April 30, 1929. H. HUME 1,710,927

CAN DRAINER

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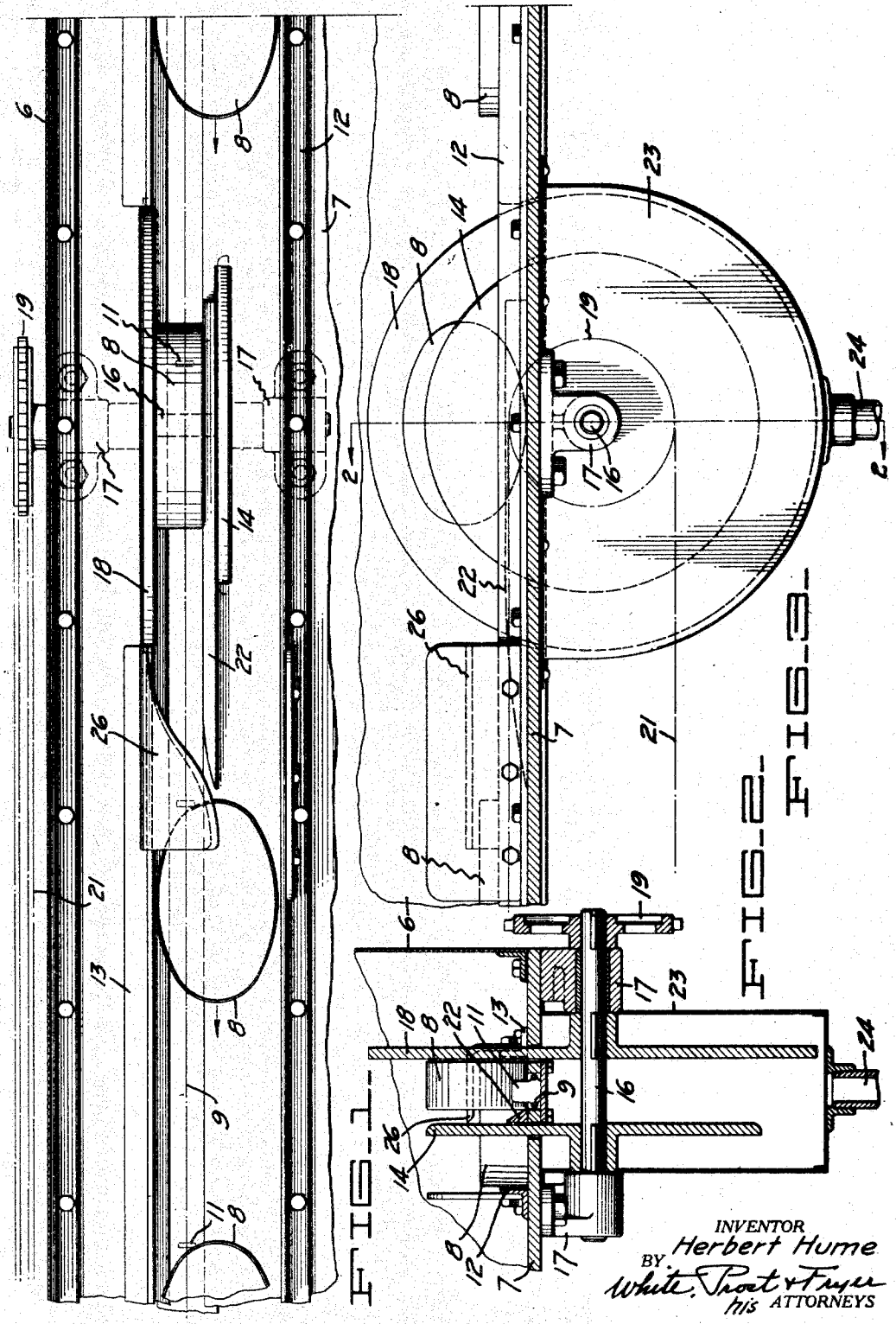


FIG-1.

FIG-2.

FIG-3.

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HERBERT HUME, OF MONTEREY, CALIFORNIA.

CAN DRAINER.

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My invention relates to a mechanism for draining fluids from cans and is particularly adapted for use in the canning industry to drain fluid from cans also containing solid matter.

An object of my invention is to provide means for automatically draining cans.

Another object of my invention is to provide means for retaining solids in an open can while it is being drained of fluid or liquid contents.

My invention possesses other advantageous features, some of which with the foregoing will be set forth at length in the following description where I shall outline in full that form of the can drainer of my invention which I have selected for illustration in the drawings accompanying and forming part of the present specification. In said drawings I have shown one form of can drainer embodying my invention, but it is to be understood that I do not limit myself to such form since the invention, as set forth in the claims, may be embodied in a plurality of forms.

In the drawings:

Fig. 1 is a plan view of a portion of a conveyor showing the can drainer of my invention in connection therewith.

Fig. 2 is a section thru my can drainer, the plane of section being indicated by line 2—2 of Fig. 3.

Fig. 3 is a side elevation of the mechanism disclosed in Fig. 1.

The can drainer of my invention preferably comprises means for upsetting cans to permit liquid contents thereof to drain and for subsequently righting the drained cans.

While the can drainer of my invention is especially adapted to the canning industry in general it has found a particularly advantageous embodiment in connection with the canning of sardines. In one form of my invention, I have installed the can drainer in an exhaust box 6 of the usual kind which comprises a table 7 over which a plurality of open cans 8 are impelled by a conveyor 9. At intervals thruout its length, the conveyor is preferably provided with uprights 11 which positively propel the cans in proper relationship. The cans are usually conveyed with their open sides up and are confined between a pair of rails 12 and 13 extending parallel to the conveyor 9. In the particular instance mentioned, the cans contain sardines together with a quantity of fish oil exuded by the sardines which it is desirable to remove from the cans.

In order to remove the fish oil from the cans, I preferably provide in the path of the conveyor 9 and between the rails 12 and 13 a cam which bears on the bottom of the can at one side of the center thereof and raises one side of the can until the can upsets. For effecting this motion, the cam is preferably a rotating wheel 14 projecting thru a slot in the table 7 and mounted on an axle 16 rotatably held in journals 17 secured to the platform 7. It will be observed that the wheel 14 is at one side of the center line so that as the conveyor impels the can thereover, one side of the can is lifted until the influence of gravity causes the can to rotate thru substantially a right angle in a direction perpendicular to the direction of travel of conveyor 9.

To permit the liquid contents of the can to escape when it is upset but at the same time to prevent the solid contents from escaping, I have mounted on the shaft 16 a second disk 18 which is in effect a rotating baffle contacting lightly with the can and overlying its open side so that sufficient clearance is provided to permit the escape of liquid but not of the solid contents. The baffle 18 also projects thru an aperture in the table 7 but is considerably larger in diameter than is the wheel 14.

As a means of rotating the wheel 14 and the baffle 18 synchronously and at the same time in synchronism with the operation of the conveyor 9, I preferably provide a sprocket 19 at the extremity of the axle 16 and connect the sprocket by means of a suitable chain 21 to the same instrumentality which drives the conveyor 9. Because of the synchronous drive, the face of the baffle 18 is revolving at approximately the same rate as the can 8 is advancing on the conveyor. The relative motion therebetween is thus comparatively slight and the solid contents of the can are not in any manner damaged. Cans which have entered the channel formed between the wheel 14 and the baffle 18 are kept in approximate contact with the baffle by a guide strip 22 affixed to the table 7 and inclined at its upper edge. When the cans are in upset position, as disclosed in Fig. 2, their fluid content escapes and drains from the table 7 into a receiver 23 fastened to the table 7 and

provided with an outlet 24 which conducts the drained fluid to the desired place.

As an upset can is advanced by the conveyor, it is righted to its previous upright position by a suitable mechanism comprising a cam 26 which conveniently is an angular plate secured to the table 7 and having a cam contour approximating an elongated S. The guide 22 is preferably extended along the table 7 so that it is in part coextensive with the cam 26. As the can is advanced by the conveyor, it contacts with the cam plate 26. The upper edge of the can is rotated in a direction opposite to its upsetting rotation and since the bottom is in contact with the guide 22, the can is tipped sufficiently to be returned gravitally to its original position resting upright on the conveyor 9. The can is then propelled further by the conveyor to undergo subsequent steps in its treatment.

While the can drainer of my invention has been described as it is installed within an exhaust box, it is not necessarily installed therein and can be located at any convenient point where it is desired to upset cans to permit their liquid contents to be drained therefrom.

I claim:

1. A can drainer comprising a conveyor for cans to be drained, a rotating wheel in the path of said conveyor for upsetting said cans to permit drainage, a rotating baffle parallel to said wheel and forming a channel therewith through which said upset cans progress, means for righting said upset cans, and means for synchronously driving said conveyor, said wheel, and said baffle.

2. A can drainer of the character described comprising a table, a conveyor adapted to carry cans over said table, two cams fixed to said table, one of said cams being adapted to be engaged by the lower face of cans being carried by said conveyor, the remaining cam being adapted to be engaged by the upper faces of said cans.

In testimony whereof, I have hereunto set my hand.

HERBERT HUME.