

Oct. 29, 1929.

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1,733,261

FUNNEL

Filed March 19, 1928

2 Sheets-Sheet 1

Fig. 1.

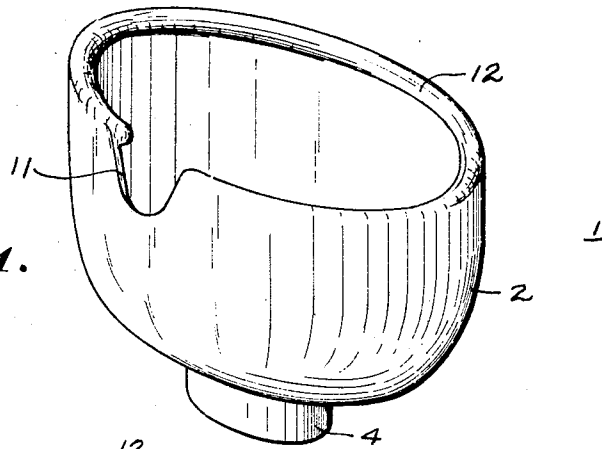


Fig. 2.

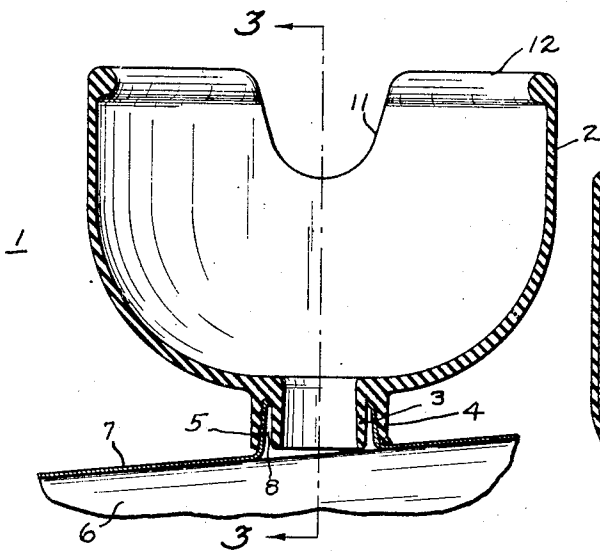


Fig. 4.

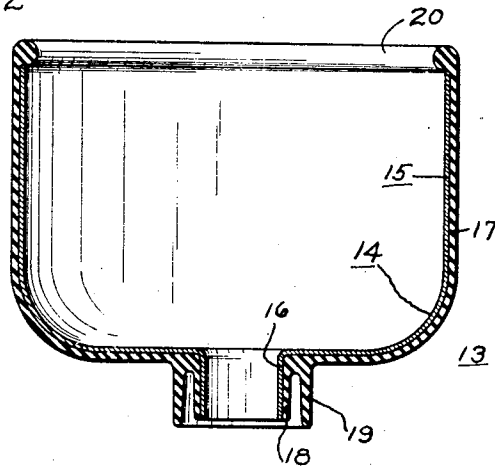
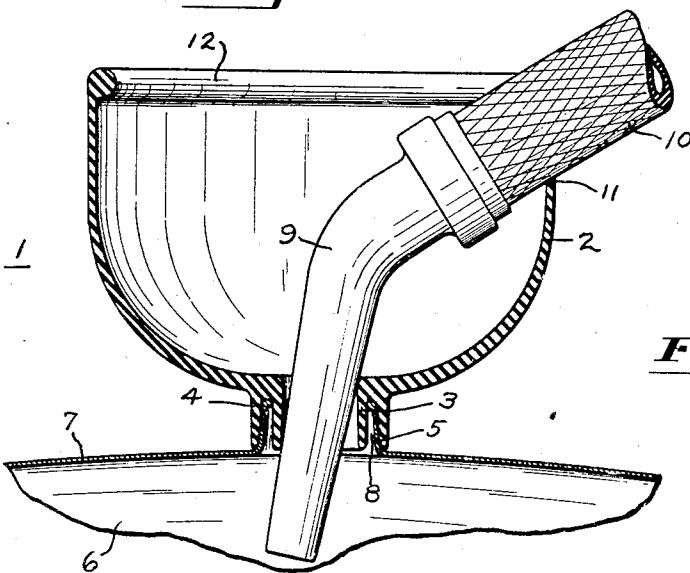


Fig. 3.



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2 Sheets-Sheet 2

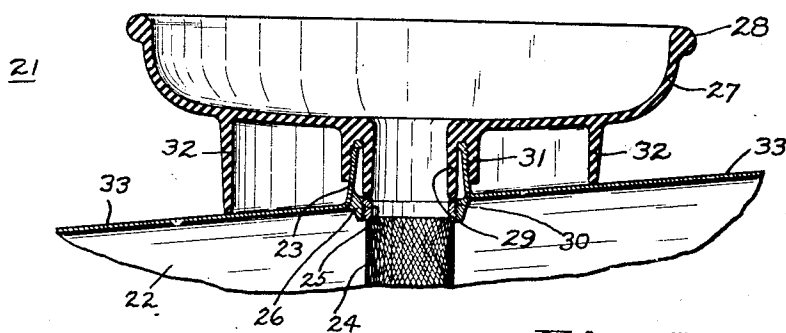


Fig. 5.

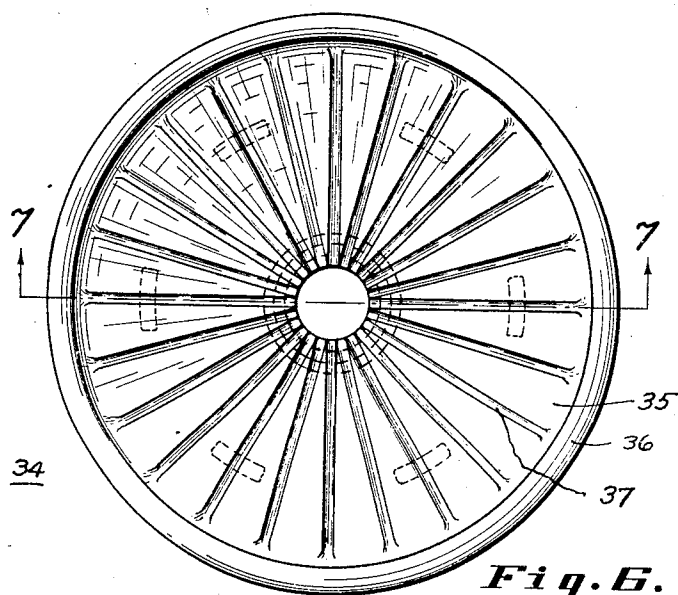


Fig. 6.

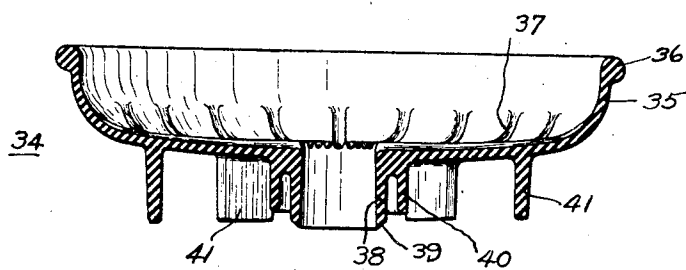


Fig. 7.

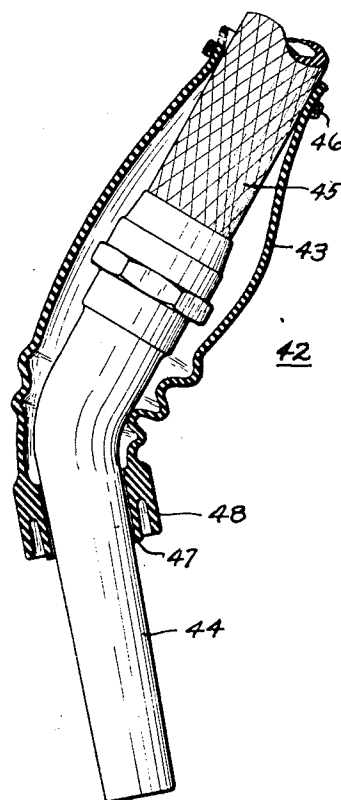


Fig. 8.

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FUNNEL

Application filed March 19, 1928. Serial No. 262,865.

This invention relates to funnels and more particularly to a funnel for use in filling automobile gasoline tanks.

Automobile gasoline tanks are ordinarily filled from storage tanks by means of a flexible hose having a metal nozzle, said nozzle being inserted into the neck of the gasoline tank during the filling operation. In disposing a nozzle into a gasoline tank and removing said nozzle therefrom, it frequently happens that said nozzle or adjacent metal parts of the hose connection accidentally contact with portions of the automobile body or fender to scratch or otherwise mar the same. Also gasoline is frequently spilled on the gasoline tank and adjacent parts, resulting in deterioration and smudging of the automobile finish. These features are particularly objectionable when the gasoline tank is filled through the cowl of the automobile, as in the case where the tank itself forms the cowl.

Objects of the invention are to provide a funnel arranged to cooperate with the neck of a receptacle, such as a gasoline tank, to maintain itself in position with respect to said tank and arranged to prevent leakage of gasoline or other fluid on the exterior of said tank adjacent said neck. Other objects are to provide a funnel of suitable material whereby said funnel will not damage highly finished surfaces by contact therewith, said funnel furthermore having a spout of relatively large internal dimensions to permit the nozzle of a filling hose to extend through said funnel into said tank.

Other objects of the invention will be apparent to those skilled in the art from the written disclosure herein made and from the appended drawings, wherein

Figure 1 is a perspective view of one form of funnel contemplated by our invention;

Fig. 2 is a fragmentary vertical section through the funnel illustrated in Fig. 1, and longitudinally through a cowl type automobile gasoline tank, showing such funnel in cooperative relation with the neck of said gasoline tank;

Fig. 3 is a vertical section on line 3—3 of Fig. 2;

Fig. 4 is a vertical section through a modified form of funnel contemplated by our invention;

Fig. 5 is a fragmentary longitudinal section through a cowl type automobile gasoline tank showing in vertical section a modified form of funnel in cooperative relation with said tank;

Fig. 6 is a top plan view of another modified form of funnel;

Fig. 7 is a vertical section taken on line 7—7 of Fig. 6; and

Fig. 8 is a longitudinal section through another modified form of funnel shown in association with a gasoline hose nozzle.

Our invention contemplates briefly a funnel arranged to engage the neck of a gasoline tank to maintain itself in desired position relative to the tank. The nozzle, moreover, is preferably so constructed of suitable material, such as rubber, to prevent marring of highly finished automobile surfaces during the manipulation of said funnel. The funnel is preferably arranged to permit a hose nozzle to extend into the tank, and to prevent leakage from any portion of the nozzle and its hose connection onto the tank or adjacent parts.

One modification of our invention is illustrated in Figs. 1, 2 and 3 wherein the funnel 1 is shown as comprising a body portion 2, and inner and outer spout portions 3 and 4 arranged to cooperate with the neck of the receptacle, such as the neck 5 of the gasoline tank 6, which tank is shown as being of the cowl type, the upper surface 7 of the tank 6 forming the cowl of the automobile. The inner and outer spout members 3 and 4 preferably cooperate closely with the neck 5 to support the funnel in desired position and to prevent gasoline or other liquid leaking from the tank onto the surface of the tank through the annular space 8 between said spout members. The inner spout member 3 communicates with the interior of the body portion 2. The aperture in the inner spout portion 3 is preferably sufficiently large to permit the nozzle 9 of a filling hose 10 to extend there-through and into the gasoline tank 6.

The interior of the funnel body portion

2 is preferably sufficiently large so that the entire nozzle 9 and the connection thereof with the hose 10 may be disposed within said body portion so that any leakage of gasoline from the connection between the nozzle and hose may take place within the body portion so that such leakage of gasoline may not drip upon the surface of the tank and adjacent parts. A notch 11 may be formed in the body portion 2 of sufficient size to accommodate the hose 10. The body portion 2 is shown as beaded at 12 adjacent its upper edge for stiffening purposes.

The funnel 1 is preferably composed of rubber or similar material of sufficient softness so that there will be no danger of marring the finish of the automobile in the manipulation of said funnel. Rubber or similar material is also advantageous in permitting a relatively close fit to be readily obtained between the neck 5 and spout portions 3 and 4 for the purpose, as previously mentioned, of holding the funnel in desired position and preventing leakage of gasoline onto finished automobile surfaces.

In Fig. 4 we have illustrated a modification of our invention in which the funnel 13 is provided with a metal liner 14 having a body portion 15 and spout portion 16. The metal liner 14 is surrounded by a rubber covering comprising the body portion 17 and spout portions 18 and 19. The body portion 17 is provided with a top bead portion 20 serving to protect any finished automobile surface from marring or scratching by the upper edge of the metal liner 14. The inner and outer rubber spout portions 18 and 19 are arranged to cooperate with the neck of a gasoline tank to obtain a relatively close fit for the purposes previously outlined. The outer spout portion 19 may extend downwardly further than the inner metal spout portion 16 to prevent scratching or marring of any metal surface thereby. The metal liner and rubber exterior of the funnel 13 may be secured together in any suitable manner, such as by vulcanizing or by a suitable adhesive.

Another modification of the invention is illustrated in Fig. 5 wherein the funnel 21 is shown in cooperative relation with the cowl type automobile gasoline tank 22 having the neck 23 and strainer 24, the upper ring portion 25 of which strainer is shown as secured to the bushing 26. The funnel 21 is shown as having a relatively low dish-shaped body portion 27 which may be provided with a beaded edge 28. The interior dimensions of the body portion 27 are preferably sufficiently great so that any leakage from the connection of a gasoline hose and nozzle may fall into said body portion. The inner tubular spout portion 29 communicates with the interior of the body portion 27, the aperture of which spout portion is preferably suffi-

ciently large to permit a gasoline hose nozzle to extend therethrough into the gasoline tank 22. The inner spout portion 29 preferably extends downwardly to contact with the strainer portion 25, where the gasoline tank is provided with a strainer. The lower edge 30 of the spout portion 29 is shown as bevelled inwardly to facilitate the obtaining of a close fit between said spout portion and the top of the strainer 24. The outer spout portion 31 preferably engages snugly the outer side of the neck 23 and may extend partially or completely toward the junction of the neck 23 with the tank 22. To assist in supporting the funnel 21 an annular depending member 32 may extend from the under side of the body portion 27 to the cowl or other automobile surface 33. Where the surface 33 is slanting, as in Fig. 5, the annular member 32 may be of unequal vertical dimension to cooperate with such slanting surface 33.

Another modification is illustrated in Figs. 6 and 7 wherein the funnel 34 has a dish-shaped body portion 35 and beaded top edge 36. The interior of the body portion 35 may be provided with radial grooves 37 to facilitate the flowing of any gasoline from within the body portion 35 into the gasoline tank. The tubular inner spout portion 38 is shown as having the inwardly tapered lower edge 39 to permit relatively close fit to be obtained between said spout portion 38 and a strainer within a gasoline tank. The outer spout portion 40 is arranged to engage the exterior of the gasoline tank neck. Legs 41 may extend downwardly from the body portion 35 to cooperate with an automobile surface to assist in supporting the funnel 34. The legs 41 may be of unequal length where the surface portions with which they are to cooperate are not in the same horizontal plane. The legs 41 may, of course, be omitted in certain cases as where the body portion 35 is sufficiently rigid in construction.

In Fig. 8 we have illustrated a funnel 42 having a relatively flexible body portion 43 in the form of a sleeve arranged to extend over the nozzle 44 beyond its connection with the hose 45. The sleeve 43 may be secured to the hose 45 by a suitable thong 46, or in any other suitable manner. The inner and outer spout portions 47 and 48 are arranged to surround the nozzle 44 whereby said nozzle may be extended into a gasoline tank to permit the spout portions 47 and 48 to engage the gasoline tank neck. If the nozzle 44 is to be used in filling a gasoline tank whose neck is not of such size to cooperate with the spout portions 47 and 48, the nozzle 44 may be disposed in such gasoline tank without employing said funnel 42 since the spout portions 47 and 48 may be withdrawn upwardly over the nozzle 44 to permit the filling of tanks where the funnel 42 is not to be employed.

Our invention is, of course, not limited to the specific forms of funnel shown and may be composed of any suitable material or materials. Preferably, however, particularly
 5 when the funnel is used for the filling of automobile gasoline tanks, such portions of the exterior of the funnel as are likely to come in contact with highly finished automobile surfaces are preferably coated with rubber or similar material to prevent marring
 10 or scratching of highly finished surfaces. We prefer that the entire outer surface of the funnel be of relatively soft rubber so as to prevent any possible injury of the automobile finish by manipulation of the funnel,
 15 and in fact the funnel may be preferably formed entirely of rubber. Obviously, of course, a rubber or other surface coating may cover less than the entire outer surface of the funnel. In cases, for example, where no
 20 highly finished surfaces are to be encountered, the rubber or other protective coating might be eliminated, but even in such cases it is ordinarily advantageous to have the spout portions constructed to adhere closely to the neck
 25 of the tank.

It will thus be noted that we have provided a funnel particularly adapted for filling automobile gasoline tanks, which funnel
 30 may maintain itself in desired position on the neck of the gasoline tank and which furthermore will permit the nozzle of a gasoline filling hose to extend therethrough into the gasoline tank, and which is made of suitable
 35 materials to prevent marring or scratching of highly finished automobile surfaces. It will further be noted that we have provided a funnel which will prevent leakage of gasoline onto the surface of the gasoline tank and
 40 adjacent parts during the filling operation, such funnel being arranged to prevent also leakage from the connection of the nozzle and gasoline hose.

It will be seen that where the spout is of
 45 rubber or similar material, the spout engages the container neck in elastic fashion to obtain the fluid-tight relation between the spout and the container neck. Or speaking more broadly, the spout may be said to engage the
 50 neck conformably, that is, portions of the spout conform to the shape of the container neck to obtain a fluid-tight connection.

It will be seen furthermore, that the use of rubber on parts of the funnel contacting
 55 with gasoline tank surfaces is advantageous in that no static is produced when the funnel is withdrawn from the gasoline tank and hence there is no possibility of drawing a spark which might ignite or cause an explosion of the gasoline.

It will further be noted that a funnel according to this invention may be advantageously employed in connection with the filling of automobile radiators, to prevent spillage of water while filling the radiator.

Furthermore, it is to be understood that the particular forms of apparatus shown and described, and the particular procedure set forth, are presented for purposes of explanation and illustration and that various modifications of said apparatus and procedure
 70 can be made without departing from our invention as defined in the appended claims.

What we claim is:

1. In a funnel adapted for use in filling
 75 automobile gasoline tanks, a body portion, an inner spout portion communicating with the interior of said body portion and arranged to extend within the neck of the gasoline tank, and a concentric outer spout portion
 80 arranged to conformably engage the outer surface of said gasoline tank neck in snugly cooperating relation, so as to prevent liquid leakage onto adjacent automobile parts.

2. In a funnel adapted for use in filling
 85 automobile gasoline tanks, a body portion, an inner spout portion communicating with said body portion arranged to be disposed interiorly of a gasoline tank neck, the aperture of said inner spout portion being sufficiently
 90 large to receive the nozzle of a gasoline hose, a concentric outer spout portion arranged to conformably engage in liquid-tight relation with the exterior of said gasoline tank neck, said spout portions being arranged to have
 95 no metal portions projecting outwardly to permit scratching or marring of a finished automobile surface.

3. In a funnel adapted for use in filling
 100 automobile gasoline tanks, a body portion, an inner spout portion communicating with the interior of said body portion, a concentric outer spout portion, said spout portions being arranged to elastically engage a gasoline tank
 105 neck in the annular space between said spout portions whereby to support said funnel firmly in desired position and to prevent leakage outwardly of said tank neck, said inner spout portion having an aperture sufficiently
 110 large to receive the nozzle of a gasoline tank hose, the interior of said body portion being sufficiently large to receive the entire nozzle and the connection thereof with said hose whereby to prevent any leakage from said
 115 hose connection on said gasoline tank and adjacent parts.

4. In a funnel adapted for use in filling
 automobile gasoline tanks, a body portion, an inner spout portion communicating with the interior of said body portion, a concentric
 120 outer spout portion, said spout portions being arranged to engage closely a gasoline tank neck in the annular space between said spout portion and to conform to said neck whereby to support said funnel firmly in desired
 125 position and to prevent leakage outwardly of said tank neck, said inner spout portion having an aperture sufficiently large to receive the nozzle of a gasoline tank hose, the interior of said body portion being suffi- 130

ciently large to receive the entire nozzle and the connector thereof with said hose whereby to prevent any leakage from said hose connection on said gasoline tank and adjacent parts, the exterior surface of said funnel being composed of a relatively soft rubber-like material whereby to prevent any scratching or marring of an automobile surface finish during the manipulation of said funnel.

5. In a funnel adapted for use in filling automobile gasoline tanks, a body portion, an inner spout portion communicating with said body portion arranged to be disposed interiorly of a gasoline tank neck, the aperture of said inner spout portion being sufficiently large to receive the nozzle of a gasoline hose, a concentric outer spout portion arranged to cooperate with the exterior of said gasoline tank neck, one of said spout portions being arranged to conformably engage said neck in liquid-tight relation, the interior of said body portion, being sufficiently large to receive the entire nozzle at the connection thereof with said gasoline tank and adjacent parts, and means extending downwardly from said body portion to cooperate with automobile parts to assist in supporting said funnel in cooperative relation with said gasoline tank.

6. A funnel adapted for filling automobile containers, comprising, in combination, a body portion, and a spout including material arranged to elastically engage the neck of an automobile container in liquid-tight relation, said spout comprising an inner spout portion to extend interiorly of said container neck and an outer spout portion to extend exteriorly of said container neck, whereby, if the container be filled too full, the excess container contents will rise into said body portion, rather than be spilled onto automobile surfaces.

7. A funnel adapted for filling automobile containers, comprising, in combination, a body portion, an inner spout portion communicating with the interior of said body portion and arranged to extend interiorly of the neck of an automobile container, a concentric outer spout portion arranged to extend exteriorly of said container neck, at least one of said spout portions comprising elastic material cooperating closely with the neck of said container in liquid-tight relation, whereby leakage onto the exterior of said container from within the funnel may be prevented.

In testimony whereof we affix our signatures.

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