

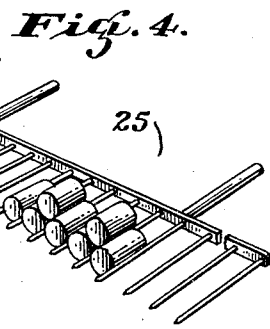
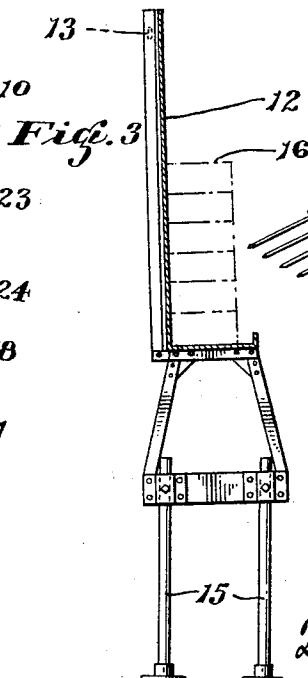
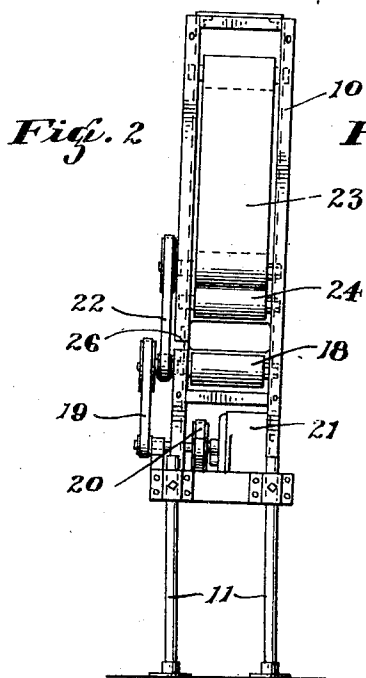
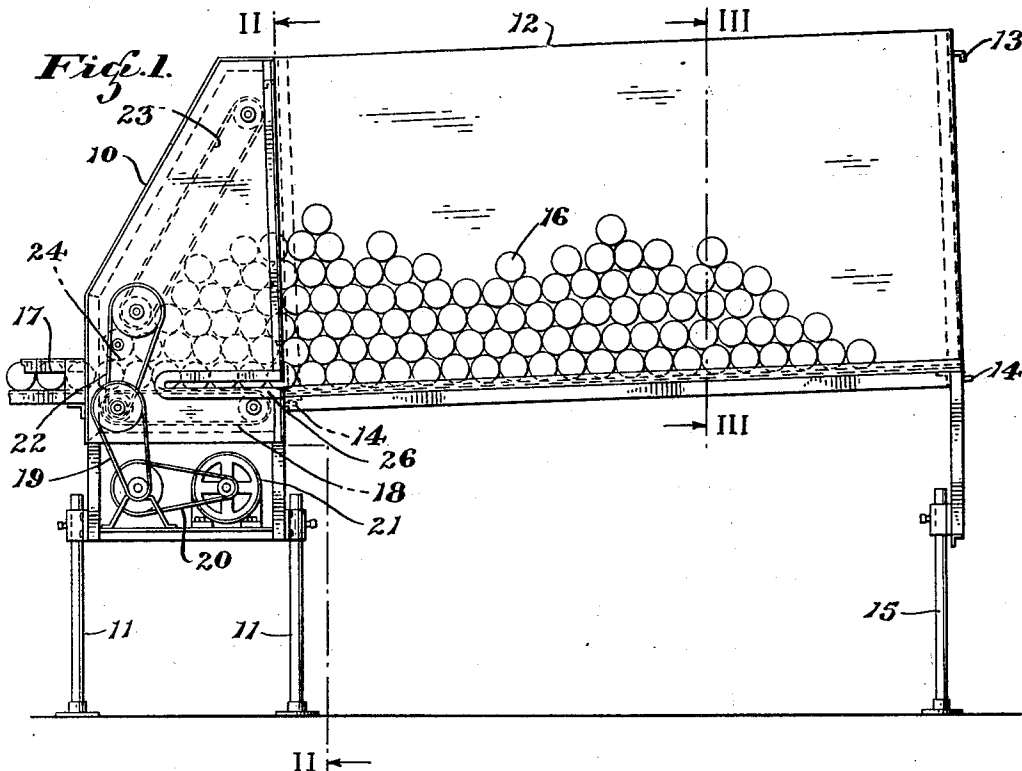
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CAN HANDLING APPARATUS

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CAN HANDLING APPARATUS

Application filed October 23, 1929. Serial No. 401,668.

My present invention relates to can handling apparatus and more particularly to a device for handling empty cans at the canning plant, as when unloading a shipment from a freight car.

An object of my invention is to provide a new, novel and efficient apparatus for handling cans in large quantities.

A further object of my invention is to provide an apparatus which is particularly well suited for use in conjunction with the present and extensively used so-called unloading forks.

In carrying out my invention, I propose to provide a relatively shallow, vertically disposed open-sided hopper, into which the cans may be placed in pyramidal fashion and conveniently deposited therein with a can handling fork, the hopper being provided with suitable means for discharging the cans in a uniform manner therefrom.

For a better understanding of my invention, reference should be had to the accompanying drawings, wherein I have shown by way of illustration and not of limitation, a preferred embodiment thereof.

In the drawings—

Fig. 1 is a front elevation of my improved apparatus showing a plurality of cans deposited therein,

Fig. 2 is a view in elevation taken along line II—II of Fig. 1,

Fig. 3 is a sectional view taken along line III—III of Fig. 1, and

Fig. 4 is a fragmentary, perspective view of a can handling fork of the type contemplated for use with my invention.

In Fig. 1, 10 designates a vertically disposed housing member. The housing member 10 contains various can manipulating devices and a driving means which will be referred to hereinafter and is carried upon suitable supporting legs 11 which are adjustable to provide for a leveling or tilting of the apparatus, as will hereinafter appear. Attached to the vertical edge of the housing 10, which is open, there is shown an open-sided hopper member 12 which may be readily attached to the housing member 10 by means of suitable hooks 13 and 14. It will be noted

that the hooks 13 and 14 are provided on each end of the hopper member 12. This is so that this element may be reversed so as to provide a right or left hand opening in the hopper 12 with respect to the housing 10. At the outer end of the hopper member 12, there is shown a pair of adjustable legs 15, by means of which this end of the hopper 12 is suitably supported. The bottom of the hopper 12 is shown as slightly inclined so that the cans, designated by the numeral 16, will have a tendency to roll toward and into the housing member 10.

The housing member 10 is shown as having an outlet 17 through which the cans 16 may be discharged in a uniform manner, and extending between the outlet 17 and the bottom of the hopper 12 there is shown a conveyor belt 18 which serves to carry the cans 16 toward the outlet 17. This conveyor 18 is driven by means of suitable belts 19 and 20, by means of a motor 21. A further belt 22 is shown as driving a second conveyor or can engaging belt 23 which serves to dislodge the cans from the upper layers and cause them to assume their position in the lower layer as the cans are discharged. A relatively stationary roller or buffer 24 also co-operates with the belt 23 to align the cans in a single layer and thus facilitate a rapid discharge of the cans, one at a time, from the relatively large pile contained in the hopper 12.

By referring now to Figs. 2 and 3, it will be seen that the housing 10 and the hopper member 12 are inclined from the vertical at a slight angle. The reason for this is to insure that the cans will not fall out of the hopper when they are piled several layers high. The inclination of the housing 10 and the hopper 12 can, of course, be determined by the requirements of the particular location, as the legs 11 and 15 are made fully adjustable so that the complete apparatus may be disposed at any angle desired. When the housing member 12 is reversed with respect to the member 10, as suggested above, it will be understood that the legs 11 and 15 will be again adjusted so as to incline the apparatus away from the open side of the hopper 12.

At the present time in the shipment of

empty cans for canneries, it is customary to completely fill a freight car with cans piled loosely from the floor to the ceiling and at the unloading point the unloader, after providing himself with a so-called unloading fork of the type illustrated in Fig. 4 of the drawings, engages the first layer of piled cans in much the same fashion as he would handle a fork-load of hay. The cans thus disposed upon the fork are then placed within the hopper 12 and the operator returns for a second fork-load of cans. Prior to the advent of my invention, an operator could handle from 11,000 to 12,000 cans per hour by using the above described fork and depositing the cans upon a suitable conveyor, where he would, after laying down the fork, have to rearrange the cans by hand. With my improved apparatus, it has been found that a single operator can handle from 20,000 to 25,000 cans per hour. With my improved apparatus, the operator need only discharge the contents of the fork into the hopper 12 and the apparatus will then, by reason of the conveyor 18 and belt 23, rearrange the cans and discharge them one at a time without any further attention upon the part of the unloader.

In order that the cans may be readily deposited from the fork designated by the numeral 25, I have provided in the front face of the housing 10 a horizontally disposed slit 26 through which the tines of the fork 25 may be moved, as when depositing the cans upon the hopper 12. The operator, after placing his fork with the load of cans in this position, may then withdraw the fork and the front of the housing 10 will thus hold the cans upon the conveyor and at the same time the cans adjacent the open face of the hopper 12 will be held in place within the hopper by reason of their engagement with the other cans of the pile.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illustrated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed but may be embodied in other ways that will suggest themselves, in view of this broad disclosure, to persons skilled in the art. It is believed that this invention is new and it is desired to claim it as such so that all such changes as come within the scope of the appended claim are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

In an apparatus for handling cans, the combination of a vertically disposed housing having an opening extending substantially along all of one side through which the cans to be handled may be placed in the housing and a

discharge outlet for the cans at one end of said housing through which the cans may be discharged, a moving conveyor extending partially into said housing along the bottom thereof and from said discharge outlet, and an overhanging cover extending partially along the front side of said housing adjacent said conveyor adapted to hold the cans in position as they are moved by the conveyor, said overhanging cover having a horizontally disposed slit extending thereinto from the feed opening of said housing adapted to co-operate with a can carrying fork to facilitate a removal of the cans from the fork into the housing.

ROBERT C. SNEED.