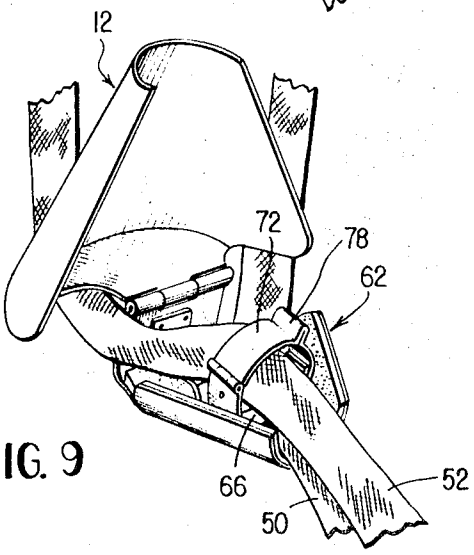




FIG. 9

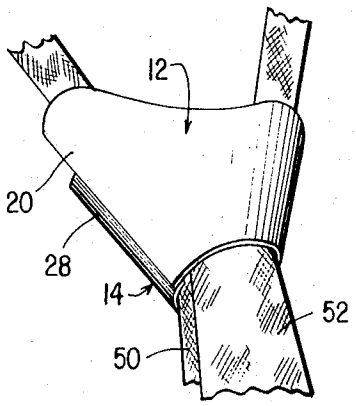



FIG. 10

INVENTOR

CHOUT WUN TSANG

BY Kaylance, Abrams, Berdo & Kaul

ATTORNEYS.

# TIE-KNOT UNIT

This invention relates to a tie-knot unit which can be used with a conventional elongated man's necktie and which serves to form the knot in the necktie without the necessity for manipulating the ends of the necktie to manually tie a knot.

It is conventional at the present time for a man to wrap a necktie about his neck and to manually tie the same into a knot. This is generally accomplished through manipulation of the material of the necktie to form a loop, and then inserting one of the ends of the necktie through the loop to hand tie the knot. Under certain circumstances, particularly when no mirror is present, it is often difficult and time consuming to perform such a manually tying operation for a necktie. One way in which the prior art approached this problem was to provide a pre-tied necktie wherein the knot was permanently formed therein. However, this proposal had its own disadvantages, such as the fact that the quantity of neckties which were pre-tied, and the selection thereof, were necessarily were quite limited. Also, once one purchased such a permanently knotted tie, it was not possible to hand tie the knot, even if one wanted to.

Accordingly, it is an object of the present invention to provide a unit which can manually be attached to a necktie to form the semblance of a knot at the juncture of the wearer's collar, yet wherein the tails or ends of the necktie are not actually inter-knotted with each other.

Another object of the present invention is to provide a tie-knot unit which can be quickly and easily attached to any existing conventional necktie and which, when so attached, presents the appearance of a knot having a contrasting decorative appearance with respect to the remainder of the necktie.

Another object of the present invention is to provide an inexpensive unit which can operate satisfactorily for the purpose of attaching a necktie and providing a knotted appearance thereto.

Other objects, advantages and salient features of the present invention will become apparent from the following detailed description, which, taken in conjunction with the annexed drawings, discloses certain preferred embodiments thereof.

The foregoing objects are attained by providing a tie-knot unit having a forward casing member and a rear casing member hingedly inter-connected together at their upper ends. The casing members are configured in such a manner that a pair of upper openings are provided, one on each side of the hinge means, and so that a bottom opening is provided through which the ends of the necktie can hang. The ends hanging through the bottom opening can be adjusted with respect to one another to alter the length thereof. Within the unit, a separator means is provided to separate that portion of the necktie entering through one upper opening from that portion of the necktie entering through the other upper opening.

Referring now to the drawings, which form a part of this original disclosure:

FIG. 1 is a perspective view of one embodiment of a tie-knot unit in accordance with the principles of the present invention;



FIGS. 2–4 are further perspective view illustrating the manner in which the embodiment of FIG. 1 is used in conjunction with a conventional necktie;

FIG. 5 is a perspective view of another embodiment of a tie-knot unit in accordance with the principles of the present invention; and

FIGS. 6-10 are further perspective views showing the manner in which he embodiment of FIG. 5 is used in conjunction with a conventional necktie.

Referring now to FIG. 1 for a further description of the present invention, the tie-knot unit illustrated therein is generally designated **10.** Such unit includes a forward casing member **12** and a rear casing member **14.** The forward casing member **12** is provided with a top or upper edge surface **16,** a forward central surface **18** which curls into a pair of side flanges or side walls **20.** The bottom edge **22** where the side walls **20** and the forward wall **18** merge together forms a generally semi-circular configuration.

The rear casing member **14** also includes an upper portion **24,** a rear central portion **26** and a pair of side walls or side flanges **28** which fit within the side walls or side flanges **20** of the forward casing member. The bottom edge **30** of the rear casing member where the central portion **26** and the side portions **28** merge with one another, is formed in a semi-circular configuration.

A hinge means **32** inter-connects the casing members **12** and **14** at their upper ends, and more specifically, the hinge means **32** inter-connect between the rear edge of the upper portion **16** and the forward edge of the upper portion **24.** If desired, a hinge biasing leaf spring **34** can also be employed, with the ends thereof being respectively connected with the portions **16** and **24** of the forward and rear casing members.

On opposite sides of the hinge **32,** the casing members are cut away in such a manner as to form a pair of upper openings in the unit **10.** Specifically, the upper portion **16** of the forward casing member **12** is cut away in a rounded manner, as shown at **36.** Likewise, the upper portion **24** of the rear casing member **14,** and also a portion of the side wall **28** thereof, are cut away in a rounded manner as shown at **38.**

As a result of this arrangement, when the two casing members **12** and **14** are folded together along the hinge line **32** to a closed position, three separate openings are formed. Two of these openings are upper openings, formed on opposite sides of the hinge **32,** with such openings being circumscribed by the edges **36** and **38.** These openings are designated in FIG. **4** as A and B. Additionally, a circular bottom opening is formed and circumscribed by the bottom edges **22** and **30,** and this opening is designated C in FIG. **4.** A central or longitudinal axis passing through the circular bottom opening C will extend perpendicularly to the axis passing through the hinge **32** and will centrally intersect the same.

The casing sections are preferably formed of a rigid metal material and the outer surface thereof can be polished to provide an attractive and ornamental appearance. A sheet of fabric **40** can be adhered to the interior of the rear casing member **14** in order to prevent any damage to, or wear upon, the fabric material of the necktie with which the device **10** is used.

The device or unit **10** also includes therewithin, a separator means. In the embodiment of FIG. **1,** the separator means includes a hollowed tube **42** attached centrally to the portion **26** of the rear casing member

and projecting forwardly thereof. A pair of tapered guide wings **44** are provided at the mouth or inlet of the tube **42.** On the opposite or forward casing member **12,** there is mounted a post **46** having a knob **48** at the end thereof. When the casing portions are swung together, the knob **48** frictionally inserts into the interior of the tube **42,** thus holding the parts in a closed position.

For an understanding of the manner in which the device of FIG. **1** operates in conjunction with a necktie, attention is directed to FIGS. **2–4.** In FIG. **2,** the small or rear tail of the necktie is introduced through the upper opening A and is wrapped about one side of the tube **42,** and it then passes downwardly through the bottom opening C. In FIG. **3,** the opposite for forward tail **52** of the necktie is introduced through he upper opening B, passes across the top of the tail **50,** wraps around the opposite side of the separator post **42,** then passes downwardly through the bottom opening C. In FIG. **4,** the two casing halves are closed upon one another, and they are held in this closed position by frictional engagement of the knob **48** within the post **42.** Even in this position, it is still possible to slide one tail **50** with respect to the other tail **52,** to thus adjust the knot-unit **10** and the necktie upon the wearer's neck and body.

Referring now to the embodiment of FIG. **5,** this embodiment is substantially the same as that of FIG. **1,** except that the separator means is different. Such separator means includes a bracket **60** attached to the upper portion **24** of the rear casing member **14.** A separator ring unit generally designated **62** is hingedly attached to the bracket **60** by a hinge **64** shown in FIG. **6.** The ring shaped unit **62** includes a generally semi-circular, U-shaped base portion **66** having an upper portion **68** which hingeably connects at **64** with the bracket **60.** A rotatable and preferably knurled roller **70** extends transversely across the base portion **66** and is attached thereto by a suitable pivot pin or the like. The pivot axis for the roller **70** is parallel to the pivot axis of the hinge **64** and also parallel to the pivot axis of the hinge **32.** The cover portion **72** of the separator ring **62** is attached at one side to one edge of the base **66** by means of a hinge **74.** At its other side, a fold over flap **76** is provided to frictionally engage the exterior of the base member **66.** A raised or folded portion **78** can be provided along the cover **72** to facilitate manual opening and closing thereof.

In use, the entire ring unit **62** is folded upwardly in the manner shown in FIG. **6** and the rear tail **50** of the necktie is introduced through the upper opening A. Then, the ring unit is folded downwardly, as shown in FIG. **7** and the cover portion **72** is opened, as shown in FIG. **8.** The forward tail **52** of the tie is then introduced through the opening B, is placed across the roller **70,** and the cover **72** for the roller is then closed, as shown in FIG. **9.** Finally, as shown in FIG. **10,** the two casing halves can be closed together and maintained in this closed position by frictionally inter-engagement between the side flanges **20** on the forward casing unit and the side flanges **28** on the rear casing unit. Again, the tails **50** and **52** of the necktie can be adjusted with respect to one another and the knot unit **10** can be adjusted with respect thereto.

After reading the foregoing detailed description, it should be apparent that the objects set forth at the outset hereof have been successfully achieved by the present invention.

Accordingly what is claimed is:

**1.** A tie-knot unit comprising:

a forward casing member;

a rear casing member;

hinge means interconnecting said forward and rear casing members at their upper ends;

said casing members being configured at their upper ends to form a pair of upper openings, disposed on opposite sides of said hinge means, through which the ends of a necktie can be inserted into the interior of the casing members;

said casing members being configured at their lower ends to form a bottom opening through which the ends of said necktie can hang beneath said unit; and

separator means within said knot unit attached to at least one of said casing members to guide and position said necktie portions which are disposed within said knot unit and to separate the tie portion entering the unit through one upper opening from the tie portion entering the unit through the other upper opening for at least a portion of their passage through the unit towards said bottom openings;

wherein said separator means is hingedly mounted on the upper portion of the interior of the casing, and comprises a frame having a base portion, a rotatable roller mounted on the base portion, and a cover portion hingedly mounted on the base portion;

whereby the end of the tie entering the unit through one of said upper openings passes between the base portion of the separator means and the rear casing member, and the other end of the tie, entering the unit through the other upper opening passes between the cover portion and the roller of the separator means.

**2.** A tie-knot unit as defined in claim **1** wherein said roller is rotatable about an axis parallel to the axis of said hinge means.

**3.** A tie-knot unit as defined in claim **2** wherein said unit has a longitudinal axis extending centrally through said bottom opening and wherein said roller and hinge axes are perpendicular to said longitudinal axis.

**4.** A tie-knot unit as defined in claim **1** wherein aid casing members are fabricated of metal and wherein a fabric sheet is adhered to the interior of said rear casing member.

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