

C. H. HOOD.
CAN CLEANING APPARATUS.
APPLICATION FILED AUG. 12, 1907.

949,121.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 1.

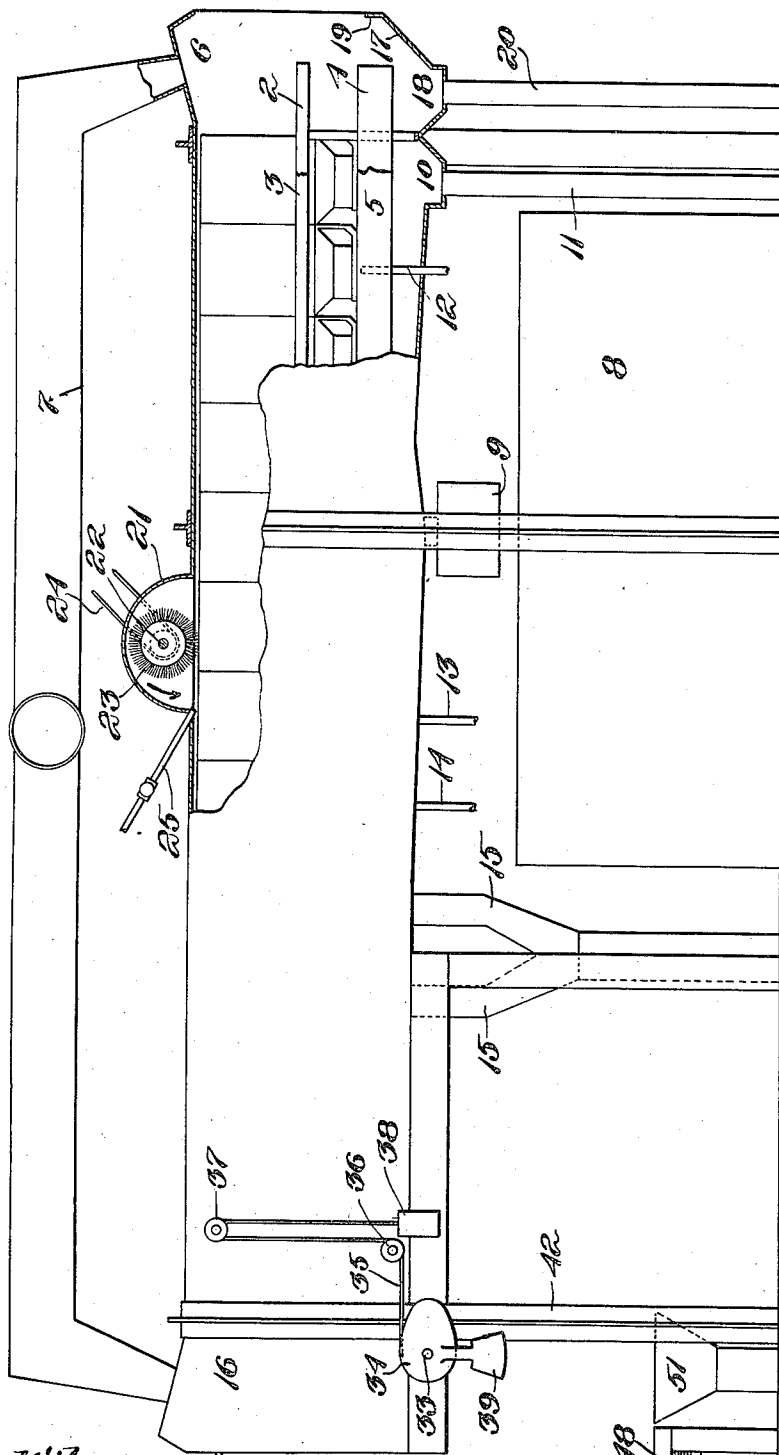


Fig. 1.

Witnesses:
Francis A. Baker
Arthur T. Randall.

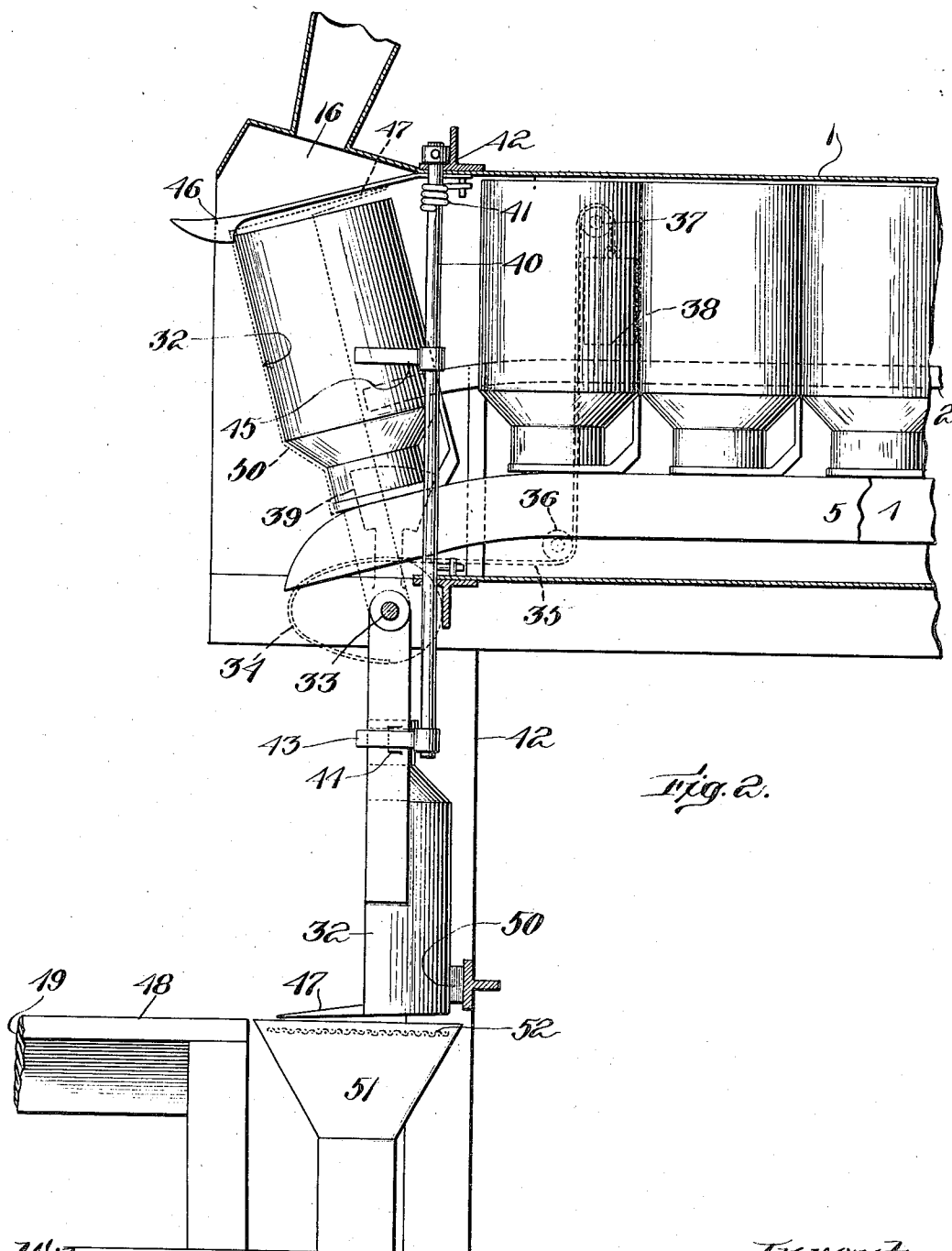
Inventor:
Charles H. Hood,
by Geo. H. Maxwell, Atty.

949,121.

C. H. HOOD.
CAN CLEANING APPARATUS.
APPLICATION FILED AUG. 12, 1907.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 2.



Witnesses:
Francis A. Baker
Arthur F. Randall

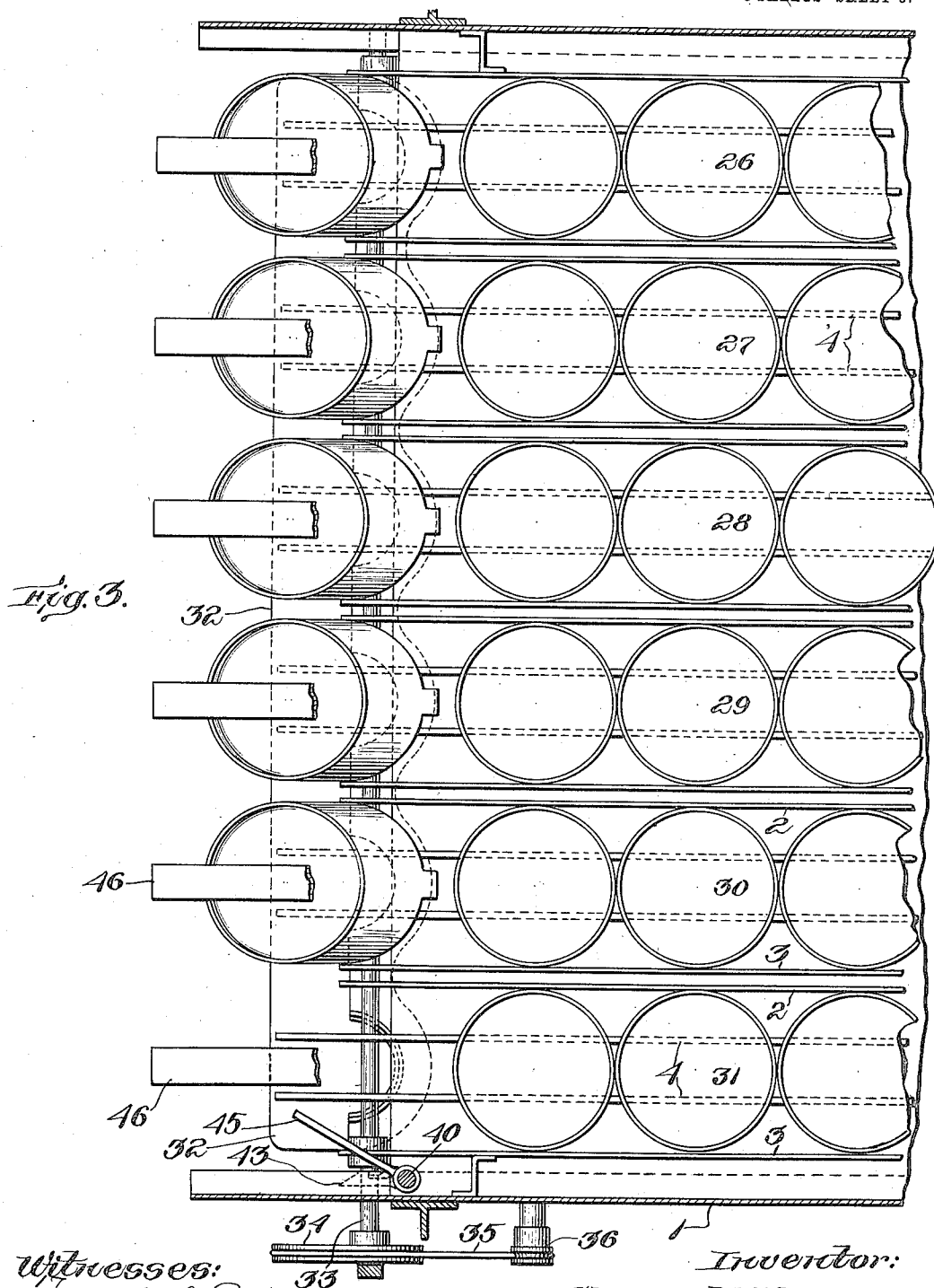
Inventor:
Charles H. Hood,
by Geo. H. Maxwell,
Att'y.

949,121.

C. H. HOOD.
CAN CLEANING APPARATUS.
APPLICATION FILED AUG. 12, 1907.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 3.



Witnesses:
Francis A. Butler
Arthur J. Rowdall

Inventor:
Charles H. Hood,
by Geo. H. Maxwell,
Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. HOOD, OF SOMERVILLE, MASSACHUSETTS.

CAN-CLEANING APPARATUS.

949,121.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed August 12, 1907. Serial No. 388,096.

To all whom it may concern:

Be it known that I, CHARLES H. HOOD, a citizen of the United States, and resident of Somerville, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Can-Cleaning Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like figures on the drawings representing like parts.

My invention is an improvement on the general kind of apparatus shown in my application Serial No. 340,335, filed October 24, 1906, now Patent 864,132 dated Aug. 20, 1907.

The various features of my invention and advantages thereof will be best understood and explained in connection with the accompanying drawings, in which I have shown a preferred embodiment of the invention.

In the drawings, Figure 1 is a view in side elevation, parts being broken away, of the apparatus embodying my invention; Fig. 2 is an enlarged vertical longitudinal sectional detail of the outgoing end of the apparatus; and Fig. 3 is a top plan view thereof.

The inclosing housing 1, guide bars 2, 3, track bars 4, 5, inlet end 6, air circulation apparatus 7, tank 8, screen 9, catch basin 10, sewer pipe 11, rinsing-water pipe 12, cleansing-water pipe 13, steam-jet pipe 14, air pipes 15, and the general construction of the outgoing end 16 may be, and preferably are, constructed and organized the same as in my before mentioned patent.

I have, however, lengthened the apparatus at least the width of one can, so as to be able to save the can drippings, and so as to prevent so much greasy matter going into the sewer. The cans, as ordinarily received for washing, contain more or less milk, which, in the aggregate, is a large amount, and it is not only objectionable to have this go into the sewer, but it is an unnecessary waste of material which can be advantageously saved for feeding hogs, etc. Accordingly, to accomplish this purpose without delaying the work or interfering with the proper progress and handling of the cans, I have lengthened the housing at least the width of a can, and provided at the entrance end in front of the catch basin 10 and pipe 11 a downwardly inclined wall 17, terminating in a trough 18, provided

with a ledge 19 at its upper edge, so that the operator can conveniently rest the neck of the can over said trough as he is about to place the can on the tracks 4, 5, thereby permitting all the contained milk residuum to drip into the trough 18 during the interval when the can is bottom side up and necessarily in approximately stationary position while it is being placed on the racks. From the trough 18 a pipe 20 leads to a pump, not shown, or other suitable means which delivers it to suitable receptacles for transportation to the farm.

As the cans pass along on the tracks, more or less moisture is apt to be precipitated or caused to lodge upon the bottom of the can, said bottom being in practice more or less hollowed out, so that it is difficult to dislodge the water. Accordingly, I provide at an intermediate point in the top of the housing a hood or arched portion 21, in which is journaled on a shaft 22 a rotary brush 23, driven by any suitable means, as by a belt 24, thereby tending to brush out or whisk out nearly all the water which may have lodged as stated. The brush has its bristles of a length to reach down past the rims of the cans into the depressed bottoms of said cans and brush out the surface of said bottoms, and the solid hub-part of the brush is close to but out of interference with the rims as the cans pass along. The brushes rotate in the direction of the arrow, Fig. 1, thereby whisking the water and moisture rearwardly. To complete the desired result, I provide an air-blast or steam-blast, delivered from a pipe 25 directed opposite to the movement of the cans. Thus the air blast and the brushing movement cooperate in delivering and carrying all the moisture rearwardly in the direction opposite to the movement of the cans.

At the outgoing end of the machine, where the cans are automatically delivered for inspection, I have so arranged the mechanism that the dumping of all the cans across the entire width of the apparatus is controlled by the operator who feeds the cans in, said mechanism being best shown in Figs. 2 and 3, where it will be seen that in front of the successive series 26, 27, 28, 29, 30, and 31 of cans, as herein shown, I have provided a single holder 32 journaled at the opposite sides of the machine at 33, so as to swing up from the full line position to the dotted line position, Fig. 2. Fast on the journaled shaft

33 of this holder is an eccentric hub or pulley 34, having secured to its periphery a cord 35, which passes over pulleys 36, 37, and carries at its free end a weight 38 in such position that when up it is adjacent the top of the machine and when lowered will not drop below the housing. This latter feature is of advantage, as it is thereby entirely out of the way of any possible splattering, and is therefore cleaner and more hygienic. On the eccentric pulley is a further counter weight 39, so located in connection with the other portions of the apparatus that it tends to offset to some extent the weight of the cans as the latter descend with the holder, as will be presently explained. Adjacent the column or series of cans 31 is a rod 40 normally held turned inwardly into the position shown in the drawings by a spring 41, and journaled vertically in brackets 42. Adjacent its lower end is a catch 43 to engage a lug 44 on the adjacent end of the holder 32, and in the path of said series 31 the rod is provided with a trip arm 45 normally projecting as shown in Fig. 3. Above the cans are spring retarders or holders 46 which perform substantially the same function as in my before mentioned application. Thus, the operator at the ingoing end of the machine pushes the cans along in the successive passageways of the apparatus until each column or series 26, 27, 28, 29, and 30 is full, the forward cans thereof occupying the position shown in full lines in Fig. 2. Thereupon he shoves one more can into the remaining passageway, which completes the series 31, bringing the outermost can into tripping position. As it is shoved forward, it engages the trip 45, and rotates the rod 40 forward and outward, thereby disengaging the catch or dog 43 from the lug 44. This releases the holder 32, and immediately the counter balance weight 38 starts the holder upward, its motion being accelerated somewhat by the counter weight 39, which, however, ceases to influence this upward movement just as the holder is about to engage its cans, so that although the upward movement is quite rapid, the holder almost stops before it engages the cans, and therefore engages the cans lightly and without damage. As the holder engages the cans it lifts the springs 46, so that the weight of all the front row of cans comes immediately upon the holder, thereby overbalancing the counterbalance weight 38 and causing the cans to turn downwardly at once in position for inspection, and as this movement is quite rapid and the holder is provided with an inclined foot 47, the cans are usually thrown or ejected right side up onto a discharge table 48, which inclines at its outgoing end 49 as shown. The attendant at the outgoing end of the machine at once glances into each can to see that its interior

is perfectly dry, and then simply shoves all the cans right side up to the left down the incline 49. By this time the operator at the ingoing end of the machine has another complement of cans ready, and automatically lifts the holder into receiving position by again pushing forward the column or series 31 as before. As the cans dump down, the weight 39 reaches its position of greatest leverage, or in other words, said counterbalance weight 39 and the cans, being at diametrically opposite sides of their common axis 33, both reach horizontal position at the same time, thereby preventing the cans from lowering so rapidly that the apparatus would be damaged when it strikes the bunter 50. Adjacent the table 48 I provide a catch basin 51 and grid 52 as an extra precaution, to catch any condensation or drip from the housing or outside bottoms of the cans which might possibly collect and escape from the outgoing end of the apparatus.

I do not intend to restrict myself to details, except as required by the claims.

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

1. In an apparatus of the kind described, means providing a way for receiving, directing and permitting the successive passage of inverted cans, washing and cleansing apparatus and sterilizing apparatus located successively along said way, combined with a trough at the entrance end of the apparatus in front of the washing apparatus for receiving the drip from the insides of the cans as they are dumped bottom upward, said way and trough being constructed and arranged to cooperate in facilitating the inverting of the cans at this point and the dumping of their contents into said trough just prior to their passage to the washing apparatus.

2. In an apparatus of the kind described, containing means providing a way for receiving and directing the successive passage of inverted cans, and guiding means for said cans, a trough and pipe leading therefrom located at the entrance of said way approximately beneath the front end of said guiding means, said trough having a ledge in front of said guiding means in position to aid in inverting the can for dumping the contents of the can into the trough as the can is delivered bottom side up to said guiding means, and washing means located beyond said front end farther along the way for subsequently washing the dumped can as it passes along the way.

3. In an apparatus of the kind described, containing means providing a plurality of ways for receiving, directing and delivering a corresponding plurality of series of inverted milk-cans, means for engaging and dumping simultaneously the front can of

each of said series, and automatic tripping means for said dumping means, said tripping means being constructed and positioned to be released by the forward movement of the cans in one of said series.

4. In an apparatus of the kind described, containing means providing a plurality of ways for receiving, directing and delivering a corresponding plurality of series of inverted milk-cans, means for engaging and dumping simultaneously the front can of each of said series, and automatic tripping means for said dumping means, said tripping means containing releasing mechanism under the control of the operator at the feeding-in end of the machine.

5. In an apparatus of the kind described, containing means providing a way for receiving and directing a series of inverted milk-cans, and automatic dumping mechanism at the outgoing end of the apparatus, comprising a holder pivoted to swing upwardly to receive a can and downwardly to deliver said can, said holder having an inclined foot for aiding in ejecting the cans when the latter have been lowered.

6. In an apparatus of the kind described, containing means for receiving and directing a series of inverted milk-cans, and automatic dumping mechanism at the outgoing end of the apparatus, comprising a holder pivoted to swing upwardly to receive a can and downwardly to deliver said can, a counter weight normally tending to swing the holder into its up position, and locking means for locking the can in its down position, said locking means having an inwardly projecting releasing trip in position to be engaged by a forwardly moving can to release the holder and permit the counter weight to swing the latter upward into position to receive the can.

7. In an apparatus of the kind described, containing means for receiving and direct-

ing a series of inverted milk-cans, and automatic dumping mechanism at the outgoing end of the apparatus, comprising a holder pivoted to swing upwardly to receive a can and downwardly to deliver said can, means for normally moving the holder into its up position to receive a can, and counterbalance means arranged diametrically opposite said holder for counterbalancing the weight of the can as the holder and can swing downwardly.

8. In an apparatus of the kind described, containing means for receiving and directing a series of inverted milk-cans, and automatic dumping mechanism at the outgoing end of the apparatus, comprising a holder pivoted to swing upwardly to receive a can and downwardly to deliver said can, an eccentric pulley fast on the shaft of said holder, a counterbalance weight and cord for actuating said pulley and holder, said pulleys and cord being secured and positioned on the apparatus to normally hold the weight adjacent the top of the apparatus.

9. In an apparatus of the kind described, containing means for receiving and directing a series of inverted milk-cans, and automatic dumping mechanism at the outgoing end of the apparatus, comprising a holder pivoted to swing upwardly to receive a can and downwardly to deliver said can, a grid vertically below said dumping means, and means below said grid for receiving and conducting away the drippings from the inverted cans as they halt in position to be engaged by the holder.

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

CHARLES H. HOOD.

Witnesses:

GEO. H. MAXWELL,
M. J. SPALDING.