

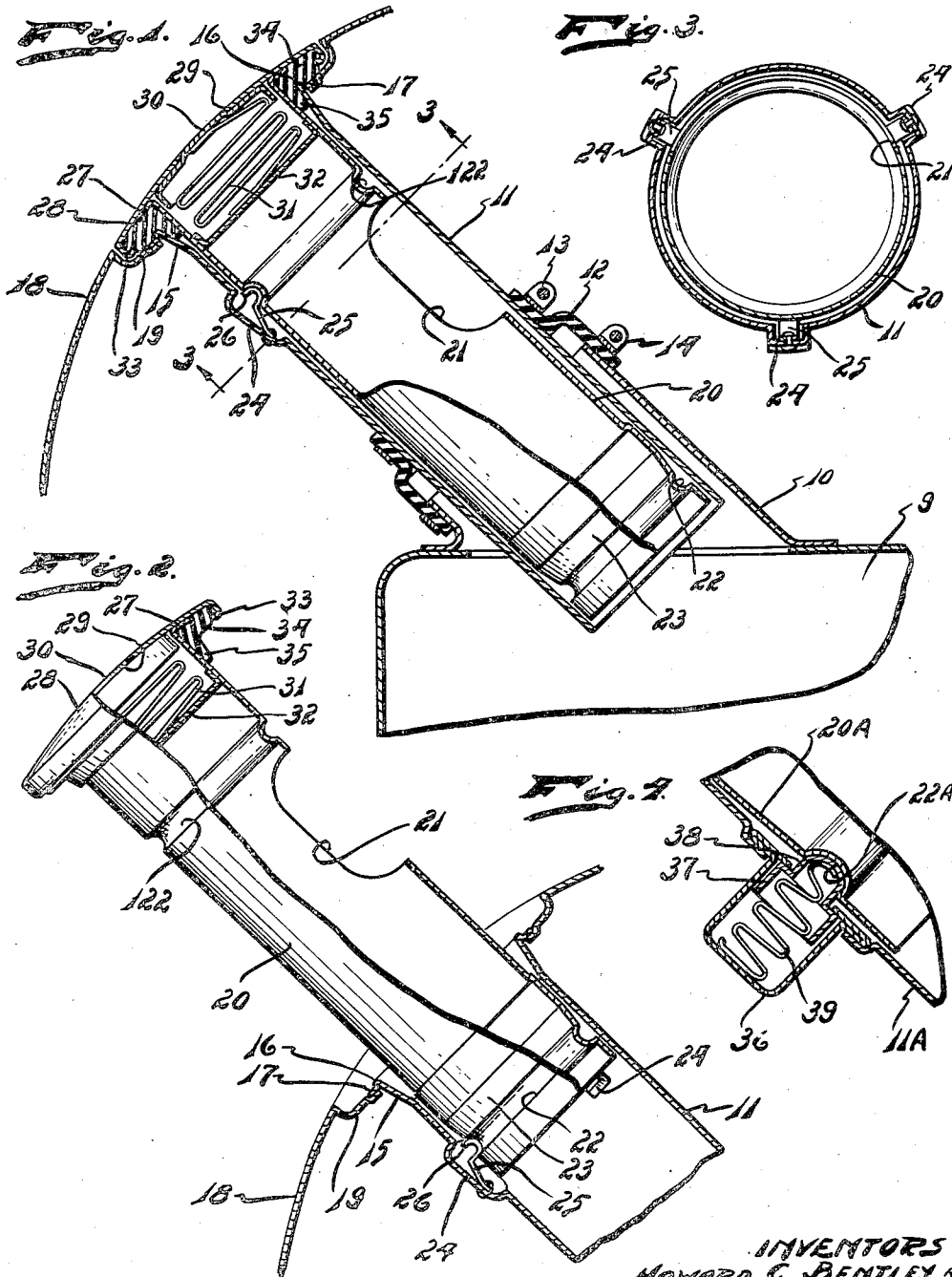
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FILLING TUBE

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FILLING TUBE

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Our invention relates to a new and useful improvement in a filling spout adapted for use in filling tanks such as the fuel tanks on automobiles and the like. The filling spout relates to that class in which an inner tube is slidably mounted in an outer tube and so arranged and constructed that it may be extended to render the same accessible while filling the tank and then collapsed or telescoped on the other tube when in non use. In this class of filling spout frequently the tank is positioned below the fender of an automobile or some other part of the body thereof and it has proven undesirable to have a guide tube or outer tube extending outwardly from the tank a distance sufficiently to meet the covering body such as the fender or the like.

It is an object of the present invention to provide a construction in which the outer or guide tube may consist of a pair of sections one of which is detachably connected to a short tube projecting outwardly from the tank and the other of which is extended to meet the fender or other covering portion of the body.

It is another object of the present invention to provide in a filling spout construction a novel arrangement for retaining the filling spout either in its fully telescoped position or in its outwardly retracted position.

Another object of the invention is the provision in a filling spout construction of this type of a novel means for sealing the outer end of the inner tube while at the same time retaining the outer face of the inner tube lying substantially flush and forming a continuation of the contour of the outer surface of the body or fender through which the tube is adapted to project.

Other objects will appear hereinafter.

It is recognized that various modifications and changes may be made in the detail of structure illustrated without departing from the invention itself and it is intended that such variations and modifications shall be encompassed within the scope of the claims which form a part hereof.

Forming a part of this specification are drawings in which,

Fig. 1 is a longitudinal central sectional view of the invention showing the tank in fragment and with parts of the invention broken away,

Fig. 2 is a view similar to Fig. 1, showing the filling spout in its extended or outwardly extended position with parts shown in section and parts broken away,

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1,

Fig. 4 is a fragmentary view showing a slight

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modification in the method of securing the inner tube in extended or telescoping position.

In the drawings I have illustrated the invention used with a fuel tank 9 projecting upwardly from which is a short tube 10 which is fixedly mounted on the tank 9. An extension tube 11 is connected to the tube 10 by means of the flexible connecting sleeve 12 which is clamped on the tube 11 by the clamp 13 and clamped on the tube 10 by the clamping band 14. The upper end of the tube 11 is flared outwardly as at 15 and provided at its upper end with the outwardly directed annular flange 17 on which is provided the bead 16. An opening is formed in the center or body portion 18 having the inwardly offset flange-forming portion 19 upon which the flange 17 rests. This flange 17 may be secured to the flange 19 by welding or in any other suitable manner.

I provide an inner tube 20 which is adapted to telescope with the tubes 11 and 10 as shown in Fig. 1 and which is adapted to be extended or drawn outwardly as shown in Fig. 2. The tube 20 is provided with a lateral opening 21 into which the nozzle of a filling hose may be inserted when the inner tube 20 is drawn outwardly into position shown in Fig. 2. A groove 22 is formed in the periphery of the inner tube adjacent its inner end at the reduced portion 23. A similar peripheral groove 122 is formed in the periphery of the inner tube 20 adjacent its upper end. Formed on the outer or guide tube 11 in circumferentially spaced relation are housings 24 secured to the lower end of which is one end of a spring clip 25 the free end being curved to form hook 26 adapted to engage in the groove 22 or the groove 122. As shown in Fig. 1 this keeper 26 is engaged in the groove 122 and since the member 25 is formed from spring material it is obvious that the keeper serves to resist outward movement of the tube 20 relatively to the tube 11. When the tube 20 is drawn to its outwardly retracted position as shown in Fig. 2 the keeper 26 engages in the groove 22 and thus serves to resist inward movement of the tube 20 relatively to the tube 11.

In the modified form of construction shown in Fig. 4 I have mounted a housing 36 on the tube 11A which corresponds to the tube 11 and the inner tube 20A which corresponds to the tube 20 of the form shown in Fig. 1, is provided with the peripheral groove 22A. The cup-shaped member 37 is slidably mounted in the housing 36 which is mounted on the tube 11A and this cup-shaped member 37 is provided with the reduced pin-forming portion 38 which is adapted to en-

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gage in the groove 22A and which is normally thrust inwardly by pressure of the spring 39.

Formed on the upper end of the inner tube 20 is a peripheral flange 27 which engages the inner face of the plate 28 and which may be secured thereto by welding or in any other suitable manner. This plate 28 is provided with a central opening 29 which is covered by the plate 30 slidably mounted in the tube 20. Secured at one end to the plate 30 is a spring 31 the other end of which bears against the disc 32 fixedly mounted in the tube 20. The construction is such that a person pressing downwardly on the portion 30 may insert a finger through the opening 29 and thus grip the plate 28 in order to pull the tube 20 outwardly into position shown in Fig. 2.

The marginal edge of the plate 28 is curled to form a hook which clamps against the ring 34 formed from suitable sealing material such as rubber or the like. This ring 34 is provided at its inner edge with the axially directed lip 35. The construction is such that when the inner tube 20 is fully telescoped as shown in Fig. 1 the lip 35 will be squeezed between the outwardly flared portion 15 of the outer tube 11 and the peripheral surface of the tube 20 to form a tight seal. The bead 16 will be embedded in the rubber ring 34 to afford a further seal and the face of the rubber ring 34 will engage the outer faces of the flanges 17 and 19.

It will be noted that the outer face of the plate 28 lies flush with the outer face of the body or fender 18 and in shape and configuration forms a continuation of the contour of the outer face of the member 18.

By attaching the tube 11 to the tube 10 in the manner indicated it is not necessary that the tube 10 be of any great length thus rendering more practicable the fabrication of a tank 9 with a tube 10 projecting outwardly therefrom and making it a safer object for transportation purposes.

Experience has shown that a filler tube such as illustrated has proven most efficient and of a durable and compact construction which may be cheaply manufactured.

What we claim as new is:

1. In a filling spout of the class described, an outer guide spout; a filling spout slidably mounted in said outer guide spout and having a lateral

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opening formed therein for reception of a filling hose nozzle, said filling spout having a pair of circumferential, peripheral grooves in longitudinally spaced apart relation; a housing mounted on the periphery of said guide spout adjacent one end thereof; a cup-shaped member mounted in said housing and slidable to project inwardly of said guide spout for engaging at its inner end in said circumferential grooves; and a spring for normally urging said cup-shaped member inwardly of said guide spout.

2. In a filling spout of the class described, an outer guide spout; a filling spout slidably mounted in said outer guide spout and having a pair of longitudinally spaced apart peripheral, circumferentially directed grooves; a housing mounted on said guide spout adjacent one end thereof and closed at its outer ends; a cup-shaped member mounted in said housing; a reduced pin-forming structure extruded outwardly from the face of said cup-forming member and adapted for engaging in said peripheral grooves upon registration of a groove therewith; and a spring positioned in said housing and bearing at one end against said housing and at its opposite end against the inner face of the base of said cup-shaped member for normally urging said cup-shaped member into position for engaging said pin-forming structure in the groove.

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