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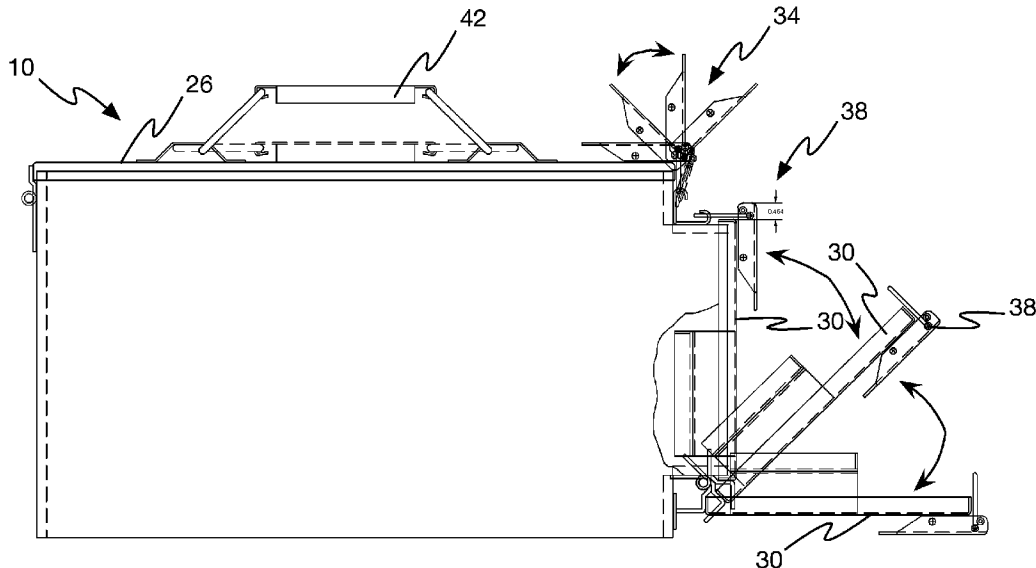
(71) Demandeur/Applicant:
COMBAT READY INC., CA

(72) Inventeur/Inventor:
LAMARCHE, FRANCOIS, CA

(74) Agent: BENOIT & COTE INC.

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(54) Title: AMMUNITIONS CONTAINER



(57) **Abrégé/Abstract:**

An ammunition container with a body including a pair of horizontal wall portions, two vertical lateral wall portions, a front vertical wall portion and a back vertical wall portion collectively forming a container volume for receiving ammunitions therein and a plurality of internal walls parallelly disposed between the two lateral wall portions in the body, the internal walls being sized and designed to define a plurality of vertical ammunition channels, each vertical ammunition channel being configured to accommodate a stack of ammunitions therein, at least one of the pair of horizontal wall portions being removable to empty the ammunitions from the plurality of vertical ammunition channels.



ABSTRACT

An ammunition container with a body including a pair of horizontal wall portions, two vertical lateral wall portions, a front vertical wall portion and a back vertical wall portion collectively forming a container volume for receiving ammunitions therein and a plurality of internal walls parallelly disposed between the two lateral wall portions in the body, the internal walls being sized and designed to define a plurality of vertical ammunition channels, each vertical ammunition channel being configured to accommodate a stack of ammunitions therein, at least one of the pair of horizontal wall portions being removable to empty the ammunitions from the plurality of vertical ammunition channels.

AMMUNITIONS CONTAINER

FIELD OF THE INVENTION

[0001] This invention generally relates to an ammunition magazine loader. More precisely, the invention relates to an ammunition magazine loader with mechanisms for filling magazines with ammunitions, in batch, and adaptors for moving ammunitions from ammunitions containers to the ammunition magazine loader.

BACKGROUND OF THE INVENTION

[0002] Ammunitions are packaged in strips thereof, boxes thereof or ammunitions containers. Rounds are individually loaded in each magazine. Manual magazines loading is time consuming and can be difficult to load.

[0003] The transport of ammunitions has not significantly evolved since the invention of the bullets for firearms. The majority of combat rifles currently in service around the world use thirty ammunitions (rounds) magazines. When not loaded in a magazine, ammunitions are conserved and carried in boxes. The process of loading individual ammunitions into a magazine is slow and requires the user to have fine motor skills and sufficient strength. The user needs to be concentrated and undisturbed to be efficient during the process. In a combat environment where the user is under intense pressure the reloading process of the magazine becomes longer, slower and is subjected to interruption. Further, speed in readying a weapon in a combat environment is important; the slowness of the reloading process delays the readiness of a firearm. In a training environment, or in civilian use, reloading the magazines remains a time-consuming process and a waste of time. Past attempts to facilitate the magazines reloading do not allow to quickly and efficiently reload a regular combat magazine.

[0004] Therefore, there exists a need in the art for an improved ammunitions magazine loader over the existing art. There is a need in the art for a magazine loader that is fast and reliable to use. A need has also been felt in the art for a magazine loader that reduces the complexity of magazines ammunitions loading. There is also a need for such a magazine loader that can be easily and economically manufactured.

SUMMARY OF THE INVENTION

[0005] It is one aspect of the present invention to alleviate one or more of the drawbacks of the background art by addressing one or more of the existing needs in the art.

[0006] Accordingly, embodiments of this invention are concerned with an ammunitions magazine loader.

[0007] An aspect of one or more embodiments of the invention provides a magazine loader that can rapidly and efficiently load ammunitions in magazines.

[0008] An aspect of one or more embodiments of the invention provides a magazine loader that simultaneously load a plurality of ammunitions in a magazine.

[0009] An aspect of one or more embodiments of the invention provides a magazine loader that simultaneously load a magazine at once.

[0010] An aspect of one or more embodiments of the invention provides a magazine loader adapted to be carried and used in combat zones.

[0011] An aspect of one or more embodiments of the invention provides a magazine loader containing more than two full magazines of any type of ammunitions with the ability to fully load a magazine.

[0012] An aspect of one or more embodiments of the invention provides a gravity fed system with the ability to stabilize the movement of the ammunition within the magazine loader apparatus.

[0013] An aspect of one or more embodiments of the invention provides a resupply box with the ability to load the magazine loader with one motion.

[0014] An aspect of one or more embodiments of the invention provides a method to separate ammunitions for filling a full magazine from its bullets container to a loading compartment with a linear motion.

[0015] An aspect of one or more embodiments of the invention provides a plurality of bullet-shape holes to proper direct the ammunitions into the magazine loader.

[0016] An aspect of one or more embodiments of the invention provides a method to disperse compact ammunitions into the magazine loader.

1 **[0017]** An aspect of one or more embodiments of the invention provides a magazine
2 loader that can receive an ammunitions container thereon to transfer ammunitions from the
3 container to the magazine loader.

4 **[0018]** An aspect of one or more embodiments of the invention provides an adaptor
5 configured to adapt ammunitions containers of different configurations to the magazine loader.

6 **[0019]** An aspect of one or more embodiment of the invention provides an adaptor that
7 can be manufactured with different dimensions to accommodate ammunitions containers of
8 different sizes.

9 **[0020]** An aspect of one or more embodiment of the invention provides an adaptor that
10 can be manufactured with different dimensions and characteristics to accommodate different
11 calibers of ammunitions.

12 **[0021]** An aspect of one or more embodiments of the invention provides a magazine
13 loader that can be manufactured with different dimensions to accommodate different calibers of
14 ammunitions

15 **[0022]** An aspect of one or more embodiments of the invention provides a magazine
16 loader including a plurality of internal bullets-receiving channels.

17 **[0023]** An aspect of one or more embodiments of the invention provides a magazine
18 loader that can be filled with ammunitions by gravity.

19 **[0024]** An aspect of one or more embodiments of the invention provides a magazine
20 loader including an air gap between adjacent bullets-receiving channels.

21 **[0025]** An aspect of one or more embodiments of the invention provides a magazine
22 loader including a bullet riser portion.

23 **[0026]** An aspect of one or more embodiments of the invention provides a magazine
24 loader for loading bullets in a magazine is presented, the magazine loader comprising a body
25 including a first opening for inserting bullets in the magazine loader and a second opening for
26 loading bullets in a magazine, when the magazine loader is used in conjunction with the
27 magazine, a plurality of channels inside the body for receiving therein bullets, when the
28 magazine loader is used in conjunction with a plurality of bullets, the lower bullets in the

1 channels forming a row of bullets and an actuator for moving the row of bullets out of the
2 magazine loader through a magazine receptacle.

3 **[0027]** Another aspect of one or more embodiments of the invention provides a method
4 of loading bullets in a magazine, the method comprising inserting a plurality of bullets in a
5 magazine loader, the magazine loader including a plurality of channels therein for receiving the
6 bullets, aligning a succession of bullets in the magazine loader, securing a magazine in a
7 position adapted to receive therein the succession of bullets and pushing the succession of
8 bullets in the magazine.

9 **[0028]** Other embodiments and further scope of applicability of the present invention will
10 become apparent from the detailed description given hereinafter. However, it should be
11 understood that the detailed description and specific examples, while indicating preferred
12 embodiments of the invention, are given by way of illustration only, since various changes and
13 modifications within the spirit and scope of the invention will become apparent to those skilled in
14 the art from this detailed description.

15 **[0029]** Additional and/or alternative advantages and salient features of the invention will
16 become apparent from the following detailed description, which, taken in conjunction with the
17 annexed drawings, disclose preferred embodiments of the invention.

18 **BRIEF DESCRIPTION OF THE DRAWINGS**

19 **[0030]** Referring now to the drawings which form a part of this original disclosure:

20 **[0031]** Figure 1 is an isometric view of a magazine loader, in accordance with at least
21 one embodiment thereof;

22 **[0032]** Figure 2 is a top plan view the magazine loader of Figure 1, in accordance with at
23 least one embodiment thereof;

24 **[0033]** Figure 3 is a side elevational view of the magazine loader of Figure 1, in
25 accordance with at least one embodiment thereof;

26 **[0034]** Figure 4 is a front elevational view of the magazine loader of Figure 1, in
27 accordance with at least one embodiment thereof;

1 **[0035]** Figure 5 is a top plan view of a bullets container, in accordance with at least one
2 embodiment thereof;

3 **[0036]** Figure 6 is a side elevational view of the bullets container of Figure 5, in
4 accordance with at least one embodiment thereof;

5 **[0037]** Figure 7 is a top plan view of the bullets container of Figure 5, in accordance with
6 at least one embodiment thereof;

7 **[0038]** Figure 8 is an isometric view of a magazine loader, a bullets container and an
8 adaptor, in accordance with at least one embodiment thereof;

9 **[0039]** Figure 9 is an isometric view of the magazine loader, the bullets container, with
10 the lid opened, and the adaptor of Figure 8, in accordance with at least one embodiment
11 thereof;

12 **[0040]** Figure 10 is an isometric view of the magazine loader, the bullets container and
13 the adaptor of Figure 8, the adaptor being installed on top of the bullets container, in
14 accordance with at least one embodiment thereof;

15 **[0041]** Figure 11 is an isometric view of the magazine loader, the bullets container and
16 the adaptor of Figure 8, where the bullets container is assembled to the adaptor and the adaptor
17 is assembled to the magazine loader in an operating configuration, in accordance with at least
18 one embodiment thereof;

19 **[0042]** Figure 12 is an isometric view of the magazine loader, the bullets container and
20 the adaptor of Figure 8, where the bullets container is assembled to the adaptor and the adaptor
21 is assembled to the magazine loader in an operating configuration, in accordance with at least
22 one embodiment thereof;

23 **[0043]** Figure 13 is a magnified portion of the isometric view of the magazine loader, the
24 bullets container and the adaptor of Figure 8, where the bullets container is assembled to the
25 adaptor and the adaptor is assembled to the magazine loader in an operating configuration, in
26 accordance with at least one embodiment thereof;

27 **[0044]** Figure 14 is an isometric view of the magazine loader, the bullets container and
28 the adaptor of Figure 8, where the bullets container is assembled to the adaptor and the adaptor

1 is assembled to the magazine loader in an operating configuration with the bullets moved down
2 in the magazine loader, in accordance with at least one embodiment thereof;

3 **[0045]** Figure 15 is a magnified portion of the isometric view of the magazine loader, the
4 bullets container and the adaptor of Figure 8, where the bullets container is assembled to the
5 adaptor and the adaptor is assembled to the magazine loader in an operating configuration with
6 the bullets moved down in the magazine loader, in accordance with at least one embodiment
7 thereof;

8 **[0046]** Figure 16 is an isometric view of the magazine loader of Figure 1, full of bullets,
9 in accordance with at least one embodiment thereof;

10 **[0047]** Figure 17 is an exploded isometric view of internal components of the magazine
11 loader of Figure 1, in accordance with at least one embodiment thereof;

12 **[0048]** Figure 18 is an isometric view of internal components of the magazine loader of
13 Figure 1, in accordance with at least one embodiment thereof;

14 **[0049]** Figure 19 is an exploded isometric view of a bullets ram support, in accordance
15 with at least one embodiment thereof;

16 **[0050]** Figure 20 is an isometric view of a bullets ram support, in accordance with at
17 least one embodiment thereof;

18 **[0051]** Figure 21 is an isometric view of a bullets ram support, in accordance with at
19 least one embodiment thereof;

20 **[0052]** Figure 22 is an isometric view of a bullets ram support operatively assembled to
21 a magazine loader, in accordance with at least one embodiment thereof;

22 **[0053]** Figure 23 is an isometric view of a bullets ram support operatively assembled to
23 a magazine loader, in accordance with at least one embodiment thereof;

24 **[0054]** Figure 24 is an isometric view of a bullets ram support operatively assembled to
25 a magazine loader, in accordance with at least one embodiment thereof;

26 **[0055]** Figure 25 is an isometric view of a bullets ram support operatively assembled to
27 a magazine loader, in accordance with at least one embodiment thereof;

1 **[0056]** Figure 26 is an isometric view of a bullets ram support operatively assembled to
2 a magazine loader in the process of pushing down the bullets in the magazine loader, in
3 accordance with at least one embodiment thereof;

4 **[0057]** Figure 27 is an isometric view of a magazine loader, in accordance with at least
5 one embodiment thereof;

6 **[0058]** Figure 28 is an isometric view of a magazine loader, in accordance with at least
7 one embodiment thereof;

8 **[0059]** Figure 29 is a partial front elevation view of a magazine loader, in accordance
9 with at least one embodiment thereof;

10 **[0060]** Figure 30 is an isometric view of a magazine loader, in accordance with at least
11 one embodiment thereof;

12 **[0061]** Figure 31 is a partial front elevation view of a magazine loader, in accordance
13 with at least one embodiment thereof;

14 **[0062]** Figure 32 is an isometric view of a portion of a magazine loader with an opened
15 front door thereof, in accordance with at least one embodiment thereof;

16 **[0063]** Figure 33 is an isometric view of a portion of a magazine loader with a magazine
17 secured in an operating configuration thereof, in accordance with at least one embodiment
18 thereof;

19 **[0064]** Figure 34 is an isometric view of a magazine loader with a magazine secured in
20 an operating configuration thereof, in accordance with at least one embodiment thereof;

21 **[0065]** Figure 35 is an isometric view of a magazine loader with a magazine secured in
22 an operating configuration thereof, in accordance with at least one embodiment thereof;

23 **[0066]** Figure 36 is a partial front elevation view of a magazine loader, in accordance
24 with at least one embodiment thereof;

25 **[0067]** Figure 37 is an isometric view of a magazine loader with a detached magazine
26 full of bullets, in accordance with at least one embodiment thereof.

1 **[0068]** Figure 38 is flow chart describing the steps in the process of loading the
2 magazine loader with a bullet container and an adaptor;

3 **[0069]** Figure 39 is flow chart describing the steps in the process of loading the
4 magazine loader with a bullet ram support;

5 **[0070]** Figure 40 is a flow chart describing the steps to load a magazine with the
6 magazine loader;

7 **[0071]** Figure 41 is an exploded isometric view of a magazine loader, in accordance with
8 an embodiment thereof;

9 **[0072]** Figure 42 is a view of a magazine loader, in accordance with an embodiment
10 thereof;

11 **[0073]** Figure 43 is an isometric view of the magazine loader, in accordance with an
12 embodiment thereof;

13 **[0074]** Figure 44 is an isometric view of the magazine loader, in accordance with an
14 embodiment thereof;

15 **[0075]** Figure 45 is an isometric view of the magazine loader, in accordance with an
16 embodiment thereof;

17 **[0076]** Figure 46 is an isometric view of the magazine loader, in accordance with an
18 embodiment thereof;

19 **[0077]** Figure 47 is an isometric view of the magazine loader, in accordance with an
20 embodiment thereof;

21 **[0078]** Figure 48 is a flow chart illustrating a method of use of the magazine loader, in
22 accordance with an embodiment thereof;

23 **[0079]** Figure 49 is a partial isometric view of the magazine loader, in accordance with
24 an embodiment thereof;

25 **[0080]** Figure 50 is a partial isometric view of the magazine loader, in accordance with
26 an embodiment thereof;

[0081] Figure 51 is a partial isometric view of the magazine loader, in accordance with an embodiment thereof;

[0082] Figure 52 is a partial isometric view of the magazine loader, in accordance with an embodiment thereof;

[0083] Figure 53 is a partial isometric view of the magazine loader, in accordance with an embodiment thereof;

[0084] Figure 54 is an isometric view of the magazine loader, in accordance with an embodiment thereof;

[0085] Figure 55 is an isometric view of the magazine loader, in accordance with an embodiment thereof;

[0086] Figure 56 is a partial isometric view of the magazine loader, in accordance with an embodiment thereof;

[0087] Figure 57 is a partial isometric view of the magazine loader, in accordance with an embodiment thereof;

[0088] Figure 58 is an isometric view of the magazine loader, in accordance with an embodiment thereof;

[0089] Figure 59 is an isometric view of the magazine loader, in accordance with an embodiment thereof;

[0090] Figure 60 is a flow chart illustrating a possible method of use of the magazine loader, in accordance with an embodiment thereof;

[0091] Figure 61 is a semi-assembled isometric view of the magazine loader, in accordance with an embodiment thereof;

[0092] Figure 62 is an isometric view of the magazine loader, in accordance with an embodiment thereof;

[0093] Figure 63 is an isometric view of the magazine loader with a bullets container, in accordance with an embodiment thereof;

[0094] Figure 64 is an isometric view of the magazine loader with a bullets container, in accordance with an embodiment thereof;

[0095] Figure 65 is an isometric view of the magazine loader with a bullets container, in accordance with an embodiment thereof;

[0096] Figure 66 is a partial isometric view of the magazine loader with a bullets container, in accordance with an embodiment thereof;

[0097] Figure 67 is a partial isometric view of the magazine loader with a bullets container, in accordance with an embodiment thereof; and

[0098] Figure 68 is a flow chart illustrating a possible method of use of the magazine loader, in accordance with an embodiment thereof.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0099] A preferred embodiment of the present invention is described below with reference to the drawings.

[00100] A magazine loader 10 in accordance with an embodiment of the invention is exemplified in Figure 1 throughout Figure 4. The magazine loader 10 is generally used to receive therein a plurality of bullets 74 and is equipped with a mechanism adapted to load a magazine 230 with the bullets 74. The magazine loader 10 is generally made of strong material, such as steel, and is equipped with at least one opening 14 thereof. The illustrated embodiment includes a top opening 18 and a front opening 22 that are selectively closed with a hingedly connected top cover 26 and a hingedly connected front cover 30. The top cover 26 and the front cover 30 are respectively secured in a closed position thereof in Figure 1 with a top locking mechanism 34 and a front locking mechanism 38. The magazine loader 10 includes an optional handle 42 disposed on the top cover 26, as embodied. It can be appreciated the exact shape, size and configuration of the magazine loader 10 can vary without departing from the scope of the invention. The magazine loader 10 is going to be discussed in greater details below.

[00101] A bullets container 50 in accordance with an embodiment of the invention is exemplified in Figure 5 throughout Figure 7. The bullets container 50 is generally used to house and transport a plurality of bullets 74. The bullets container 50 is generally made of strong

1 material, such as steel, and is equipped with at least one opening 54. The illustrated
2 embodiment includes a top opening 58 selectively closed with a hingedly connected top cover
3 62. The top cover 62 is secured in a closed position thereof with a locking mechanism 66 to
4 prevent bullets 74 to exit the bullets container 50. The bullets container 50 includes an optional
5 handle 70 disposed on the top cover 62, as embodied. The bullets container 50 has generally a
6 standardized format used to store and transport bullets 74 therein. The exact shape, size and
7 configuration of the bullets container 50 can vary without departing from the scope of the
8 invention. Other types of bullets containers can be used in conjunction with the present
9 invention without departing therefrom.

10 **[00102]** The bullets container 50 is not adapted to load magazines 230 with the bullets 74
11 contained therein. The bullets 74 from the bullets container 50 needs to be manually fed in the
12 magazine 230, which is long and tedious. Embodiments of the invention suggest means for
13 transferring the bullets 74 from the bullets container 50 to the magazine loader 10. It can be
14 appreciated the size and the design of the bullets container 50 need to cooperate with the
15 magazine loader 10. In the present illustrated configuration, the bullets container 50 is smaller
16 than the magazine loader 10 and an adaptor 80 is required to facilitate the transfer of the bullets
17 74 from the bullets container 50 to the magazine loader 10. Figure 8 throughout Figure 12
18 depict a magazine loader 10, a bullets container 50 and an exemplified adaptor 80 that is sized
19 and designed to interface the bullets container 50 with the magazine loader 10 to route the
20 bullets 74 from the bullets container 50 inside the magazine loader 10. The exact shape, size
21 and configuration of the adaptor 80 can vary without departing from the scope of the invention. It
22 can be appreciated the magazine loader 10 and the bullets container 50 are illustrated with an
23 open portion thereof to allow visualization of their internal structures for the purpose of the
24 present application.

25 **[00103]** The bullet container 50 of the illustrated embodiment includes therein a series of
26 bullets-receiving slots 90 vertically separating the bullets 74 in a plurality of bullets-receiving
27 slots 90. Similarly, the magazine loader 10 includes a series of channels 96 separated with
28 respective rails 94 sized and designed to receive and locate a series of bullets 74 in channels
29 96 therein in a position for loading a magazine 230. Consequently, the adaptor 80 includes a
30 series of slots 98 designed to allow bullets 74 transfer from the bullets container 50 to the
31 magazine loader 10. The adaptor 80 is designed, at a first side 102 thereof with a layout of slots
32 98 corresponding to the layout and the spacing of channels 96 of the magazine loader 10. The
33 layout of slots 98 of the adaptor 80, at a second side 106 thereof, is generally corresponding to

the layout of bullets-receiving slots 90 in the bullet container 50. In the present situation, the adaptor 80 has a trapezoidal shape because the spacing between the series of channels 96 of the magazine loader 10 is larger than the spacing of the bullets-receiving slots 90 of the bullets container 50. Other possible configurations are not illustrated and remain within the scope of the present specification.

[00104] As it can be appreciated from Figure 10, Figure 11 and Figure 12, the second side 106 of the adaptor 80 is installed on the bullets-container 50 top opening 58, the magazine loader 10 and the bullets-container 50 connected thereto are reversed upside-down to fit the top opening 18 thereof with the first side 102 of the adaptor 80. The assembly is illustrated unsecured together however a securing mechanism can be used without departing from the teaching of the present invention. The magazine loader 10, bullets container 50 and the intervening adaptor 80 assembly is then reversed to transfer the bullets 74 from the bullets container 50 to the magazine loader 10. In that configuration, gravity is used to transfer the bullets 74 from the bullets-container 50 downwardly to the magazine loader 10, as exemplified in Figure 12 and Figure 13. The magazine loader 10, adaptor 80 and bullets container 50 assembly can be separated when the bullets 74 are all moved and stored in the magazine loader 10 as illustrated in Figure 14 and Figure 15. The magazine loader 10 can be closed with the top cover 26, as depicted in Figure 16, and is ready for transportation and future use to load magazines 230 with the bullets 74 stored therein.

[00105] The rails 94 of the magazine loader 10 of the embodiment illustrated in Figure 15 throughout Figure 17 have a sinusoidal configuration. The sinusoidal configuration forces the ammunition to stay in a proper loading position as it slows down the bullets in a controlled fall and reduces the room that could, otherwise, allow the bullets to take an improper position in case of sudden movements. All ammunitions are stacked horizontally and oriented to be loaded in the receiving magazine, during rough handling. The sinusoidal configuration maintains the ammunition in the proper position without the need of a mechanical force to do so. Each rail 94 is bordered on each lateral side by a pair of guides 110, embodied as a pair of curved metal sheet layers, of a sinusoidal shape. The guides 110, in an embodiment thereof, do not have a constant thickness between them to provide rails 94 of an even width all along their lengths despite their sinusoidal configuration. In the illustrated embodiment, each guide 110 is made with a double wall 114 to allow rails 94 thickness variations. The double wall 114 can be made of a pair of aluminum sheet 118 material that is bent properly and assembled together. It can be appreciated from Figure 15 that the upper portion 122 of the rails 94 has a significant thickness

126 that is mirrored by the thickness 134 of the slots separator 130 on the first side 102 of the adaptor 80. Similar channels 96 spacing is embodied on the second side 106 of the adaptor 80 in respect with the bullets-receiving slots 90 of the bullets container 50.

[00106] The internal structure of the magazine loader 10 is exemplified in Figure 17 and Figure 18. The series of rails 94 are supported by lateral plates 138 and secured with a series of engaging openings 142. A pair of cover plates 146 are disposed between the lateral plates 138 at the front and the rear of the magazine loader 10. A first floor portion 150 and a second floor portion 154 are disposed below the series of rails 94 and are also secured in the assembly between the lateral plates 138. A first drawer 158, also referred to an actuator, and a second drawer 162 can also be appreciated in Figure 17. The first drawer 158 and the second drawer 162 are slideably assembled with respective pairs of drawer support rails 166 disposed on external sides of the lateral plates 138. A top plate 170 is affixed on top of the lateral plates 138. The embodied top plate 170 includes an optional set of holes 174 that have the profile of the bullets 74 to ensure only bullets 74 of the intended size is going to enter the magazine loader 10 and alleviate confusion as the user can see the direction the ammunition must be facing.

[00107] Bullets 74 can be packaged in 10 rounds clips 190 in the army's current ammunition system. When the bullets 74 are coming with such clips 190, an optional bullets ram support 194 is configured to receive therein a plurality of clips 190 with bullets 74 attached thereto. The clips 190 are generally manually inserted in respective slots 198 inside the bullets ram support 194. Once filled with bullets 74, the bullets ram support 194 is installed on top of the magazine loader 10 and actuated as it will be described below. The bullets ram support 194 includes a handle portion 202 connected to a push member 206 with elongated pivot support members 210. The elongated pivot support members 210 are pivotably and slidably connected to pivot supports members 210 interconnected between a pair of plates 214 and a pair of support plates 218 to which are connected the slots 198. It can be appreciated the bullet ram support 194 includes a push member 206 sized and designed to push, preferably, on the rim (base) of the bullets 74 that are engaged in the clip 190. The push member 206 is long enough to push through the entire length of the slots 198 to empty the bullets 74 from the clips 190.

[00108] Figures 20 throughout Figure 26 are illustrating the operating sequential steps to load the clips 190 of bullets in the bullets ram support 194. Figure 20 illustrates the handle portion 202 can be angled to allow easy access to the slots 198 in the bullets ram support 194. After a series of clips 190 loaded with ten bullets 74 each are installed in the bullets ram support

194, the handle portion 202 is raised vertically, as illustrated in Figure 21. The bullets ram support 194 is installed on the magazine loader 10 before pushing the handle portion 202 down toward the magazine loader 10, as illustrated in Figure 22 and Figure 23. Figure 24 illustrates a first set of ten bullets 74 are pushed by the push member 206 in the magazine loader 10. The process is done another time, as shown in Figure 25 and Figure 26, to insert a second set of clips 190 of ten bullets 74 per rail 94, that can accommodate ten bullets 74 therein, in the magazine loader 10. The bullets ram support 194 is removed from the magazine loader 10 and the magazine loader 10 is closed for future use.

9 **[00109]** Figure 27 throughout Figure 35 are exemplifying loading a magazine 230 with the magazine loader 10. The front cover 30 is opened to allow access to the front opening 22 where a user can operatively secure the magazine 230 to the magazine loader 10 to be filled with bullets 74. A retaining floor 234 of the second drawer 162 is preventing bullets 74 in the rails 94 to fall below the rails 94 in the configuration illustrated in Figure 27. The second drawer 162 is pulled 238 outside the front opening 22 to allow the lower bullet 74 of each of the rail 94, forming a row of thirty bullets 242, to move lower than the rails 94 and be retained by the first floor portion 150, as illustrated in Figure 28 throughout Figure 32. It can be appreciated the lateral supports 246 of the second drawer 162 are engaging in a slideable manner with corresponding drawer support rails 166 hence allowing movements of the second drawer 162. The second drawer 162 is then pushed back 250 into the magazine loader 10 and the retaining floor 234 is separating the lower row of bullets 242 from the second row 254 of bullets 74 adjacent above each respective bullet 74 of the lower row of bullets 242.

22 **[00110]** In reference with Figure 34, a magazine 230 is secured in the front opening 22 in an aligned position suitable to receive therein the lower row 242 of thirty bullets 74. The transfer of the lower row 242 of bullets 74 from the magazine loader 10 to the magazine 230 is made by pulling 258 the first drawer 158. Pulling 258 the first drawer 158 is allowed by the slideable engagement of the pair of lateral supports 262 with corresponding drawer support rail 166. The first drawer 158 includes, as best seen in Figure 17, a rear portion 266 equipped with a pair of downward extending arms 270 securing a push member 274 thereof designed in a fashion adapted to contact the row of bullets 74 adequately for moving the row of bullets 74 in the magazine 230. The push member 274 is abutting the lower row 242 of bullets 74 and is pushing the bullets 74, as an actuator, guided by the retaining floor 234 and the first floor portion 150, into the magazine 230. The fully loaded magazine 230 is illustrated in Figure 35. It can be appreciated the magazine 230 loading is made in a single operation, when pulling the first

drawer 158. This is a quick, safe and efficient way to load a magazine 230 with a plurality of bullets 74. A magazine retainer 280 is optionally disposed on the interior portion of the front cover 30 to secure the magazine 230 in place when loading it with bullets 74 as depicted in Figure 33 to Figure 37. The opened end of the magazine 230 is inserted or abutted to a magazine receptacle 284 preferably aligned with a lower row of bullets 242 for easy insertion of the bullets 74 in the magazine 230.

[00111] Step 300 throughout step 328 of Figure 38 illustrate an exemplary process of loading the magazine loader 10 with a bullet container 50 and using an adaptor 80. The illustrative process begins by providing a bullets container 50 with bullets 74 therein at step 300 and installing a cooperating end of the adaptor 80 on the open top portion of the bullet container 50 at step 304. Step 308 reverses the magazine loader 10 and securing the open top portion thereof to the first end of the adaptor 80 to be able to reverse collectively the magazine loader 10, the adaptor 80 and the bullets container 50 at step 312 to transfer the bullets 74 from the bullets container 50 to the magazine loader 10 through the adaptor 80 under the effect of gravity as illustrated in steps 316 and 320. The bullets container 50 and the adaptor 80 are removed in step 324 from the magazine loader 10 to be able to close the top cover of the magazine loader 10 to be used for charging magazines 230.

[00112] Step 340 throughout step 368 in Figure 39 illustrate the process of loading the magazine loader 10 with ten-rounds clips of bullets 74 using a bullet ram support 194. Indeed, the following steps can be exemplary performed as follows: Stacking bullet clips 190 inside the bullet ram support 194 in step 340 followed by installing the bullet ram support 194 on the magazine loader 10 in step 344 to then position the push member 206 at step 348 to be able to push the push member at the following step 352 to move the bullets inside the magazine loader 10 at step 356. Step 360 indicates the bullets are then guided inside the channels of the magazine loader 10 limited by the first floor portion 150, if the first drawer 158 is not pulled out, of the magazine loader 10 as in step 364 to load the magazine loader 10 by a movement of the second drawer 162 as indicated at step 368.

[00113] And step 390 throughout step 418 in Figure 40 illustrate the process of loading a magazine 230 with the magazine loader 10 through the use of drawers 162 and 158. Step 390 secures the magazine 230 to the magazine loader 10 and step 394 pulls the second drawer 162 for removing the retaining floor 234 to allow movement of the lower bullets 74 to the bottom of the magazine loader 10 in step 398. Pushing back the second drawer 162 for putting back in

1 place the retaining floor 234 to retain the remaining bullets 74 in the magazine loader 10 in step
2 402 for, then, pulling the first drawer 158 to pull the push member 206 of step 406 that is moving
3 the bullets 74 inside the magazine 230, as identified in step 410. Step 414 pushes back the first
4 drawer 158 and the push member 206 to finally remove the loaded magazine 230 from the
5 magazine loader 10 in step 418.

6 **[00114]** Another embodiment of the invention using the same general principles of
7 operation is illustrated in Figure 41 throughout Figure 67. In this embodiment, the components
8 of the magazine loader 10 are secured between a plurality of frame portions 446 optionally
9 designed with bents therein for increased rigidity. The illustrated frame portions 446 are also
10 provided with spacers 450 and fasteners 454 to secure the magazine loader 10 components in
11 an operative configuration. The embodiment illustrated in Figure 41 throughout Figure 66 allows
12 for integration and use of various means for routing bullets 74 from bullets containers 50, 430 of
13 different configurations in the magazine loader 10. For example, in the embodiment shown in
14 Figure 1 throughout Figure 16, the adaptor 80 is a distinct and separate piece of equipment
15 which is put on top of the bullets container 50 over the channels 96 of the magazine loader 10.
16 In the embodiment illustrated in Figure 61 throughout Figure 66, a pair of guide plates 438 is
17 installed atop the series of channels 96 to route bullets 74 from bullet clips 190 in the magazine
18 loader 10. The guide plates 438 include a series of vertically aligned slots 98 and are used to
19 assemble a bullet container 50, 430 that has compatible slots 98 pattern. Alternatively, the pair
20 of adaptor plates 442 includes a series of divergent slots 98 and are used to assemble a bullet
21 container 430 that has not a slots 98 pattern directly compatible with the magazine loader 10.
22 These various means for routing bullets 74 from bullets containers 50, 430 are selectively and
23 removably secured in the magazine loader 10. It is also encompassed by the present invention
24 that the means for routing bullets 74 from bullets containers to the magazine loader 10 are
25 permanently secured to the magazine loader 10 in alternate embodiments thereof.

26 **[00115]** Figures 1 to 16, related to the previous embodiment, describe the magazine
27 loader 10 used with a regular ammunition container 50. As described above, the regular
28 ammunition container 50 is generally consisting of a metallic box of cubic shape with an
29 opening/closing top. This type of ammunition container 50 is in use since World War Two, has
30 been in use in conflicts since, and will probably remain in use for decades to come. The main
31 issue with this type of ammunition container 50 is that it requires to be flipped upside down to
32 empty its load of bullets 74 inside the magazine loader 10.

1 **[00116]** In the embodiment described in Figures 61 to 66, the magazine loader 10 is used
2 with an alternative ammunition container 430, which could be designed as a disposable bullets
3 container. This alternative ammunition container 430 has a bottom portion 434 that is designed
4 to be removable by removing, for instance, a securing strip 440. Removing the securing strip
5 440 allows to slide the bottom portion 434 from the ammunition container 430 to open the
6 alternative ammunition container 430 and empty its content into the magazine loader 10 as
7 illustrated in Figure 66.

8 **[00117]** The embodiments of Figure 19 throughout Figure 26 and Figure 42 throughout
9 Figure 47 is used with ten-bullets clips 190. In Figure 19 throughout Figure 26, the clips 190 are
10 positioned inside the slots 198 of the support plates 218, which with the pair of plates 214, form
11 the bullet ram support 194. The clips 190 are completely inserted in the slots 198. As described
12 above, the push member 206 (embodied as a rectangular plate in the embodiment) is pushed
13 between the support plates 218 with the handle portion 202 to ram the bullet in the channels 96
14 and into the magazine loader 10. In Figure 42 throughout Figure 47, the handle portion 202
15 itself, now provided with a pair of handles 204, is used to ram the bullets 74 inside the channels
16 96 of the magazine loader 10. The handle portion 202 is slidably secured in a pair of guide
17 members 458 pivotably secured to respective cover plates 146. As best seen in Figure 42, the
18 pair of guide plates 438 have different heights to allow pivotal of the handle portion 202. The
19 clips 190 are secured to the shorter guide plate 438.1 equipped with clips-receiving slots 198.
20 The taller guide plate 438.2 includes a series of vertical grooves 462 sized and designed to
21 slidably receive therein bullets heads.

22 **[00118]** Still referring to the embodiment of Figure 41 throughout Figure 47, a bullet
23 distancing member 466 is disposed on top of retaining floor 234 to ensure proper alignment and
24 distance between the bullets 74 before they reach the lower row 242. The bullet distancing
25 member 466 is designed to accommodate the tip of the bullets 74. Instead of the bullet 74 falling
26 onto the first floor portion 150, each bullet 74 has its dedicated location maintained in place by
27 the discrete location teeth to prevent any undesired movement of the bullets 74 ready to be
28 loaded in the magazine 230 and contribute to prevent any jamming in the event a bullet 74
29 would not be in the proper orientation.

30 **[00119]** A dented member 470 is also used to ensure proper alignment and distance
31 between the bullets 74 once they reached the lower row 242. The bullet distancing member 466
32 and the dented member 470 are desirable to prevent any movements of the bullets 74 when

1 actuating the retaining floor 234. The dented member 470 is configured to move upward, to
2 secure the bullets 74, and downward to allow movement of the bullets 74 toward the magazine
3 230. The upward and downward movement of the dented member 470 is provided by a pivot
4 member 474 and a slot portion 478. The dented member 470 is operatively actuated by the
5 movement of the first drawer 158 when inserting the bullets 74 in the magazine 230, moving
6 downward when the first drawer 158 is pulled and vice-versa. One can appreciate that, in the
7 present configuration, the drawers 158, 162 are slidably maintained by supports 482. Steps 486
8 throughout 514 in Figure 48 illustrate the process of loading the magazine loader 10 with ten-
9 rounds clips of bullets 74 using the handle portion 202 as a ram. The following steps can be
10 exemplary performed as follows: Stacking bullet clips 190 inside the slots 462 of guide plates
11 438 in step 486 followed by positioning the handle portion 202 vertically above the bullet clips
12 190 in step 490, then pushing downward the handle portion 202 to push the bullets 74 inside the
13 slots 462 of the guide plates 438 in step 494 ramming, with the handle portion 202 the first load
14 of bullets 74 into the magazine loader 10 in step 498 and repeating the process throughout
15 steps 502, 506, 510 and 514 to load the magazine loader 10.

16 **[00120]** Steps 518 throughout 546 in Figure 60 illustrate the process of loading a
17 magazine 230 with the magazine loader 10 through the use of drawers 162 and 158. Step 518
18 pulls second drawer 162 removing retaining floor 234, the lowest rank of bullets 74 falls to the
19 second floor portion 154 in step 522, the bullets are maintained in the proper position by bullet
20 distancing member 466 and dented member 470 in step 526, in step 530 the second drawer
21 162 is pushed back into its initial position repositioning the retaining floor 234 to prevent further
22 bullets 74 from reaching the second floor portion 154. In step 534 a magazine 230 is positioned
23 on the first floor portion 150 and aligned to receive the lowest rank of bullets 74 therein. In step
24 538 the first drawer 158 is pulled out disengaging the dented member 470 freeing the lowest
25 rank of bullets 74 and moving the push member 274 toward the empty magazine 230 ramming
26 the bullets 74 in the empty magazine 230 in step 542. In step 546, the first drawer 158 is
27 pushed back in, and the loaded magazine 230 is removed allowing the process to be repeated.

28 **[00121]** Steps 560 throughout 584 in Figure 68 illustrate the process of switching guide
29 plates 438 with adaptor plates 442 and loading the magazine loader 10 with ammunition
30 container 50 or alternative bullet container 430. The following steps can be exemplary
31 performed as follows in this embodiment with an alternative bullet container 430: Removing the
32 fasteners 454 to remove the guide plates 438 in step 560 followed by disassembling the handle
33 portion 202 in step 564 then the adaptor supports plate 442 are positioned to replace the guide

1 plates 438 and secured with fasteners 454 in step 568, the bullet container 430 is positioned
2 atop the magazine loader 10 in step 572 and the bottom portion 434 of the container is removed
3 in step 576, the bullets 74 are free to fall in the slots 98 of the adaptor plates 442 and then in
4 rails 94 into the magazine loader 10 in step 580 leaving the magazine loader 10 fully loaded
5 with bullets in step 584

6 **[00122]** While the invention has been described in connection with what is presently
7 considered to be the most practical and preferred embodiments, it is to be understood that the
8 invention is not to be limited to the disclosed embodiments and elements, but, to the contrary, is
9 intended to cover various modifications, combinations of features, equivalent arrangements, and
10 equivalent elements included within the spirit and scope of the appended claims. Furthermore,
11 the dimensions of features of various components that may appear on the drawings are not
12 meant to be limiting, and the size of the components therein can vary from the size that may be
13 portrayed in the figures herein. Thus, it is intended that the present invention covers the
14 modifications and variations of the invention, provided they come within the scope of the
15 appended claims and their equivalents.

16

What is claimed is:

1. An ammunition container comprising:

a body including a pair of horizontal wall portions, two vertical lateral wall portions, a front vertical wall portion and a back vertical wall portion collectively forming a container volume for receiving ammunitions therein; and

a plurality of internal walls parallelly disposed between the two lateral wall portions in the body, the internal walls being sized and designed to define a plurality of vertical ammunition channels, each vertical ammunition channel being configured to accommodate a stack of ammunitions therein, at least one of the pair of horizontal wall portions being removable to empty the ammunitions from the plurality of vertical ammunition channels.

2. The ammunition container of claim 1, wherein the ammunition container is disposable.

3. The ammunition container of any one of claim 1 and claim 2, wherein a bottom horizontal wall portion is removable.

4. The ammunition container of any one of claim 1 to claim 3, wherein the at least one of the pair of horizontal wall portions is secured with a removable securing strip.

5. The ammunition container of any one of claim 1 to claim 4, wherein the at least one of the pair of horizontal wall portions is laterally slidable to progressively open the vertical ammunition channels and allow free fall of the ammunitions from the vertical ammunition channels that are not enclosed by the at least one of the pair of horizontal wall portions.

6. The ammunition container of any one of claim 1 to claim 5, wherein the ammunition container is including 15 vertical ammunition channels.

7. The ammunition container of any one of claim 1 to claim 6, wherein each of the plurality of internal walls is substantially planar.

8. The ammunition container of any one of claim 1 to claim 7, wherein the vertical ammunition channels are spaced apart with an intervening distance compatible with cooperating openings in a magazine loader.

1 9. The ammunition container of any one of claim 1 to claim 8, wherein the ammunitions are
2 slide fitted in the plurality of vertical ammunition channels allowing free fall of the ammunitions
3 from the plurality of vertical ammunition channels in a corresponding magazine loader.

4 10. The ammunition container of any one of claim 1 to claim 9, further comprising a handle
5 to carry the ammunition container.

6 11. A method for transferring ammunitions from an ammunition container to a magazine
7 loader, the ammunition container comprising:

8 a body including a pair of horizontal wall portions, two vertical lateral wall portions, a
9 front vertical wall portion and a back vertical wall portion collectively forming a container volume
10 for receiving ammunitions therein; and

11 a plurality of internal walls parallelly disposed between the two lateral wall portions in the
12 body, the internal walls being sized and designed to define a plurality of vertical ammunition
13 channels, each vertical ammunition channel being configured to accommodate a stack of
14 ammunitions therein, at least one of the pair of horizontal wall portions being removable to
15 empty the ammunitions from the plurality of vertical ammunition channels,

16 the method comprising

17 superposing the ammunition container over a magazine loader;

18 sliding a horizontal wall portion between the ammunition container and the magazine
19 loader for freeing the plurality of vertical ammunition channels; and

20 dropping ammunitions from each vertical ammunition channel in corresponding openings
21 of the magazine loader.

22 12. The method for transferring ammunitions of claim 11, further comprising removing a
23 securing strip for unsecuring the horizontal wall portion and free the plurality of vertical
24 ammunition channels.

25 13. The method for transferring ammunitions of any one of claim 11 and claim 12, wherein
26 the horizontal wall portion is progressively slid to progressively open the plurality of vertical
27 ammunition channels.

1 14. A kit comprising:

2 an ammunition container comprising:

3 a body including a pair of horizontal wall portions, two vertical lateral wall portions, a
4 front vertical wall portion and a back vertical wall portion collectively forming a container volume
5 for receiving ammunitions therein; and

6 a plurality of internal walls parallelly disposed between the two lateral wall portions in the
7 body, the internal walls being sized and designed to define a plurality of vertical ammunition
8 channels, each vertical ammunition channel being configured to accommodate a stack of
9 ammunitions therein, at least one of the pair of horizontal wall portions being removable to
10 empty the ammunitions from the plurality of vertical ammunition channels,

11 the kit further comprising

12 a magazine loader for loading ammunitions from the ammunition container in
13 magazines.

14 15. The kit of claim 14, wherein the ammunition container is disposable.

15 16. The kit of any one of claim 14 and claim 15, wherein a bottom horizontal wall portion is
16 removable.

17 17. The kit of any one of claim 14 and claim 16, wherein the at least one of the pair of
18 horizontal wall portions is secured with a removable securing strip.

19 18. The kit of any one of claim 14 and claim 17, wherein the ammunition container is
20 including 15 vertical ammunition channels.

21 19. The kit of any one of claim 14 and claim 18, wherein the vertical ammunition channels
22 are spaced apart with an intervening distance compatible with cooperating openings in a
23 magazine loader.

24 20. The kit of any one of claim 14 and claim 19, wherein the ammunitions are slide fitted in
25 the plurality of vertical ammunition channels allowing free fall of the ammunitions from the
26 plurality of vertical ammunition channels in a corresponding magazine loader.

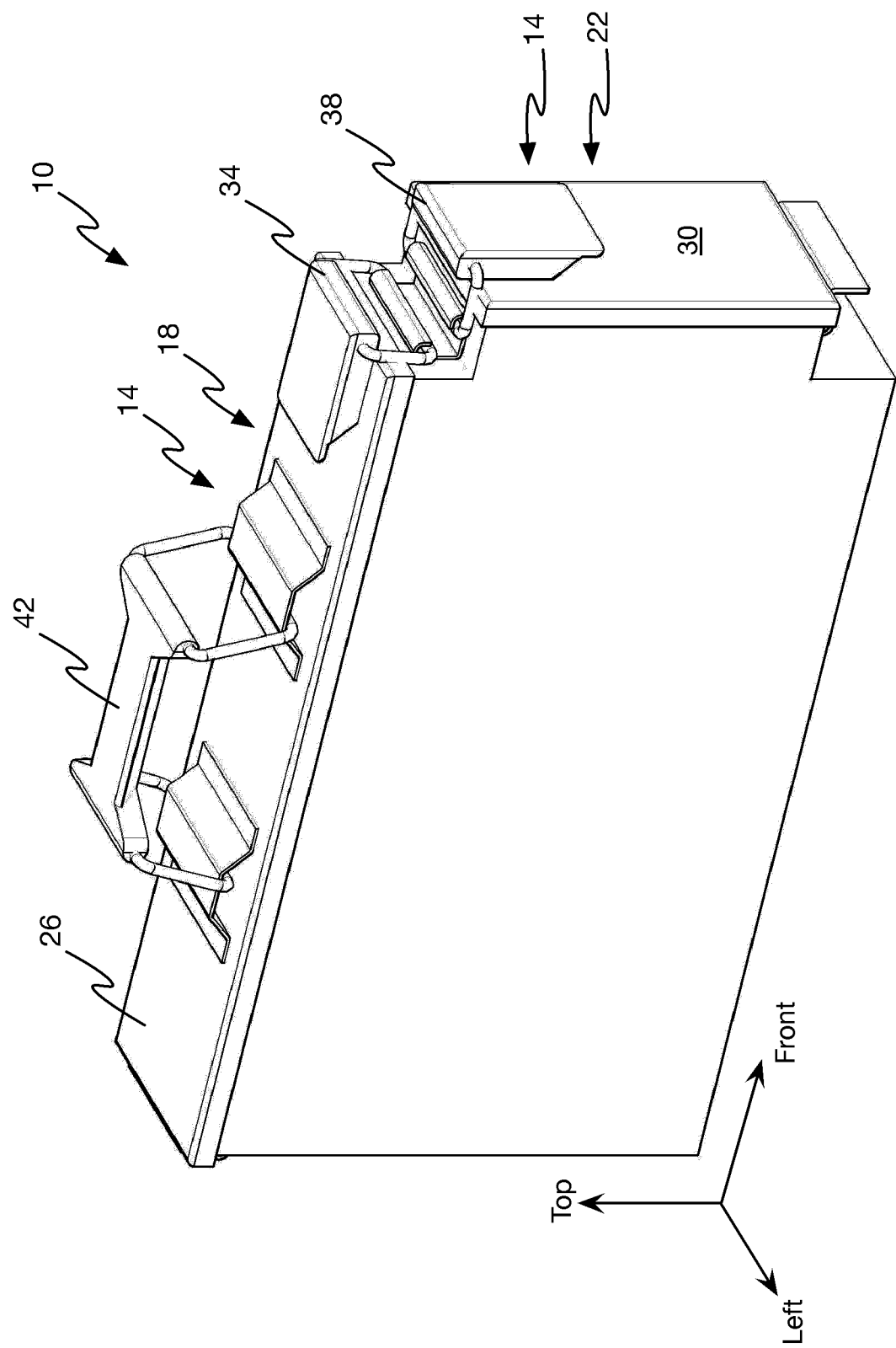
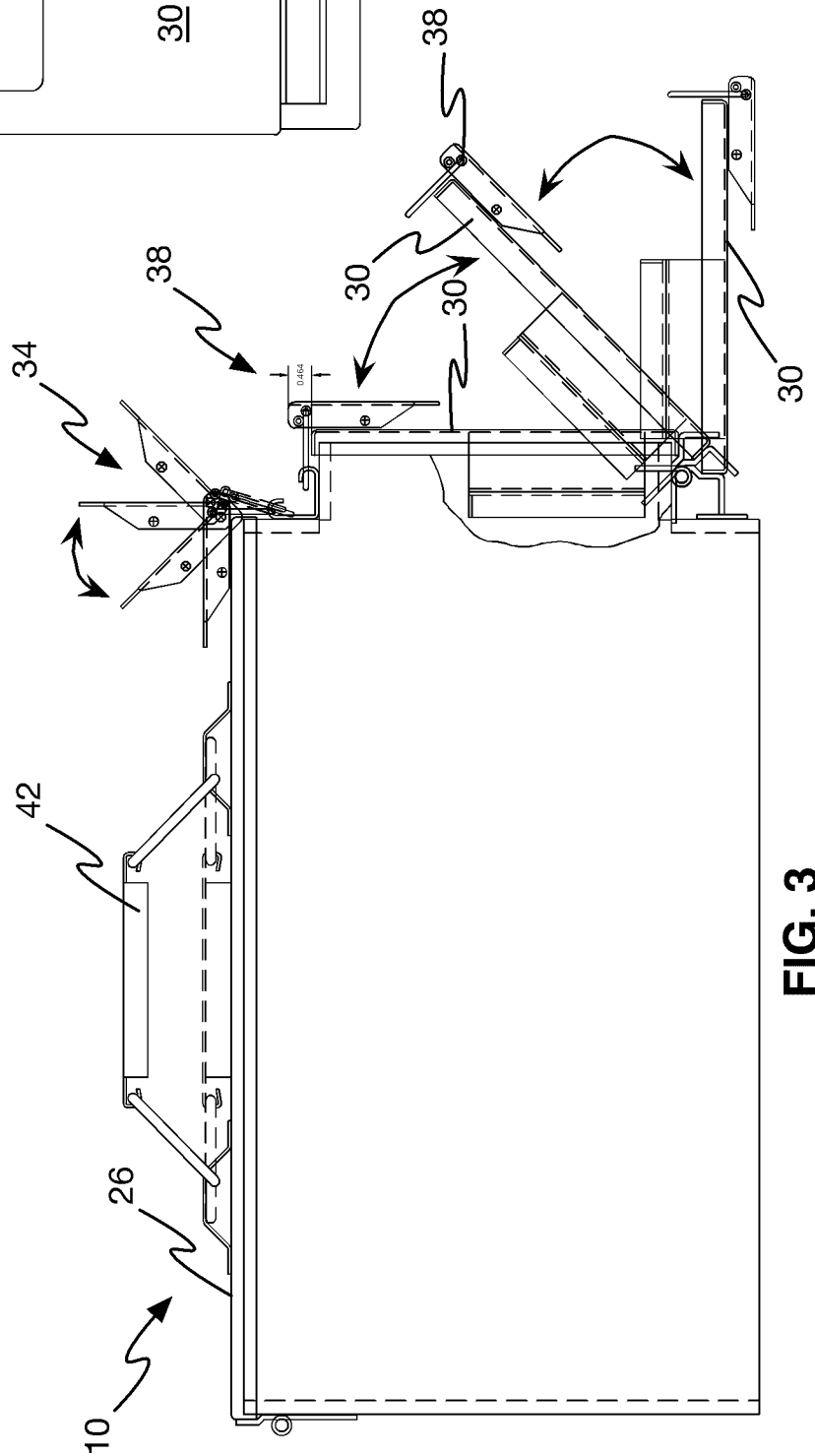
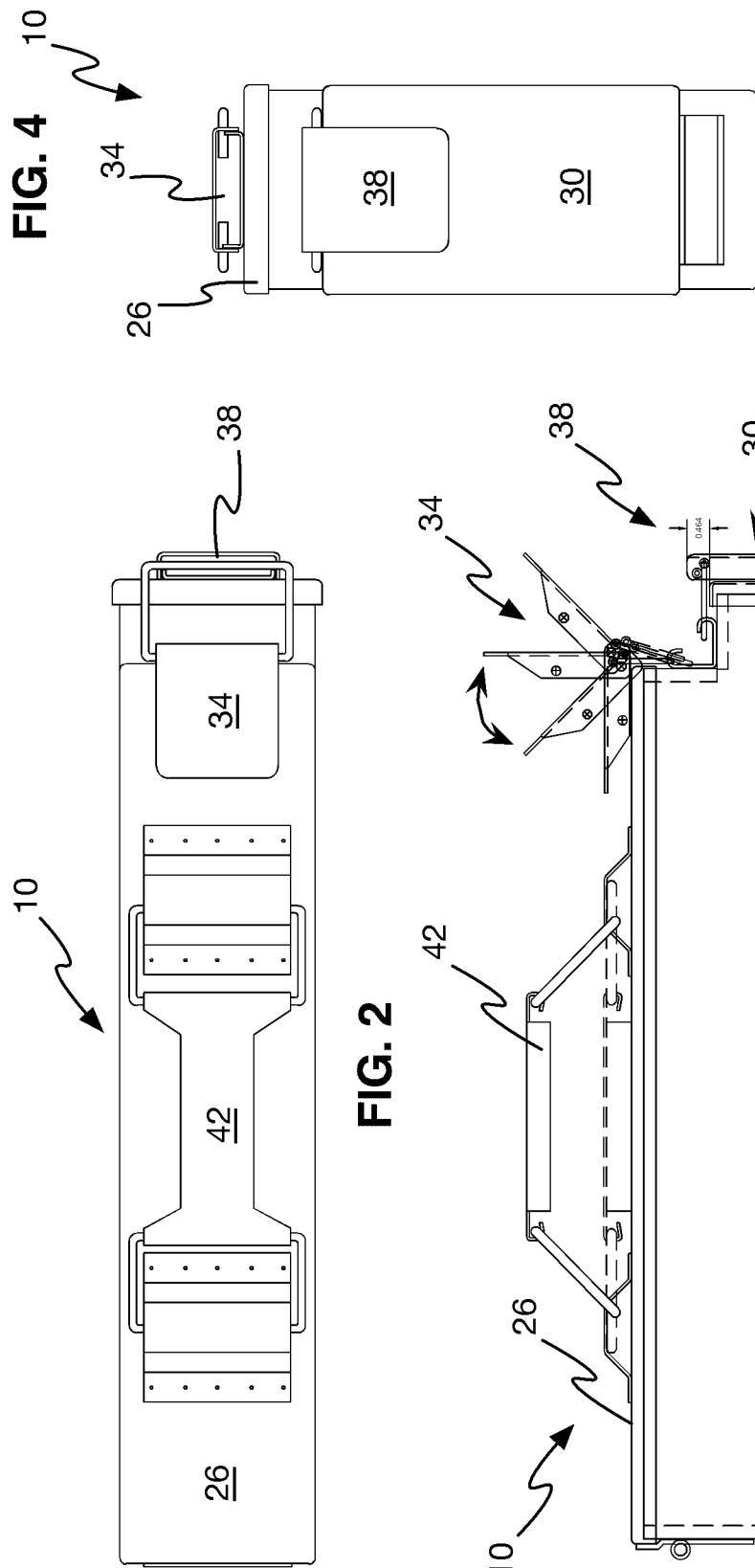
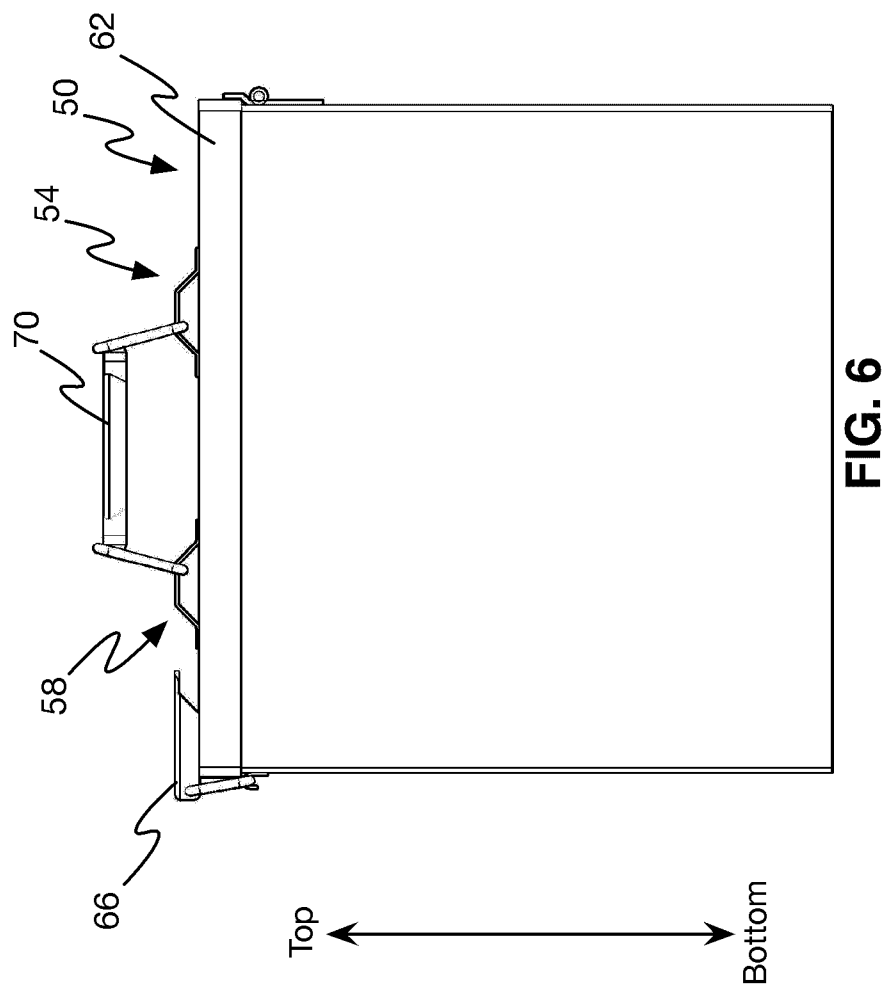
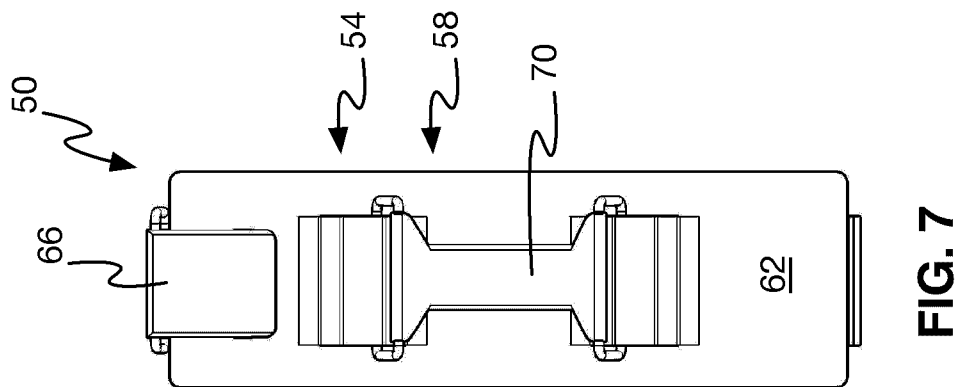
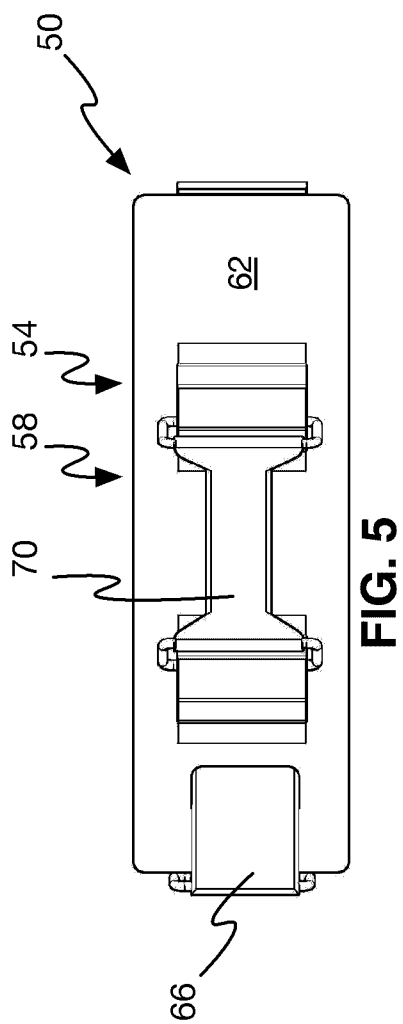


FIG. 1





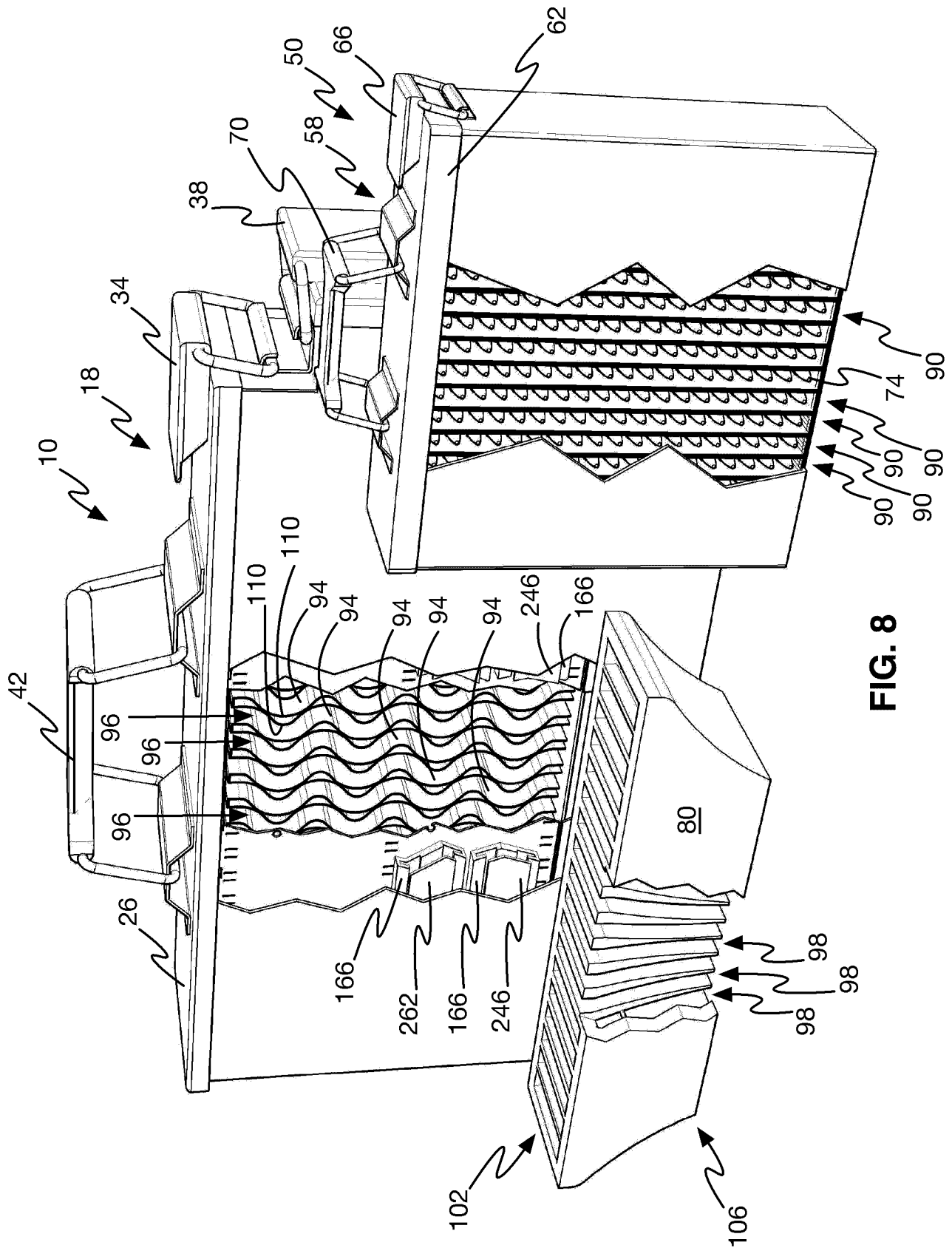


FIG. 8

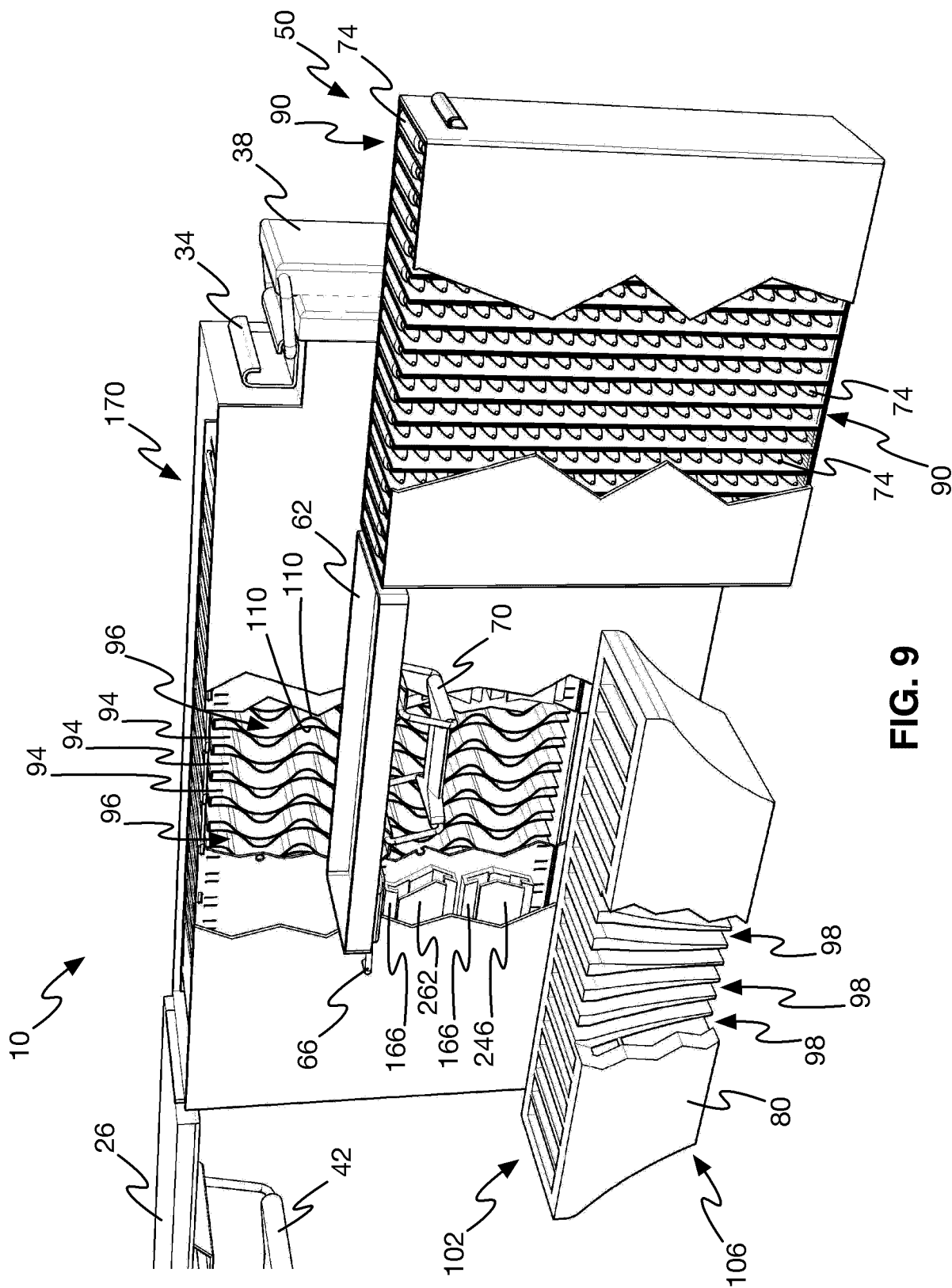
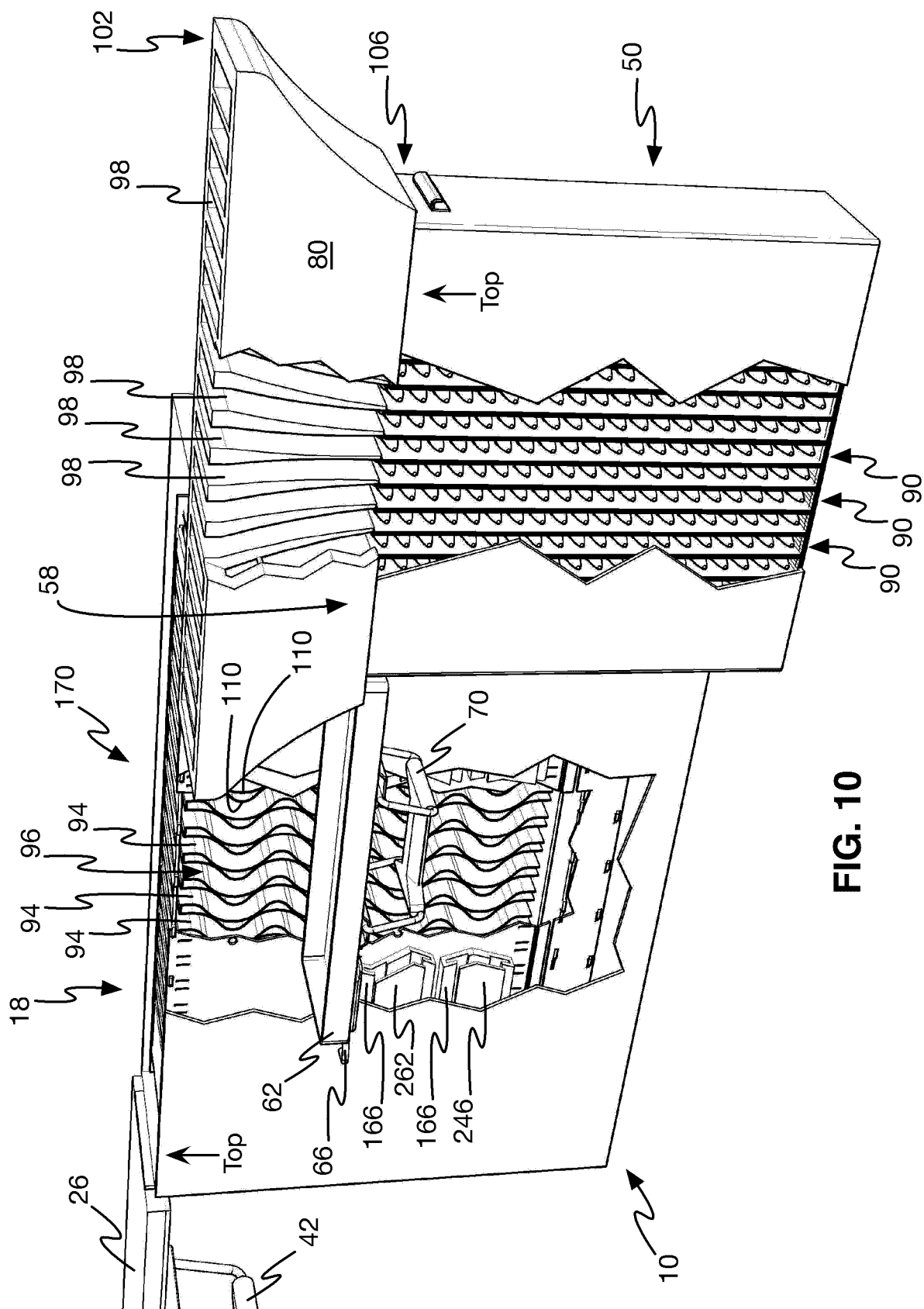
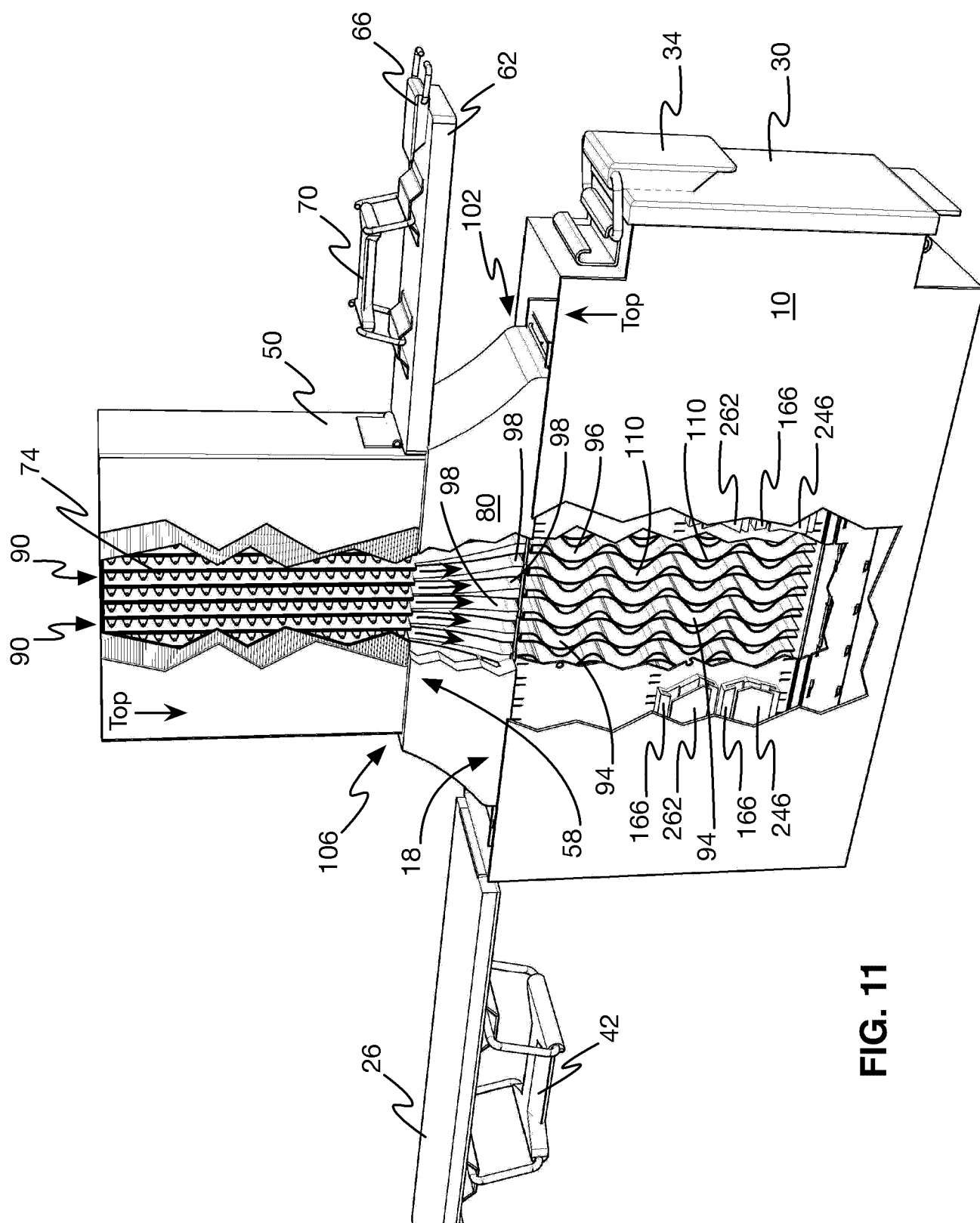


FIG. 9





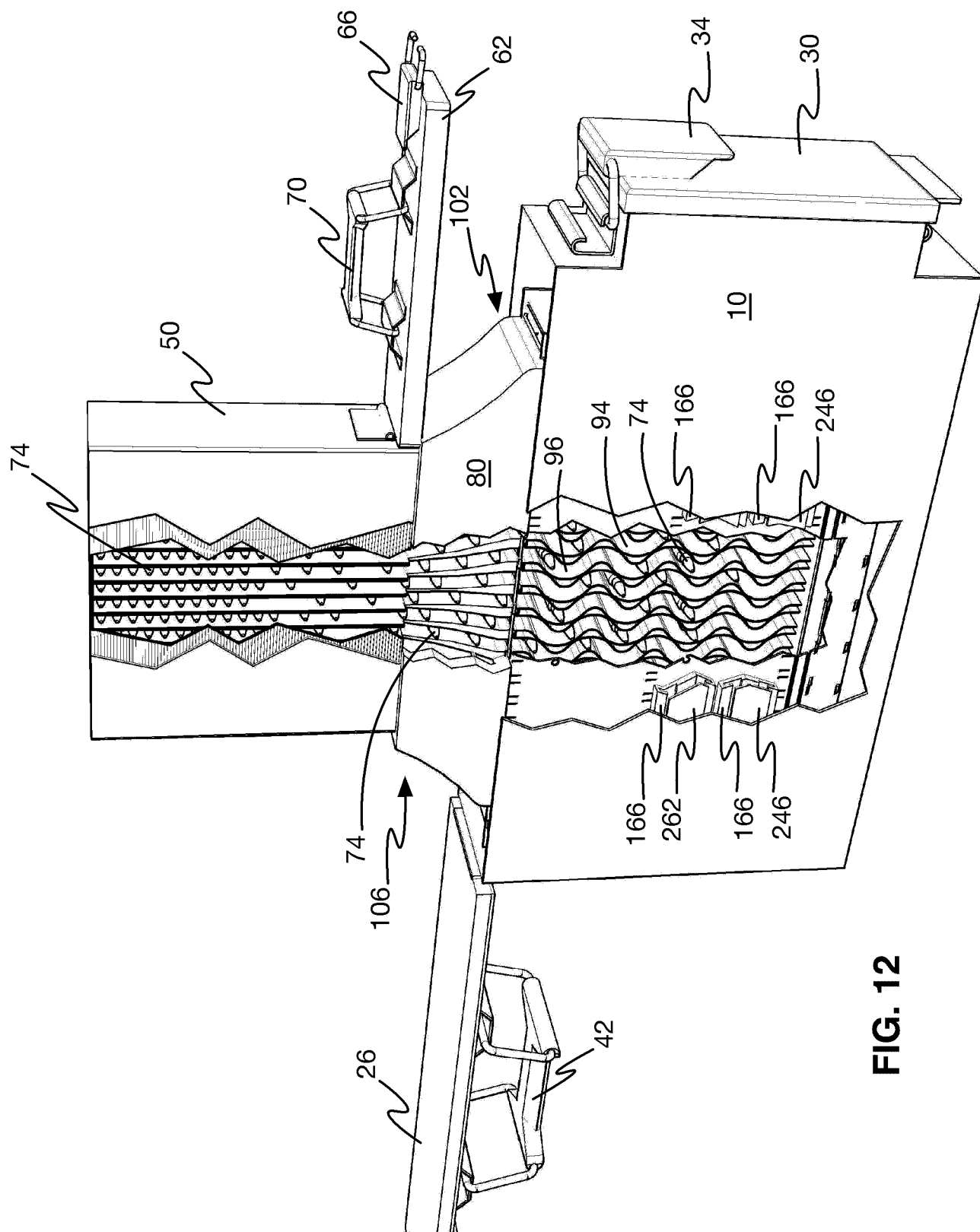


FIG. 12

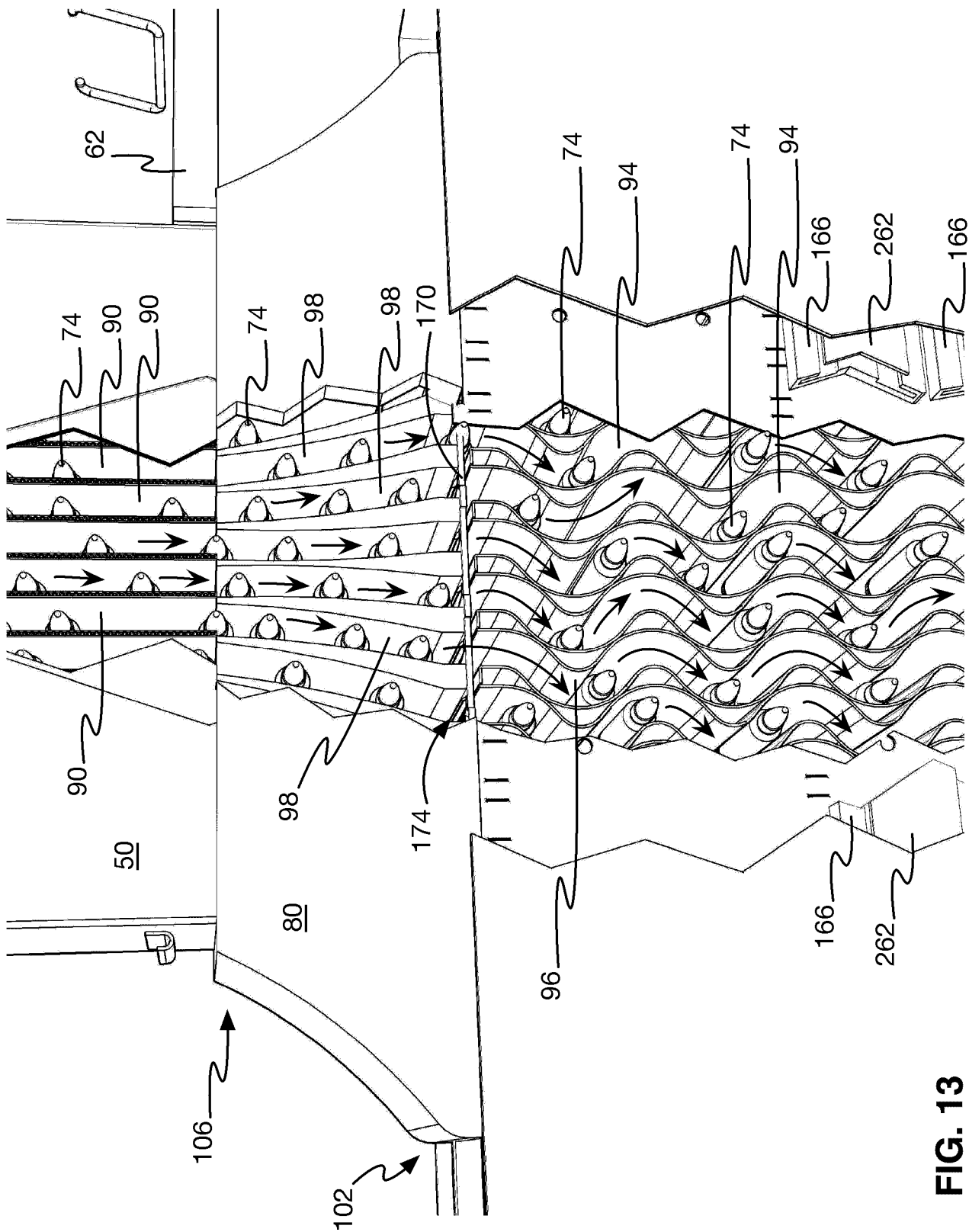


FIG. 13

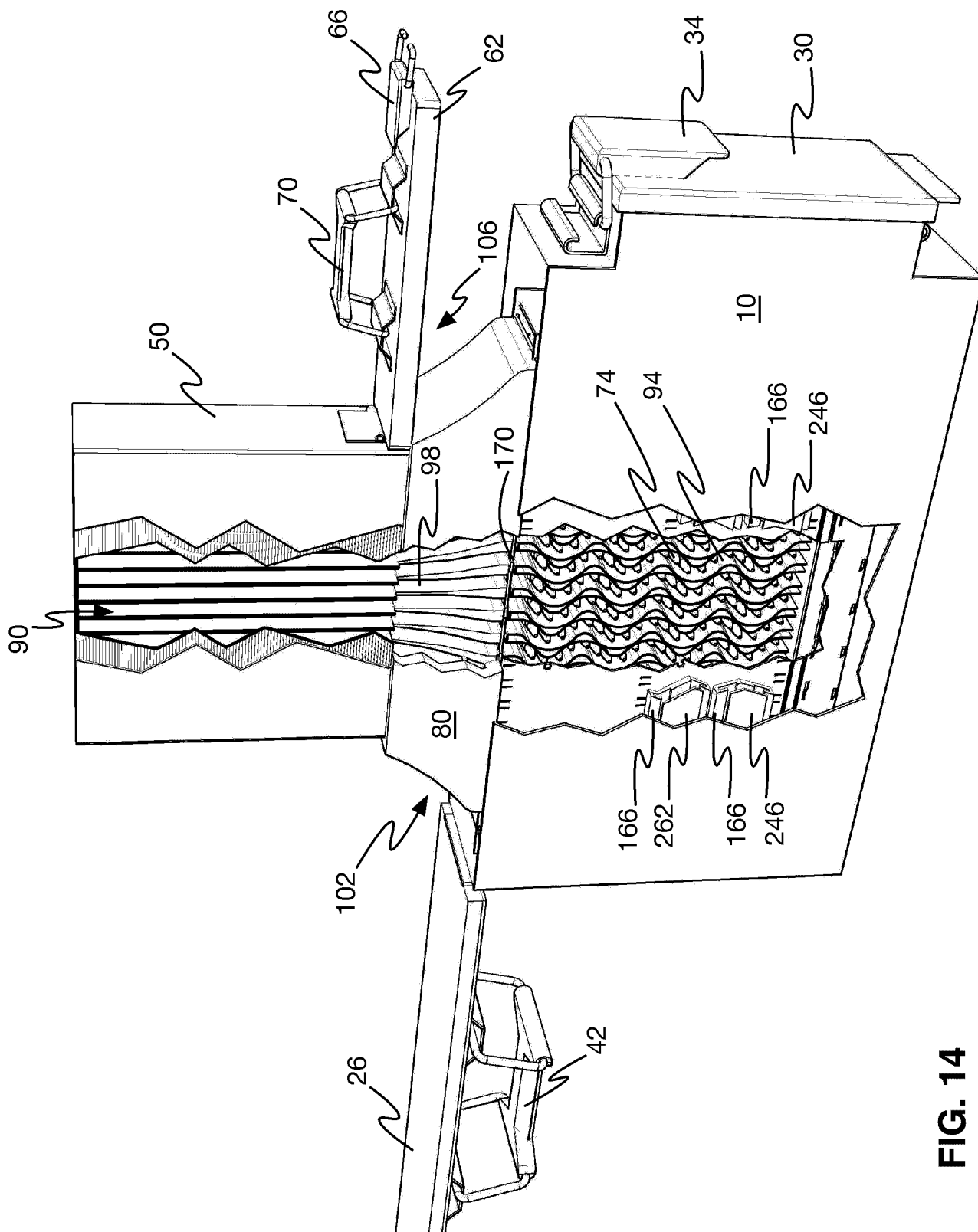


FIG. 14

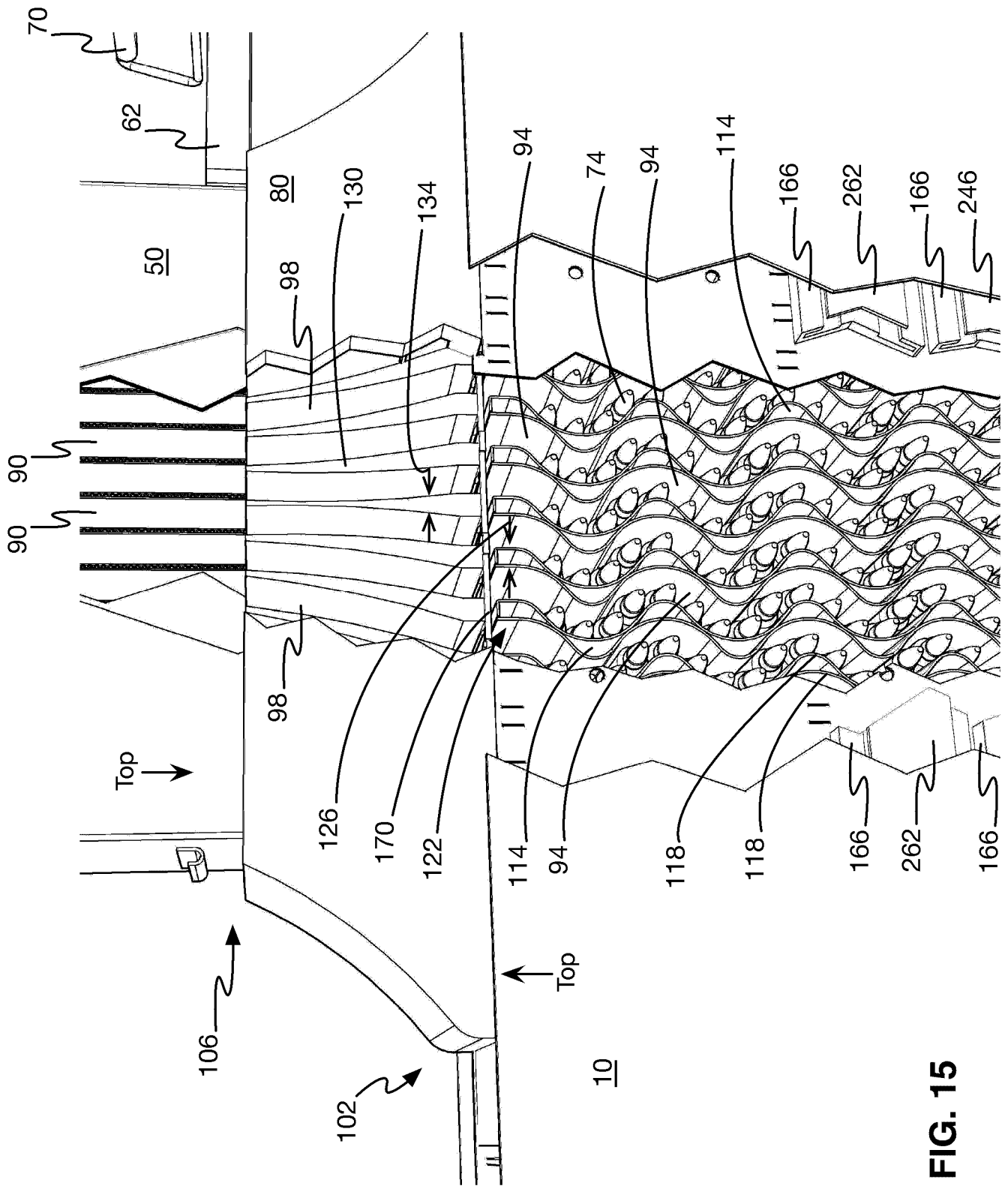


FIG. 15

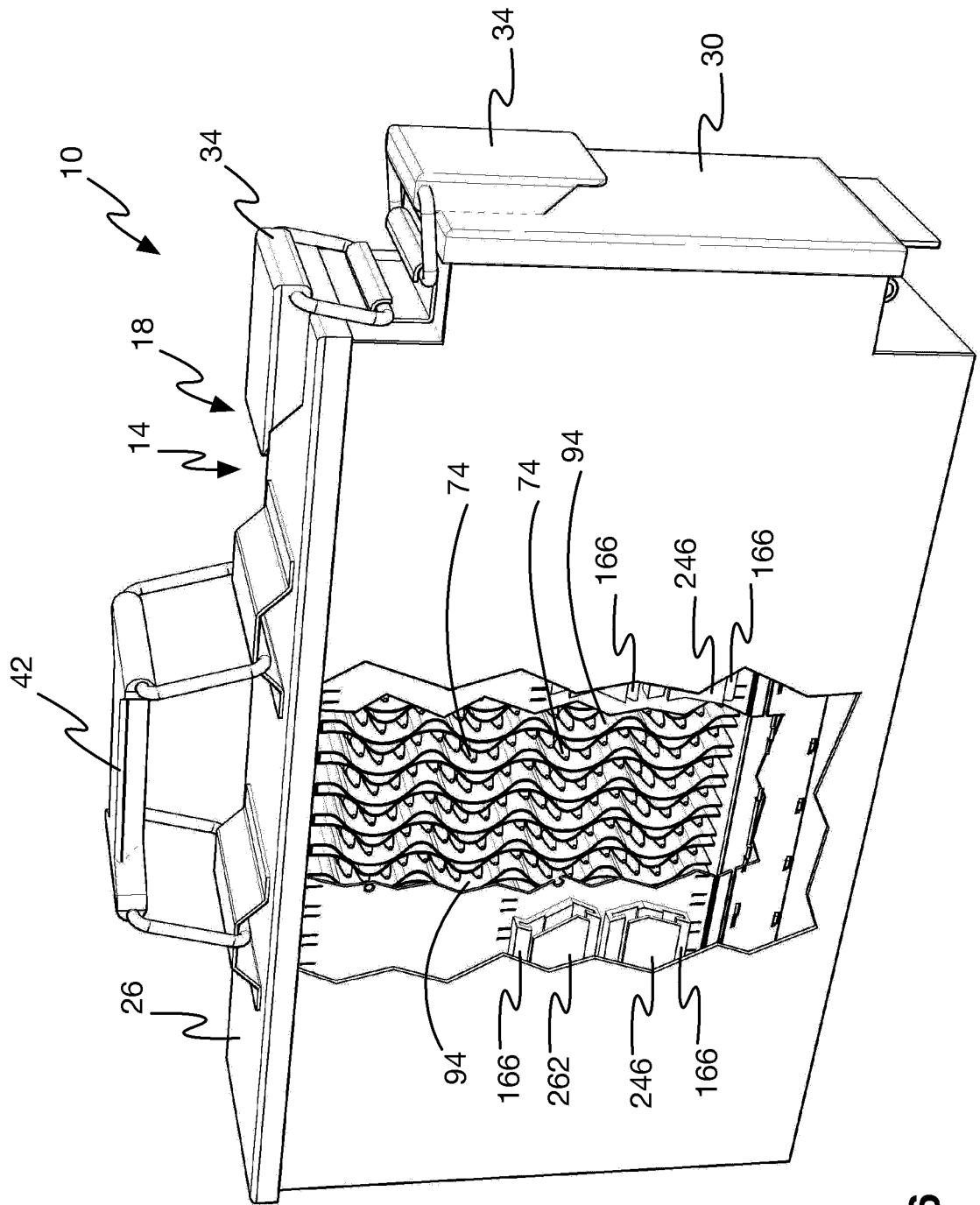


FIG. 16

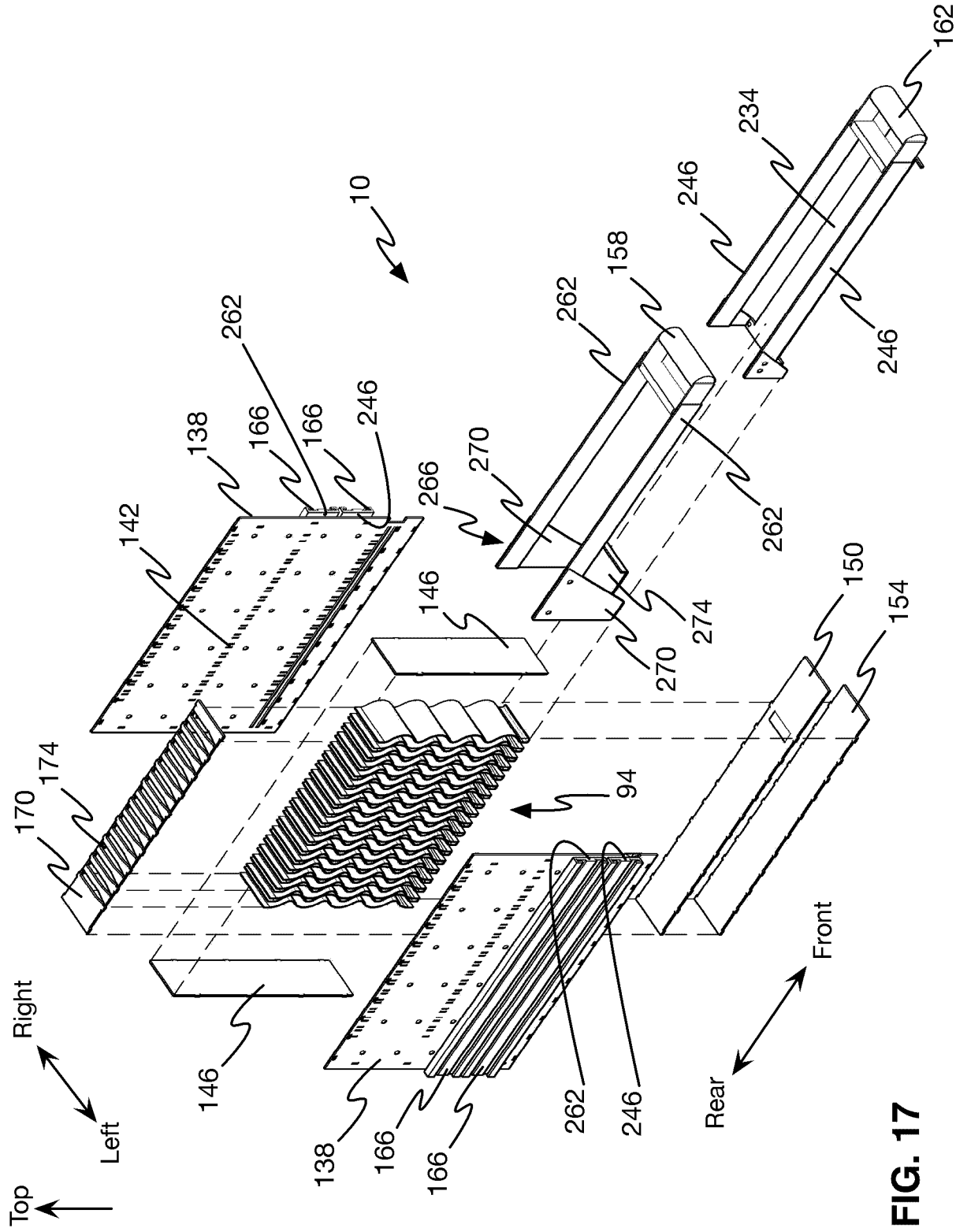


FIG. 17

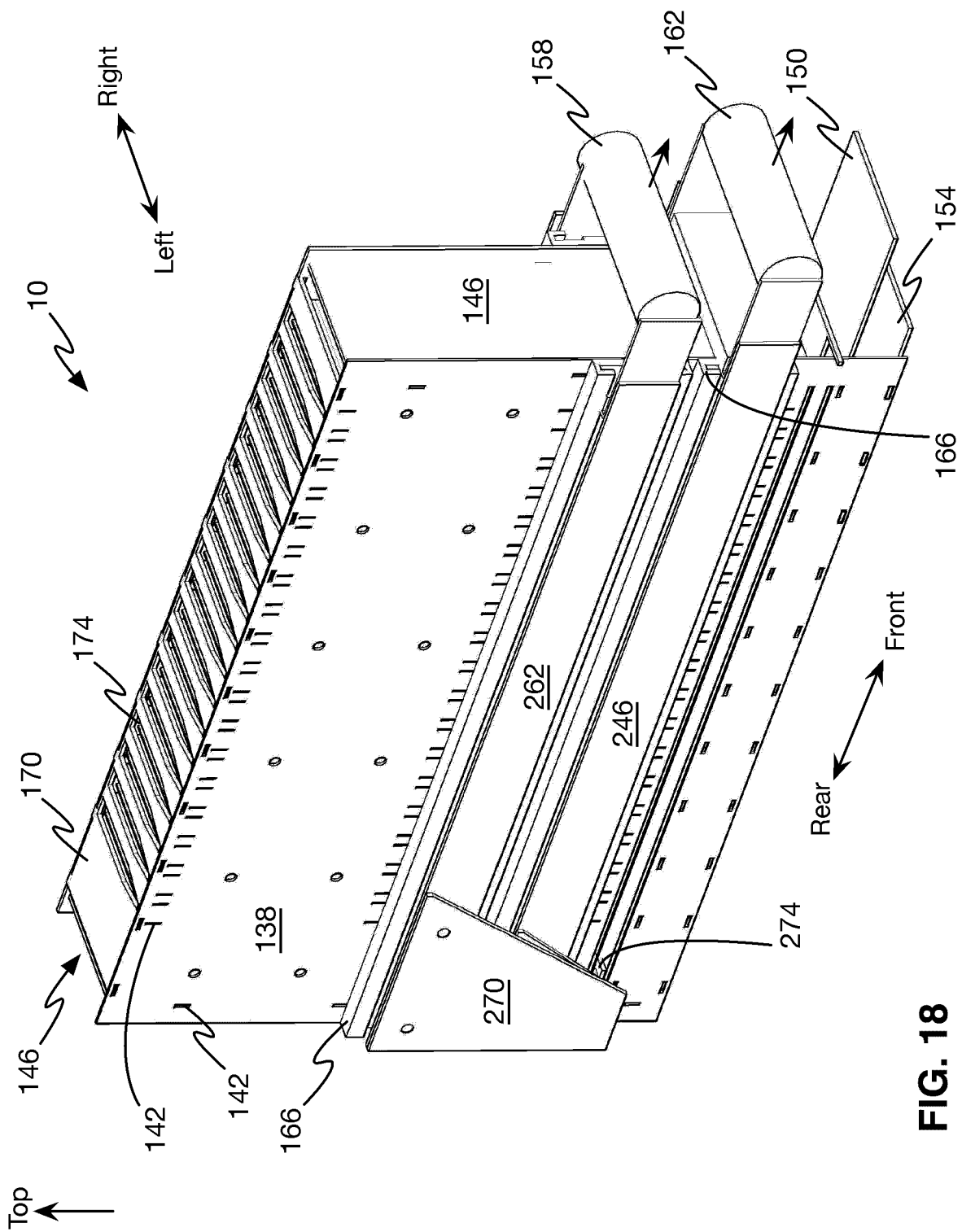


FIG. 18

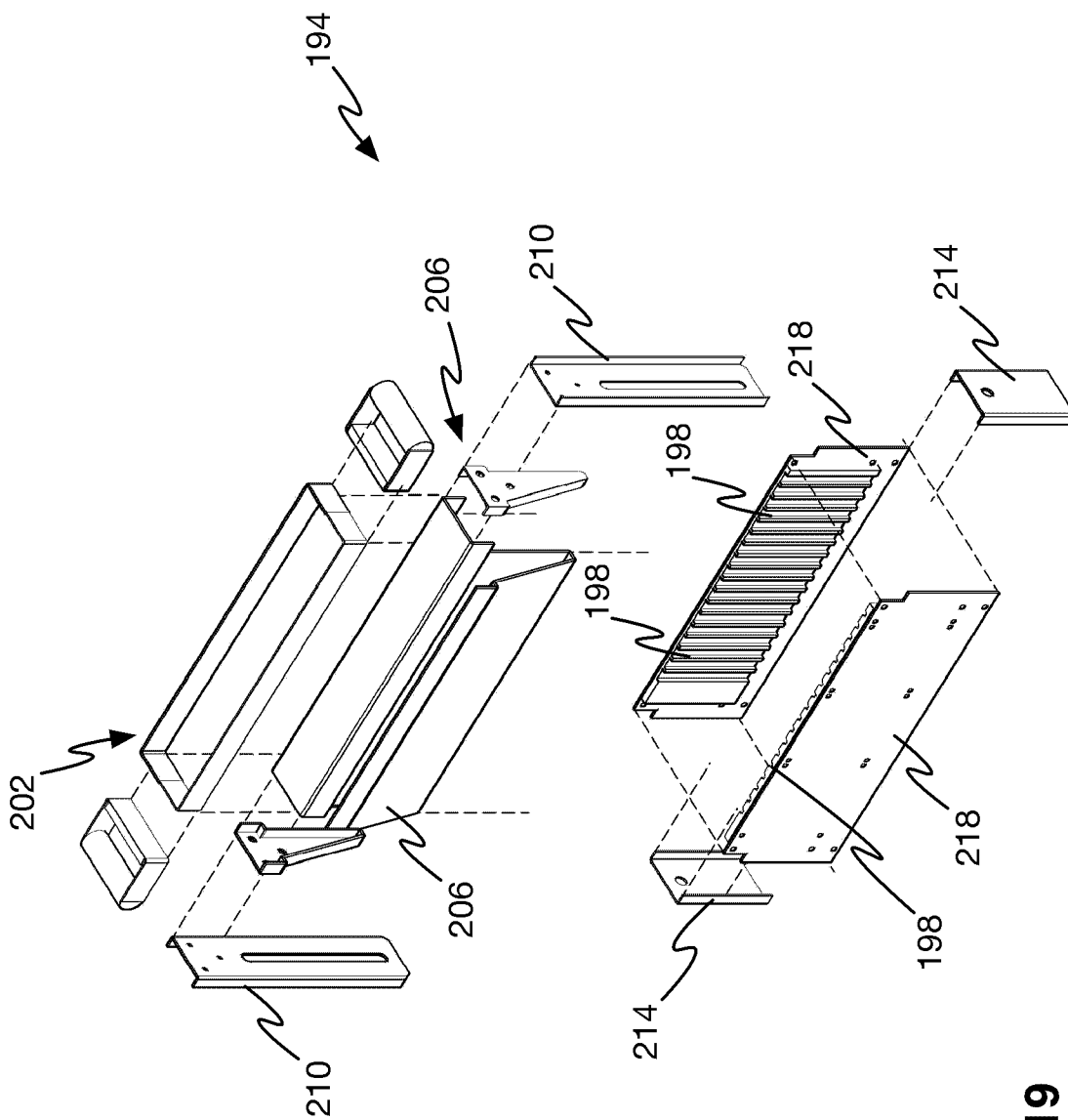


FIG. 19

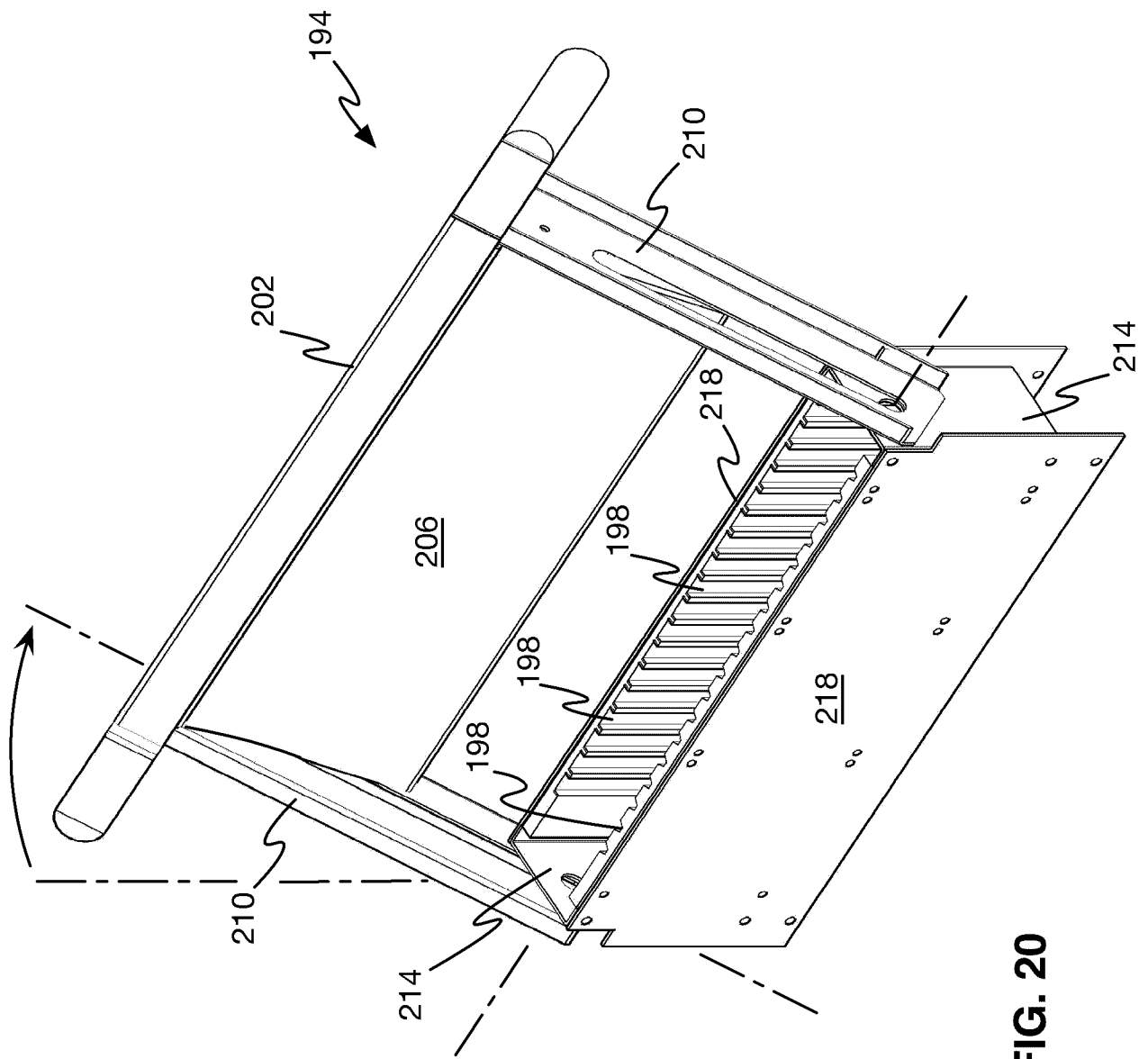


FIG. 20

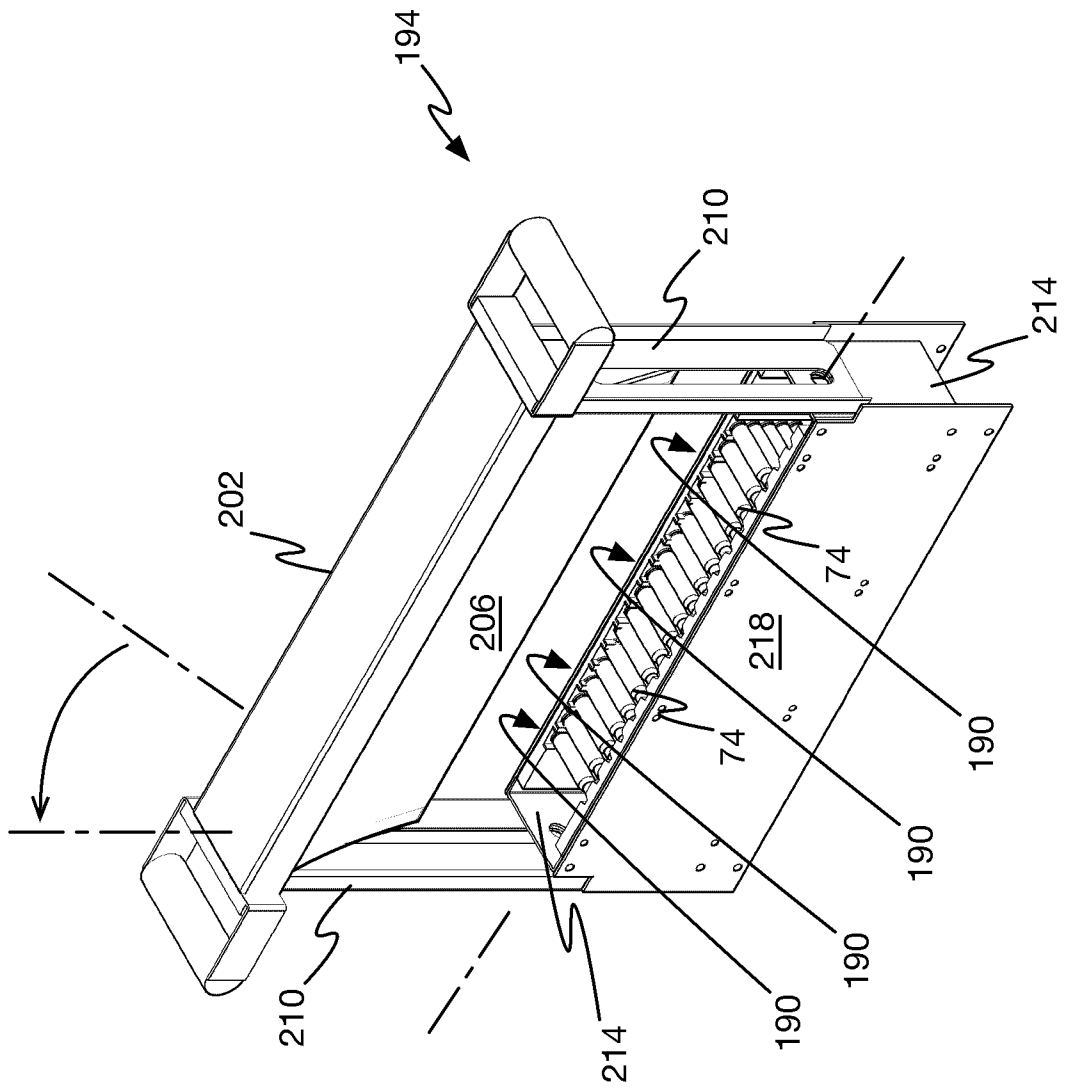


FIG. 21

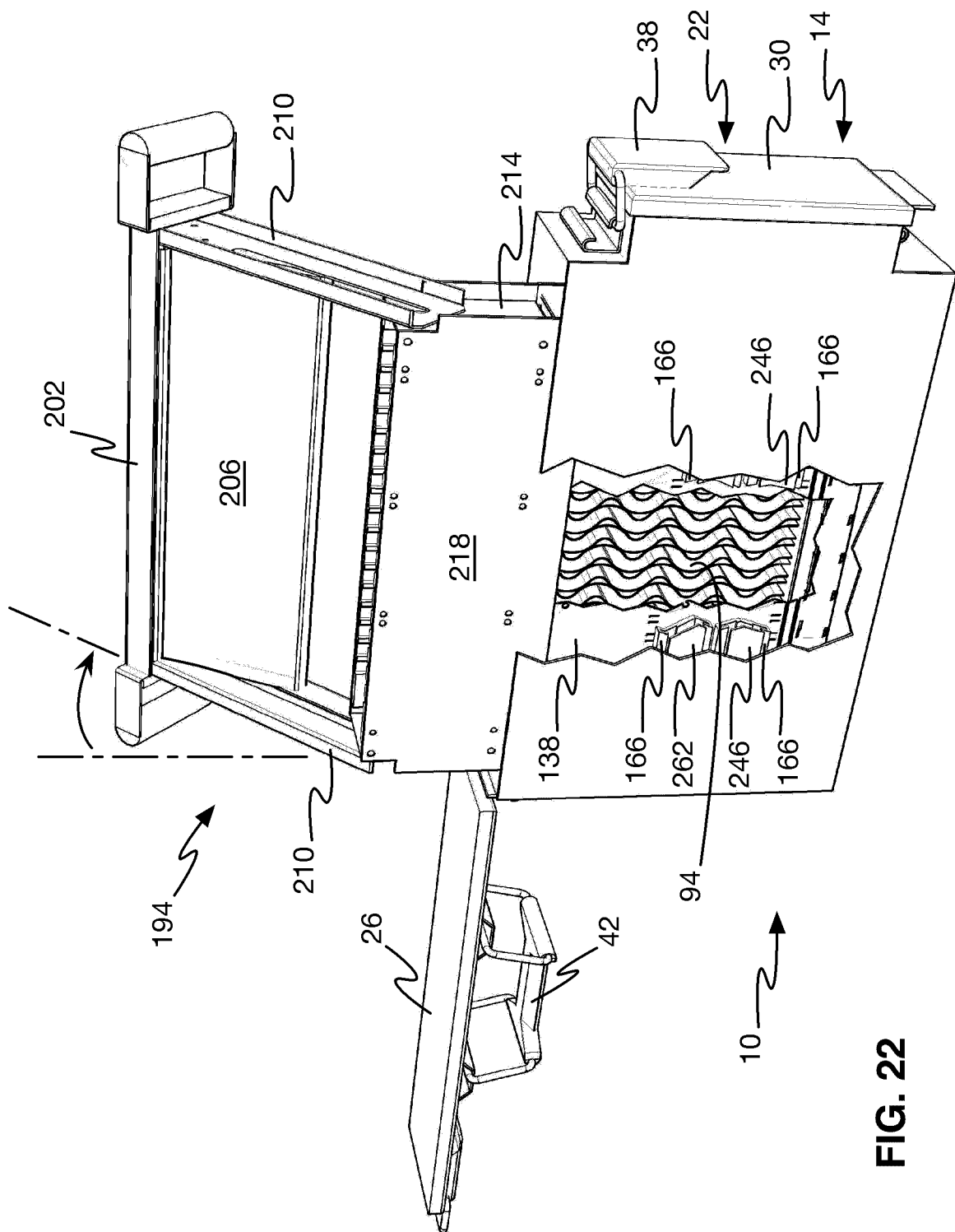


FIG. 22

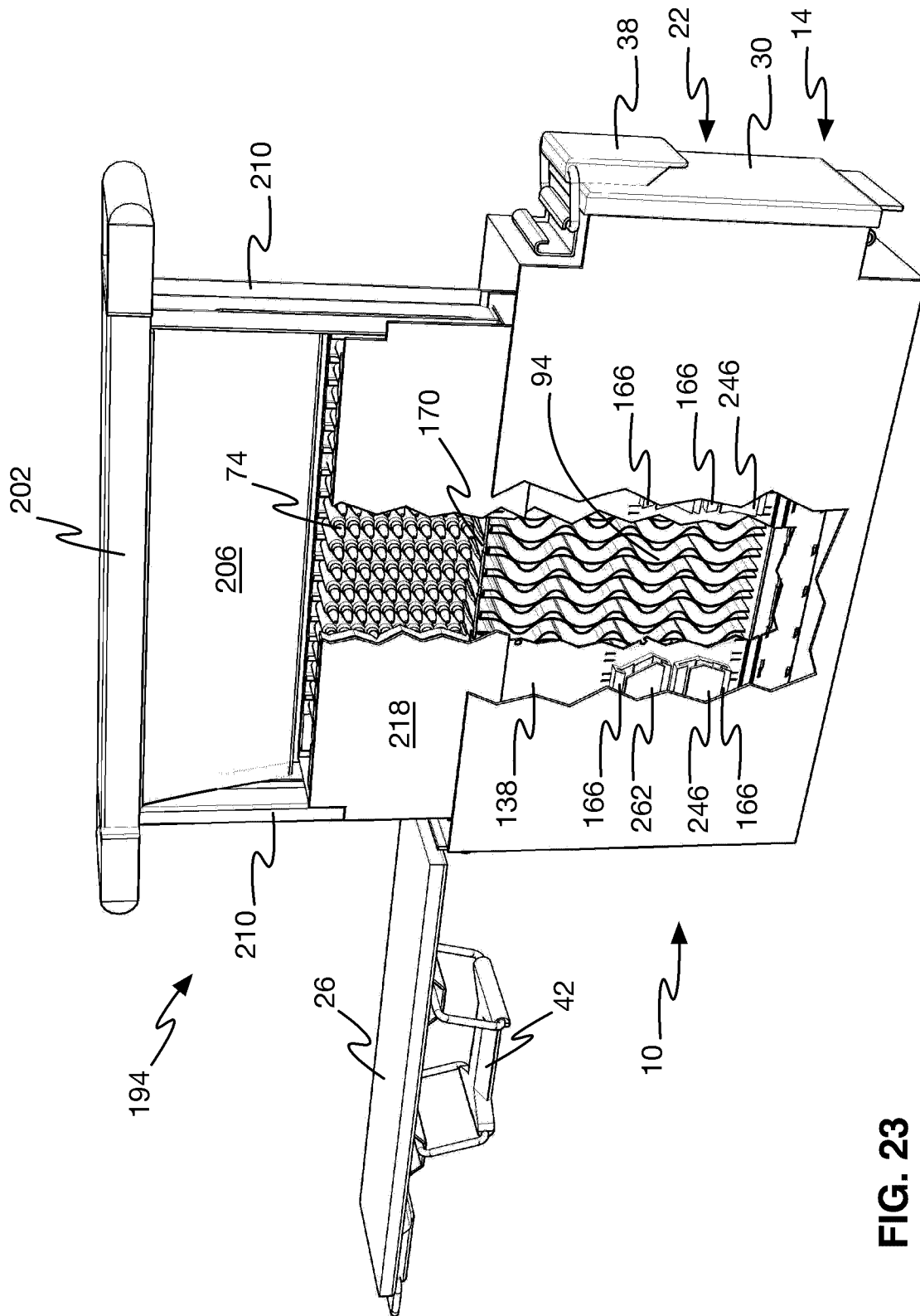


FIG. 23

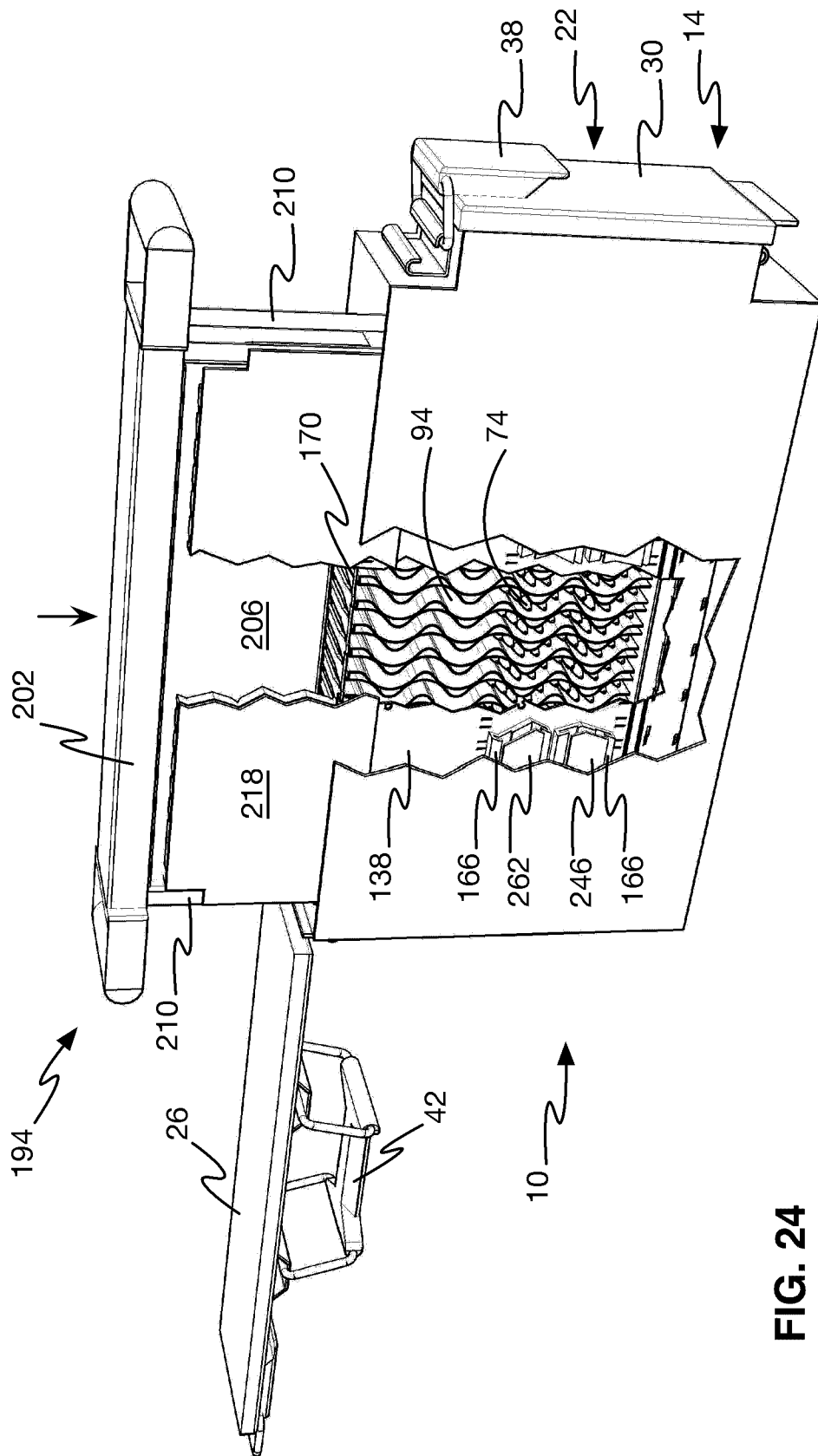


FIG. 24

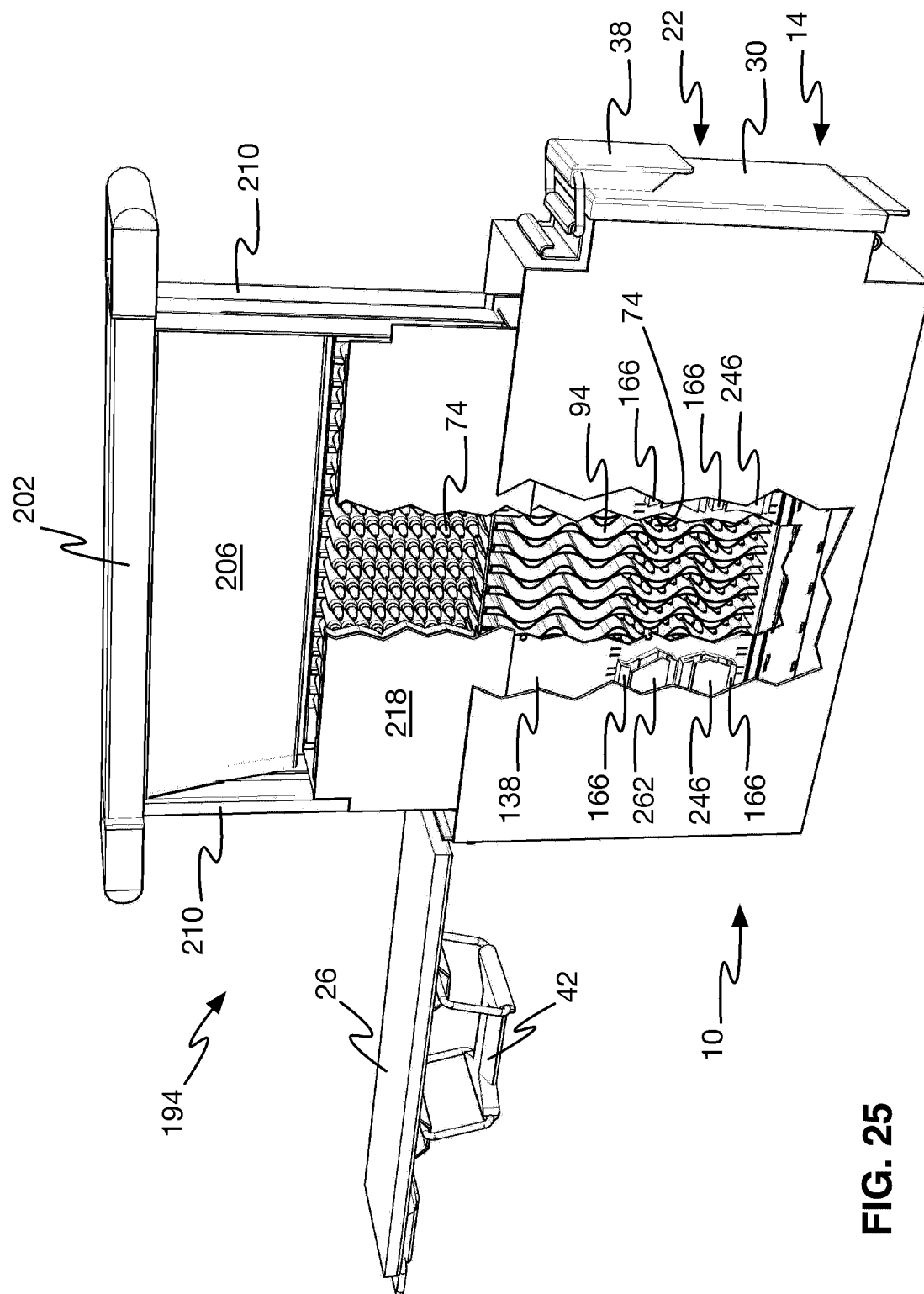


FIG. 25

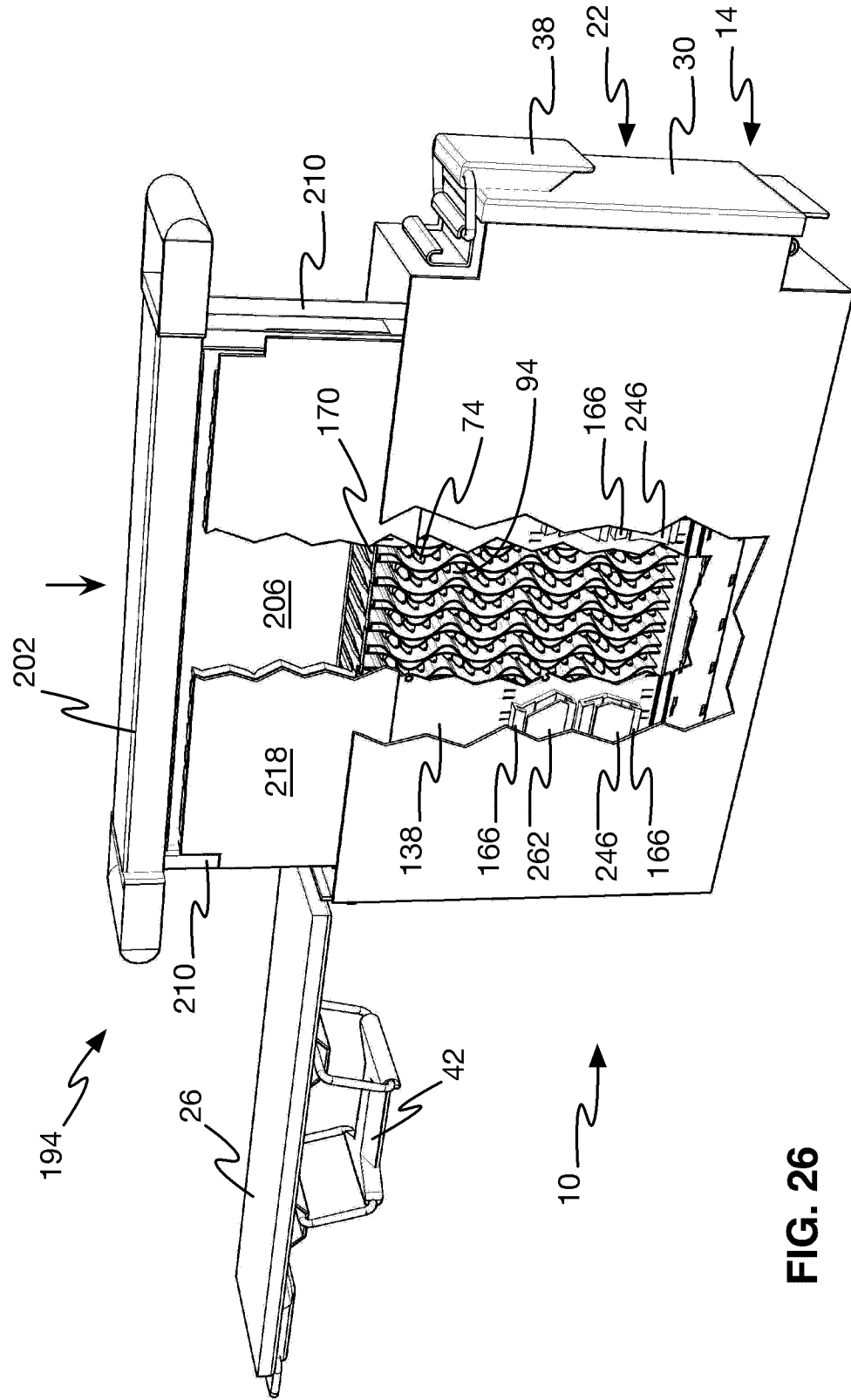
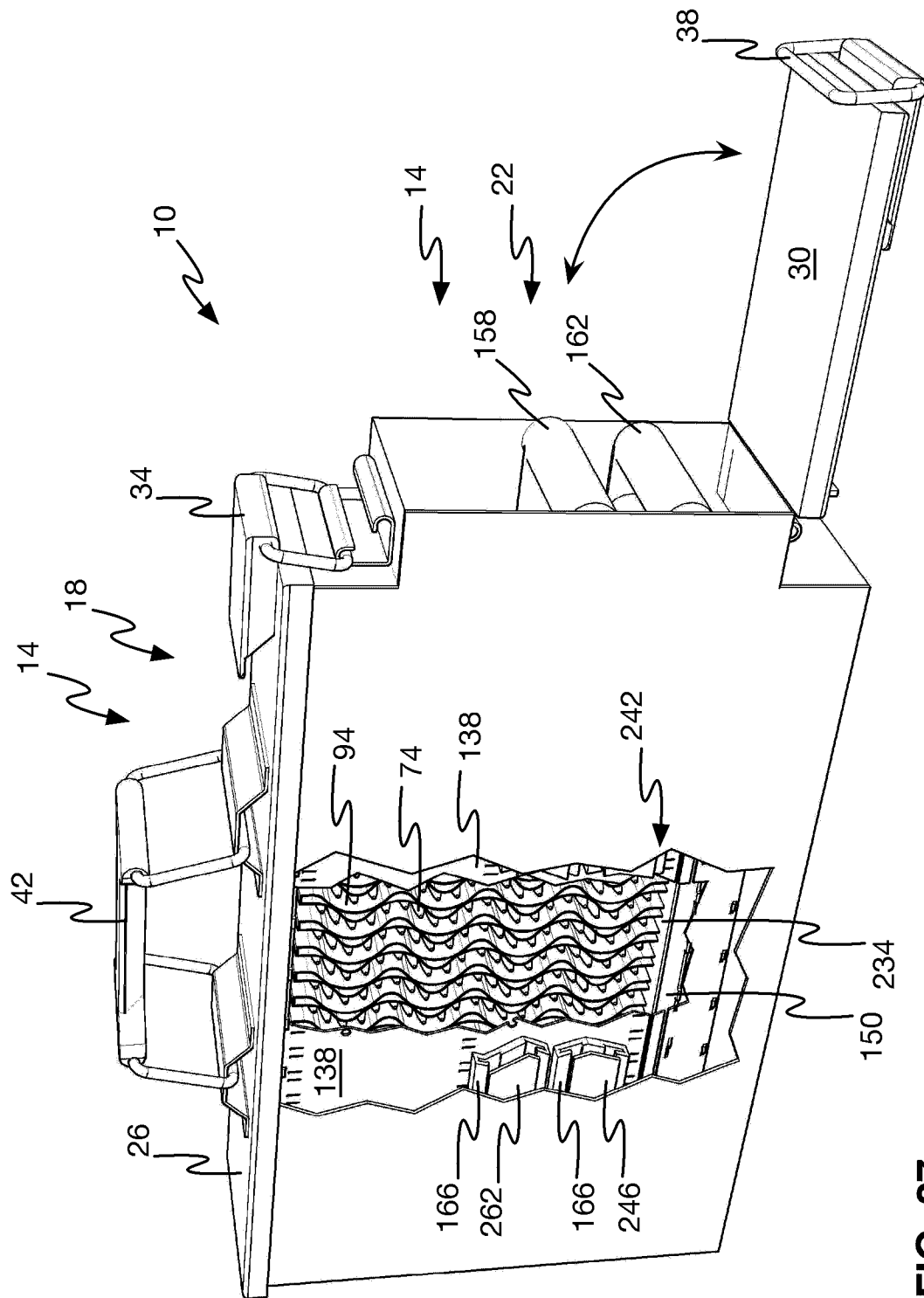
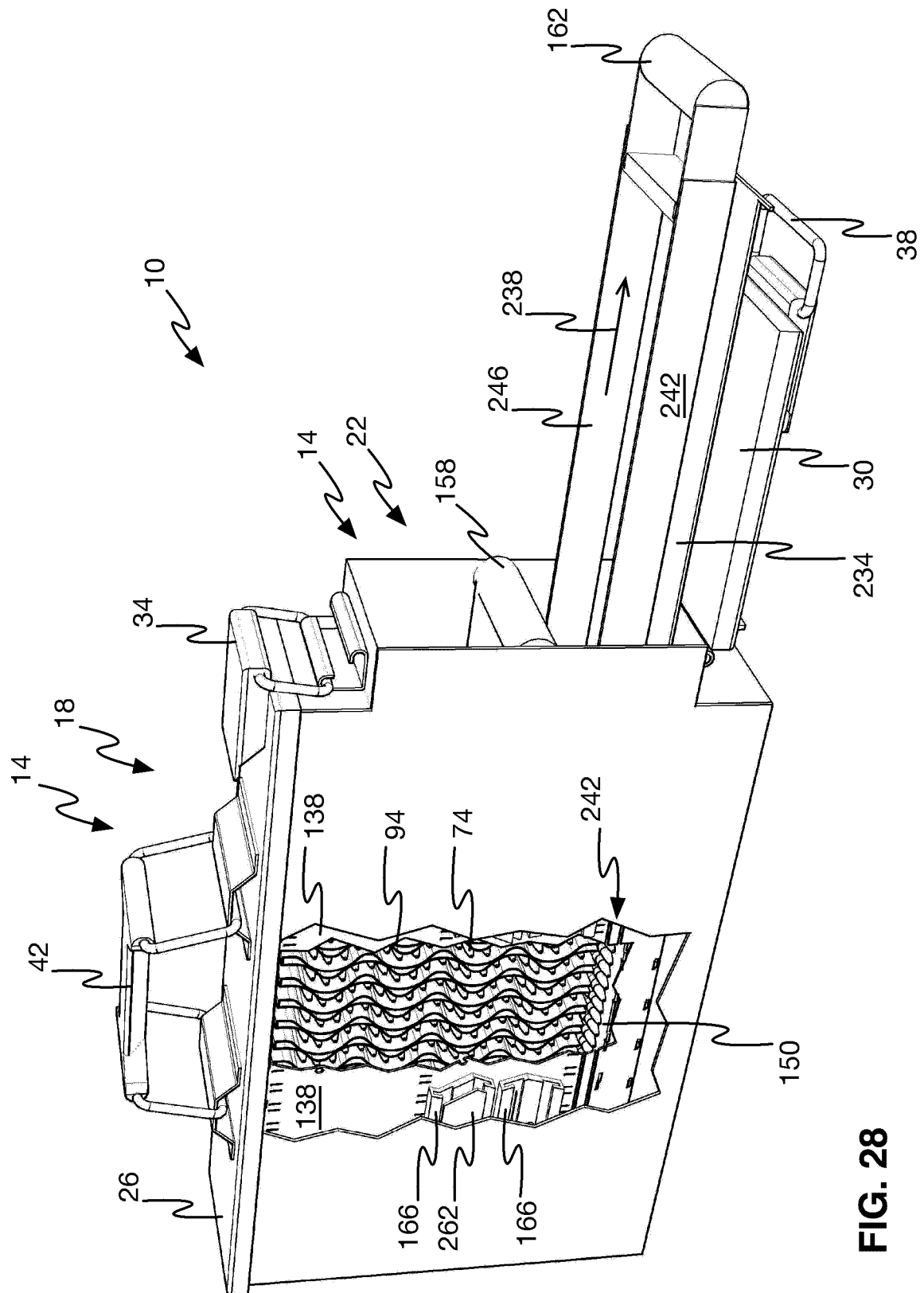


FIG. 26





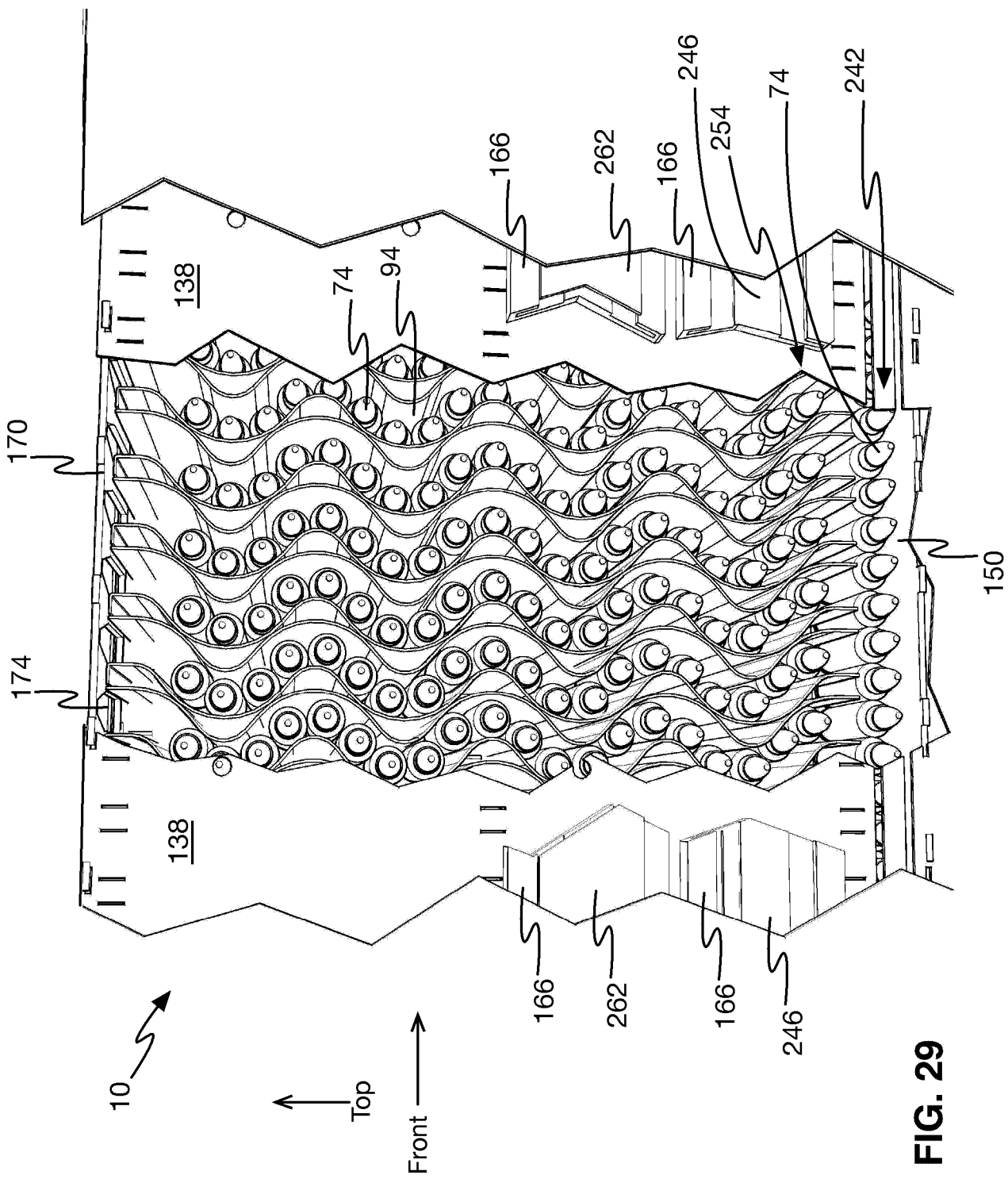


FIG. 29

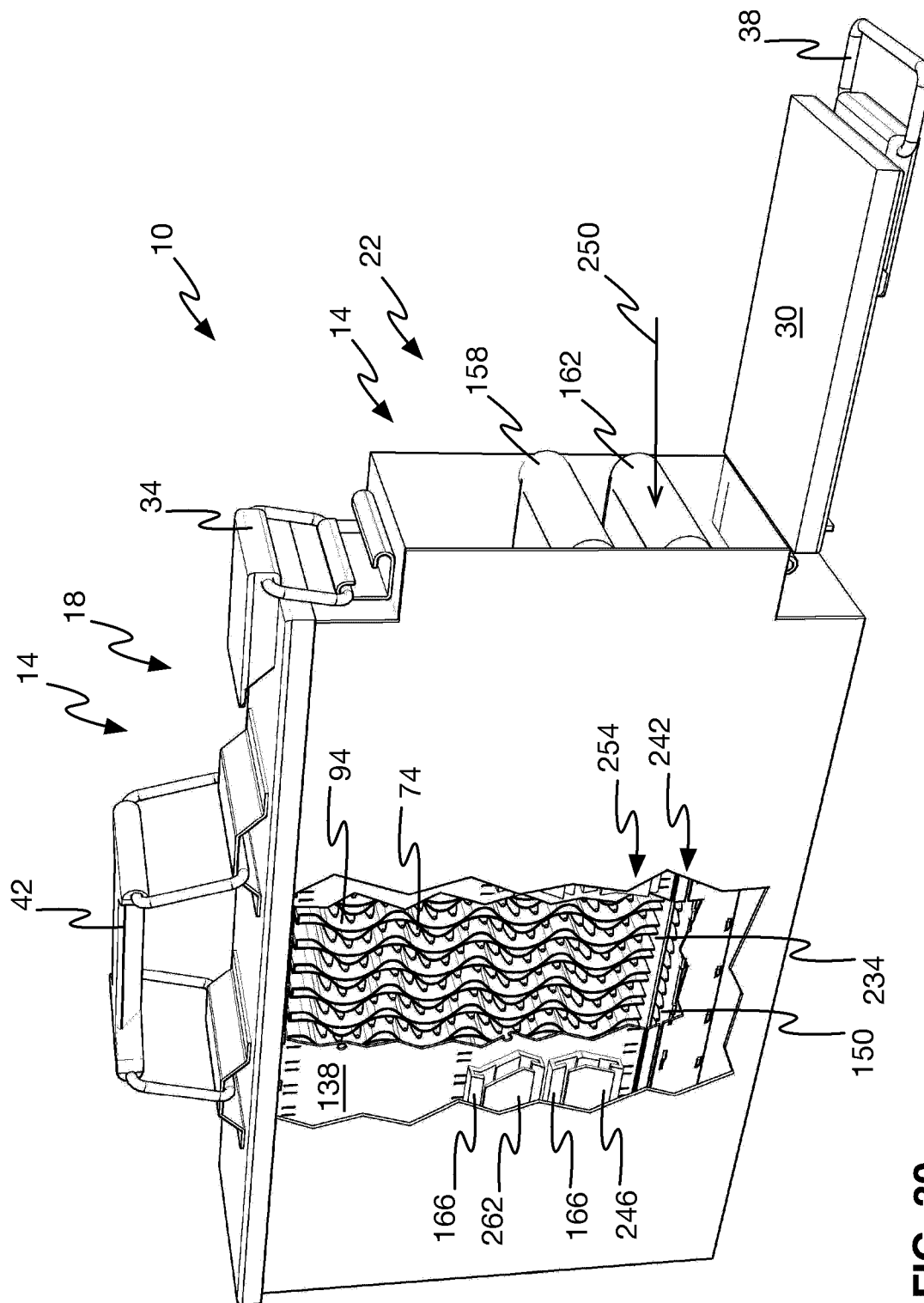


FIG. 30

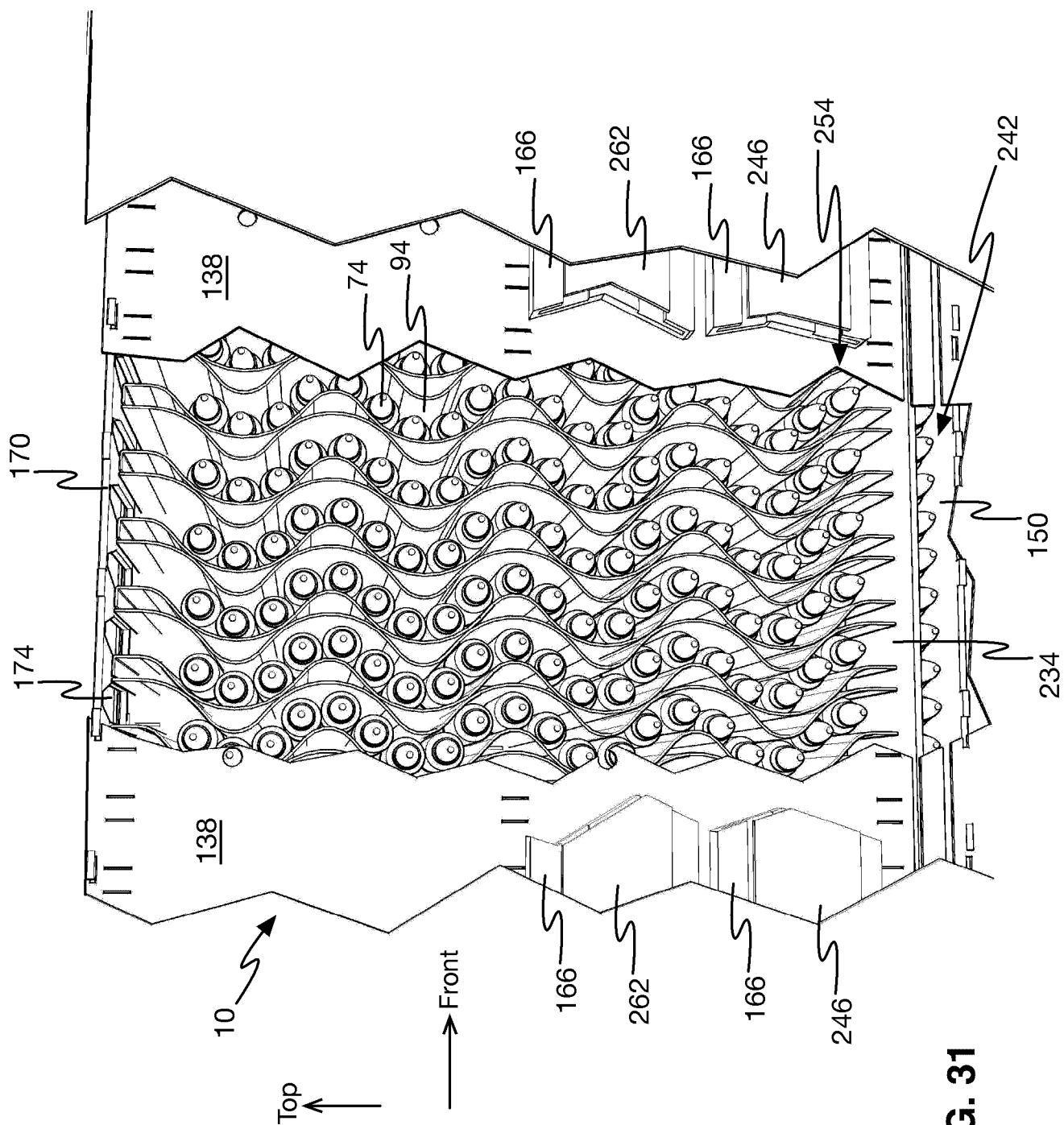


FIG. 31

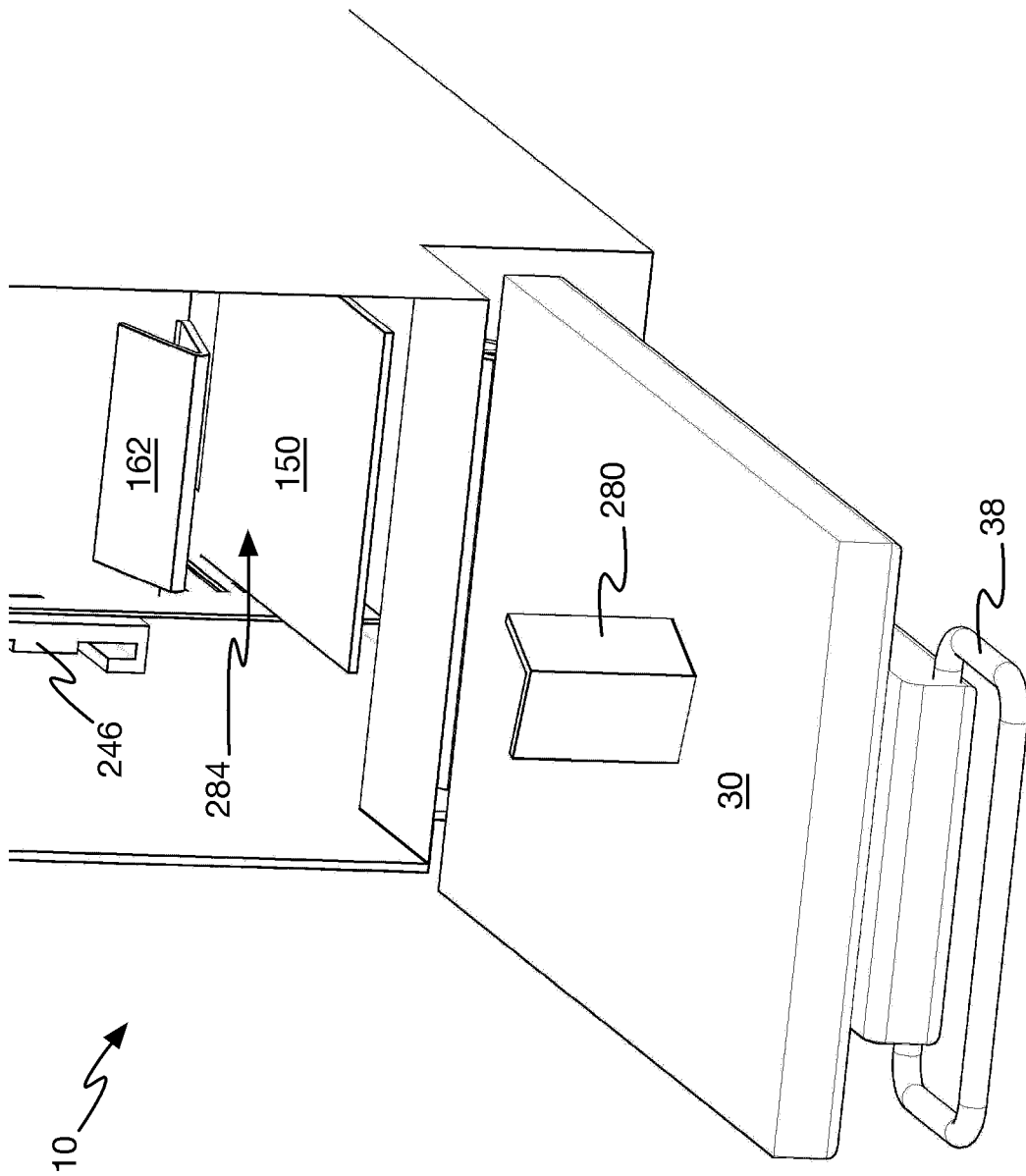


FIG. 32

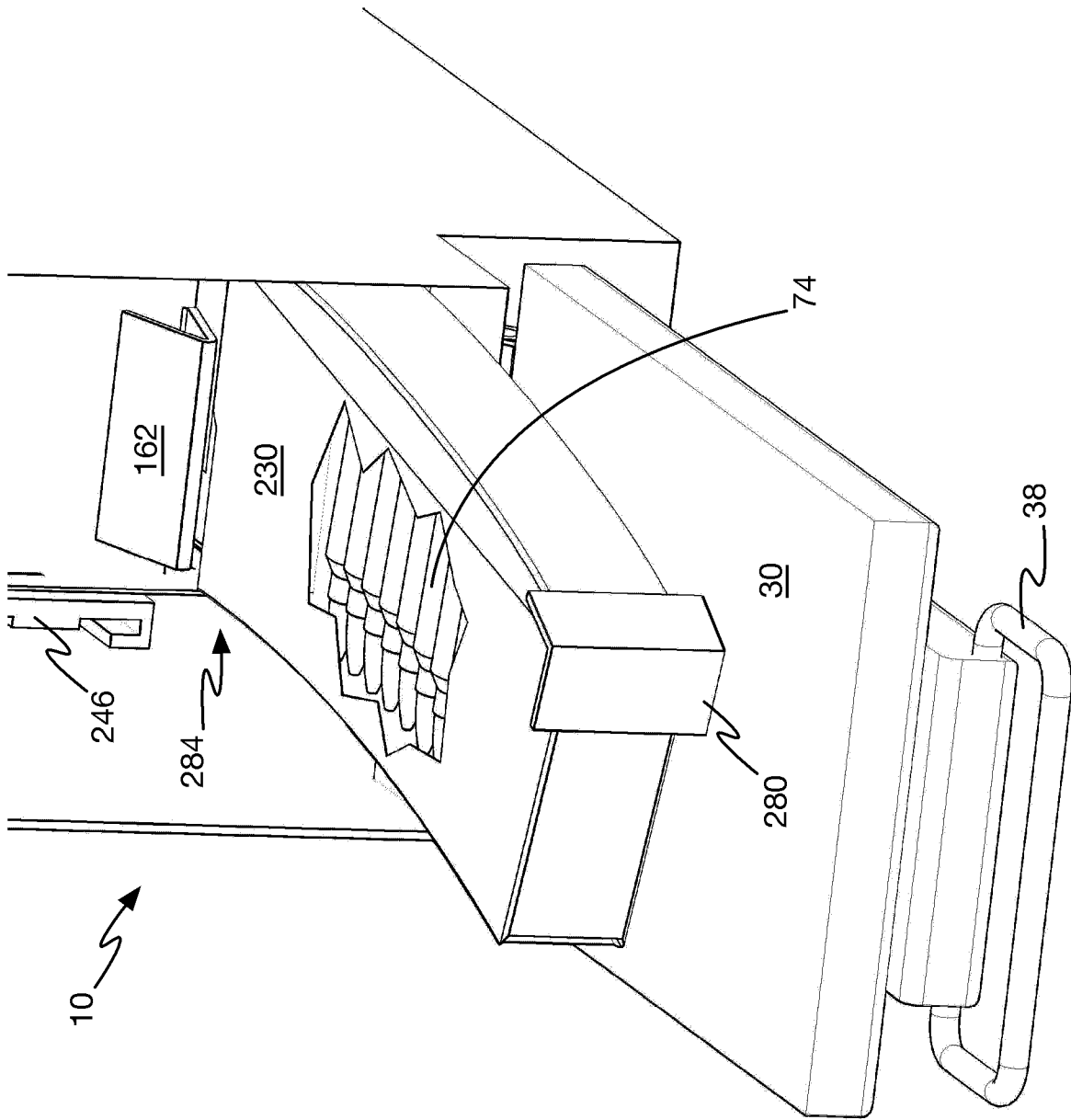


FIG. 33

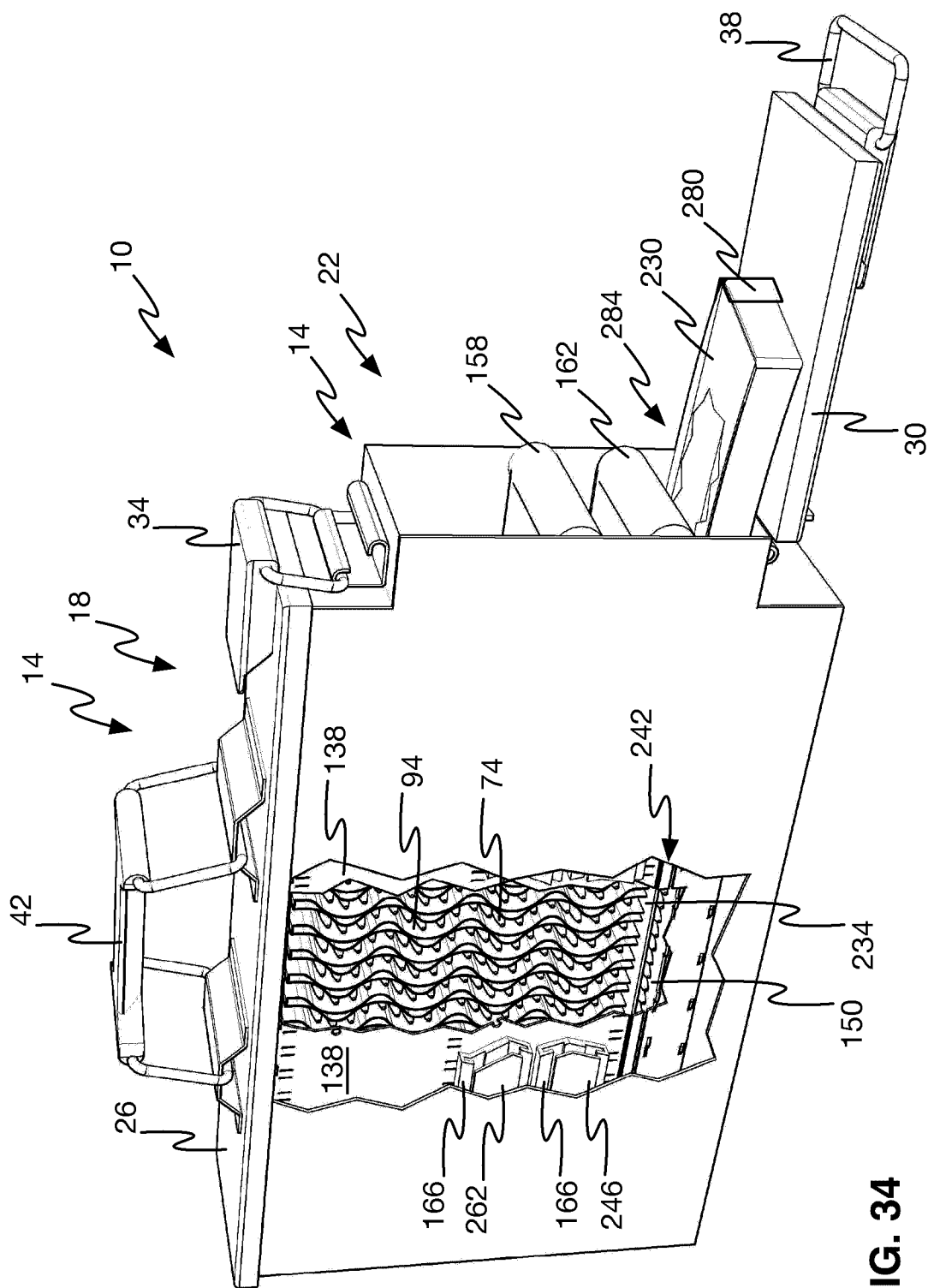


FIG. 34

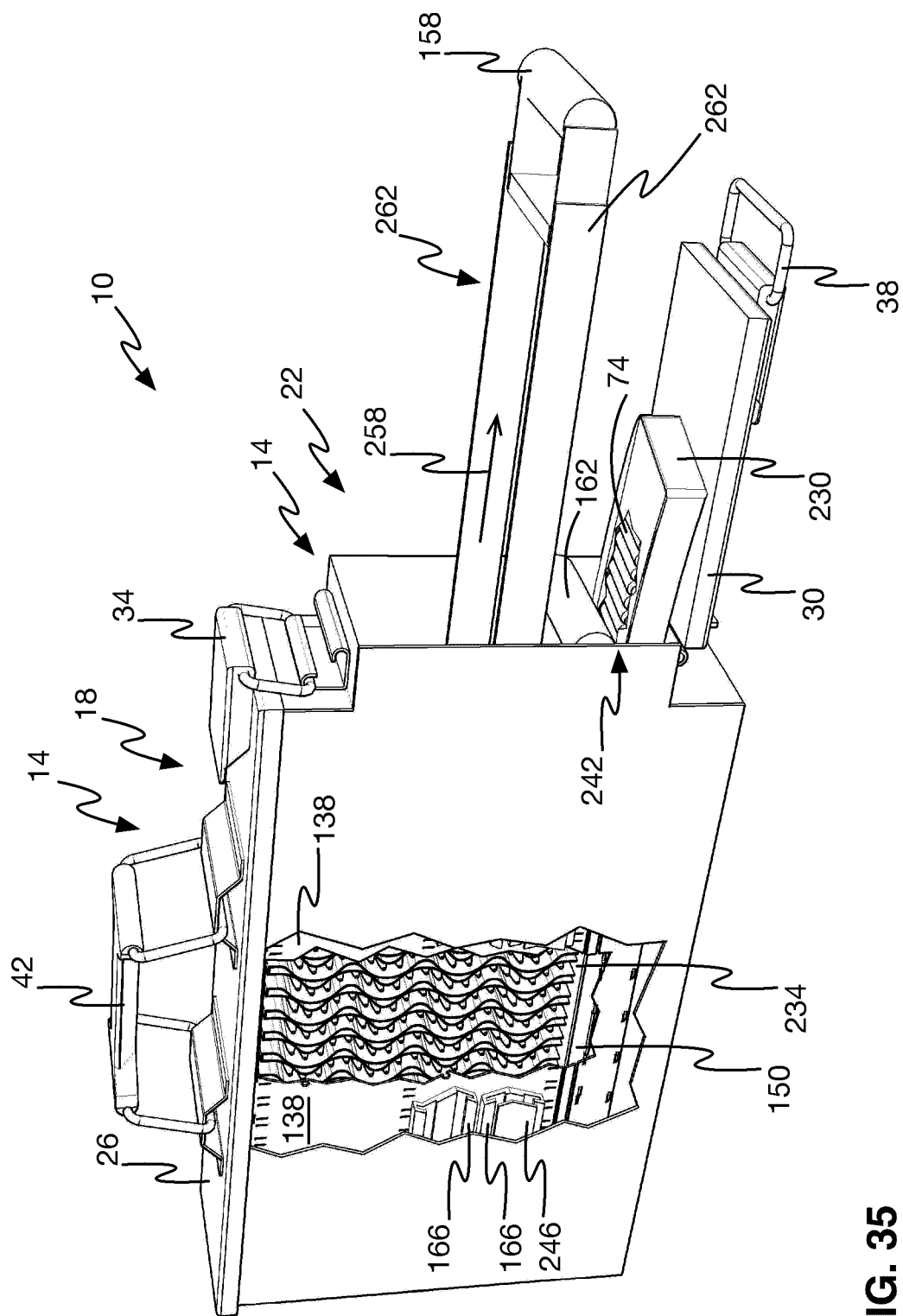


FIG. 35

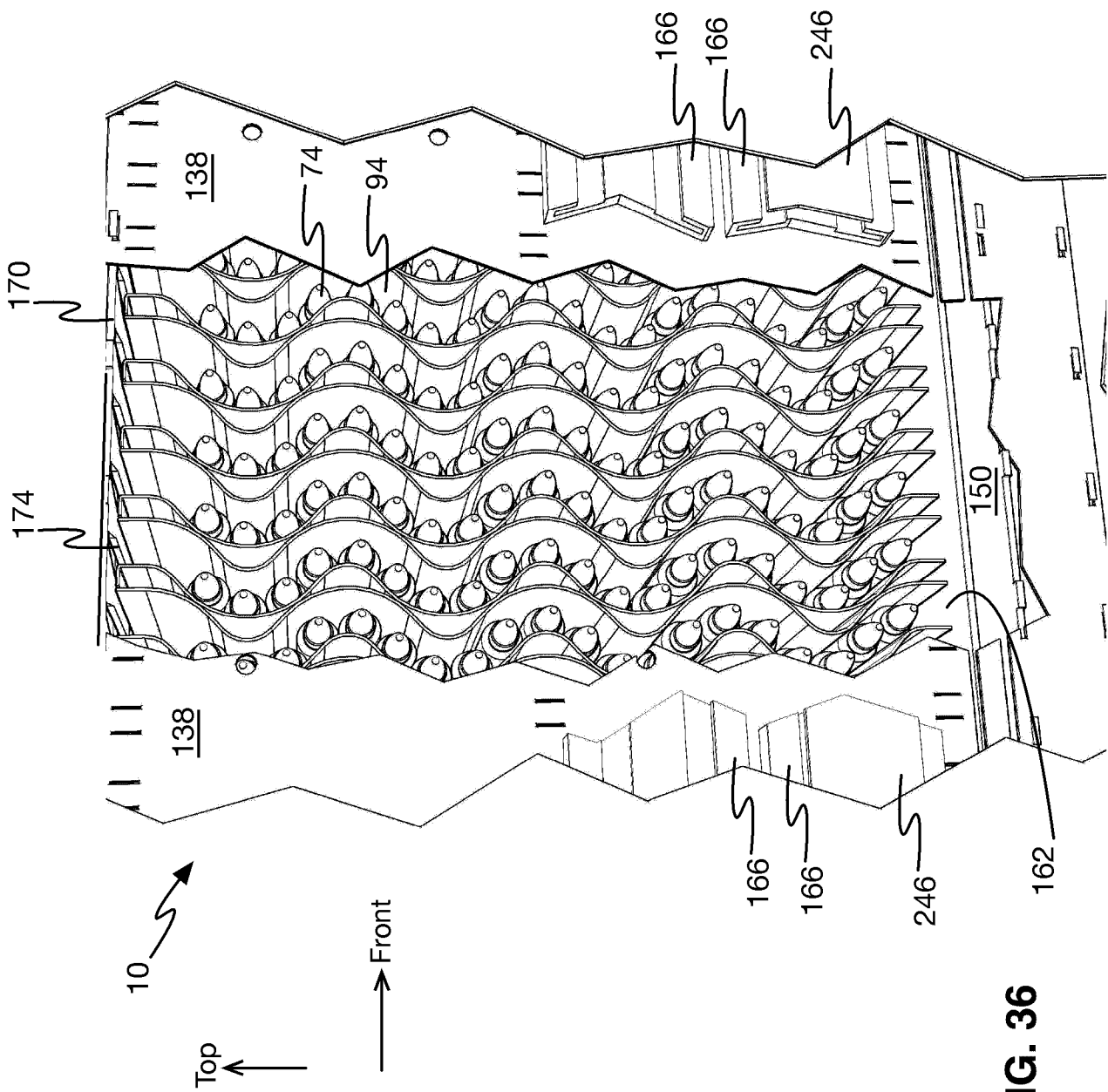


FIG. 36

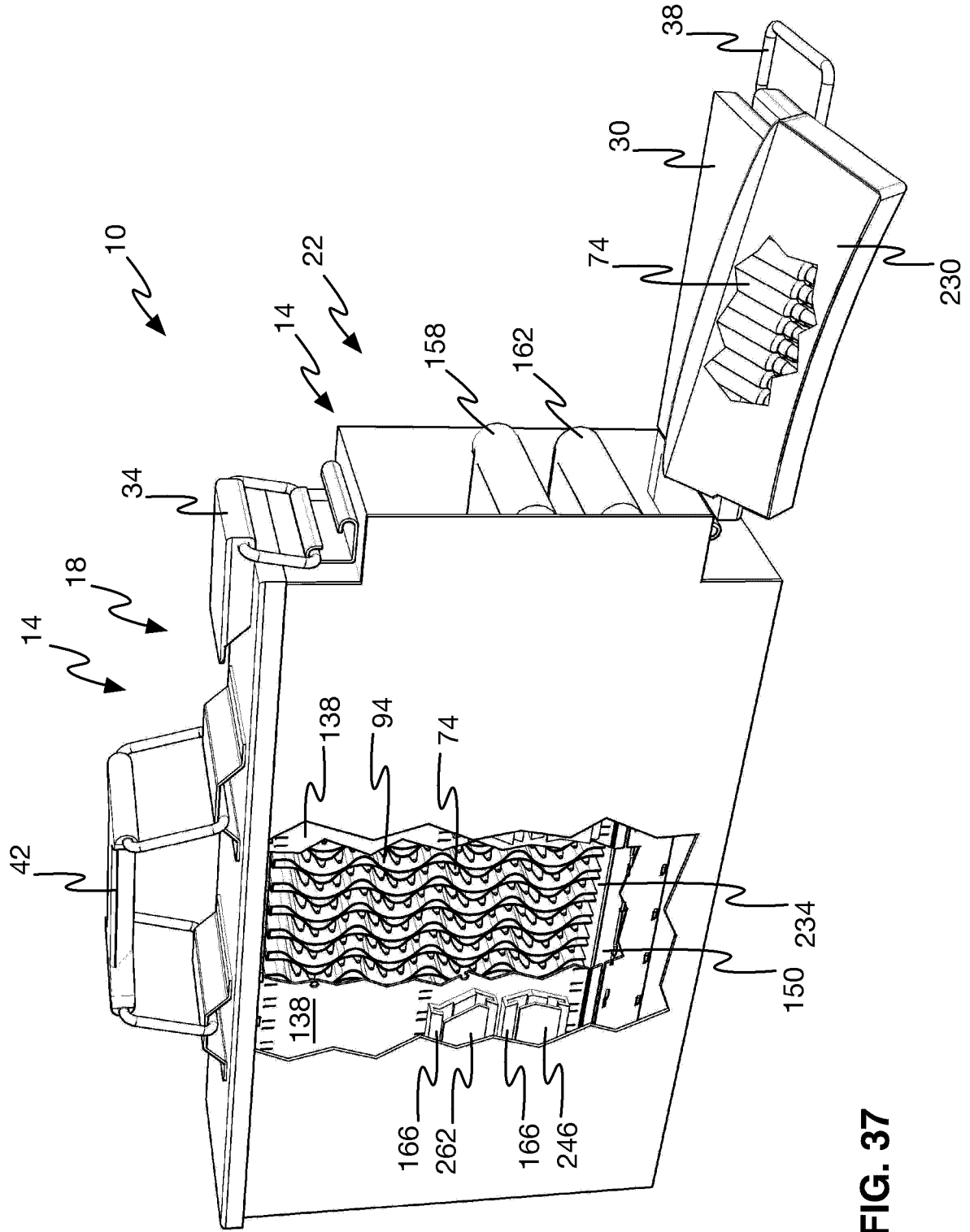


FIG. 37

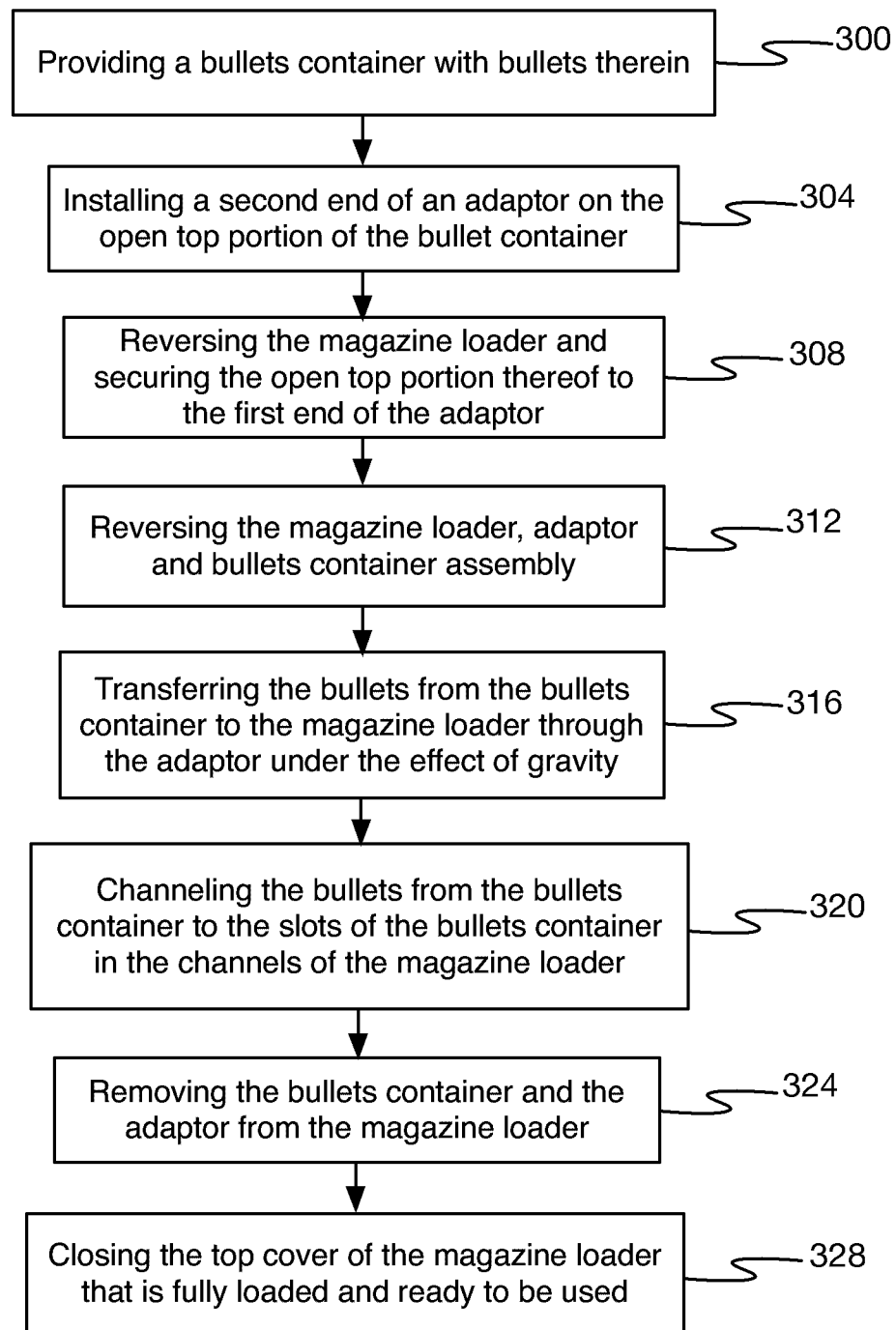


FIG. 38

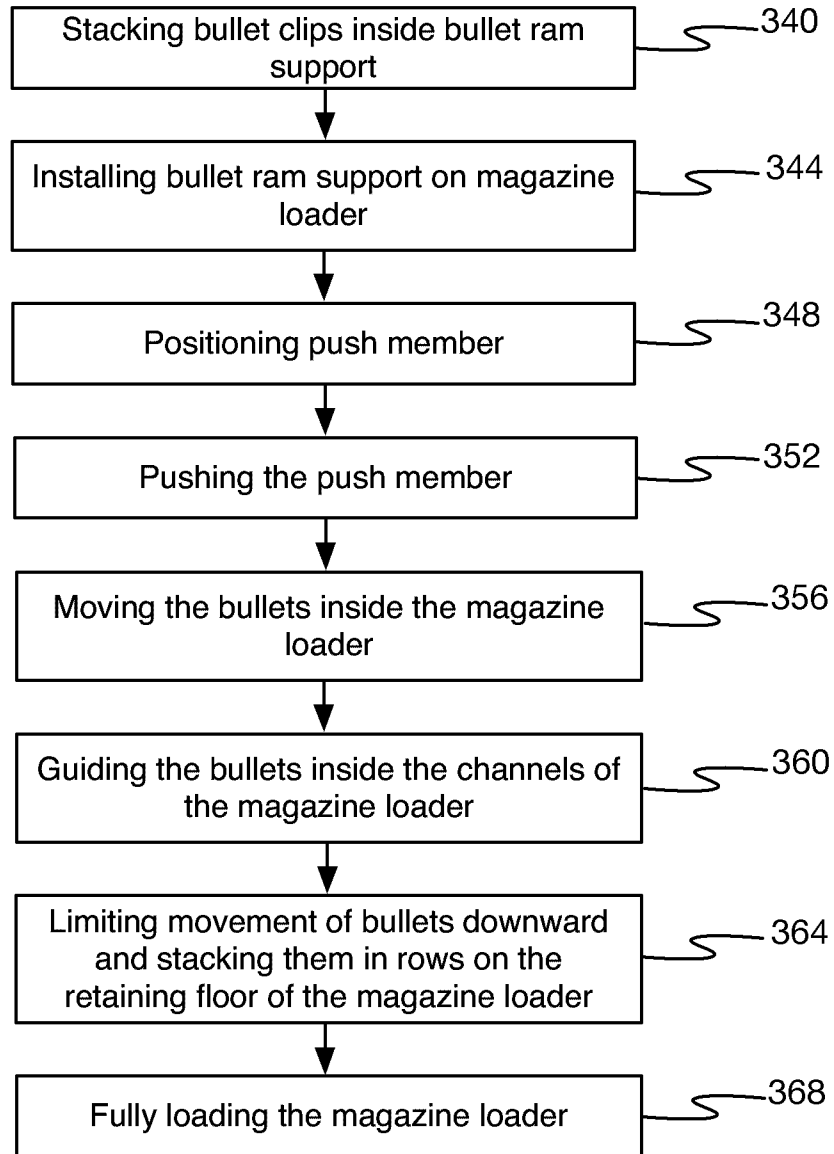


FIG. 39

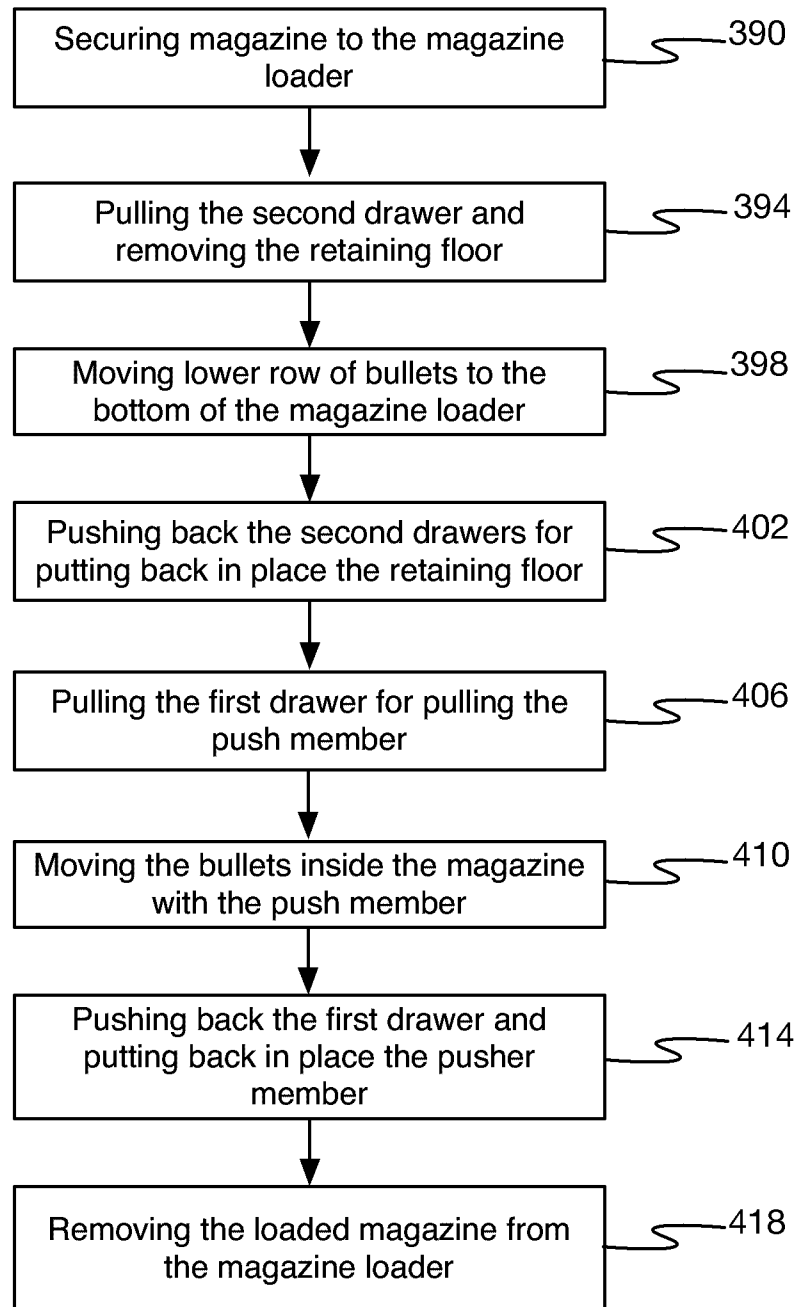


FIG. 40

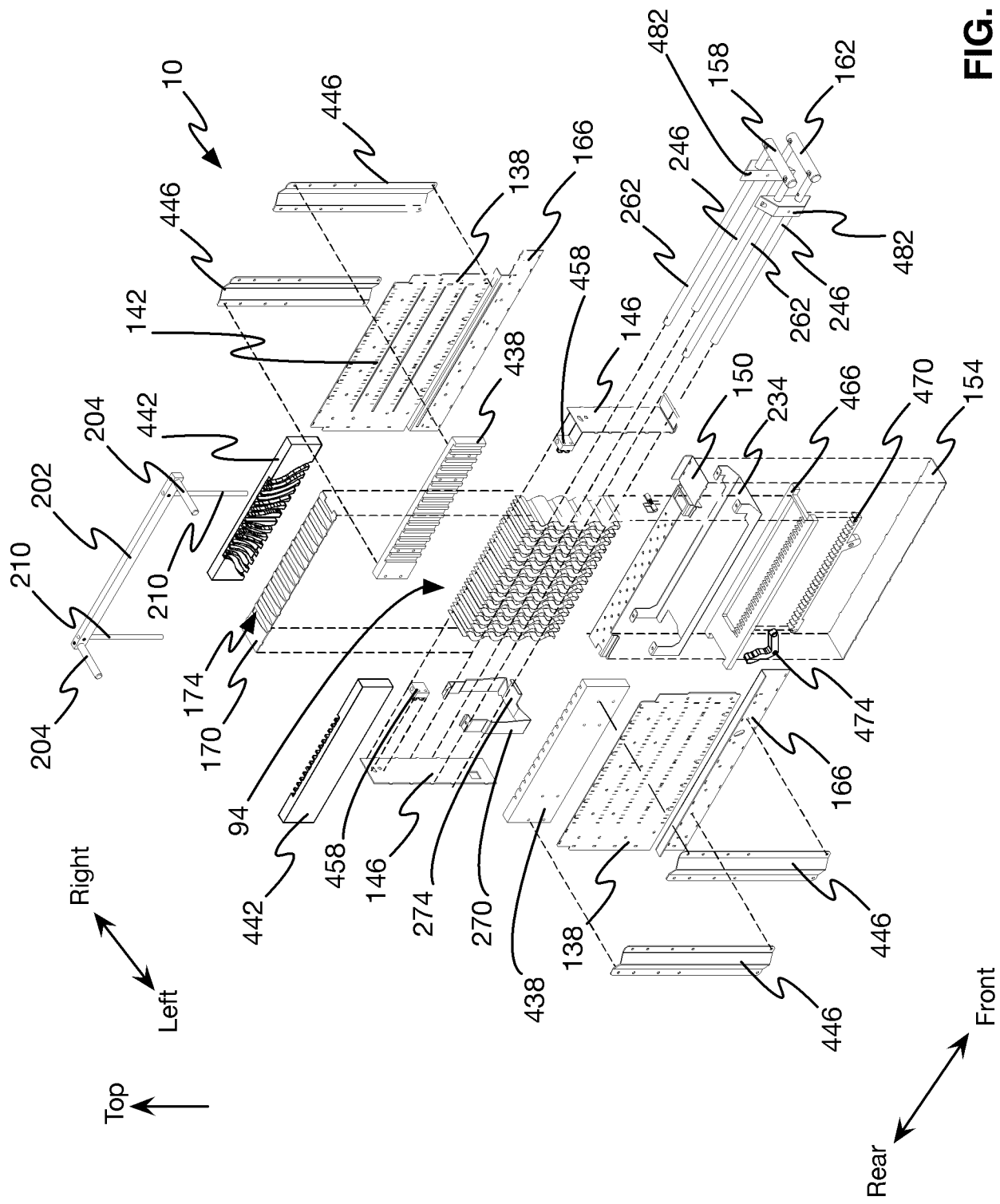


FIG. 41

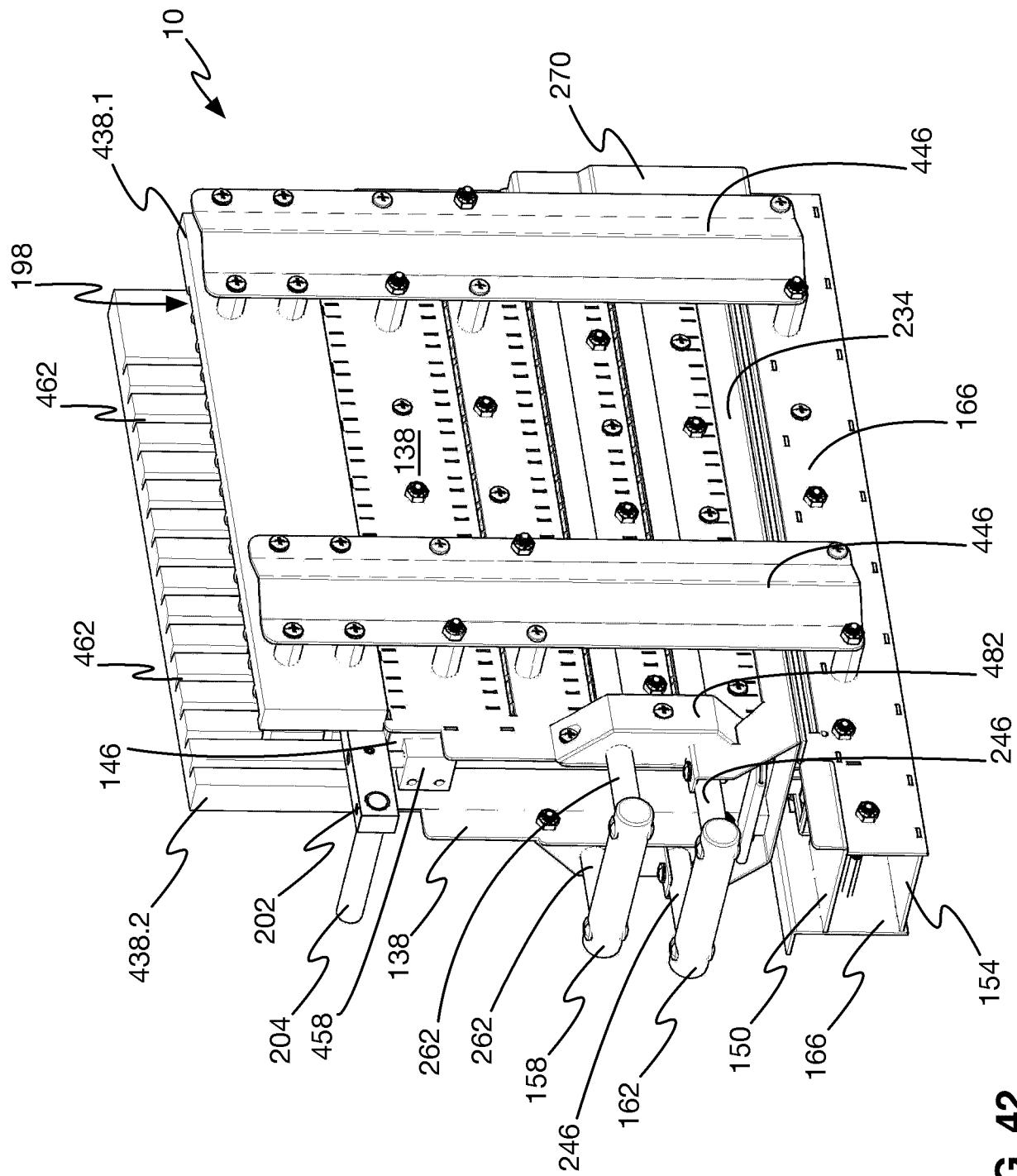
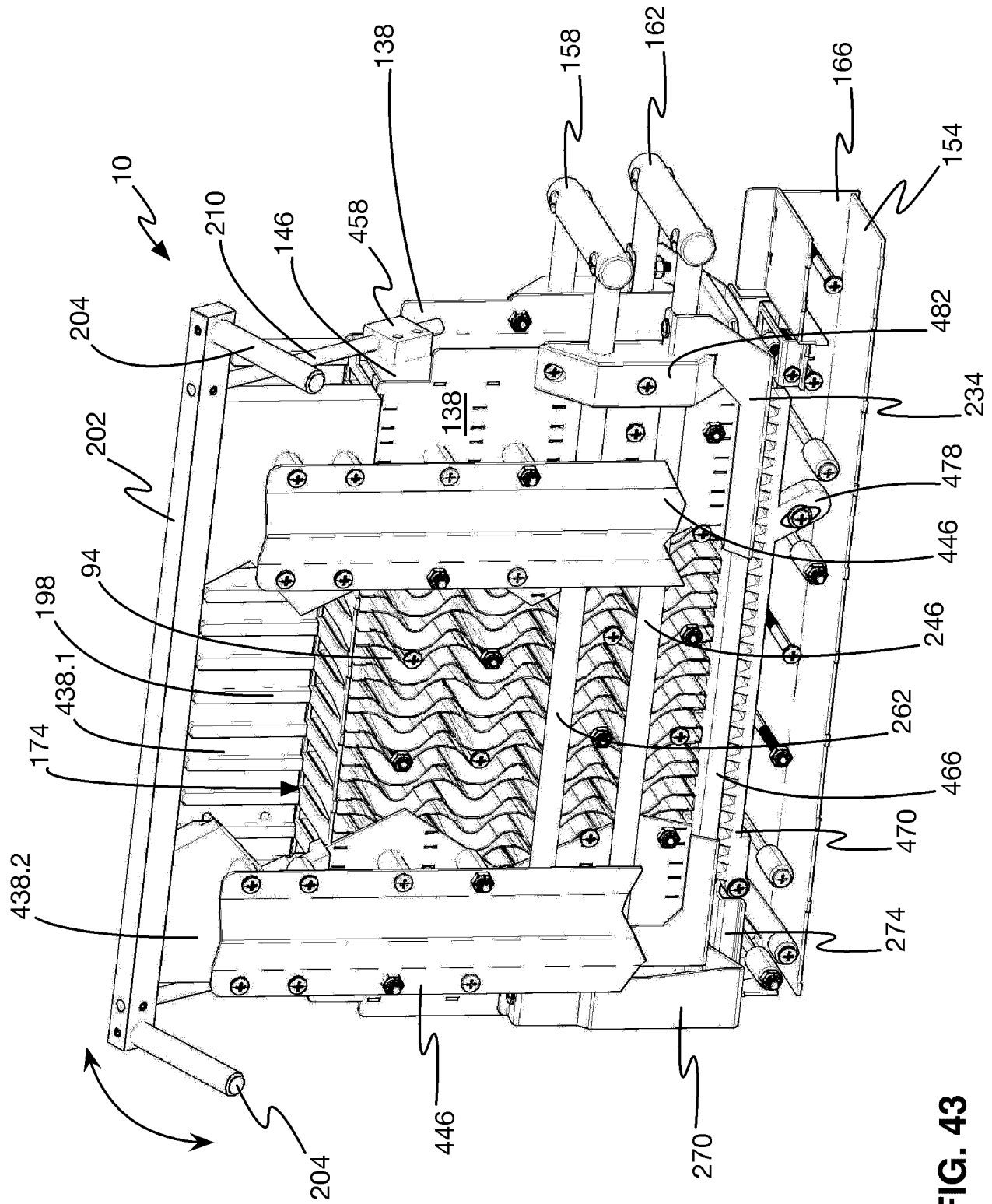


FIG. 42



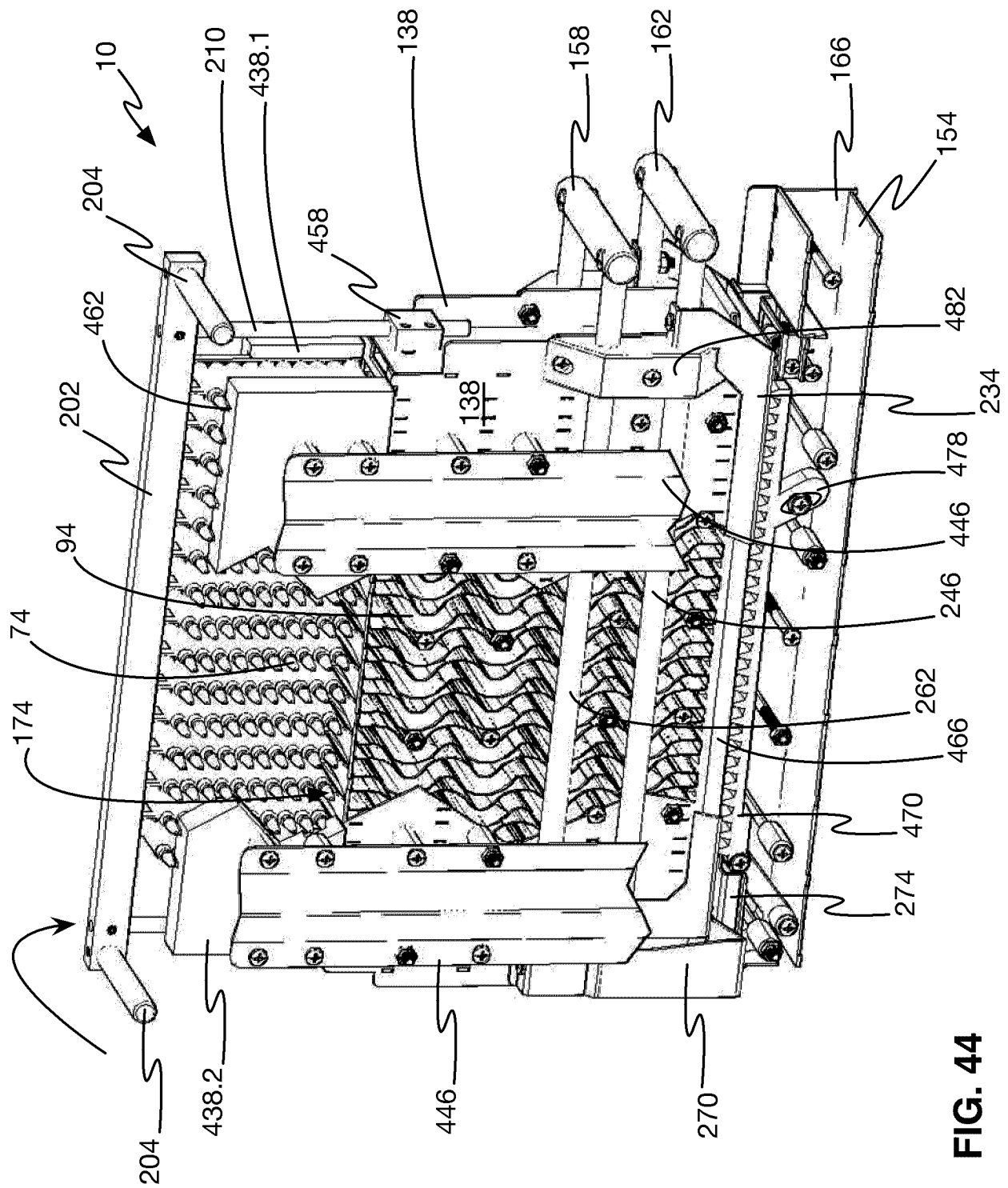


FIG. 44

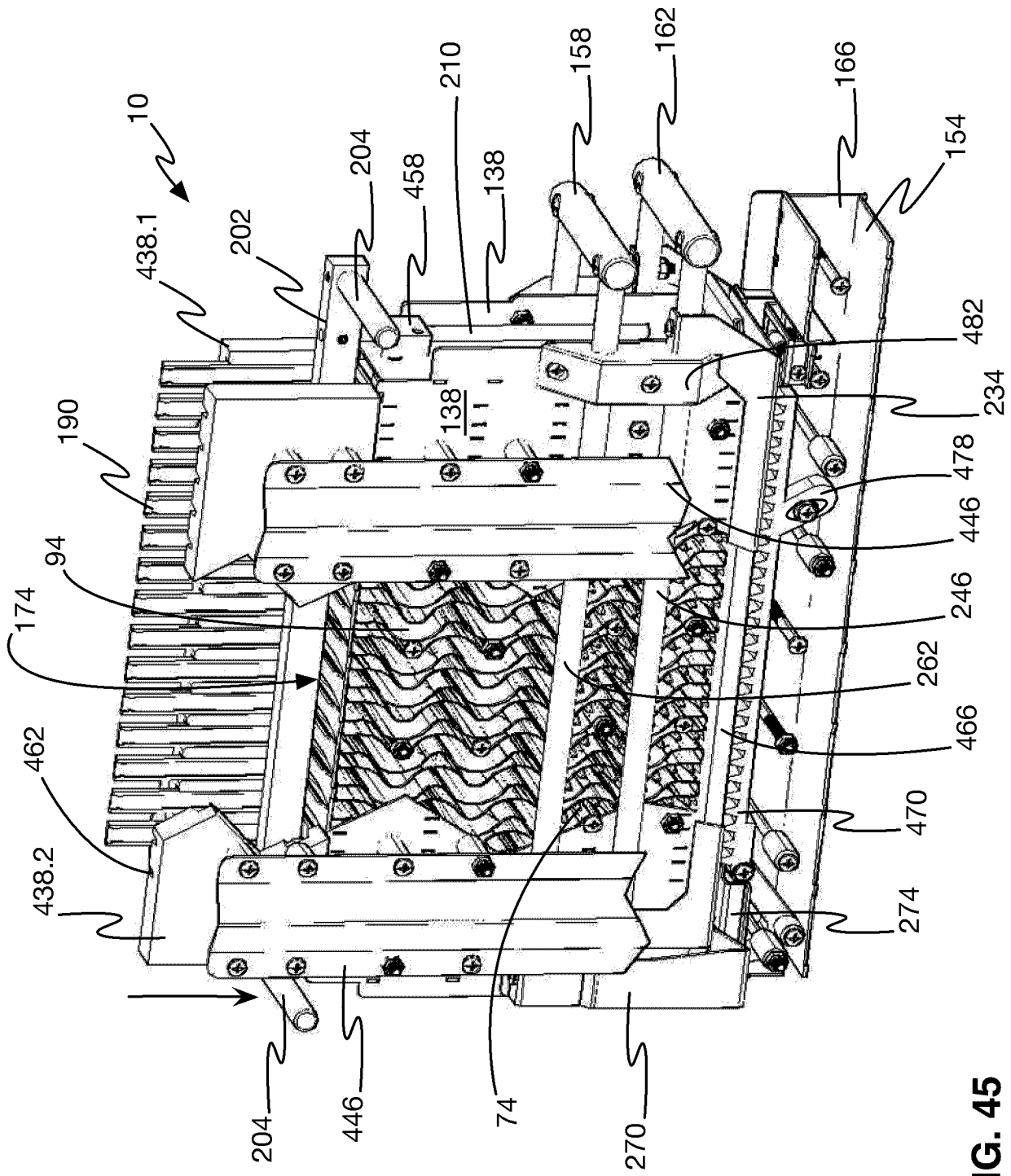


FIG. 45

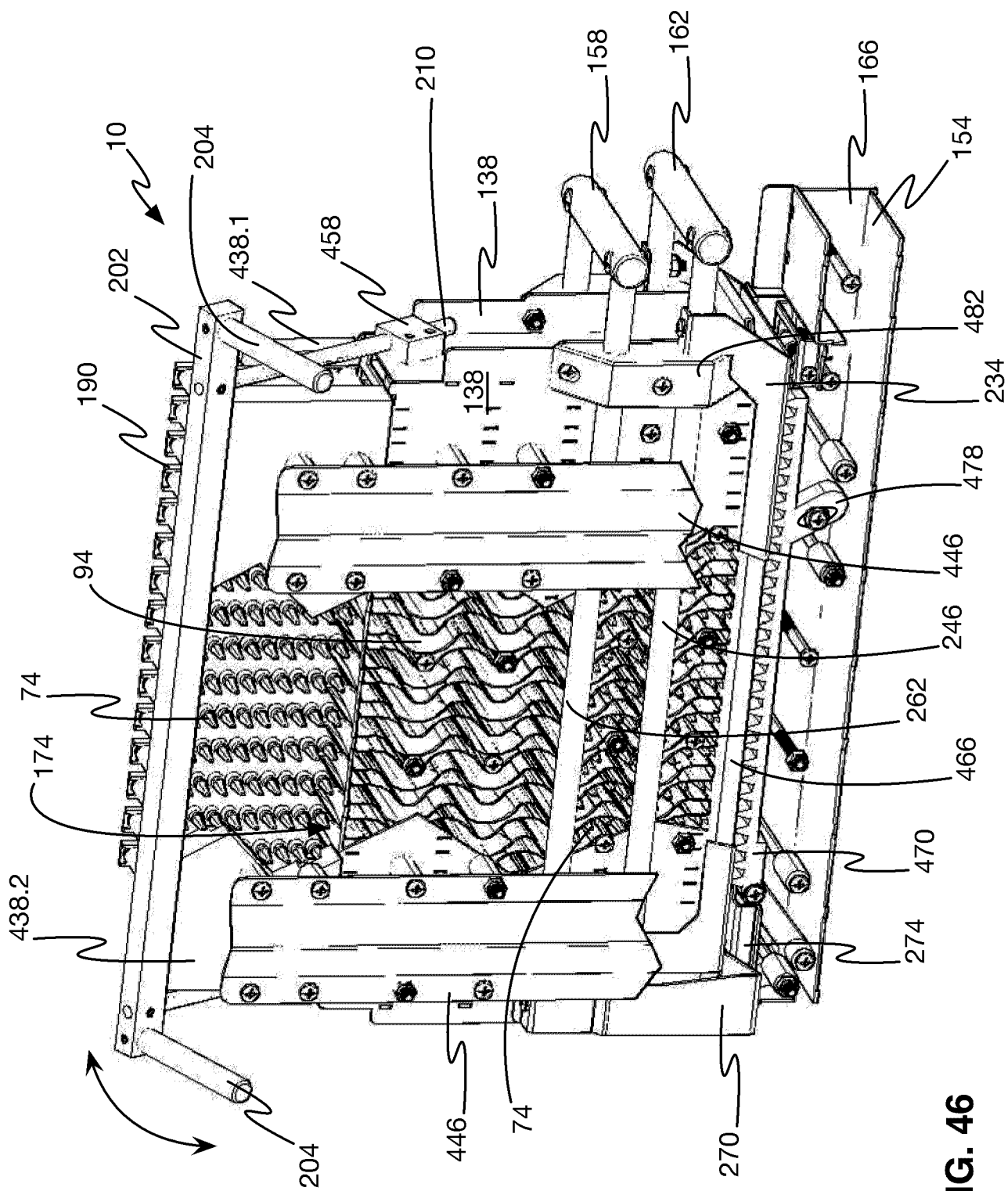


FIG. 46

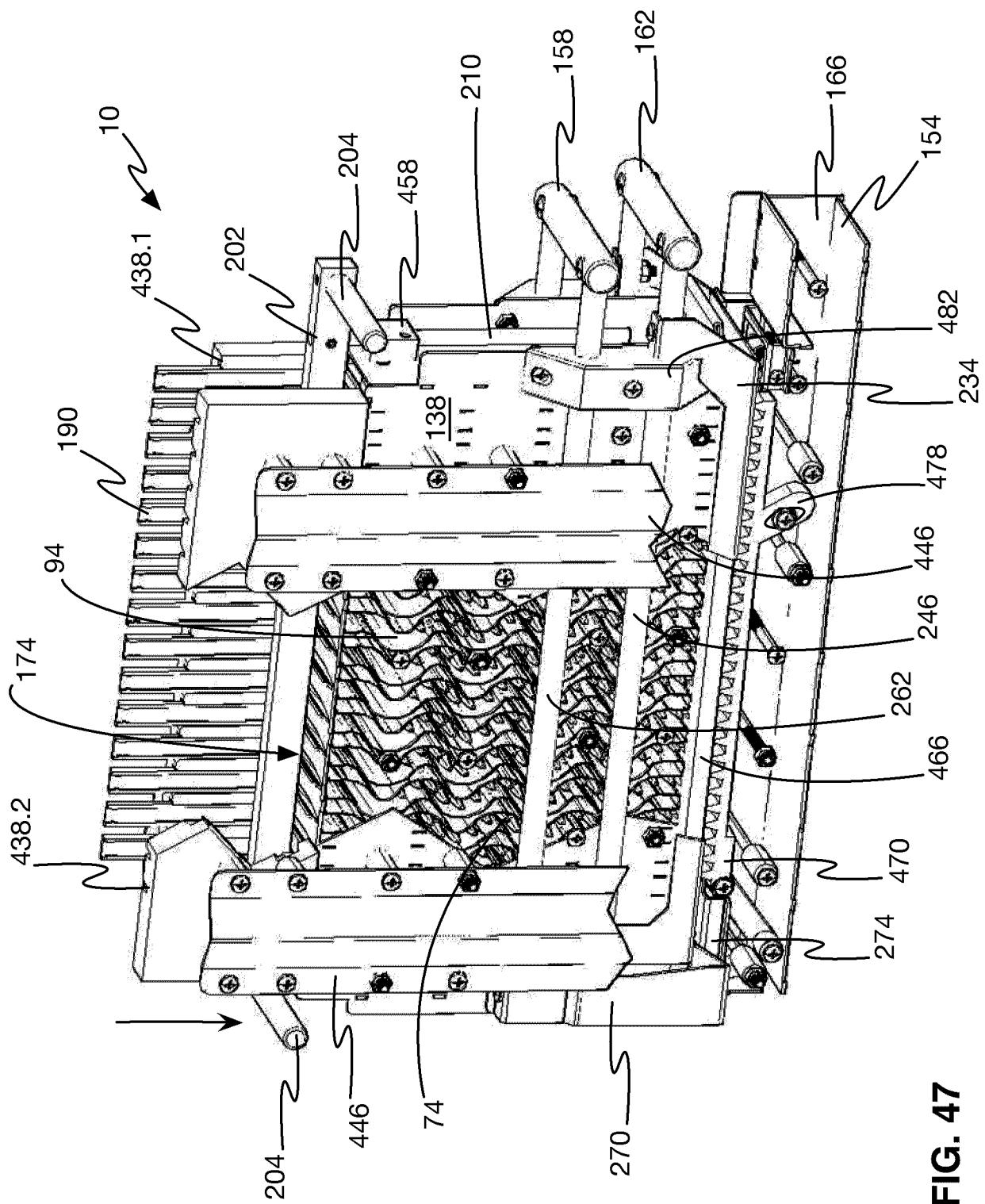


FIG. 47

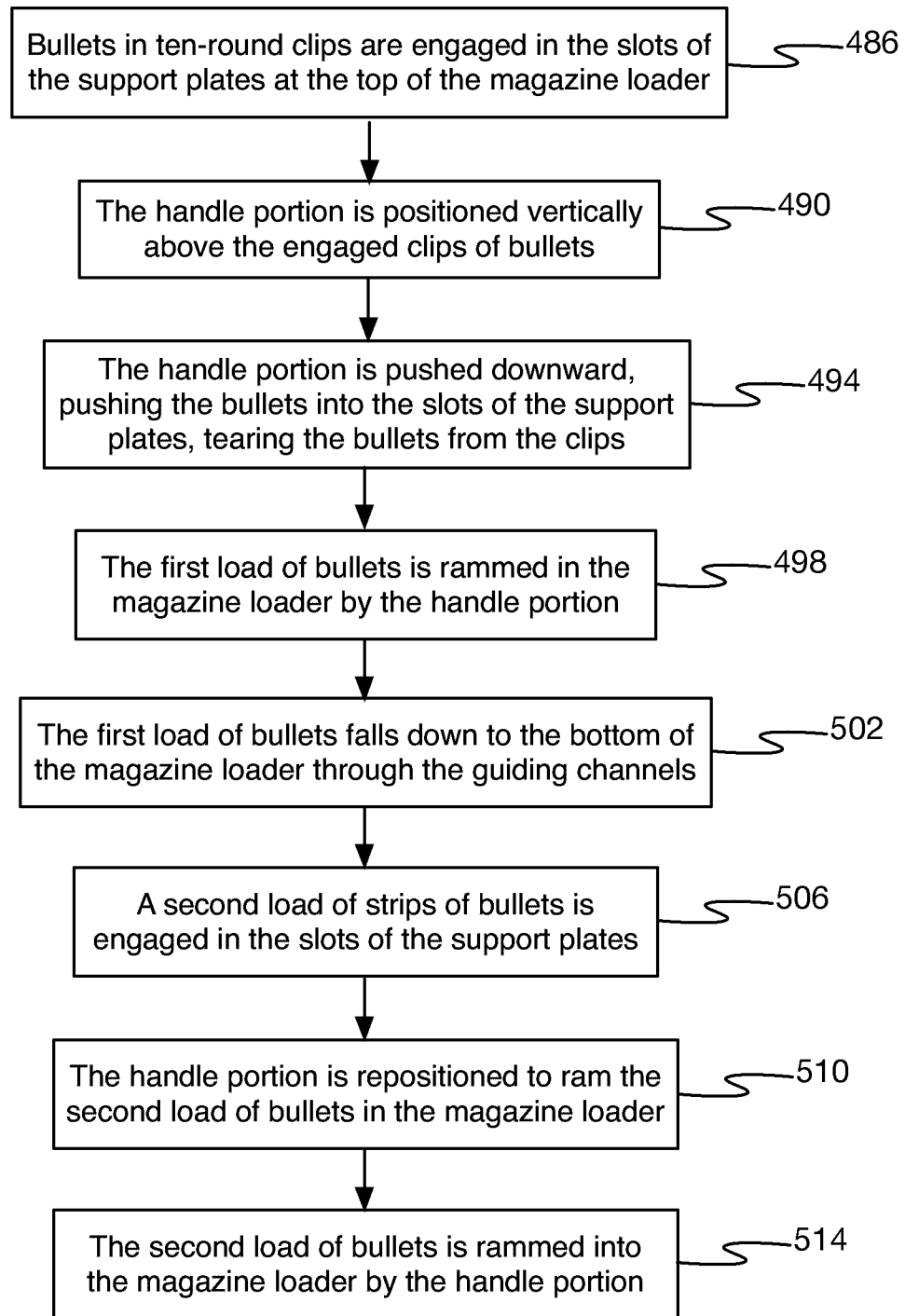


FIG. 48

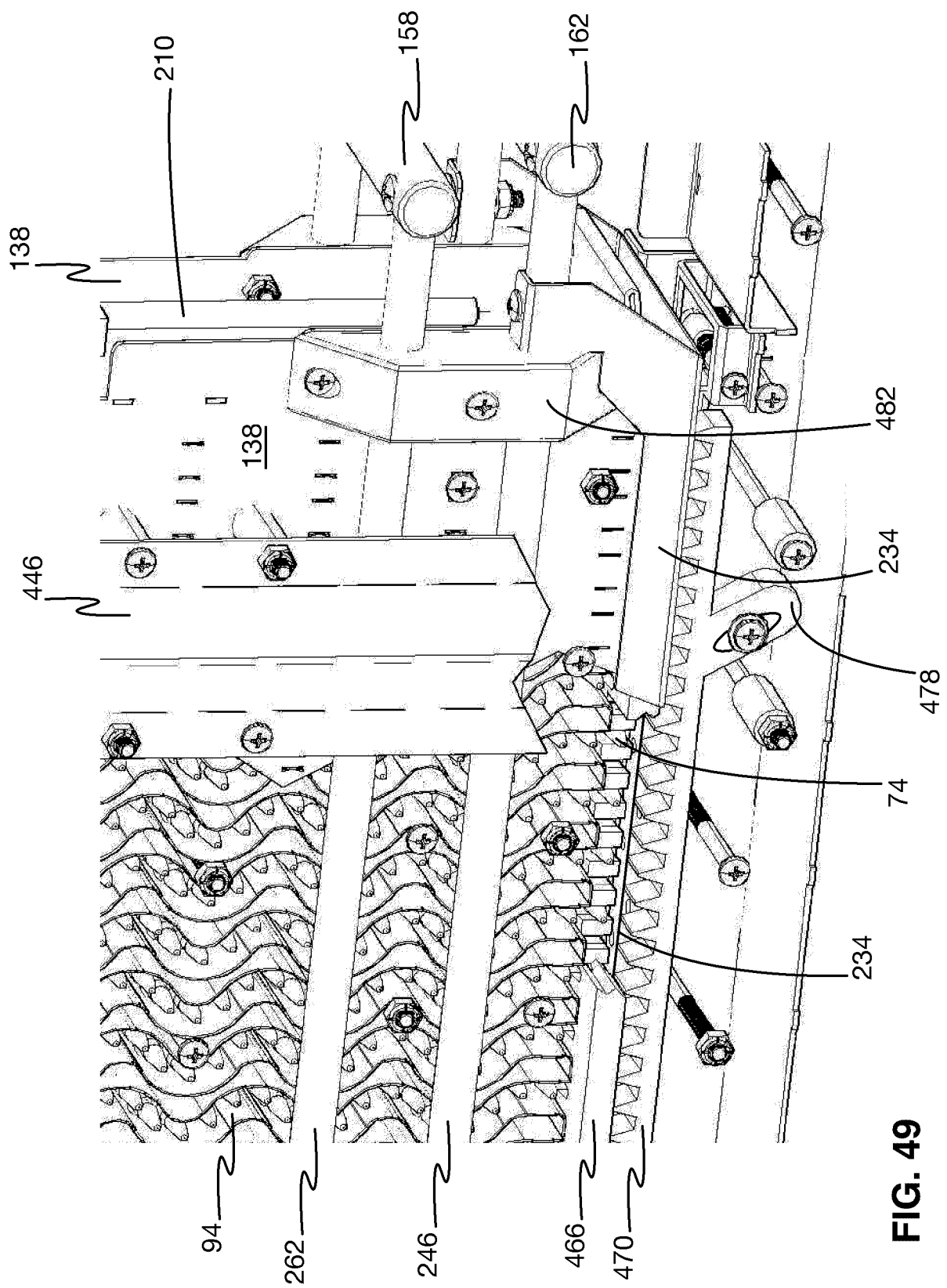


FIG. 49

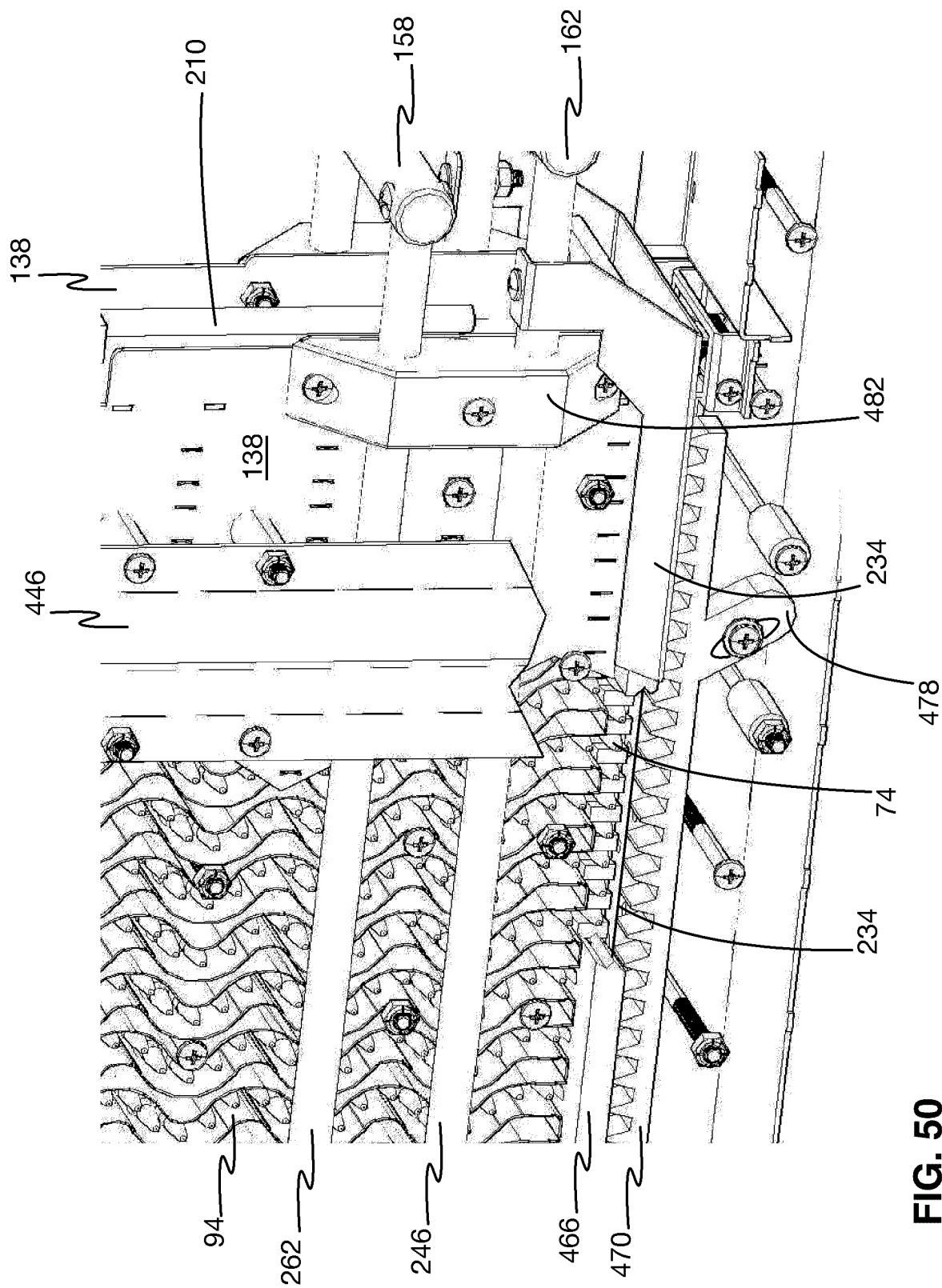


FIG. 50

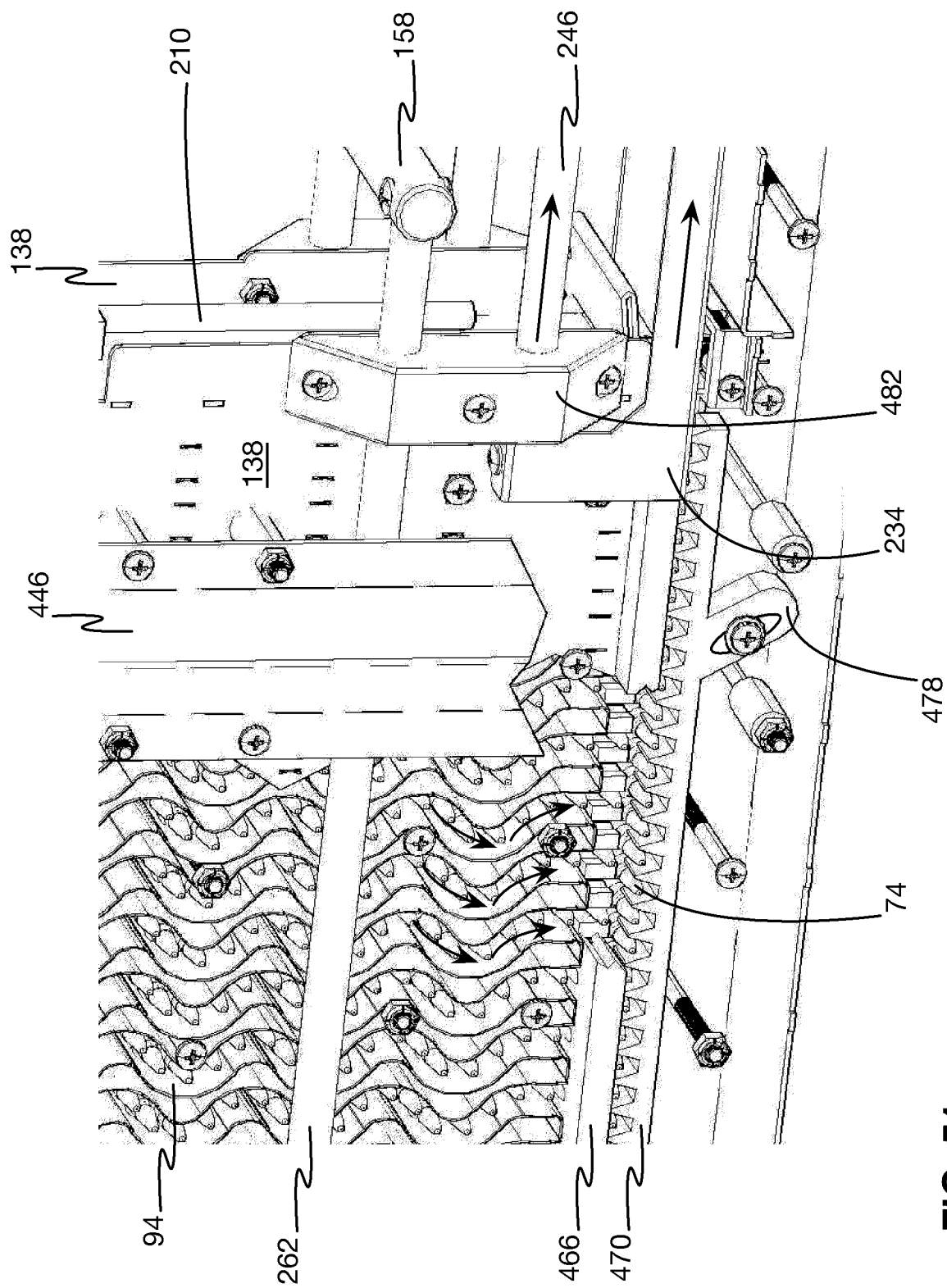


FIG. 51

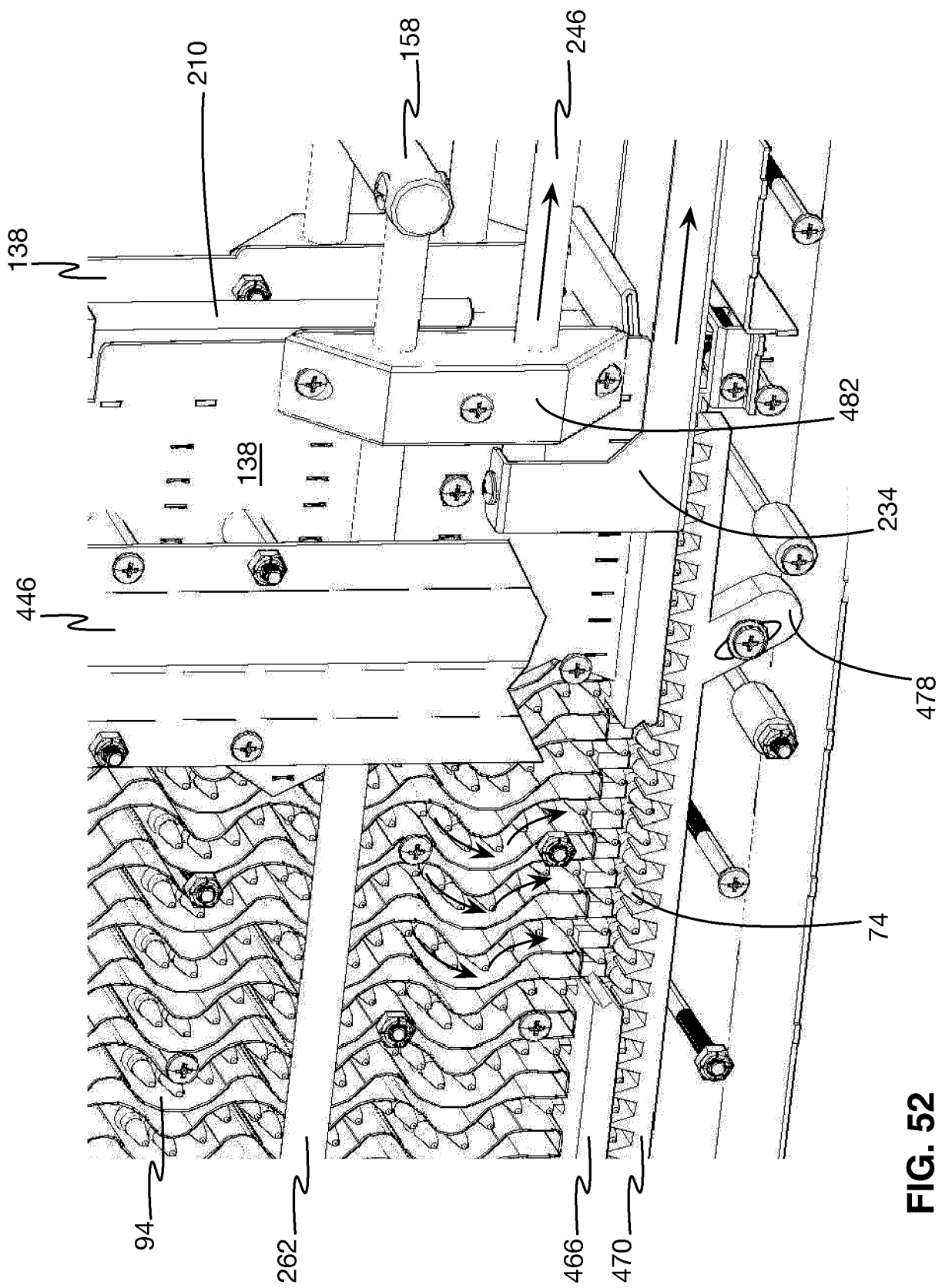


FIG. 52

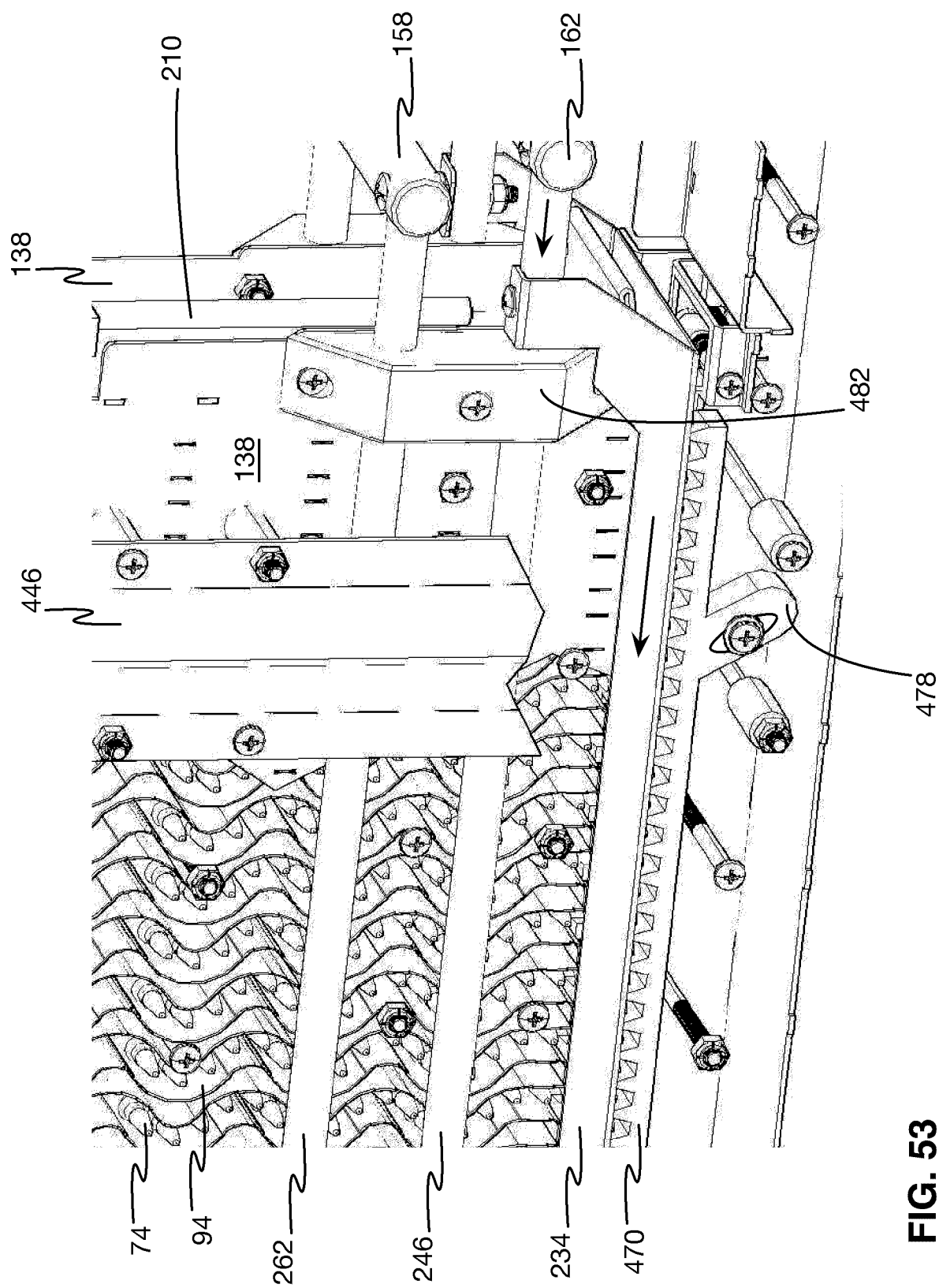
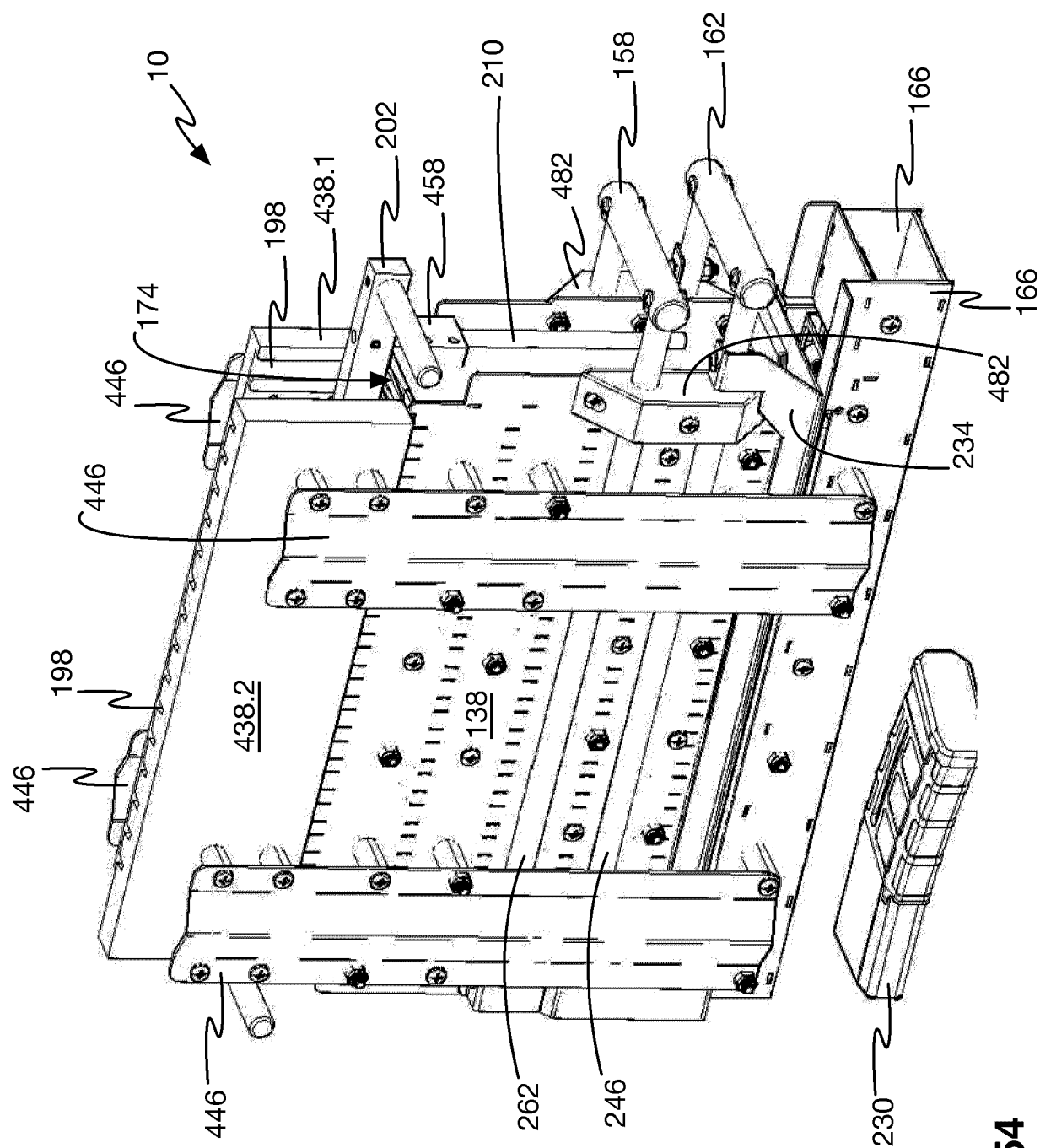
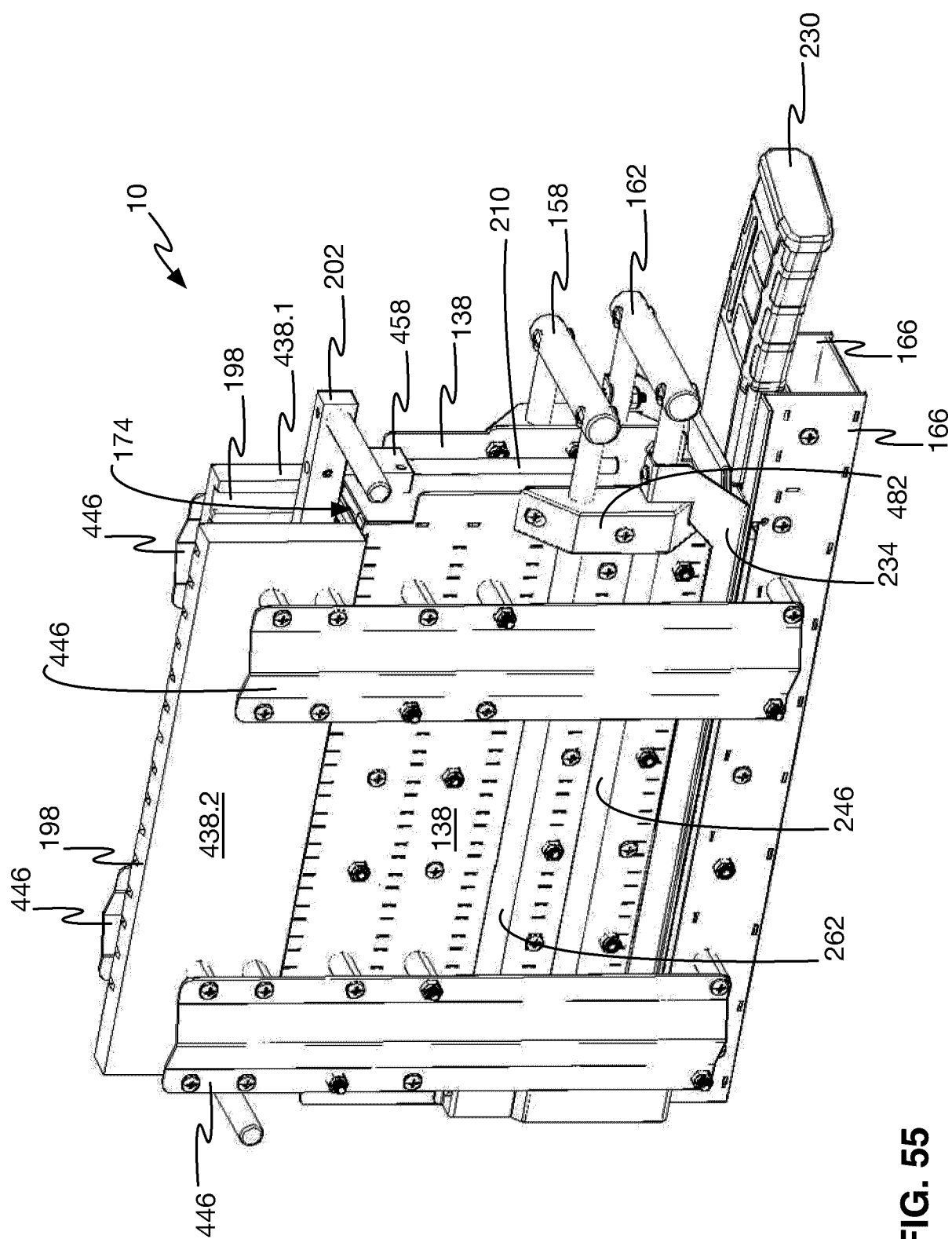


FIG. 53





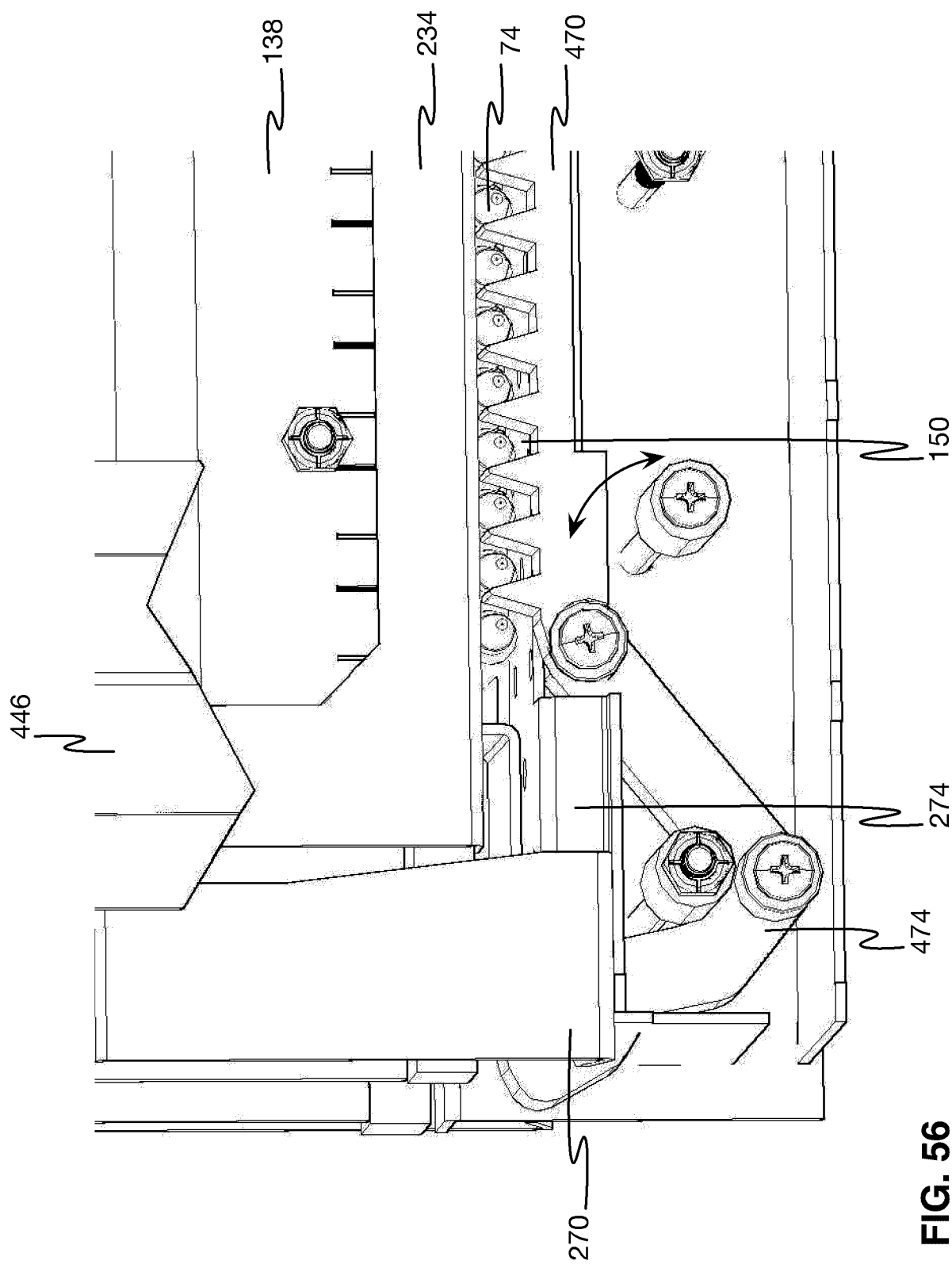


FIG. 56

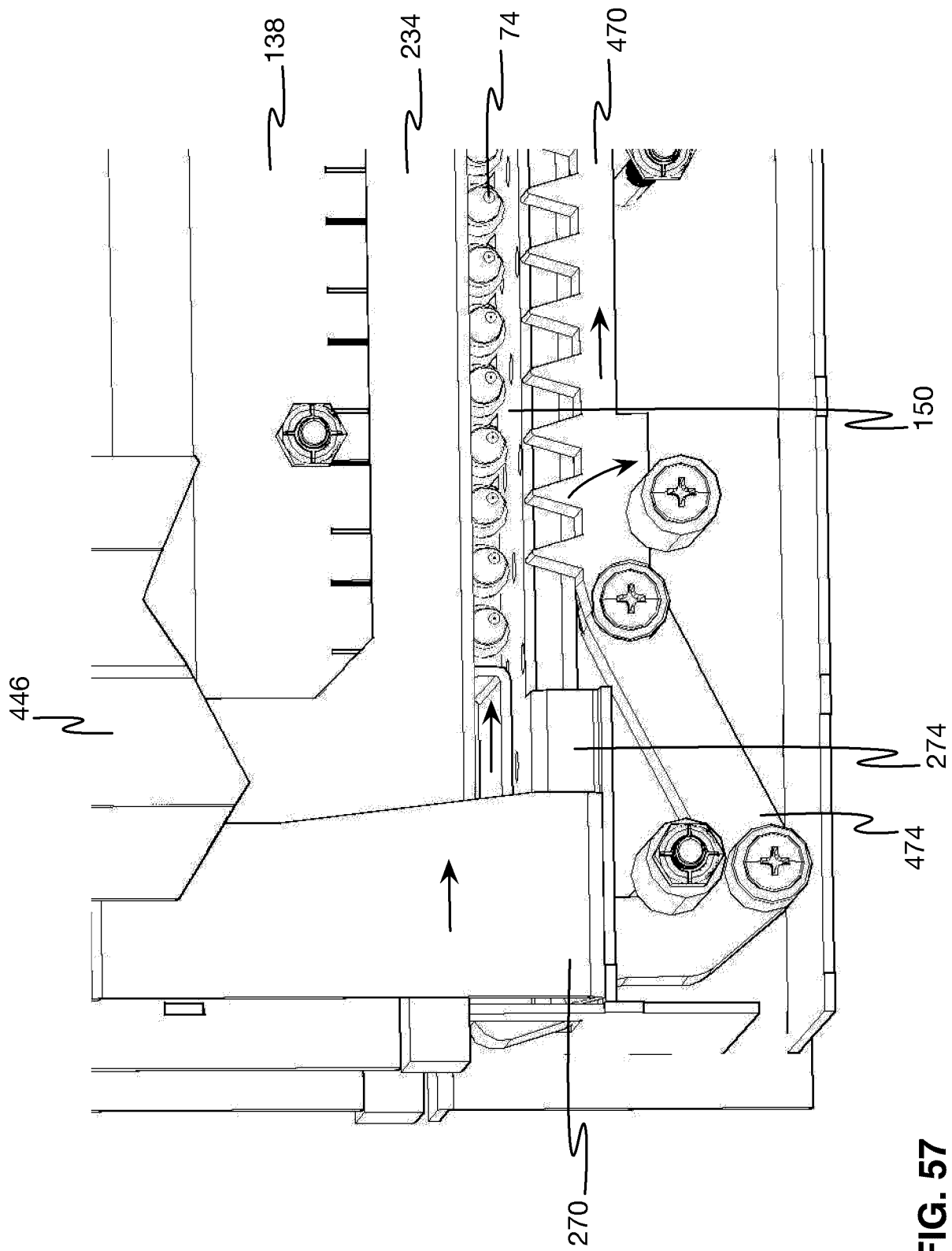


FIG. 57

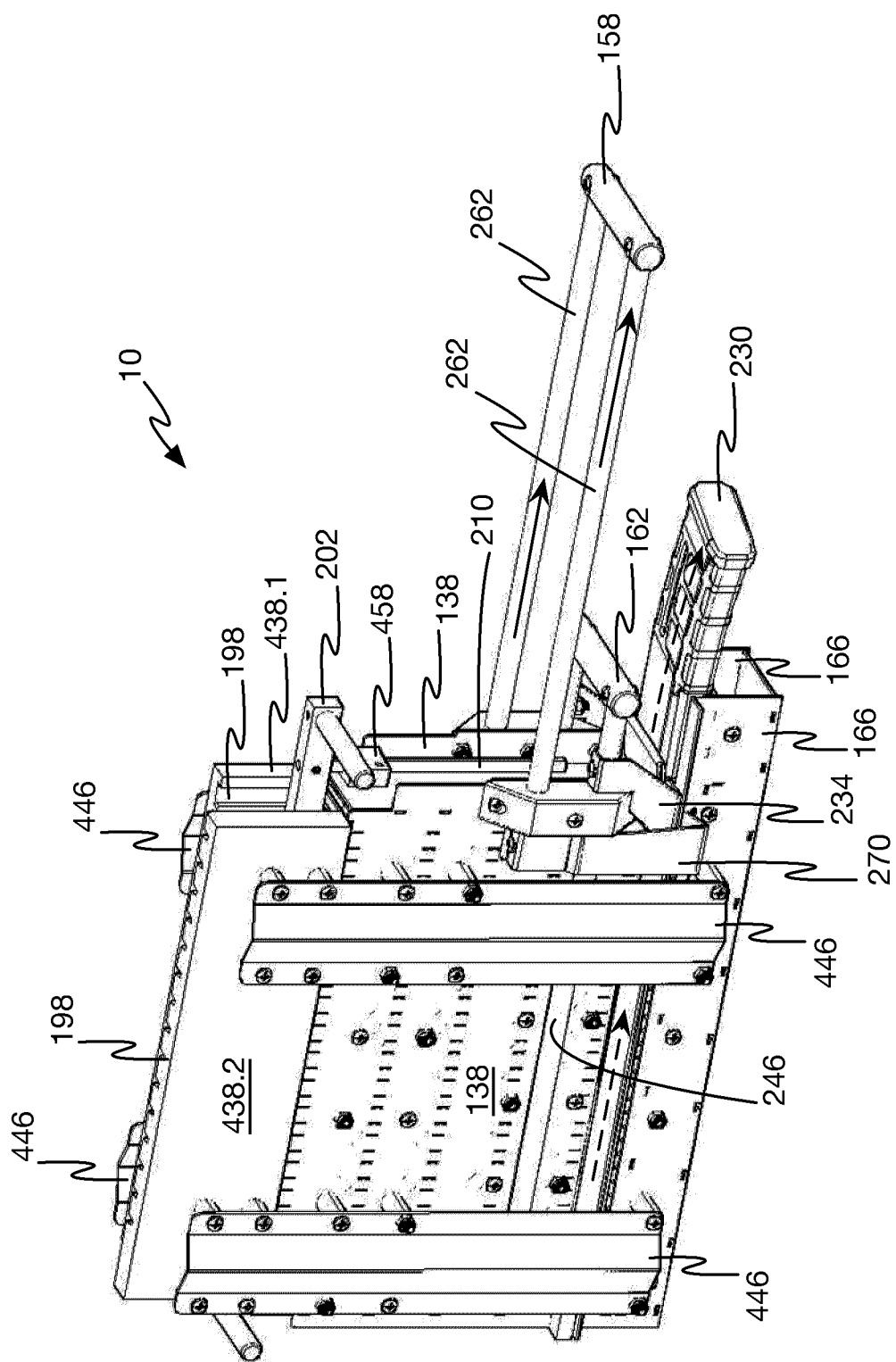


FIG. 58

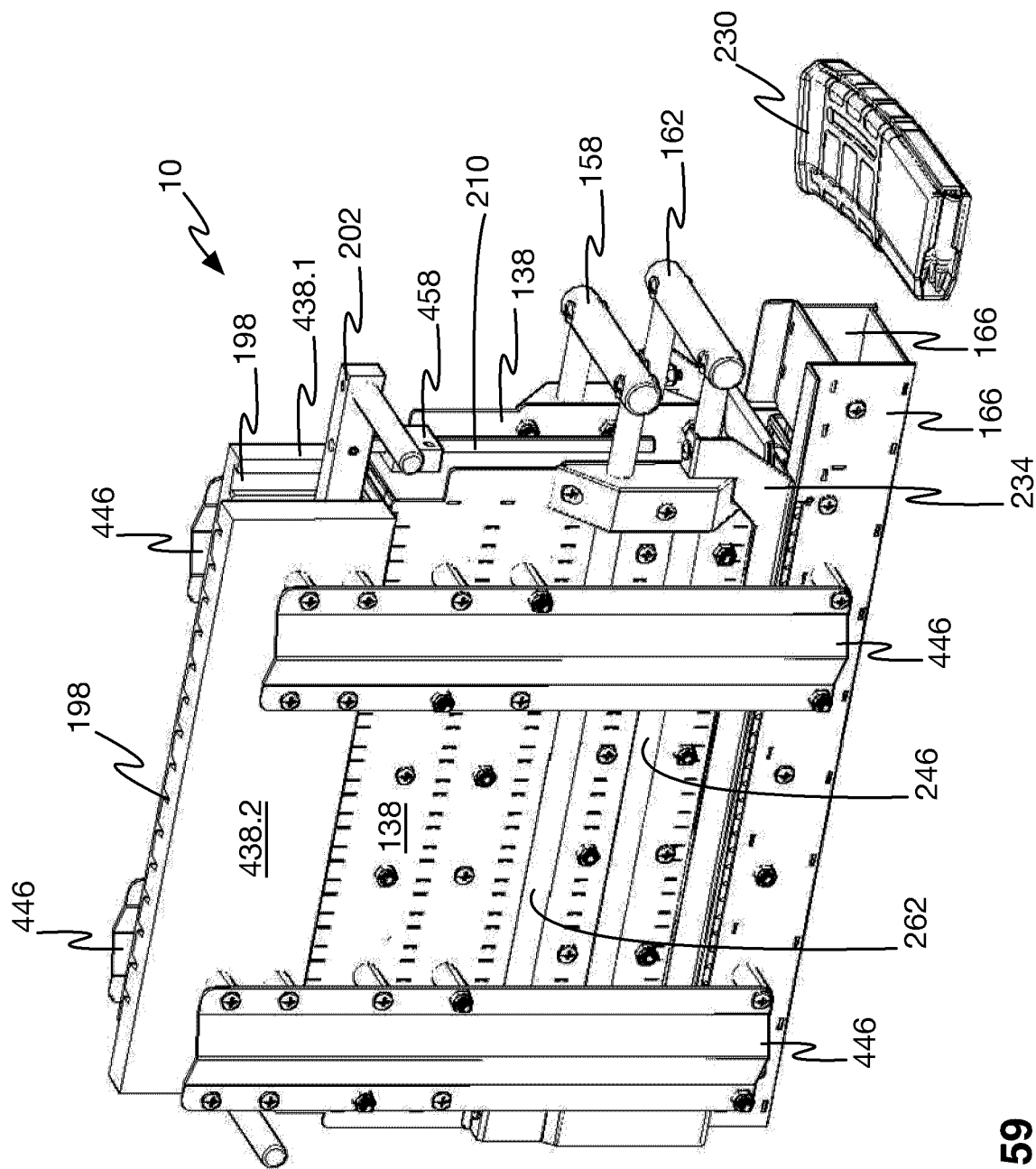


FIG. 59

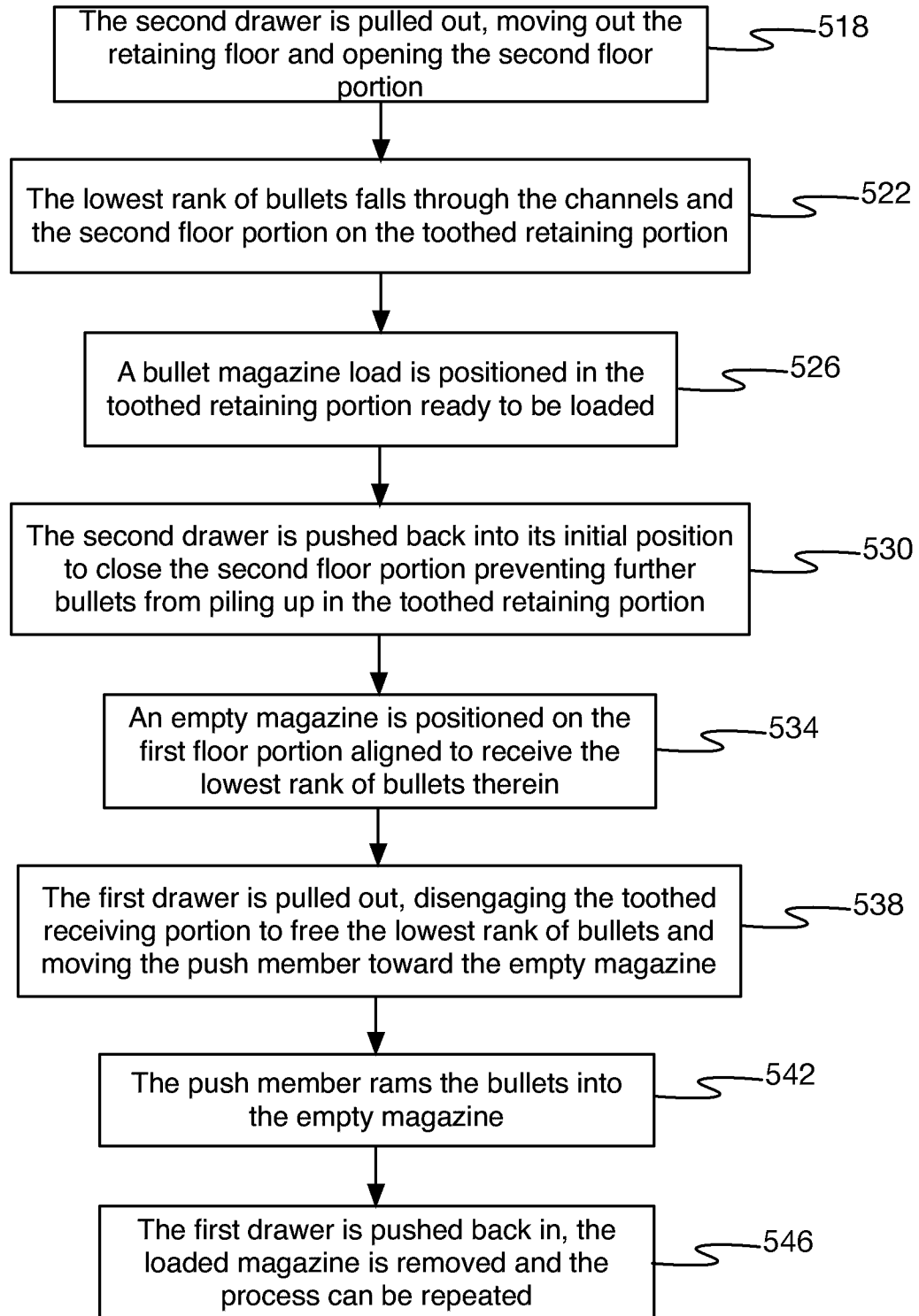
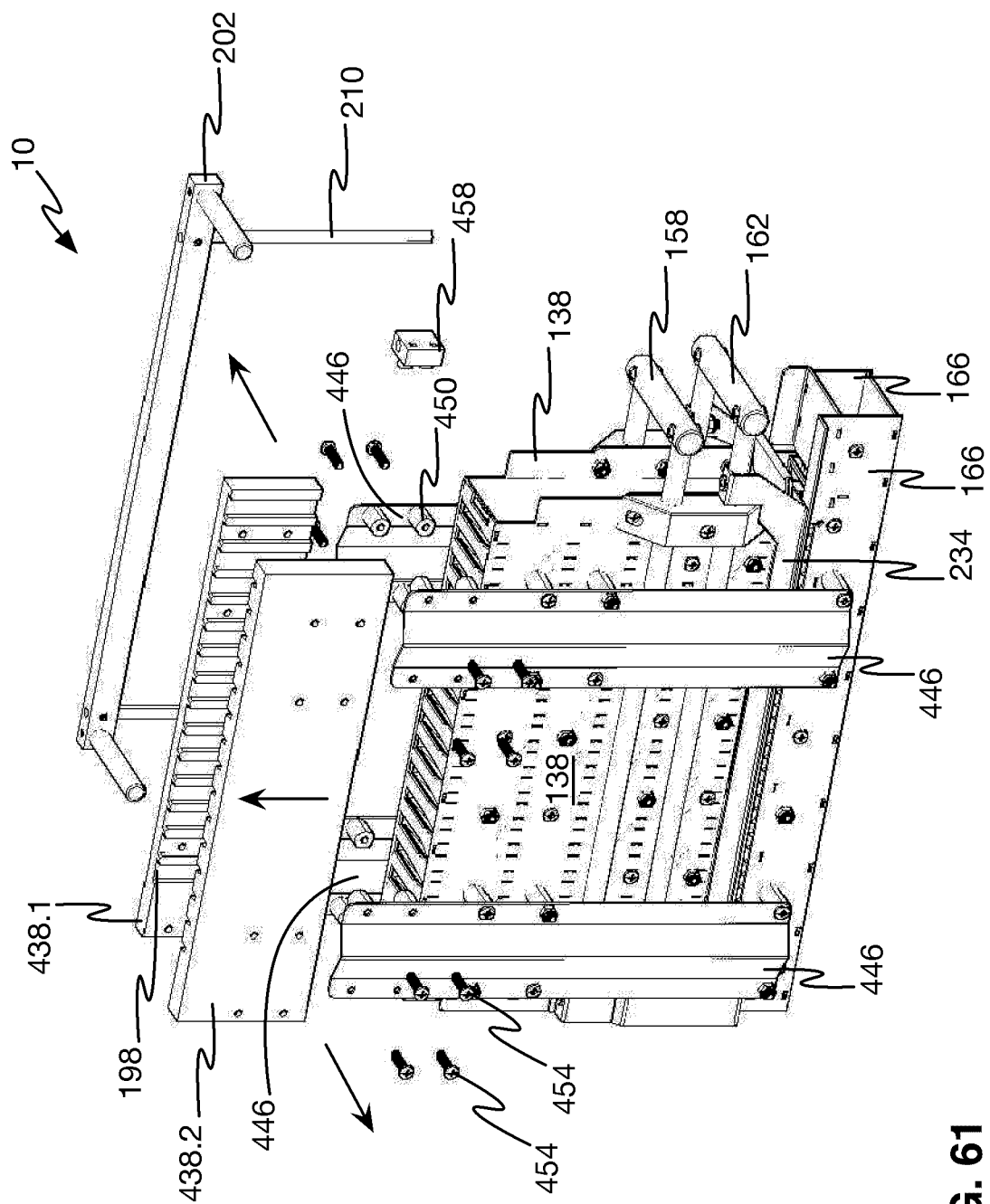
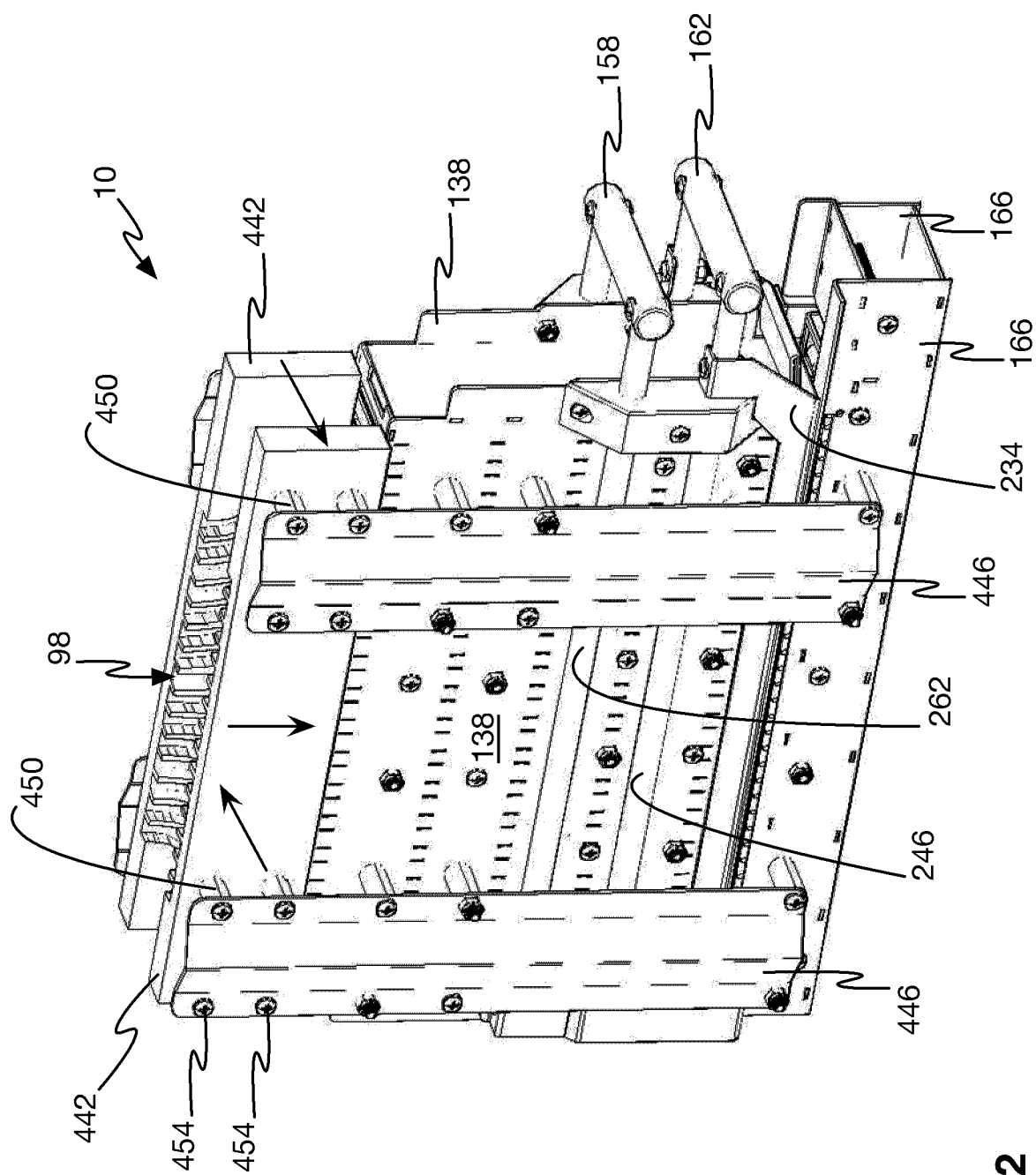


FIG. 60





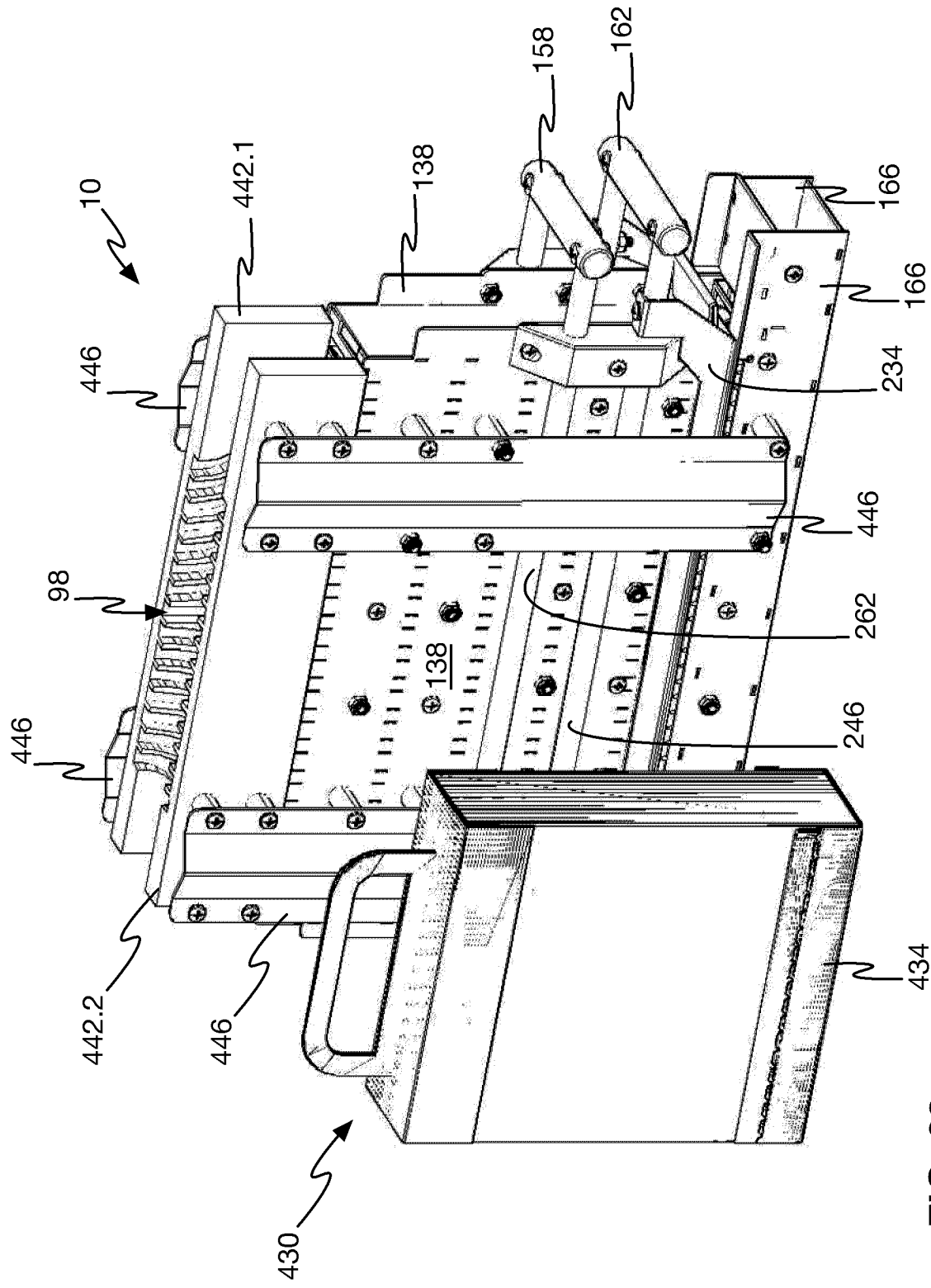


FIG. 63

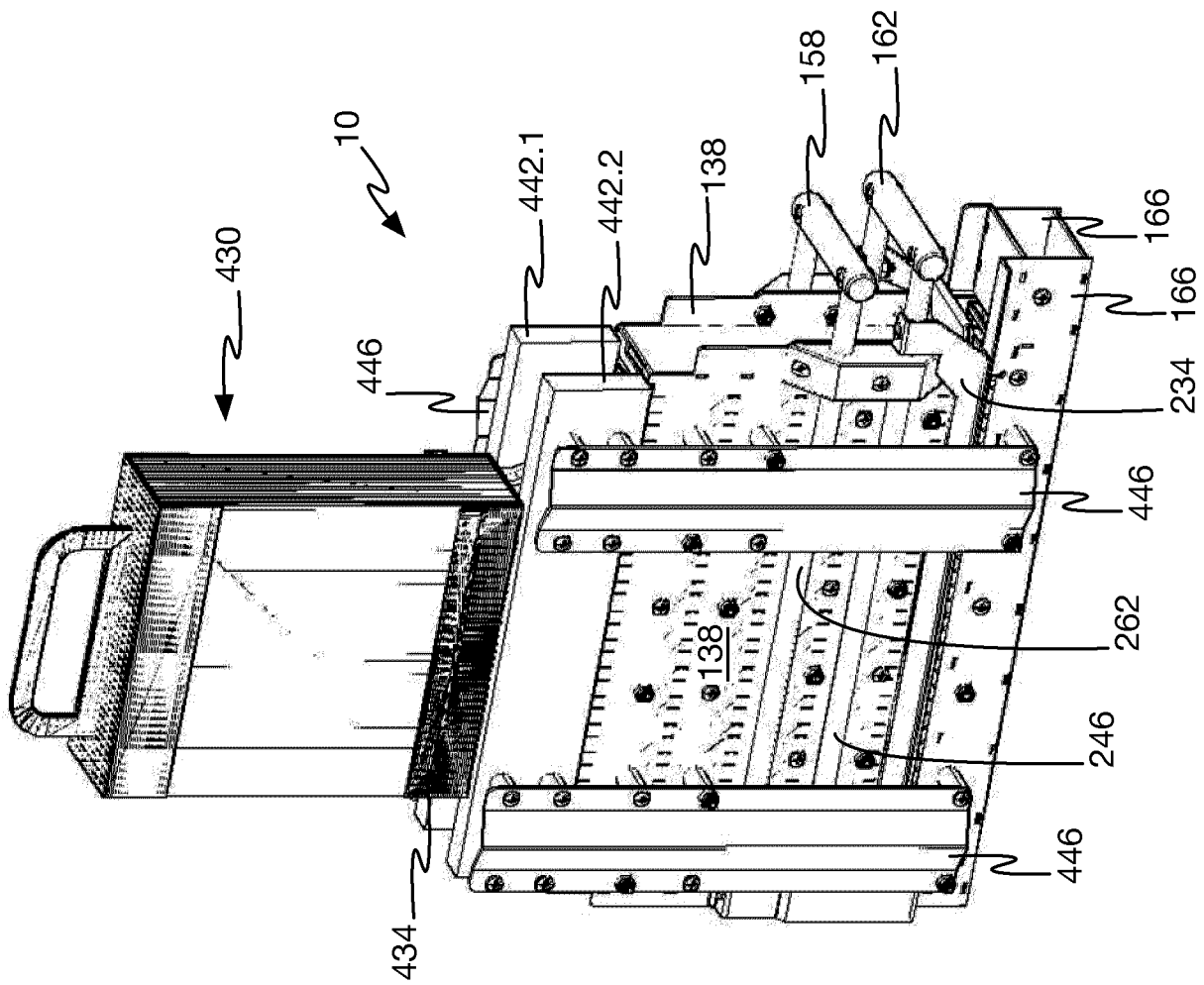


FIG. 64

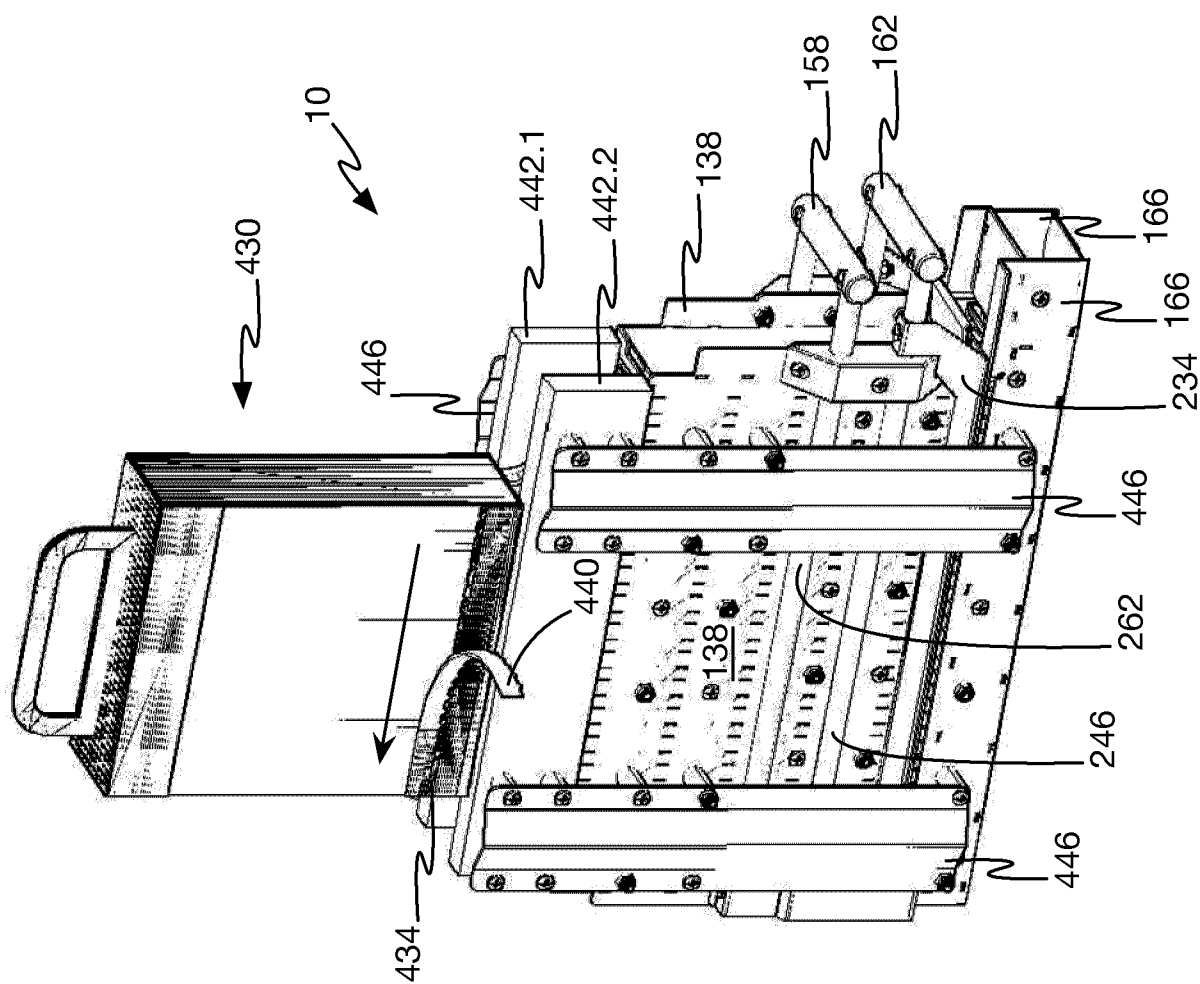


FIG. 65

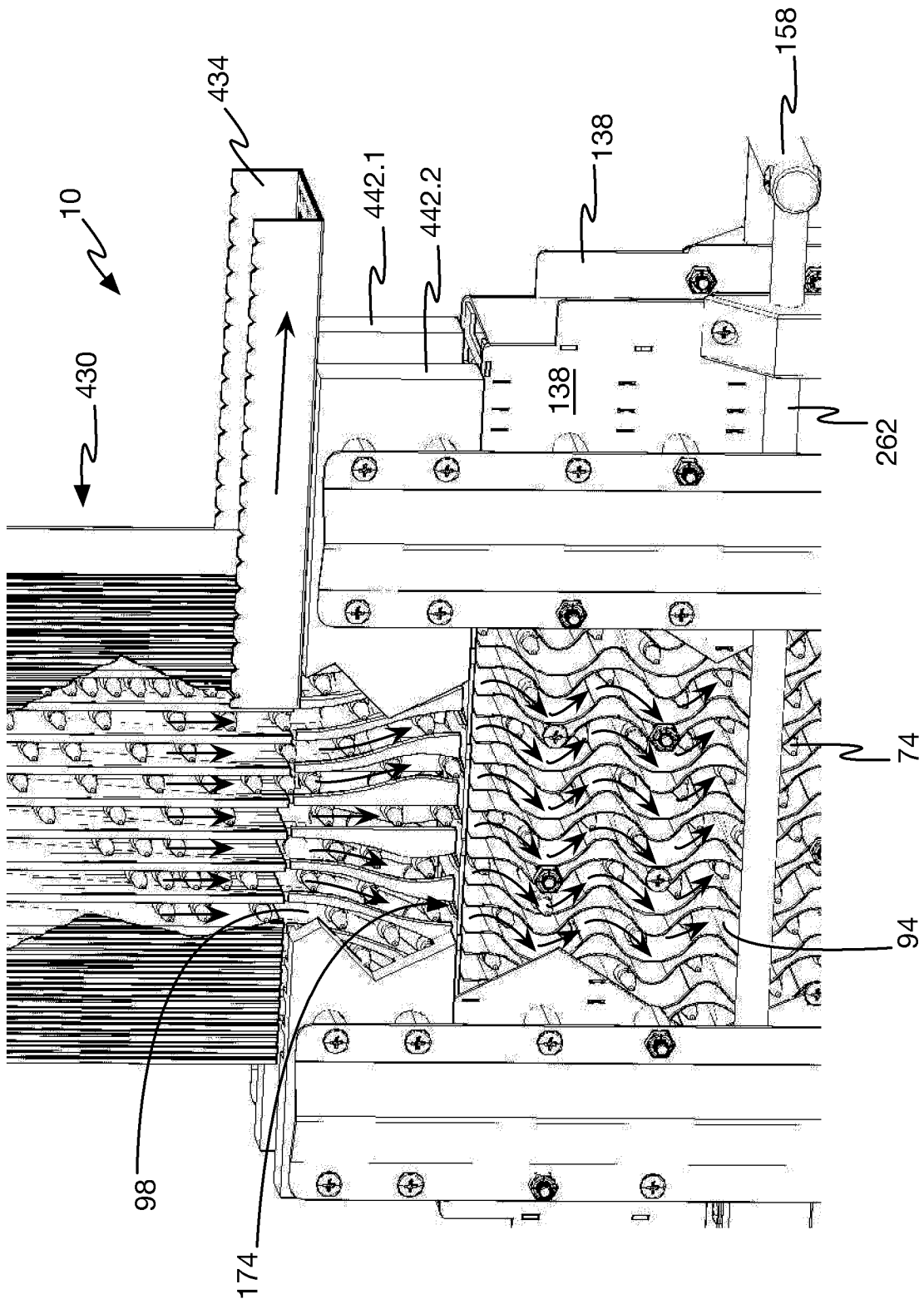


FIG. 66

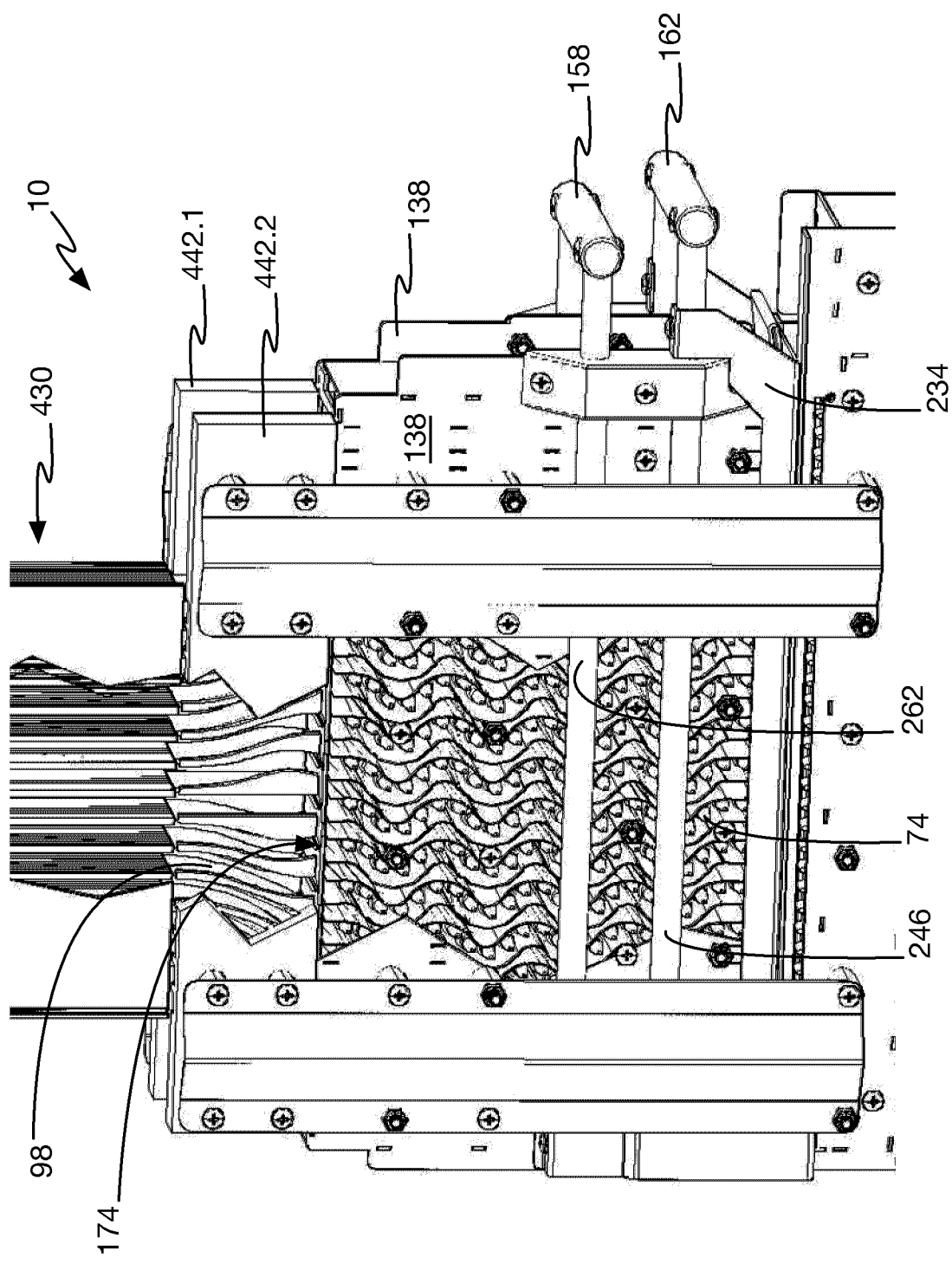


FIG. 67

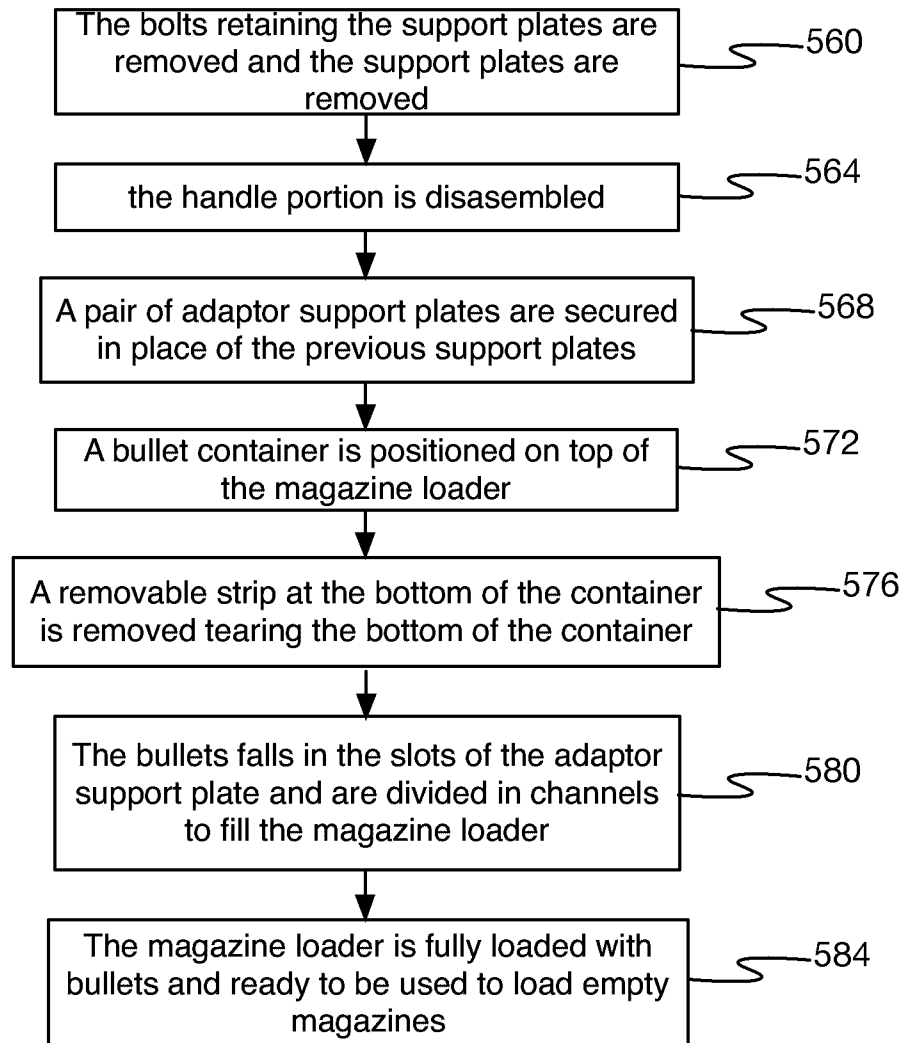


FIG. 68