P. SHERRER.

PACKAGE COATING APPARATUS.

APPLICATION FILED JAN. 27, 1913.

1,152,922.

Patented Sept. 7, 1915.

2 SHEETS—SHEET 1.

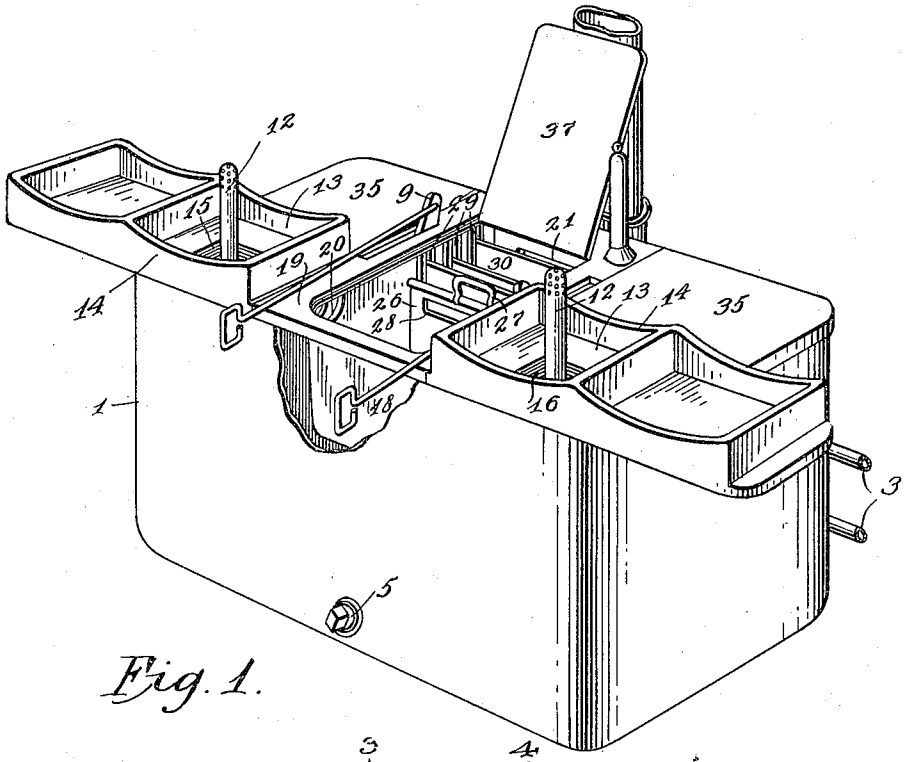
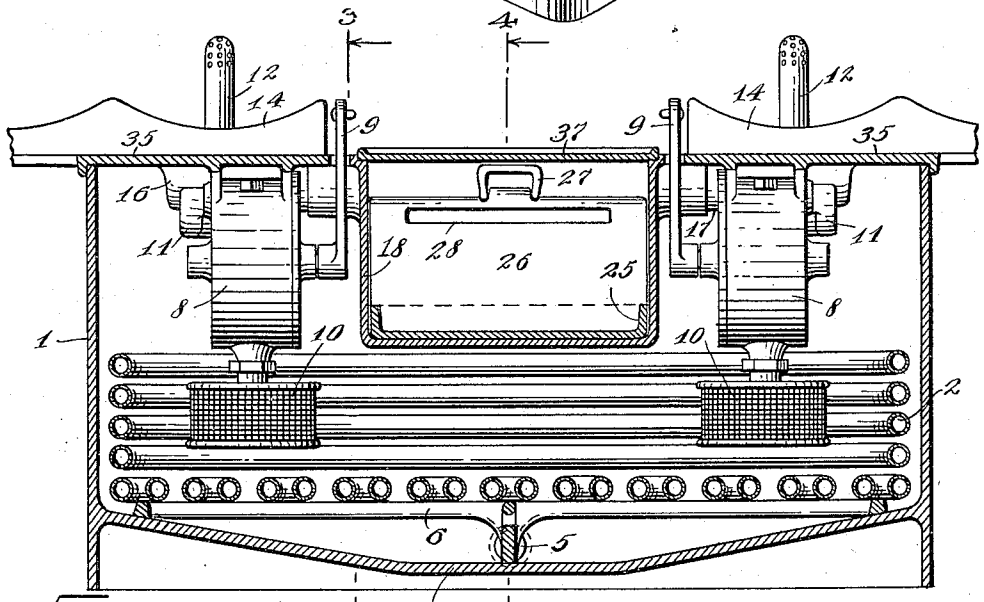


Fig. 1.



Witnesses:
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Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

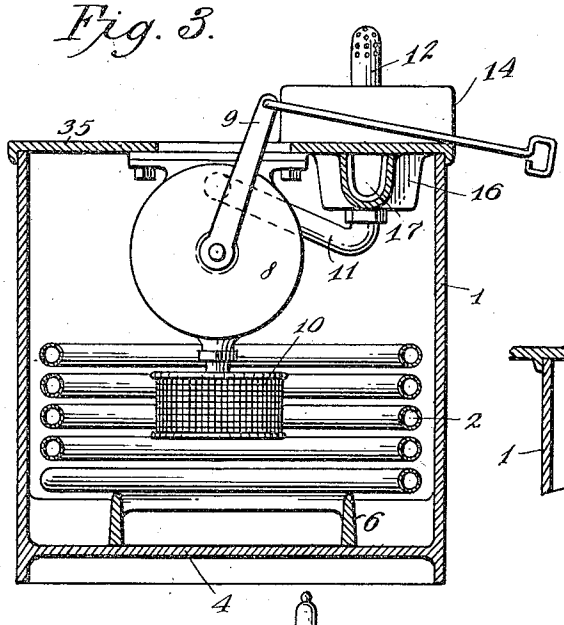


Fig. 5

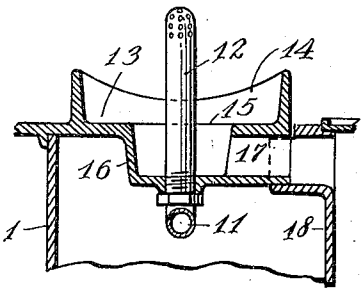
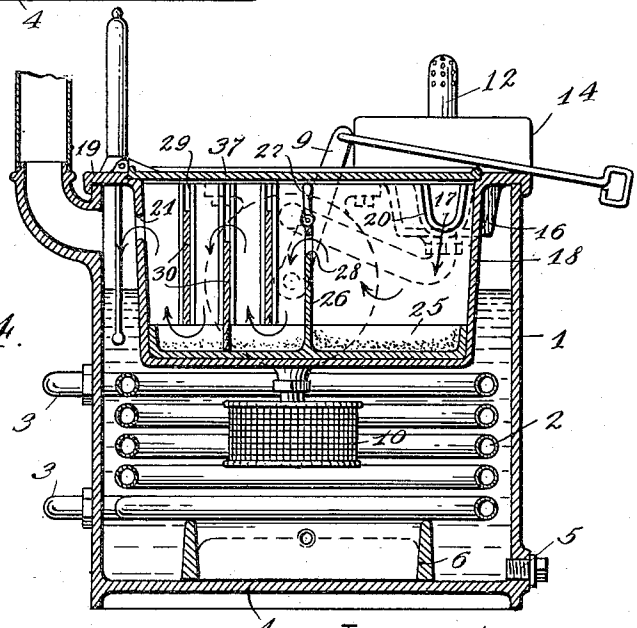


Fig. 4.



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PACKAGE-COATING APPARATUS.

1,152,922. Specification of Letters Patent. Patented Sept. 7, 1915.

Application filed January 27, 1913. Serial No. 744,326.

To all whom it may concern:

Be it known that I, PHILIP SHERRER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Package-Coating Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to pitching apparatus, whereby pitch, paraffin, glue, water glass, or the like material is applied to the interior of casks and barrels to prepare them for the reception of beer, vinegar, pickles, alcohol, oil, turpentine, etc., or like liquids. The expedient of coating the interior of such packages with pitch or other molten material for the purpose of producing a perfectly impervious, clean, aseptic container has long been known, and machines for the application of the same have been in use for a considerable time. These machines ordinarily comprise a kettle or other receptacle wherein the pitch or other material is melted, a nozzle adapted to be received in the bung hole of the cask or barrel, and a pump whereby the molten material is injected into the nozzle, the nozzle ordinarily being supported in an upright position, so that excess material will be drained out of the barrel and thus returned to the melting pot. Theoretically the coating material is injected over and over until entirely used up by adhering to the packages and without other appreciable waste, the surplus injected into a package during each coating operation being returned to the receptacle so as to be available for injection into a succeeding package, but in practice the material appears to deteriorate in value rather rapidly. For example, beer containers are ordinarily pitched and the empty barrels are generally subjected to very rough usage and frequently become more or less filled with grit and sand which adheres to the interior sufficiently to prevent dislodgement by the rather cursory washing which the packages receive prior to being repitched. Consequently upon the injection of hot pitch into the packages this sand is released and is carried into the receptacle. In addition the heating of the pitch apparently decomposes the same to some extent, rendering it nodular, granular or crystalline, and in some cases even carbonizing the same. These sandy and crystalline particles seriously injure the pump, and in addition, fall to the bottom of the kettle and become congealed into an almost irremovable coating. In case the kettle be of the fire heated kind, this deposit so retards the passage of heat from the fire into the pitch that the iron shell of the kettle becomes greatly overheated, sometimes even to red heat, with consequent weakening of the same and early failure of the receptacle, while its removal is extremely difficult, frequently even requiring the use of cold-chisels. In connection with a steam-heated kettle, the great disadvantage has been the coating of the steam pipes and bottom of the kettle with an almost impenetrable mass of sand grains and cinders which seriously decreases the heat-capacity of the kettle and occasions a considerable waste of pitch. In case the coating material be glue, paraffin, water glass or the like, various foreign substances are found to contaminate the same, such as chips, and grit, all of which ought to be removed.

The object of the present invention is the provision of means for removing these sand grains, nodules, carbon particles, or other foreign substances from the molten coating material, thereby clearing the same and preventing its discoloration, preventing the abrasion of the pump and bearings, and prolonging the life and increasing the heat capacity of the kettle by avoiding the deposit of a hard and nonconducting coating upon the bottom and sides thereof.

Other objects relate to the provision of a construction which can be easily manipulated, and which will not suffer from misuse or carelessness, while further objects and advantages will be set forth as the specification proceeds.

In the drawings accompanying and forming a part of this application, I have illustrated my improvements as applied to a pitching apparatus and in this specification I have described the same with more particular reference to its use with pitch, although it will be understood that I contemplate the employment of my apparatus with other materials than pitch, and that I esteem my invention to comprehend such variations

and modifications in construction as the nature of the material may necessitate and as convenience may indicate.

In these drawings, Figure 1 is a perspective view of a pitching kettle of well-known type provided with a settling box or sand-arrester of my invention; Fig. 2 is a longitudinal cross sectional view through the kettle and through the middle of my improved settling box; Fig. 3 is a transverse cross-sectional view taken upon the line 3—3 of Fig. 2 and looking in the direction of the arrows; Fig. 4 is a central transverse section taken upon the line 4—4 of Fig. 2 and looking in the direction of the arrows, and Fig. 5 is a detail cross sectional view through one of the pitching nozzles and the basin surrounding the same.

Describing the parts by reference characters 1 represents a pitch kettle of the steam heated type, the same being preferably of oblong, substantially rectangular shape and having therein a plurality of pipes or coils 2, for the reception of superheated steam, or other heat transferring medium, conveyed thereto by means of the pipes 3—3. In the present embodiment the bottom 4 of the kettle is illustrated as depressed toward a central well where it is provided with a draw-off plug 5, the pipes being supported upon a frame 6 which rests upon the kettle bottom. It will be understood, that these parts have been illustrated and described only for the sake of completeness and that my invention is applicable to any form or construction of kettle irrespective of the shape or method of heating the same.

Supported within the kettle in any suitable manner are one or more pumps 8 provided with operating levers 9, intake strainers 10, and discharge conduits 11, the latter terminating in upright spray-nozzles 12 adapted to be received within the bung holes of the casks or barrels to be pitched. In the present embodiment two such nozzles are illustrated, although it will be obvious that my invention is independent of the number of such nozzles employed or of their arrangement. The arrangement that I have shown and described, is however, to my mind the preferable one, in view of the possibilities of efficient and economical arrangement. Surrounding each of the nozzles 12 is a basin 13, the walls 14 whereof are generally concaved for the reception of a barrel or keg, while the bottoms of the basins are formed with central apertures 15 for the reception of the excess pitch. Heretofore these openings have communicated directly with the interior of the kettle so that this pitch would be returned immediately to the molten mass therewithin, but according to my invention, I form beneath each opening a sink or well 16 provided with a laterally discharging gutter 17, and inside the pitch kettle I support a settling box 18 into which said gutters may discharge. This box consists preferably of an elongated rectangular casing integral with a top plate 19, which plate rests upon the upper edges of the kettle walls, the walls of the box being formed near one end with apertures 20 for the reception of the gutters 17, and at the opposite end with a discharge aperture 21 through which the pitch may be returned to the kettle, this discharge aperture being at a point not lower than the level of the pitch inside the kettle. This settling box may be designed and constructed in any one of a great number of ways, but preferably comprises a removable tray or pan, which may be removed from time to time for the purpose of emptying the sediment, and is also preferably formed with baffle plates or the like for the purpose of facilitating the deposit of sediment. In the present embodiment, this tray is illustrated at 25 and is provided about midway of its length with an upwardly projecting septum 26 which projects substantially to the top of the box and is formed with a handle 27 whereby the tray may be removed. This septum is formed with an elongated overflow aperture 28 a short distance beneath the handle 27. Between this septum and the overflow end of the box, a plurality of guideways may be formed for the reception of baffle plates 30, said baffle plates being arranged to provide openings at upper and lower sides thereof alternately so that the molten pitch will take the tortuous passage thereabout as shown by the arrows in Fig. 4. These baffle plates being easily removable, the removal and cleaning of the tray 25 is interfered with only to a very slight degree.

The entire part of the top of the kettle which is not covered by the plate 19 is preferably closed by means of plates 35—35, permanently secured in place so that new pitch can be added when required only by throwing it into the basins 13 or into the settling box 18. Even new pitch is liable to contain sand, nodules, and other impurities, and for this reason it is best to pass the same through the settling box before allowing it to mix with the pitch in the kettle. The arrangement shown herein renders very remote the possibility that the apparatus will be improperly used. The settling box 18 may be covered by a plate 37 hinged to the plate 19.

The operation of the mechanism herein described is believed to be clear without further explanation. It will be obvious that all parts are either immersed in the molten pitch or so closely associated therewith that any pitch contained in or adhering to them will inevitably be melted so that there can be no stoppage or clogging by pitch con-

gealed thereon. It will be apparent, however, that many of the advantages of my invention can be obtained by the use of modified forms of apparatus, wherefore I do not restrict myself to the form illustrated except as I have specifically recited the same in the claims hereto annexed.

Having thus described my invention, what I claim is:—

1. In a device of the kind described, the combination with a melting kettle, article support and spray apparatus, of a basin for receiving molten material from an article so supported, and a settling box within the kettle and adapted to receive the material from said basin, the side of said settling box being formed at a point above its bottom with a discharge opening which communicates with said kettle at a point above the normal level of the material in said kettle, the body of said box extending below the normal level of the material in said kettle.

2. In a device of the kind described, the combination with a melting kettle, article support and spray apparatus, of a basin carried by the top of said kettle and adapted to receive molten material from an article so supported, a settling box within the kettle and adapted to receive material from said basin, said settling box having its body portion depending into the liquid receiving portion of said kettle and having a discharge opening communicating with said kettle at a point above the level of the material in said kettle, and baffle plates within said settling box said plates being spaced alternately above and below the top and bottom of said kettle whereby a tortuous passage is provided within said settling box as set forth.

3. In a device of the kind described, the combination with a melting kettle, article support, and spray apparatus, of a basin for receiving molten material from the article so supported, a settling box arranged within the kettle and adapted to receive material from said basin, said settling box having an opening communicating with the kettle at a point above the level of material contained within said kettle, a plurality of alternately arranged baffle plates within the settling box, and a pan located in the bottom of said box, said pan being removable.

4. In a device of the kind described, the combination with a melting kettle, barrel support and spraying apparatus, of a basin carried by the kettle top and adapted to receive molten material from said barrel, a settling box in said kettle and partially submerged in the molten material, said box being adapted to receive the material from said basin and having a discharge opening communicating with the melting kettle at a point above the level of the material in said kettle, and a plurality of alternately arranged baffle plates within said settling box whereby a tortuous passage therethrough is provided, said baffle plates being removable as set forth.

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

PHILIP SHERRER.

Witnesses:
HAROLD E. SMITH,
BRENNAN B. WEST.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."