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RECEPTACLE ESPECIALLY ADAPTED FOR MUSTARD.

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922,492. Patented May 25, 1909.

Fig. 1.

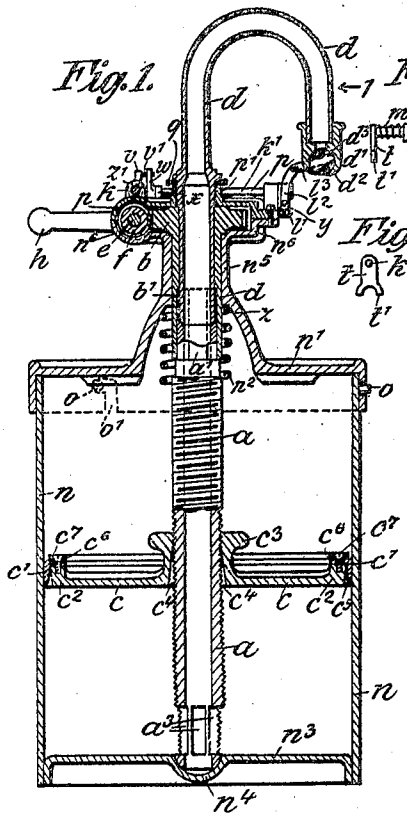


Fig. 2.

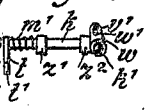


Fig. 3.

Fig. 4.

Fig. 7.

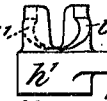


Fig. 5.

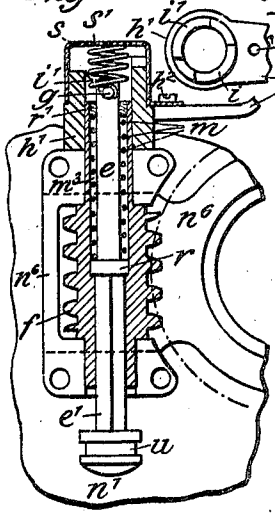


Fig. 8.

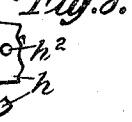
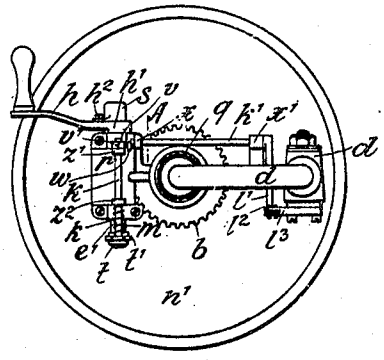


Fig. 6.



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UNITED STATES PATENT OFFICE.

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RECEPTACLE ESPECIALLY ADAPTED FOR MUSTARD.

No. 922,492. Specification of Letters Patent. Patented May 25, 1909.

Application filed February 27, 1907. Serial No. 359,704.

To all whom it may concern:

Be it known that we, CARL FRIEDRICH WILHELM LINDEWIRTH and EUGEN ARTHUR WIECK, residing at Bielefeld, Westphalia, Kingdom of Prussia, German Empire, subjects of the German Emperor, have invented new and useful Improvements Relating to Receptacles Especially Adapted for Mustard, of which the following is a specification.

It is a well known fact that mustard is exposed to decomposition by the action of light and air, and particularly of the air, whereby the use of the mustard may be rendered extremely prejudicial to health, while its flavor is likewise detrimentally affected. Means heretofore provided for improving these conditions are ineffective and are likewise mostly objectionable from the hygienic point of view. In all known devices, the exclusion of air is incomplete, and the manipulation is not cleanly. Owing to the insufficient exclusion of the air, the receptacles in which the material is stored, or from which it is taken for use form favorable places for the deposit of bacteria, and this is particularly so in places of public resort. This of course hastens the decomposition of the mustard, and the use of such mustard may be highly prejudicial to health. The uncleanly manipulation consists in the use of spoons for emptying the receptacles, these spoons mostly consisting of a material which is attackable by the acids contained in the mustard, thus rendering the latter harmful to health, especially as they are frequently allowed to remain in the receptacle. In course of time the appliance used for taking the mustard will be almost entirely decomposed. In addition to this, in all businesses in which mustard is used or sold the hard upper layer of the mustard which, owing to exposure to the air in the receptacle becomes decomposed and assumes a dark brown color, is commonly stirred up with the rest of the mustard contained in the receptacle, as in large businesses its removal would entail a large monetary loss. Accordingly for reasons of economy the laws of health are disregarded.

The present invention obviates these defects completely. The mustard is protected in the receptacle from the action of air and light. It is withdrawn in a cleanly manner for use and in accordance with the invention it is unnecessary to open the receptacle or employ special spoons or the like. The mustard always remains fresh to the last drop, and will keep for almost an unlimited time. This is of especial importance for export and use on ships or during long journeys.

In accordance with the invention, by actuating a train of gearing simultaneously with the descent of the pressure piston or plunger, that is to say the emptying of the receptacle by displacing the operating handle, the discharge valve is automatically opened, and on releasing the handle and stopping the descent of the piston the discharge valve is automatically closed. The handle spindle is connected with the valve body by a rod or the like, so that when the handle spindle is displaced the discharge valve is opened. When the handle is released it springs back into its initial position under the influence of springs or the like and closes the discharge valve.

In the accompanying drawing the novel receptacle is illustrated by way of example. Figure 1 shows it in vertical section. Fig. 2 is a section on the line A of Fig. 6 showing the connecting rod for the lever which is connected with the spindle to which the handle is fitted. Fig. 3 is a front elevation of the fork connecting the handle spindle with the said connecting rod. Fig. 4 shows the upper part of the receptacle viewed in the direction indicated by the arrow 1 in Fig. 1, on a larger scale and partly in section. Fig. 5 represents a horizontal section through the operating gear on an enlarged scale. Fig. 6 is a top view of the receptacle, and Figs. 7 and 8 illustrate the hub of the handle in side elevation and in plan on a larger scale.

In the constructional form of the device here illustrated the bottom end n^3 of the receptacle n is provided at its middle portion with a cavity n^4 in which the hollow spindle a is guided. The lid n^1 is attached to the receptacle n by means of a bayonet joint, pins o fixed on the receptacle n entering angular slots o^1 in the lid n^1. The operating gear, the discharge tube d and the hollow spindle a are mounted in the neck n^5 of the lid. The prolonged hub portion b^1 of the worm wheel b is formed internally as a hexagon at its lower part; the hexagonal head a^1 of the spindle a is inserted in this hexagonal recess so that when the worm wheel b is rotated it causes the spindle a to rotate with it. The surface of the spindle a is chamfered slightly inward

in order to provide a tight joint for the stationary discharge tube d which is likewise correspondingly chamfered. The casing n^6 is fitted to the neck n^5 of the lid; it is closed by a lid p and serves for the reception of the worm gear and for the mounting of the worm f. In the neck p^1 of the lid p a screw thread is formed into which the correspondingly threaded discharge tube d is screwed. A counter nut q enables the discharge tube d to be tightened or loosened for the purpose of establishing a good joint between it and the spindle a.

The spindle e for the handle is displaceably mounted in the worm f, the square portion e^1 (Fig. 5) of the spindle insuring the driving of the worm f when the handle h is rotated. In the cavity m^3 of the hub of the worm f, which is closed on one hand by the collar r and on the other by an annular part r^1, a spring m is located for returning the handle to its position of repose; it bears against the collar r Fig. 5. The handle h is fixed to the prolonged hub of the worm f. On the hub h^1 of the handle h inclined surfaces i, i^1 are provided which when the handle h is turned press forward the pin g sliding upon them and which is fixed on the spindle e, thereby displacing the latter. The hub h^1 of the handle h is covered by a cap s fixed on the handle h at h^2; one end of the spiral spring s^1 is fixed to this cap while its other end surrounds the pin g. The special object of this spring is to assist the rotation of the handle when the latter is returning to its position of repose.

Above the lid p a rod k is mounted in the same direction as the spindle e and is likewise subjected to the action of a spring m^1. The rod k rests in bearings z' z^2 which are cast upon the lid p. A fork t is fixed to the rod k, its forked portion t' resting in a groove u in the spindle which it surrounds semi-circularly. When the spindle e is displaced, the rod k is likewise displaced in the same direction owing to the connection of the two parts by means of the fork t. On the end of the rod k opposite to the fork t an arm v carrying a pin v' is fixed. This pin engages in the longitudinal slot w' in the arm w which is mounted on the rod k' which rests in bearings x, x' fixed to the lid p at an angle to the rod k. This rod also carries an arm l' provided with a universal joint y. In this joint there engages a lever l^2 which is jointed to the arm l^3 fixed to the valve body d^3.

A spring n^2 is soldered to the lid n' at z and presses on the piston c in the raised position of the latter in order to insure the engagement of the screw threads on the piston and spindle for the purpose of depressing the piston. To facilitate the manipulation of the piston c it is provided with a collar c^3 which is preferably screw-threaded to enable the piston to be inserted and withdrawn readily. The tapering annular space c^4 inside the screw threaded hub of the piston c has for its object to permit of the discharge of the contents of the receptacle through the openings a^3 provided in the lower part of the spindle a even in the lowest position of the piston. Between the piston ring c^2 and the leather sleeve c' an annular space c^5 tapering upward is left free; the material is forced into this space upon the depression of the piston. By this means a good joint is formed between the sleeve c and the inner wall of the receptacle n and considerable friction is produced between these parts for the purpose of preventing rotation of the piston c with the spindle a. The leather sleeve c' is fixed on the piston ring c^2 by an annular part c^6 by means of screws c^7. All the parts of the receptacle and of the discharging device which come into contact with the contents are formed of acid proof material, such as ebonite, porcelain or the like.

The valve casing d^2 intersects the valve body d^3 at the outlet in order to prevent dripping after the valve d' has been closed. Any drops remaining pendent are carried inward when the valve body d^3 rotates, or are cut off by it so that they fall into the vessel placed below for the reception of the mustard.

The operation of the apparatus is as follows:—After the receptacle n has been charged, the spindle a is first of all inserted so that it rests in the cavity n^4 in the bottom n^3 of the receptacle. The piston c is then loosely mounted on the spindle a and the lid n' is closed. By the action of the spring n^2 on the piston c, when the handle h is rotated the screw thread on the piston is caused to mesh with the thread of the hollow spindle a. At the same time, owing to the pin g striking against the inclined surfaces i, i' on the hub h' of the handle, the spindle e is displaced. By means of the fork t the rod k is displaced in the same direction whereby the springs m, m', s' are compressed. The rod k, by means of the arm v and pin v' presses the lever arm w aside, whereby the rod k' is rotated and the arm l' of this rod lifted. By this means the lever l^2 is pressed upward and the valve body d^3 is rotated by the arm l^3 which is jointed to the lever l^2, that is to say, the discharge valve d' is opened. By the further rotation of the handle the piston c is depressed whereby the material with which the receptacle is charged is caused to escape through the openings a^3 in the hollow spindle a out of the latter into the discharge tube d and thence through the discharge valve d' into the vessel arranged below for its reception. When the handle is released it springs back into its initial position under the influence of the spring m, m', s' whereby the lever is likewise returned to its position of repose and the discharge valve d' is closed.

The apparatus described, which may be

used equally well for appliances from which the material is taken for use or receptacles in which it is stored, may of course be modified in various ways.

By means of the arrangement described, it is possible as soon as a receptacle is emptied to remove the lid readily and fit it to a freshly filled receptacle and thus to a certain extent an operative system is provided.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed what we claim and desire to secure by Letters Patent is:

1. In a receptacle particularly for mustard a discharge valve, a pressure piston for forcing out the material through the discharge valve, means for actuating said piston, a handle spindle connected with said actuating means and being displaceable by means of springs, a lever mechanism jointed on the handle spindle and connected with the body of the discharge valve for the purpose that by actuating the actuating means simultaneously with the descent of the piston on emptying the discharge valve is automatically opened and by releasing the handle and stopping the piston the discharge valve is automatically closed.

2. In a receptacle particularly for mustard a discharge valve, a pressure piston for forcing out the material through the discharge valve, a hollow threaded spindle holding the threaded hub of the pressure piston a gearing means for revolving the hollow spindle and moving the pressure piston, a handle spindle connected with said gearing and being displaceable by means of springs, a lever mechanism jointed on the handle spindle and connected with the body of said valve for the purpose that by actuating the gearing simultaneously with the descent of the piston on emptying the discharge valve is automatically opened and by releasing the handle and stopping the piston the discharge valve is automatically closed.

3. In a receptacle particularly for mustard, a discharge valve, a pressure piston for forcing out the material, a hollow threaded spindle for the reception of the threaded hub of the piston, means for revolving the spindle, a stationary discharge tube fitted to the hollow spindle, a handle spindle for said revolving means being displaceable by means of springs, and a lever mechanism jointed on the handle spindle and connected with the body of said discharge valve for the purpose that by actuating the gearing simultaneously with the descent of the piston on emptying the discharge valve is automatically opened and by releasing the handle and stopping the piston the discharge valve is automatically closed.

4. In a receptacle particularly for mustard, a discharge threaded spindle for the reception of the threaded hub of the piston, a worm wheel for revolving said hollow spindle and having a prolonged hub detachably connected with the hollow spindle a stationary discharge tube fitted to the top end of the hollow spindle and receiving the discharge valve, a handle spindle having a worm for revolving the worm wheel and being displaceable by means of springs, and a lever mechanism jointed on the handle spindle and connected with the body of said discharge valve for the purpose that by actuating the gearing simultaneously with the descent of the piston on emptying the discharge valve is automatically opened and by releasing the handle and stopping the piston the discharge valve is automatically closed.

5. In a receptacle particularly for mustard, a discharge threaded spindle for the reception of the threaded hub of the piston, a worm wheel for revolving said hollow spindle and having a prolonged hub detachably connected with the hollow spindle a stationary discharge tube fitted to the top end of the hollow spindle and receiving the discharge valve a handle spindle having a worm for revolving the worm wheel and having a pin, and a handle provided with a hub having inclined surfaces for the sliding of said pin on the handle spindle by rotating said handle, and a lever mechanism jointed on the displacable handle spindle, and connected with the body of said discharge valve for the purpose that by actuating the gearing simultaneously with the descent of the piston on emptying the discharge valve is automatically opened and by releasing the handle and stopping the piston the discharge valve is automatically closed.

6. In a receptacle particularly for mustard a discharge valve, a hollow spindle, a piston for forcing out the material through said spindle and through said valve, means for depressing said piston, and a lever mechanism connecting said depressing means with said valve for the purpose that by depressing the piston on emptying the valve is automatically opened.

7. In a receptacle particularly for mustard a discharge valve, a discharge tube for the reception of said valve, a pressure piston movably mounted on said spindle for forcing out the material through the spindle tube and valve, means for depressing the piston, a spring for closing normally the discharge valve, and a lever mechanism connecting said depressing means with said valve for the purpose that by depressing the piston on emptying the valve is automatically opened.

8. In a receptacle particularly for mustard a spring discharge valve, a discharge tube for the reception of said valve, a pressure piston for forcing out the material through the tube and valve, a hollow threaded spindle connected with said dis-

charge tube and holding movably the piston, a handle spindle connected with a gearing for the rotation of the hollow spindle and being displacable by means of springs, a lever rod jointed on the handle spindle and being under the influence of said springs and further connected with the body of said discharge valve for the purpose that by depressing the pressure piston the spring valve is automatically opened.

9. In a receptacle particularly for mustard a discharge valve, a pressure piston for forcing out the material, means for depressing the piston a leather sleeve arranged on the circumference of the piston body and leaving free an annular space between the leather sleeve and the piston body tapering upward for the purpose that the material contained in the receptacle enters this space by depressing the piston, and a lever mechanism connecting said depressing means with said valve for the purpose of automatically opening the valve by depressing the pressure piston.

10. In a receptacle particularly for mustard a discharge valve, a valve casing leaving free the outlet of the valve body and intersecting with said body, a discharge tube for the reception of said valve, a pressure piston for forcing out the material through the tube and valve body, means for depressing the piston and a lever mechanism connecting said depressing means with said valve for the purpose that by depressing the piston on emptying the valve is automatically opened.

In witness thereof we have thereunto set our hands in the presence of two witnesses.

CARL FRIEDRICH WILHELM LINDEWIRTH.
EUGEN ARTHUR WIECK.

Witnesses:
PAUL R. THOMPSON,
JAMES M. BOWCOCK.