No. 759,351. PATENTED MAY 10, 1904.

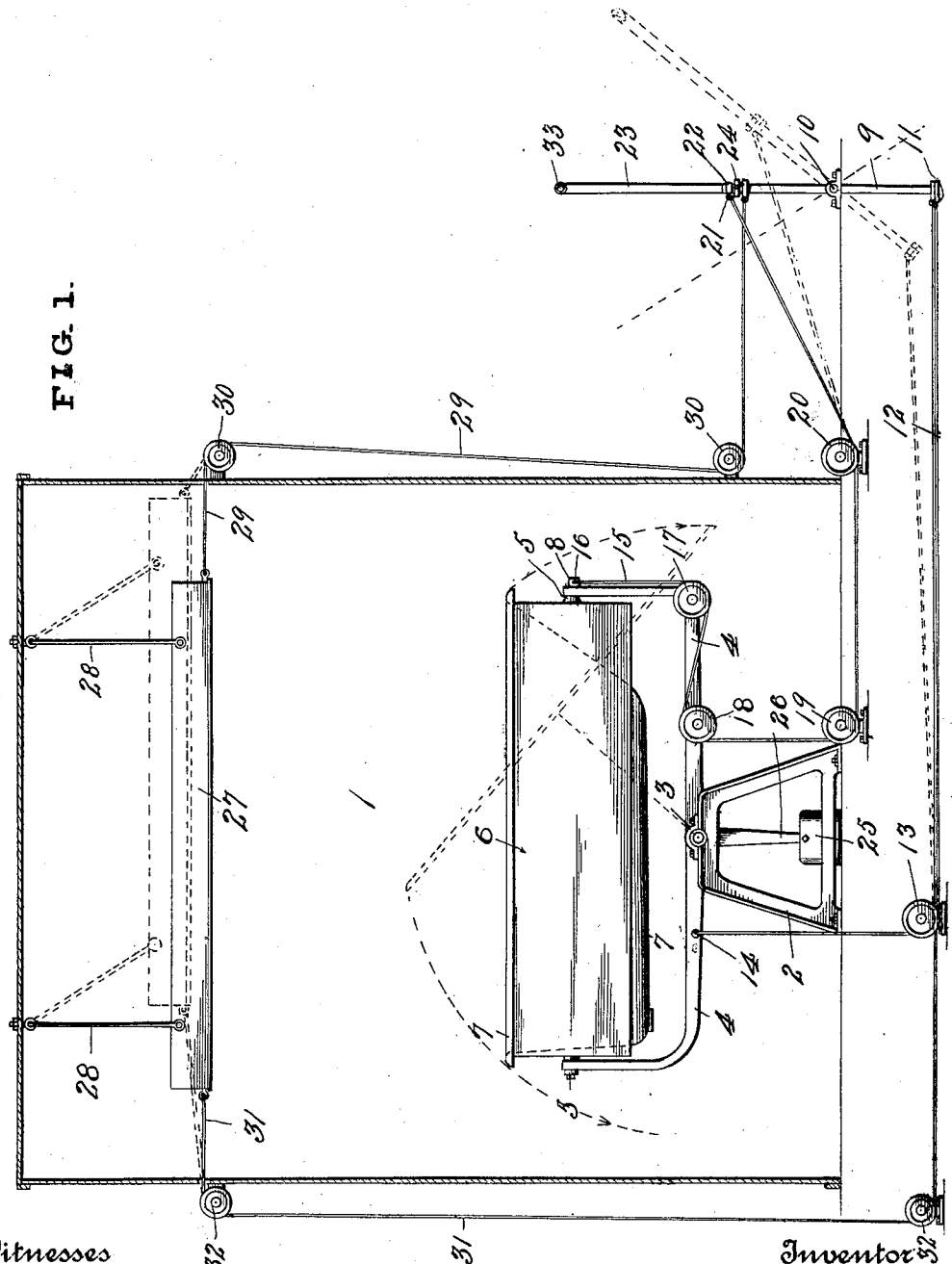
E. L. DAWES.

ENAMELING DEVICE.

APPLICATION FILED SEPT. 5, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.



Witnesses
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NO MODEL. 2 SHEETS—SHEET 2.

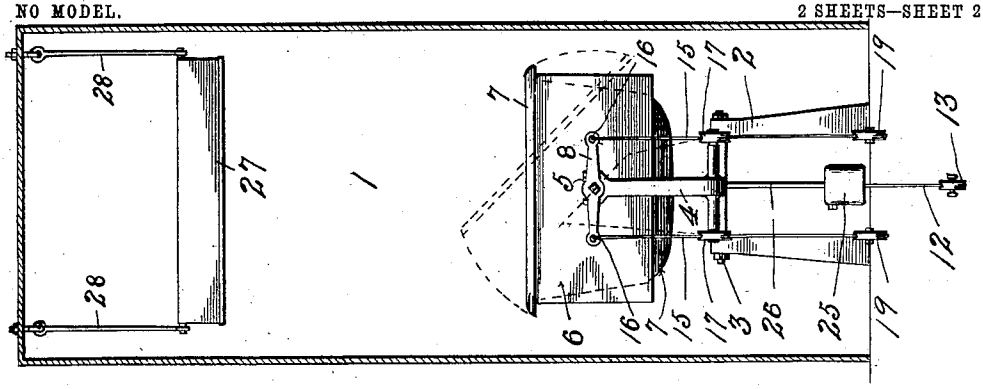


FIG. 3.

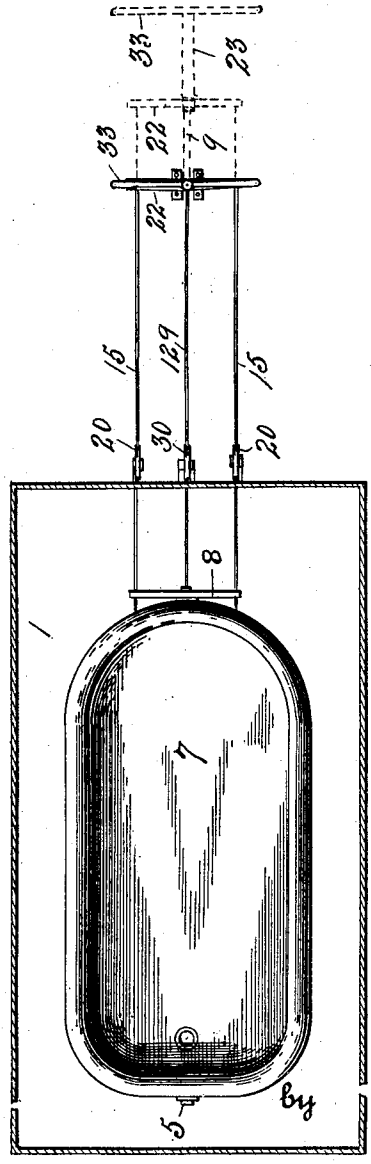


FIG. 2.

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UNITED STATES PATENT OFFICE.

EDWARD L. DAWES, OF NEW BRIGHTON, PENNSYLVANIA, ASSIGNOR TO STANDARD SANITARY MANUFACTURING COMPANY, OF PITTSBURG, PENNSYLVANIA.

ENAMELING DEVICE.

SPECIFICATION forming part of Letters Patent No. 759,351, dated May 10, 1904.

Application filed September 5, 1903. Serial No. 172,126. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. DAWES, a citizen of the United States, and a resident of New Brighton, in the county of Beaver and State of Pennsylvania, have invented new and useful Improvements in Enameling Devices, of which the following is a specification.

My invention relates to the application of enamel-powder.

More particularly stated, the object of my invention is to provide an apparatus which will apply enamel-powder to heated metal surfaces in the process of enameling the same.

With this object in view my invention consists in the following construction and combination of devices, the details of which will first be fully described and the patentable features of novelty then set forth and claimed.

In the drawings, Figure 1 is a side elevation with one side removed of an apparatus to which my invention has been applied. Fig. 2 is a plan view with the top removed, and Fig. 3 is an end elevation with one of the ends removed.

In the drawings, 1 represents a closed chamber, within which the process of enameling is performed, the article to be enameled being introduced and removed through the side or end partitions in any suitable manner. On the floor of the chamber 1 is the standard 2, provided with journal-boxes 3, which support a trunnioned spider-frame 4, the bearings of which oscillate in the journal-boxes 3. In the spider-frame 4 are bearings 5, in which is mounted a tilting support 6. The particular support 6 in this instance is specially adapted to support a metal bath-tub 7 for the purpose of enameling the same. Attached to one end of the tilting support 6 is a two-armed lever 8, rigidly secured thereto at its mid-length and by means of which the support 6 is oscillated or tilted.

Alongside the chamber 1 is a lever 9, pivoted at 10. The lower end of this lever has attached thereto at the point 11 a rope or chain 12, passing over a fixed sheave 13 below the floor and upwardly to the spider-frame 4, where it is attached at 14.

Two ropes or chains 15 each have one end secured to one end of the two-armed lever 8 at 16, the ropes passing down under the sheaves 17 on the spider-frame 4 and horizontally over a second pair of sheaves 18 on said frame, thence downwardly over the pair of sheaves 19 at the bottom of the chamber 1, from whence the double rope passes outwardly beneath the chamber under the two sheaves 20, the other ends of the ropes being secured at each end 21 of double lever-arm 22, which is rigidly secured to the main operating-lever 9 and projects therefrom in opposite directions. This double-arm lever 22 is rigid with the upper portion 23 of the lever 9, said upper portion being journaled to the lower portion of the lever, the entire lever being rigid with respect to its oscillating movements and having its upper part 23 swiveled upon the lower portion of the lever at the collar 24.

A weight 25, hung beneath the spider-frame 4 upon an arm 26, serves to counterbalance the movements of support 6. Above the tilting support is arranged a screen-frame 27, provided with a sieve in the bottom thereof. This frame is hung on pivoted arms 28, so that it can be shifted endwise in the top of the chamber 1. At one end of the screen 27 is attached a rope 29, passing over sheaves 30 on the outside of the chamber, the other end being secured to the main operating-lever 9. At the opposite end of the screen is a rope 31, passing over sheaves 32 and connected to the bottom end of the lever 9.

In operation the article to be treated, which in this instance is a bath-tub, is heated and then introduced into the chamber 1, its upper flanges resting on the support or shield 6. It is then dusted with enamel-powder, the powder being applied evenly over the surface by the mechanism described. In this application the bath-tub may be tilted longitudinally or in the line of its length in either direction by oscillating the lever 9 by means of its handle 33, the handle being moved backward or forward, as shown in dotted lines. A pull on the rope 12 causes the spider-frame to rock in one direction, while a pull on the pair of ropes 15 causes the bath-tub to tilt in the opposite direction. If it is desired to tilt the

bath-tub laterally and not longitudinally, the upper part of the lever 23 is rotated upon the collar 24, causing one of the arms of the double-arm lever 22 to pull one of the ropes 15, the motion being transmitted over the sheaves to one end of the lever 8 and the support or shield tilted upon the bearings 5. By rotating the upper arm of the lever 23 in the opposite direction an opposite movement results, as is clearly apparent. If it be desired to give the tub a simultaneous compound longitudinal and lateral tilting at the same time, the lever 23 is rotated at the same time that it is oscillated, the result producing a tilting movement of the spider-frame upon its bearings 3 and the shield or support 6 upon the bearings 5 at the same time. The shifting of the screen above the tub is automatically adjusted by the movement of the lever 9 by reason of the connection of the ropes 29 and 31 to that lever. When the bath-tub is tilted toward one end of the chamber 1, the operating-rope causes the screen to move simultaneously therewith and centrally thereto.

Any known means may be employed to jar or vibrate the screen for the purpose of dusting the enamel-powder upon the bath-tub. This may be done by pneumatic hammers, cam-vibrators, or other well-known means.

While I have described the operation of my invention in connection with a bath-tub, it is distinctly understood that the invention is not confined to the enameling of a bath-tub. The shape of the support or shield 6 may be varied indefinitely if found desirable to adapt it to the enameling of different articles. Moreover, I wish it understood that I do not confine my invention to the details shown in the accompanying drawings, for the inventive idea embodied therein may be expressed in various mechanical ways within the scope of my invention.

What I claim is—

1. The combination of a standard, a frame oscillatingly mounted thereon, a support oscillatingly mounted upon the frame, and a lever connected to said frame and support for simultaneously imparting a compound sidewise and endwise movement to said support.

2. The combination of a standard, a frame oscillatingly mounted thereon, a support oscillatingly mounted upon the frame, a lever connected to said frame and support for imparting an endwise or a sidewise, or simultaneously imparting a compound sidewise and endwise movement to said support.

3. The combination of a standard, a frame journaled thereon, a support journaled in the frame, a lever for operating both the frame and support, connections between the lever and frame, and connections between the lever and support, whereby the movements of the frame and support are controlled by one lever.

4. The combination of a standard, a frame journaled thereon, a support journaled in the frame, a lever for operating both the frame and support having a rotatable upper portion, connections between the frame and the lever, and connections between the support and the rotatable portion of the lever.

5. The combination of an oscillating pivoted lever having a rotatable handle portion partaking of the oscillating movement, a compound endwise and sidewise tilting support, a frame provided witl suitable bearings for the support, and connections between the lever and the support for operating the latter.

6. The combination of a movable enameling-support, a movable screen-frame for enameling-powder above said support, and means for simultaneously moving both the support and frame in the same direction back and forth.

7. The combination of a support, bearings therefor permitting an endwise and sidewise movement of the support, a frame, a movable screen-frame above the support and means for simultaneously operating the support and screen-frame.

8. The combination of a standard, a frame journaled thereon, a support journaled in the frame, a movable screen-frame above the support, a lever for operating the screen-frame, and the support and its frame, and connections between the screen-frame and the lever, and the lever and the frame carrying the support, whereby the movements of the elements are controlled by one lever.

9. The combination of a standard, a frame journaled thereon, a support journaled in the frame, a screen-frame above the support, a lever for operating the frame and support and screen-frame, having a rotatable upper portion, connections between the screen-frame and the frame-carrying support and the lever, and connections between the frame and support and the rotatable portion of the lever.

10. In an enameling apparatus, the combination of a chamber, a spider-frame oscillatingly mounted therein, a support or shield oscillatingly mounted in the spider-frame, a lever having an oscillating and a rotating movement, and connections between the support or shield, the spider-frame and the lever, whereby an endwise or sidewise movement or a combined compound movement of the support may be produced.

11. In an enameling apparatus, the combination of a chamber, a spider-frame oscillatingly mounted therein, a support or shield oscillatingly mounted in the spider-frame, a lever having an oscillating and a rotating movement, connections between the support or shield, the spider-frame and the lever, whereby an endwise or sidewise movement or a combined compound movement of the support may be produced, and a vibrating screen hung in the top of the chamber and means connected with the screen whereby the screen is moved simultaneously with the support or shield, when it is tilted endwise.

12. The combination of a standard, a frame journaled thereon, a support journaled in the frame, an arm fixed to said support extending on both sides of the journal of the support, a pivoted lever, a connection leading from the frame on one side of its journal to the lever on one side of its pivot, and a connection leading from the frame on the opposite side of its journal to the lever on the opposite side of its pivot.

13. The combination of a standard, a frame journaled thereon, a support journaled in the frame, an arm fixed to said support extending on both sides of the journal of the support, a pivoted lever, a connection leading from the frame on one side of its journal to the lever on one side of its pivot, a connection leading from the frame on the opposite side of its journal to the lever on the opposite side of its pivot, a vibratory screen above the support, and a connection leading from each end thereof to the lever at either side of its pivot.

In testimony whereof I affix my signature.

E. L. DAWES.

Witnesses:
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HENRY BLUMENBERG, Jr.