M. SCHRECK, Sr.

DRIER CONVEYER FOR WHITE LEAD.

APPLICATION FILED APR. 21, 1908.

900,787. Patented Oct. 13, 1908.

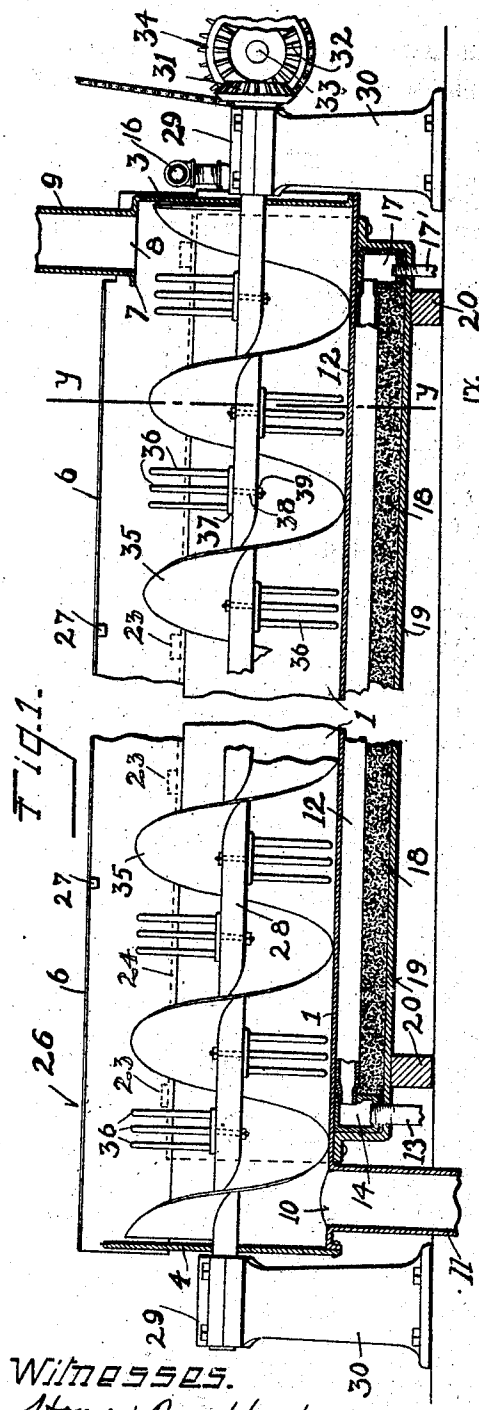


Fig. 1.

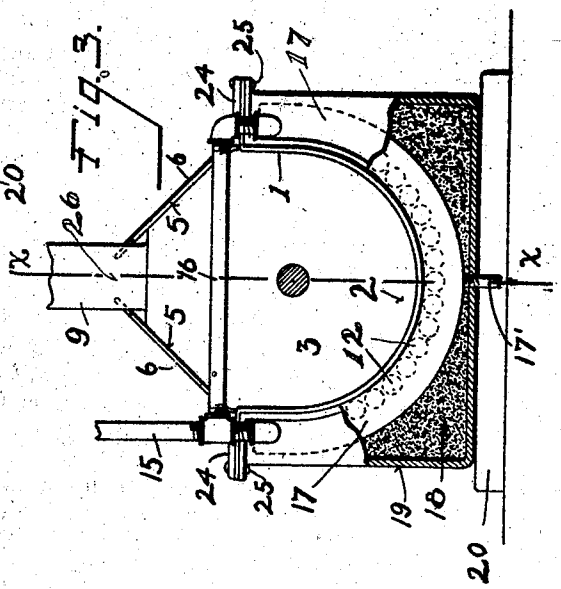


Fig. 3.

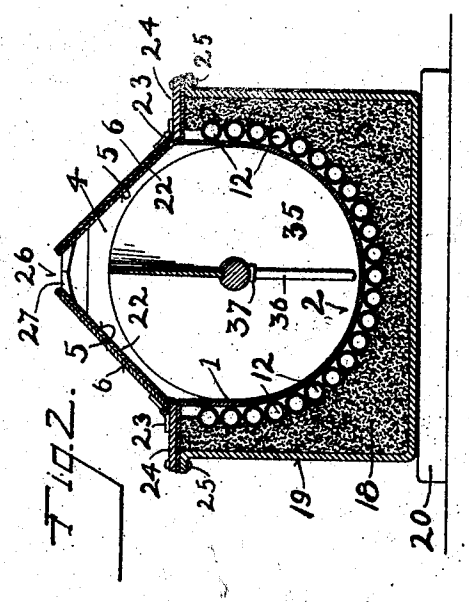


Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

MICHAEL SCHRECK, SR., OF CINCINNATI, OHIO.

DRIER-CONVEYER FOR WHITE LEAD.

No. 900,787. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed April 21, 1906. Serial No. 312,364.

To all whom it may concern:

Be it known that I, MICHAEL SCHRECK, Sr., a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Drier-Conveyers for White Lead, of which the following is a specification.

It is the object of my invention to provide a drier conveyer for white lead.

In the manufacture of white lead it is the practice to decompose so-called blue lead in acetic acid, or other chemicals, in suitable pots, which are stacked in layers one above the other with boards and tan-bark between the layers, after which the decomposed lead is ground by suitable mills and passed through a separator. The white lead so separated is then ground in water, the ground white lead being then permitted to precipitate. The practice heretofore has been and still is to dry this precipitated white lead in large pans, a tedious and time-consuming method.

It is the object of my invention to dispense with the drying of this white lead in pans and to provide a drier-conveyer of novel construction especially applicable for this purpose, and the invention will be readily understood from the following description and claims, and from the drawings, in which latter:

Figure 1 is a central longitudinal vertical section of my improved device on the line *x*—*x* of Fig. 3. Fig. 2 is a cross-section of the same on a line corresponding to the line *y*—*y* of Fig. 1; and, Fig. 3 is an end elevation of the same.

1 represents a conveyer-trough which comprises a rounded bottom 2.

3 is the end-wall of the trough at the feeding-in end thereof and 4 is the end-wall of the trough at the feeding-out end thereof. These respective end-walls have slanting sides at their upper ends as shown at 5 which act as rests for top-plates or lids 6. The end-wall 3 has a flange 7 which extends inwardly of the trough, in which there is an inlet-opening 8 for the trough, an inlet-pipe 9 communicating with the opening 8.

10 is an outlet-opening in the bottom of the trough at its outlet-end, with which an outlet-pipe 11 communicates.

12 12 are a series of heating pipes preferably steam-pipes, fed, for instance, by a feed-pipe 13 which communicates with a header 14.

15 is an outlet-pipe for the steam which connects with a cross-pipe 16 communicating with the horns of a header 17.

The heating pipes are arranged between the headers and communicate with the headers. These pipes and headers are preferably arranged around and longitudinally of the conveyer-trough preferably approximately in half-round form under the rounded bottom 2 and close thereto. The outer parts of the heating pipes are preferably embedded in a body of cement 18 supported in a case 19, the inner face of the cement-bed being preferably of a form similar to the shape of the series of piping. An escape-pipe 17′ for condensed steam may be provided.

The inlet-end of the white-lead trough is preferably lower than the outlet-end of the trough so that the moisture in the saturated white lead will have a tendency to remain or be directed toward the inlet-end of the trough and thereby aid in the drying action as the white lead is forced toward the outlet opening of the trough by the conveyer mechanism presently to be described. The piping and inner face of the cement-bed are also preferably inclined longitudinally similarly to the incline of the white-lead trough, and the case may be given a similar inclination by mounting the same on blocks 20, but I do not limit myself to inclining these parts as stated.

The rounded bottom of the white-lead trough is preferably of copper or such material as not to be chemically detrimentally affected by the white lead and protects the pipes and cement from contact by the white-lead to prevent disintegration of the cement, which may be a usual mixture of hydraulic cement, sand and water. The upper ends of this rounded bottom are bent sidewardly over the body of cement and secured in suitable manner to the case. The lids or top-plates 6 may have a lining 22 of copper. They are shown hinged by hinges 23 to strips 24 extending longitudinally of the trough at the respective sides thereof and secured to the case in suitable manner as by the bolts 25. The lids may be swung back on their hinges for inspection of the contents of the trough. They prevent spattering of the white lead beyond the sides of the trough adjacent the top of the trough. Their upper ends are preferably separated however for forming an

opening 26 extending longitudinally of the trough. This opening is provided for permitting escape of steam and fumes from the trough. At intervals the upper edges of the lids are provided with separating blocks 27. The trough may be of any desired length and in practice attains a length of forty or more feet.

A shaft 28 is supported in suitable bearings 29 sustained by standards 30. The shaft 28 carries a bevel-wheel 31 meshed by a bevel-wheel 32 on a cross-shaft 33 operated by a sprocket-wheel 34 thereon from a suitable source of power. A spiral-blade 35 or conveyer-screw is secured to the shaft, and when it is caused to turn it directs the white lead introduced into the trough from its feed-in end towards the feed-out end. Stirrer-blades 36 are also secured to the shaft and are preferably supported in groups on a bar 37 having a stem 38 passing through an aperture in the shaft, a nut 39 securing the bar in place, the stirrers continuously stirring the white lead in the trough for breaking up the white lead as it dries.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a white-lead drier-conveyer, the combination of a white-lead trough having a rounded bottom, a spiral-conveyer rotatable therein with its outer edge adjacent said bottom for conducting the white-lead from the feed-in end toward the feed-but end of said trough, stirrer-blades between the spirals of said spiral-conveyer, and heating pipes under said trough close to the bottom thereof, said trough having opening at its top extending longitudinally of said trough for permitting the escape of steam and fumes, said heating pipes being partly surrounded by cement, substantially as and for the purpose specified.

2. In a white-lead drier-conveyer, the combination of a white-lead trough having a rounded bottom, a spiral-blade rotatable therein with its outer edge adjacent said bottom for conducting the white lead from the feed-in end toward the feed-out end of said trough, heating pipes under said trough close to the bottom thereof, said trough having opening at its top extending longitudinally of said trough for permitting the escape of steam and fumes, said heating pipes being partly surrounded by cement, substantially as and for the purpose specified.

3. In a white-lead drier-conveyer, the combination of a white-lead trough having a rounded bottom, a spiral-blade rotatable therein with its outer edge adjacent said bottom for conducting the white lead from the feed-in end toward the feed-out end of said trough, heating pipes under said trough close to the bottom thereof, said trough having opening at its top extending longitudinally of said trough for permitting the escape of steam and fumes, the said heating pipes arranged in substantially half-round form extending longitudinally of said white-lead trough, and a cement-bed having a similarly formed inner face with which said pipes are partly surrounded, substantially as and for the purpose specified.

4. In a white-lead drier-conveyer, the combination of a white-lead trough having an inlet-end and an outlet-end for the white lead, said trough slanting upwardly continuously from said inlet-end toward said outlet-end, a spiral-conveyer in said trough similarly slanted, stirrer-blades between the spirals of said spiral-conveyer, means for rotating said spiral-conveyer and stirrer-blades, and heating pipes arranged under said trough, substantially as described.

5. In a white-lead drier-conveyer, the combination of a white-lead trough comprising a rounded bottom and hinged top-plates spaced apart at their upper edges, a spiral-blade rotatable in said trough with its outer edge adjacent said bottom for conducting the white lead from the feed-in end toward the feed-out end of said trough, stirrer-blades rotatable with said spiral-blade, and heating-pipes under said white-lead trough for heating the white lead being forced through the trough, the space between said top-plates permitting escape of steam and fumes, substantially as described.

In testimony whereof I have subscribed my name hereto in the presence of two subscribing witnesses.

MICHAEL SCHRECK, Sr.

Witnesses:

FLORENCE QUINN,

COLEMAN AVERY.