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Freeman et al.

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(54) **ANIMAL FEEDER**

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A01K 5/02 (2006.01)

(52) **U.S. Cl.**
CPC ***A01K 5/0225*** (2013.01)

(58) **Field of Classification Search**
CPC A01K 5/02; A01K 5/0225; A01K 5/025; A01K 5/0233; A01K 5/0241; A01K 5/0114; A01K 5/0291; A01K 5/0275; A01K 5/0258
See application file for complete search history.

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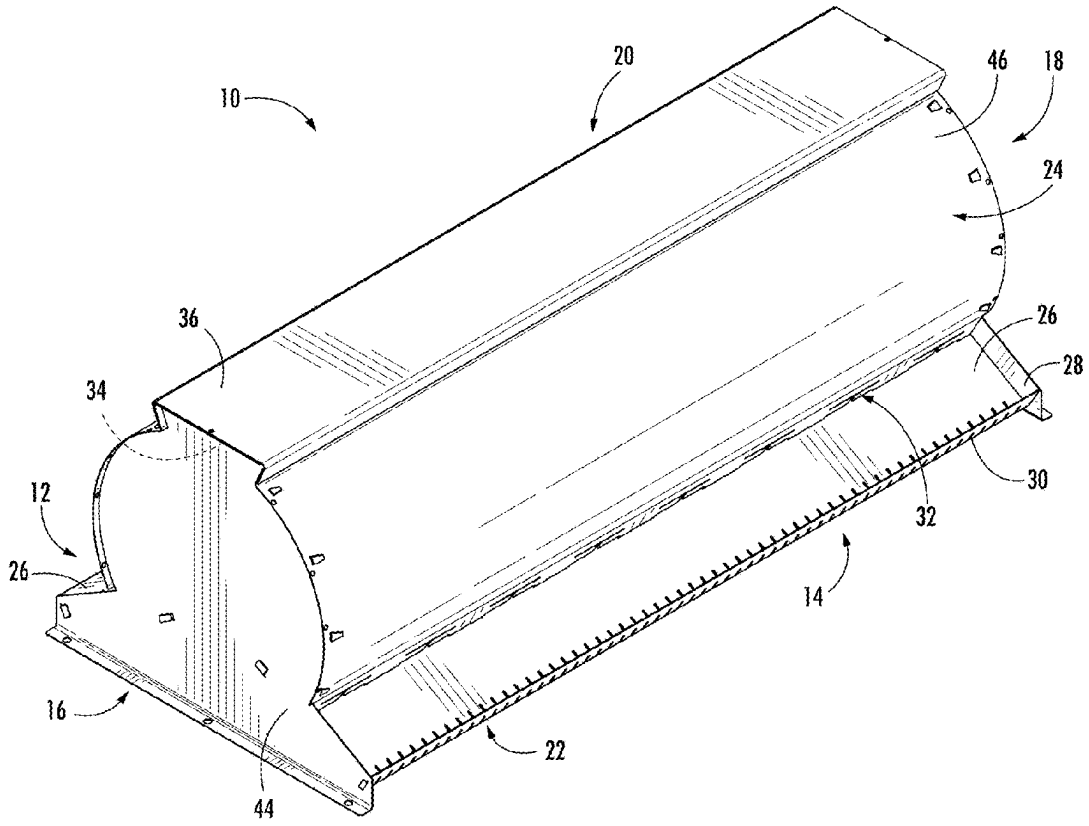
(57) **ABSTRACT**

An animal feeder includes: a tray assembly defining at least one sloped feed dish; a reservoir communicating with the tray assembly, the reservoir having a fill opening; dispensing openings formed in a wall of the reservoir configured to permit granular animal feed to flow by gravity from the reservoir into the at least one sloped feed dish; and wherein each of the dispensing openings is partially blocked by at least one finger formed in the wall of the reservoir.

20 Claims, 21 Drawing Sheets



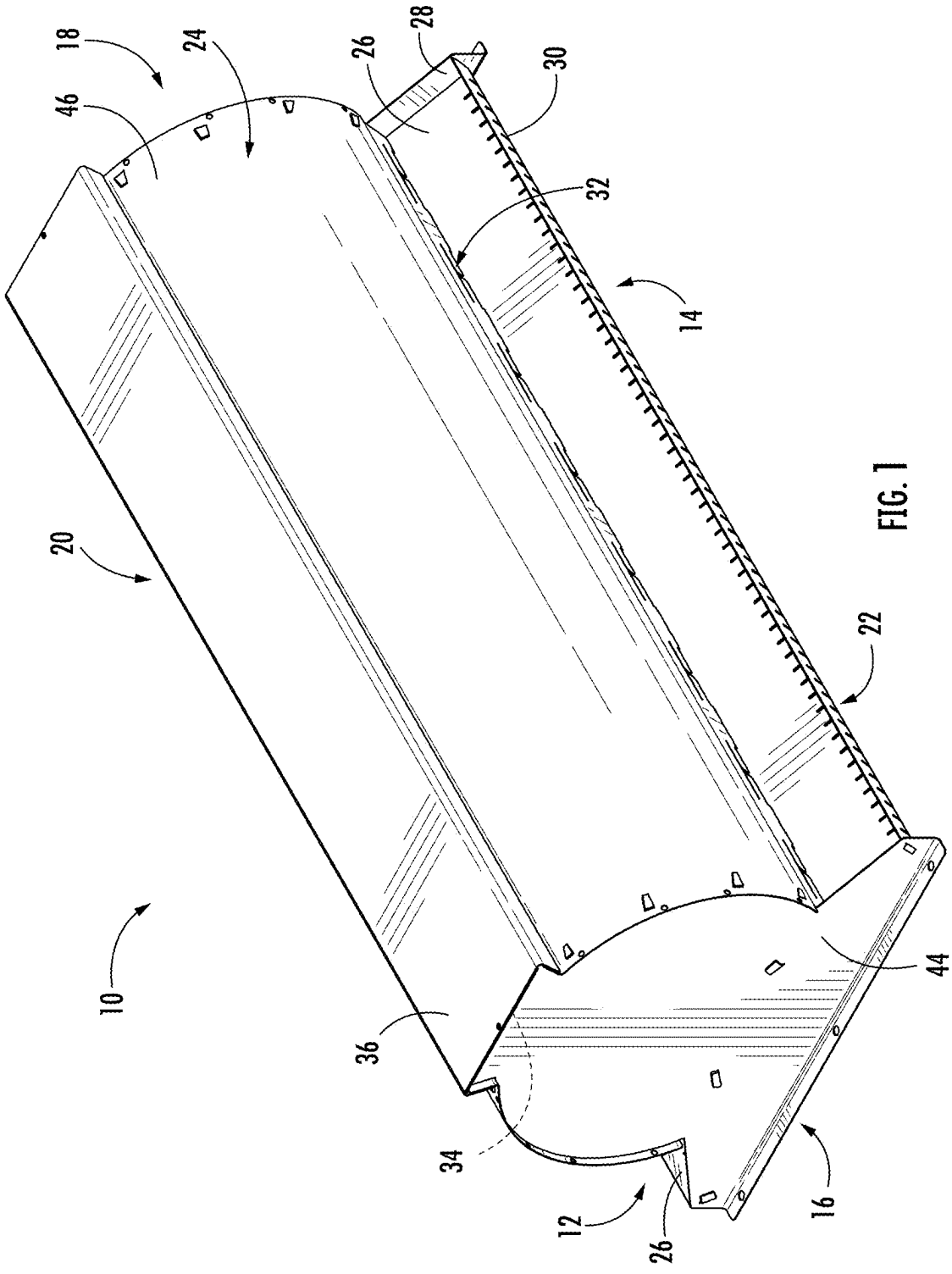


FIG. 1

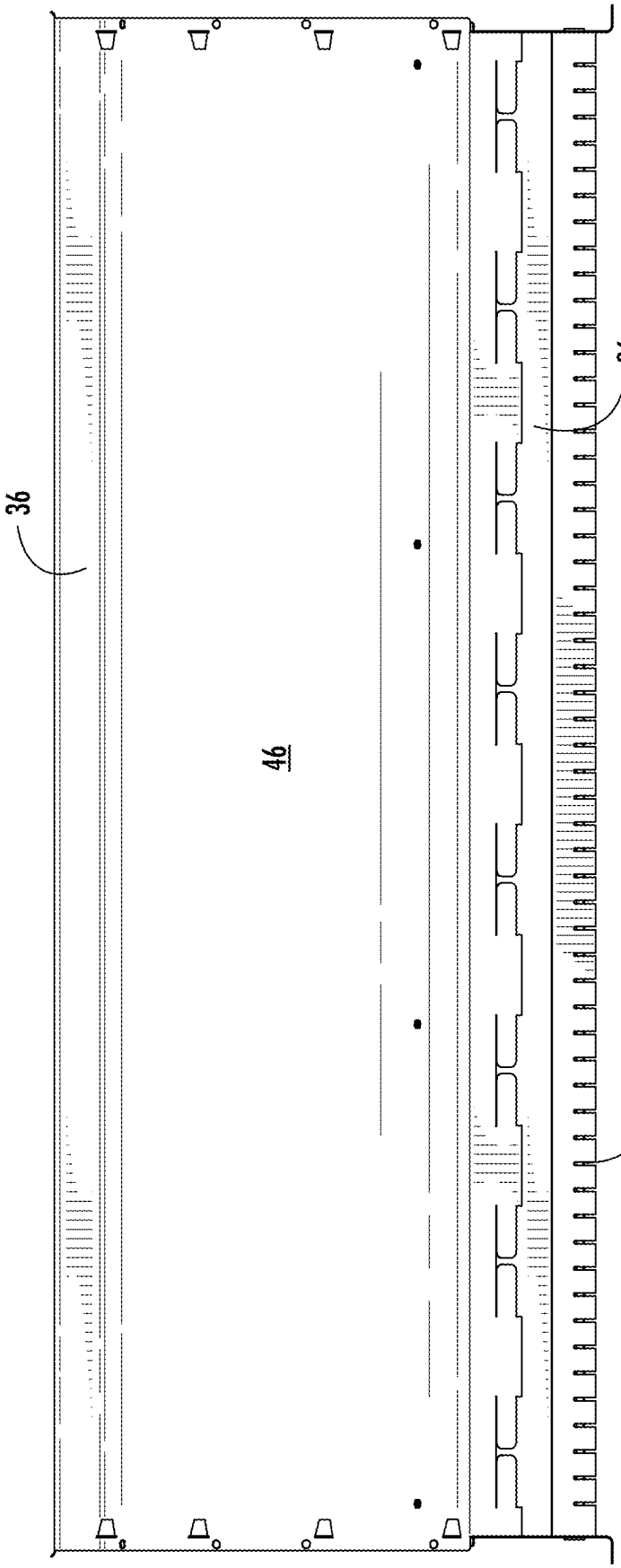


FIG. 2

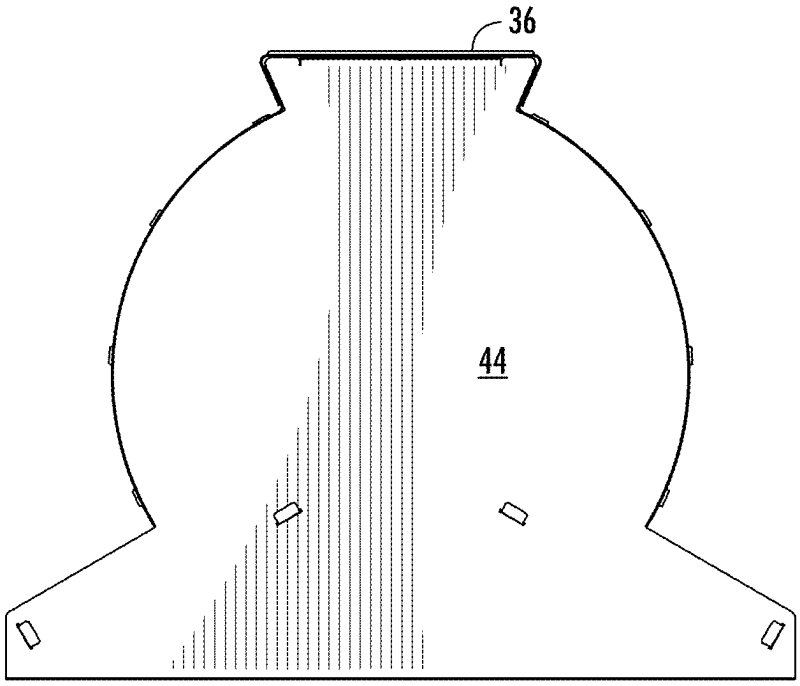


FIG. 3

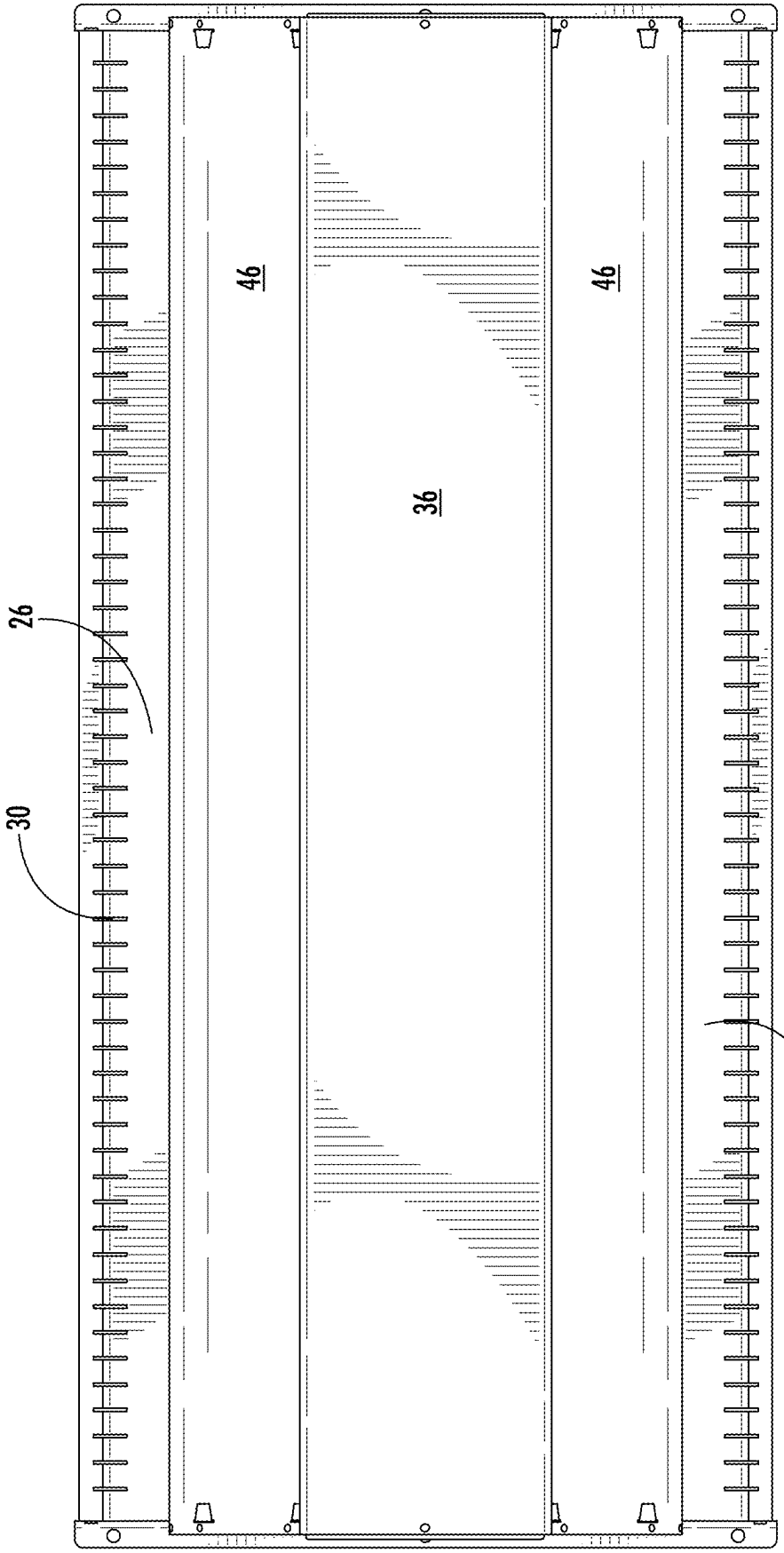


FIG. 4

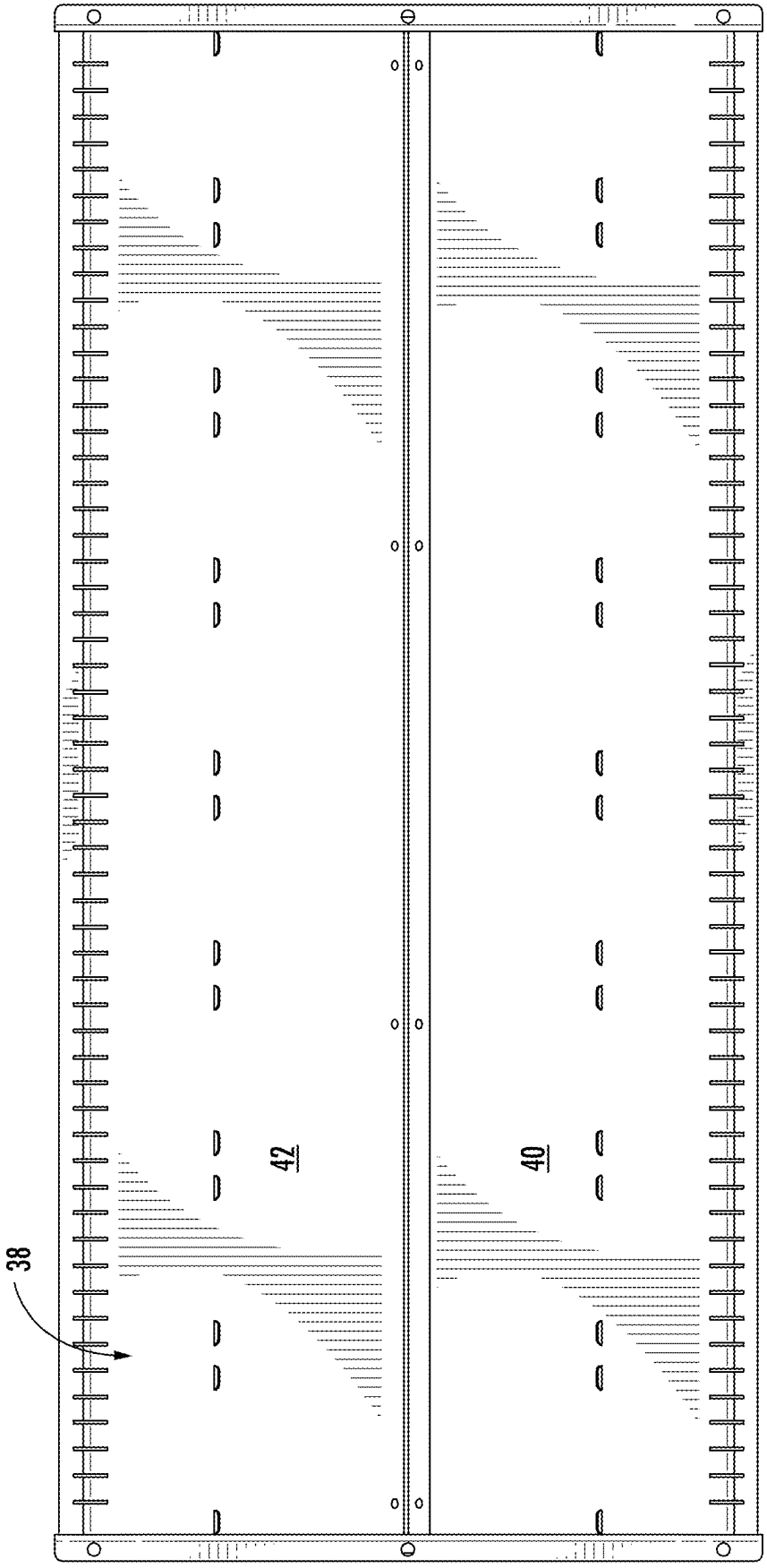


FIG. 5

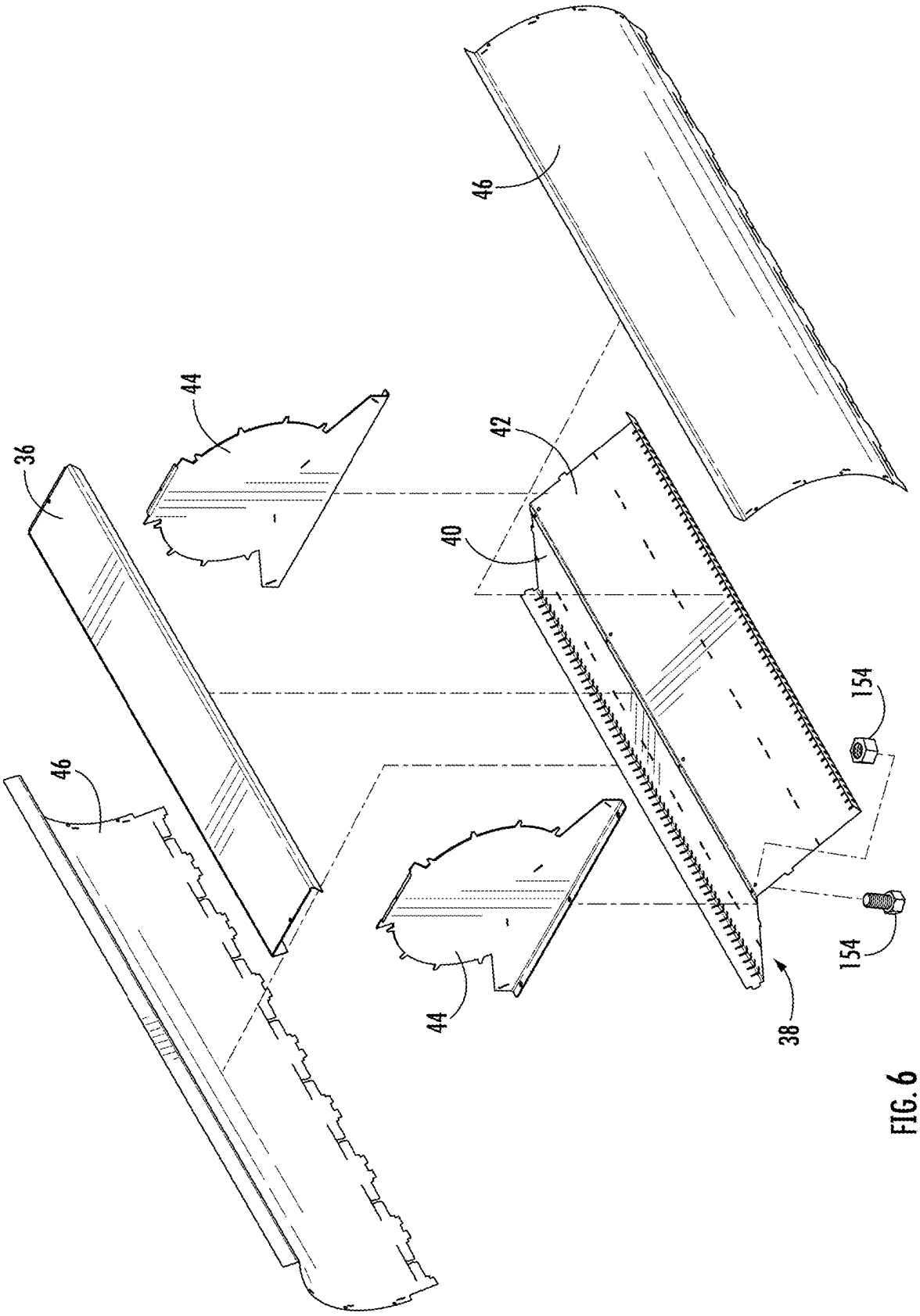


FIG. 6

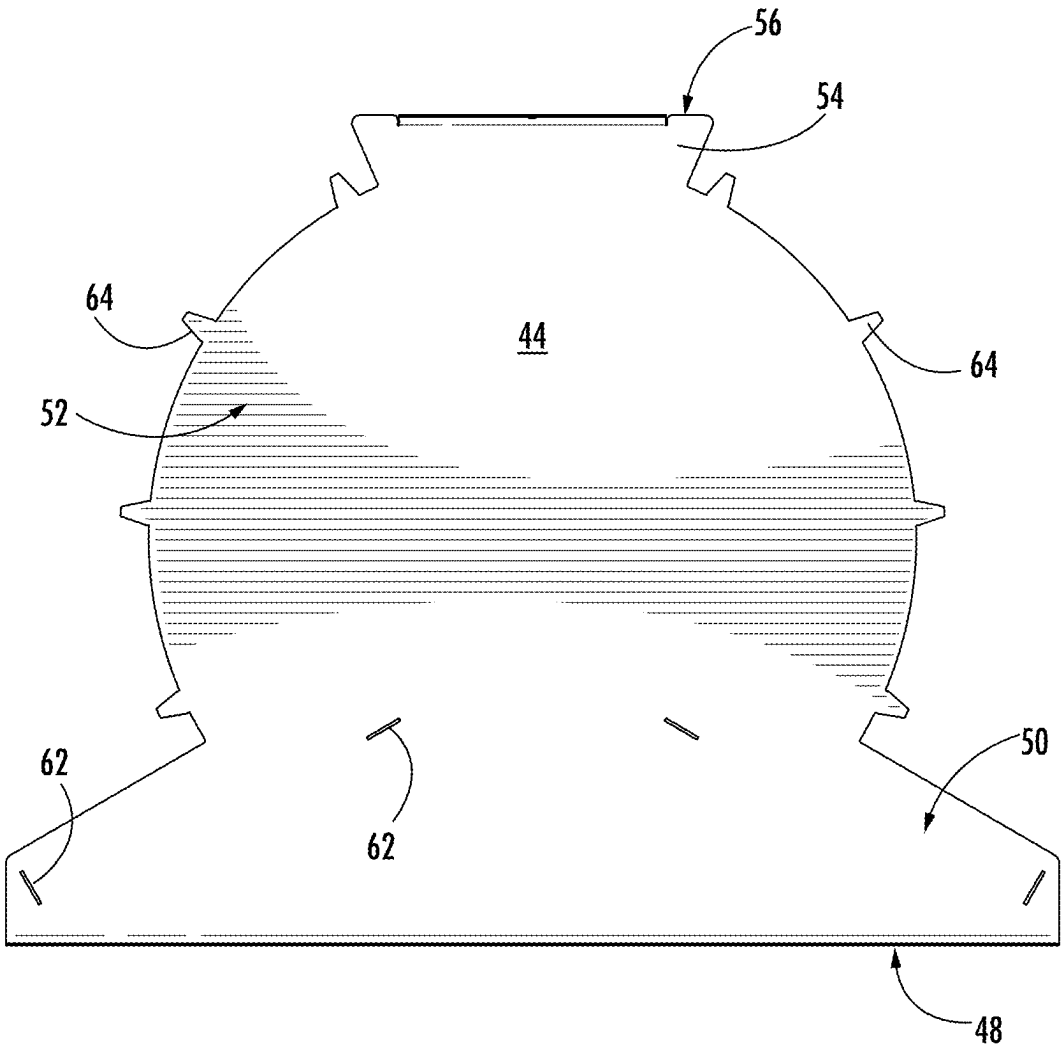


FIG. 7

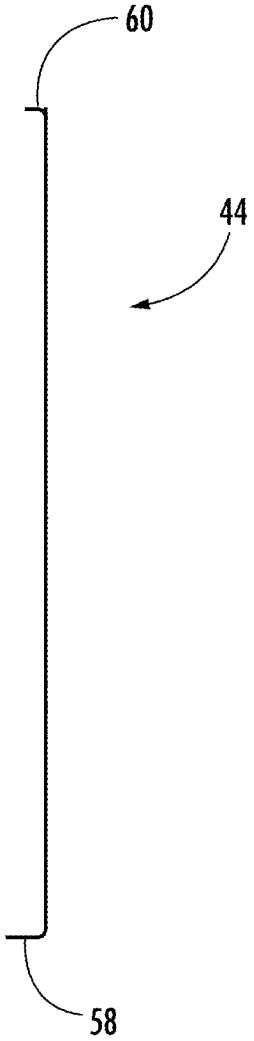


FIG. 8

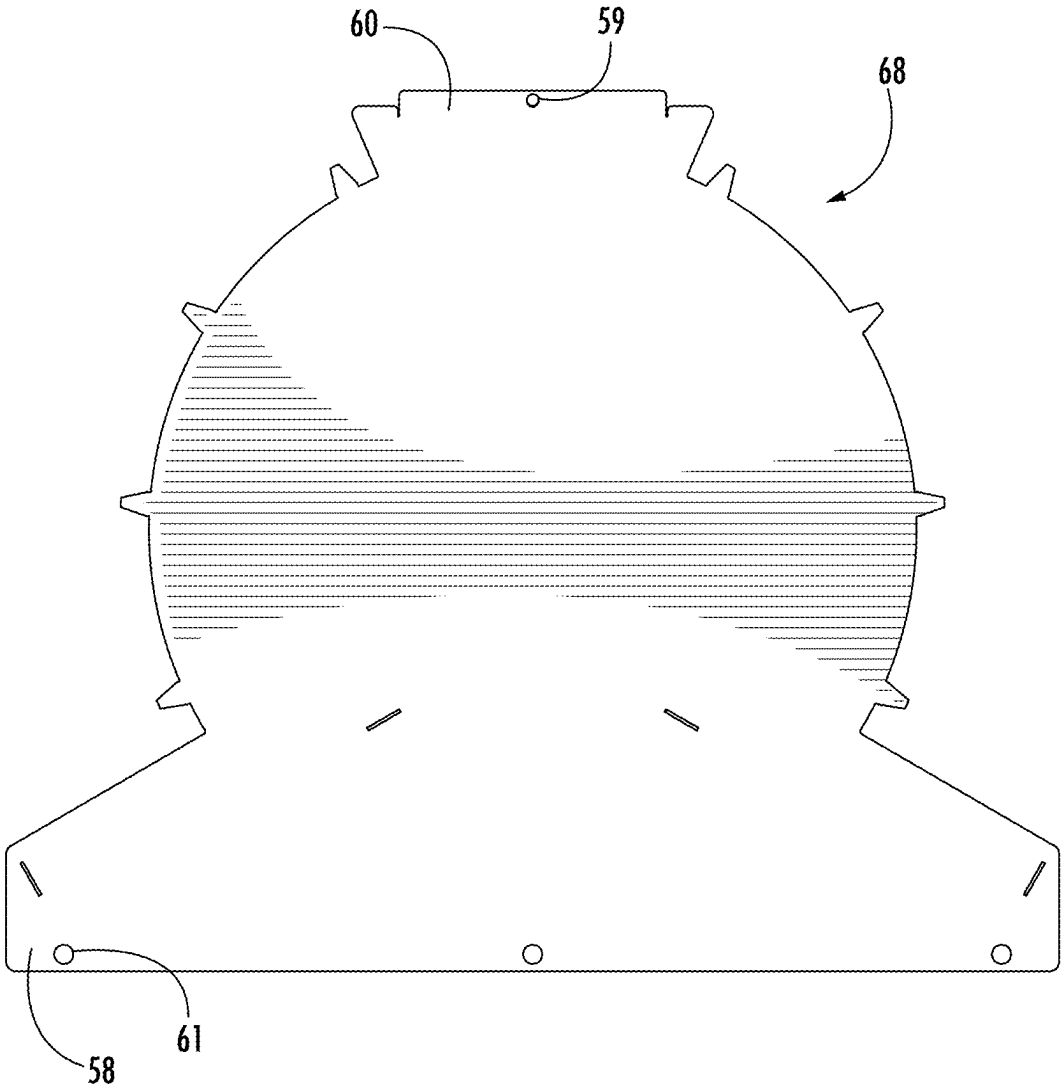


FIG. 9

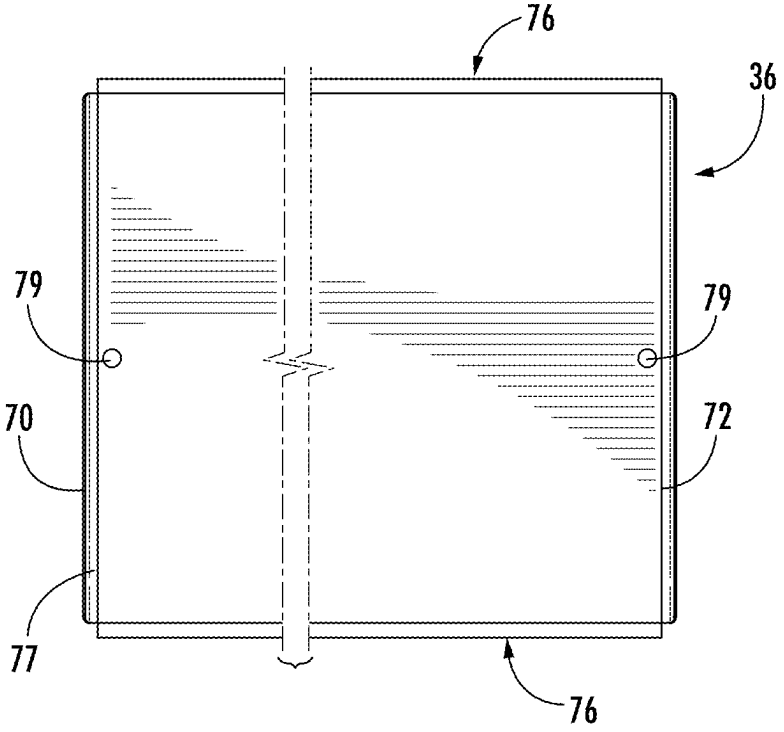


FIG. 10

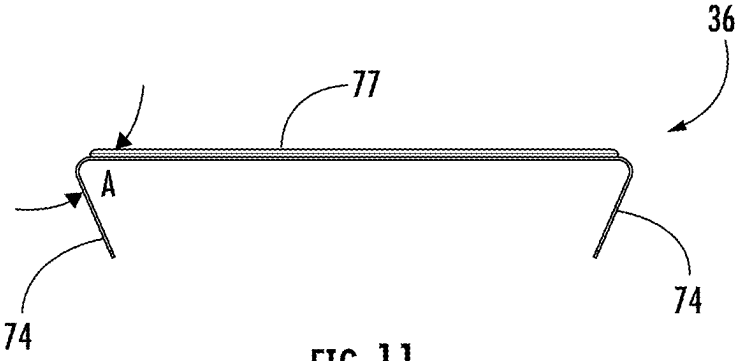


FIG. 11

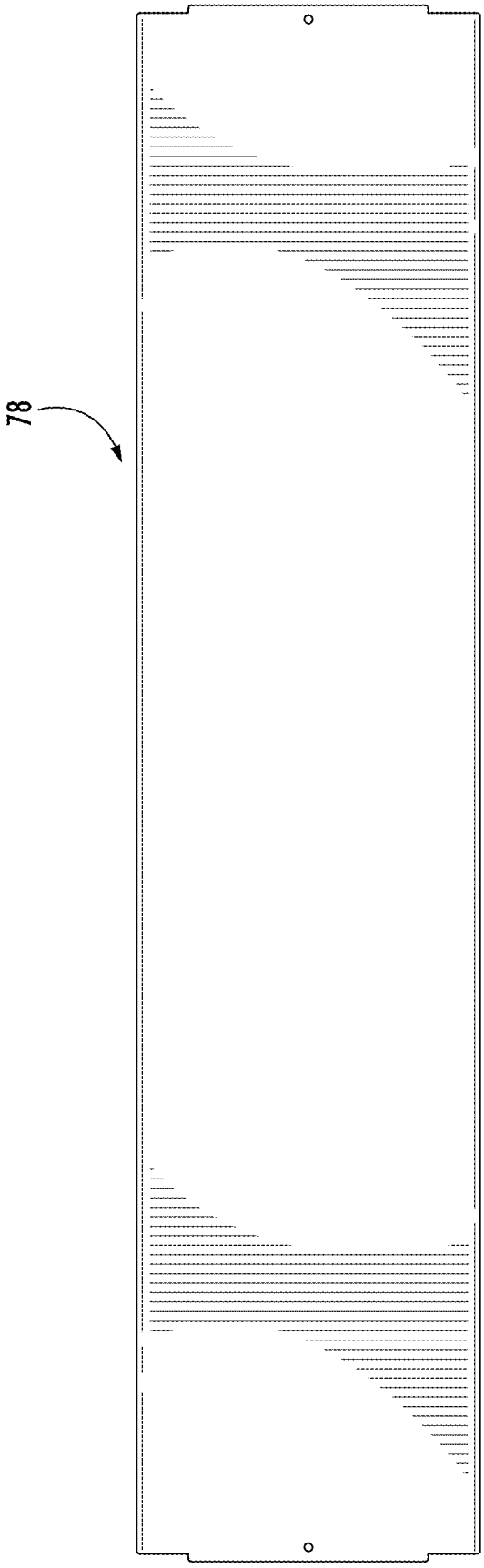
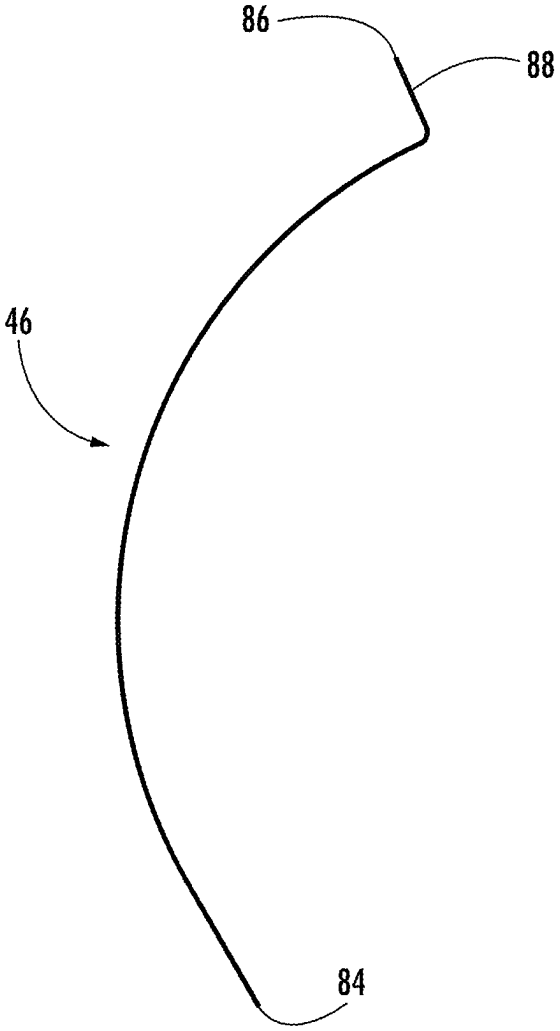


FIG. 12



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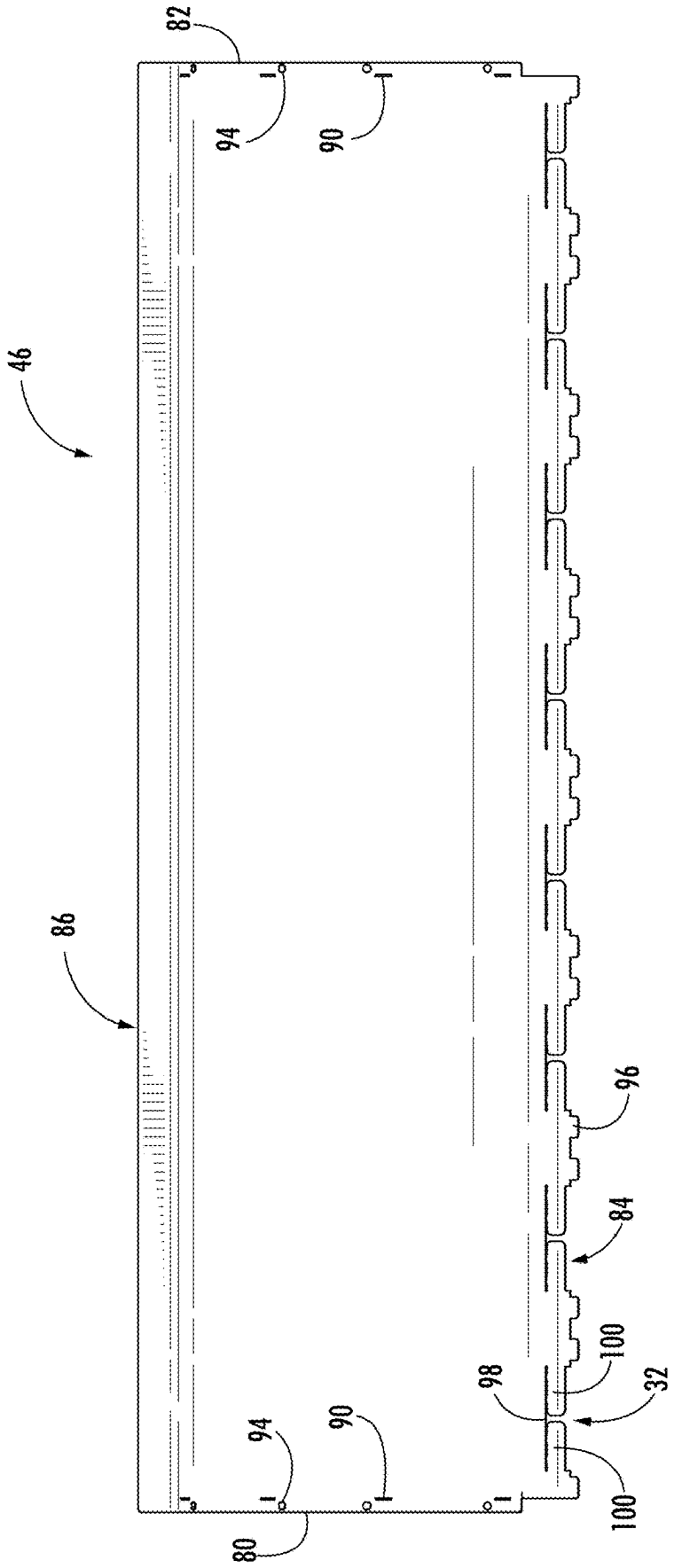

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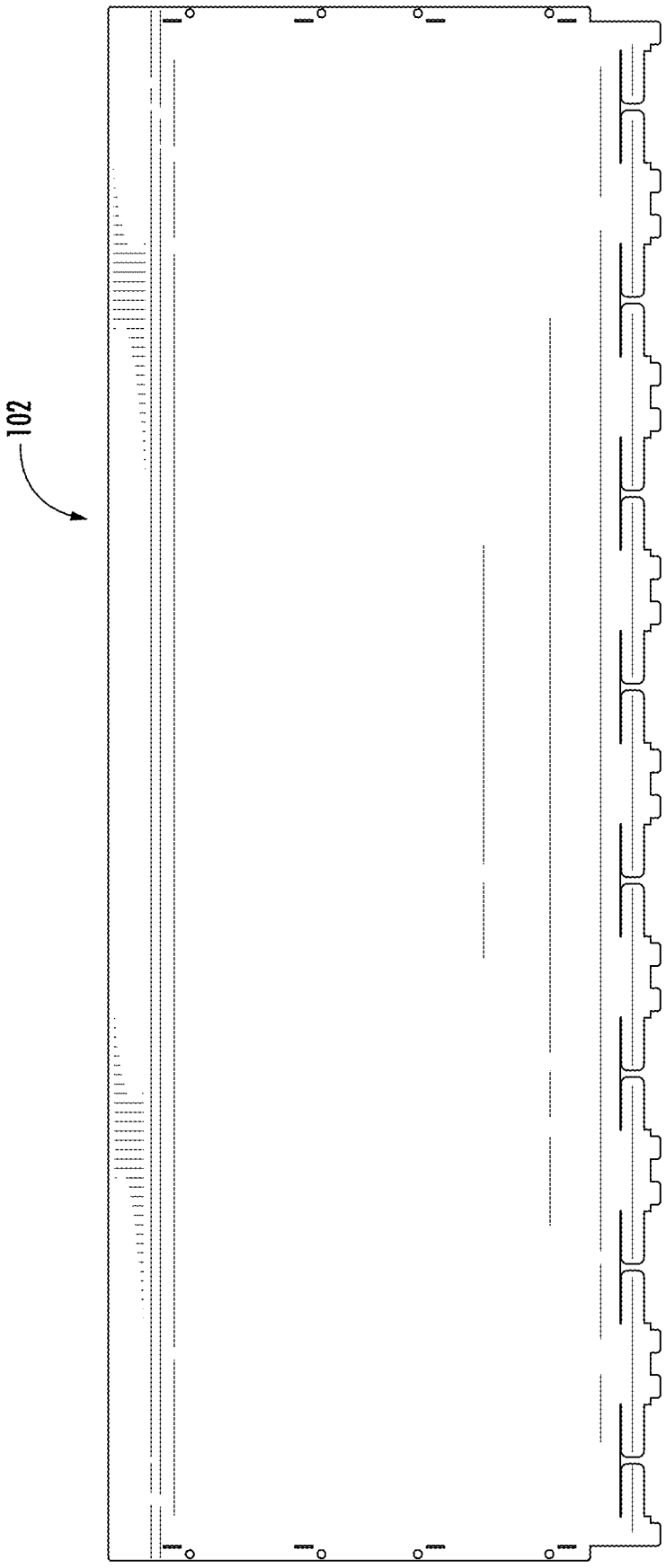

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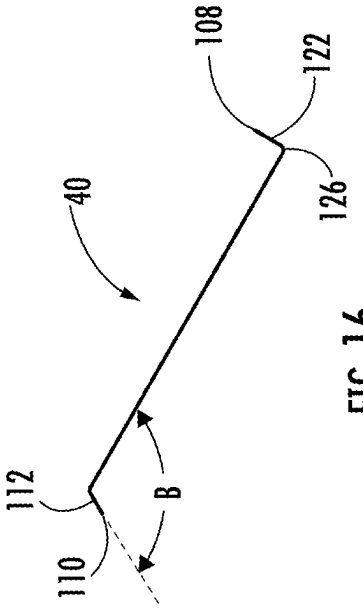


FIG. 16

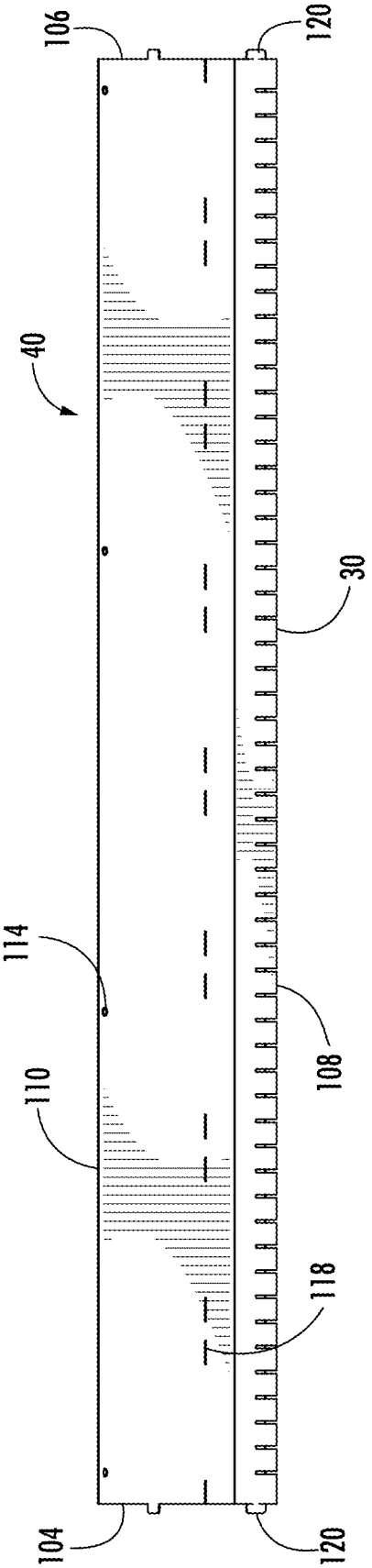
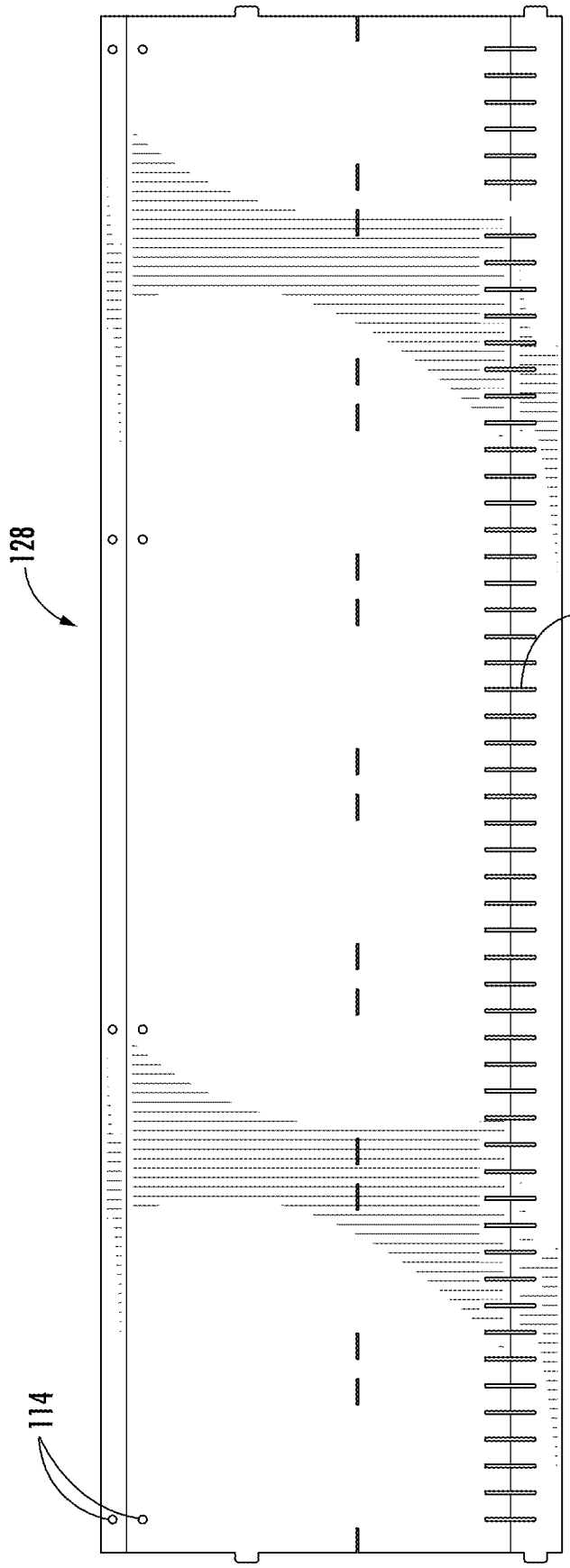


FIG. 17



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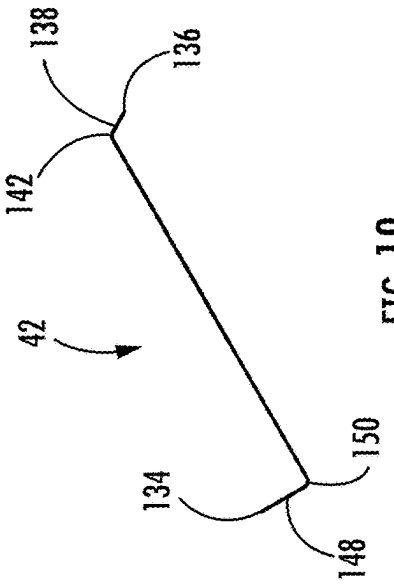

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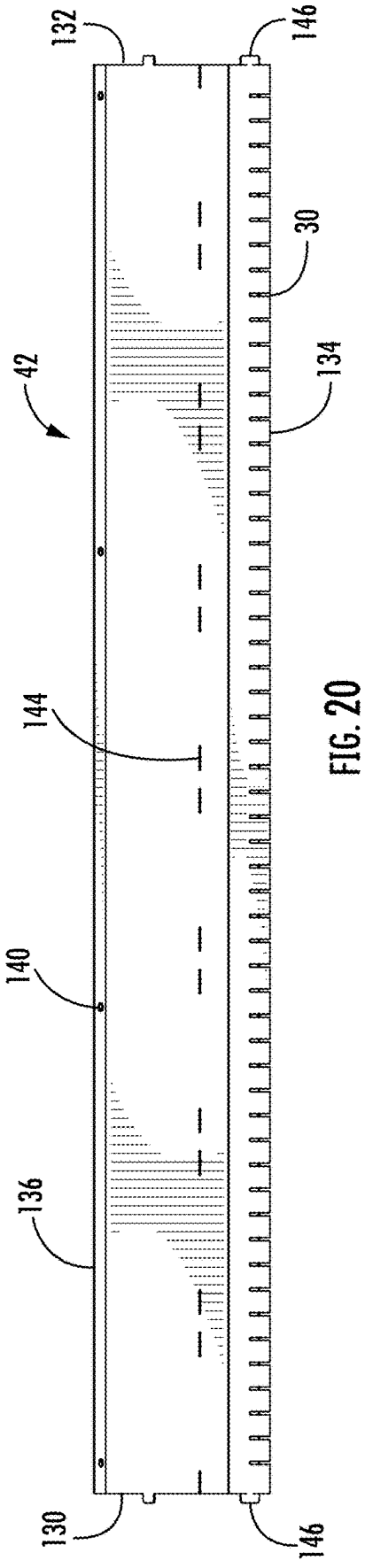

FIG. 20

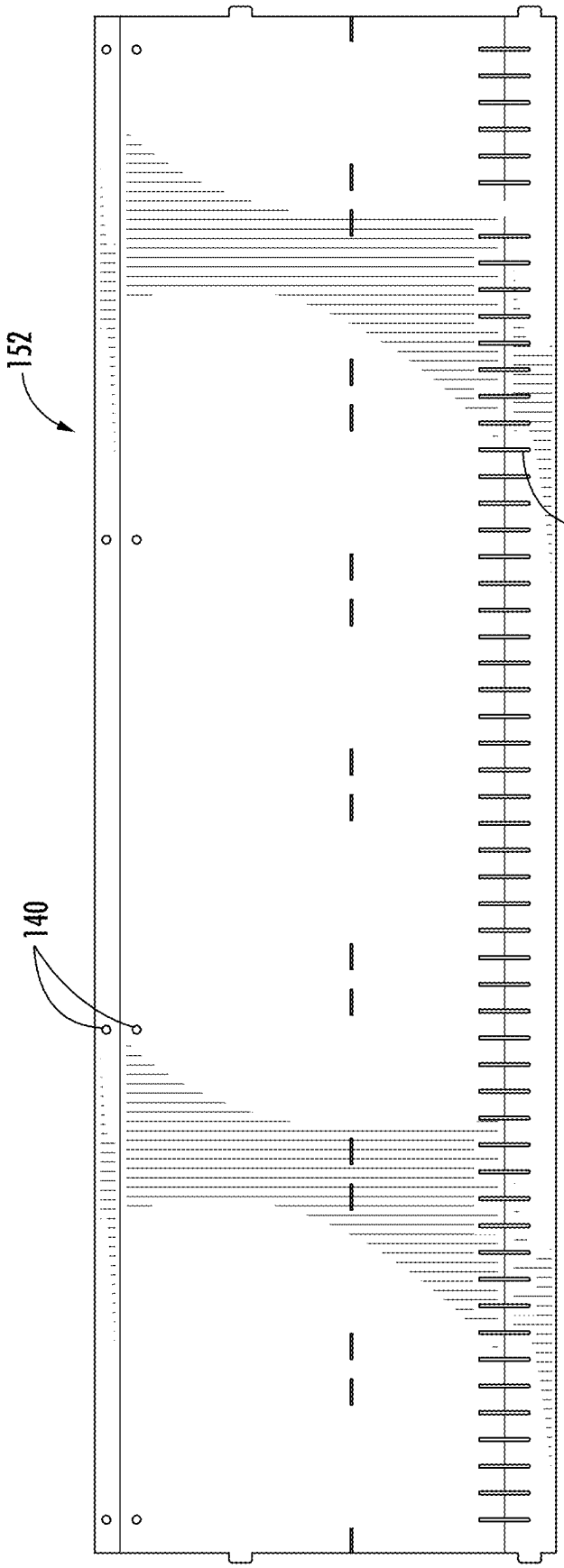

FIG. 21

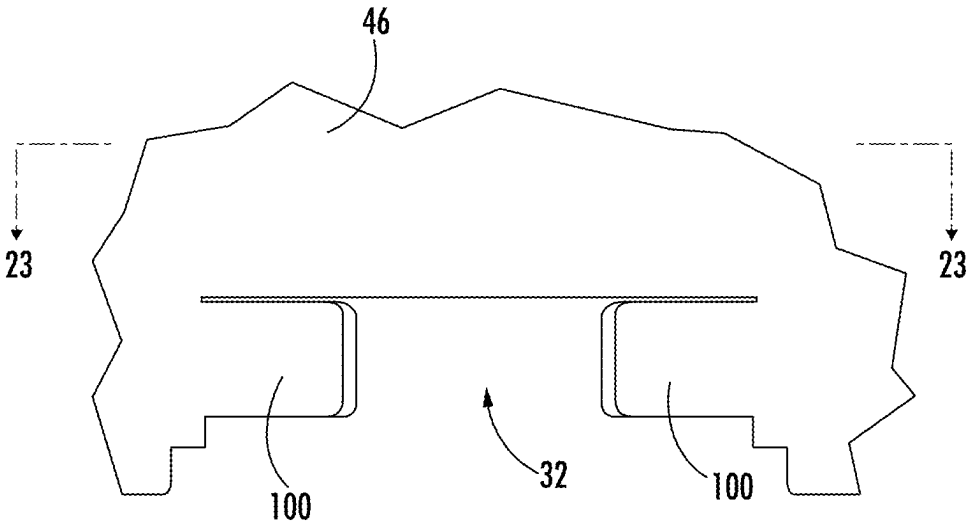

FIG. 22

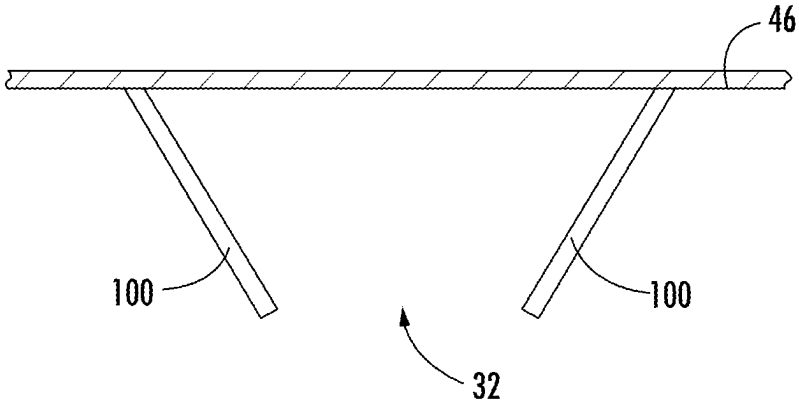

FIG. 23

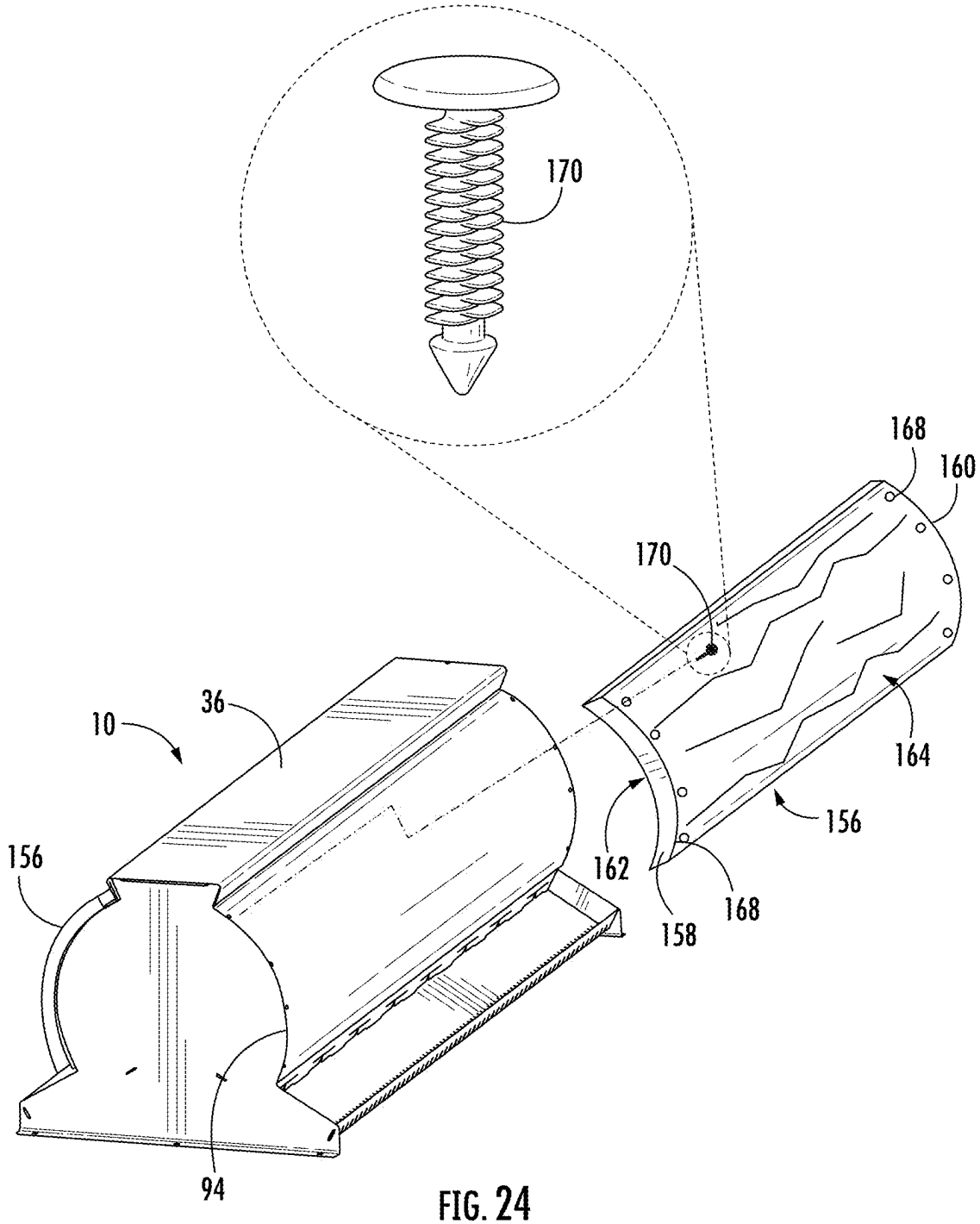

FIG. 24

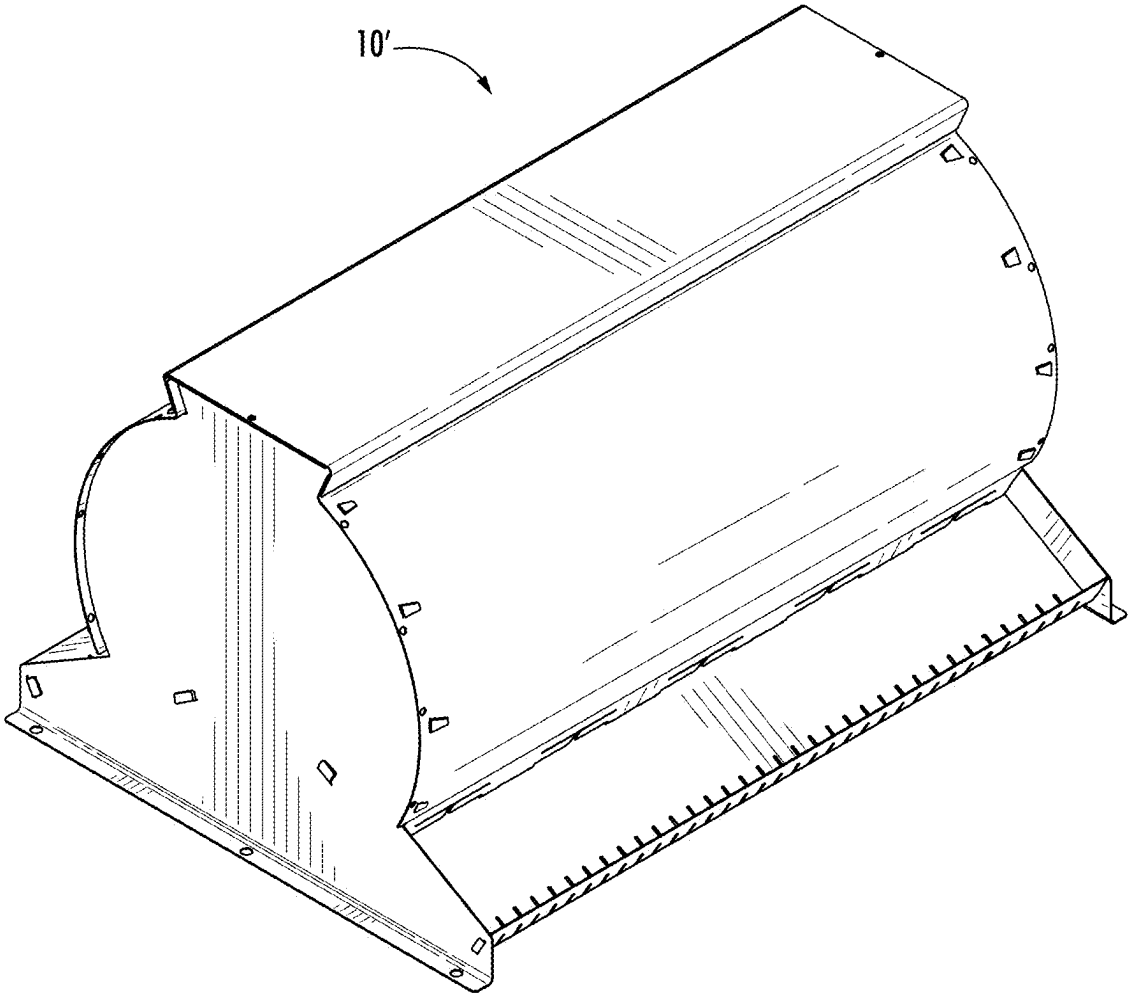

FIG. 25

ANIMAL FEEDER

BACKGROUND OF THE INVENTION

This invention relates to an animal feeder intended to dispense attractant (e.g., corn or some other grain or feed) to animals, for example feral animals such as deer, elk and the like. Animals are fed in this way to bring them into an area where they can be hunted. For example, hunters will set out a feeder to attract deer into a hunting area. In many cases this practice is also carried out as part of a means of thinning a game animal population down to a level that is manageable within the context of the geographical location and size of the area where the population is present. Over-population results in an increase in disease, crowding into residential areas and onto roads, streets and freeways where collisions with vehicles have become commonplace. Animal feeders of this type are also suitable for attracting wildlife to areas where they can be viewed and enjoyed by humans (back-yards etc.). Animal feeders of this type could also be used to attract wildlife in overpopulated areas to move them to less populated areas, manage disease, and even to capture and remove wildlife causing destruction of property or creating danger to include wildlife/human conflict. Animal feeders of this type could also be used to feed farm animals or domestic animals. This includes land animals as well as birds (e.g., pheasants, ducks, geese).

Some animal feeders are wind or battery powered, and have mechanisms that disperse grain onto the ground around the feeder. Other feeders are gravity fed, and rely on the grain to fall into an access opening where it can be eaten by an animal. Known prior art gravity feeders have narrow, tube-like openings that are prone to clogging and jamming, thus preventing proper and adequate distribution of grain to the animals as intended.

BRIEF SUMMARY OF THE INVENTION

Shortcomings of the prior art are overcome and additional advantages are provided through the provision of an animal feeder, including: a tray assembly defining at least one sloped feed dish; a reservoir communicating with the tray assembly, the reservoir having a fill opening; dispensing openings formed in a wall of the reservoir configured to permit granular animal feed to flow by gravity from the reservoir into the at least one sloped feed dish; and wherein each of the dispensing openings is partially blocked by at least one finger formed in the wall of the reservoir.

According to some embodiments, the tray assembly includes first and second trays joined to each other, defining a gable roof shape.

According to some embodiments, the first and second trays are joined at mutually overlapping top flanges.

According to some embodiments, the reservoir is generally cylindrical.

According to some embodiments, the dishes include drain openings.

According to some embodiments, each of the dispensing openings is formed by a T-shaped slot in wall of the reservoir, the T-shaped slot also forming a pair of opposed fingers.

According to some embodiments, the animal feeder further includes a lid for covering the fill opening.

According to some embodiments, the lid and the fill opening have complementary dovetail shapes.

According to some embodiments, the reservoir is defined by a pair of spaced-apart end plates interconnected by a pair of spaced-apart side panels.

According to some embodiments, the end plates have tabs which are received in slots of the side panels; and the side panels have tabs which are received in slots of the tray assembly.

According to some embodiments, the animal feeder of further includes a cladding panel attached to an exterior of the reservoir, the cladding panel comprising a tree bark surface configuration.

According to some embodiments, the tray assembly includes first and second feed dishes on opposite sides of the reservoir.

According to some embodiments, each feed dish is bounded by a raised lip.

According to some embodiments, the animal feeder is adapted to be stacked in an array of components prior to assembly for shipping.

Also disclosed herein is an animal feeder, including: first and second trays defining sloped first and second feed dishes, the first and second trays connected at mutual top flanges defining a gable roof shape; first and second end plates connected to the first and second trays; first and second side panels connected to the end plates and the trays, such that the end plates and the side panels cooperatively define a generally cylindrical reservoir communicating with the tray assembly, the reservoir having a fill opening; and a plurality of dispensing openings formed in the side panels configured to permit granular animal feed to gravity flow from the reservoir into the sloped first and second feed dishes.

According to some embodiments, the end plates have tabs which are received in slots of the side panels; the side panels have tabs which are received in slots of the first and second trays; and the first and second trays have tabs which are received in slots of the end plates.

According to some embodiments, each dispensing opening is partially blocked by at least one finger formed in one of the side panels.

According to some embodiments, each of the dispensing openings is formed by a T-shaped slot in wall of the reservoir, the T-shaped slot also forming a pair of opposed fingers.

According to some embodiments, the first and second trays, the first and second end plates, and the first and second side panels are formed from sheet metal.

According to some embodiments, the animal feeder further includes a cladding panel attached to each of the side panels, the cladding panels including a tree bark surface configuration.

Also disclosed is a method of making an animal feeder, including: cutting a plurality of blanks from sheet material, forming at least one flange in at least one of the blanks and forming at least one opening in at least one of the blanks, so as to define a plurality of components, the plurality of components configured to define the animal feeder when assembled, wherein the animal feeder includes: a tray assembly defining at least one sloped feed dish; a reservoir communicating with the tray assembly, the reservoir having a fill opening; and dispensing openings formed in a wall of the reservoir configured to permit granular animal feed to flow by gravity from the reservoir into the at least one sloped feed dish.

According to some embodiments, each of the dispensing openings is partially blocked by at least one finger formed in the wall of the reservoir.

According to some embodiments, each of the dispensing openings is formed by a T-shaped slot in wall of the reservoir, the T-shaped slot also forming a pair of opposed fingers.

According to some embodiments, the plurality of components includes: first and second trays defining sloped first and second feed dishes; first and second end plates; and first and second side panels, wherein the side panels include the dispensing openings.

According to some embodiments, the plurality of components includes a lid.

According to some embodiments, each of the side panels is a segment of a cylinder, and includes a top flange.

According to some embodiments, each of the trays includes a top flange and a bottom flange.

According to some embodiments, at least one of the components includes a connector tabs, and a mating component includes slots complementary to the connector tabs.

According to some embodiments, the metho further includes joining the components by inserting the connector tabs into the respective slots, and bending the connector tabs over.

According to some embodiments, the sheet material is metal.

According to some embodiments, the blanks are cut by a laser cutting process.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may be best understood by reference to the following description taken in conjunction with the accompanying drawing figures in which:

FIG. **1** is a perspective view of an exemplary feeder;

FIG. **2** is a side elevation view of the feeder of FIG. **1**;

FIG. **3** is a front elevation view of the feeder of FIG. **1**;

FIG. **4** is a top plan view of the feeder of FIG. **1**;

FIG. **5** is a bottom plan view of the feeder of FIG. **1**;

FIG. **6** is an exploded perspective view of the feeder of FIG. **1**;

FIG. **7** is a front view of an end plate of a feeder;

FIG. **8** is a side view of the end plate of FIG. **7**;

FIG. **9** is a plan view of a flat blank for the end plate of FIG. **7**;

FIG. **10** is a top view of a lid of a feeder;

FIG. **11** is an end view of the lid of FIG. **10**;

FIG. **12** is a plan view of a flat blank for the lid of FIG. **10**;

FIG. **13** is an end view of a side panel of a feeder;

FIG. **14** is a side view of the side panel of FIG. **13**;

FIG. **15** is a plan view of a flat blank for the side panel of FIG. **13**;

FIG. **16** is an end view of a first tray of a feeder;

FIG. **17** is a side view of the first tray of FIG. **16**;

FIG. **18** is a plan view of a flat blank for the first tray of FIG. **16**;

FIG. **19** is an end view of a second tray of a feeder;

FIG. **20** is a side view of the second tray of FIG. **19**;

FIG. **21** is a plan view of a flat blank for the second tray of FIG. **19**;

FIG. **22** is an enlarged view of a portion of a side panel, showing a dispensing opening;

FIG. **23** is a view taken along lines **23-23** of FIG. **22**;

FIG. **24** is an exploded perspective view of a feeder with a cladding panel; and

FIG. **25** is a perspective view of another exemplary feeder.

DETAILED DESCRIPTION OF THE INVENTION

Now, referring to the drawings wherein identical reference numerals denote the same elements throughout the various views, FIGS. **1-7** illustrate an exemplary feeder (alternatively referred to as a "feeder", "feed trough", or "trough"). The feeder **10** is generally a hollow enclosure having left and right sides **12**, **14** respectively, and extending from a first end **16** to a second end **18** and between a top **20** and a bottom **22**. An upper portion of the enclosure defines a elongated feed reservoir **24**, which in this case is roughly cylindrical. A pair of sloped feed dishes **26** are disposed adjacent the bottom **22** of the feeder **10**, one flanking each side of the feed reservoir **24**. (Alternatively, only a single feed dish **26** may be provided). Each feed dish **26** is surrounded by a raised lip **28** which may include a plurality of drain openings **30**. The feed reservoir **24** communicates with the feed dishes **26** through a plurality of dispensing openings **32** formed in a wall of the feed reservoir. The top of the feed reservoir **24** incorporates a fill opening **34** which is closed off by a lid **36** that can be selectively opened or removed.

Referring to FIG. **6**, the basic components of the feeder **10** are: a tray assembly **38** which may include first and second trays **40**, **42**, a pair of identical end plates **44**, a pair of identical side panels **46**, and the lid **36**.

A representative end plate **44** is shown in FIGS. **7** and **8**. It has a straight bottom edge **48**, a lower portion **50** shaped as a truncated triangle, a generally circular upper portion **52**, and a dovetail-shaped tab **54** adjoining its upper edge **56**. A narrow bottom flange **58** extends perpendicular to the bottom edge **48**, and a top flange **60** extends perpendicular to the upper edge **56**. Referring to FIG. **9**, a lock hole **59** may be formed through the top flange **60**, and mounting holes **61** may be formed through the bottom flange **58**.

A plurality of tray mounting slots **62** are formed through the thickness of the end plate within the lower portion **50**.

A plurality of connector tabs **64** extend outward from the lateral edges **66** of the upper portion **52**. In the illustrated example, they taper in width, being narrower at their distal ends.

As will be explained in more detail below, the end plate **44** may be formed from flat material. A representative end plate blank **68** is shown in FIG. **9**.

The lid **36** is shown in FIGS. **10** and **11**. It is generally rectangular in plan view, extending from a first end **70** to a second end **72**. It includes a pair of side flanges **74** which extend away from its longitudinal edges **76**. As described in more detail below, the side flanges **74** are complementary to the tabs **54** of the end plates **44**. Accordingly, they are disposed at an acute angle "A" to the surface of the lid **36**. A small finger flange **77** may be formed at the first end **70**, the second end **72**, or both ends. A lock hole **79** is formed at the second end **72**, the first end **70**, or both ends.

As will be explained in more detail below, the lid **36** may be formed from flat material. A representative lid blank **78** is shown in FIG. **12**.

A representative side panel **46** is shown in FIGS. **13** and **14**. Its shape is arcuate, for example generally a segment of a cylinder, extending from a first end **80** to a second end **82**, and from a lower edge **84** to an upper edge **86**. A top flange

88 is formed at the upper edge 86. The top flange 88 extends extend at an angle roughly perpendicular to the local surface of the side panel 46.

A plurality of end plate mounting slots 90 are formed through the thickness of the side panel 46 along each of the first and second ends 80, 82.

Optionally, a plurality of cladding mounting holes 94 are formed through the thickness of the side panel 46 along each of the first and second ends 80, 82.

A plurality of connector tabs 96 extend downward from the lower edge 84 of the side panel 46.

Adjacent the lower edge 84, a linear array of T-shaped slots 98 are formed through the thickness of the side panel 46. These slots 98 divide the lower portion of the side panel 46 into a series of opposed pairs of fingers 100. As will be described in more detail below, these fingers can be bent to define the dispensing openings 32 described above. In alternative embodiments, only one finger is provided for each dispensing opening 32.

As will be explained in more detail below, the side panel 46 may be formed from flat material. A representative side panel blank 102 is shown in FIG. 15.

The tray assembly 38 is generally an inverted "V" shape with two opposite sloped sides. It may be one piece, but in the illustrated example it is built up from first and second trays 40, 42.

A first tray 40 is shown in FIGS. 16 and 17. Its shape is generally rectangular, extending from a first end 104 to a second end 106, and from a lower edge 108 to an upper edge 110. A top flange 112 is formed at the upper edge 110. The top flange 112 is oriented at an obtuse angle "B" to the surface of the first tray 40.

A plurality of connecting holes 114 are formed through the thickness of the first tray 40 adjacent the upper edge 110. In the illustrated example, the connecting holes 114 are arranged as a plurality of pairs, where each pair straddles the apex 116 of the top flange 112.

A plurality of side panel mounting slots 118 are formed through the thickness of the first tray 40.

A plurality of connector tabs 120 extend outward from the first and second ends 104, 106 of the first tray 40.

A bottom flange 122 is formed at the lower edge 108. The bottom flange 122 extends roughly perpendicular to the surface of the first tray 40. The bottom flange 122 is angled opposite to the top flange 112. Accordingly, the first tray 40 may be described as having shallow S-shape in end view.

Adjacent the lower edge 108, a linear array of drain openings 30 are formed through the thickness of the side panel 46. The drain openings 30 straddle the apex 126 of the bottom flange 122.

As will be explained in more detail below, the first tray 40 may be formed from flat material. A representative first tray blank 128 is shown in FIG. 18.

A second tray 42 is shown in FIGS. 19 and 20. It is generally similar in construction to the first tray 40. Elements of the second tray 42 not explicitly described may be taken to be identical to the corresponding elements of the first tray 40. It extends from a first end 130 to a second end 132, and from a lower edge 134 to an upper edge 136. A top flange 138 is formed at the upper edge 136.

A plurality of connecting holes 140 are formed through the thickness of the second tray 42 adjacent the upper edge 136. In the illustrated example, the connecting holes 140 are arranged as a plurality of pairs, where each pair straddles the apex 142 of the top flange 138.

The shape, dimensions, and angles of the top flange 116 of the first tray 40 and the top flange 138 of the second tray 42 are selected so that they can be nested together in an overlapping relationship defining a stiffening spine. When thus nested together, the connecting holes 114 of the first tray 40 are coaxial with respective connecting holes 140 of the connecting holes of the second tray 42.

A plurality of side panel mounting slots 144 are formed through the thickness of the second tray 42.

A plurality of connector tabs 146 extend outward from the first and second ends 130, 132 of the second tray 42.

A bottom flange 148 is formed at the lower edge 134. Adjacent the lower edge 134, a linear array of drain openings 30 are formed through the thickness of the side panel 46. The drain openings 30 straddle the apex 150 of the bottom flange 148.

As will be explained in more detail below, the second tray 42 may be formed from flat material. A representative second tray blank 152 is shown in FIG. 21.

All of the main components of the feeder 10 may be constructed from generally flat panels or sheet-like components. Any material with adequate strength and environmental durability may used to form the blanks. Nonlimiting examples of suitable materials include wood or other fibrous materials, plastics, metals, or composites. Non-limiting examples of metals include mild steel, galvanized steel, aluminum, or copper. In the illustrated example, the blanks are constructed from sheet metal which provides good durability and ability to be formed into curved or bent shapes. In one example, the blanks may be manufactured from galvanized 20 gauge steel, which is approximately 1 mm thick (0.04 in.)

The individual components may be manufactured from sheet material, such sheet metal which is commercially supplied in roll form or rectangular sheet form. The perimeter shape of the components, including the tabs, flanges, and so forth, may be formed from the sheet material by processes such as sawing, stamping, punch pressing, CNC routing, waterjet cutting, or laser cutting. The various openings such as holes and slots may be formed from the sheet material by processes such as sawing, stamping, punch pressing, CNC routing, waterjet cutting, laser cutting, or drilling. Combination processes may be used. For example, stamping may be used to cut exterior shapes as well as to form slots or holes. In another example, laser cutting may be used to form exterior shapes as well as forming slots or holes. For simplicity, any process used to form the perimeter shape of the components, may be referred to as a "cutting" operation.

The cut components may then be bent to form the various curves and flanges. Curves may be formed by tools such as bending brakes, press brakes, slip rollers, or hydro formers. Flanges may be formed by tools such as bending brakes, or press brakes. Once cut and shaped, the components are ready for assembly.

If first and second trays 40, 42 are used, they are assembled by nesting or lapping their mutual top flanges 112, 138 together. The upper flanges 112, 138 are then securely joined. Processes such as adhesives, thermal bonding, brazing, welding, sonic bonding, or folding and crimping may be used. Alternatively, fasteners such as screws, bolts and nuts, or rivets may be used. As one example, bolts and nuts 154 (one set shown in FIG. 6) may be placed through the coaxial connecting holes 114, 140 and securely tightened to clamp the first and second trays 40, 42 together, forming the tray assembly 38. When secured together, the overlapping top flanges 112, 138 form a structural "spine" which provides the tray assembly 38 with structural stiff-

ness. The first and second trays **40**,**42** are oriented at a obtuse angle to each other, defining a gable roof shape.

Next, the end plates **44** are assembled to the tray assembly **38**. The connector tabs **120**, **146** of the tray assembly **38** may be inserted into the tray mounting slots **62** of the end plates **44**. The connector tabs **120**, **146** may then be bent down tightly against the end plates **44**, for example using hammer. Additionally or as an alternative, the connector tabs **120**, **146** may be secured using adhesive, fasteners or a bonding process.

Next, the side panels **46** are assembled to the tray assembly **38** and the end plates **44**. The connector tabs **96** of the side panels **46** may be inserted into the side panel mounting slots **118**, **144** of the respective tray **40**, **42**. The connector tabs **64** of the end plates **44** may be inserted into the end plate mounting slots **90** of the side panels **46**. The connector tabs may then be bent down tightly against the respective panels, for example using a hammer. Additionally or as an alternative, the connector tabs may be secured to the respective panels using adhesive, fasteners or a bonding process.

After the panels are assembled, any open joints may be sealed with a material such as adhesive or caulk to prevent water ingress.

Collectively, the dovetail tabs **54** of the end plates **44** and the top flanges **88** of the side panels define the fill opening **34**.

The lid **36** and the fill opening **34** have complementary dovetail shapes. The lid **36** may be attached by sliding it in a longitudinal direction over the fill opening **34**. A lock pin or similar fastener (not shown) may be placed through the coaxial lock holes **79**, **59** respectively of the lid **36** and the end plate **44** to hold the lid **36** in place.

The fingers **100** may be bent outwards to expose the dispensing openings **32**. The fingers **100** at least partially block the dispensing openings **32**. It will be understood that the further the fingers **100** are bent away from the surface of the side panel **46**, the larger an opening is formed. In one example, if the fingers **100** are bent to a 90° angle, a dispensing opening **32** having a width of approximately 10 cm (4 in.) will be formed. Given that the panel typically has some ductility, it is possible to adjust the fingers **100** to wider or narrower positions as desired. However, it is envisioned that as a general practice the fingers **100** would be opened large enough to permit a clog-free flow of feed while not overflowing the feed dish **26**. FIGS. **22** and **23** show an example of the fingers **100** bent outward to a partially open position.

The assembly steps described above may be performed at the time of manufacture. Alternatively, once the individual panels are formed, they may be packaged, optionally with fasteners and/or sealant, and distributed, with the expectation that the consumer would assemble the feeder **10**. The components of the feeder **10** may be stacked in a nested position, as an array of components, prior to assembly and suitable for shipment and storage. Packing the components like this greatly reduces the volume needed for shipping and storage.

The feeder **10** is used by placing it in a suitable location. The lid **36** is slid open and granular animal feed or some other attractant (granular material attractive to animals) is put in the fill opening **34**. The lid **36** can then be slid closed and secured with a lock pin or similar fastener (not shown) placed through the coaxial lock holes **79**, **59** respectively of the lid **36** and the end plate **44** to hold the lid **36** in place. The shape of the tray assembly **38** promotes gravity flow of the grain down and out through the dispensing openings **32**. The feed dishes **26** that capture and accumulate the grain that falls by gravity through the dispensing openings **32**. The raised lip **28** around each feed dish **26** retains the grain, while the drain openings **30** permit water and small debris to fall through. The fingers **100** will retard most of the grain from overflowing the feed dishes **26** onto the surrounding ground. The feed dishes **26** are wide and flat and therefore minimize choking or jamming of the grain as it feeds out. The feed dishes **26** extend laterally along the length of the feeder **10**, promoting even flow of grain along the length of the feeder **10** and permitting several animals to feed at the same time. Placement of the feed dishes **26** on both sides of the feeder **10** further promotes even flow of grain along the length of the feeder **10** and permits several animals to feed at the same time on opposite sides of the feeder **10**. While the slope of the feed dishes **26** may vary, in one preferred embodiment the angle of declination of the feed dishes **26** from the horizontal is approximately 30 degrees, but may optionally be between 15 and 35 degrees. The drain openings **30** are sized small enough to retain the granular feed, but large enough to permit water to flow through. For example, they may be about 3 mm wide.

The general shape of the feeder **10** presents a natural outward appearance of a fallen log, something a forest animal such as a deer would be familiar with and would likely find non-threatening. To further enhance this natural appearance, the feeder **10** may be camouflaged. In one example, this may be accomplished by a surface decoration. This could take the form of a coating such as paint, baked-on powder coating, or a printed vinyl wrap. The surface decoration may be a solid color or may incorporate a pattern such as a silkscreen print of a tree bark pattern.

To further extend the natural appearance, the surface decoration may include texture or three-dimensional aspect. One option is to apply a surface cladding to the feeder **10**.

FIG. **24** illustrates one particular example of surface cladding. This takes the form of a pair of cladding panels **156**, one for each side panel **46**. Each cladding panel **156** extends between first and second ends **158**, **160** and is generally formed as a segment of a cylinder. The cladding panel **156** has an interior surface **162** and an opposite exterior surface **166**. The interior surface **162** may be generally smooth to fit flush against the side panel **46**. The exterior surface **166** may be formed in a three-dimensional pattern such as a tree bark configuration, woodgrain, or another naturally occurring object. As one example, the cladding panel **156** may be molded from plastic such as ABS.

The cladding panel **156** may be attached to the feeder **10**, for example by forming holes **168** in the cladding panel **156** and pushing ribbed fasteners **170** of the type known as "Christmas tree fasteners" through the holes **168** and into the cladding mounting holes **94** of the side panels **46**. Alternatively, the cladding panels **156** may be attached by an adhesive, hook and loop fasteners, or other types of mechanical fasteners.

While size and capacity can substantially vary, in one preferred embodiment the feeder **10** has a length of approximately 150 cm, a height of approximately 54 cm, and a width of approximately 68 cm. Grain capacity may be approximately 200 kg. depending on the type of grain, moisture content and similar factors. FIG. **25** illustrates an example feeder **10'** which is approximately half as long between endplates as the feeder **10**, but maintains the other dimensions. Scaling in this manner may permit efficient production of multiple feeders from one standard commercial size sheet of metal.

The foregoing has described an animal feeder. All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings) may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiment(s). The invention extends any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

What is claimed is:

1. An animal feeder, comprising:

a tray assembly defining at least one sloped feed dish;

a reservoir communicating with the tray assembly, the reservoir having a fill opening;

dispensing openings formed in a wall of the reservoir configured to permit granular animal feed to flow by gravity from the reservoir into the at least one sloped feed dish;

wherein each of the dispensing openings is partially blocked by at least one finger formed in the wall of the reservoir; and

wherein each of the dispensing openings is formed by a T-shaped slot in wall of the reservoir, the T-shaped slot also forming a pair of opposed fingers.

2. The animal feeder of claim **1**, wherein the tray assembly includes first and second trays joined to each other, defining a gable roof shape.

3. The animal feeder of claim **2**, wherein the first and second trays are joined at mutually overlapping top flanges.

4. The animal feeder of claim **1**, wherein the reservoir is generally cylindrical.

5. The animal feeder of claim **1**, wherein the at least one feed dish includes drain openings.

6. The animal feeder of claim **1**, further comprising a lid for covering the fill opening.

7. The animal feeder of claim **6**, wherein the lid and the fill opening have complementary dovetail shapes.

8. The animal feeder of claim **1**, wherein the reservoir is defined by a pair of spaced-apart end plates interconnected by a pair of spaced-apart side panels.

9. The animal feeder of claim **8**, wherein:

the end plates have tabs which are received in slots of the side panels; and

the side panels have tabs which are received in slots of the tray assembly.

10. The animal feeder of claim **1**, further comprising a cladding panel attached to an exterior of the reservoir, the cladding panel comprising a tree bark surface configuration.

11. The animal feeder of claim **1**, wherein the tray assembly includes first and second feed dishes on opposite sides of the reservoir.

12. The animal feeder of claim **11**, wherein each feed dish is bounded by a raised lip.

13. An animal feeder according to claim **1**, wherein the animal feeder is adapted to be stacked in an array of components prior to assembly for shipping.

14. An animal feeder, comprising:

first and second trays defining sloped first and second feed dishes, the first and second trays connected at mutual top flanges defining a gable roof shape;

first and second end plates connected to the first and second trays;

first and second side panels connected to the end plates and the trays, such that the end plates and the side panels cooperatively define a generally cylindrical reservoir communicating with the tray assembly, the reservoir having a fill opening; and

a plurality of dispensing openings formed in the side panels configured to permit granular animal feed to gravity flow from the reservoir into the sloped first and second feed dishes.

15. The animal feeder of claim **14**, wherein:

the end plates have tabs which are received in slots of the side panels;

the side panels have tabs which are received in slots of the first and second trays; and

the first and second trays have tabs which are received in slots of the end plates.

16. The animal feeder of claim **14**, wherein each dispensing opening is partially blocked by at least one finger formed in one of the side panels.

17. The animal feeder of claim **16**, wherein each of the dispensing openings is formed by a T-shaped slot in wall of the reservoir, the T-shaped slot also forming a pair of opposed fingers.

18. The animal feeder of claim **14**, wherein the first and second trays, the

first and second end plates, and the first and second side panels are formed from sheet metal.

19. The animal feeder of claim **14**, further comprising a cladding panel attached to each of the side panels, the cladding panels including a tree bark surface configuration.

20. An animal feeder, comprising:

a tray assembly defining at least one sloped feed dish;

a reservoir communicating with the tray assembly, the reservoir having a fill opening;

dispensing openings formed in a wall of the reservoir configured to permit granular animal feed to flow by gravity from the reservoir into the at least one sloped feed dish;

wherein each of the dispensing openings is partially blocked by at least one finger formed in the wall of the reservoir;

wherein the reservoir is defined by a pair of spaced-apart end plates interconnected by a pair of spaced-apart side panels; and

wherein:

the end plates have tabs which are received in slots of the side panels; and

the side panels have tabs which are received in slots of the tray assembly.

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