

July 20, 1937.

J. R. WALES

2,087,633

APPARATUS FOR DISPENSING AND APPLYING MATERIALS

Filed Jan. 19, 1935

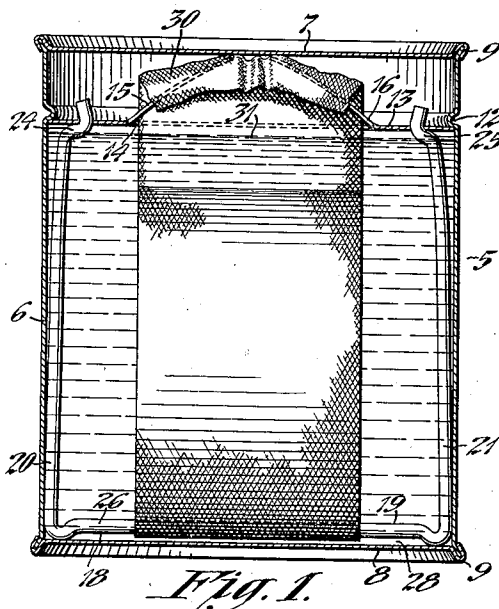


Fig. 1.

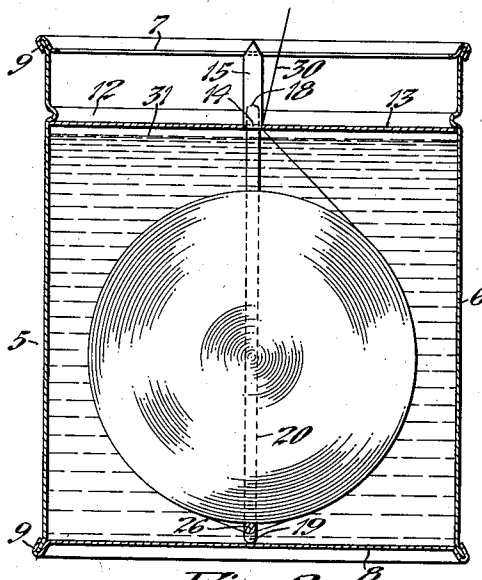


Fig. 2.

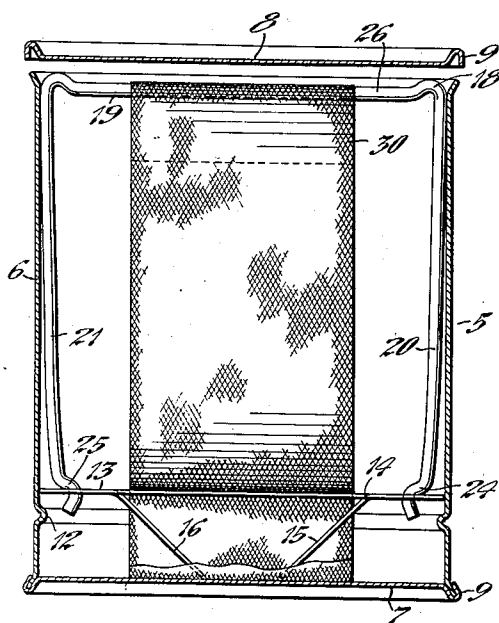


Fig. 3.

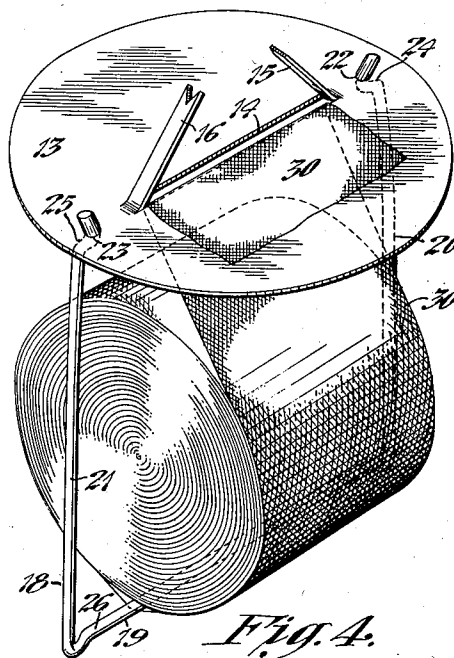


Fig. 4.

Inventor:
Jonathan R. Wales

By *Prunington and White*
Attorneys.

UNITED STATES PATENT OFFICE

2,087,633

APPARATUS FOR DISPENSING AND APPLY-
ING MATERIALS

Jonathan R. Wales, Warwick, R. I.

Application January 19, 1935, Serial No. 2,562

12 Claims. (Cl. 91—18)

This invention relates to dispensing and applying materials and more particularly to a receptacle including a dispensing carrier for the material.

5 One of the objects of the present invention is to provide a receptacle for holding a dispensible material having a novel construction and arrangement of elements for dispensing a carrier strip laden with the material in the receptacle.

10 Still another object of the present invention is to provide a novel receptacle for containing a dispensible material and including a novel carrier in the form of a continuous strip of fabric, felt, paper or the like immersed in the material
15 for dispensing the same as the carrier is withdrawn from the receptacle.

Still another object of the present invention is to provide a sealed receptacle for containing a fluid material and including a carrier immersed in the fluid, which carrier may be withdrawn after the receptacle is opened to continue to dispense the fluid until the supply is entirely exhausted.

25 Still another object of the present invention is to provide a fluid-dispensing receptacle of the type indicated which is of simple construction with its parts easily assembled and cheaply manufactured and that is efficient for its intended purpose and reliable in its operation.

30 These and other objects will become more apparent from the following description and drawing. It is to be expressly understood, however, that the drawing is for purposes of illustration only and not a definition of the limits of the invention, reference being had for this purpose to the appended claims. In the drawing:

Fig. 1 is a transverse sectional view of a receptacle incorporating the novel features of the present invention and showing the level of the fluid and relationship of the parts when the receptacle is sealed;

Fig. 2 is a transverse sectional view of the receptacle taken at right-angles to the view in Fig. 1 and showing the top head open and indicating the manner in which the carrier is dispensed;

Fig. 3 is a transverse sectional view similar to Fig. 1 showing the receptacle in inverted position and with the bottom head removed to illustrate the method of assembling the parts; and

50 Fig. 4 is a detailed perspective view of the dispensing mechanism shown in Figs. 1, 2 and 3 which is adapted to be inserted in the receptacle as a separate unit.

The present invention relates generally to the dispensing of fluids such as asphalt roofing ce-

ment or other similar materials by saturating or impregnating a continuous strip of fabric, felt, paper or the like with the cement or other material, and then directly applying the laden strip in position to seal the parts or to perform the function desired if used for other purposes. The invention also relates to a receptacle for containing a dispensible material and a continuous strip of dispensing carrier immersed directly in the material. The carrier is adapted to be withdrawn from the receptacle and means are provided for guiding the carrier to a position closely adjacent the bottom of the receptacle so that the material will be continuously dispensed until the supply is entirely exhausted. The container is also provided with means for guiding the strip through a measuring orifice to limit the amount of material dispensed and with means for holding the end of the carrier in a position to be conveniently grasped when it is desired to withdraw the carrier laden or coated with the dispensible material.

In its preferred form the invention is directed particularly to a method of dispensing and applying roofing cement to seal the lapped joints formed between adjacent courses of roofing paper. To this end a carrier strip of fabric, felt, paper or the like is saturated or impregnated with a sealing compound, such as asphalt cement, by immersion therein and the coated strip is then directly applied over the laps or between the laps to form a sealed joint. In this manner the material is applied economically and uniformly without the use of brushes, swabs or the like and without directly handling the material. The application of roofing cement by the present method also reduces the time required for the operation over the old method of applying with brushes and results in a more finished and neater appearing joint. Although the method has been above described for applying roofing material it is to be understood that it may be used for dispensing and/or applying any material that will adhere to the carrier and form a coating, whether it be a liquid, fluid or solid in powdered form.

In the drawing, a sealed container or receptacle of novel construction is illustrated for holding a dispensible material during shipment or storage with means contained therein for dispensing the material in accordance with the above method.

The receptacle may be of any desired shape or size but when used for roofing cement it is preferably of a size that will hold the proper quantity of the cement necessary to seal the edges of a standard roll of roofing paper. When pack-

aged in this size of sealed container one receptacle is included with each roll of paper as it is sold. The container 5 is of usual construction having a continuous cylindrical side wall 6 and top and bottom heads 7 and 8 sealed thereto in any suitable manner such as by the crimped seam 9, shown in the drawing. To insure a liquid-tight seal, a gasket may be provided between the heads 7 and 8 and the side wall 6 of the container. Adjacent the top of the container an inwardly directed rib 12 is provided for holding a disk-shaped septum 13 positioned in parallel relation with the head 7 but spaced therefrom to form a false top closure. The disk-shaped septum or closure 13 is provided with a centrally positioned slot 14 formed by cutting the material thereof with parallel slits to leave a strip therebetween, severing the strip midway between its ends while notching its severed ends to form tabs and then bending the tabs upwardly. The upwardly directed tabs with the notched ends then form prongs 15 and 16 adapted to engage the under side of the head 7 with a yielding pressure due to the inherent resiliency of the material for a purpose as will later appear.

A bail 18 is positioned between the disk-shaped septum 13 and the head 8 which serves as a guide for the carrier, as will later appear. The bail 18 is of U-shaped configuration having a crossbar 19 and upwardly directed legs 20 and 21. The ends of the legs 20 and 21 pass through apertures 22 and 23 in the septum 13 and adjacent their ends the legs are bent to form offset portions 24 and 25 that engage the under side of the septum. The legs 20 and 21 of the bail are slightly bowed and the ends of the legs extending above the disk are bent outwardly to hold the disk in engagement with the offset portions 24 and 25 on the bail. The crossbar 19 of the bail 18 has a depressed portion 26 that forms a shallow passage or slot 28 between the crossbar and head.

A dispensing carrier 30 in the form of a continuous strip of fabric, felt, paper or the like is preferably wound in a roll and positioned in the receptacle between the septum 13 and the bottom head 8 and between the opposite legs 20 and 21 of the bail 18. The carrier strip is directed through the shallow slot 28 under the crossbar of the bail and then upwardly through the centrally positioned slot 14 in the disk-closure 13 and with the end held between the upwardly extending prongs 15 and 16 and the under face of the upper head 7. The dispensing carrier strip when so positioned in the sealed receptacle is immersed in the dispensible material contained therein, the level of which is shown at 31 in Fig. 1.

In assembling and filling the receptacle, as more clearly shown in Figs. 3 and 4, the top head 7 is first sealed to the side wall 6 to form a liquid-tight joint and the receptacle inverted to the position shown in Fig. 3. The disk-shaped septum 13 and the preformed bail 18 are then assembled into a unitary structure by springing the legs 20 and 21 so that their ends may be inserted through the apertures 22 and 23. When released the bent end portions of the legs will snap into position with the offset portions 24 and 25 engaging the under face of the septum. The roll of dispensing carrier strip 30 is then positioned between the legs 20 and 21 of the bail and a portion of the strip unwound and carried under the crossbar 19 and upwardly through the centrally positioned slot 14 in the septum 13 and over the top of the upwardly extending prongs 15 and 16. The whole unit of septum 13, bail

18 and carrier 30, as shown in Fig. 4, is then inverted and inserted in the open end of the receptacle 5 to the position shown in Fig. 3. In this position the septum 13 is held in spaced relation with the inwardly directed rib 12 by the prongs 15 and 16 that engage the inner face of the head 7 with the strip positioned therebetween. The liquid or other material to be dispensed from the receptacle is then introduced through the open end. The head 8 is next positioned over the open end of the receptacle in engagement with the crossbar 19 of the bail 18 and moved downwardly against the resiliency of the prongs 15 and 16 until the marginal flanges of the head engage the marginal edge of the wall 6. During this movement the prongs 15 and 16 yield from the position shown in Fig. 3 to the position shown in Fig. 1 so that the septum 13 engages the inwardly directed rib 12 and the crossbar 19 engages the inner face of the head 8 so that the depressed portion 26 forms the shallow slot 28 therebetween. The legs 20 and 21 due to their bowed configuration also yield sufficiently to permit a relative movement between the septum 13 and the crossbar 19 and insure an engagement of the crossbar 19 with the inner face of the head 8. The head 8 is then permanently sealed to the wall 6 in any suitable manner such as by spinning the joint or soldering the same. The receptacle is then turned to its upright position, as shown in Fig. 1, so that the roll of dispensing carrier strip will be immersed in the dispensible material contained therein. The receptacle is then in condition for storage or shipment to a consumer. It will be understood, however, that the receptacle may as well be filled with the dispensible material prior to the insertion of the dispensing mechanism including the septum 13, bail 18 and carrier strip 30.

When it is desired to dispense the material contained in the sealed receptacle a hole is cut in the top or head 7, as shown in Fig. 2, by any suitable tool. The end of the carrier strip held by the prongs 15 and 16 is then positioned in the opening and may be easily grasped either by hand or with a suitable tool such as pliers. The carrier strip 30 can then be removed from the prongs 15 and 16 and withdrawn through the hole cut in the top of the receptacle to dispense the material contained therein in the manner illustrated in Fig. 2. Because of its immersion the carrier strip is saturated, impregnated or coated with the material which adheres to its sides and is dispensed as the strip is withdrawn. The amount of material withdrawn with the strip is measured by the sides of the centrally positioned slot 14 in the septum 13 through which the carrier passes. When a desired length of the material laden carrier has been withdrawn the strip is moved into engagement with the holding prongs 15 and 16 and the length severed from the remainder of the strip so that the end will be held by the prongs in a position for subsequent withdrawal. The severed length of the laden carrier strip 30 may then be directly applied to perform its intended function such as cementing together the courses of roofing paper by laying the strip between or over the laps. In this manner the carrier 30 and its adhesive coating are used to form a joint of a width equal to the width of the carrier strip and containing the proper and required amount of material. The operation of withdrawing the strip is continued as the material is required until the entire supply of the material in the receptacle is

exhausted. To this end the length of the carrier strip 30 and quantity of material contained in the receptacle are so proportioned that with the proper amount of material coated on the carrier the material will be completely dispensed when the whole roll of carrier strip is withdrawn. As the carrier strip 30 is dispensed the level of the material is lowered in the receptacle but the carrier is insured of a uniform coating because of its passage through the shallow slot 28 adjacent the bottom of the receptacle and formed by the depressed portion 26 of the crossbar 19 and inner face of the head 8. The slot 28 being positioned adjacent the bottom of the receptacle causes the carrier to be immersed and coated until the whole roll of carrier strip is withdrawn and the material in the receptacle completely dispensed. The septum 13 beside forming a slot for measuring the quantity of material coated on the strip also serves as a closure for the top of the receptacle after the head 7 is cut or removed which prevents the entrance of foreign matter into the material or spilling of the same if the receptacle is tipped.

The invention has been described above as directed particularly to the dispensing of a roofing cement from a receptacle and the application of the cement into sealing engagement with the lapped sections of roofing paper. It is to be understood, however, that the invention is capable of a variety of uses other than dispensing a sealing compound. The receptacle can as well contain any material that it is desired to dispense such as glue, in either liquid or powdered form; paint; lubricant; antiseptics or the like and the coated carrier may be used merely as a transfer agent or may be directly applied together with the material with which it is coated for other uses than cementing roofing paper. For example, the receptacle may contain a liquid or powdered antiseptic and the carrier may be in the form of a bandage that is withdrawn from the receptacle coated with the antiseptic and directly applied to an infected part of the body.

The invention may also be used to apply adhesive bands that surround the trunks of trees to prevent the trees from being infested with insects or to carry out the usual processes of tree surgery.

It will be apparent that the receptacle illustrated and described may have a variety of mechanical expressions and is not necessarily limited to the form shown in the drawing. For example, the receptacle may be of any usual type of construction and a removable cover may be substituted for the type shown that is rigidly joined to the side walls. The dispensing slot for the carrier need not necessarily be positioned as shown and may even extend through the side wall of the receptacle, and other forms of dispensing frames for the carrier strip may be substituted for the type shown in the drawing. Broadly, the invention contemplates dispensing the materials from a receptacle by means of a carrier strip; so without limiting myself to the form or structural arrangement of the parts, I claim:

1. An article of the type indicated comprising a sealed receptacle containing a dispensable fluid, a continuous strip of fabric in the form of a roll immersed in the fluid within the receptacle, a slotted closure within the receptacle below its closed top, and a guide adjacent the bottom of the receptacle, said strip extending under the guide and through the slot and adapted to

be withdrawn to dispense the fluid after the top of the receptacle is opened.

2. An article of the type indicated comprising a sealed receptacle containing roofing cement, a continuous strip of fabric in the form of a roll within the receptacle and immersed in the cement, a slotted closure within the receptacle adjacent one end, means above the closure for holding the end of the strip against the end of the receptacle, and guide means adjacent the other end of the receptacle, said strip having an end portion extending over the guide then through the slot and into engagement with the holding means and adapted to dispense the cement when withdrawn from the receptacle after the end of the receptacle adjacent the slotted enclosure has been opened.

3. An article of the type indicated comprising a sealed metallic receptacle containing a dispensable fluid, a slotted septum within the sealed receptacle adjacent one end, a guide depending from the septum to a position closely adjacent the other end of the receptacle, and a carrier immersed in the fluid having an end portion extending over the guide and through the slot in the septum and adapted to dispense the fluid when withdrawn from the receptacle after the sealed end adjacent the septum has been opened.

4. An article of the type indicated comprising a sealed metallic receptacle containing a dispensable fluid, a slotted septum within the sealed receptacle adjacent the top, a guide attached to the septum and depending therefrom having a crosspiece held closely adjacent the bottom of the receptacle, means on said guide cooperating with the bottom of the receptacle to hold the septum properly positioned in the receptacle, and a carrier immersed in the fluid having an end portion extending under the guide then upwardly through the slot in the septum and adapted to dispense the fluid when the carrier is withdrawn from the receptacle after the top is opened, said guide causing an immersion and coating of the carrier with the fluid until the same is entirely dispensed.

5. An article of the type indicated comprising a closed metallic receptacle having an inwardly directed rib adjacent one end and containing a dispensable fluid, a disk-shaped septum engaging the rib of the receptacle and having a centrally positioned slot, a U-shaped bail depending from the septum with a crosspiece positioned closely adjacent the opposite end of the receptacle, and a carrier having an end portion extending under the guide and upwardly through the slot in the septum and adapted to dispense the fluid when withdrawn from the receptacle after the top is opened, said guide causing an immersion and coating of the carrier with the fluid until the same is entirely dispensed.

6. An article of the type indicated comprising a metallic receptacle having an inwardly directed rib adjacent one end and containing liquid roofing cement, a disk-shaped septum engaging the rib of the receptacle and having a centrally positioned slot, a guide depending from the septum having a crosspiece positioned closely adjacent the opposite end of the receptacle, means on the guide engaging the end of the container to hold the septum in engagement with the rib, and a strip of fabric in the form of a roll immersed in the liquid and having an end portion extending over the guide and through the slot in the septum and adapted to dispense the liquid when withdrawn from the receptacle, said guide caus-

ing an immersion and coating the carrier with the liquid until the same is entirely dispensed.

7. An article of the type indicated comprising a receptacle containing a dispensible fluid, a carrier within the receptacle in the form of a continuous strip for dispensing the material when withdrawn, and a septum adjacent one end of the receptacle having a rectangular slot therein, and prongs extending upwardly from the septum, an end portion of said strip extending through the slot in the septum and adapted to be held by the prongs or withdrawn from the receptacle to dispense the fluid contained therein.

8. An article of the type indicated comprising a sealed receptacle containing a dispensible fluid, a slotted septum within the receptacle adjacent one end, prongs extending upwardly from the septum, a carrier strip of fabric for dispensing the fluid in the form of a roll immersed in the fluid with an end extending upwardly through the slot in the septum and into engagement with the prongs, said carrier strip being adapted to dispense the fluid as it is withdrawn after the end of the receptacle adjacent the septum has been opened, and guiding means for the carrier to cause it to be coated with the fluid until the same is entirely dispensed.

9. An article of the type indicated comprising a receptacle having an inwardly directed rib adjacent one end and adapted to contain a dispensible fluid, a disk-shaped septum engaging the rib of the receptacle and having a centrally positioned slot, a U-shaped bail depending from the septum with a crosspiece positioned closely adjacent the opposite end of the receptacle to form a guide, and a carrier strip in the form of a roll immersed in the fluid, said carrier strip extending over the guide and through the slot in the septum to dispense the fluid when withdrawn from the receptacle, said guide causing an im-

mersion and coating the carrier with the fluid until the same is entirely dispensed.

10. An article of the type indicated comprising a sealed receptacle containing a dispensible fluid, a slotted septum in the receptacle for dividing its interior into separate compartments, and a continuous carrier strip immersed in the fluid in the compartment between the septum and the bottom of the receptacle and having an end portion extending through the slot into the other compartment, said carrier strip being adapted to dispense the fluid as it is withdrawn after the top of the receptacle is opened.

11. An article of the type indicated comprising a sealed receptacle containing a dispensible fluid and having retaining means on its sides adjacent one end and a self-contained dispensing means held in the receptacle between its bottom and the retaining means on its sides including a slotted septum for dividing the interior of the receptacle into upper and lower compartments, a guide adjacent the bottom of the receptacle, and a dispensing carrier strip in the lower compartment having an end portion extending through the guide and slotted septum into the upper compartment whereby the end of the strip is available when the top of the receptacle is opened.

12. An article of the type indicated comprising a receptacle for containing a dispensible fluid and having a continuous side wall and heads sealed to the ends thereof, a carrier for the fluid within the receptacle in the form of a continuous strip, and a slotted closure in the receptacle spaced from one of the heads, said carrier strip extending through the slot in the closure and adapted to be withdrawn to dispense the fluid after the head of the receptacle adjacent the slotted closure has been opened.