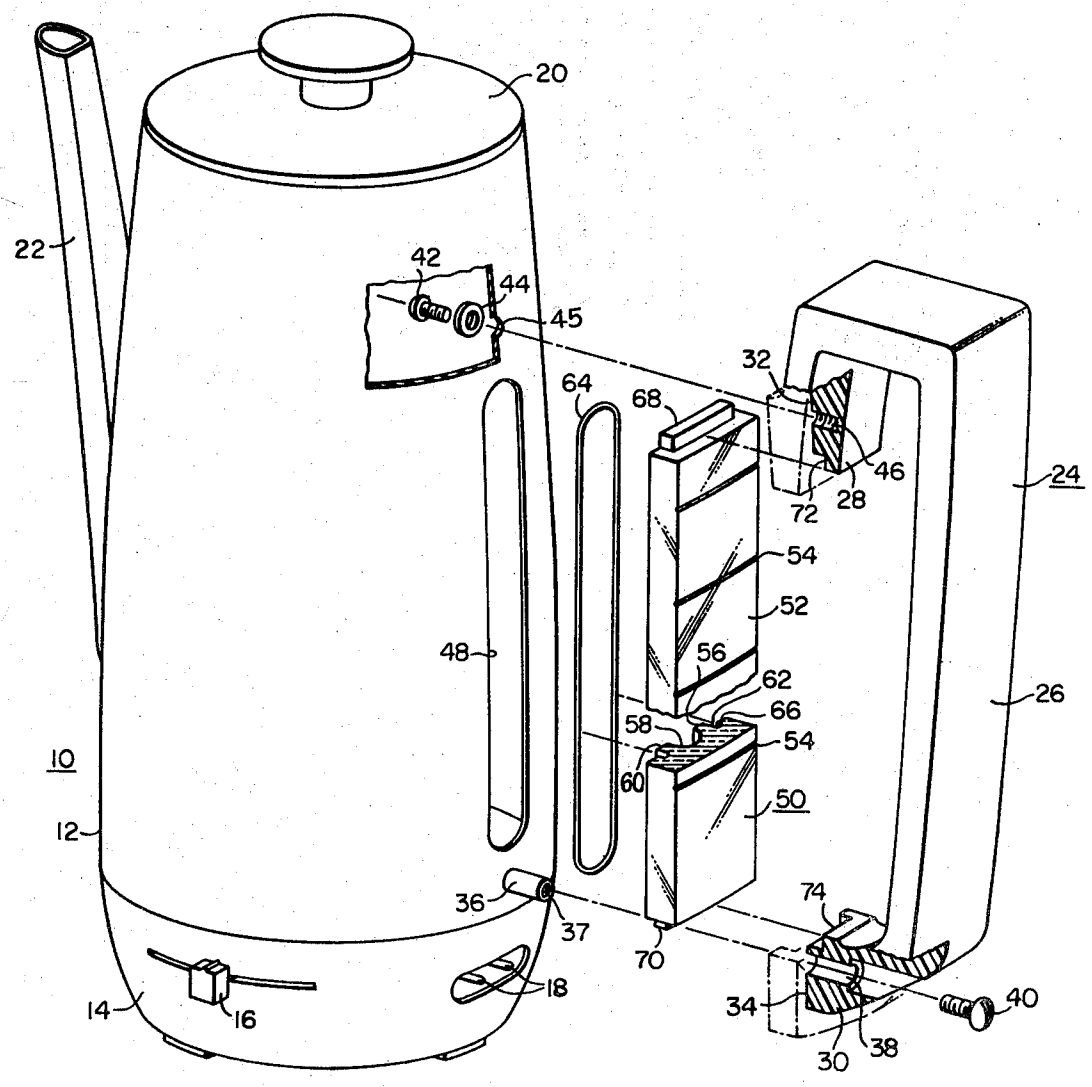
Feb. 13, 1973 J. R. CHIVERS 3,716,169

LIQUID LEVEL WINDOW FOR COFFEEMAKERS

Filed May 11, 1971



WITNESSES

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United States Patent Office 3,716,169 Patented Feb. 13, 1973

3,716,169

LIQUID LEVEL WINDOW FOR COFFEEMAKERS

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Filed May 11, 1971, Ser. No. 142,301
Int. Cl. B67d 5/38
U.S. Cl. 222—157 2 Claims

ABSTRACT OF THE DISCLOSURE

The invention provides a handle and liquid level window assembly for a coffeemaker characterized by a transparent or translucent molded plastic window overlapping an elongated aperture in the coffeemaker and secured in proper sealing relationship by the coffeemaker handle and its associated mounting means.

BACKGROUND OF THE INVENTION

Description of the prior art

It is well known in the coffeemaker art to provide a clear tube, as part of a handle assembly, which extends into the interior of the pot and is in fluid communication therewith, to visually indicate the level of the water or coffee within the pot. Such tubes generally, over the life of the pot, become soiled and discolored by the water and coffee and because they are generally difficult, if not impossible to clean, become useless for the purpose intended. (For example, see U.S. Pat. 3,049,922.)

Also, it is well known in the art to provide one or a plurality of apertures in the wall of the coffeemaker covered by a clear glass or plastic window which permits visual indication of the liquid level therein and provides an interior surface generally flush with the interior surface of the coffeemaker so that it can be easily washed. However, windows of this latter type generally required an additional assembly step in the manufacture of such coffeemakers during which the assembly had to be carefully handled to insure a good seal between the window and the container. (See for example U.S. Pat. 3,217,923.) In the highly competitive field of coffeemakers, such added handling produced a burdensome expense. The net result was that neither solution was entirely satisfactory and although liquid level indicators on a coffeemaker were a recognized convenience, neither solution was generally well accepted.

The present invention provides a liquid level indicator more closely associated with the latter mentioned type in that it comprises a transparent or translucent window overlying an elongated aperture in the container wall. Thus, it is easy to clean as its interior surface is as accessible as the interior surface of the coffeemaker. However, the window is associated with and properly positioned by the coffeemaker handle such that it is securely and properly assembled onto the coffemaker by the same means through which the handle is mounted, and which is a necessary assembly step irrespective of whether the window is present or not.

The window has a shoulder portion which engages, in overlapping relationship, the exterior surface of the container about the periphery of the elongated aperture in an intimate facing engagement and provides a surface for supporting a sealant such as a compressible O-ring or a hydrophobic plastic sealant.

SUMMARY OF THE INVENTION

A transparent or translucent window or sight glass, preferably molded of a plastic material, is provided which is attached to the coffemaker container and overlying an elongated aperture therein. A molded plastic handle is also provided and is specifically adapted to receive, in a nested relationship, opposite extremities of the window. The attaching force is provided by typical handle mounting means and a hydrostatic seal is provided between the container and the window by either an O-ring gasket of resilient material or a hydrophobic plastic sealant on a peripheral shoulder of the window which overlaps the adjacent facing wall of the container. The window also has an inwardly projecting lip generally contiguous to the periphery of the aperture which in cooperation with the handle mounting means properly indexes the window and handle for assembly on the container.

DRAWING DESCRIPTION

The figure is an exploded isometric of a coffeemaker with the handle and window assembly of the present invention and having portions broken away for clarity.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawing, a typical coffeemaker **10** is shown generally comprising a cylindrical container **12** and a molded plastic base **14** attached thereto at the bottom. The base **14**, in automatic coffeemakers, generally houses a heater and thermostat (not shown) and means for controlling the termination of the brew cycle coupled to an adjustable lever **16**. Electricity is supplied through the male prongs **18** by a detachable female plug (also not shown).

The cylindrical container **12** is contoured in its longitudinal direction to provide a somewhat convex surface generally tapering towards the top end which is closed by a removable lid **20**, for access to the interior. One side of the wall of the container **12** supports a spout **22** through which the coffee or contents of the container is poured and diametrically opposed is mounted a handle **24** for manipulating the coffeemaker.

The handle **24**, as is generally the case, is a molded plastic bail member having an intermediate portion **26** for gripping and opposite end portions **28** and **30** providing faces **32** and **34** contoured for intimate engagement of the wall of the container when in proper assembled position. The assembly of the handle **24** to the container **12** is indexed by a short stud **36**, welded to the container wall and having a blind tapped aperture **37**, received in a mating aperture **38** in end **30** of the handle. A headed screw **40** is inserted through aperture **38** and screwed into stud **36** to secure the lower end of the handle onto the container.

The upper end **28** of the handle is secured by another headed screw **42** inserted through a sealing washer **44** and aperture **45** in the container from the internal side of the container and received in a threaded mating aperture **46** in the upper end of the handle.

An aperture **48** is provided in the container which is elongated in the axial direction and terminates at each end generally adjacent the position the respective ends **28** and **30** of the handle would assume when properly assembled.

A transparent or translucent window **50**, preferably molded from plastic such as a polycarbonate, is provided to cover the aperture **48** and overlap the container **12**. More specifically, the window **50** is defined by a rectangular part which is slightly concave in both dimensions to generally conform to the rounded contour of the container and having a substantially smooth outer face **52** with space apart transverse notches **54** which provide, in the final product, indicia as to the amount of liquid in the container.

The inner face **56** of the window **50** has a sharp semicircular (as viewed in transverse cross-section) notch **58** extending substantially the length of the window and

bounded by a peripheral lip **60** extending beyond the general plane of the rear surface of the window having an outer dimension which is generally contiguous with the dimension of the aperture **48** so the lip **60** can be received within the aperture in indexing arrangement. Further outwardly from the lip, the surface **56** defines a peripheral groove **62** for receiving a resilient O-ring or gasket **64**. The remainder of the inner surface **56** provides a generally flat shoulder area **66** facing the container.

Tab members **68** and **70** extend respectively from the top and bottom extremities of the rectangular window, and in the assembled positions are adjacent the top and bottom end portions **28** and **30** of the handle whose faces **32** and **34** further define notches **72** and **74** for receiving the tabs **68** and **70** in a nested interlocking relationship.

Thus, it is seen that the window **50** is assembled and secured by initially inserting the O-ring **64** in the groove **62** with the window then properly positioned over the aperture **48** as indexed by lip **60** received within the aperture **48**. The handle **24** is next positioned over the window with stud **36** received in aperture **38** while the two tabs **68** and **70** of the window are received in notches **72** and **74**. Screws **40** and **42** are then inserted in their respective apertures and tightened, drawing the handle towards the container and, in turn, compressing the resilient O-ring to effect a hydrostatic seal between the window and the container about the aperture, and, at the same time, securing the handle to the container.

It is evident that once the window with the O-ring mounted thereon has been properly positioned over the elongated aperture, easily accomplished by the indexing lip, further assembly of the handle is identical to prior assembly of the handle alone; however, this now further effects the seal and secures the window.

From what has been described it is further apparent apparent that the handle and window could be unitarily molded as a single article, retaining its general overall appearance, but being joined at what are common surfaces when molded as two separate articles. However, the embodiment shown is preferred in that it allows relative initial movement between the handle and window so that the handle can be indexed by the mounting means and the window indexed by the elongated aperture, generally permitting greater tolerances in the dimensions of the component parts.

What is claimed is:

1. A handle and liquid level window assembly in combination with a coffeemaker comprising a generally cylindrical container having a sidewall defining an elongated aperture, said assembly comprising:

handle means for said coffeemaker defining a bail member with each end of said member providing a surface facing said container and defining a notch portion adjacent the surface;

window means overlying said aperture and having a peripheral shoulder overlapping the sidewall adjacent said aperture, tab members at each end of the window, the tab members being received respectively into the notch portions in a nested relationship to properly index the window with respect to said handle, the window means further defining means extending into said aperture and cooperating with said aperture to properly index said window in said overlying position;

means disposed between said shoulder of said window and said sidewall to provide a hydrostatic seal therebetween; and

means for attaching each end of said bail member to said container, said attaching means also perfecting said hydrostatic seal.

2. A coffeemaker comprising a generally cylindrical container, a spout extending from the wall of the container and handle means attached to the wall generally diametrically opposed to said spout wherein the improvement comprises:

said wall supporting said handle defining a longitudinal aperture;

the handle being formed with a pair of notch portions disposed in the respective ends of the said handle and facing said container;

window means generally overlying said aperture and having a peripheral shoulder in facing relationship to the exterior surface of the wall defining said aperture;

a pair of tab members on said window, each tab member extending from opposed extremities of said windown generally adjacent said notch portions whereby said tab members are received in said notch portions in a nested relationship to properly index the window with respect to said handle, means extending into said aperture and cooperating with said aperture to properly index said window overlying said aperture;

means disposed between said shoulder and said surface to provide a hydrostatic seal therebetween; and

means for securing said handle to said container, said securing means further perfecting said seal between said window and said surface.

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U.S. Cl. X.R.

220—82 R; 222—465