



NMO

[1941.]

III(2)

Pursuant to section 12 of the Weights and Measures Act 1985

Certificate No 1941 Revision 2

Issued by:

NMO

In accordance with the provisions of section 12 of the Weights and Measures Act 1985, the Secretary of State for Business, Innovation & Skills has issued this UK national type-approval certificate to:

U-Group Ltd
1277 Coventry Road
Yardley,
Birmingham.
B25 8BP.

And hereby certifies as suitable for use for trade the following pattern of a spirit-measuring instrument for use in dispensing intoxicating liquor in fixed quantities of 25 ml.

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

Under the provisions of section 12(6) of the said Act, the validity of this certificate is limited as shown below.

Under the provisions of section 12(5) of the said Act, this certificate is subject to the conditions described in the descriptive annex.

Note: This certificate relates to the suitability of the equipment for use for trade only in respect of its metrological characteristics. It does not constitute or imply any guarantee as to the safety of the equipment in use for trade or otherwise.

This revision replaces previous versions of the certificate.

Issue Date: 6 May 2016
Valid Until: 5 May 2026
Reference No: T1115/0008

G Stones
Technical Manager
For and on behalf of the Head of Certification Body

1 INTRODUCTION

This pattern of a liquid measuring instrument is the same as that described in Certification No 1941 [Figure 1] & 1941/1, and is for use in measuring intoxicating liquor in fixed quantities of 25 ml. The instrument is supplied from an inverted bottle connected to its inlet and dispenses when a cross-arm at the delivery port is raised to its maximum. A transparent chamber displays the complete charging and discharging of the instrument.

2 CONSTRUCTION [Figure 2]

2.1 Mechanical

2.1.1 The instrument is constructed largely from plastics. The two springs, one to operate the air valve the other to return the central spindle are made of metal. The measuring cup is made from SAN, polystyrene, polycarbonate, or other suitable plastic. Silicone "O" rings are used to control the sealing during actuation of the instrument.

2.1.2 A central spindle, consisting of a delivery tube (1) and an upper spindle (2) extends through the cup (3) from the inlet port in the head (4) at the top of the cup to an outlet port at the base of the cup. At its upper end the spindle is splined to provide two longitudinal inlet passages through the inlet port and immediately beneath the splines the spindle has a cylindrical land (5) for blocking the inlet port. An 'O'-ring (6) around the land improves the sliding seal between the spindle and the inlet port when the central spindle is moved upwards to its actuating position.

2.1.3 The upper spindle has a moulded rim (7) beneath the 'O'-ring seal which actuates an air valve (8) in the head to admit air into the cup as the instrument drains.

2.1.4 At its upper end the delivery tube is formed as a cylindrical valve land for blocking the outlet port. A cross-bore (9) leads to an axial discharge bore (10).

2.1.5 At its lower end the delivery tube is flanged to accept a press fit operating bar (11). The underside of the flange has a conical recess and the operating bar has a conical projection to fit this. The operating bar is so formed that when not actuated there is a small annulus between the delivery tube and the operating bar. This traps any liquid dripping from the instrument after a delivery has been made. When the instrument is operated initially the operating bar slides up the delivery tube, the two cones mate, and any trapped liquid is expelled.

2.1.6 The underside of the cup is counterbored to take an "O" ring (12) that provides the lower seal of the instrument. The "O" ring provides a seal between the cup and the discharge tube. It is held in place by the collar (13), operating spring (14), and spacer (15). When not actuated the cross bore in the delivery tube is positioned below the "O" ring. Actuating the instrument brings the cross-bore above the "O" ring, allowing the instrument to drain.

2.1.6 The underside of the cup is counterbored to take two 'O'-rings (12) that provide the lower seal of the instrument. The two 'O'-rings provide a seal between the cup and the discharge tube. They are held in place by the collar (13) and operating spring (14) and are separated by a spacer piece (15). When not actuated the cross-bore in the delivery tube is positioned between the two 'O'-rings. Actuating the instrument brings the cross-bore above the upper O-ring, allowing the instrument to drain.

2.1.7 The cup is ultrasonically welded to the head removing the possibility of tampering with or dismantling the instrument.

2.2 Legends

The capacity legend, 25 ml, is durably marked on the measuring bowl, the numbers and letters being a minimum of 5 mm high. The manufacturer's legend CENTEK EXPRESS is marked in letters 5 mm high on a label affixed to the collar. This label also carries the manufacturer's name and address and the approval number.

2.3 Sealing

2.3.1 The instrument is ultrasonically welded during manufacture and cannot be dismantled serviced or adjusted after construction. It is therefore not necessary to seal the instrument.

2.3.2 Stamping is achieved by durably marking the side of the support bracket (16).

3 OPERATION

With the measuring chamber fully charged with liquid the operator pushes the operating bar upwards. Initially any liquid trapped between the outlet tube and operating bar is delivered. Then the inlet seal, and valve land, enters the inlet port ensuring no further liquid enters the cup. The rim on the central spindle then pushes up the air valve allowing air to enter the instrument as the liquid is dispensed. As the spindle continues upward the cross-bored port is revealed, and the outlet path for the liquid is opened, and the liquid begins to drain from the instrument, being replaced by air entering via the air valve. The upward movement of the spindle ceases when the guide bush abuts the head (4). When the instrument is fully drained the operator releases the upward pressure on the operating bar. With the downward movement of the spindle the cross-bored port and then the air valve are closed. Finally the inlet valve seal emerges from the inlet port and the instrument recharges with liquid.

4 AUTHORISED ALTERNATIVE

4.1 The instrument may be arranged to dispense alternative capacities of 35 ml, 50 ml or 70 ml by having either a different size upper spindle fitted during manufacture or a different size cup [Figure 3]. The capacity legend is changed accordingly.

4.2 Having the stamping achieved by using a wire and lead seal, a hole being provided in the support bracket (16) to take the wire .

4.3 Having the stamping achieved by the application of a hot stamp or by sand blasting onto the support bracket (16) provided that the method used is compatible with the material chosen for the support bracket.

4.4 Having a mechanical counter which increments with each operation of the instrument. The collar (13) is extended and houses the counter which may be forward or side facing.

4.5 Having the operating bar (11) replaced by a lever mechanism [Figure 4].

4.5.1 The lever body may be an integral part of the collar (13) or clamped to it, in either case the collar is rigidly attached to the measure. An advertising plaque may be attached to the lever body.

4.5.2 The lever allows full travel of the spindle in both directions.

4.5.3 No part of the lever assembly or associated advertising obscures the sight glass in any way.

4.6 Having the stamp achieved by cold stamping onto the plastic support bracket (16).

4.7 Having a shoulder on the cylindrical land (5) of the spindle which defines the limit of vertical travel.

4.8 Having the operating bar (11) replaced by an alternative lever mechanism [Figure 8]. The lever body is an integral part of the collar (13) which is rigidly attached to the measure. The lever allows full travel of the central spindle (1 & 2) in both directions. No part of the lever assembly obscures the sight glass in any way.

4.9 Having a modified version of the instrument [Figure 5] designed to dispense wine, in fixed quantities of 125 ml, as described below.

4.9.1 Construction [Figure 7]

4.9.1.1 Mechanical

4.9.1.1.1 Having a larger sight glass cup (1) which is manufactured in two pieces, from a suitable plastic. The two pieces are ultrasonically welded together to form the measuring chamber. The head (2), which incorporates the support bracket (3), is ultrasonically welded to the cup to form a tamperproof assembly. The top plate (4) is fitted to the head and secured by integrally moulded clips to form the head assembly, which incorporates the air valve (5). The spindle is manufactured in plastic and has a shoulder on the cylindrical land (6) of the spindle which defines the limit of the vertical travel.

4.9.1.1.2 The wall thickness of the cup is thickened at the top edge to create an optical effect whereby the upper part of the measuring chamber is visible.

4.9.1.2 Legends

The capacity legend is durably marked on the sight glass cup in characters not less than 5 mm in height. The certificate number, manufacturers name and model number are located on an adhesive label placed around the ferrule (7).

4.9.1.3 Sealing and stamping

4.9.1.3.1 The instrument is ultrasonically welded to form a tamperproof, non-repairable assembly which does not require sealing.

4.9.1.3.2 The stamp shall be applied by the application of a hot or cold stamp or by sand blasting onto the support bracket, provided that the method used is compatible with the material of the support bracket.

4.9.2 Authorised alternatives

4.9.2.1 Having an operating arm whose body is extended in length, as shown in Figure 6, when the instrument is intended for use in a wine cabinet. In such applications the cabinet shall not obscure the sight glass.

4.9.2.2 Having the stamping achieved to a lead seal enclosing a knot of nylon monofilament, which passes through the head and the top plate.

CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
1941 Revision 1	05 October 2009	Change of applicant details and Consolidation of Cert 1941 and Cert 1941/1, including associated ammendments into one certificate. Amendments to sections: 2.1.1, 2.1.6, 2.2, 2.3.2, 3, 4.4, 4.5, 4.7.1, Addition of section: 4.9 (previously 1941/1 with amendments to text)
1941 Revision 2	06 May 2016	Change of applicant details to U- group from Express moulds, certificate renewed for 10 years



Figure 1 **Measuring unit**

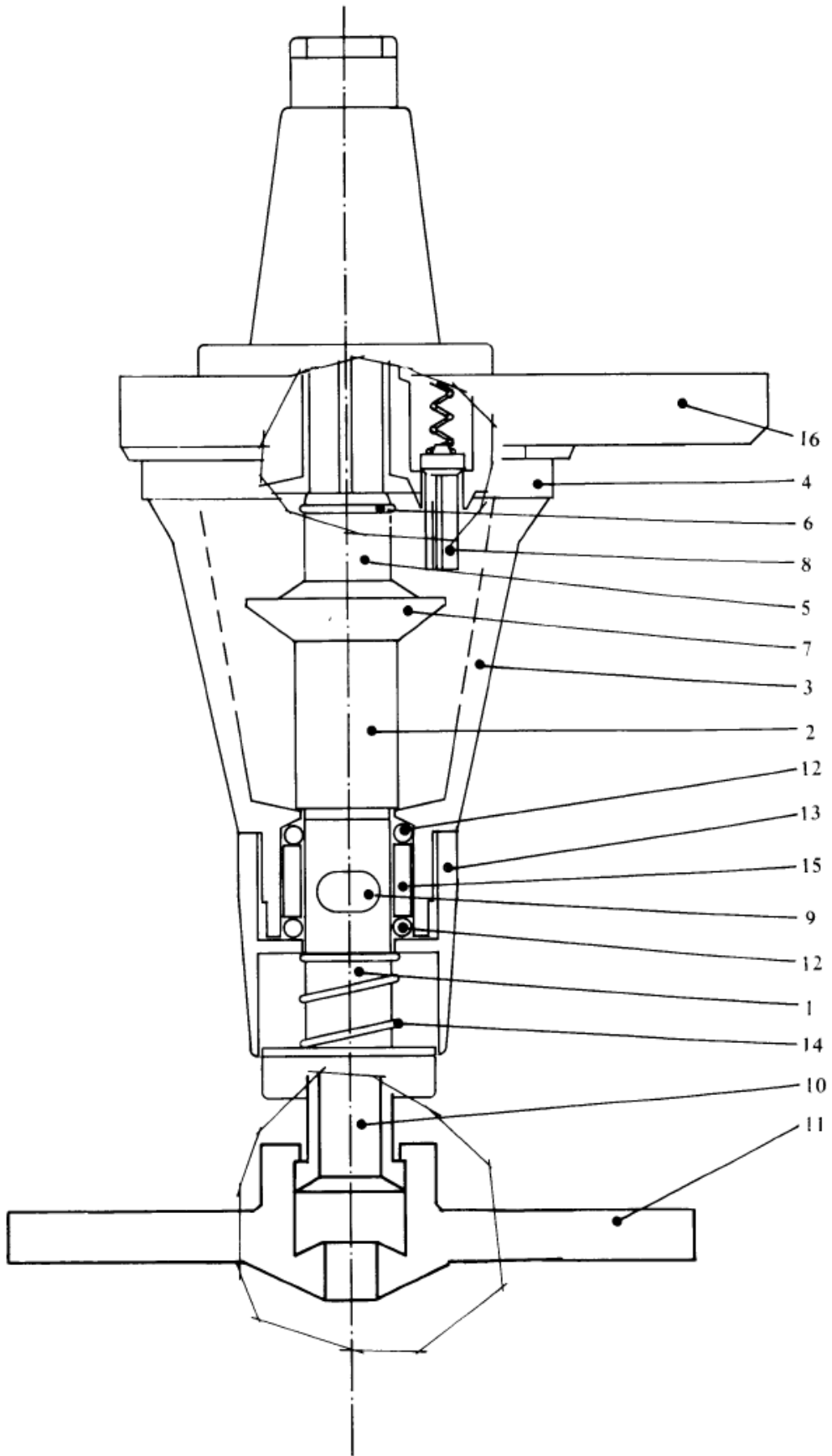


Figure 2 Measuring unit general assembly arrangement

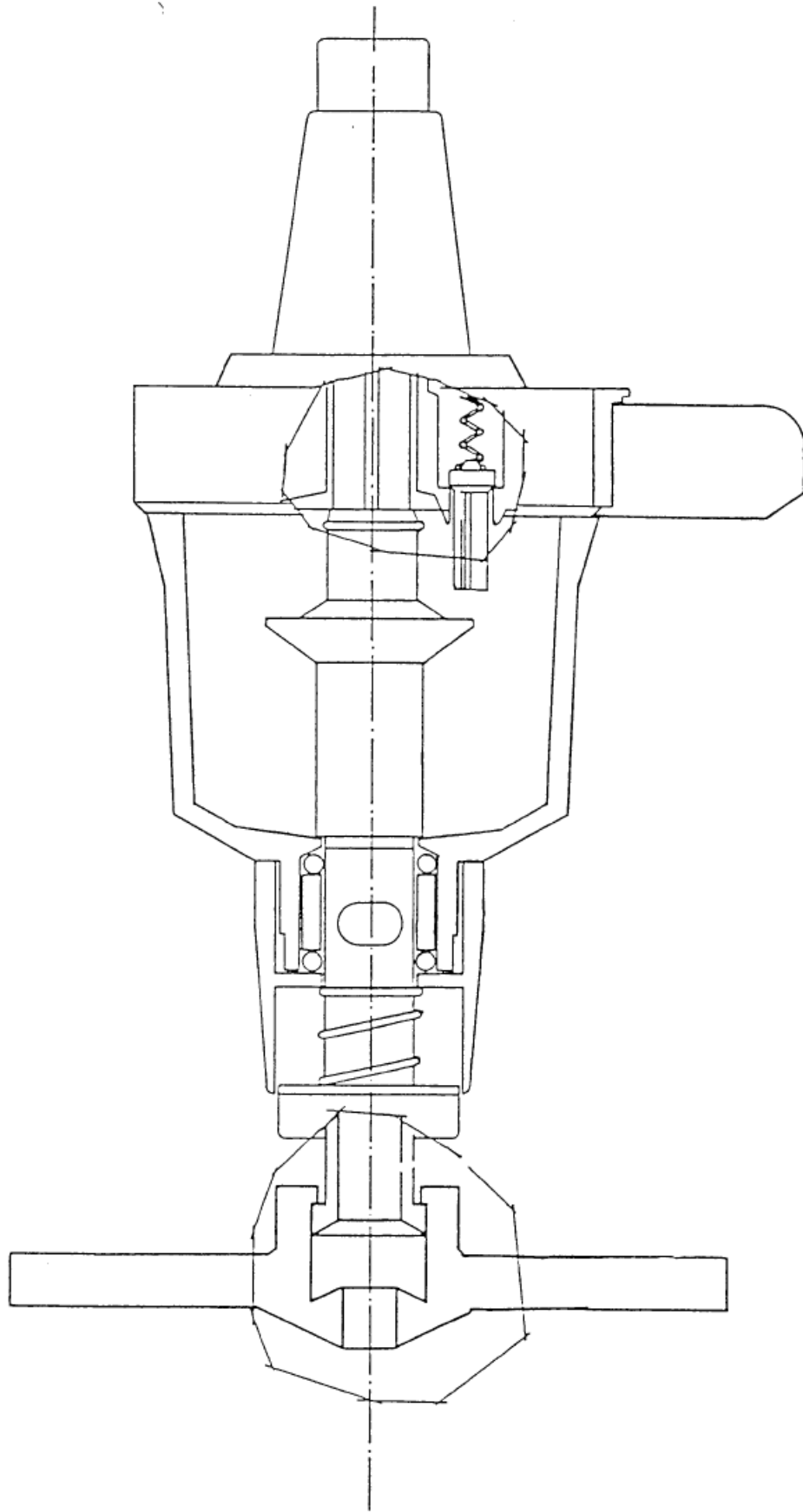


Figure 3 Different size cup for larger capacity measure

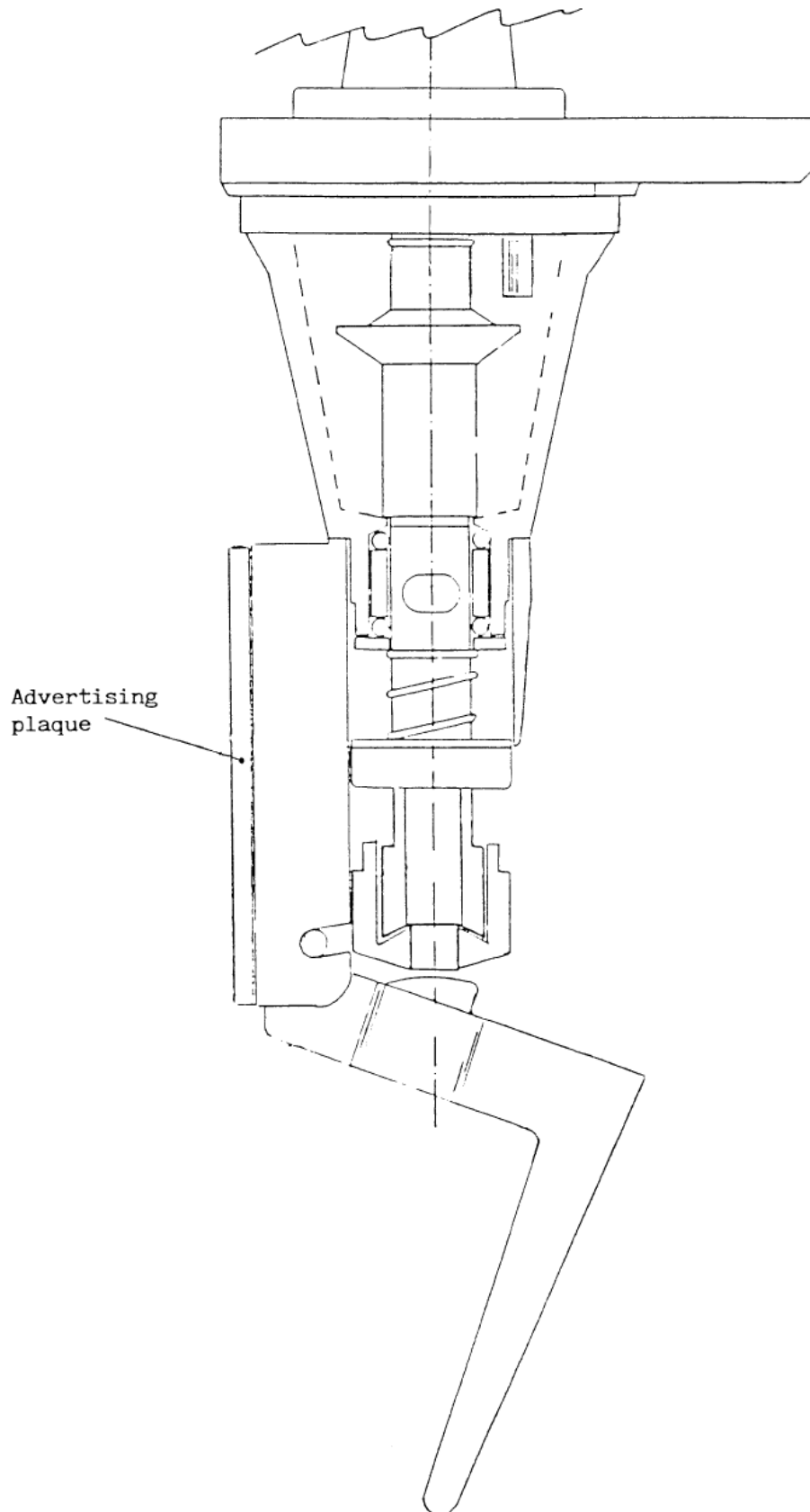


Figure 4 Lever mechanism and advertising plaque

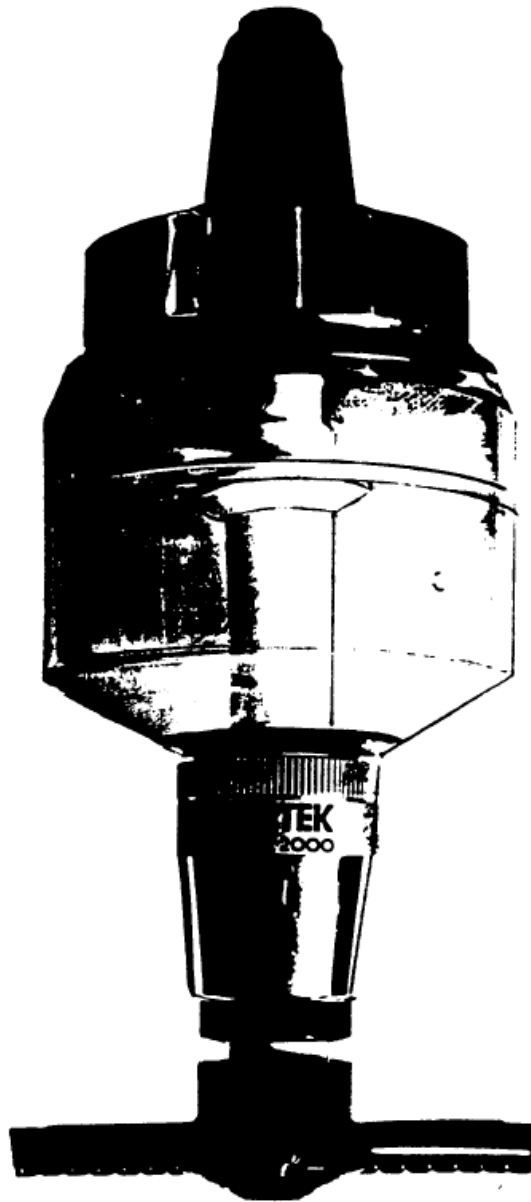


Figure 5 Wine measure 125 ml

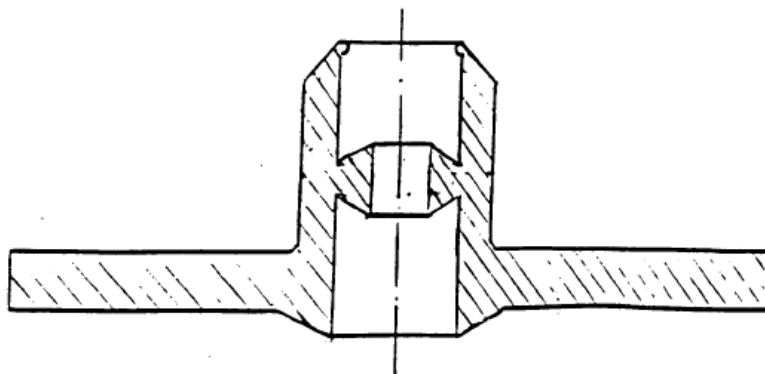


Figure 6 Alternative operating arm

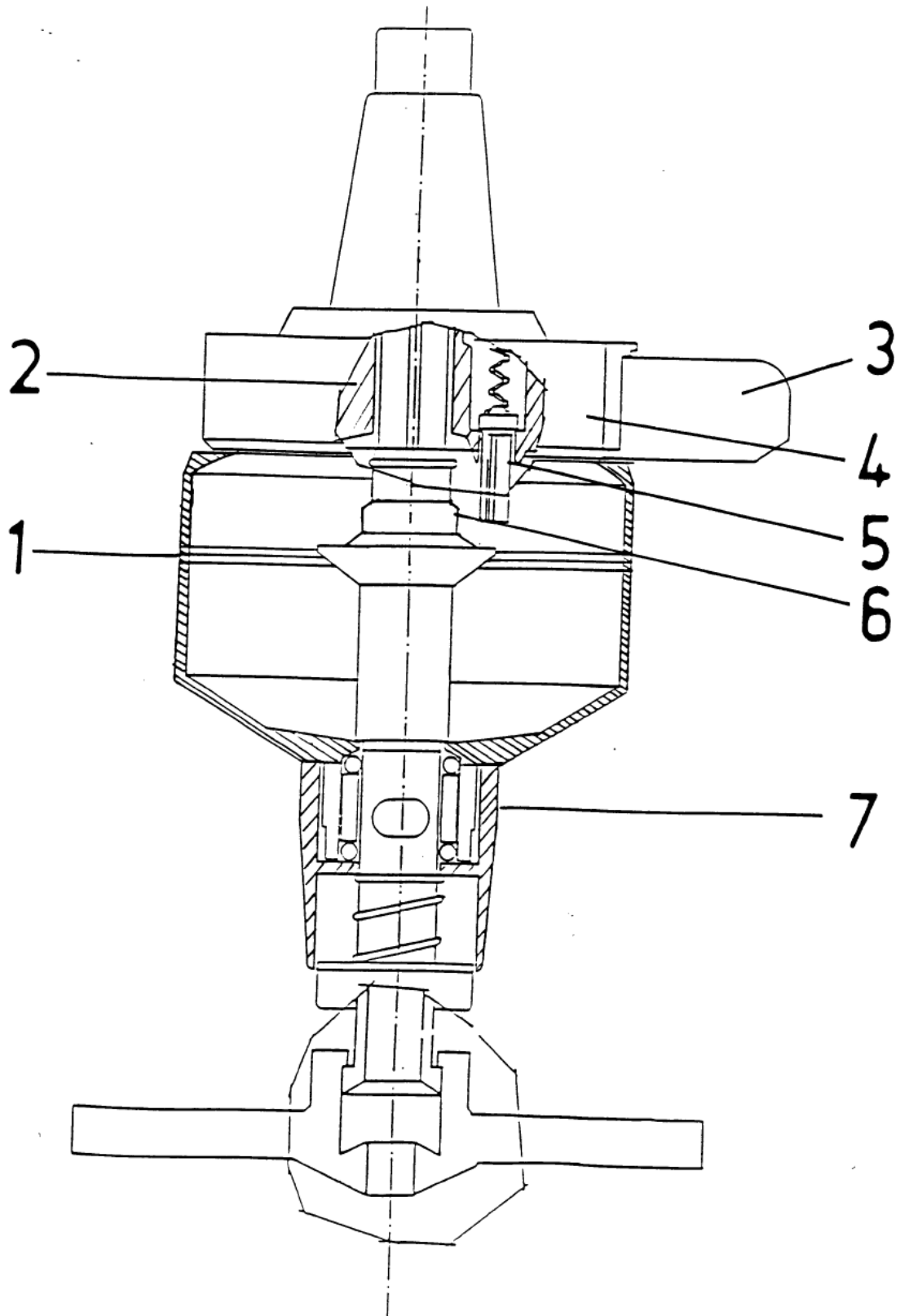


Figure 7 Wine measure general assembly arrangement

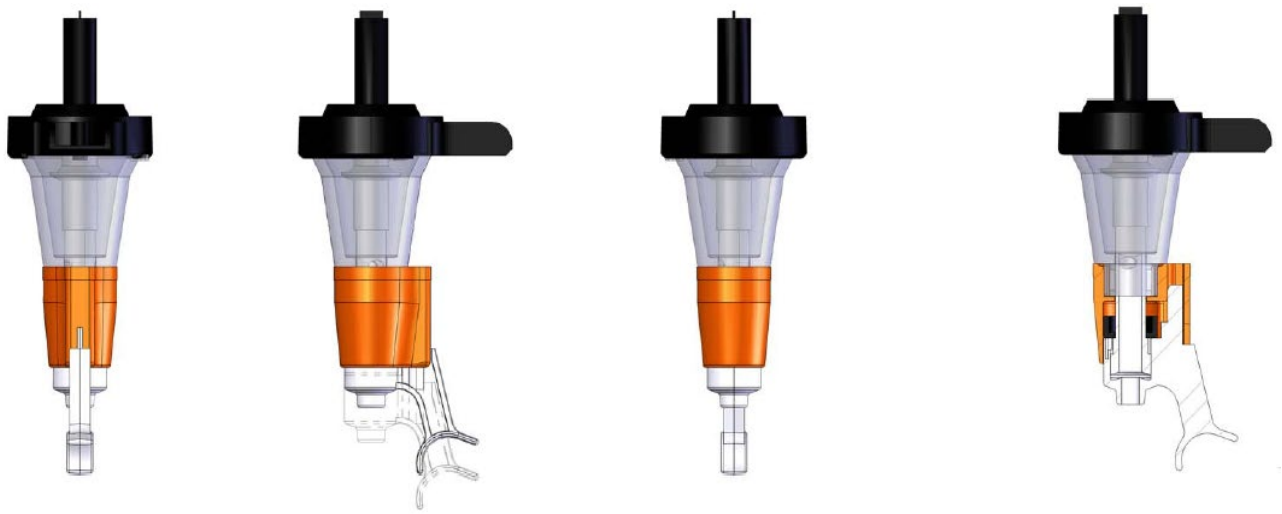


Figure 8 Alternative lever mechanism