

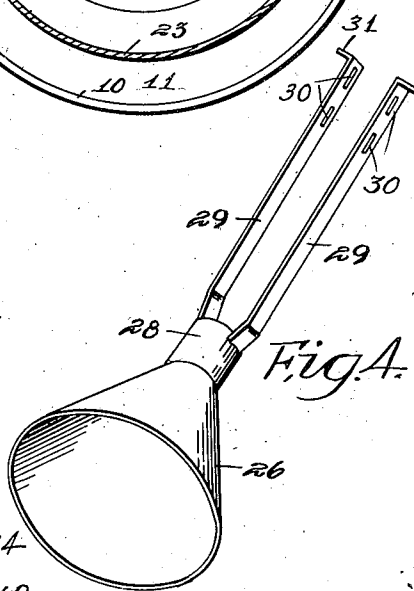
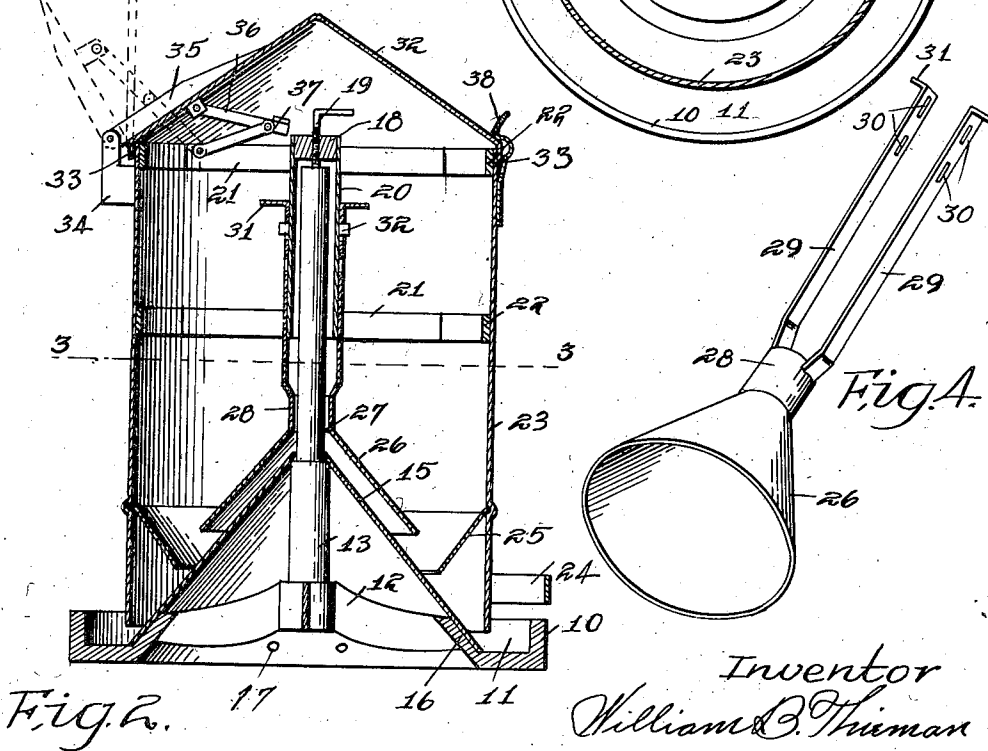
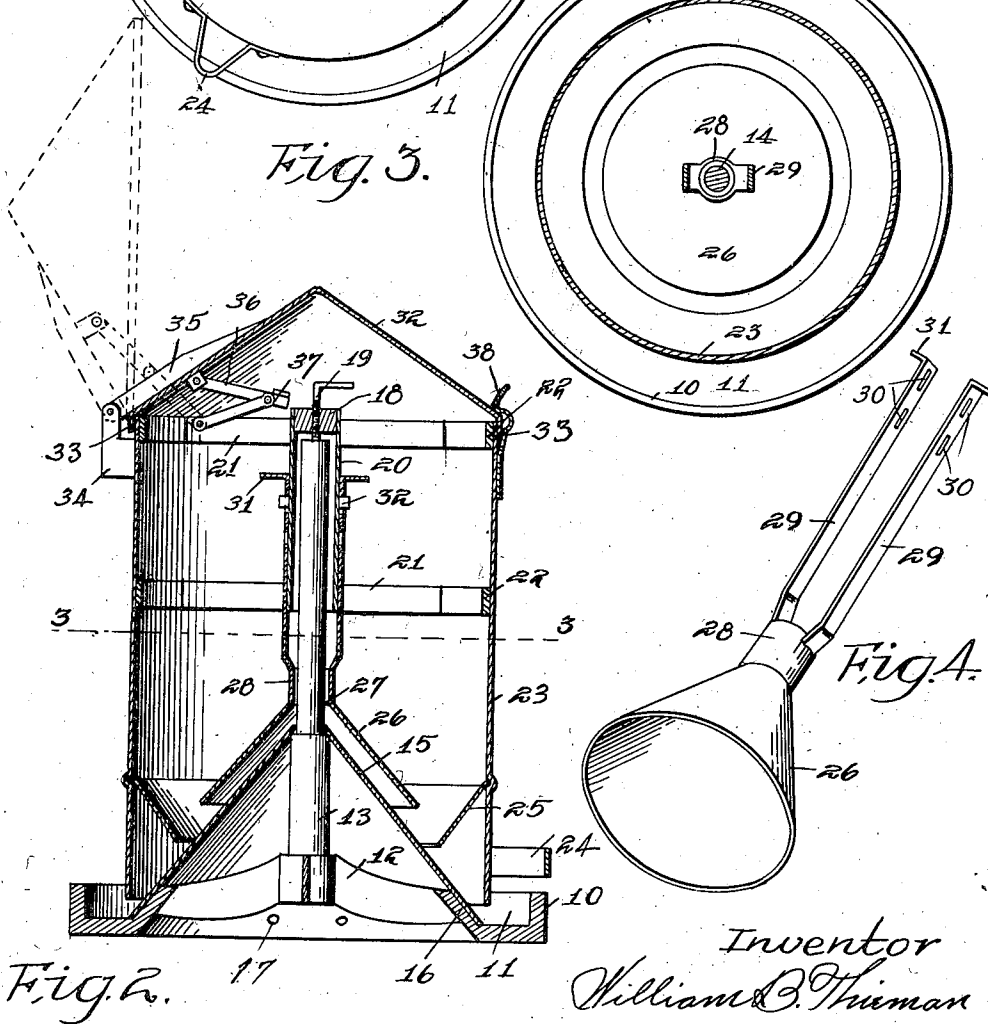
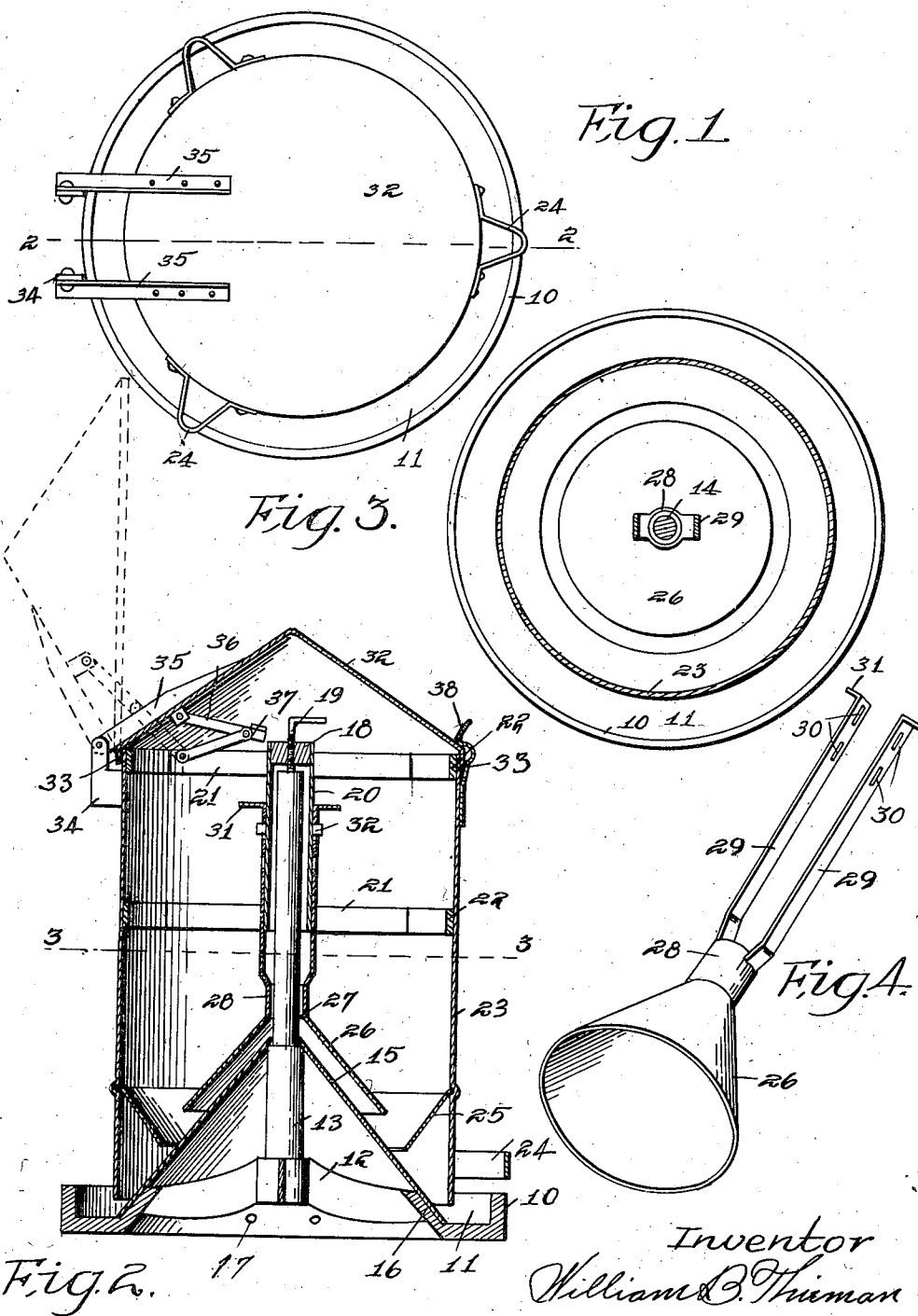
Feb. 2, 1943.

W. B. THIEMAN

2,309,997

STOCK FEEDER

Filed Aug. 4, 1940



Inventor
William B. Thuman
64, Owig & Hogue Sts

UNITED STATES PATENT OFFICE

2,309,997

STOCK FEEDER

William B. Thieman, Albert City, Iowa

Application August 4, 1940, Serial No. 351,371

5 Claims. (Cl. 119—53.5)

This invention relates to improvements in stock feeders and particularly to that type employing an annular trough and an upright post on which is pivotally mounted a feed retaining casing having its lower end adapted to feed material into the trough. Some difficulty has been experienced in feeding material from the container to the trough and providing adequate means for properly adjusting the flow of the amount of material when used in connection with different kinds of material.

It is, therefore, the object of my invention to provide a simple, durable and inexpensive stock feeder of the type above described, employing improved means for feeding material from the container into the trough.

A further object is to provide in a feeder of the type above described, improved means for adjusting the flow of feed.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which:

Figure 1 is a plan view of my improved feeder;

Figure 2 is a vertical sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a horizontal sectional view taken on the line 3—3 of Figure 2; and

Figure 4 is a perspective view of the auxiliary spreader.

In the drawing I have used the reference numeral 10 to indicate an annular base having formed in its upper surface an annular trough 11, the said base 10 being preferably formed of cast metal and provided with a spider 12 designed to support an upright post 13 at its central portion, the post 13 being preferably provided with a contracted portion 14.

Supported on the upper end of the portion 13 is a conical spreader plate 15 having its lower edge overlapping an upwardly extending flange 16 carried by the inner edge of the base 10, said spreader 15 being rigidly secured thereto by rivets or bolts 17.

Pivotally supported on the upper end of the member 14 is a head 18 by means of a set screw 19. The said head 18 is provided with a downwardly extending sleeve 20 of larger diameter than the member 14 and surrounding the same, as clearly illustrated in Figure 2. The sleeve 20 is provided with radial arms 21 fixed to the annular frame members 22, said members 22 supporting the feed retaining casing 23, which is of

a diameter less than the outside diameter of the trough 11 and substantially equal to the diameter of the base of the cone 15. The lower edge of the member 23 is supported above the bottom of the trough 11 and away from the cone 15. The set screw 19 provides means for elevating and lowering the casing and consequently adjusting the space between the lower edge of said casing and the bottom of said trough. The member 19 also provides a pivot to permit the lower edge of the casing to swing horizontally a limited distance in any direction from the conical spreader 15, and also to permit said casing to rotate about the center of the post 14 as an axis. The outer surface of the lower end of the member 23 is provided with radially extending lugs 24 which overhang the trough 11 and provide means whereby the portion of the material within the trough and beneath said lugs may be shielded against being eaten by the animal without crowding the flange sidewise. In the animal's attempt to get this portion of the feed it will crowd the flange sidewise, causing the casing 23 to be rotated about the post 14, and in turn that portion of the material between the lower edge of the casing and the cone agitated. The animal will also move the lower end of the casing to swing towards the conical spreader 15, thereby further agitating the material.

In order to carry a large portion of the weight of the material within the casing I have provided a downwardly and inwardly extending flange 25 having its inner edge spaced from the conical spreader 15 a slight distance, said flange 25 supporting the weight of the material immediately above it.

For supporting the weight of the material within the central portion of said casing I have provided what I shall term an auxiliary spreader plate 26, which is also of conical formation and having at its apex end an opening 27 for receiving the member 14, said apex terminating in an upwardly extending cylindrical portion 28, which in turn terminates in two upwardly extending bars 29, having near their upper end slots 30 and their upper ends terminating in laterally extending portions 31, one set of the slots 30 being designed to rest on laterally projecting pins 32 carried by the sleeve 20, the pins 32 serving as means for supporting the weight of the auxiliary spreader and also as means whereby the elevation of the spreader may be adjusted by simply swinging the upper ends of the members 29 outwardly to release the slots 30 from the said pin 32, after which the auxiliary spread-

er may be elevated or lowered to either one of the sets of openings 30. The cylindrical portion 28 is of larger diameter than the member 14 to permit a horizontal swinging movement of the lower end of the casing. By this arrangement it will be seen that since the diameter of the base of the spreader 26 is substantially equal to or slightly less than the diameter of the inner edge of the flange 25, substantially the entire weight of the material within the casing will be carried by the pivot 19, and that the said casing may be easily rotated about its vertical axis and have its lower end perfectly free to swing toward and from the conical spreader 15. The set screw 19 provides means for adjusting the flow of material from within the casing into the trough, while the members 31 provide means for adjusting the elevation of the cylinder spreader to adapt it to use in connection with different kinds of feed, as some kinds of feed flow more readily than others. In this connection it should be noted that the upper ends of the bars 19 terminate near the top or above the feed level within the casing whereby adjustment of the auxiliary spreader is conveniently located and may be accomplished when the feeder is filled.

Supported on the upper end of the casing I have provided a cover 32, which is also of conical construction, having at its lower edge a downwardly extending flange 33 adapted to surround the upper edge of the casing 23 when the cover is in closed position. Secured to one side of the upper edge of the casing I have provided a pair of outwardly and upwardly extending flanges 34, each adapted to pivotally support one end of a hinge bar 35, said hinge bar being fixed to the cover 32 all as clearly illustrated, to permit the cover to swing from a horizontal closed position to a substantially upright open position, as illustrated in dotted lines in Figure 2.

For locking the cover in its open position I have provided a pivoted link 36 having one end pivotally connected to the cover 23 and the other end to one of the arms 21, the inner end of one of the members 33 being provided with a lug 37 for limiting the downward movement of the inner ends of the links when the cover is in its open position and with the center of said links slightly below a center line passing through the pivots on the outer ends of said links, thus providing means for locking said cover in its upright and open position. A spring latch 38 is provided on the upper edge of the casing 23 for latching the cover against being blown open by the wind.

Thus it will be seen I have provided a simple, durable and inexpensive stock feeder which is so constructed that its lower end is free to swing freely toward and from the conical spreader, and also so arranged that substantially the entire weight of the material within the feeder is carried by a single pivot carried by the upper end of the upright post, thus providing means for free movement of the feeder to cause agitation of the material therein.

It will further be seen that I have provided means whereby the auxiliary spreader may be easily adjusted even at such times as the casing is filled with feed.

It will also be seen I have provided an improved cover arrangement wherein the cover is pivotally and permanently fixed to the casing and provided with means for locking the cover in its open position and for frictionally retaining it in its closed position.

I claim as my invention:

1. A stock feeder, comprising a base including an annular trough and a central upright post, a conical spreader surrounding the lower end of said post, having its base terminating in the inner edge of said annular trough, a cylindrical upright casing, a pivot mounting the upper end of said casing on the upper end of said post with its lower end terminating in and above the bottom of said trough and around said spreader to permit the casing to be rotated about said post as an axis and at the same time to permit its lower edge to swing toward and from said conical spreader, the lower end of said casing being provided with a downwardly and inwardly inclined annular flange having its inner edge terminating a slight distance from said conical spreader to carry a large portion of the weight of the feed within the upper end of said casing, an auxiliary spreader above the first spreader, of smaller diameter than the first spreader, and means carried by said pivot for adjustably raising and lowering said auxiliary spreader relative to the first spreader.

2. A stock feeder, comprising a base including an annular trough and a central upright post, a conical spreader surrounding the lower end of said post, having its base terminating in the inner edge of said annular trough, a cylindrical upright casing, a pivot mounting the upper end of said casing on the upper end of said post with its lower end terminating in and above the bottom of said trough and around said spreader to permit the casing to be rotated about said post as an axis and at the same time to permit its lower edge to swing toward and from said conical spreader, the lower end of said casing being provided with a downwardly and inwardly inclined annular flange having its inner edge terminating a slight distance from said conical spreader to carry a large portion of the weight of the feed within the upper end of said casing, an auxiliary spreader above the first spreader, of smaller diameter than the first spreader, and means carried by said pivot for adjustably raising and lowering said auxiliary spreader relative to the first spreader, said means comprising a sleeve surrounding the upper end of said post depending from said pivot, lugs supported laterally from said sleeve, and bars extending upwardly from the apex end of said auxiliary spreader having their upper ends perforated to receive said lugs, the upper ends of said bars terminating near the upper end of said casing.

3. A stock feeder, comprising a base having formed therein an annular trough, a central upright support carried by said base, a conical spreader surrounding the lower end of said upright support, a casing surrounding said upright support having its lower end terminating in said trough, means pivotally mounting the upper end of said casing on the upper end of said upright support, a downwardly and inwardly extending flange carried by the inner surface of said casing near its lower end to carry a portion of the weight of the material therein, and a downwardly and outwardly inclined flange for supporting the inner portion of the weight of said material, and means carried by said pivot means for adjustably raising and lowering the last said downwardly and outwardly inclined flange.

4. A stock feeder, comprising a base including an annular trough, a central upright support having a conical spreader surrounding its lower end, an upright casing having its upper end piv-

otally mounted on the upper end of said support with its lower end terminating in and above the bottom of said trough and around said spreader to permit the casing to rotate about said support as an axis and at the same time permit its lower edge to swing toward and from said conical spreader, the lower end of said casing being provided with a downwardly and inwardly inclined flange having its inner edge terminating a slight distance from said spreader, a centrally located auxiliary spreader around and above the first spreader tending to move material outwardly to position above said inwardly extending flange, and means for supporting said auxiliary spreader by said casing, whereby substantially the entire weight of the material within said casing will be carried by said auxiliary spreader and said flange.

5. A stock feeder, comprising a base including an annular trough, a central upright support having a conical spreader surrounding its lower

end, an upright casing having its upper end pivotally mounted on the upper end of said support with its lower end terminating in and above the bottom of said trough and around said spreader to permit the casing to rotate about said support as an axis and at the same time permit its lower edge to swing toward and from said conical spreader, the lower end of said casing being provided with a downwardly and inwardly inclined flange having its inner edge terminating a slight distance from said spreader, a centrally located auxiliary spreader around and above the first spreader tending to move material outwardly to position above said inwardly extending flange, and means for adjustably supporting said auxiliary spreader by said casing, whereby substantially the entire weight of the material within said casing will be carried by said auxiliary spreader and said flange.

WILLIAM B. THIEMAN.