C. BUSH.

PRINTING INK RETAINER.

APPLICATION FILED OCT. 7, 1909.

1,007,525.

Patented Oct. 31, 1911.

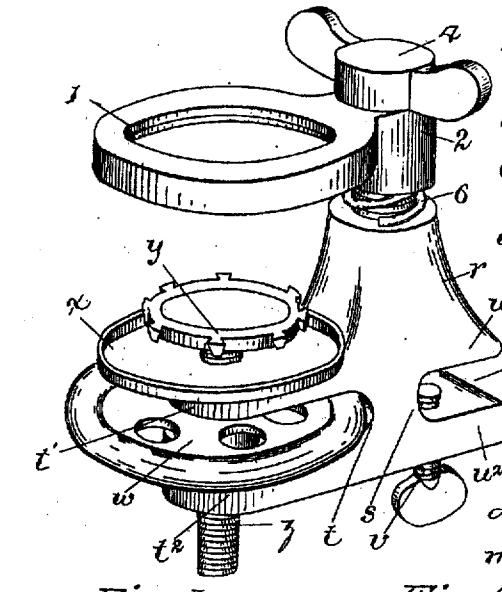

Fig. 1

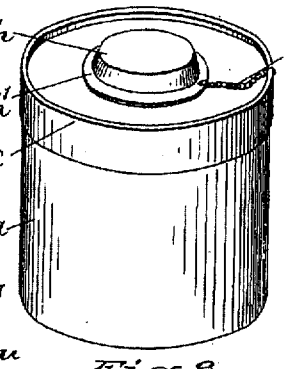

Fig. 3

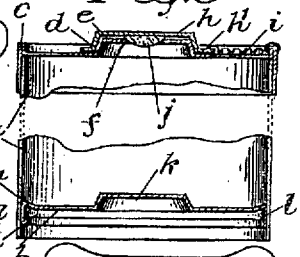

Fig. 4

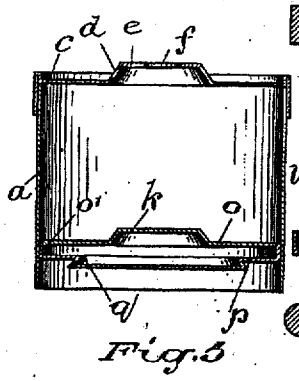

Fig. 5

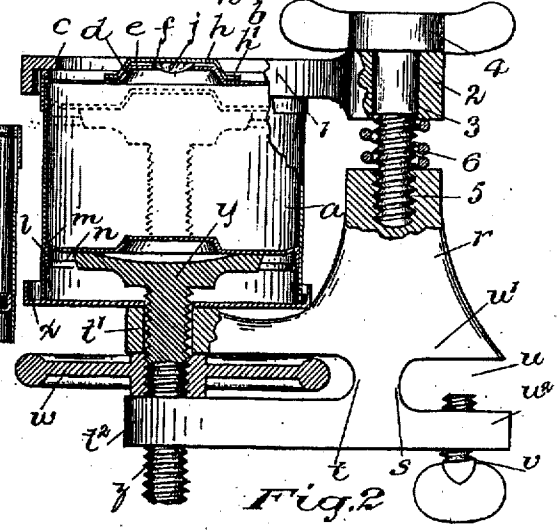

Fig. 2

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES BUSH, OF TORONTO, ONTARIO, CANADA, ASSIGNOR OF ONE-HALF TO ROBERT LAMONT, OF TORONTO, CANADA.

PRINTING-INK RETAINER.

1,007,525. Specification of Letters Patent. Patented Oct. 31, 1911.

Application filed October 7, 1909. Serial No. 521,578.

To all whom it may concern:

Be it known that I, CHARLES BUSH, a subject of the King of Great Britain, residing at Toronto, in the county of York and Province of Ontario, have invented a new and useful Improvement in Printing-Ink Retainers, of which the following is a specification.

My invention relates to a receptacle for containing printing ink, and is so constructed that the ink may be taken from the receptacle by degrees, in any amount desired.

The receptacle is so constructed that after the removal of any portion of the ink it may be sealed instantly to preserve the ink from deterioration by atmospheric action, particularly as regards preventing a skin forming over the top, and from drying.

The device is composed of two essential parts, the receptacle for the ink, and the stand and press. The receptacle is constructed with a push bottom and a slip cover. The slip cover is formed with an opening through the top, and is provided with a removable cap. The press on which the receptacle is adapted to be supported and firmly held in position, is constructed with a screw plunger adapted to engage under the bottom side of the push bottom of the receptacle and is adapted to be vertically adjusted by a hand-wheel, and by the vertical adjustment of the plunger, the push bottom of the receptacle is forced upward, by which action the ink is forced out of the opening through the top of the cover, when the cap is removed. The press is formed with a clamping-jaw and an adjustable thumb-nut by which it may be detachably connected to a press, stand or shelf, conveniently situated for the purpose of getting at the contents of the retainer.

I attain these objects by the device as illustrated in the accompanying drawings;—in which;

Figure 1 is a perspective view of the press with the receptacle removed; Fig. 2 is a side elevation of the press partially in section with the receptacle in position; Fig. 3 is a perspective view of the receptacle; Fig. 4 is a detail vertical sectional view through the receptacle; Fig. 5 is a vertical sectional view of an alternative form of receptacle.

Like references refer to like parts throughout the specification and drawings.

The ink receptacle *a* is preferably circular in cross section, being open at each end, one end being adapted to be closed by a push bottom *b* and the other by a slip top *c*. Formed in the slip top *c* is a raised section *d* formed with a flat top *e*, and formed through the flat top is a circular opening *f*. Adapted to firmly engage over the raised section *d* is a removable cap *h*, the cap being attached to the slip top by a chain *i* or by some other flexible connection. Cemented to the under side of the cap *h* is a semicircular piece of cork, or similar material *j* adapted to engage in the opening *f* to provide a seal.

The push bottom *b* is formed with a raised section *k* conforming with the shape of the raised section *d* in the slip top and is adapted to engage into the raised section in the slip top when raised to the top of the receptacle so that the entire contents may be forced out through the opening in the top. The push bottom *b* is formed with a flange *l* extending around the outer circumference which is adapted to engage against the inner walls of the receptacle *a*, and is sufficiently deep to prevent it from twisting or becoming misplaced. The web of the push bottom *b* is slightly turned upwardly around the outer circumference to form an acute angle edge *m* with the flange *l*.

While the flange *l* is adapted to the purpose of supporting the push bottom within the receptacle, it is also adapted as a means for withdrawing the bottom from out of the receptacle, as the lower edge of the flange is turned over upon itself to provide a circumferential channel *n* as a means by which a tool may engage in the channel for the purpose of drawing the bottom out of the receptacle. In Fig. 5 I have shown an alternative form of a push bottom for the receptacle, being composed of two sections. In this form a right angle flange is formed on each section *o* and *p*, the flange *o'* of the section *o* is adapted to engage within the inner circumference of the section *p*. Formed in the bottom of the section *p* is an extension *q* provided with an acute angle flange as a means by which a tool may be used in gripping around the extension *q*, for the purpose of withdrawing the bottom from out of the receptacle.

The press in which the receptacle is adapted to be contained, and by which the bottom is forced upwardly, consists of a suitable

metal casting, comprising a body part *r*, a clamping section *s*, by which the press is adapted to be fastened to a shelf, or cabinet, and a table *t* adapted to support the receptacle. The clamping section *s* consists of a cut-away section *u*, adapted to provide jaws *u'* and *u²* and is preferably situated at the lower back part of the body part *r*. Extending through the lower jaw *u²* is the screw shank of a thumb-nut *v* being for the purpose of firmly fastening the press in position on a table, ledge or shelf. The table section of the press adapted to support the receptacle, consists of two forwardly extending sections *t'* and *t²* preferably formed integral with the front of the body part *r*, one immediately below the other leaving an interval between, adapted to admit an operating hand-wheel *w*. Supported on the upper table section *t'*, is a circular supporting disk *x* adapted to carry the receptacle *a*.

y designates a screw plunger formed with a circular plunger head having a series of lugs extending radially from the outer circumference.

z designates the screw shank formed integral with the plunger head *y* and extending downwardly through the circular opening in the table section *t'* and *t²*. The shank *z* engages in a screw threaded bore through the hub of the hand-wheel *w*, and by the rotation of the hand-wheel between the table section *t'* and *t²*, the plunger head and screw threaded shank is vertically adjustable.

1 designates a clamping-ring vertically adjustable with regard to the body part *r*, which extends forwardly immediately above the plunger head, being adapted to firmly rest on the top edge of the receptacle when placed upon the supporting disk *x*, and to prevent vertical and lateral misplacement when upward pressure is effected against the under side of the push bottom *b*. Formed integral with the clamping ring 1, is a fastening lug 2 formed with a suitable bore 3, through which passes the screw-threaded shank of a thumb-nut 4. The shank is adapted to engage in a screw-threaded bore 5 sunk into the top of the body part *r*. Encircling the shank of the thumb-nut 4 and interposed between the lug 2 and the top face of the body part *r*, is a helical compressible spring 6, adapted to hold the clamping ring away from the supporting disk *x*, when not adjusted downward by the thumb-nut 4 to clamp the receptacle firmly in position against misplacement in the press.

The operation of the device is as follows:—The receptacle containing the ink is placed upon the supporting disk *x* beneath the clamping ring 1, and the thumb-nut 4 is turned in a direction to force the ring down until it firmly engages upon the top edge of the receptacle *a*. To remove any amount of ink from the receptacle, the cap *h* is pried off of the raised section *d* of the slip top, by the insertion of any sharp pointed instrument between the flange *h'* of the cap and the web of the slip cover. The hand-wheel *w* is then turned in a direction to force the plunger head upward. The vertical raising of the plunger head engaging on the under side of the push bottom causes the bottom to slide upwardly within the receptacle with the natural result that the contents therein will be forced out through the opening *f* in the raised section *d* in the slip top *c*. On account of the usual consistency of printing-ink a bar of ink will rise vertically above the raised section which may be cut off by any ordinary knife, and removed to the place desired. To close the receptacle again the hand-wheel *w* is turned slightly in an opposite direction from that to raise the plunger head, which will allow the push bottom to slightly sag in the center by the weight of the ink, by which action the contents of the receptacle will drop away from the opening in the slip top, and the cap may then be replaced from the raised section *d*, and the cork-plug cemented within the cap will closely seal the opening *f*. The knife edge that is effected by the acute angle formed by the flange and the raised section of the bottom, will cleanly scrape the inner walls of the receptacle by close contact, as the push bottom is being forced upward within the receptacle.

While my device is illustrated and specified for the purpose of a retainer for printing ink, it is equally well adapted for different purposes, without deviating from the nature of my invention, such as a container for cements, glue and other liquids of a similar nature, in which contact with the air causes deterioration of the contents.

What I claim as new and desire to secure by Letters Patent is;—

1. A container for printers' ink consisting of an ink receptacle, said receptacle consisting of a circular hollow vessel having a push bottom slidably engaging therein, said push bottom having an annular flange depending therefrom, the outer edge of said push bottom being turned up by which it forms an acute angle at the junction with said annular flange, a raised section formed in the web of said push bottom, a detachable top having a raised section and an egress opening therethrough, said detachable top adapted to engage over the upper end of said receptacle, and a removable cap having a plug formed therewith adapted to engage over the said raised section, as and for the purpose specified.

2. In a printing ink retainer, the combination of an ink receptacle consisting of a circular hollow vessel having a slidable push bottom engaging therein, and a detachable top arranged therewith, said receptacle

adapted to be supported and held in position by an operating press, said press comprising a frame and supporting stand and clamping ring adjustably arranged with said stand, a screw plunger adapted to be vertically adjusted from said stand and to engage with the underside of said push bottom of said receptacle, as and for the purpose specified.

3. In a printing ink retainer, the combination of a suitable press having a frame comprising a supporting stand and a clamping ring, said ring adjustably arranged above said supporting stand, and a screw plunger adapted to be vertically adjusted from said supporting stand, with an ink receptacle comprising a circular hollow vessel having a push bottom slidably arranged therein, and a detachable top having an egress opening therethrough engaging over the top of said receptacle, said receptacle adapted to engage between the said clamping ring and supporting stand, said screw plunger adapted to engage against the underside of said push bottom, and force the said bottom upward within the said receptacle for the purpose of forcing the contents of the said receptacle out through the egress opening in said detachable top, as and for the purpose specified.

Signed at Toronto, this 17th day of September, 1909.

CHARLES BUSH.

In the presence of—
GLADYS STUART,
A. A. ADAMS.