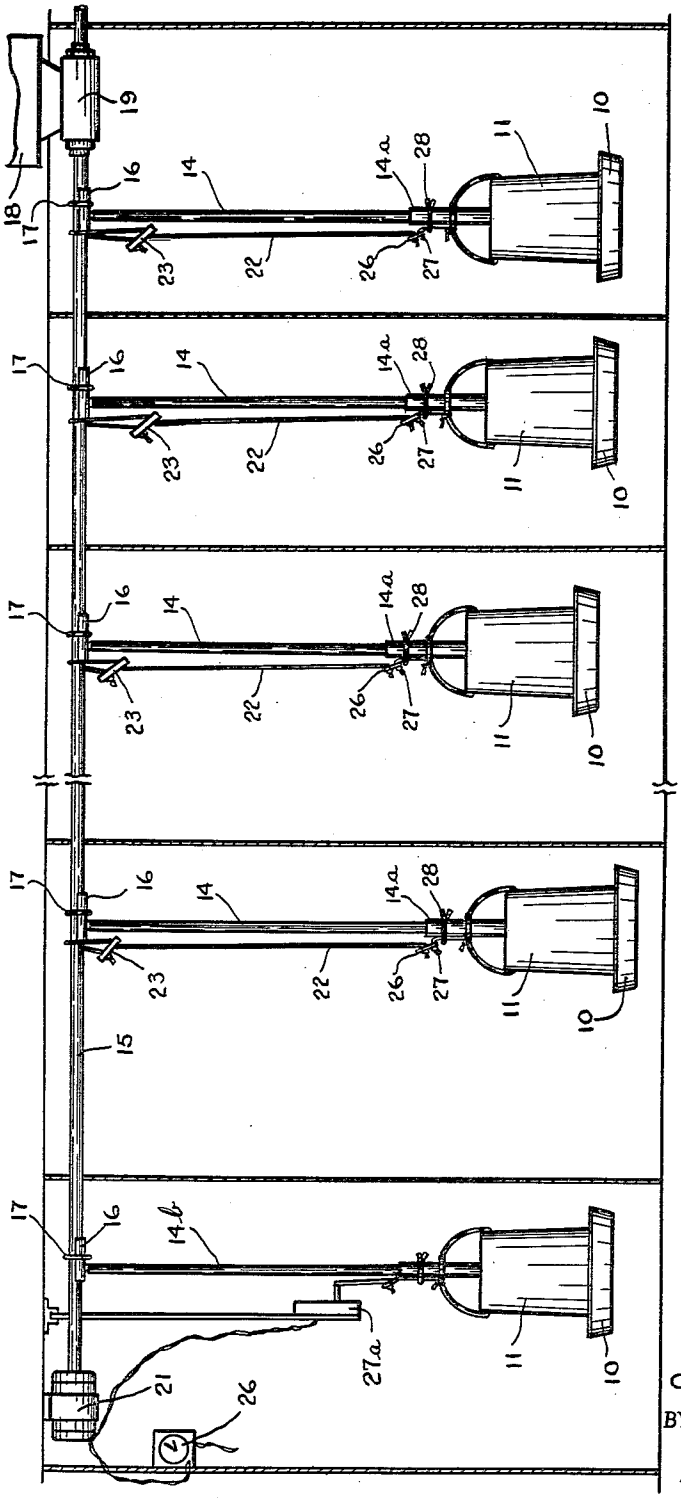
Oct. 1, 1963 C. W. PILCH 3,105,463

STOCK FEEDING DEVICE

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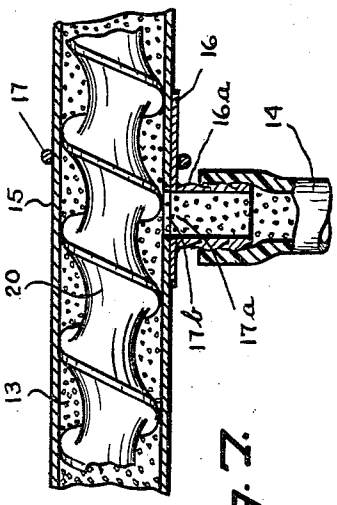




FIG. 2

FIG. 1

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Fig. 2.

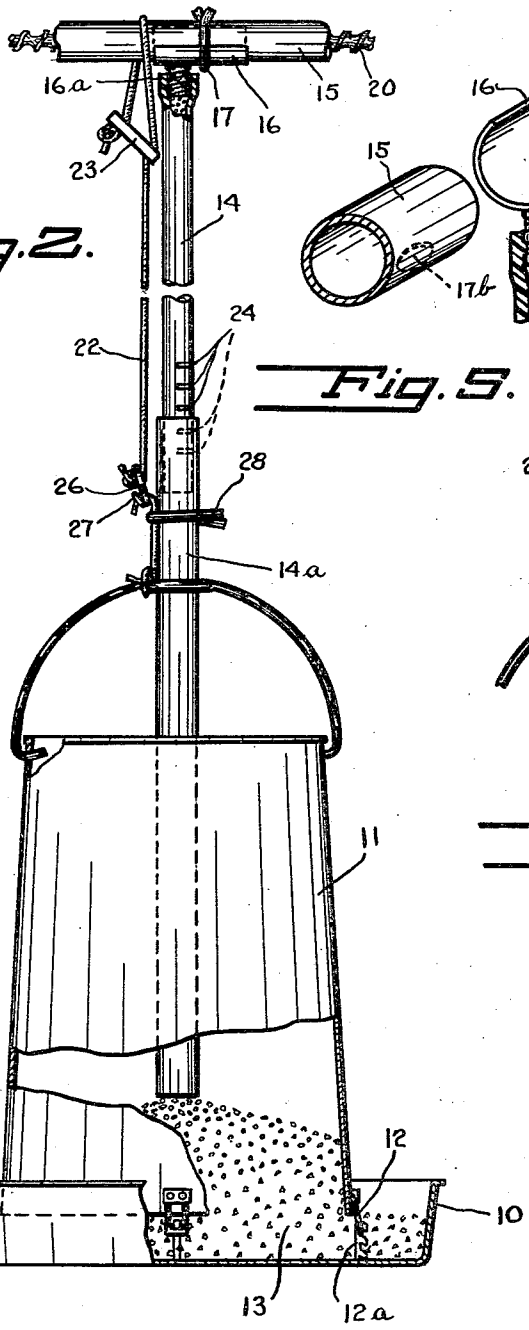
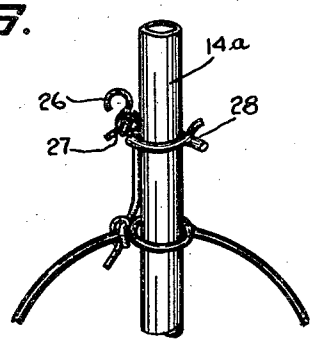



Fig. 5.




Fig. 6.




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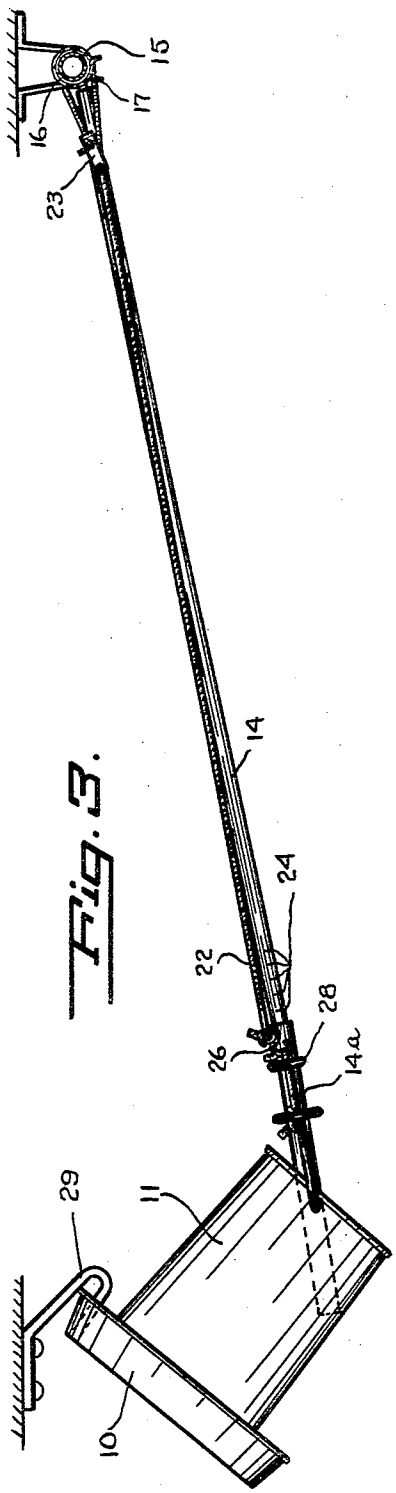



Fig. 3.

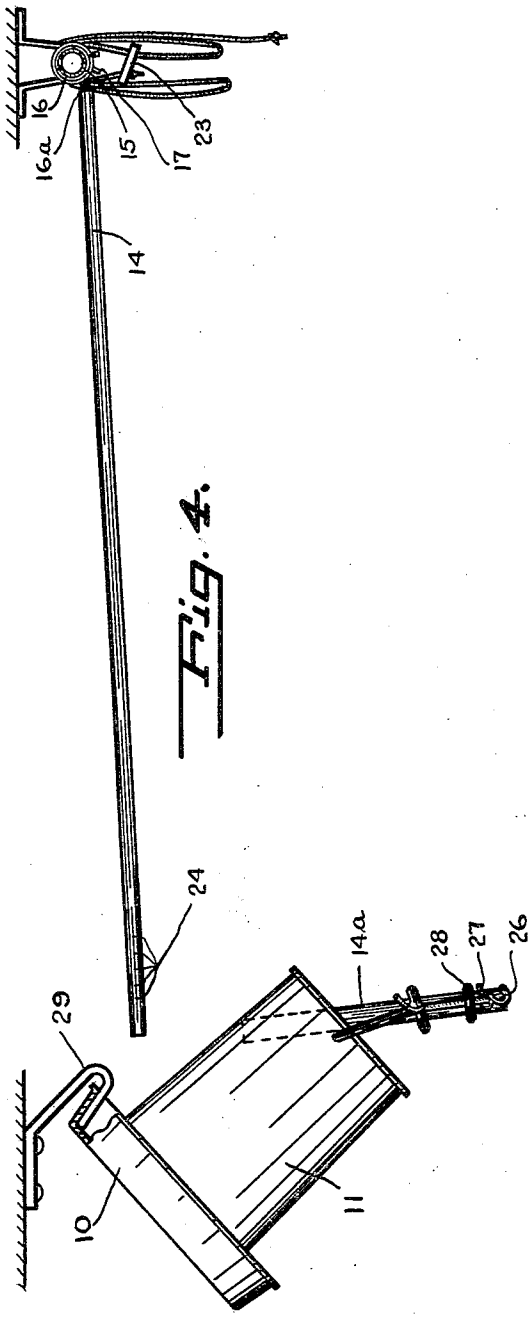



Fig. 4.

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# STOCK FEEDING DEVICE

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7 Claims. (Cl. 119—52)

This invention relates to new and improved stock feeding apparatus and more specifically to improvements in the type of such apparatus disclosed in my application Serial No. 91,744, filed February 27, 1961, and now matured into Patent No. 3,085,552.

An object of this invention is to provide a means of supplying food, particularly dry mash or the like, to stock with a minimum amount of manual labor, and which it so constructed as to avoid any tendency to become unbalanced or tip upon the supplying of food thereto.

Another object is to provide a device of the type set forth which is relatively simple and economical in construction, yet efficient in operation.

Another object is to provide a device of the type set forth which can be easily and quickly removed for storing, cleaning, and the like without affecting adjustments, and which, if disturbed, may be readily readjusted.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings.

Referring to the drawings:

FIG. 1 is a front view of a stock feeder embodying the invention;

FIG. 2 is a fragmentary view, on an enlarged scale and partially in section, of the apparatus of FIG. 1;

FIG. 3 is a side view of the apparatus in stored position;

FIG. 4 is a view generally similar to FIG. 3 but showing the apparatus disassembled;

FIG. 5 is a fragmentary view of a portion of the apparatus but on an enlarged scale;

FIG. 6 is a fragmentary side view of the apparatus; and

FIG. 7 is a sectional view showing the connection of one of the feed supply pipes to one of the down drops.

Referring more particularly to the drawings wherein similar reference characters designate corresponding parts throughout, the apparatus shown embodying the invention consists of a series of pens each supplied with a tray 10 and a hopper 11 adjustable in the tray by links 12 which engage a desired one of hooks 12*a*, these links being used to change the level of the feed 13 in the trays 10. The feed is supplied to the hoppers 11 by telescoping nonmetallic downdrops or pipes 14 and 14*a* supplied in turn from a feed pipe 15 and connected to the feed pipe 15 by a flange 16 which is clamped to the pipe 15 by spring clips 17 or tape or other suitable detachable means.

The use of the non-metallic downdrips allows the use of relatively small diameter pipes or tubes without danger of bridging by the feed in the pipes. If too large a diameter pipe is employed the amount of feed passing therethrough can be too great for desired feeding. The flange 16 is provided with the flexible connector 16*a* which is connected to pipe 14. Also, flange 16 is provided with opening 17*a* which may communicate with opening 17*b* in pipe 15 and pipe 14 can be closed off by covering opening 17*b* with flange 16 by pivoting flange 16.

The feed is supplied from a hopper 18 to pickup box 19. An auger or feed screw 20 or other suitable means in pipe 15 is rotated by motor 21 and moves the feed 13 along the pipe 15 past the upper ends of the telescoping pipes 14. The feed fills the pipe 14 nearest the pickup box 19 first and in turn fills the remaining pipes 14, etc. until the last pipe 14*b* is filled. This last pipe is preferably of larger diameter than the pipes 14, also the opening for pipe 14*b* in pipe 15 is larger than the opening for the other pipes.



The level of the feed 13 in hopper 11 is regulated by the positioning of the lower section 14*a* of telescoping pipe 14 in hopper 11 and this is adjusted by adjusting cord 22 and block 23 or other suitable means.

Pipe 14 is provided with suitable indications or graduations 24 which facilitate the adjustment or readjustment of the fill pipe if it should be disturbed for any reason.

It will be seen that the telescoping tubes are not necessary in the last downdrop because the weight switch controls the amount of feed contained by the last tray.

If desired, conventional automatically opening and closing covers could be provided for the trays which close when the timing means is on and open when the switch goes off, thereby preventing eating while the feeding is going on and provides more accurate control.

As the poultry increase in size and, therefore, require additional or greater quantities of food, such adjustments may be easily made by utilizing the gauge marks on pipe 14. Also the whole unit may be adjusted for changing the height of the feeder from the floor.

The flexible connection 16*a* allows the feeder and pipes to sway easily when contacted or hit by the poultry. If desired, a resilient fill pipe could be used instead of the resilient connection. This prevents bruising of poultry upon contact with the pipe.

Cord 27 is provided with hook 26 which is detachably connectable to cord 22 which is connected to hopper 11 and said cord 22 is secured to pipe section 14*a* by spring clamp 28 whereby the hopper may be easily and quickly positioned in or out of operable position.

As will be seen from FIG. 3, the whole unit may be swung toward the ceiling about the supply or screw feed pipe 15 for emptying, storing, washing or other reason and the water will drain from it, all without any disconnections being made. By providing a hook 29 on the ceiling, the device may be retained in the position of FIG. 3 and such swinging and hooking will automatically shut off the supply of feed to the fill pipe 14.

Also, the feeder may be disconnected from the fill pipe as shown in FIG. 4 by slipping the retaining knot in cord 22 from clamp 23 and then pipe 14*a* will be secured to hopper 11 by means of clamp 28 and hook 27.

In use, the height of trays 10 are set depending on the size of the stock being fed. The height of the telescoping pipe 14*a* is then adjusted as the amount of feed in the hopper 11 will depend on the positioning of the bottom end of pipe 14*a*. This process of adjustment is performed in each of the pens in turn.

The feeding apparatus is preferably operated during the night by a time clock 26, when the lights are out or the stock is asleep in order to obtain more accurate control, and in turn, each tray and hopper is filled with its predetermined amount of feed. When the last tray 10 and hopper 11 has its supply of feed a weight switch 27*a*, controlled by this hopper, is tripped, thus shutting off motor 21.

The operation of the apparatus is believed apparent from the foregoing description.

From the foregoing, it will be seen that I have provided means for obtaining all of the objects and advantages of the invention.

I claim:

1. In a device of the character described, a hopper adapted to receive feed, a pickup box communicating with said hopper, a feed pipe communicating with said pickup box, feed advancing means in said feed pipe, motor means for actuating said feed advancing means, a plurality of spaced trays adapted to receive feed from said feed pipe, a vertical pipe connecting said feed pipe and each of said trays, an opening in said feed pipe for

each vertical pipe, means for closing said opening automatically upon pivotal movement of said vertical pipe, comprising an orificed rotatable closure means over said feed pipe opening and including a means connecting said vertical pipe to said feed pipe.

2. In a device of the character described, a hopper adapted to receive feed, a pickup box communicating with said hopper, a feed pipe communicating with said pickup box, feed advancing means in said feed pipe, motor means for actuating said feed advancing means, a plurality of spaced trays adapted to receive feed from said feed pipe and a vertical pipe connecting said feed pipe and said trays, said vertical pipes comprising telescoping sections adapted to be relatively adjusted, means for supporting said sections in adjusted relation, an opening in said feed pipe for each vertical pipe, means for closing said opening automatically upon pivotal movement of said vertical pipe, comprising an orificed rotatable closure means over said feed pipe opening and including a means connecting said vertical pipe to said feed pipe.

3. In a device of the character described, a hopper, a pickup box positioned beneath said hopper and communicating therewith, a substantially horizontal pipe line communicating with said pickup box, feed advancing means in said horizontal pipe line and motor means for actuating said feed advancing means, a series of vertical pipes each connected to said horizontal pipe and in spaced relation with each other and a tray communicating with each of said vertical pipes, said vertical pipes each being connected to said horizontal pipes by a pivotable connecting means, a feed tray communicating with each of said vertical pipes, an opening said feed pipe for each vertical pipe and said pivoted connection means including an orificed flange means for closing said opening automatically upon pivotal movement of said vertical pipe.

4. In a device of the character described, a hopper adapted to receive feed, a pickup box communicating with said hopper, a feed pipe communicating with said pickup box, feed advancing means in said feed pipe, motor means for actuating said feed advancing means, a plurality of spaced trays adapted to receive feed from said feed pipe and a vertical pipe connecting said feed pipe and each of said trays, said vertical pipes being non-metallic, an opening in said feed pipe for each vertical pipe, means for closing said opening automatically upon pivotal movement of said vertical pipe, comprising an orificed rotatable closure means over said feed pipe opening and including a means connecting said vertical pipe to said feed pipe.

5. In a device of the character described, a hopper adapted to receive feed, a pickup box communicating with said hopper, a feed pipe communicating with said



pickup box, feed advancing means in said feed pipe, motor means for actuating said feed advancing means, a plurality of spaced trays adapted to receive feed from said feed pipe and a vertical pipe connecting said feed pipe and said trays, said vertical pipes comprising relatively adjustable telescoping sections and detachable cord means for supporting said sections in adjusted relation, one of said pipes having indicating means for indicating the relative position of said pipes, an opening in said feed pipe for each vertical pipe and rotatable closure means on said feed pipe for closing said opening automatically upon pivotal movement of said vertical pipe, said vertical pipes being non-metallic and resilent means pivotably connecting said vertical pipe to said closure means.

6. A device of the character described, a hopper, a pickup box positioned beneath said hopper and communicating therewith, a substantially horizontal pipe line communicating with said pickup box, feed advancing means in said horizontal pipe line, motor means for actuating said feed advancing means, a series of vertical pipes each connected to said horizontal pipe and in spaced relation with each other and a tray communicating with each of said vertical pipes, an opening in said feed pipe for each vertical pipe, and a rotating flange and flexible connector means for closing said opening automatically upon pivotal movement of said vertical pipe, said vertical pipes being detachably connected to said horizontal pipes by said flexible connector and flange.

7. In a device of the character described, a hopper adapted to receive feed, a pickup box communicating with said hopper, a feed pipe communicating with said pickup box, feed advancing means in said feed pipe, motor means for actuating said feed advancing means, a plurality of spaced trays adapted to receive feed from said feed pipe and a vertical pipe connecting said feed pipe and said trays, said vertical pipes comprising separable telescoping sections adapted to be relatively adjusted and separated, said vertical pipe being pivotable relative to said feed pipe, an opening in said feed pipe for each vertical pipe, and a rotatable orificed closure connecting said pipes for closing said opening automatically upon pivotal movement of said vertical pipe.

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