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COLLAPSIBLE TUBE CARTON

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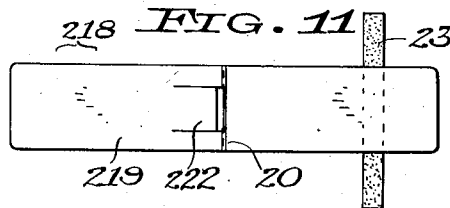
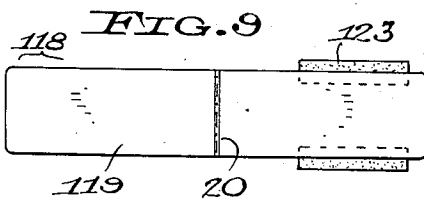
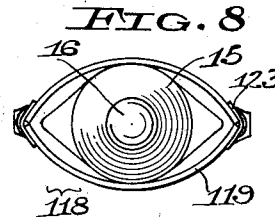
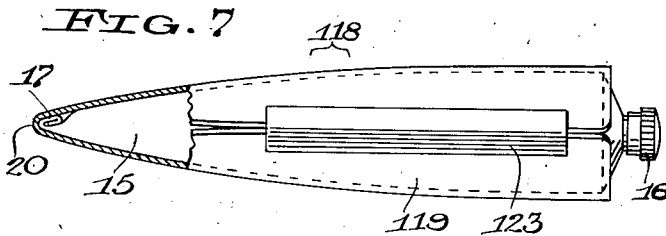
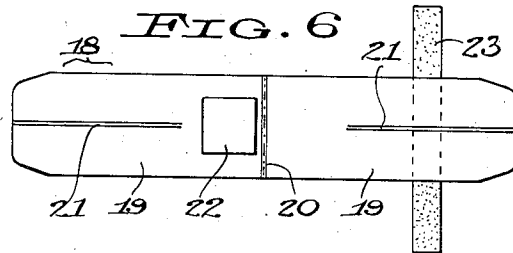
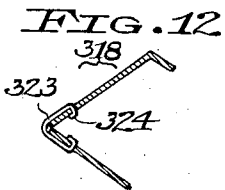
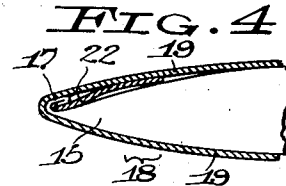
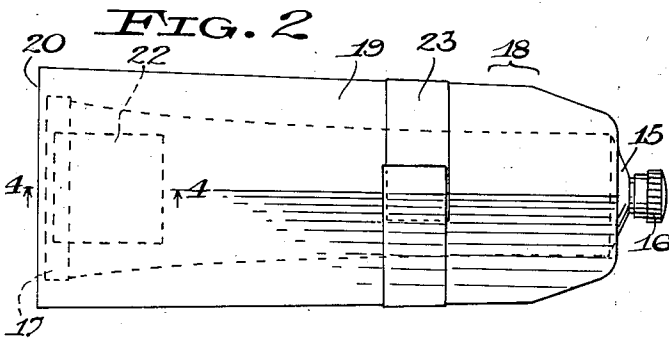
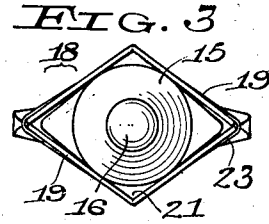
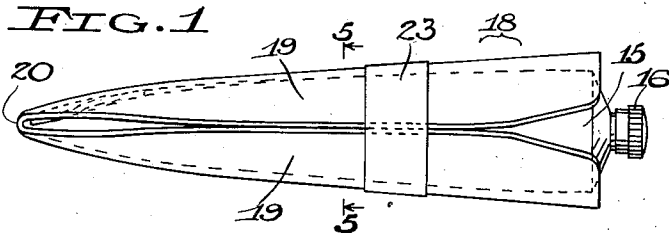


FIG. 10

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COLLAPSIBLE TUBE CARTON

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10 Claims. (Cl. 221—60)

The invention relates to cartons or holders for collapsible tubes.

Collapsible tubes are used as containers for various substances, among which are ointments and oils. When such tubes are carried about unprotected in garment pockets or in physicians' bags, they are liable to become damaged and punctured by contact with other articles, and to become cracked or unseamed by being rolled or squeezed, thereby permitting the escape of the contents.

An object of the invention is to provide a protective carton for a collapsible tube which is inexpensively manufactured and easily applied to the tube, which will adequately enclose the tube and prevent injury thereto, which will facilitate dispensing of the tube contents, and which will form a marketing package for the tube.

The invention further consists in the several features hereinafter described and claimed.

In the accompanying drawing, illustrating certain embodiments of the invention,

Fig. 1 is a side view of the carton with a collapsible tube enclosed therein;

Fig. 2 is a plan view of the carton and enclosed tube;

Fig. 3 is a front end view of the carton and enclosed tube;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1, but showing the tube collapsed;

Fig. 6 is a plan view of the carton unfolded, the inner face of the carton being shown;

Fig. 7 is a side view of a modified form of carton with a tube enclosed therein;

Fig. 8 is a front end view of the carton and enclosed tube of Fig. 7;

Fig. 9 is a plan view of the carton of Fig. 7 as it appears when unfolded, the inner face of the carton being shown;

Fig. 10 is a longitudinal sectional view of another modified form of carton with a tube enclosed therein;

Fig. 11 is a plan view of the carton of Fig. 10 as it appears when unfolded, the inner face of the carton being shown, and

Fig. 12 is a detail transverse sectional view of a further modified form of carton.

In the drawing, 15 designates a collapsible tube of usual construction comprising a hollow soft metal body, one end of which has a funnel-shaped head of circular cross-section provided with a screw cap 16, and the other end of which

is flattened and closed and has a folded or doubled portion 17.

In that form of the invention shown in Figs. 1 to 6, 18 designates a tube carton which is made of resilient sheet material, preferably water-proofed cardboard. The carton comprises an elongated strip or blank forming complementary wall members 19, each wall member being approximately the same length as the body of the tube and having a width approximately equal to twice the diameter of the tube. The strip or blank has a transverse crease or score 20 midway of its length to form a folding line. Each wall member of the strip also has a medial longitudinal crease or score 21. On the inner face of the strip a tongue 22 of resilient sheet material, preferably cardboard, is glued or otherwise secured to one of the wall members 19, the free end of the tongue extending toward the crease 20. A gummed tape 23 is secured transversely to the outer face of one of the wall members, leaving projecting ends. The corners of the strip or blank may be cut away, as seen in Fig. 6.

To apply the carton to the tube, the folded closed end of the tube is embraced over the free end of the tongue 22, as seen in Fig. 4, and the two wall members 19 of the carton are brought against opposite sides of the tube, the closed end of the tube being positioned at the transverse fold 20 of the carton. The wall members 19 are then flexed transversely to bring the side edges of the carton in proximity, thereby substantially enclosing the tube. The side edges of the carton are then retained in adjacent relation by wrapping the gummed tape 23 about the carton, the projecting ends of the tape being caused to adhere to the carton. The longitudinal creases or scores 21 in the carton facilitate the transverse flexing of the carton. When viewed from the front end of the carton it presents the diamond-shaped configuration seen in Fig. 3.

The frictional engagement of the carton with the tube holds the tube in the carton, the folded flattened closed end of the tube being confined against the fold 20 of the carton so as to prevent accidental opening of the closed end. The tongue 22 also assists the retention of the tube. The carton substantially encloses the tube so as to avoid damage to or puncturing of the tube by other adjacent articles, as when the tube is carried about in a garment pocket, purse, or physicians' bag. The carton also forms a marketing package for the tube and protects the tube during shipment.

The contents of the tube may be expressed

through the discharge end of the tube by compressing the wall members 19 with the fingers, the tube thereupon becoming more or less flattened, as indicated in Fig. 5. The edges of the carton walls remain in proximity to each other, being connected by the flexible gummed tape 23. During compression of the carton, the frictional engagement between the carton and tube is greatly increased, so that the folded flattened closed end 17 of the tube will remain close to the carton fold 20, and be prevented from opening.

In the modified form of the invention shown in Figs. 7 to 9, the carton 118 is similar to the carton 18 except that the creases 21 and tongue 22 of the latter are omitted, and that the side edges of the carton walls 119 are held together by longitudinally extending gummed tapes 123. In this device, the tube is held in place in the carton by the frictional engagement between them.

In the modified form of the invention shown in Figs. 10 and 11, the carton 218 is similar to the carton 18 except that a tongue 222 formed integrally on one of the carton walls 219 replaces the tongue 22.

In the modified form of the invention shown in Fig. 12, the carton 318 is similar to the cartons 18, 118, or 218, and has its side edges held together by flexible sheet metal plates 323 provided with lugs 324 clinched to the carton.

What I claim as new and desire to secure by Letters Patent is:

1. A collapsible tube carton comprising a pair of walls of resilient material for embracing a collapsible tube between them, said walls being connected at one end and having transversely arched bendable portions to substantially enclose the tube, said transversely arched portions being depressible to a flattened condition to express the contents of the tube, and means for holding the side edges of said transversely arched portions in adjacent relation.

2. A collapsible tube carton comprising a pair of walls of resilient material for embracing a collapsible tube between them, said walls being connected at one end and having transversely arched bendable portions to substantially enclose the tube, said transversely arched portions being depressible to a flattened condition to express the contents of the tube, the side edges of said walls being flexibly connected to hold said edges in adjacent relation.

3. A collapsible tube carton comprising a pair of walls of resilient material for embracing a collapsible tube between them, said walls being connected at one end and having transversely arched bendable portions to substantially enclose the tube.

4. A collapsible tube carton comprising a pair of walls of resilient material for embracing a collapsible tube between them, said walls being connected at one end and having transversely arched bendable portions to substantially enclose the tube, at least one of said transversely arched

portions being longitudinally creased to facilitate the arching.

5. A collapsible tube carton comprising a pair of walls of resilient material for embracing a collapsible tube between them, said walls being connected at one end and having transversely arched bendable portions to substantially enclose the tube, said transversely arched portions being longitudinally creased to facilitate the arching, and said arched portions being depressible to a flattened condition for expressing the contents of the tube, the side edges of said walls being flexibly connected to hold said edges in adjacent relation.

6. A carton for a collapsible tube having a flattened closed end doubled on itself, comprising a pair of walls of resilient material for embracing a collapsible tube between them, said walls being connected at one end and one of said walls having a tongue adjacent said end, the free end of said tongue extending toward the connected end of said walls and engageable with the doubled flattened end of the tube to hold said tube end against the connected portions of said walls for preventing opening of said doubled end of the tube.

7. As an article of manufacture, a carton blank for a collapsible tube, comprising a length of resilient material foldable transversely on itself to form a pair of walls for embracing the tube between them, said walls being transversely archable to bring the side edges of said walls in adjacent relation for enclosing the tube.

8. As an article of manufacture, a carton blank for a collapsible tube, comprising a length of resilient material foldable transversely on itself to form a pair of walls for embracing the tube between them, said walls being transversely archable to bring the side edges of said walls in adjacent relation for enclosing the tube, and at least one of said walls being longitudinally creased to facilitate the transverse arching.

9. As an article of manufacture, a carton blank for a collapsible tube, comprising a length of resilient material foldable transversely on itself to form a pair of walls for embracing the tube between them, one of said walls having secured thereto at its inner face and adjacent the transverse fold a tube-retaining tongue the free end of which extends toward the fold, said walls being transversely archable to bring the side edges of said walls in adjacent relation for enclosing the tube.

10. As an article of manufacture, a carton blank for a collapsible tube, comprising a length of resilient material foldable transversely on itself to form a pair of walls for embracing the tube between them, one of said walls being cut adjacent the transverse fold to form a tube-retaining tongue the free end of which extends toward the fold, said walls being transversely archable to bring the side edges of said walls in adjacent relation for enclosing the tube.

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