Jan. 23, 1951 G. DUHMERT 2,539,299

FEEDING TROUGH FOR FOWL

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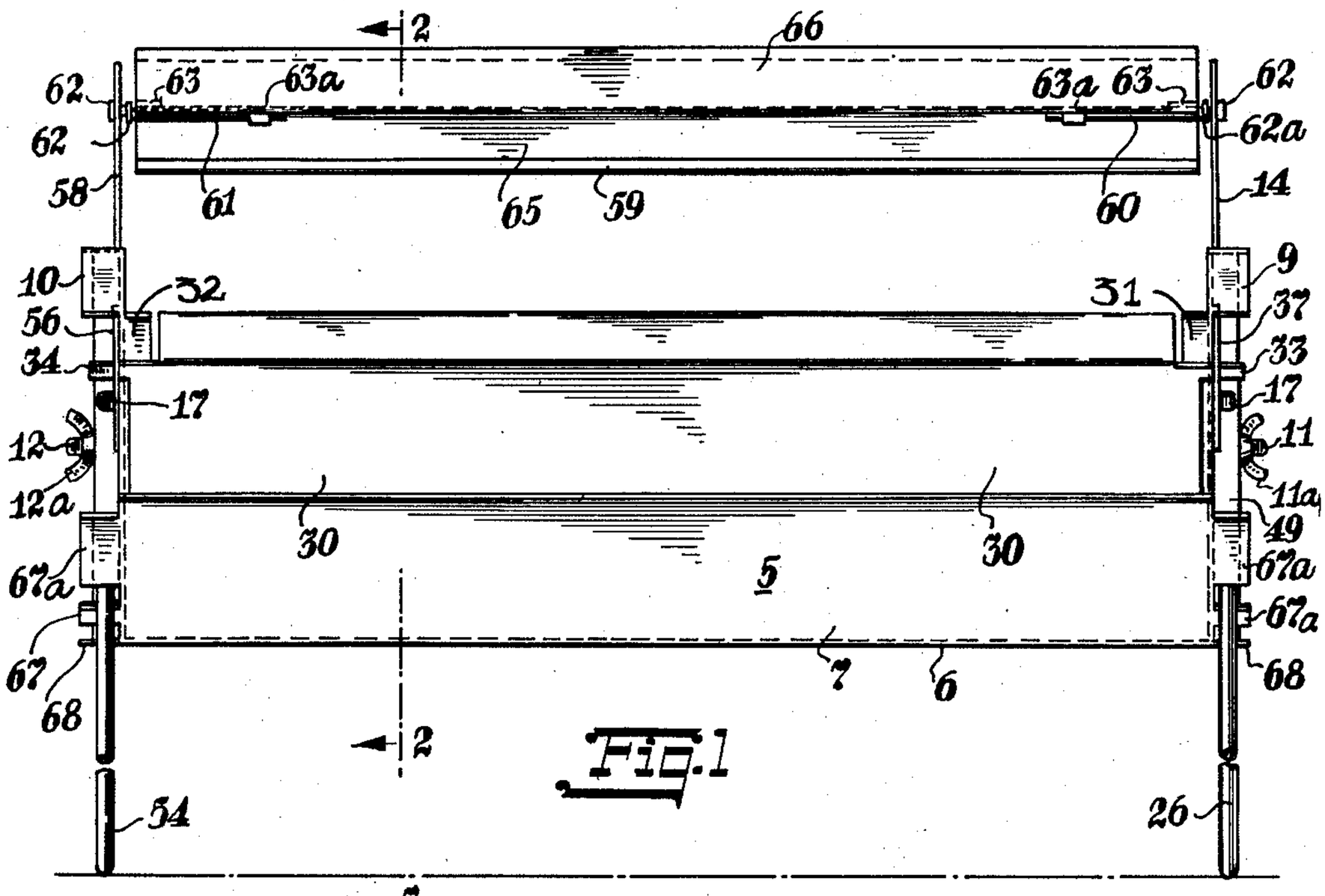

Fig. 1

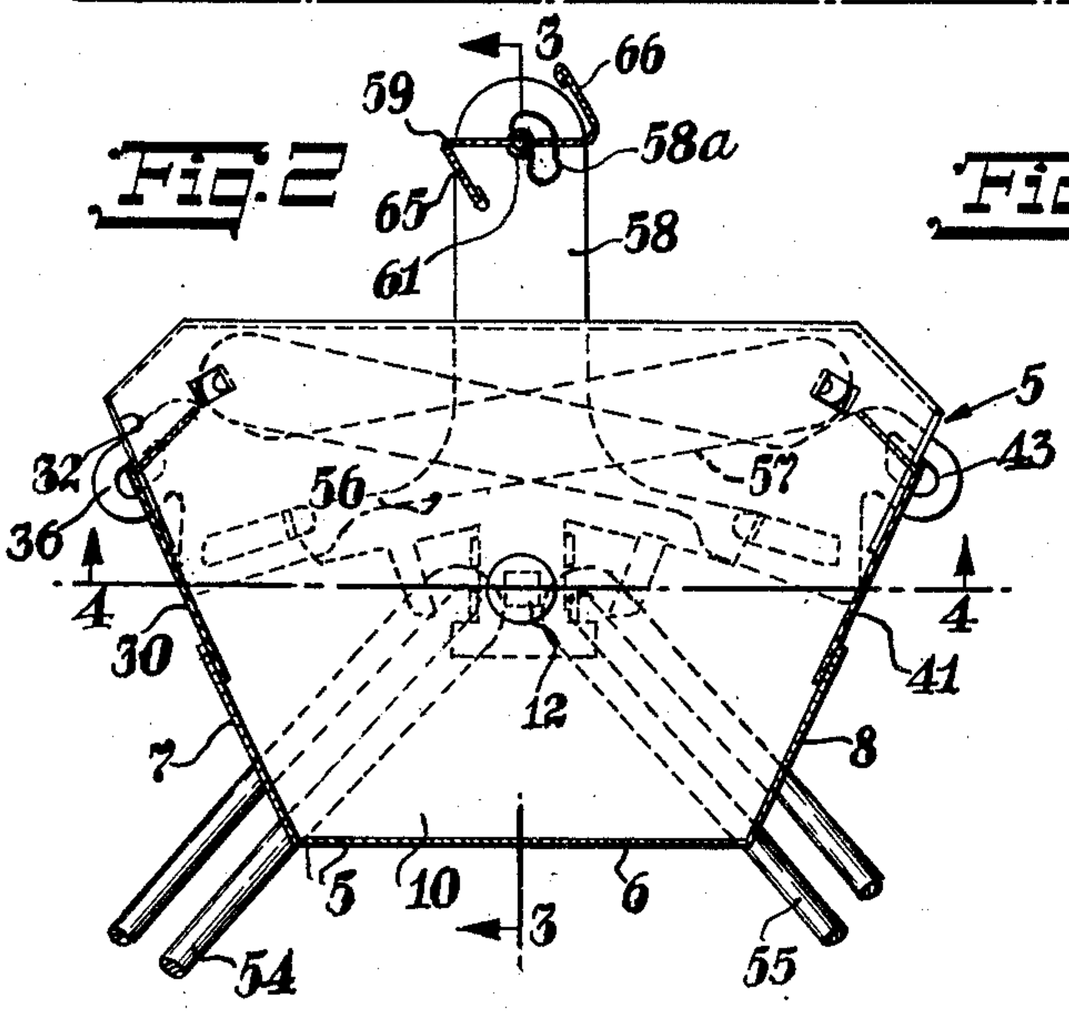

Fig. 2

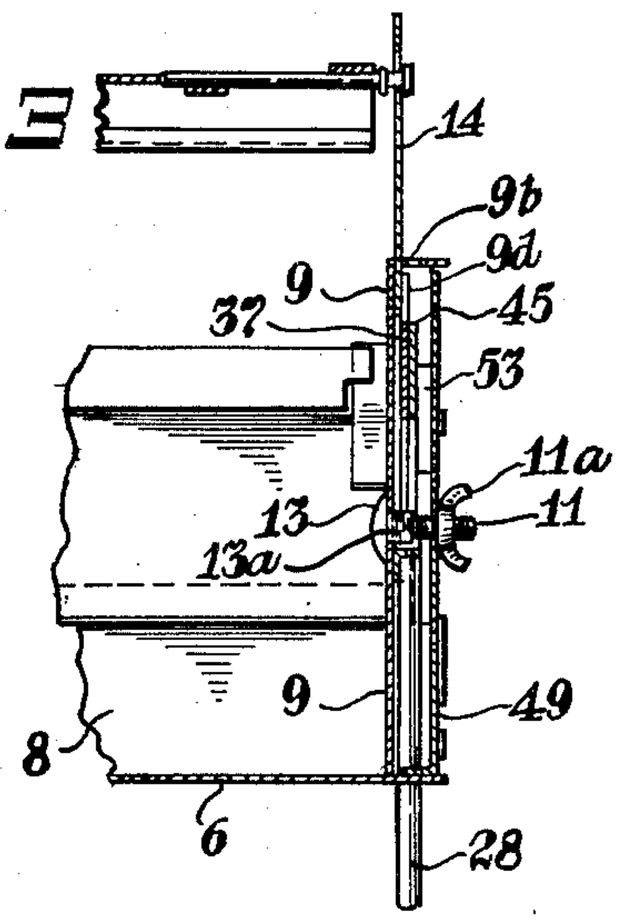

Fig. 3

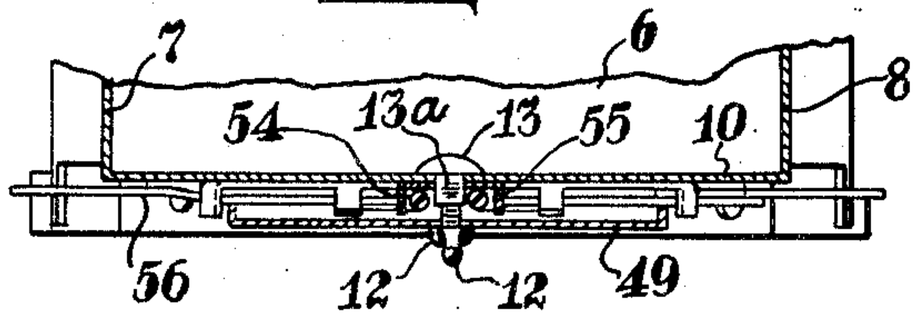

Fig. 4

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Fig. 5

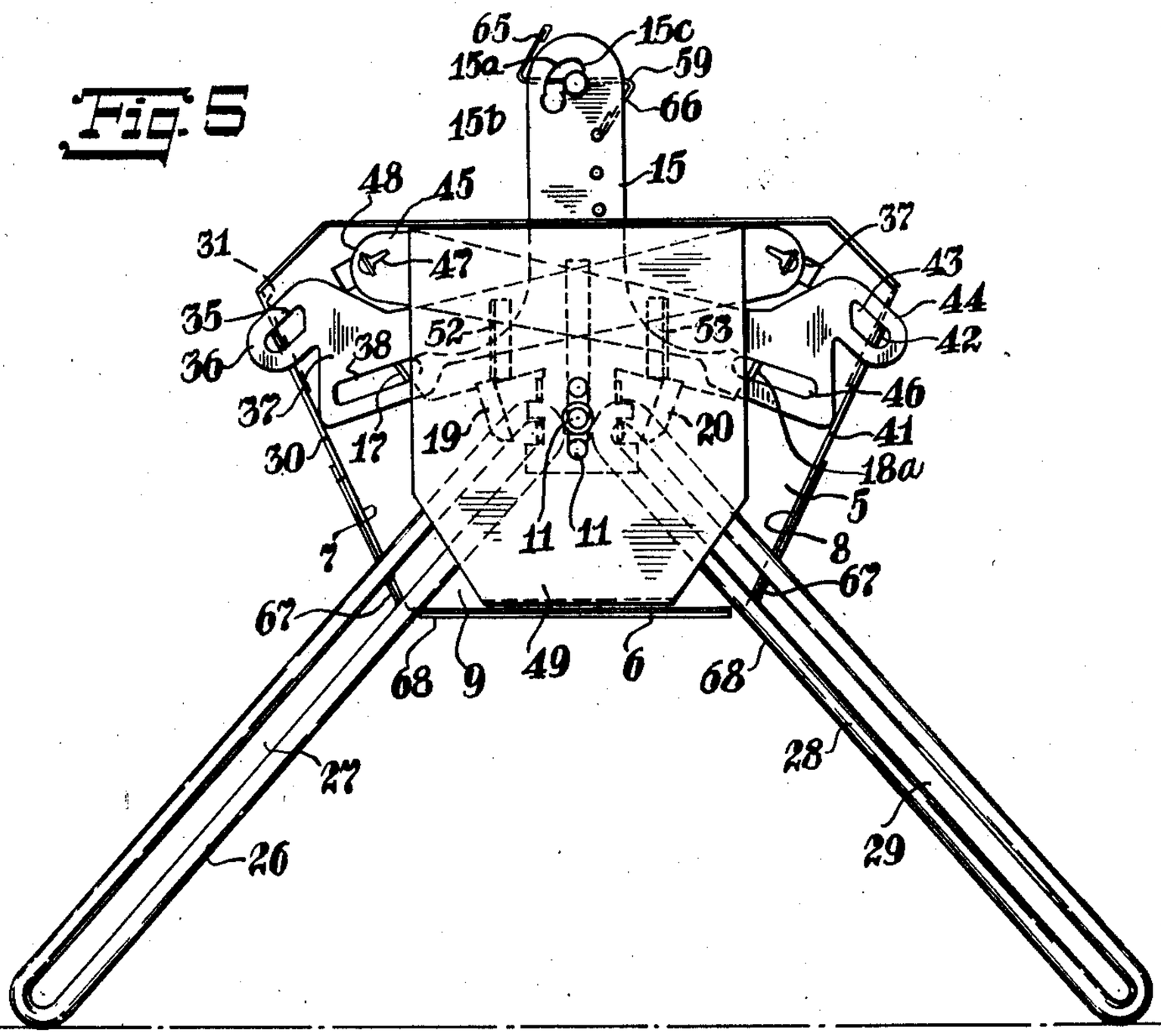

Fig. 6

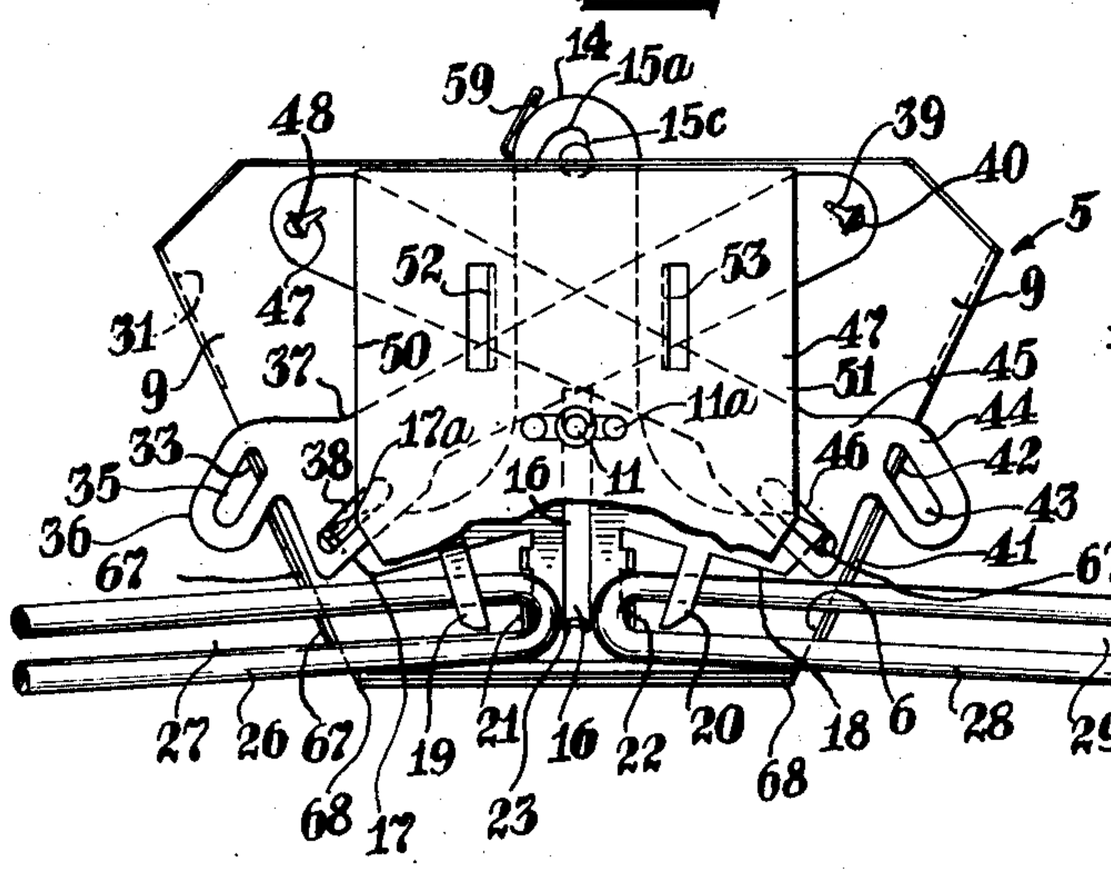

Fig. 7

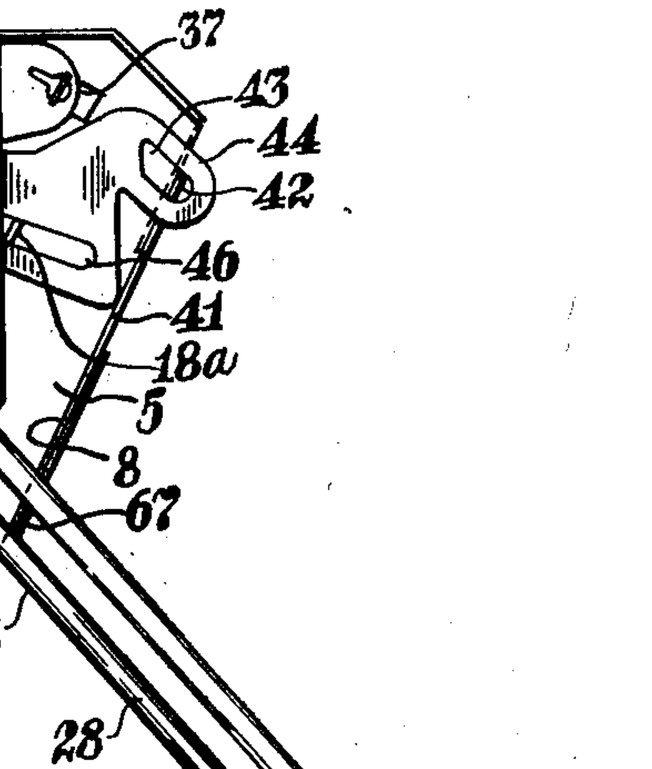

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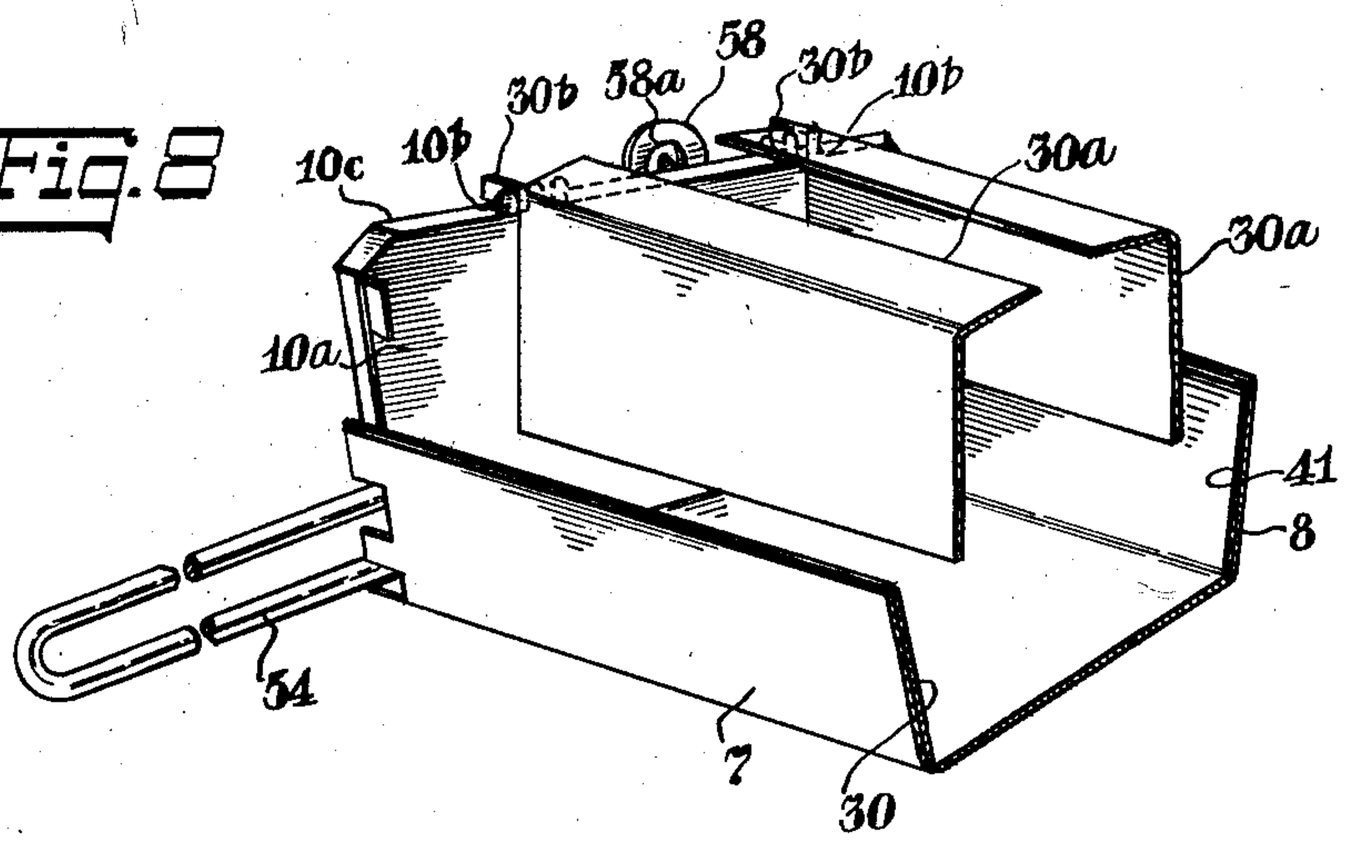
Fig. 8



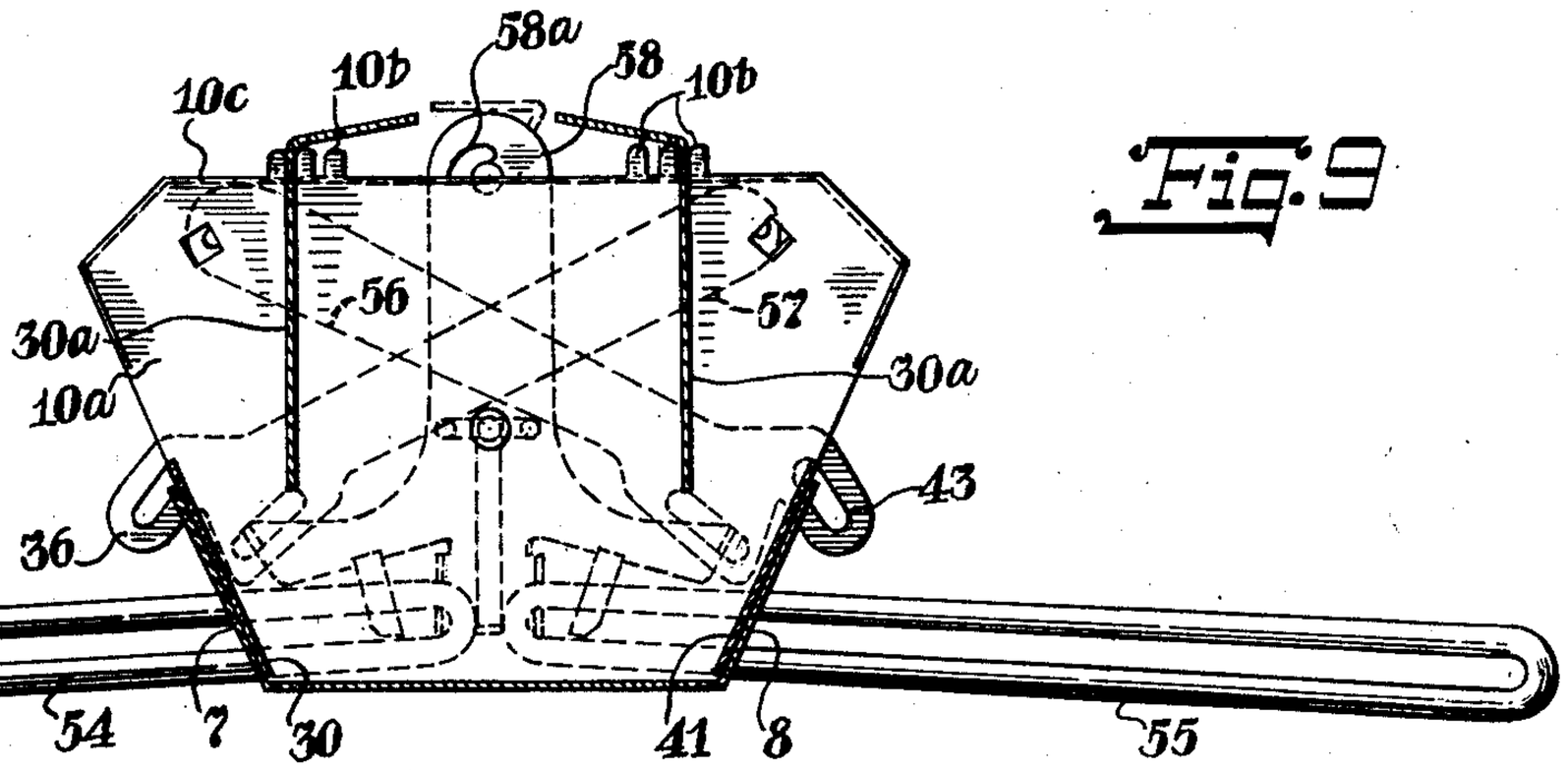


Fig. 9

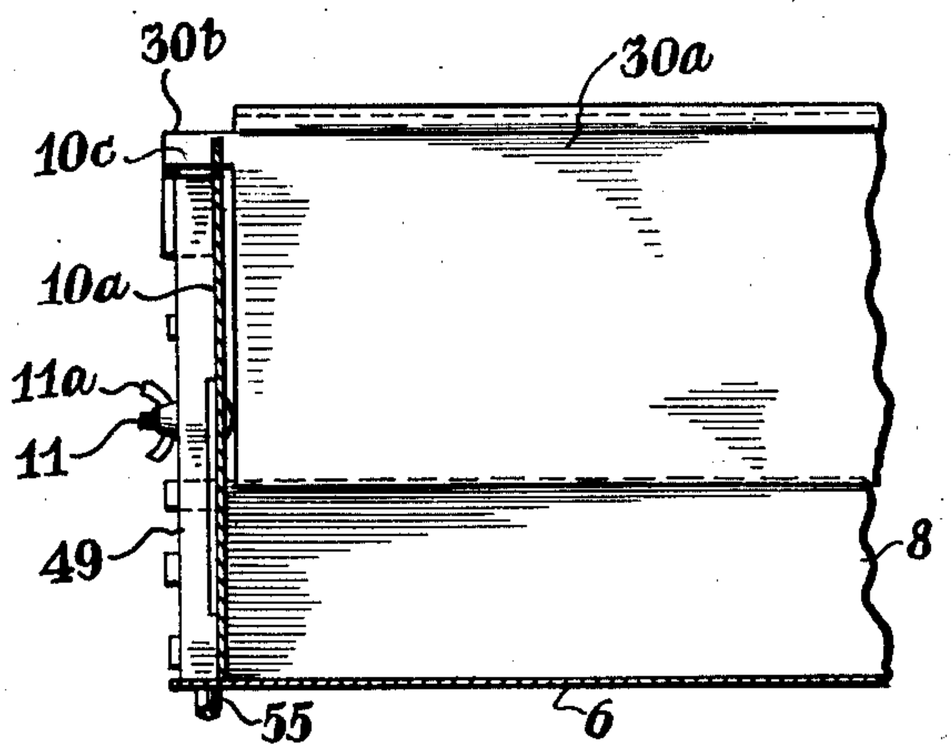


Fig. 10

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UNITED STATES PATENT OFFICE

2,539,299

FEEDING TROUGH FOR FOWL

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Application May 14, 1947, Serial No. 747,908

2 Claims. (Cl. 119—61)

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This invention relates to an improved feeding trough for fowl, and embraces the construction of a unit having means for raising the trough above the ground or floor to correspond with the growth of the fowl, and means for simultaneously increasing the capacity of the trough and elevating the reel supported over the trough, the whole being constructed and organized so that only a single adjustment at each end of the unit is required to adapt it for the increase in height and capacity to absorb feed which comes with natural growth.

One of the objects of the invention is the provision of a trough with end legs which are adjustable on the ends of the trough and side wall extensions which are connected to the end legs so that when the end legs are adjusted the side wall extensions will also be adjusted.

Another object of the invention is to provide means for simultaneously raising the overhead reel when the legs are adjusted to increase the elevation of the trough.

A still further object of the invention is to provide a combined unit, including the feeding trough, supporting legs, and reel end supports, with sliding lever connections, so designed and organized that by moving the outer ends of the legs to lower positions the reel end supports will be raised and the side wall extensions will be elevated, so that the capacity of the trough is proportionately increased as the trough is raised to a higher elevation, together with a single clamping means at each end of the unit, whereby all moving parts are clamped by one turning operation in their adjusted position.

With the above and other objects in view the invention comprises certain new and useful combinations, constructions and arrangements of parts, clearly described in the following specification, and shown in the drawings, in which:

Fig. 1 is a side elevation of the improved poultry feeding trough.

Fig. 2 is a vertical sectional view, taken on line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a fragmentary sectional view, taken on the vertical line 3—3 of Fig. 2, looking in the direction of the arrows.

Fig. 4 is a horizontal sectional view, taken on line 4—4 of Fig. 2, looking in the direction of the arrows, and shown broken away for convenience.

Fig. 5 is an end elevation, showing the legs adjusted to maximum height of the feeding trough.

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Fig. 6 is a similar view, showing the legs adjusted for placing the bottom of the feeding trough in engagement with the ground, certain parts being broken away.

Fig. 7 is a detail side view of the adjustable reel support.

Fig. 8 is a fragmentary perspective view showing a horizontally shiftable barrier plate construction.

Fig. 9 is an end view thereof.

Fig. 10 is a fragmentary side view, showing the position of the end finger of the barrier plate.

Referring to the drawings, which illustrate the practical embodiment of the invention, 5 designates a feeding trough which is preferably constructed of sheet metal, and is provided with a bottom wall 6, upwardly and outwardly inclined side walls 7 and 8, and end walls 9 and 10, which have inclined side edges to match the inclination of the side walls 7 and 8, and which extend a considerable distance above the side walls. All of these walls are rigidly connected to each other.

The end wall 9 is provided with a screw 11, and the end wall 10 is provided with a screw 12. Each screw is provided with a button head 13, and a square shank portion 13*a*, which holds the screw against turning in its end wall. The screws are located in the end walls about midway of the upper and lower ends of the end wall, in a common horizontal plane, and centered with reference to the side edges of the end walls.

Against the end wall 9 a vertical reel support 14, in the approximate shape of an inverted T, as shown in Fig. 7, is disposed. The central or vertical stem 15 of this reel support is formed with a longitudinal slot 16 to receive the shank of the screw 12. One side arm 17 of this reel support is provided with a terminal lug 17*a* and the other side arm 18 is provided with a similar terminal lug 18*a*. A pendant finger 19 is formed on the lower edge of the side arm 17 and a pendant finger 20 is formed on the lower edge of side arm 18.

The lower end of the vertical stem 15 is formed with a struck-out pivot lug 21, at one corner thereof, and another struck-out pivot lug 22 at the opposite corner thereof, and a guard lug 23 between these pivot lugs and guard lugs 24 and 25 above these pivot lugs.

The inner end of a leg 26, having a longitudinal slot 27, is slidably and pivotally mounted on the pivot lug 21, so that the end thereof engages the upper guard lug 24 and the lower guard lug 23, and slides under the pendant

finger 19. The inner end of the slotted leg 28 engages the pivot lug 22, and the end thereof engages the upper guard lug 25 and the lower guard lug 23, and slides under the pendant finger 20.

The slot 27 of the leg 26 receives the leg pivot 21 of the reel support 15, and the slot 29 of the leg 28 receives the pivot 22 of the same reel support.

Against the inclined side wall 7 a sliding extension plate 30 is arranged to move, between the inner side of the wall 7 and against the outer side of the inner flange 31 of the end wall 9, at one end of the trough, and against the outer side of the inner flange 32 of the end wall 10 at the other end of the trough.

The side wall extension plate 30 is formed with a lug 33 on one end and a similar lug 34 on the other end. The lug 33 is received by the diagonal slot 35 of the projecting arm 36 of the lever 37, which is also provided with another diagonal slot 38 to receive the terminal lug 17*a* of the arm 17. The slots 35 and 38 are formed on one end of the lever 37, and the other and normally upper end of the lever is provided with a pivot hole 39 which receives the struck out lug 40 of the end wall 9.

Another and similar side wall extension plate 41 slides against the side wall 8, and is provided on one end with a lug 42, which is received by the diagonal slot 43 of the projecting end arm 44 of the lever 45. This lever is also formed with a diagonal slot 46 which receives the terminal lug 18*a* of the arm 18, and the opposite end of the lever is formed with a pivot hole or slot 47 which receives the struck out lug 48 of the end wall 9.

The levers 37 and 45 are disposed in crosswise relation, and are held in sliding relation against the end wall 9 by means of the cover plate 49, which is formed with side edge flanges 50 and 51, and with struck out lugs 52 and 53, which act to limit the spacing of the cover plate from the levers 37 and 45. The screw 11 projects through the cover and a wing nut 11*a* is threaded on the screw to clamp the levers 37 and 45, and the reel support 14 in adjusted position and at the same time retain the cover plate 49 against the end of the trough.

Against the opposite end wall 10, slotted legs 54 and 55 are arranged, and have similar cooperative engagement with the levers 56 and 57, and the reel support 58, which duplicate similar parts of the end wall 9, as described in detail. The screw 12 holds these parts in adjusted position with the aid of the wing nut 12*a* threaded thereon.

The upper end of the reel supporting stem 15 is formed with a bearing slot 15*a*, which is provided with a large lower end 15*b* and a downwardly offset upper end 15*c*. The upper end of the stem of the reel support 58 is provided with a similar slot 58*a*. A reel 59, having end trunnions 60 and 61 is supported on the upper ends of the reel supports 14 and 58. Each trunnion is provided with integral collars or heads 62 and 62*a*, which are spaced apart, and the head or collar 62 is adapted to be inserted in the large lower end 15*b* and then shifted so that the trunnion is supported by the upper slot end 15*c*, of the reel support 14, and similarly adjusted on the reel support 58. The shanks of the trunnions are slidably mounted in the struck out straps 63 and 63*a* of the reel, which are formed on the intermediate longitudinal bar or web of the reel.

This reel is shown to be approximately of S-shape form, so as to provide opposite longitudinal bars 65 and 66.

By loosening the wing nuts on the ends of the trough and moving the levers inwardly and upwardly, and then clamping the wing nuts in place, the outer ends of the slotted legs will be displaced below the bottom of the trough, so that various levels of mounting for the trough may be obtained.

When the legs are pushed inwardly, the lugs 67 on the ends of the inclined side walls will keep the legs in close relation to the bottom wall of the trough, these lugs projecting outwardly of the adjacent end walls, and the side walls are further provided with lugs 67*a* located above the lugs 67, and the ends of the bottom wall project outwardly to provide guiding edges for the legs. The lugs 67 slide in the longitudinal slots of the legs.

As the legs are pushed inwardly their outer ends are swung downwardly, against the projecting ends 68 of the bottom wall, which thus provide fulcrum bearing edges for the legs, now functioning as levers. As the outer end of each leg is forced downwardly its inner end acts to raise the reel support it is coupled to by the lower lugs of the stem 15 of the reel support. As the reel support is thus shifted upwardly, a movement which is possible because of the longitudinal slot 16 of the central vertical stem 15 of the reel support, and the shank of the screw which projects through this slot, the lug 17*a* of the arm 17, and the lug 18*a* of the arm 18 act to raise the outer ends of the crossed levers 45 and 37, and as the outer ends of these levers are raised the side wall extensions are raised, and at the same time the upper ends of the reel supports rise above their lower position, and thereby elevate the reel 59.

The elevation of the trough by the lowering of the outer ends of the slotted legs thus causes a proportionate raising of the side wall extension plates, and this proportionately increases the holding capacity of the trough, and at the same time the reel 59 is elevated correspondingly.

Due to the interlocking sliding lever connections between the legs, the side wall extension plates and the reel supports, it is impossible to adjust one of these groups of elements without adjusting the other groups.

Only two clamping centers are provided, so that by clamping the wing nut on one end of the trough all of the movable parts on that end are secured in any adjustment made, and by clamping the other wing nut the corresponding adjustment of the movable elements controlled by it is secured.

By raising the side wall extension plates the level of the upper edges of these walls is raised, and by so doing the holding capacity of the trough is increased; the rigid and non-movable end walls projecting well above the rigid side walls 7 and 8 of the trough, thereby affording ample elevation to permit of the raising of the side wall extension plates to their highest positions or maximum adjustment.

In Figs. 8 to 10 inclusive, I show a development of the invention, which adapts it for feeding chicks, while preventing them from entering the trough. Referring to these figures each end wall 10*a* is provided with a plurality of upstanding integral lugs 10*b*, which are struck out of the material of which the end wall is made. A group of three of these lugs is provided on each end

wall for the side wall extension plate 30*a* of each side of the trough.

Each side wall extension plate 30*a* is formed on each end with a longitudinal finger 30*b*, which is adapted to snugly fit between any two adjacent upstanding lugs. These lugs are spaced inwardly of the side wall of the trough, and are designed to seat on the marginal horizontal flange 10*c* of each end wall. The side wall extension plate 30*a* is thus suspended from the upper ends of the end walls, and provides a spaced vertical barrier for the prevention of the entrance of chicks from either side of the feeding trough, while allowing ample access to the feed.

By this horizontal adjustment of the side wall plates the feeder will give efficient service to baby chicks. As baby chicks may feed through the spaces between the upper edges of the rigid side walls and the suspended side wall plates, without being able to get into the feeder itself. With natural growth of the birds the side wall plates will be removed from the upstanding lugs 10*b* and in the projecting arms of the lever 37 and 45 (Figs. 1 to 6), thus allowing more access to feed for growing birds. These arrangements dispense with the necessity of using a different feeder for each age-group of chickens.

In other words the side wall extension plates 30*a* remain at the upstanding integral lugs 10*b* for say about three and a half to four weeks only. The horizontal adjustment of the side wall plates give no service to older birds, as the space between the upper edges of the rigid lower side walls and the suspended side wall plates would not be large enough to accommodate birds over four weeks of age.

It is obvious that changes may be made in the form, construction and arrangement of the several parts, as shown, within the scope of the appended claims, without departing from the spirit of the invention, and I do not, therefore, wish to limit myself to the exact construction shown and described herein.

What I claim as new, and desire to secure by Letters Patent of the United States, is:

1. In a feeding trough, a T-shaped reel support at each end of the latter, said reel support providing oppositely extending arms and a vertical stem, levers arranged in crosswise relation adjacent to each reel support and being pivotally connected to the adjacent end of the trough, side wall plates slidable against the side walls of the trough, the outer ends of said levers being slidably and pivotally connected to said side wall plates, the inner ends of the legs and said reel support being slidingly and pivotally connected, and means for clamping each reel support to its adjacent levers.

2. In a feeding trough, a T-shaped reel support at each end of the latter, said reel support providing oppositely extending arms and a vertical stem, levers arranged in crosswise relation adjacent to each reel support and being pivotally connected to the adjacent end of the trough, side wall plates slidable against the side walls of the trough, the outer ends of said levers being slidably and pivotally connected to said side wall plates, the inner ends of the legs and said reel support being slidingly and pivotally connected, and means for clamping each reel support to its adjacent levers, the legs being pivotally connected to the T-shaped reel supports and adapted to adjust the latter.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
53,811	Goudy	Apr. 10, 1866
582,629	Farr	May 18, 1897
718,540	Smith	Jan. 13, 1903
1,409,841	Faust et al.	Mar. 14, 1922
1,810,782	Morris	June 16, 1931
1,863,983	Hess	June 21, 1932
1,894,278	Martin	Jan. 17, 1933
1,997,029	Abendroth	Apr. 9, 1935
2,136,587	Gaskill	Nov. 15, 1938
2,165,968	Hill	July 11, 1939
2,308,701	Martin	Jan. 19, 1943
2,361,598	Calhoon	Oct. 31, 1944