Dec. 27, 1927. 1,653,976

J. E. ANDERSON

KNOCKDOWN SELF FEEDER

Filed Feb. 7, 1927

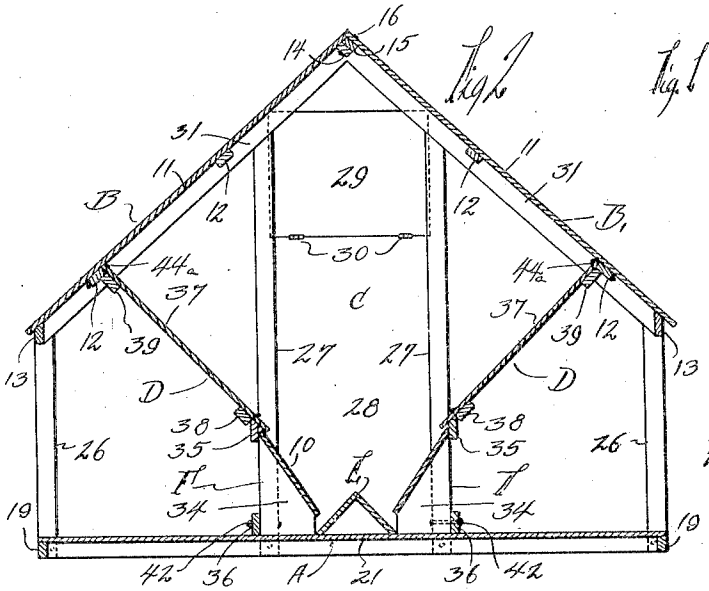


Fig. 1

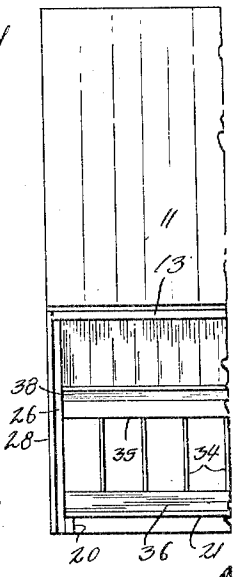


Fig. 2

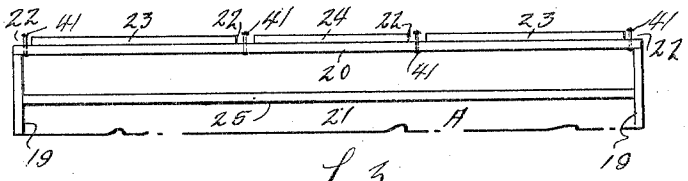


Fig. 3

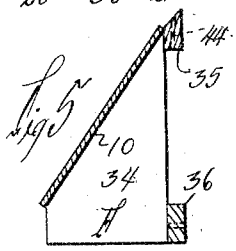


Fig. 5

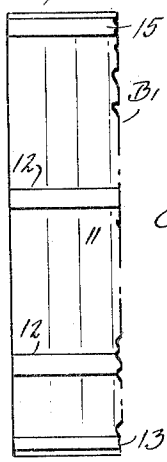


Fig. 4

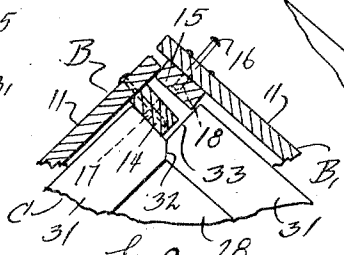


Fig. 8

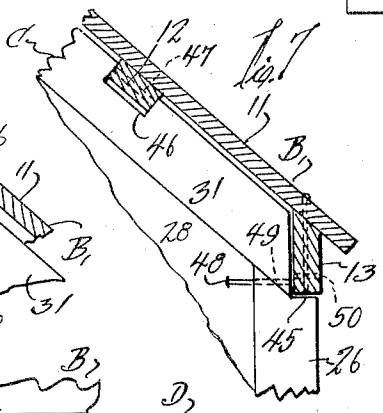


Fig. 7

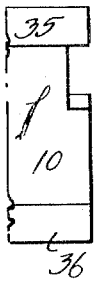


Fig. 6

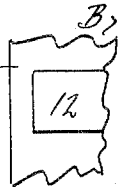


Fig. 9

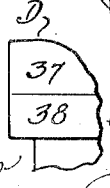


Fig. 10

Inventor

James Edgar Anderson

By Lynn R. Latta Attorney

Patented Dec. 27, 1927. 1,653,976

# UNITED STATES PATENT OFFICE.

JAMES EDGAR ANDERSON, OF MOVILLE, IOWA.

## KNOCKDOWN SELF-FEEDER.

Application filed February 7, 1927. Serial No. 166,368.

My invention relates to self-feeders of a common type and it is my purpose to provide such a feeder having the features of construction which permits of its being manufactured completely in several parts so that it may be shipped in a knocked-down condition, the parts being so arranged that it may be quickly assembled by one inexperienced in building operations.

A further object of the invention is to provide such a knock-down self feeder construction, the parts of which are so related to each other that, when assembled, the feeder will be very strong and durable.

A further object is to provide such a knock-down structure having features of construction to guide the inexperienced workman in properly assembling the feeder and to prevent the commission of errors in such assembling.

More particularly it is my object to provide such a knock-down structure wherein the feeder may be assembled simply by inserting bolts in openings provided for them and yet obtain a perfectly weather-tight condition.

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

Fig. 1 is a side elevation of a portion of the feeder assembled.

Fig. 2 is a transverse sectional view through the feeder assembled.

Fig. 3 is an inverted plan view of one end of the floor.

Fig. 4 is an inverted plan view of one end of a roof element.

Fig. 5 is a transverse sectional view through the stall element.

Fig. 6 is a side elevation of one end of the stall element viewed from the outer side.

Fig. 7 is a transverse sectional view through the eave construction, the parts being slightly separated.

Fig. 8 is a similar view of the ridge pole construction.

Fig. 9 shows a somewhat modified form of roof member.

Fig. 10 is a detail view of one corner of a hopper wall.

I am aware that a feeder embodying the general features of my assembled feeder is not new. However, such feeders are ordinarily built intact and therefore must be practically entirely built at the place where the feeder is to be used.

The purpose of the present invention is to enable the feeder to be manufactured in almost finished form at a central point from which it may be shipped in a knocked-down condition to the place of use.

The feeder comprises the usual elements, including the floor A, the two sloping roof members B and B′, the closed ends C, the hopper walls D, the dividing bar E and the stalls F.

In building a feeder according to my invention, each of these elements is built separately with the exception of the hopper, the latter being formed partially by the walls D and partially by the elements F which are provided with the plates 10 to form continuations of the walls D. (See Fig. 5.) The roof members B and B′ each include the boards 11 secured together by horizontal battens 12 and eave joist 13. The ridge members 14 and 15 are secured to the boards of the roof members B and B′ respectively, as shown in Fig. 8, comprising joists, one of which is secured with its face adjacent the boards. The member 14, which is secured in edge contact, is spaced away from the edges of the boards 11, a distance equal to the thickness of the member 15, which in turn is spaced away from the edges of its boards, a distance equal to the thickness of the boards 11.

In assembling the roof, the two ridge pole members 14 and 15 are brought together face to face and a bolt 16 is passed through the openings 17 and 18 respectively in the two members so as to draw them tightly together. In so doing, the projecting ends of the boards 11 will interlock to form a zigzag joint which is water-tight. Thus the ridge pole members 14 and 15 serve a triple function, first, to secure the boards 11 together at their upper ends, second to insure a water-tight joint at the ridge of the roof, and third, to form a ridge pole for supporting the weight of the roof at the peak thereof.

Instead of passing the bolt 16 through the members 14 and 15 in a direction perpendicular to their side faces, as shown, it will be understood that the same result may be ob-

tained by passing the bolt through the members in a horizontal or vertical direction. The shape of the ridge pole members need not be rectangular, as shown, but I find that the best results are accomplished with the parts arranged as described and that with such an arrangement, the assembly of the device is reduced to the simplest and easiest form.

The floor comprises the side sills 19 and end sills 20 covered by the flooring 21. The end sills 20 are provided with notches 22 which are preferably formed by constructing the sills 20 in layers, one layer forming a continuous sill member and the other layer being sectional as at 23 and 24, said sections being spaced to provide the slot 22. The sleepers 25 are secured between the side sills 19 to support the flooring 21.

The end walls of the feeder each includes a pair of side posts 26, a pair of central posts 27, the wall boards 28, door 29 hinged at 30 to the wall 28 in an appropriate opening, formed therein between the central posts 27, and the rafters 31 which are secured between the posts 26 and come together at their upper ends as shown in Fig. 8. The rafters are bevelled together as at 32 and their ends notched out as at 33 to receive the ridge pole members 14 and 15.

The stall members comprise the partition walls 34 connected in spaced relation as shown in Fig. 1 by the upper and lower connecting bars 35 and 36 respectively.

The walls 34 are further connected by the walls 10 secured to their inclined faces. The construction of the dividing bar E is thought to be evident from Fig. 2 and no detailed description is given thereof.

The hopper walls D each comprises the boards 37 connected at one end by the cleats 38 and at the other end by the cleats 39. The cleats 39 are spaced from the ends of the boards 37, a distance corresponding to the thickness of the battens 12, and the cleats 38 are spaced from the ends of the boards 37 sufficiently to allow said ends to project somewhat beyond the upper edges of the boards 10. The corners of the walls D are notched as at 40 to receive the rafters 31 and posts 27 respectively.

In assembling the feeder, the floor is first placed in its proper horizontal position and the end members then secured in place. The notches 22 are positioned to receive the respective posts 26 and 27 and bolts 41 are passed through the sills 20 and through the respective posts in openings positioned to receive them in order to secure the ends in place. It will thus be seen that it is impossible to improperly push the end members relative to the floor providing the floor has been placed upon the ground right side up. The members F are then placed in position between the posts 27, the bars 35 and 36 contacting with said posts. Bolts 42 are then passed through the ends of the bars 36 and through the posts 27 in openings suitably positioned in order to secure the stall members in place. The division bar E may then be placed in position between the stalls, and the hopper walls D temporarily secured by bolts extended through the lower ends of the hopper walls and through openings 44 in the bars 35. The bolts $44^a$ which are to secure the upper ends of the hopper walls to the roof are then inserted in the boards 37 preparatory to applying the roof. It would be noted that the ends of the rafters 31 and posts 26 are cut away as at 45 to receive the eave joists 13. In applying the roof, the walls D are pushed upwardly and inwardly so as not to interfere with placing the roof and the latter is then placed upon the rafters 31. The rafters 31 are cut away to receive the battens 12 as at 46. In a somewhat modified form of this construction shown in Fig. 9, the battens 12 are cut away to receive the rafters 31 as shown. The roof being snugly received in its proper position, the hopper wall D is allowed to return to a position where its upper end rests against the batten 12 and the bolt $44^a$ is pushed through the opening 47 in the batten which is designed to receive it. (See Fig. 7.) Bolts 48 are then passed through openings 49 and 50 respectively, passing through the posts 26, rafters 31, and eave joists 13 respectively, so as to secure the roof at its lower edge to the ends walls. The upper edges of the roof are then drawn downwardly and inwardly, as already described, by means of the bolts 16. After a tight joint has been obtained in the ridge of the roof, a number of nails may be driven through the edges of the board 11 and into the rafters 31 in order to secure the end walls against outward movement. It will now be seen that the bolts 48 secure the roof firmly in place and that the hopper walls D serve to secure the upper ends of the bars 35 against the posts 27. The battens 12 serve the double function of supporting the roof boards and of supporting the hopper walls D. The cleats 39 also serve a double function, namely, that of temporarily securing the boards 37 together and that of aiding to brace the roof against pressure from the outside. In this connection it will be noted that any pressure that may be transmitted to the wall 37 will be given directly to the bar 35 which is braced against the posts 27 so that such pressure cannot injure the stall or hopper construction.

Some changes may be made in the construction and arrangement of the parts of my invention without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of

mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

1. A knock-down self feeder construction including end members, stall members adapted to be secured between said end members, each of said stall members including upper connecting bar, roof members including roof boards and horizontal battens for connecting said boards together and hopper walls adapted to be secured between said battens and connecting bars of the stall members.

2. A knock-down self feeder construction including end members provided with central posts, stall members, each including spaced partition walls secured together by upper and lower connecting bars, said lower connecting bars being attachable at their ends to the posts, roof members attachable to the end members and hopper walls attachable to the roof members and to the upper connecting bars so as to secure said bars in engagement with the posts.

Signed this 29th day of January, 1927, in the county of Woodbury and State of Iowa.

JAMES EDGAR ANDERSON.