

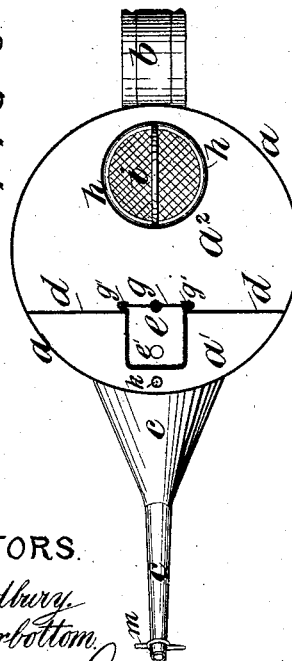
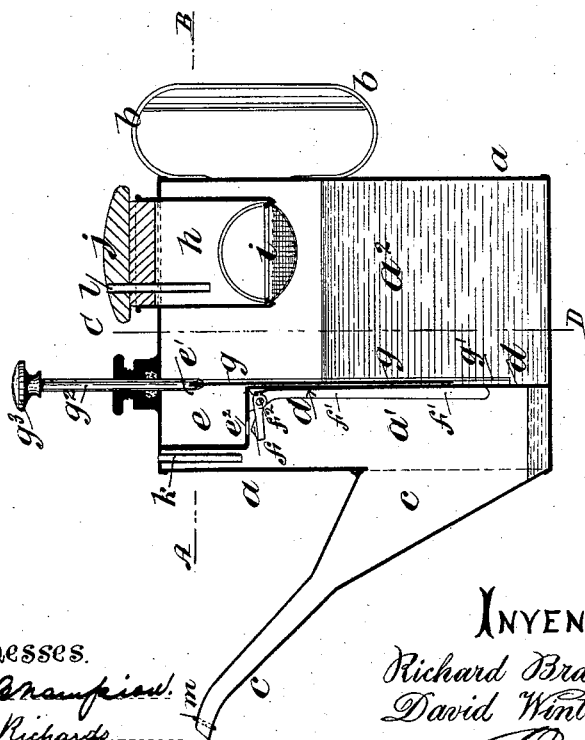
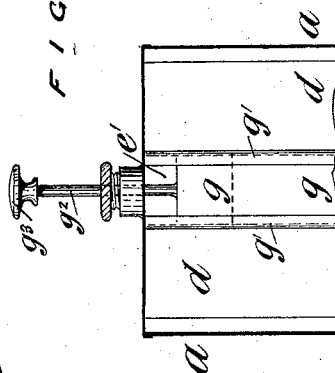
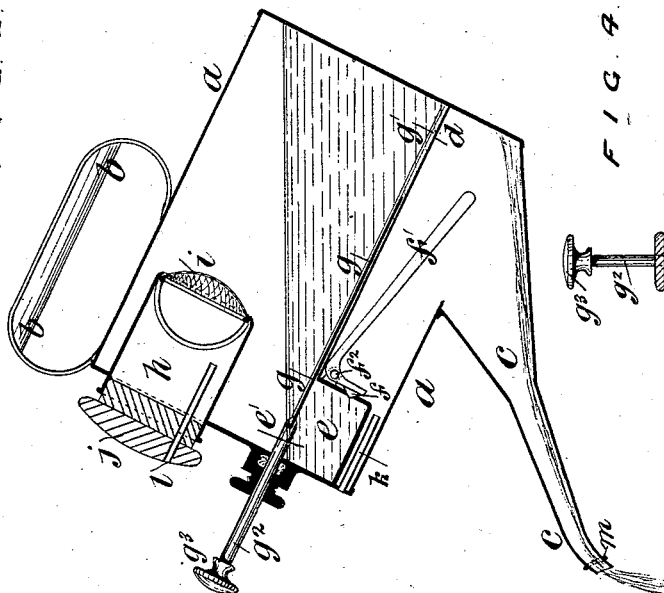
(No Model.)

R. BRADBURY & D. WINTERBOTTOM.

MEASURING VESSEL FOR FILLING INK WELLS.

No. 455,734.

Patented July 14, 1891.



Witnesses.

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UNITED STATES PATENT OFFICE.

RICHARD BRADBURY AND DAVID WINTERBOTTOM, OF OLDHAM, ENGLAND

MEASURING-VESSEL FOR FILLING INK-WELLS.

SPECIFICATION forming part of Letters Patent No. 455,734, dated July 14, 1891.

Application filed July 23, 1890. Serial No. 359,585. (No model.)

To all whom it may concern:

Be it known that we, RICHARD BRADBURY and DAVID WINTERBOTTOM, subjects of the Queen of Great Britain, residing at Oldham, county of Lancaster, England, have invented certain new and useful Improvements in Apparatus or Vessels for Delivering Measured or Regulated Quantities of Fluids, of which the following is a specification.

10 The invention may be used for a variety of purposes; but its primary use is to deliver stated quantities of ink into ink-wells in schools or public institutions or other places where ink-wells require constant refilling.

15 Our invention will be best understood from the following description and by reference to the annexed sheet of drawings.

Figure 1 is a vertical section of the apparatus in an upright position. Fig. 2 is a similar view of the apparatus in a tilted position—
20 as, for example, when pouring out the measured supply of liquid. Fig. 3 is a horizontal section of Fig. 1 at the line A B. Fig. 4 is a portion of a vertical section at the line C D, Fig. 1.

25 The apparatus as illustrated consists of a cylindrical vessel *a*, provided with a handle *b* and delivery-spout *c*. The vessel *a* is divided vertically into two unequal spaces *a'* *a''* by a partition *d*, and at the top of the partition in the lesser space or discharging-chamber *a'* we place a measuring-chamber *e*, which communicates with the supply-chamber *a''* by a port *e'*, cut in the partition *d* opposite to the measuring-chamber *e*. The chamber *e* also communicates with the discharging-chamber *a'* by means of a hole *e''* in the bottom of the chamber. Opposite to this hole is a swing valve or stopper *f*, carried on a weighted bell-crank lever *f'* and pivoted at *f''*. The arm
40 of the lever *f'* which carries the stopper-valve *f*, lies at such an angle that when the vessel is in an upright position, as in Fig. 1, the stopper-valve is clear of the hole *e''*; but
45 when the vessel is tilted, as in Fig. 2, the hole is closed by the valve, the vertical weighted arm of the bell-crank lever *f'* keeping the valve against the hole. The capacity of the measuring-chamber *e* is increased or diminished by raising or lowering the slide *g*, which
50 slides in ways *g'*, and is operated by the spindle *g''*, passing through a packed gland, as

shown, and fitted with a milled knob *g'''* for convenience in handling. By raising the slide *g* to the top the measuring-chamber might be, 55 if desired, entirely cut off from the supply-chamber, and by adjusting the slide to the corresponding level the capacity of the chamber *e* may be determined and the quantity fixed which it is desired to supply. The ink 60 or other liquid is poured into the vessel through the funnel *h*. The foot of the funnel *h* is fitted with a strainer *i*, which can be removed and cleaned when desired. The top of the funnel is closed by a removable stop- 65 per *j*.

To preserve an equilibrium of atmospheric pressure in the chambers *a'* and *a''*, we provide air-tubes *k l*. In using our improved apparatus we fill the compartment *a''* with ink 70 or other liquid to a convenient level, and close the funnel with the stopper *j*. We then adjust the slide *g* to give the required capacity to the measuring-chamber *e* and tilt the vessel into the position shown in Fig. 2. By this 75 tilting the liquid finds its way into the measuring-chamber *e*. In this tilted position the chamber *e* is closed at the foot by the valve-stopper *f*, as clearly shown in Fig. 2. Upon causing the vessel to resume the perpendicu- 80 lar position, as shown in Fig. 1, the valve *f* falls away from the hole in the foot of the chamber *e* and allows the liquid in the chamber *e* to fall into the discharge-chamber *a'*. The apparatus is now ready for use, and upon 85 each occasion that the liquid in the discharge-chamber is poured out or delivered, as shown in Fig. 2, the tilting of the vessel causes the refilling of the chamber *e*, and the subsequent delivery of its measured contents into the 90 discharge-chamber *a'*, thus replacing the liquid which has just been delivered.

To prevent the nose of the spout *c* from dipping too deeply into the ink-well or ink-stand, we place upon the said spout-nose a 95 curl of wire *m*, having projecting ends, which act as trunnions, which rest and roll on the top of the ink-well. Instead of the said trunnions, we might have a collar with air ports or slots.

100 Although we have instanced our invention as particularly applicable to the filling of ink-wells and the like, it will be understood that it is applicable to all purposes in which meas-

ured or regulated quantities of liquid are to be delivered in a cleanly, certain, and expeditious manner.

We claim as our invention—

5 1. An apparatus for delivering measured or regulated quantities of liquid, consisting of a vessel *a*, with spout and handle, divided by a partition *d* into two unequal compartments, and provided with a measuring-chamber communicating with both compartments, swing-
10 valve, adjustable slide, filler, strainer, and air-tubes, substantially as described and shown.

2. In apparatus of the indicated nature, the measuring-chamber *e*, in combination with
15 the swing-valve *f* and adjustable slide *g*, for the purposes and substantially as described and shown.

3. As means for determining the capacity of a measuring-chamber, in apparatus of the
20 indicated nature, the slide *g*, forming one side of the chamber and capable of being adjusted by means of a spindle *g*², passing through a packed gland and provided with a knob, substantially as described and shown.

4. The combination, with the vessel and its 25 lateral pouring-spout, of the supports or trunnions rigidly attached to said spout near the delivery end thereof and on which the vessel may be steadily rocked in pouring liquids, substantially as set forth.

5. In a measuring-vessel having receiving 30 and delivery compartments and an intermediate measuring-chamber communicating with both of said compartments, a valve for shutting off communication with the delivery- 35 compartments while the measuring-chamber is being filled by tilting the vessel, and a delivery or pouring orifice for the delivery-chamber, substantially as set forth.

In witness whereof we have hereunto set 40 our hands in presence of two witnesses.

RICHARD BRADBURY.
DAVID WINTERBOTTOM.

Witnesses:

DAVID FULTON,
JOSHUA ENTWISLE,