



US00RE37137E

(19) **United States**  
(12) **Reissued Patent**  
**Ghidini**

(10) **Patent Number: US RE37,137 E**  
(45) **Date of Reissued Patent: Apr. 17, 2001**

(54) **MILK JUG WITH FROTH-FORMING DEVICE FOR MAKING "CAPPUCCINO" AND THE LIKE**

(75) Inventor: **Tiziano Ghidini, Lumezzane (IT)**

(73) Assignee: **Frabosk Casalinghi S.p.A., Lumezzane (IT)**

(21) Appl. No.: **08/921,204**

(22) Filed: **Aug. 27, 1997**

**Related U.S. Patent Documents**

Reissue of:

(64) Patent No.: **5,580,169**  
Issued: **Dec. 3, 1996**  
Appl. No.: **08/553,225**  
Filed: **Nov. 7, 1995**

(30) **Foreign Application Priority Data**

Nov. 22, 1994 (IT) ..... MI94U0771

(51) **Int. Cl.**<sup>7</sup> ..... **B01F 11/00**

(52) **U.S. Cl.** ..... **366/256; 366/333; 426/564**

(58) **Field of Search** ..... **366/130, 255-260, 366/315-317, 332, 333; 261/DIG. 16, 31, 32, 33, 82, DIG. 26; 99/297, 452, 460, 465; 426/564, 580, 569, 570**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

548,712	*	10/1895	Laney	.....	366/333	X
1,175,366	*	3/1916	Lucas	.....	366/333	
1,637,103	*	7/1927	Corwin	.....	366/130	
1,768,765	*	7/1930	Hogancamp	.....	366/258	
1,820,718	*	8/1931	Willems	.....	366/256	
1,881,361		10/1932	Killman	.		
1,998,692	*	4/1935	Van Rossem et al.	.....	366/333	
2,291,708	*	8/1942	Gluck	.....	366/260	
2,481,352	*	9/1949	Sabatella	.....	366/260	
2,513,577	*	7/1950	Malme	.....	366/256	
2,726,071	*	12/1955	Bernhardt	.....	366/256	

3,137,228	*	6/1964	Elow	.....	366/332	X
3,546,129	*	12/1970	Berg et al.	.....	261/DIG. 16	
4,010,934	*	3/1977	McCord et al.	.....	366/316	X
4,676,655	*	6/1987	Handler	.....	366/332	X
4,737,036	*	4/1988	Offermann	.....	366/130	
4,946,286	*	8/1990	Purkapile	.....	366/316	X
5,284,389	*	2/1994	Lumsden	.....	366/256	
5,887,511	*	3/1999	Cappellotto	.		

**FOREIGN PATENT DOCUMENTS**

384589	*	12/1931	(BE)	.		
333081	*	2/1921	(DE)	.		
0167423	*	1/1986	(EP)	.		
642130	*	8/1928	(FR)	.....	366/256	
965122	*	9/1950	(FR)	.		
1055182	*	2/1954	(FR)	.		
2474853	*	8/1981	(FR)	.....	366/243	
165229	*	6/1921	(GB)	.....	366/256	
237660	*	8/1925	(GB)	.....	366/256	
363543	*	12/1931	(GB)	.		
395548	*	7/1933	(GB)	.		

\* cited by examiner

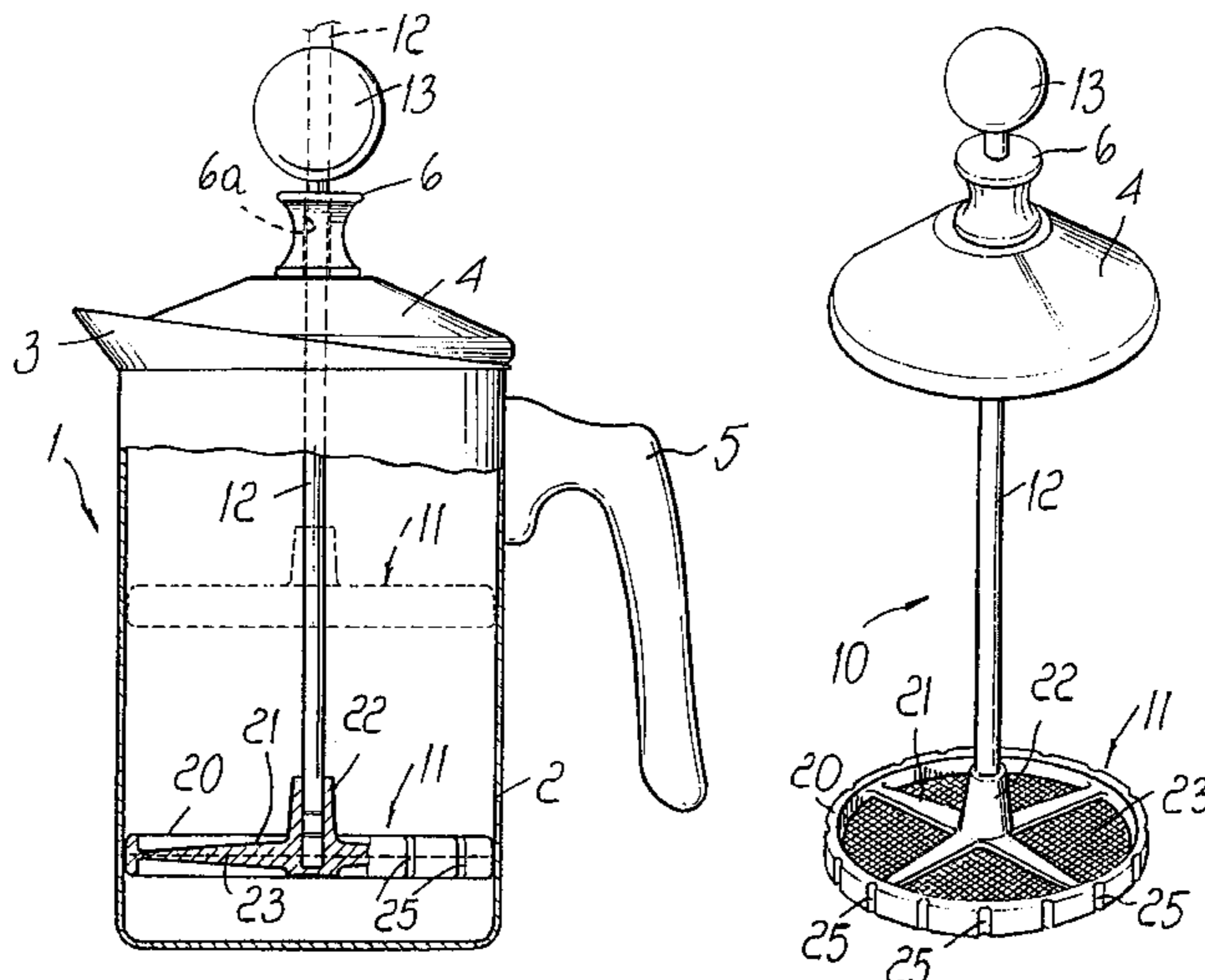
*Primary Examiner*—Charles E. Cooley

(74) *Attorney, Agent, or Firm*—Darby & Darby

(57) **ABSTRACT**

A milk jug with froth-forming device for making cappuccino and the like, including a container body that can be closed with a lid that supports and guides a froth-forming element, which is constituted by a plunger element associated with a rod that protrudes from the lid. The plunger element has a disk-like element formed by a circumferential rim that is connected, by spoke-like arms, to a central hub in which the rod is inserted. The spoke-like arms retain a mesh affecting the entire surface of the disk-like element, and the spoke-like arms decrease in thickness from the hub towards the outer rim to provide flexibility on the outer portion of the disk-like element so as to increase the inclusion of air particles inside the liquid upon a reciprocating motion of the plunger element.

**9 Claims, 1 Drawing Sheet**



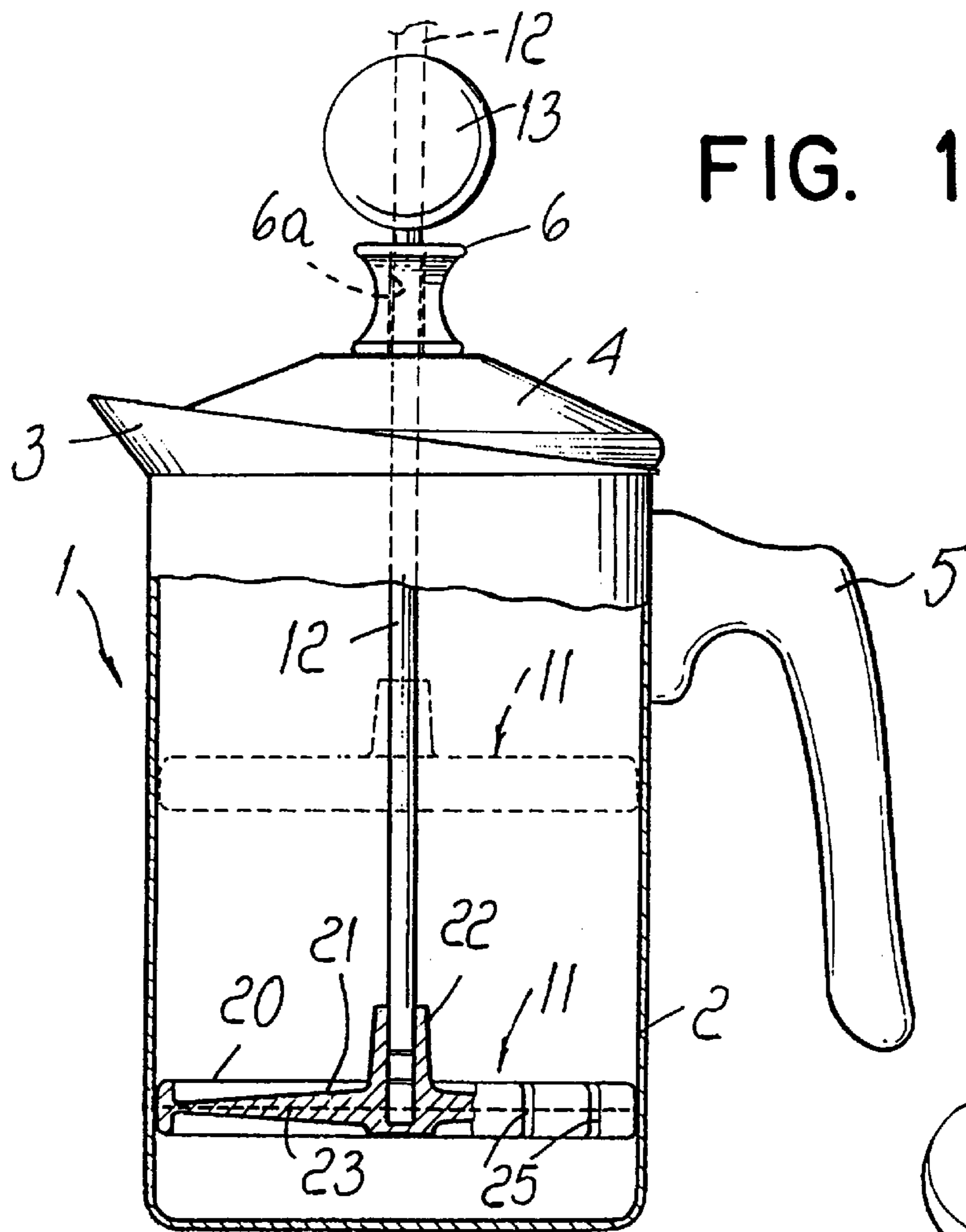


FIG. 1

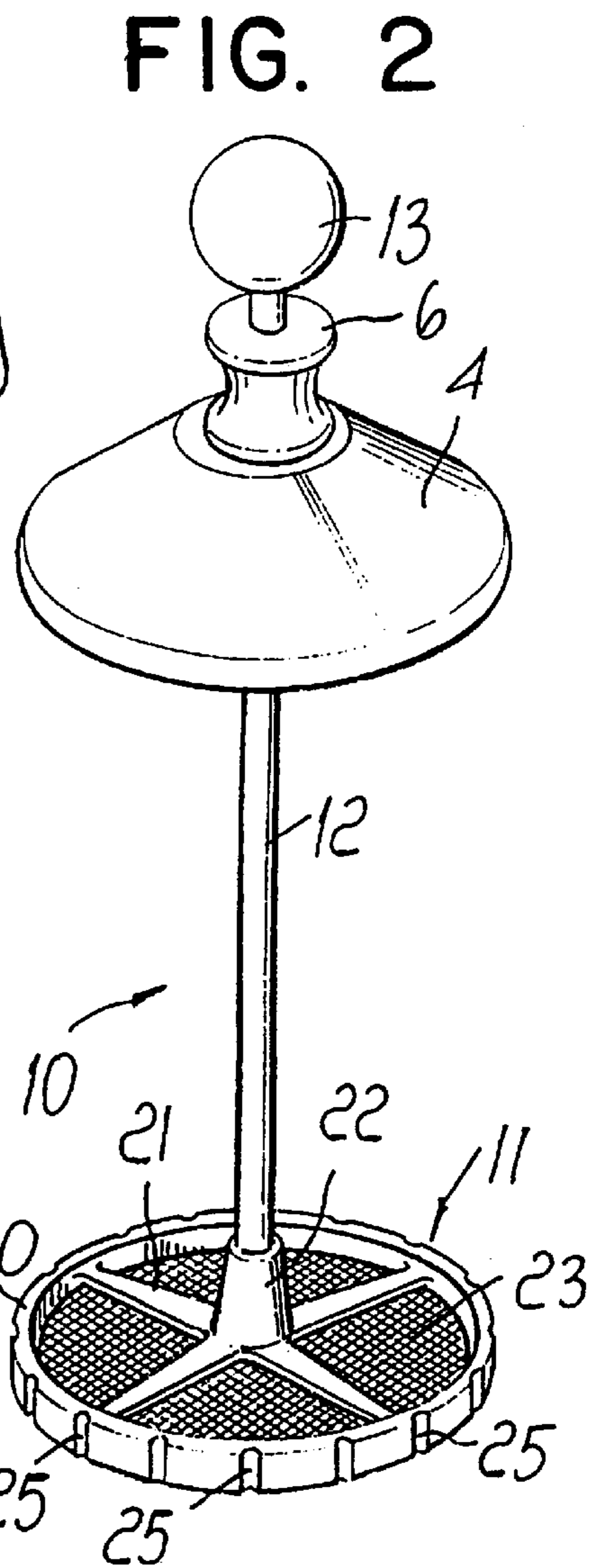


FIG. 2

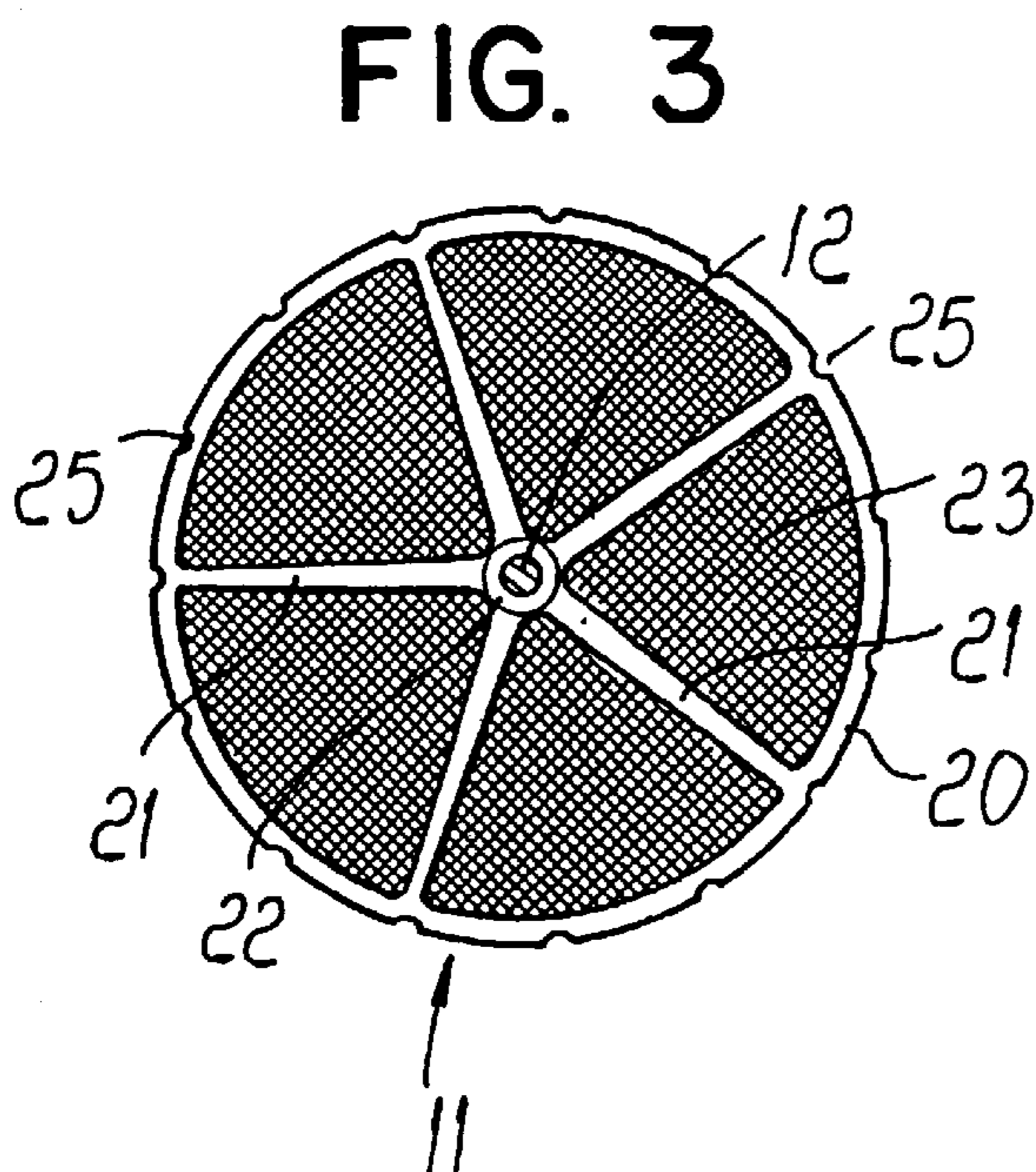


FIG. 3



**MILK JUG WITH FROTH-FORMING  
DEVICE FOR MAKING "CAPPUCCINO" AND  
THE LIKE**

**Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.**

**BACKGROUND OF THE INVENTION**

The present invention relates to a milk jug with a froth-forming device for making "cappuccino" and the like.

It is known that a steam jet having the purpose of emulsifying the milk is currently used to make beverages such as cappuccino and the like.

Of course, this type of application is usable only if a machine capable of generating the desired jet of steam is available.

Therefore, it is practically impossible to make a cappuccino in a household environment, since devices allowing to emulsify the milk in a quick and simplified manner are not currently available.

**SUMMARY OF THE INVENTION**

A principal aim of the present invention is to solve the above described problem by providing a milk jug with a froth-forming device for making cappuccino and the like that allows to emulsify the milk without having to resort to the use of a jet of steam.

Within the scope of the above aim, a particular object of the invention is to provide a milk jug having a simplified structure and allowing to obtain the froth with very simple actions that can be performed easily by anyone.

Another object of the present invention is to provide a milk jug with a froth-forming device for making cappuccino and the like which is capable of giving the greatest assurances of reliability and safety in use by virtue of its particular constructive characteristics.

Another object of the present invention is to provide a milk jug with a froth-forming device that can be easily produced starting from commonly commercially available elements and materials and is furthermore competitive from a merely economical point of view.

This aim, these objects, and others which will become apparent hereinafter are achieved by a milk jug with froth-forming device for making cappuccino and the like, according to the invention, characterized in that it comprises a container body that can be closed with a lid which supports and guides a froth-forming element, constituted by a plunger element associated with a rod that protrudes from said lid.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Further characteristics and advantages of the present invention will become apparent from the following detailed description of a milk jug with froth-forming device for making cappuccino and the like, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

FIG. 1 is a partially cutout view of the jug according to the invention;

FIG. 2 is a perspective view of the froth-forming element;

FIG. 3 is a plan view of the plunger element.

**DESCRIPTION OF THE PREFERRED  
EMBODIMENTS**

With reference to the above figures, the milk jug with froth-forming device for making cappuccino and the like,

according to the invention, is generally designated by the reference numeral 1 and comprises a container body 2 preferably but not necessarily made of stainless steel and having a cylindrical shape. Possibly a beak 3 shaped like an inclined plane that is formed monolithically with the container body 2 may be provided, and furthermore the body 2 can be equipped with a gripping handle or handgrip 5 made of heat insulating material.

A lid 4 can be coupled to the container body and is also preferably made of stainless steel; its size is such that it is associable with the inside of the body 2 by simply pressing.

The lid 4 acts as a supporting and guiding element for a froth-forming element, generally designated by the reference numeral 10, that is advantageously constituted by a plunger element 11 connected to a rod 12 that passes through the lid 4 and ends with a grip knob 13, preferably made of a heat insulating material.

In order to facilitate the actuation, a finger-bearing element 6, made of heat insulating material, is provided on the lid 4 in the passing zone of the rod 12; further to providing a finger rest, the element 6 also forms a through guiding channel 6a for the rod.

The plunger element 11 has a disk-like body formed by a circumferential rim 20 that is connected, by means of spoke-like arms 21, to a central hub 22, in which the rod 12 is inserted.

The spoke-like elements 21 retain a mesh 23 affecting the entire surface of the disk-like element and decrease in thickness from the hub towards the outer rim 20.

The outer rim or ring 20 has a diameter that substantially matches the inside diameter of the container body 2 and is provided, on the outer part, with a plurality of recesses 25 that allow the flow of liquid in addition to the liquid that passes through the mesh 23.

In practical use, by subjecting the plunger element 11 to a reciprocating motion, the liquid is forced to pass through the disk-like body, consequently emulsifying the air inside said liquid and producing the froth or cream.

To pour out the cream obtained, the lid 4 is removed by using the finger-bearing element 6, while the plunger 11 may be used in order to facilitate the outflow of the cream.

With the above described jug it is therefore possible, with extremely simple means and with an action that consists simply of a reciprocating motion of the plunger element, to emulsify the liquid by including air inside it, thus producing the typical froth used to make cappuccino and the like.

From the above description it is thus evident that the invention achieves the intended aim and objects, and in particular the fact is stressed that the particular structure of the disk-like element, which has tapering spokes, allows to provide flexibility on the outer portion of the disk-like body, further increasing the inclusion of air particles inside the liquid.

In practice, the materials employed, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to the requirements.

What is claimed is:

1. A milk jug with a froth-forming device, said device comprising:

- a container body for containing a liquid;
- a lid for closing said container body; and
- a froth-forming element guidingly supported by said lid, said froth-forming element including a plunger element slidably positioned inside said container body, said



3

plunger element being connected to a rod, said rod slidingly protruding from said lid;

wherein said plunger element has a disk-like body, said disk-like body comprising an outer ring, said ring being connected, through spoke-like arms, to a central hub connected to said rod;

and wherein said disk-like body has, on a main surface thereof, a mesh, said mesh being supported by said outer ring and said spoke-like arms;

and wherein said spoke-like arms have a cross-section that decreases from said hub towards said outer ring in a tapered manner such that the outer portion of the disk-like body flexes during a reciprocating motion of said plunger element inside said container body in order to increase the inclusion of air particles inside the liquid.

2. Jug according to claim 1, further comprising a finger-bearing element positioned on said lid.

3. Jug according to claim 2, wherein said finger-bearing element is made of a heat insulating material.

4. Jug according to claim 2, wherein said finger-bearing element forms a through channel for guiding said rod.

5. Jug according to claim 1, wherein said outer ring has an external peripheral region in essential sliding contact with the internal surface of said container body, said external peripheral region being provided with recesses for allowing an additional flow of liquid said recesses during a reciprocating movement of said plunger element.

4

6. A method for producing froth from hot milk for making cappuccino comprising the steps of:

placing a body of hot liquid milk in a container; and moving an element through said body of milk in a reciprocating motion to emulsify the milk to produce the froth;

wherein said element comprising a flat screen having an outer peripheral frame that conforms to the shape of and engages the inner surface of the container and said moving step comprises reciprocating said flat screen back and forth through said body of milk to force the hot milk to pass through the flat screen to emulsify said body of hot milk with the air present in the container to produce the froth.

7. A method as in claim 6 wherein during said moving step said screen is generally transverse to the longitudinal axis of said container during reciprocation.

8. A method as in claim 6 wherein said frame has a number of recessed passages on its outer periphery and said emulsifying step further comprising flowing milk from said body of hot milk through said recessed passages as said element is reciprocated.

9. A method as in claim 6 wherein said screen is of the mesh type.

\* \* \* \* \*