

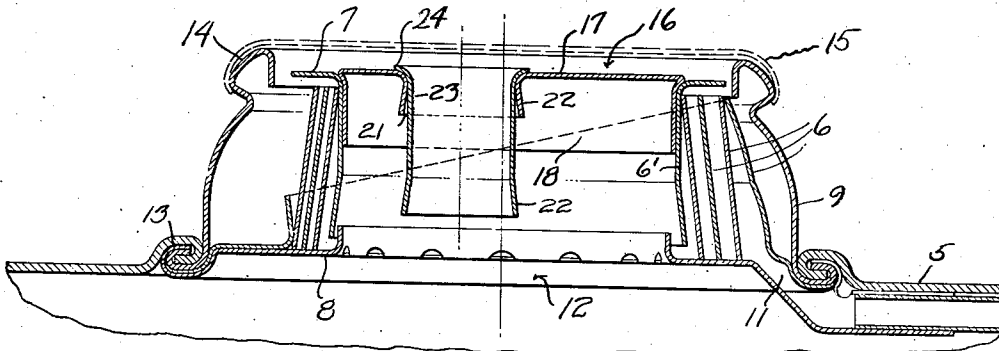
Aug. 3, 1943.

H. A. CRAIG

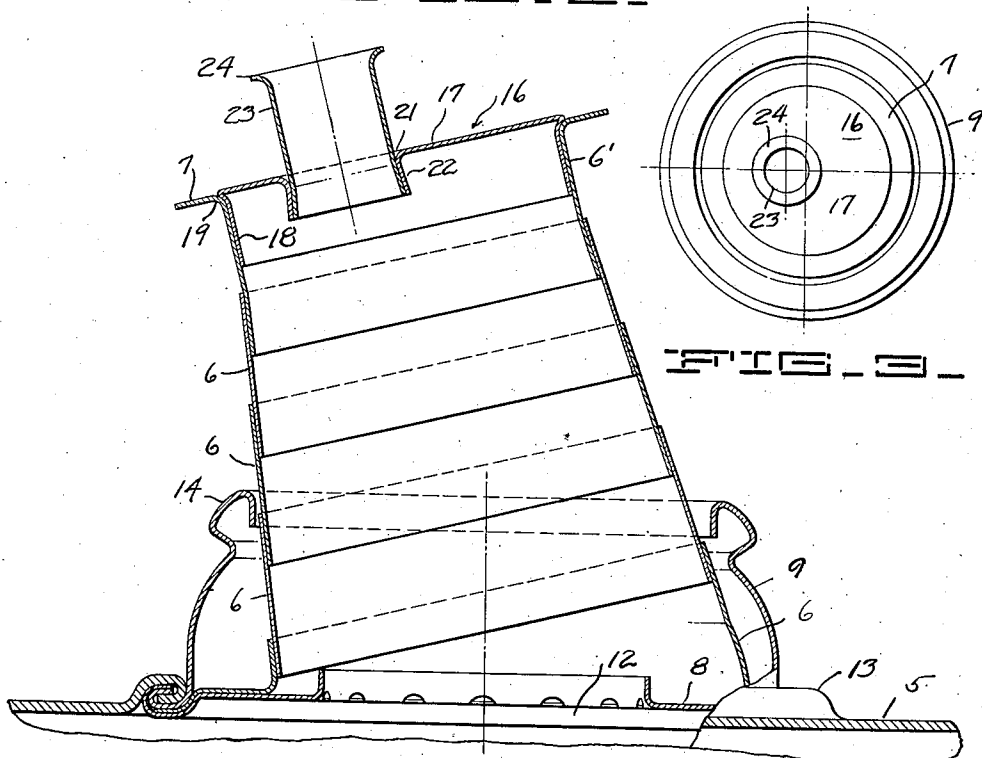
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REDUCER ATTACHMENT FOR POURING SPOUTS

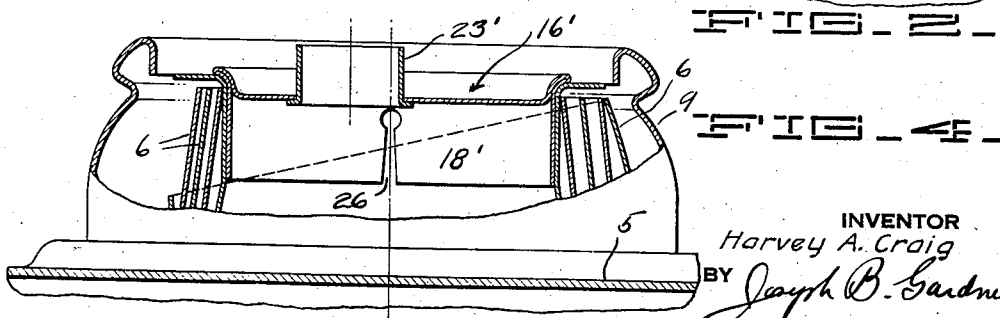
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2,325,834

REDUCER ATTACHMENT FOR POURING SPOUTS

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2 Claims. (Cl. 221-27)

The invention relates to a means arranged to be combined with a pouring spout so as to limit the size of the stream which may otherwise be discharged from the spout. More particularly the invention relates to a means of the character described, which is especially adapted for use with a pouring spout applied to a container and made up of one or more relatively movable sections which, when not in use are held in a retracted and unobtrusive position within the container or a collar affixed to the container, or when in use are extended or projected from the container or collar so as to enable the user to more easily control and direct the flow of liquid from the container, the attachment of my invention being arranged for application to the spout to function therewith as a unit and without curtailing the features of extension or retraction, or otherwise interfering with the functions and advantages of the spout except as to capacity of discharge. The desirability or necessity for changing the capacity of the spout usually arises by reason of the use of the container with different liquids or of the different nature or form of the receptacle into which the liquid is poured.

An object of the invention is to provide a spout reducer which is arranged for attachment or incorporation with the main spout in such manner that the reducer may be applied to existing spouts having a design and construction devoted entirely to affording maximum pouring qualities for the capacity of the spout, without requiring any change or departure in design or construction of such spouts, or any reduction in the capacity of the spout and without necessitating a design of reducer less effective than the main spout.

Another object of the invention is to provide a reducer which is of such design and so arranged for application to a pouring spout of the character described, that when the reducer is operatively attached to the spout, the latter may together with the reducer, be retracted or collapsed within the minimum space used and required for the spout alone.

A further object of the invention is to provide a reducer having a spout which, when the reducer is attached to the main spout, is not only extendible and retractible with the main spout, but is extendible and retractible with respect thereto so as on the one hand to permit ample length for the reducer spout in pouring, and on the other hand to enable such spout like the sections of the main spout, to be confined in the same transverse space and without any portions protruding or depending therefrom when the unit is collapsed.

A still further object of the invention is to provide for the effective operative attachment of the reducer to the main spout without the use of threads or similar fastening means and without requiring the addition of extra parts such as gaskets and the like.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawing:

Figure 1 is a cross sectional view of the attachment of my invention applied to a collapsible type of pouring spout, the parts being shown in the position when not in use.

Figure 2 is a view similar to Figure 1, but showing the parts extended for use.

Figure 3 is a plan view of the reducer attachment as shown in Figure 1, and including the main spout.

Figure 4 is a view similar to Figure 1, but showing a somewhat modified form of the attachment.

As illustrated in the drawing, the reducer of my invention is particularly adapted for use in connection with a retractible or collapsible pouring spout made up of sections which may be extended in the use of the spout or retracted one within the other when not in use. This type of spout is set forth in detail in Letters Patent No. 2,049,900, issued August 4, 1936.

As here shown, the retractible or collapsible spout, which shall for convenience be hereinafter called the main spout, is mounted on the top wall or cover 5 of a container and comprises a plurality or series of tubular sections 6 of frustoconical form. The various sections are of different diameter so that the successively smaller sections may fit one within the other. The largest of the sections forms the base and is fixed to the cover 5, while the smallest section 6' which is arranged to form the outlet for the spout is provided with an annular pouring lip 7, here shown extending transversely outwardly and overlying the other sections. Below the fixed section is provided a perforated retainer 8 which serves as a support for the other sections when the spout is in the collapsed position shown in Figure 1.

As will be clear from Figure 2, when the sections are extended within the limits permitted

by the interfitting surfaces, a sealed connection will be formed between them, and in order that the lipped section 6' may be appreciably inclined toward or over one of the sides of the container, which is particularly desirable when the portion of the cover containing the spout is depressed below the rim of the cover, the fixed section is curved longitudinally so that the end portion at the retainer 8 will have a vertical axis, while the portion at the upper end will have an axis divergent to the vertical. A collar 9 surrounds the base of the spout and is spaced therefrom to provide an air chamber which communicates with the interior of the container by means of a vent 11. The three members, to-wit, the spout base, the retainer, and the collar, are associated as a unit and joined to the container around the discharge opening 12 by means of a lock seam 13. The spout sections are so related in size to the collar that when the spout is fully collapsed all the sections will lie within the open rim 14 of the collar, and in this manner a cap such as 15 may be readily applied and secured to the collar to seal the space in the collar and keep the spout sections locked therein.

Spouts of the type above described are particularly appropriate for use with pails and small drums such as for paints, oils, etc., and while in general the spout affords effective pouring for various size streams, sometimes it is desirable to actually limit the discharge to a relatively small stream. This latter situation arises not uncommonly where the purchaser after removing the original contents, converts the container to general utility purposes, and refills the container with a liquid which, under the circumstances of the use should be poured or withdrawn from the container only in small streams.

In view of the above, it has been found desirable to provide the main spout with a reduced auxiliary spout which can be carried in operative position on the main spout and be withdrawn therewith into the collar without requiring any change in design or construction of any of the three members comprising the main spout unit.

The auxiliary or reducer spout as here shown, comprises a cap member 16 made of tin-plate or other suitable material and conveniently of the same material as the main spout. The member includes an enclosure or reducer portion 17 and a cylindrical tubular portion 18 formed in one piece with the portion 17 and designed to fit within the outlet section 6' of the main spout so as to firmly hold the reducer to the spout and provide a sealed joint therebetween. The portion of the outlet section 6' which the portion 18 is arranged to engage is cylindrical rather than frusto-conical, and desirably the diameters of the portions are such that when the portions are operatively associated they will engage one another with a light press fit. As will be seen from the drawing, the side wall of the outlet section 6' curves outward gradually to form the lip and in this manner the ready initial insertion of the portion 18 into the section is facilitated.

In order to limit the insertion of the member 16 in the section 6', the closure portion 17 is made larger than the general cross-sectional area of the section and the portion 18 in joining the portion 17, flares outwardly as at 19 in conformity with the lip on the section so as to provide a stop engageable with the lip. It will be noted that when the member 16 is operatively positioned in the spout section, the portion 17 will be disposed

practically coplanar with the lip, so that there will be no protrusion from the spout.

Within the portion 16 of the member 17 is an opening 21 which is defined by an annular depending flange 22, here shown of partly frusto-conical form with the larger end at the bottom. Mounted in the opening 21 for longitudinal displacement relative to the member 16 is a tubular reducer spout 23 having at its upper end an annular pouring lip 24 and at its lower end a flaring portion corresponding to the flange 22. The spout 23, as will be clear from Figures 1 and 2, may be retracted practically entirely below the portion 17 or extended so as to project for the most part from the upper side of said portion. The amount of retraction of the spout 23 is limited by engagement of the lip 24 with the flange and top portion 17, and the extension of the spout is limited by interengagement of the frusto-conical portion thereof with the flange 22. As may be evident, upon full extension of the spout, the interengaging portions of the spout and flange will be resiliently held together thereby insuring a tight and leakproof connection. Preferably the axis of the opening 21 is offset with respect to the axis of the member 16, thereby permitting the positioning of the spout 23 closer to the side toward which the main spout is inclined when extended.

It will now be clear that when the reducer attachment is in place and both the main and auxiliary spouts extended, not only will there be assured a smooth pouring of a relatively small amount of the liquid, but the size of the stream will of course be definitely limited by the reducer spout. At the same time when both spouts are in retracted position, the reducer spout as well as all of the sections of the main spout will lie within the collar so that the cap 15 may be applied to the collar to keep the retracted parts therein and at the same time close the opening. It may be mentioned that the retainer is usually formed open at the middle, and therefore if desired the spout 23 can be made much longer than shown without interfering with the desired retraction of the reducer as above set forth.

As will of course be understood, should it be desired to withdraw the liquid from the container to the full capacity of the main spout, the reducer may be quickly pulled out of the outlet and later replaced if desired.

In Figure 4, the reducer attachment is of somewhat modified form. As here shown, the spout 23' is fixedly held in the cap member 16', but the construction and design of the member for effecting attachment to the outlet section is the same as in the first described embodiment, except that the portion 18' is provided with slits 26 in order to give such portion greater resiliency.

I claim:

1. A collapsible spout combination, comprising a collar and a plurality of spout sections retractible one within another and tapered so as to provide sealed connections and limit the longitudinal displacement therebetween when the spout is in extended position, the section positioned outermost when the spout is extended being formed substantially cylindrical at the distal end and having a pouring lip extending outwardly from such end, an auxiliary spout section for reducing volumetric discharge from the first sections and arranged for extension from said outermost section, said auxiliary section having combined therewith a substantially cylindrical portion inserted within and frictionally engag-

ing said outermost section, and said auxiliary section being positioned to lie within said outermost section and with its outer end substantially inwardly of the outer end of said collar when all of said sections are in retracted position.

2. A collapsible spout combination comprising, a plurality of frustro-conical spout sections extendible one from another and retractible one within another and including a relatively fixed section into which each of said sections are retractible, a collar surrounding said fixed section, a retainer carried under said fixed section and

5 upon which the sections may be supported when retracted, an auxiliary spout unit of relatively reduced capacity carried by the section outermost when the sections are extended and including a cylindrical portion detachably connected with said outermost section, and an extendible spout section retractible to lie within said outermost section and with its outer end substantially inwardly of the outer end of said collar when all of the sections are in retracted position.

HARVEY A. CRAIG.