No. 645,138. Patented Mar. 13, 1900.

C. W. SLEEPER.

CAN CLEANING MACHINE.

(Application filed Nov. 15, 1899.)

(No Model.)

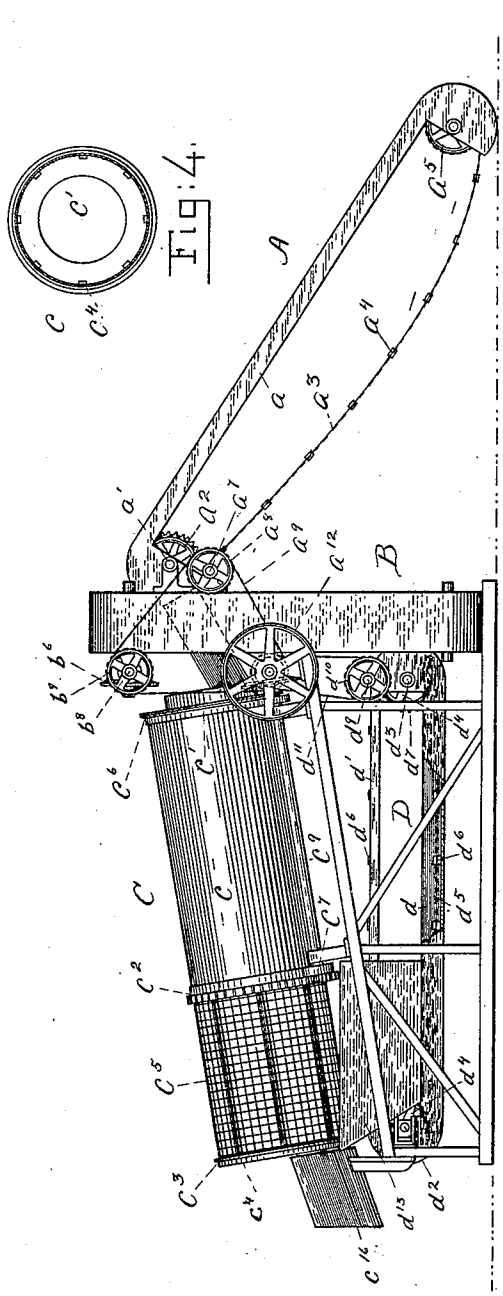


Fig. 1.

Fig. 4.

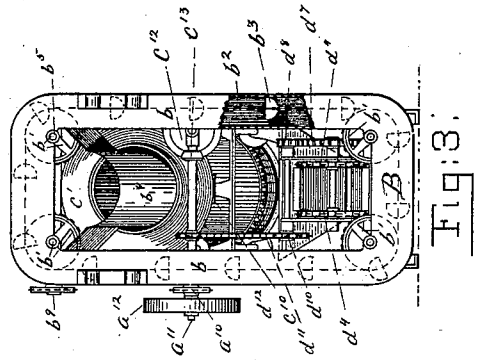


Fig. 3.

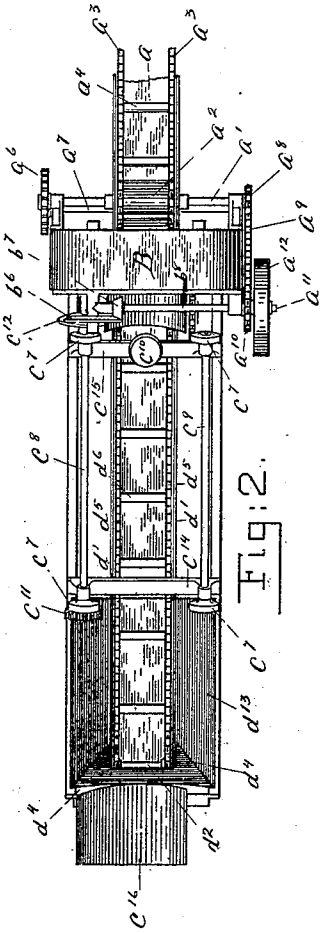


Fig. 2.

Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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CHARLES W. SLEEPER, OF LANCASTER, NEW HAMPSHIRE, ASSIGNOR TO THE SLEEPER MACHINE COMPANY, OF MAINE.

CAN-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,138, dated March 13, 1900.

Application filed November 15, 1899. Serial No. 737,043. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SLEEPER, a subject of the Queen of Great Britain and Ireland, residing at Lancaster, in the county of Coos and State of New Hampshire, have invented a new and useful Can-Cleaning Machine, of which the following is a specification.

In the process of packing meats and fish the cans become coated with an oily substance which gives them a dirty appearance and interferes with the process of labeling by preventing the paste from adhering to the cans. Enameled or decorated cans cannot be washed in any fluid which would dissolve the oil, as such fluid would destroy the decorations. The usual process of cleaning is to cover the cans with sawdust or other similar absorbent material and tumble them about in the sawdust until the oil is taken up. The cans are then removed from the sawdust, which may be used over again until it becomes saturated with the oil.

The object of my invention is to provide suitable automatic mechanism for conducting this process, such mechanism consisting, essentially, in means for tumbling the cans and the sawdust together in a cylinder, means for feeding the cans and the sawdust into the cylinder, means for separating the cleaned cans from the sawdust, and means for returning the sawdust to the cylinder.

Figure 1 is a side elevation of my machine with a portion of the conveyer-trough broken away to show the chains and bars within. Fig. 2 is a top view of the same with the cylinder C and a part of the can-conveyer A removed. Fig. 3 is a front view of same with the can-conveyer A removed and a portion of the elevator-box broken away to show the elevator chain and buckets. Fig. 4 is a transverse section of the cylinder.

The can-conveyer A is composed of a trough, conveyer-chains, and driving mechanism, as follows:

a is a trough rectangular in cross-section, in the upper end of which is journaled the shaft a', carrying a drum a^2, upon the ends of which are sprockets engaging endless chains a^3 a^3, to which are secured a series of bars a^4 adapted to engage the cans to be cleaned. The chains a^3 pass over sprocket-wheels a^5 in the lower end of trough a. Upon the shaft a' is a gear a^6, which is engaged by a pinion (not shown) upon the shaft a^7, upon which is a sprocket-wheel a^8, driven by a chain a^9, which is engaged by a sprocket-wheel a^{10} upon the main shaft a^{11}. The shaft a^{11} is provided with a pulley a^{12} to receive a suitable driving-belt. The conveyer A may be moved about the shaft a' to bring the trough a to any convenient position to receive the cans.

The sawdust-elevator B consists of the elevator boxes, chains, buckets, and driving mechanism, described as follows:

b b are two upright pipes or boxes rectangular in cross-section, connected at top and bottom by cross-sections of similar form, so as to form a continuous trough or elevator-box, the bottom section being open at the top and the top section being open at the bottom.

Four pairs of sprocket-wheels b' are arranged to carry a pair of endless chains b^2, (similar to chains a^3,) and between the chains b^2 are a series of elevator-buckets b^3, arranged to take the sawdust from the bottom of the elevator-box and drop it from the top of the box into a chute b^4, which is hung between the upright boxes b b and enters the head of the cylinder C.

The elevator-chains are driven by sprocket-wheels upon the shaft b^5, upon which is a bevel-gear b^6, (see Figs. 1 and 2,) engaged by a pinion b^7 upon the shaft b^8, which carries a sprocket-wheel b^9, engaged by the chain a^9.

The cylinder C is composed of a shell c, head c', rings c^2 c^3, bars c^4, and screen c^5. The head c' partly closes one end of the shell c, leaving a circular opening about two-thirds the diameter of the shell, and c' is provided with a flange c^6. The ring c^2 is provided with gear-teeth and encircles the shell c. Bars c^4 are attached to the inner surface of the shell c, parallel with its axis, and project a little more than one-half its length, the outer ends being secured to the ring c^3. Between the rings c^2 and c^3 a heavy wire screen c^5 is wound over the bars c^4, forming an extension of the shell c.

The cylinder C rests upon four rollers c^7 upon the shafts c^8 c^9. A guide-roll c^{10} engages the flange c^6 to prevent the cylinder from sliding endwise upon the rolls.

The shaft c^8 carries a gear c^{11}, which engages the teeth upon the ring c^2 to rotate the cylinder.

A bevel-gear c^{12}, Figs. 1 and 3, upon the shaft c^8 is engaged by a bevel-pinion c^{13} upon the main shaft a^{11}.

The shafts c^8 c^9 and the guide-roll c^{10} are journaled in suitable hangers c^{14} c^{15}, which rest upon the frame of the machine.

A chute c^{16} is secured to the frame of the machine and arranged to receive the cans as they come from the cylinder C.

The sawdust-conveyer D is composed of a conveyer trough, chains, and driving mechanism described as follows:

d is a conveyer-trough, and d' d' are guide-rails placed above the trough d and connected with the same by heads in which are journaled the shafts d^2 d^3, each of which carries two sprocket-wheels d^4. Two endless chains d^5 pass over the sprocket-wheels d^4, and between the chains is secured a series of bars d^6. The shaft d^3 carries a gear d^7, engaged by a pinion d^8 upon a shaft d^9, which carries a sprocket-wheel d^{10}, engaged by a chain d^{11}, passing over a sprocket-wheel d^{12} upon the main shaft a^{11}. A hopper d^{13} is provided to guide the sawdust into the trough d.

In operation, the machine being in motion, a sufficient quantity of sawdust is put into the hopper d^{13} and carried by the conveyer D to the elevator B. The cans are placed upon the conveyer-chains in the trough of the conveyer A, which carries them up and drops them into the chute b^4. At the same time the elevator B drops a quantity of sawdust into the chute b^4 and upon the cans as they pass down the chute, and the cans and sawdust together enter the cylinder C, where they are tumbled over and over by the bars c^4 as the cylinder revolves.

In consequence of the inclined position of the cylinder the cans move gradually downward and over the screen, the sawdust dropping through the meshes of the screen into the hopper below to be used over again, while the cans pass out through the chute c^{16} into any convenient receptacle.

What I claim, and desire to secure by Letters Patent, is—

1. A machine for cleaning cans consisting of an inclined hollow cylinder terminating at its lower end in a screen, with means for rotating the same, means for feeding cans into the cylinder, means for feeding sawdust, or other similar absorbent material, into said cylinder, and means for conveying such absorbent material after it has passed through the cylinder to said feeding mechanism last mentioned, substantially as described.

2. In a machine for cleaning cans an inclined hollow cylinder terminating at its lower end in a screen with means for rotating the same, in combination with a chute opening into the upper end of said cylinder, means for feeding the cans into said chute and means for feeding sawdust into the same, substantially as described.

3. In a machine for cleaning cans an inclined hollow cylinder terminating at its lower end in a screen, with means for rotating the same, in combination with means for removing the sawdust falling from the lower end of the cylinder and feeding the same into the upper end of the cylinder, substantially as described.

4. In a machine for cleaning cans, in combination with an inclined hollow cylinder terminating at its lower end in a screen, with means for rotating the same, the sawdust-elevator B consisting of the elevator-trough b, b having its upper horizontal limb open on its lower side over the chute b^4, endless elevator-chains b^2, buckets b^3, sprocket-wheels b', chute b^4, and means for operating said chains, substantially as described.

5. In a machine for cleaning cans, in combination with an inclined hollow cylinder, terminating at its lower end in a screen, with means for rotating the same, the sawdust-conveyer D and elevator B consisting of the hopper d^{13}, conveyer-trough d, endless chains d^5, bars d^6, sprocket-wheels d^4, elevator-trough b, b, endless elevator-chains b^2, buckets b^3, sprocket-wheels b', chute b^4, and means for operating said conveyer-chains and elevator-chains, the several parts being so constructed and arranged with reference to each other that when in operation the sawdust dropping from the screen c^5 is carried by the conveyer D into the elevator B and thence into the upper end of the cylinder C, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. SLEEPER.

Witnesses:
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