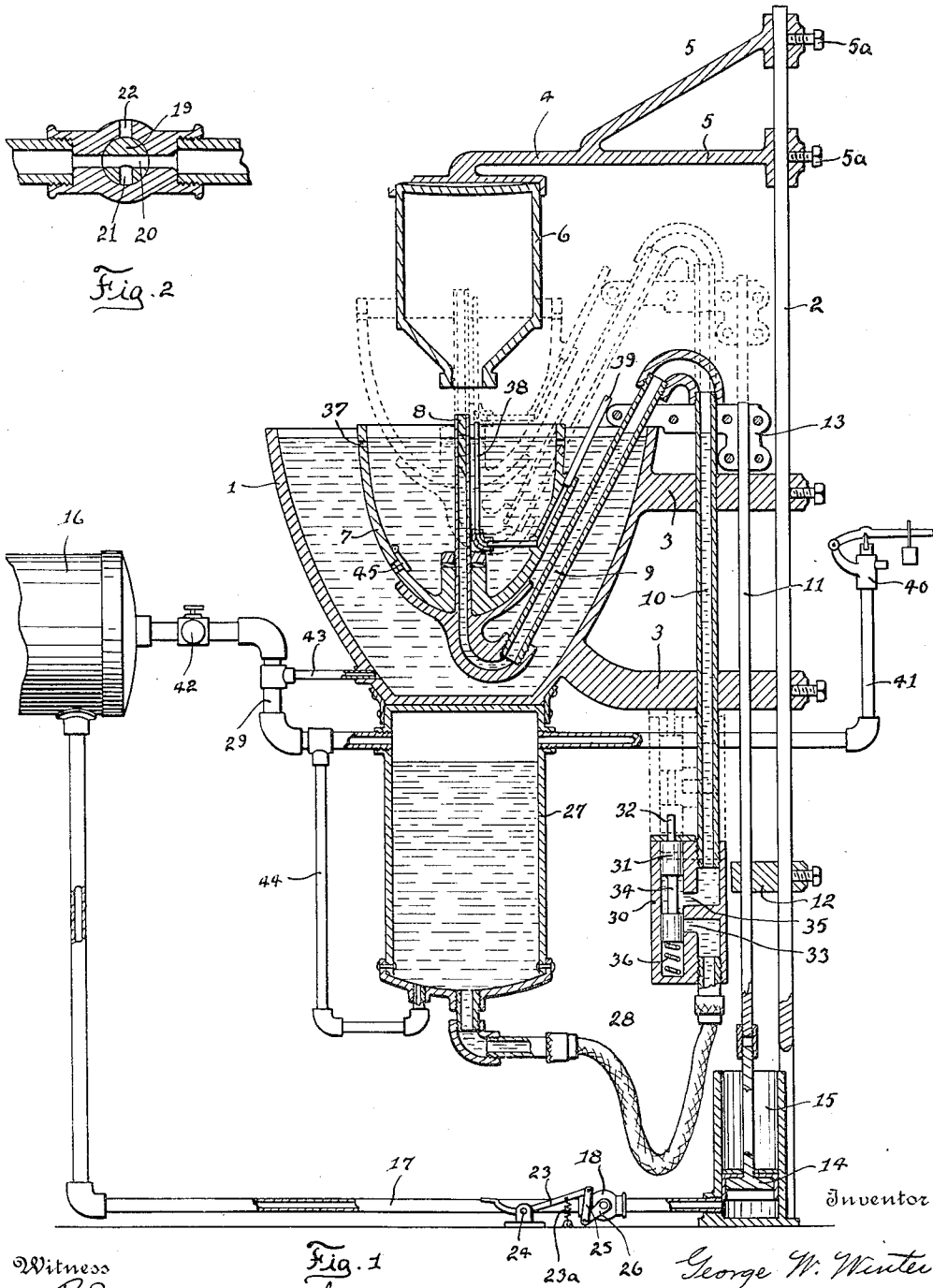


G. W. WINTER.
GLAZING MACHINE.
APPLICATION FILED JULY 26, 1916.

1,258,071.

Patented Mar. 5, 1918.



Witness
R. M. McCormick
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Fig. 1

By

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GLAZING-MACHINE.

1,258,071.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. WINTER, a citizen of the United States, residing at Crooksville, in the county of Perry and State of Ohio, have invented certain new and useful Improvements in Glazing-Machines, of which the following is a specification.

My invention relates to glazing machines of the type used in putting the desired finish on pottery ware. My invention is particularly adaptable for glazing both the interior and the exterior of this ware by virtue of a number of particularly novel structures.

The main object of my invention resides in the provision of a structure whereby the ware may be glazed to the same level during each successive operation and in this connection, the structure may also be such that the entire interior of the ware may also be glazed.

Still a further object of the invention resides in combination with a gage member in connection with which the ware is placed, a bowl into which the ware is dipped and means for causing a relative movement between the gage member and bowl when the ware is in its applied position. This structure may also be supplemented by the provision of means whereby the interior is automatically glazed upon the assumption by the relatively movable units of their glazing position.

Other objects of the invention will become more apparent after a further detailed description of the accompanying sheet of drawings, wherein similar characters of reference designate corresponding parts, and wherein:

Figure 1 is a view in central vertical section showing my improved type of glazing machine, and,

Fig. 2 is a vertical section taken through a valve structure used by me.

In the drawings, I have shown what I have termed an overflow bowl 1 as being rigidly supported upon a stationary support rod 2, by means of the laterally projecting arms or brackets 3. This stationary rod also carries a stationary gage member 4 at its upper end, by means of the laterally projecting bracket arms shown at 5. It is in connection with this stationary gage member that the ware is designed to be placed just prior to the glazing operation, a narrow-

neck piece of ware, such as the jug 6, being shown in the drawings. The glazing bowl 7 is shown as being slidably mounted to assume either the full line position or the dotted line position of Fig. 1. This bowl is provided with a centrally arranged up-standing pipe 8, which is spirally bored as is shown, which pipe is in communication with the inclined pipe 9 attached to the bottom of the bowl after the manner shown. This pipe 9 is in turn attached to the pipe or supporting standard 10 which is itself slidably mounted in the two overflow bowl bracket arms 3. The glazing bowl 7 receives its main support from the slide rod 11 also slidably mounted in the bracket arms 3 and collar 12 near the base of the standard 2 and is rigidly connected with the bowl by means of a pair of clamping members 13, which clamping members also clamp the pipe 10 in position. The lower end of the rod 11 is provided with a piston head 14, which piston head is operatively mounted within the air cylinder 15. This air cylinder is in communication with a source of air supply, such as the storage tank 16 by means of a pipe connection 17, which latter is provided with a valve structure 18. The plug 19 of this valve is provided with a longitudinal bore 20 and a short transverse bore 21, which latter is designed at certain times to communicate with the transverse bore 22 of the valve casing to permit the exhaust of air from the air cylinder 15. In order to elevate the glazing bowl 7, I have provided a foot pedal arrangement comprising the treadle member 23 pivoted intermediate its ends as is shown at 24 and this treadle member is connected by means of a link 25 and arm 26 directly to the valve plug. Depression of the rear end of the treadle member 23 will cause the valve plug to assume the position shown in Fig. 2, wherein the longitudinal bore 20 aligns with the opening in the pipe 17 to permit the flow of air from the cylinder 16 beneath the piston head 14 to cause its elevation. This movement is in turn imparted to the glazing bowl to make it assume the dotted line position shown. Release of the foot pedal or removal of the foot therefrom, causes the valve plug 19 to move through an arc of movement of ninety degrees by means of the tension spring 23^a, which will bring the transverse bore 21 into alignment with the openings in the pipe 17 and the longitudinal bore 20 into alinement

with the transverse bore 22 to thus permit the exhaust of the air beneath the piston 14 to the atmosphere. This glazing bowl is designed to be filled to the desired level with a glazing material and consequently when it is elevated and the ware is in position, the exterior of this ware will be glazed to the desired level.

In order to also glaze the interior of the ware, the centrally arranged upstanding pipe 8 has been provided. This pipe 8 communicates with a receptacle 27 for holding the glazing material by means of its pipe connections 9 and 10 and also the flexible hose connection shown at 28. In order to force the glazing material through the central pipe 8, I have connected the pipe 29 leading from the air reservoir 16 to the top of the receptacle 27, whereby the glazing material is given the benefit of the air pressure. The valve structure represented by the casing 30 and the piston valve 31, is interposed between the pipes 10 and 28 and the arrangement is such that when the glazing bowl is elevated, the stem 32 of the valve will abut the underside of the bracket arm 3 when the bowl has reached substantially the end of its upward travel. This valve is in the nature of a cut off valve and when the stem 32 is moved, the port 33 is uncovered which permits the glazing material to circulate about the reduced shank portion 34 of the valve to enter the port 35 and then the pipe 10. This valve operates against the tension of a spring 36 so that when the foot pedal 23 is released to permit the exhaust of the air, the communication of the liquid in the reservoir 27 with the centrally upstanding pipe 8, will be broken. The glazing material thus entering the interior of the jug will be given a spiral motion due to the spiral bore in the pipe 8 and sprayed over the entire interior of the jug, the surplus running down through its mouth portion and dropping into the glazing bowl 8. In order to maintain a constant level in this glazing bowl, I have provided it with a series of apertures 37 which, when the liquid has reached its level, permits the surplus to overflow into the overflow bowl 1. Also, to vent the interior of the ware 6 to permit the steady outflow of the glazing material from it as the jug is withdrawn, without causing bubbling, I have provided the vent pipe 38 which lies parallel with the pipe 8 for the major portion of its length and is open at its top end and also exhausts out its rear end 39 into the atmosphere.

In order to regulate the pressure upon the surface of the glazing material within the reservoir 27 as far as excess pressure is concerned, I have provided a pop-off valve 40 which is attached to the pipe connection 41 leading to the top of the reservoir 27 and which, when the pressure within the reser-

voir goes above a predetermined point allows a portion of the air to escape to reduce the pressure to the desired point. This valve may also be used to exhaust all of the air on top of the liquid in the reservoir 27 when it is desired to permit the glazing material within the overflow bowl 1 to again enter this receptacle. This is accomplished by operating the valve 42 located in the pipe line 29 to break the communication of the reservoir 16 with the reservoir 27. After this valve has been operated, the pop-off valve may be manually operated to exhaust the air within the reservoir 27 which then permits the glazing material to flow through the by-pass connection 43 into the pipe 29 and eventually into the reservoir 27. During this normal operation this pipe 43 serves as a means for agitating the glazing material within the overflow bowl 1, the pipe being of a sufficiently reduced size to permit the slow escape of air therethrough, which in turn bubbles up through the bowl 1 to maintain the desired agitation. Similarly, I have provided a by-pass 44 which leads to the bottom of the reservoir 27 which maintains the glazing material contained therein also in an agitated state. Should it be desired to remove practically all of the glazing material within the glazing bowl 7, the check valve shown at 45 may be operated, which permits it to flow into the overflow bowl 1 and from there in turn into the reservoir 27.

The operation of my device is as follows: The operation of the foot pedal 23 against the tension of the spring 23^a causes the valve 18 to assume the position shown in Fig. 2, wherein air from the storage reservoir 16 enters beneath the piston head 15 to cause its elevation. This elevation in turn causes the elevation of the glazing bowl 7 a predetermined distance, so that the ware 6 after it has been placed in position, will always be glazed to the same level. It is, of course, understood that the gage member 4 may be adjusted to the desired height by means of the adjusting bolts 5^a. When the glazing bowl has been thus elevated, the valve stem 32 will be caused to engage the underside of the bracket arm 3 to uncover the port 33 and permit the glazing material to flow about the reduced portion of the valve 34 into the upstanding pipe 8. This pipe is provided with a spiral bar which imparts a spiral motion to the glazing material and thus the entire interior of the ware is sprayed, the overflow dropping down into the glazing bowl 7. The vent pipe 38 is provided to permit the ready insertion or withdrawal of the ware without causing a bubbling of the glazing material within the bowl 7. The level within the bowl 7 is maintained, because of the apertures 37 which permit the overflow to flow into the overflow bowl 1

and this may in turn be again permitted to enter the reservoir 27 by operating the valve 42 to shut off the air pressure and relieving the pressure by manual operation of the pop-off valve 40. This will then permit the glazing material to flow by gravity through the pipes 43 and 29 into the reservoir 27. Release of the foot pedal then will bring the valve 18 to a position whereby the transverse bore 21 aligns with the pipe opening 17 and the longitudinal bore 20 of the valve with the transverse bore 22 through the valve casing. This permits the escape of the air beneath the piston 14 to allow the descent of the glazing bowl and during its descent, the flow of glazing material to the interior of the ware is automatically shut off by the spring 36 automatically moving the valve 3 to its shut-off position.

Thus, it will be apparent that I have provided an apparatus of considerable utility wherein the only operations that are necessary is the placing of the ware 6 in its correct position and the operation of the foot pedal 23. This causes the glazing of the interior as well as the exterior of the ware, as has already been related.

What I claim, is:

1. A glazing machine comprising a glazing bowl, means for supplying the glazing to said bowl, means for maintaining a constant level in said bowl, a gage member in connection with which the ware is placed, and means for causing a relative movement toward each other of said bowl and said gage when the ware is in position.

2. A glazing machine comprising a glazing bowl, an overflow bowl properly located beneath said glazing bowl, a gage member in connection with which the ware is placed, and means for causing a relative movement toward each other of said glazing bowl and said gage when the ware is in position.

3. A glazing machine comprising a glazing bowl, an upstanding supply pipe within said bowl, a gage member in connection with which the ware is placed, means for causing a relative movement toward each other by said bowl and said gage when the ware is in position, and means for automatically forcing the glazing through said pipe after such movement has occurred.

4. A glazing machine comprising a glazing bowl, a gage member in connection with which the ware is placed, means for causing a relative movement toward each other of said bowl and said gage when the ware is in position, and means for venting the interior

of the ware after said bowl and gage have been moved toward each other.

5. A glazing machine comprising a glazing bowl, a central upstanding supply pipe within said bowl, a gage member in connection with which the ware is placed, means for causing a relative movement toward each other of said bowl and said gage when the ware is in position, means for forcing the glazing through said pipe after such movement has occurred, and means for venting the interior of the ware.

6. A glazing machine comprising a bowl, a central upstanding supply pipe within said bowl, a gage member in connection with which the ware is placed, means for causing a relative movement toward each other of said bowl and said gage when the ware is in position, an air pressure tank, and means for automatically rendering the air pressure tank effective to force the glazing through said pipe after such movement has occurred.

7. A glazing machine comprising a glazing bowl, a centrally upstanding supply pipe within the bowl, a gage member in connection with which the ware is placed, means for causing a relative movement toward each other of said bowl and said gage when the ware is in position, means for automatically forcing the glazing through said pipe after such movement has occurred, and means for maintaining a constant level in said bowl.

8. A glazing machine comprising a movable glazing bowl, a centrally upstanding supply pipe within the bowl, a stationary gage member in connection with which the ware is placed, means for elevating said bowl, and means for automatically spraying the interior of the ware by means of said pipe when the bowl has been elevated.

9. A glazing machine comprising a movable glazing bowl, a stationary bowl for catching the overflow from said glazing bowl, a centrally upstanding supply pipe within said stationary bowl, a stationary gage member in connection with which the ware is placed, means for elevating said bowl, means for venting the inside of the ware as it is dipped into said glazing bowl, and means for automatically spraying the interior of the ware by means of said pipe when the bowl has been elevated.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. WINTER.

Witnesses:

WM. J. CALHOON,
JOSHUA SOWERS.