



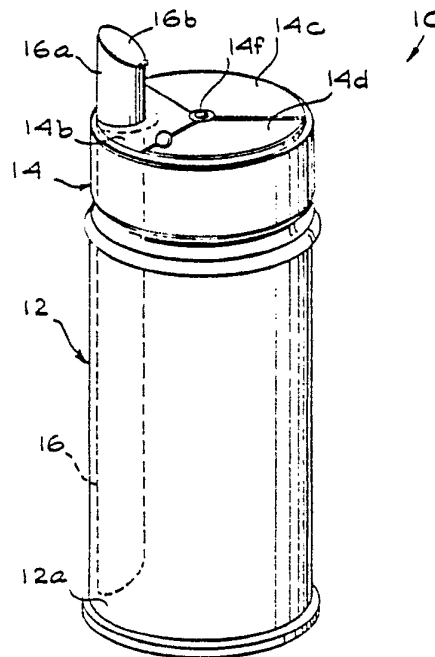
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/US81/00772</p> <p>(22) International Filing Date: 8 June 1981 (08.06.81)</p> <p>(31) Priority Application Numbers: 230,744 259,573</p> <p>(32) Priority Dates: 2 February 1981 (02.02.81) 1 May 1981 (01.05.81)</p> <p>(33) Priority Country: US</p> <p>(71)(72) Applicant and Inventor: KIM, Seung, Gyu [KR/US]; 4341 Willow Brook Avenue, Apt. 310, Los Angeles, CA 90029 (US).</p> <p>(74) Agent: ARNHEM, Erik, M.; 4113 Beverly Boulevard, Los Angeles, CA 90004 (US).</p>		<p>(81) Designated States: DE (European patent), FR (European patent), GB (European patent), JP.</p> <p>Published <i>With international search report.</i></p>

(54) Title: DISPENSER OF GRANULATED MATERIAL

(57) Abstract

Dispensers of measured quantities of granulated material have been complicated and require frequent cleaning. The present invention comprises a container (12) having a spouted tube (16) protruding from and extending within the container (12), the tube (16) terminating above the bottom (12a) thereof.



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SPECIFICATION

(a) Title of the Invention:
Dispenser of Granulated Material

(b) Name of the Inventor:
Seung Gyu Kim

(c) Cross References to Related Applications:
This application is a continuation-in-part of parent application S.N. 230 744 filed February 2, 1981, in the U.S. Patent and Trademark Office.

(d) Background of the Invention:
Field of the Invention.

My invention relates to an improvement in dispensers of granulated material, in particular dispensers of measured quantities of sugar, salt and the like, for use in restaurants or homes.

The conventional type of such dispensers, generally consists of a glass jar with perforated lid, or a spout protruding from the lid of the jar, or simply, a sugar bowl. These devices dispense unrestricted and continual quantities of e.g., sugar into a hot cup of beverage. In using the conventional dispensers, the steam from the beverage may also cause formation of hard sugar lumps or wet sugar in the spouts thereof, which eventually will hinder the dispensing of the sugar. It is most important for people observing restrictions on their intake of sugar and salts to avoid unmeasured or uncontrollable quantities thereof when seasoning foods.

Another known type dispenser features a small bowl placed inversely within an apertured cap with extending legs mounted to a ring fitted within the cap and a second insert in the form of an apertured disk through which a spout is directed toward the small bowl. This rather complicated device permits one, to some extent, to dispense measured



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quantities of sugar, etc.; however, in order to pour e.g., sugar from this device, it is necessary to hold same completely upside down; this, again may cause formation of sugar lumps within the spout and requires frequent dismounting and cleaning of the latter. Furthermore, when repeatedly shaking the device, when maintained in the upside down position, the sugar will continue to pour through its spout.

My invention completely eliminates the above mentioned drawbacks, as will be explained hereinafter.

(e) Summary of the Invention:

As noted briefly, the device, according to my invention, when applied e.g., for sweetening of coffee, need not be turned completely upside down, i.e., it may merely be inclined to avoid moistening of the sugar, and, most important, will positively only permit feeding out of a measured quantity of sugar, and this is so regardless of how long one would hold the dispenser in the inclined position.

The dispenser, according to one embodiment of the invention, comprises, as noted, a container for the granulated material, e.g., a glass jar capped by an apertured closure. A tube, protruding from the opening in the cap of the dispenser, extends inside the container and terminates above the bottom thereof. For refill of the container, the top of the cap has a slidable panel to provide a wide opening, thus, avoiding removal of the cap and tube for refill purposes.

In another embodiment of the invention, the dispenser is constituted as a sugar-bowl, having a handle, lid and spout, the latter extends within the bowl and serves the same purpose as in the first embodiment of the invention.

When the dispenser is being applied, i.e., inclined toward the food or upside down, the sugar, etc. will gravitate towards the top of the container, at the same time causing a measured quantity of sugar, etc., to flow through the tube and

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into e.g., the beverage to be sweetened. The sugar in the container will then, in the inclined position, fill up from below the end opening of the tube downwardly into the interior of the cap, and, thus is prevented from flowing through the tube and out, until the dispenser is placed in its upright position and then again applied, as explained above. In order to attain optimal result with my device, the container should not be filled with granulated material to the top; a space approximately as between the end of the tube and the bottom of the container should remain unfilled.

Thus, it is the primary object of the invention to provide a dispenser for granulated material which measures out uniform quantities of material, and prevents the material remaining in the dispenser from being affected by ambient heat.

It is a further object of the invention to provide a dispenser of simple and safe construction, requiring a minimum of maintenance.

Further advantages of the invention will appear from my description thereof.

(f) Brief Description of the Drawings:

Figure 1 shows the dispenser in its entirety in a perspective view, according to the invention.

Figure 2 is an elevational side view of the dispenser of figure 1, shown in an inclined position.

Figure 3 is a top view of the dispenser.

Figure 4 shows the dispenser in the form of a spouted sugar bowl.

Figure 5 is the sugar bowl in a sectional view taken on line 5-5 of figure 4.

(g) Description of the Invention:

In the drawings like reference characters designate similar parts in the several views of the drawings.



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In fig. 1, numeral 10 indicates one embodiment of the dispenser of granulated material in its entirety.

The container 12 of dispenser 10 may be a glass jar of the conventional type used for such purposes as described. The lid 14 may be screwed or pressure fitted onto container 12. Lid 14 is, preferably circular in shape and made of plastic material, its top being divided into three circular sections 14b, c and d; section 14b, integral with rim 14e of lid 14 has an opening, aperture 15; section 14c is solid, also made integral with rim 14e; section 14d is a panel mounted slidably under section 14c by way of pivotal means, e.g., a double headed rivet 14f, passing vertically through the center of lid 14, and slidably interconnecting section 14c and d thereof. A small knob 14g is provided on top of section 14d, to facilitate the sliding movement of the latter. The primary purpose of this arrangement is to create a wide opening of the size of section 14d in the top of lid 14, when section 14d is slid under section 14c, in order to facilitate refill of container 12 without removing lid 14 and a tube 16, as will now be referred to.

A conductor or tube 16, as illustrated, is mounted integrally in aperture 15 of lid 14 and protrudes biased somewhat above the latter so as to constitute a spout 16a; the rest of tube 16 passes through aperture 15 of lid 14 adjacent the wall and perpendicularly to the bottom 12a of container 12. Tube 16 stops short of reaching bottom 12a of the container and its end portion is biased, however, inversely to the direction of spout 16a, to facilitate the flow of sugar through tube 16, when the container 12 is inclined, as indicated in fig. 2.

The level of the granulated material, e.g., sugar (as indicated at dotted line 18) must fall below the end of tube 16 (when in an inclined position, fig. 2), so that only one single measured quantity of sugar will pass through tube 16. Spout 16a of tube 16 may be provided with a cap 16b, mounted



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thereon by hinge 16c, as illustrated in the drawings. When container 12 is inclined, cap 16b will swing open to allow passage of sugar through tube 16. The main purpose of the cap is to prevent dust and other impurities from entering into tube 16. Furthermore, the mounting of tube 16 in aperture 15 of lid 14 is reinforced by a ring 16d, or similar means around tube 16 which is anchored at the underside of lid 14 (fig. 2).

The tube (and the container) may vary in diameter. For example, if the device is used for preparation of food, one may have a tube of a much wider diameter than would be the case if same were applied for sweetening beverages.

If one wishes to dispense rather minute amounts of e.g. sugar the end of tube 16 may appropriately be curved as indicated in fig. 2 (in dashed lines); this may be accomplished by having tube 16 terminating curvedly. It would also be possible to have a straight end portion (16e) of tube 16 (as in fig. 2) mounted detachably to the latter, which then can be removed and replaced by a separate curved tubular section 16f (fig. 2); portion 16e, in dotted dashed lines (fig. 2), when detached from tube 16, may then be refitted onto the free end of tubular section 16f, if one wishes to still further restrict the outflow of sugar from dispenser 10. Sections 16e,f may be mounted to tube 16 (or to each other) by pressure fitting, or in any other appropriate manner.

Thus, if one wishes to modify the length or direction of tube 16 (as explained above) one may simply remove lid 14 with tube 16 from container 12, and carry out the required changes of the configuration of tube 16, by interchanging sections 16e,f.

In another embodiment of the invention, the dispenser, as noted above, is in the shape of a spouted sugar bowl 20, as illustrated in figure 4.

The sugar bowl 20 is preferably made of china clay, the

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basic material from which objects of ceramics and fine china-ware is produced. It may be manufactured by molding, plastic forming, casting or any other appropriate processes.

The sectional view of figure 5 shows spouted tube 22, preferably integrally fused with and passing obliquely through a hole (not shown) in the upper side portion of bowl 20, extending therefrom curvedly (or straight) downwardly towards the bottom of the bowl, a lower edge portion of the end opening of tube 22 will rest or lie adjacent the bottom of bowl 20 and may be fused thereto. Tube 22 is basically constituted in the same manner as tube 16 (in the first embodiment), i.e., with oppositely biased front and end openings, and, thus the dispenser, according to either embodiment, would work equally well.

Bowl 20 is also provided with a conventional lid 24, having projecting member 24a interlocking with the center opening in the body of bowl 20.

In order to assure the fixed position of tube 20 within bowl 20, one may provide a vertical support member 22b extending vertically and integrally between the underside of tube 22 and the interior bottom of bowl 20, as illustrated in fig. 5.

The levels of sugar (or other granulated material) in bowl 20 is shown in a solid and dashed line, respectively, depending on whether the bowl is maintained in a horizontal or inclined position.

As explained with respect to the first embodiment of the invention, the bowl should only be partially filled so that the granulated material, not being intended for immediate passage through tube 22, will stay clear of the latter, while the measured material passes through the spout. The interior of bowl 20 (including tube 22) should be glazed to facilitate the flow of the granulated material therein.



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As noted above, the difference between the two basic embodiments of the invention lies in structure and shape, i.e., in the first embodiment the spouted tube passes through the lid on the container, while, in the second embodiment, the spouted tube projects from the container body itself, e.g., being in the shape of a spouted bowl. The principal underlying the invention works equally well with short wide containers (as shown in fig. 4) and tall narrow ones, the angular relationship between spouted tube and bottom of container would obviously have to be adjusted accordingly.

With respect to the second embodiment, the lid 24 of the container is interlocked with the body thereof (as shown in fig. 5), but may also be pressure fitted or otherwise rigidly mounted therein.

A sugar bowl, as illustrated in fig. 4, may become part of a complete set of, e.g., chinaware having a common pattern. Furthermore, one would also eliminate the use of a spoon for removing the sugar and thus prevent the sugar in the bowl from absorbing moisture from the spoon.

While the foregoing has illustrated and described what is now contemplated to be the best mode of carrying out the invention, the description is, of course, subject to modifications without departing from the spirit and scope of the invention. Therefore, it is not desired to restrict the invention to the particular constructions illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.



I Claim:

1. In a dispenser of granulated material, comprising:
 - (a) a container;
 - (b) a spouted open-ended tube protruding from and extending within the container, said tube terminating spatially above the interior bottom of the container.
2. In a dispenser of granulated material, according to Claim 1, wherein an apertured lid is mounted on the container, through which the tube passes.
3. In a dispenser of granulated material, according to Claim 2, wherein the top of the lid is divided into sections, one of which is adapted to slidably cover an adjacent section thereof, to provide an opening for refill of the granulated material into the container.
4. In a dispenser of granulated material, according to Claim 2, wherein the upper end, respectively the lower end of the tube is biased inversely to one another.
5. In a dispenser of granulated material, according to Claim 2, wherein the tube extends parallelly to the wall of the container.
6. In a dispenser of granulated material, according to Claim 2, wherein the end portion of the tube is curved.
7. In a dispenser of granulated material, according to Claim 2, wherein an end section of the tube is removably mounted to the tube for replacement by a separate inwardly curved tubular section, onto the free end of which the removable end section of the tube may be detachably refitted, so as to progressively restrict the flow of sugar from the container.
8. In a dispenser of granulated material, according to Claim 1, wherein the container is bowl shaped.

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9. In a dispenser of granulated material, according to Claim 8, wherein the tube extends slopingly through an upper portion of and within the body of the bowl, a lower edge portion at the end of the tube being integrally fastened onto the bottom of the container.

10. In a dispenser of granulated material, according to Claim 8, wherein the bowl has a lid, provided with means for rigid attachment to the body of the bowl.

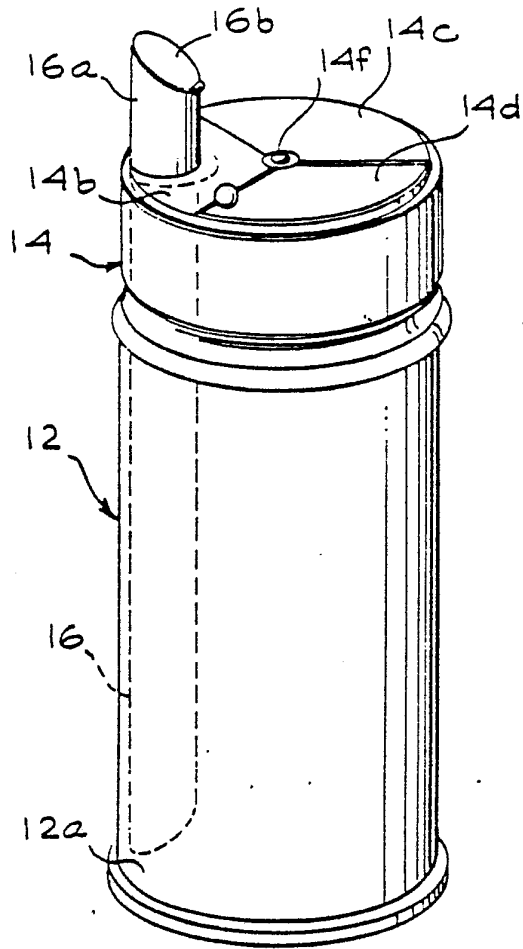


Fig. 1

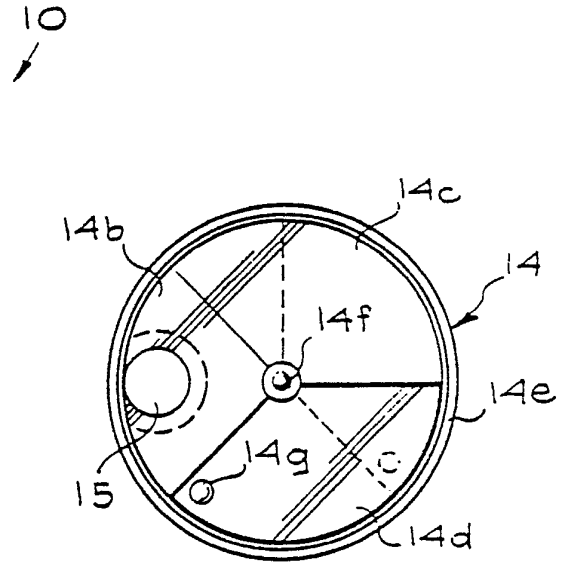


Fig. 3

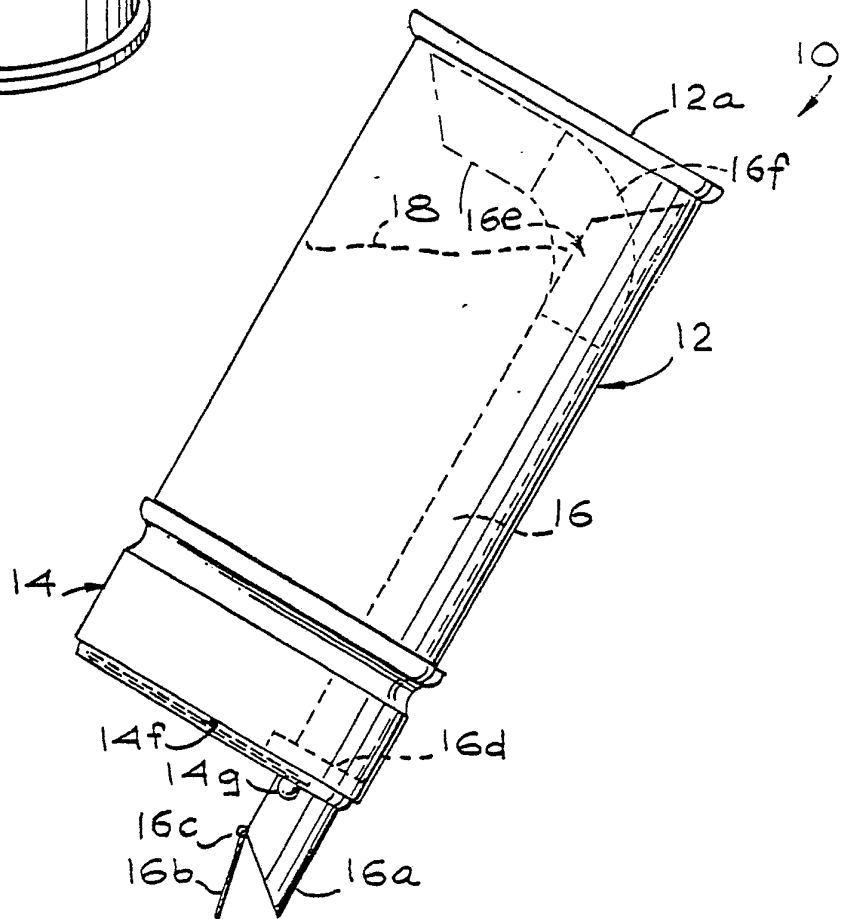


Fig. 2

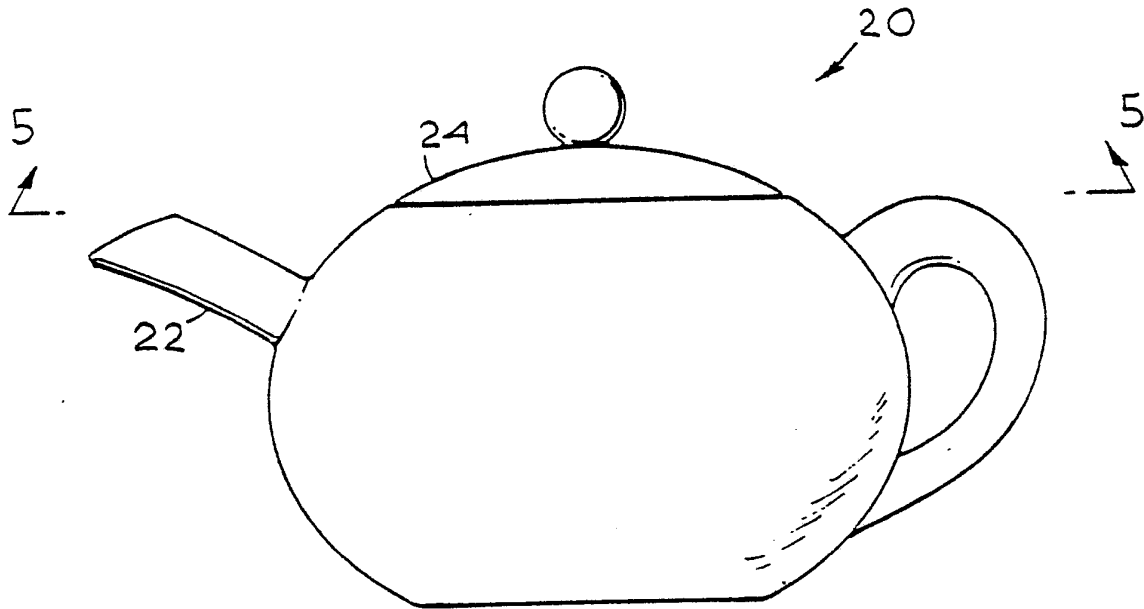


Fig. 4

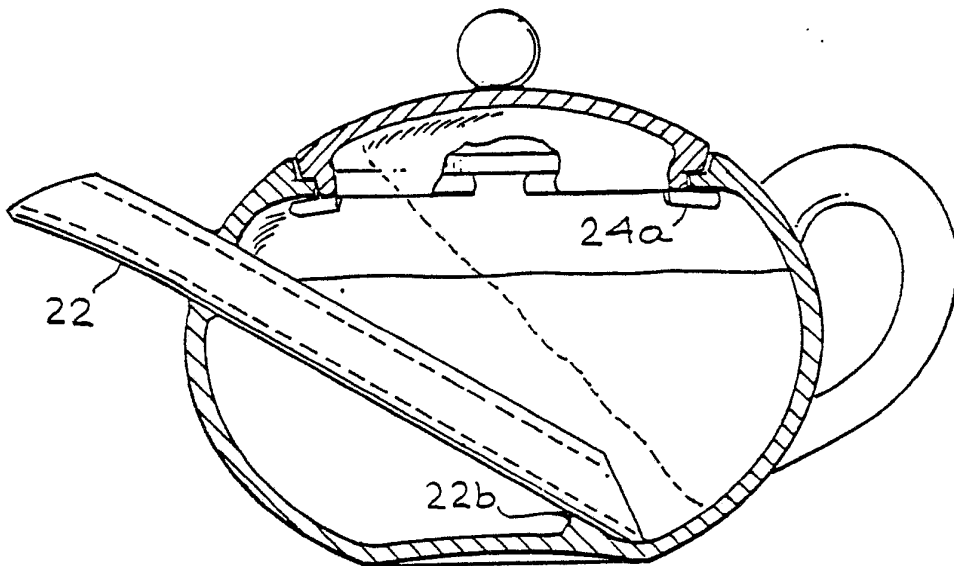
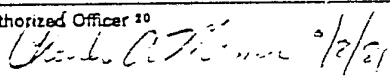


Fig. 5

INTERNATIONAL SEARCH REPORT

International Application No PCT/US81/00772

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³				
According to International Patent Classification (IPC) or to both National Classification and IPC				
Int. Cl. ³ G01F 11/26.				
U.S. Cl. 222/456.				
II. FIELDS SEARCHED				
Minimum Documentation Searched ⁴				
Classification System	Classification Symbols			
US	222/454-456,557.			
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵				
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴				
Category ⁶	Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹⁸		
X	US, A, 2,148,421, Published 28 February 1939, Allan.	1-3,5.		
X	GB, A, 837,681, Published 15 June 1960, Jacob.	1-2,4-5.		
A	GB, A, 394,807, Published 06 July 1933, Jackson.	1-2,9-10.		
A	GB, A, 241,722, Published 29 October 1925, Albert.	8-10.		
A	US, A, 3,980,210, Published 14 September 1976, Kligerman.	6.		
A	GB, A, 745,312, Published 22 February 1956, Myers.	6-7.		
A	DE, A, 2,219,582, Published 25 October 1973, Stefens.	6-7.		
	US, A, 1,482,126, Published 29 January 1924, Gibson.			
	US, A, 1,547,731, Published 28 July 1925, Boyer.			
	US, A, 1,919,582, Published 25 July 1933, Yasso.			
<p>⁶ Special categories of cited documents: ¹⁵</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <p>"A" document defining the general state of the art</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document cited for special reason other than those referred to in the other categories</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> </td> <td style="width: 50%; border: none;"> <p>"P" document published prior to the international filing date but on or after the priority date claimed</p> <p>"T" later document published on or after the international filing date or priority date and not in conflict with the application, but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance</p> </td> </tr> </table>			<p>"A" document defining the general state of the art</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document cited for special reason other than those referred to in the other categories</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p>	<p>"P" document published prior to the international filing date but on or after the priority date claimed</p> <p>"T" later document published on or after the international filing date or priority date and not in conflict with the application, but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance</p>
<p>"A" document defining the general state of the art</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document cited for special reason other than those referred to in the other categories</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p>	<p>"P" document published prior to the international filing date but on or after the priority date claimed</p> <p>"T" later document published on or after the international filing date or priority date and not in conflict with the application, but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance</p>			
IV. CERTIFICATION				
Date of the Actual Completion of the International Search ²	Date of Mailing of this International Search Report ²			
31 August 1981	17 SEP 1981			
International Searching Authority ¹	Signature of Authorized Officer ²⁰			
ISA/US	 Charles A. Marmer Examiner Art Unit 311			