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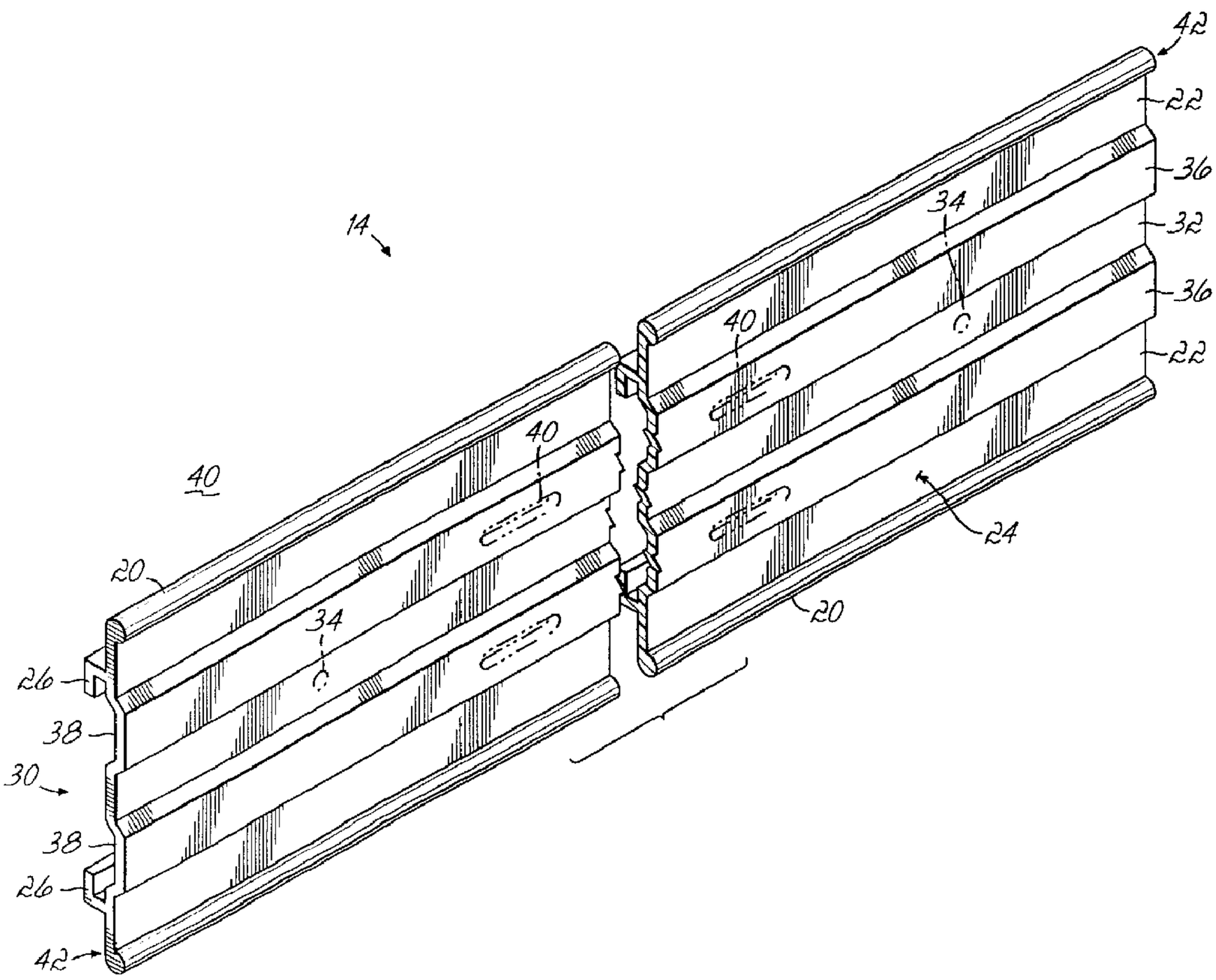
(54) Title: LAWN EDGING DEVICE



(57) Abrégé/Abstract:
A landscape-edging device is disclosed which may be used to segregate dissimilar landscaping schemes by positioning the device into the soil. The landscape edging is made of flexible strips, designed for continuous end-to-end attachment. The edging is

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(57) Abrégé(suite)/Abstract(continued):
attached to the soil by stakes. The edging system is designed so that stakes are removably attached to the device. The individual sections are joined together by a connector that is nested within open channels on one face of the lawn edging device and secured in place to the adjacent lawn edging sections by one or more buttons that releasably seat within holes in the lawn edging section. Each section can be cut to size, if needed, to tailor the joined sections to a particular landscape scheme. The lawn edging device is generally symmetric in cross section about a horizontal equator of the device. The lawn edging device is easily adapted and configured to a particular landscape scheme because it is severable to meet size requirements. Moreover, the connection system is easily and securely applied to the adjacent sections and the sections are symmetric allowing for easy orientation and installation.

LAWN EDGING DEVICE

ABSTRACT OF THE INVENTION

A landscape-edging device is disclosed which may be used to segregate dissimilar landscaping schemes by positioning the device into the soil. The landscape edging is made of flexible strips, designed for continuous end-to-end attachment. The edging is attached to the soil by stakes. The edging system is designed so that stakes are removably attached to the device. The individual sections are joined together by a connector that is nested within open channels on one face of the lawn edging device and secured in place to the adjacent lawn edging sections by one or more buttons that releasably seat within holes in the lawn edging section. Each section can be cut to size, if needed, to tailor the joined sections to a particular landscape scheme. The lawn edging device is generally symmetric in cross section about a horizontal equator of the device. The lawn edging device is easily adapted and configured to a particular landscape scheme because it is severable to meet size requirements. Moreover, the connection system is easily and securely applied to the adjacent sections and the sections are symmetric allowing for easy orientation and installation.

LAWN EDGING DEVICE

BACKGROUND OF THE INVENTION

This invention relates to the field of landscape barriers, and particularly to the design of flexible landscape edging sections utilizing stakes for attachment to the soil in which the sections are joined together by a connector.

The segregation of various areas of a garden or landscape scheme from a dissimilar neighboring landscape is often aesthetically and functionally desirable. Problems often arise when installing the flexible edging materials into the soil. A number of well-known landscape barrier systems are currently available, including wooden logs, flexible metal strips, flexible plastic strips, clay forms, stone, and brick. All of these systems satisfactorily segregate the landscape schemes with certain differences noted in their overall performances.

Of all of the landscape barrier systems commercially available, flexible strips made of materials such as metal and plastic are among the most popular due to their flexible design options, durability and low cost. These

systems allow for end-to-end series attachment of like sections of the system. This permits the construction of a continuous and uninterrupted landscape barrier of any length desired. The systems can be used to block the growth of roots between vegetation and incompatible neighboring vegetation, or between vegetation and a non-living landscape scheme. The edging system is often placed low into the soil to block the growth of roots across the edging line. Such systems can also be used to decoratively segregate dissimilar landscape schemes where root blocking is not the objective. In these instances, it is not necessary to place the edging as deeply into the soil. In either case, it is advantageous to attach the edging system to the soil with stakes. The stakes are positioned intermittently along the length of the flexible strip.

One well-recognized problem with landscape edging products, particularly in colder climatic areas, where freezing and thawing cause the ground to heave in response to temperature variations between freezing and thawing. Such ground movements have the tendency to force landscape edging out of the ground over time. It is, of course, desirable not to have the landscape edging products gradually move upwardly out of the ground as the ground heaves.

Another problem with known systems involves the ability, or lack thereof, to conform the system to a specific installation geometry. Typical edging systems generally comprise a plurality of edging strips which are connected together and curved in a geometrical shape (such as a circle) which requires the ends of the strip to be connected together. Many different shapes of edging strips have been conceived for connecting the ends of strips together, many of them requiring a separate connector coupling or a specific relationship

of the edging ends to the stakes which hold the edging in the ground.

Preferably, the connector scheme should be easily and efficiently implemented.

Such requirement is particularly evident when using one strip curved so that the two ends thereof are to be connected together. To avoid the use of a separate connector, some edging devices provide specially-prepared ends of complementary configurations which permit the ends to be spliced to one another. However, such designs require predetermined special lengths of edging material for different shapes and sizes of installations since they preclude cutting the edging strips at any desired length at the installation site.

The usual practice among landscape architects is to first assemble the edge strips alongside of the trench into which the edging strip is to be placed. This procedure gives the landscape architect an opportunity to visualize the arrangement and place any required bends into the edging strip before the edging strip is assembled and laid into the trench. However, one problem associated with known edging strip assemblies, is that when the edging strips are connected end-to-end and oriented alongside the trench, an effort to move the connected edging strips into the trench will oftentimes result in the edging strips becoming disconnected. Accordingly, an interconnection feature between the edging strip sections should not become disconnected as the edging strip is moved outside of the trench therefor. Moreover, a lawn edging device which can easily be assembled, modified as needed and installed into the trench is highly desired.

SUMMARY OF THE INVENTION

The above-described and other problems with prior art lawn edging devices have been resolved by this invention. In one embodiment, the

lawn edging device of this invention is constructed from a flexible thermoplastic material such as PVC or the like and manufactured in elongate, typically 8 foot long, sections. The individual sections are joined together by a connector that is nested within open channels on one face of the lawn edging device and secured in place to the adjacent lawn edging sections by one or more buttons that releasably seat within holes in the lawn edging section. Each section can be cut to size, if needed, to tailor the joined sections to a particular landscape scheme.

The lawn edging device is generally symmetric in cross section about a horizontal equator of the device. Opposed hook-shaped connectors project from one face of the lawn edging device to form the channel and mate with the connector. On the opposite face of the lawn edging device, a pair of spaced longitudinally extending ribs project on either side of a central portion of the device. The upper and lower edges of the device each include a generally rounded bead.

The lawn edging device is intended to be buried in the ground for separating various planting or landscape areas. An elongate stake is driven down at an angle through a slot in the lawn edging device to secure it in place. Advantageously, the lawn edging device is easily adapted and configured to a particular landscape scheme because it is severable to meet size requirements. Moreover, the connection system is easily and securely applied to the adjacent sections and the sections are symmetric allowing for easy orientation and installation.

According to one aspect of the present invention there is provided a landscape edging device comprising at least two elongate flexible landscape edging sections each adapted to be implanted into the ground, each landscape edging section having a front face, back face, top edge, bottom edge and spaced lateral ends and a pair of holes in the landscape edging section, each hole being located proximate one of the lateral ends; at least one connector adapted to join a pair of the lateral ends together such that the pair of lateral joined ends are juxtaposed in contact with one another, each connector having a pair of buttons and each button being adapted to be seated in one of the holes to releasably join the lateral ends together; and a channel formed on the back face of each landscape edging section and adapted to retain the connector therein.

According to a further aspect of the present invention there is provided a landscape edging device comprising a plurality of elongate flexible landscape edging sections adapted to be implanted into the ground, each landscape edging section having a front face, back face, top edge, bottom edge and spaced lateral ends; wherein each landscape edging section is symmetric about a longitudinal plane; a pair of holes in the landscape edging section, each hole being located proximate one of the lateral ends; at least one connector adapted to join a pair of the lateral ends together such that the pair of lateral joined ends are juxtaposed in contact with one another; a pair of tangs on the connector, each tang being

deflectable relative to a remainder of the connector; a pair of buttons each located on a distal end of one of the tangs, each button being adapted to be seated in one of the holes to releasably join the lateral ends together; a channel formed on the back face of each landscape edging section and adapted to retain the connector therein; a plurality of slots in each landscape edging section; and a plurality of stakes each adapted to be inserted either obliquely or parallel relative to the faces of the associated landscape edging section and through one of the slots to secure the landscape edging device in the ground.

BRIEF DESCRIPTION OF THE DRAWINGS

The objectives and features of the invention will become more readily apparent from the following detailed description taken in conjunction with the accompanying drawings in which:

Fig. 1 is a front perspective view of one embodiment of a section of lawn edging according to this invention;

Fig. 2 is a rear perspective view of the lawn edging section;

Fig. 3 is a front elevational view of the lawn edging section;

Fig. 4 is one side elevational view of the lawn edging section;

Fig. 5 is a rear elevational view of the edging section;

Fig. 6 is an opposite side elevational view of the edging section;

Fig. 7 is a top elevational view of the lawn edging section;

Fig. 8 is a bottom elevational view of the lawn edging section;

Fig. 9 is a rear perspective view of an adjacent pair of lawn edging sections joined together by a connector of this invention;

Fig. 9A is a front perspective view of the connector;

Fig. 10 is a cross-sectional view taken along line 10-10 of Fig. 9 with the sections buried in the ground;

Fig. 11 is a cross-sectional view taken along line 11-11 of Fig. 10;

Fig. 12 is a cross-sectional view of the lawn edging section buried in the ground;

Fig. 13 is a cross-sectional view of a stake securing the lawn edging section in the ground;

Fig. 14 is a perspective view of a stake adaptor according to another embodiment of this invention; and

Fig. 15 is a cross-sectional view of the stake adaptor coupled to the lawn edging device and secured in the ground by a stake according to this embodiment of this invention.

DETAILED DESCRIPTION OF THE INVENTION

As shown in the attached Figs. 1-13, one embodiment of a lawn or landscape edging device, indicated generally at 10, according to this invention is shown. The lawn edging device 10 is adapted to be planted into the ground 12 to create a border around gardens, flower beds, trees and other landscape features. The lawn edging device 10 includes basically three components; namely, lawn or landscape edging sections 14, connectors 16 and stakes 18. The lawn edging sections 14 are each preferably made of a rigid PVC material although other thermoplastic materials may be used such as high-density polyethylene, polypropylene or other suitably flexible and durable materials.

In one embodiment, each of the lawn edging sections 14 is manufactured in roughly 8 foot lengths and the lawn edging section 14 has a total height of approximately four inches. While one preferred material for the lawn edging section 14 is rigid PVC, due to the nature of that material and the elongate configuration of the sections 14, they are readily bendable to produce curved lawn edging borders or the like. Moreover, the materials of the lawn edging sections 14 are capable of being severed, sawed, cut or otherwise trimmed to appropriate lengths as required for a particular application or installation.

As shown in various views throughout Figs. 1-8, one embodiment of each lawn edging section 14 according to this invention is generally symmetric about a longitudinal or horizontal plane. In other words, the top and

bottom halves of each section 14 are mirror images of one another. Therefore, the detailed description of the invention herein may refer to a top or a bottom for orientation and clarification only, but it will be understood by one of ordinary skill in the art that the lawn edging sections 14 may be reversed or inverted without altering their function, description or utilization.

Each lawn edging section 14 includes a rounded elongate bead 20 along the top or bottom edge of the section. The bead 20 is joined to an adjacent wall portion 22 of the lawn edging section 14 which is generally planar on a front face 24 of the section 14 and has an L-shaped hook 26 projecting rearwardly from a back face 28 thereof. In combination, the top and bottom L-shaped hooks 26 confront one another to define a channel 30 there between. Each lawn edging section 14 also has a central wall section 32 extending medially along the length of the section 14. One or more circular holes 34 are provided at spaced locations in the central wall section 32 and the function of these holes 34 will be described later herein. The lawn edging section 14 also includes a pair of stiffening ribs 36 which project from the front face 24 of the section 14 and corresponding grooves 38 on the back face 28 adjacent one of the channels 30. The stiffening ribs 36 are spaced on opposite sides of the central wall section 32 and include a series of spaced generally elongated oval-shaped slots 40. The slots 40 are adapted to receive there through the stakes 18 to secure the lawn edging section 14 in the ground 12 as will be described later herein (Fig. 13).

As shown particularly in Figs. 9-11, terminal longitudinal ends 42 of adjacent lawn edging sections 14 are joined together by a connector 16 according to this invention. In one embodiment, the connector 16 is generally symmetric about both a central vertical axis and a central longitudinal axis. The

connector 16 includes a generally plate-like structure 44 having a pair of spaced ribs 46 extending longitudinally on a front face 48 of the connector 16. The ribs 46 are sized and configured to be seated within the grooves 38 on the back face 28 of the edging sections 14. A generally circular button 50 is formed adjacent each longitudinal end of the connector 16 on a terminal end of a cantilevered tang 52. The tang 52 is formed by a generally U-shaped slot or cut 54 in the plate 44 of the connector 16. The cross-sectional configuration of the button 50 is generally circular and an upper face of the button includes a bevel 56 directed toward the adjacent terminal end of the connector plate 16. The buttons 50 are sized and configured to seat within one of the holes 34 in the central wall section 32 of the lawn edging sections 14.

One advantage of this invention over many prior art lawn edging devices is that the lateral ends 42 of the sections 14 are securely coupled together with the connector 16 without the need to overlap the lateral ends 42 onto one another. In many cases, a secure and robust connection of the ends requires an overlapping configuration which is often difficult and cumbersome to achieve in the field, does not fully utilize the entire length of the sections and results in an unsightly joint. In other cases when a butt joint is used, the connection is easily pulled apart or fails in use or during installation. This invention obtains the benefits of a butt joint with a robust, secure connection.

As shown in Fig. 13, the stakes 18 are generally L-shaped with an elongate leg 58 and a short leg 60 oriented roughly 45° relative to one another. The stakes 18 are sized and configured to fit within the oval-shaped slots 40 of the lawn edging section 14 to secure the assembled lawn edging device 10 in the ground 12. The stakes 18 may be buried below ground level upon installation as shown in Fig. 13.

In use, an installer will assemble the appropriate length and member of lawn edging sections 14 adjacent a landscape area to be bound by the lawn edging device 10. Advantageously, the lawn edging sections 14 may be cut, severed or otherwise trimmed to provide the appropriate length of lawn edging device 10 once all of the sections 14 are joined together with connectors 16. A trench, slit or the like is formed in the ground 12 and adapted to receive the assembled lawn edging device 10 therein. The lawn edging sections 14 are laid end-to-end along the trench and advantageously, due to the symmetric configuration of the sections 14, their orientation is not critical to proper installation provided that the similarly configured faces 24, 28 of the lawn edging sections 14 are similarly oriented so that the connectors 16 may be appropriately installed.

To join the adjacent lawn edging sections 14 together, the connector plate 44 is slid longitudinally into the terminal end 42 of one of the sections 14 with the ribs 46 on the connector 16 seated within the grooves 38 in the lawn edging section 14. Likewise, the terminal longitudinal edges of the connector 16 are seated within the hooks 26 projecting from the rear face 28 of the lawn edging section 14 and the connector 16 is seated within the channel 30 defined by the hooks 26. The connector 16 is slid into the channel 30 and the bevel 56 of the button 50 slides along the back face 28 of the central wall section 32 while the tang 52 deflects rearwardly away from the back face 28. The button 50 slides along the back face 28 of the center wall section 32 of the lawn edging section 14 until the button 50 reaches one of the holes 34 and becomes seated therein. At that time, the cantilevered tang 52 pushes the button 50 through the hole 34 thereby releasably locking the connector 16 to one of the lawn edging sections 14.

A plurality of spaced holes 34 may be provided in the lawn edging section 14 or only at the appropriately spaced distance from the terminal longitudinal edge 42 of the lawn edging section 14 to receive the button 50 on one end of the connector 16. If the lawn edging section 14 has been cut or severed, then the installer may easily drill an appropriately sized and positioned hole 34 in the center wall section 32 to receive the button 50 of the connector 16. To complete the connection, the adjacent wall edging section 14 is slid onto the exposed half of the connector 16 projecting from the attached lawn edging section 14 with the edges of the connector 16 seated within the hooks 26 and channel 30 of the adjacent lawn edging section 14. The adjacent lawn edging section 14 is slid onto the connector 16 until the terminal edges 42 of the lawn edging sections 14 abut with one another and/or the button 50 on the tang 52 of the connector 16 is seated within one of the holes 34 in the adjacent lawn edging section 14. At this point, the lawn edging sections 14 are securely and releasably connected together for installation into the ground 12.

This connection process may be repeated until each of the lawn edging sections 14 are assembled to form the lawn edging device 10 and then the entire device 10 inserted into the ground 12 or the lawn edging sections 14 may be sequentially connected to the adjacent section 14 while being inserted into the trench into the ground 12. After the assembled lawn edging device 10 is in the trench of the ground 12, the stakes 18 are driven through the slots 40 at spaced locations in the device 10 to securely anchor the device 10 in the ground 12 as shown in Fig. 13.

Another embodiment of this invention is shown in Figs. 14-15 in which a stake adaptor 62 is coupled to the channel 30 of the lawn edging section 14 and secured in the ground 12 by a spike, nail or stake 18a. In this

embodiment, the stake 18a is driven into the ground 12 generally vertically as opposed to the angular orientation shown in the embodiment of Fig. 13. In some applications, the vertical orientation of the stake 18a may be preferred. If so, then the stake adaptor 62 is coupled to the lawn edging section 14 as shown in Fig. 15.

The stake adaptor 62 includes a generally rectangular plate 64 with a major dimension that is sized and configured to mate with the channel 30 of the lawn edging section 14. A generally U-shaped bracket 66 is formed on the back face of the plate 64 and includes top and bottom legs 68 projecting perpendicularly from the plate64. A stake hole 70 is formed in each leg 68 of the bracket 66 and is adapted to receive the stake 18a driven through the bracket 66 to secure the stake adaptor 62 and attached lawn edging device 14 in the ground 12. The stake adaptor 62 may be molded from rigid PVC and is symmetric about a horizontal plane laterally bisecting the plate 64 and bracket 66. Therefore, the stake adaptor 62 and lawn edging section 14 coupled together form a symmetric unit that can be inverted top to bottom or bottom to top without changing its function or utility.

In various alternative embodiments of the device shown in Figs. 14-15, the stake adaptor 62 may be utilized as a connector to join lateral ends 42 of the sections 14 together and to receive the stake 18a there through.

Moreover, the arrangement shown in Figs. 14-15 may be utilized not only for a landscape or lawn edging device, but also as a concrete form when pouring sidewalks, driveways, curbs or the like. In such applications, the device is re-usable and each section 14 may have a planar front face 24 to retain the concrete until it is cured and the device removed.

From the above disclosure of the general principles of this invention and the preceding detailed description of at least one preferred embodiment, those skilled in the art will readily comprehend the various modifications to which this invention is susceptible. The scope of the claims should not be limited by the preferred embodiments set forth in the examples, but should be given the broadest interpretation consistent with the description as a whole.

WHAT IS CLAIMED IS:

1. A landscape edging device comprising:

at least two elongate flexible landscape edging sections each adapted to be implanted into the ground, each landscape edging section having a front face, back face, top edge, bottom edge and spaced lateral ends and a pair of holes in the landscape edging section, each hole being located proximate one of the lateral ends;

at least one connector adapted to join a pair of the lateral ends together such that the pair of lateral joined ends are juxtaposed in contact with one another, each connector having a pair of buttons and each button being adapted to be seated in one of the holes to releasably join the lateral ends together; and

a channel formed on the back face of each landscape edging section and adapted to retain the connector therein.

2. The landscape edging device of claim 1 further comprising:

a plurality of slots in each landscape edging section; and

a plurality of stakes each adapted to be inserted through one of the slots to secure the landscape edging device in the ground.

3. The landscape edging device of claim 2 wherein the stakes are each inserted either obliquely or parallel relative to the faces of the associated landscape edging section.

4. The landscape edging device of claim 1 wherein the connector and both associated elongate flexible landscape edging sections are entirely embedded in the ground when assembled and in use.

5. The landscape edging device of claim 1 wherein the channel is formed by a pair of confronting hooks on the back face of each landscape edging section.

6. The landscape edging device of claim 1 wherein each landscape edging section is symmetric about a longitudinal plane.

7. The landscape edging device of claim 1 further comprising:

a pair of tangs on the connector, each tang being deflectable relative to a remainder of the connector and each of the buttons being located on a distal end of one of the tangs.

8. The landscape edging device of claim 1 further comprising:

a stake adaptor releasably coupled to one of the landscape edging sections between the lateral ends thereof and having at least one stake hole; and

a stake adapted to be inserted generally parallel to the faces of the landscape edging section, between the lateral ends thereof and through the stake hole to secure the device in the ground.

9. A landscape edging device comprising:

a plurality of elongate flexible landscape edging sections adapted to be implanted into the ground, each landscape edging section having a front face, back face, top edge, bottom edge and spaced lateral ends;

wherein each landscape edging section is symmetric about a longitudinal plane;

a pair of holes in the landscape edging section, each hole being located proximate one of the lateral ends;

at least one connector adapted to join a pair of the lateral ends together such that the pair of lateral joined ends are juxtaposed in contact with one another;

a pair of tangs on the connector, each tang being deflectable relative to a remainder of the connector;

a pair of buttons each located on a distal end of one of the tangs, each button being adapted to be seated in one of the holes to releasably join the lateral ends together;

a channel formed on the back face of each landscape edging section and adapted to retain the connector therein;

a plurality of slots in each landscape edging section; and

a plurality of stakes each adapted to be inserted either obliquely or parallel relative to the faces of the associated landscape edging section and through one of the slots to secure the landscape edging device in the ground.

10. The landscape edging device of claim 9 further comprising:

a stake adaptor releasably coupled to one of the landscape edging sections between the lateral ends thereof and having at least one stake hole;

wherein one of the stakes is adapted to be inserted generally parallel to the faces of the landscape edging section, between the lateral ends thereof and through the stake hole to secure the device in the ground.

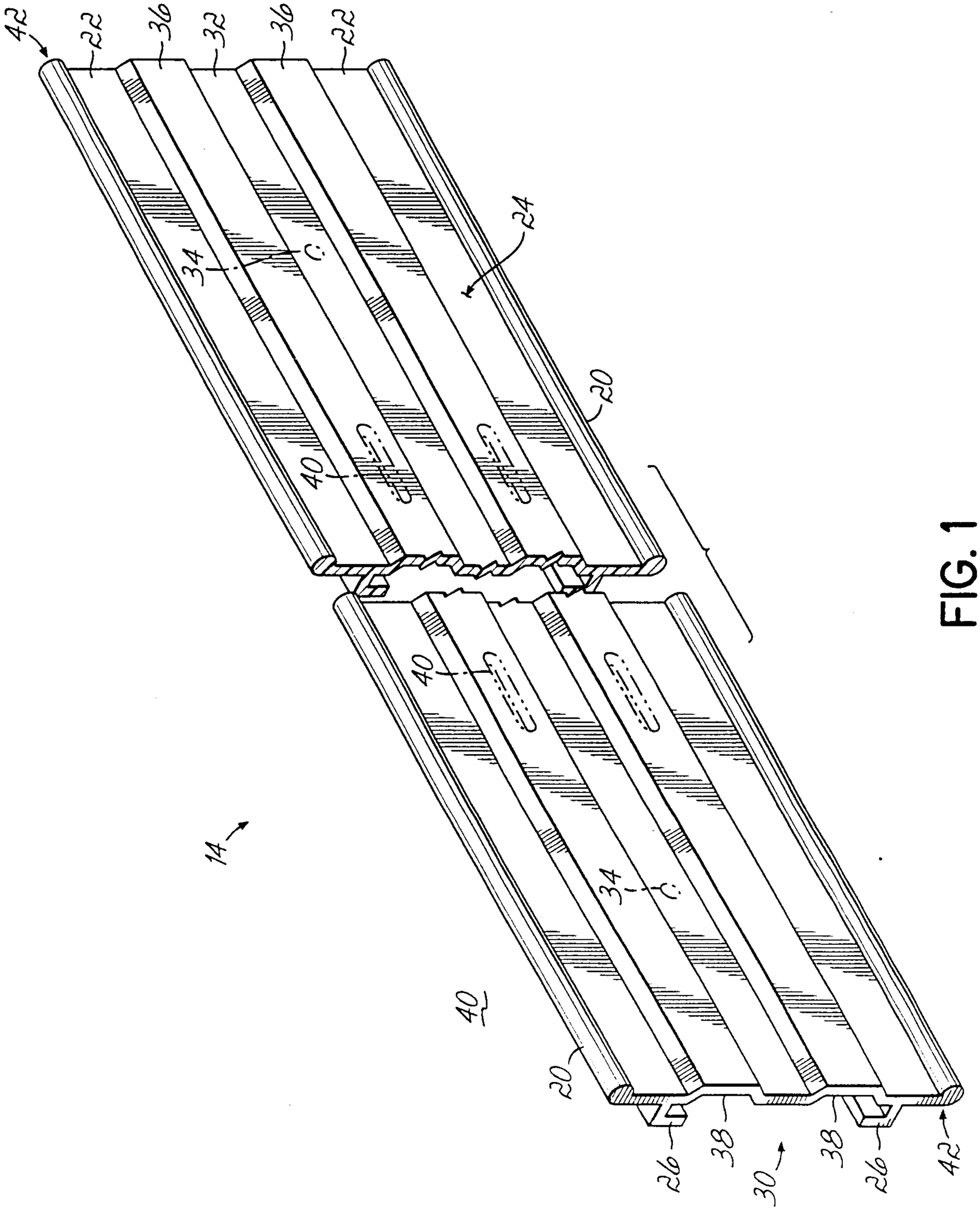

FIG. 1

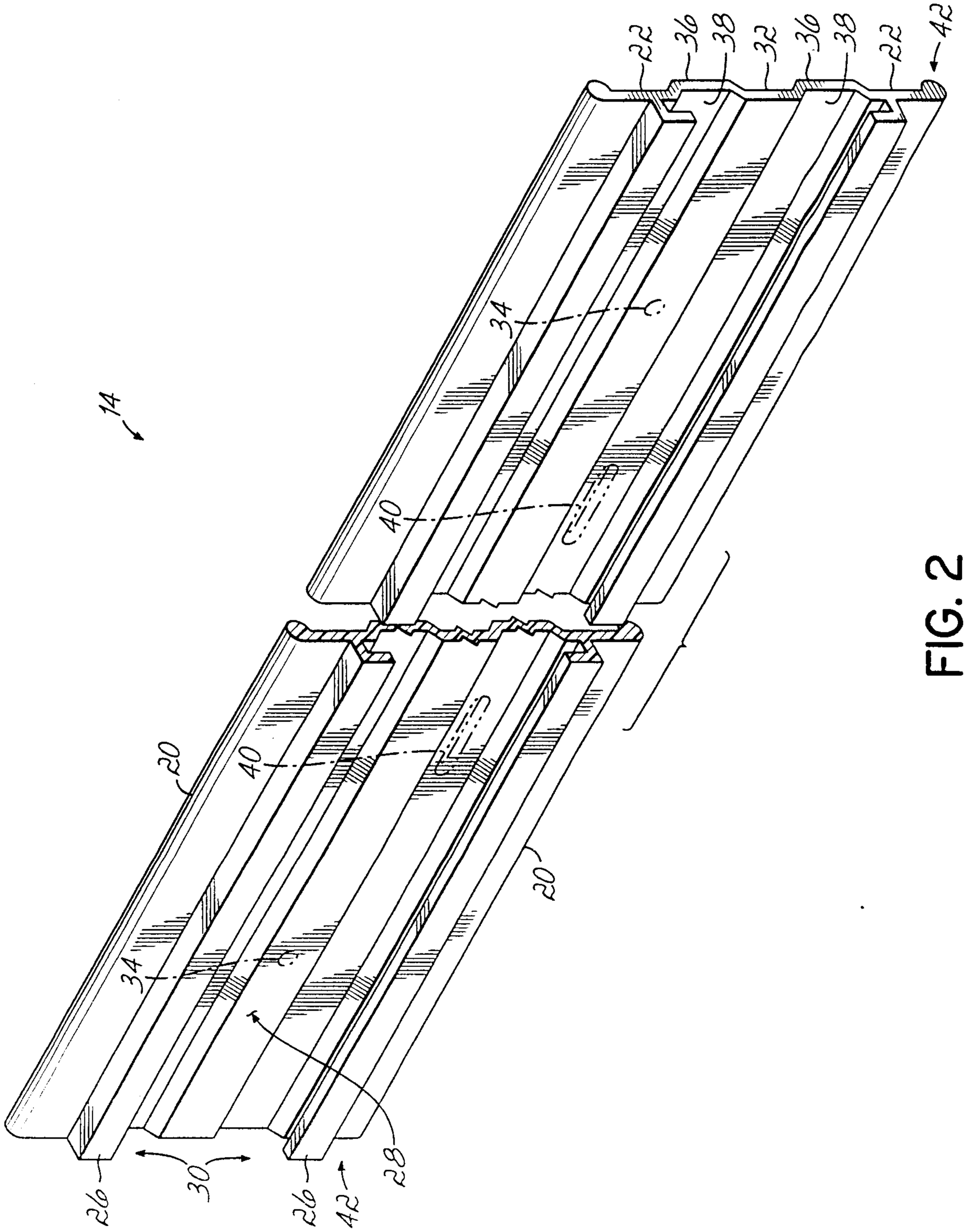

FIG. 2

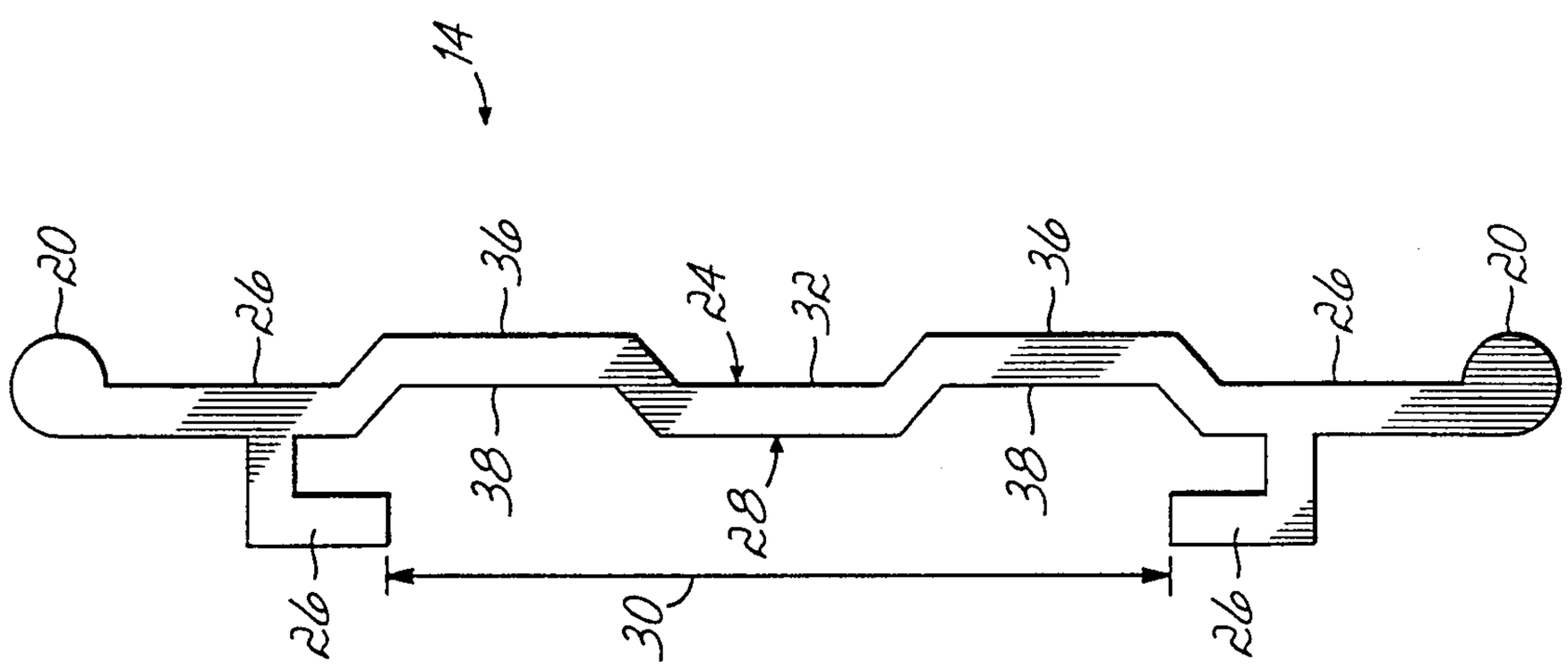
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FIG. 4

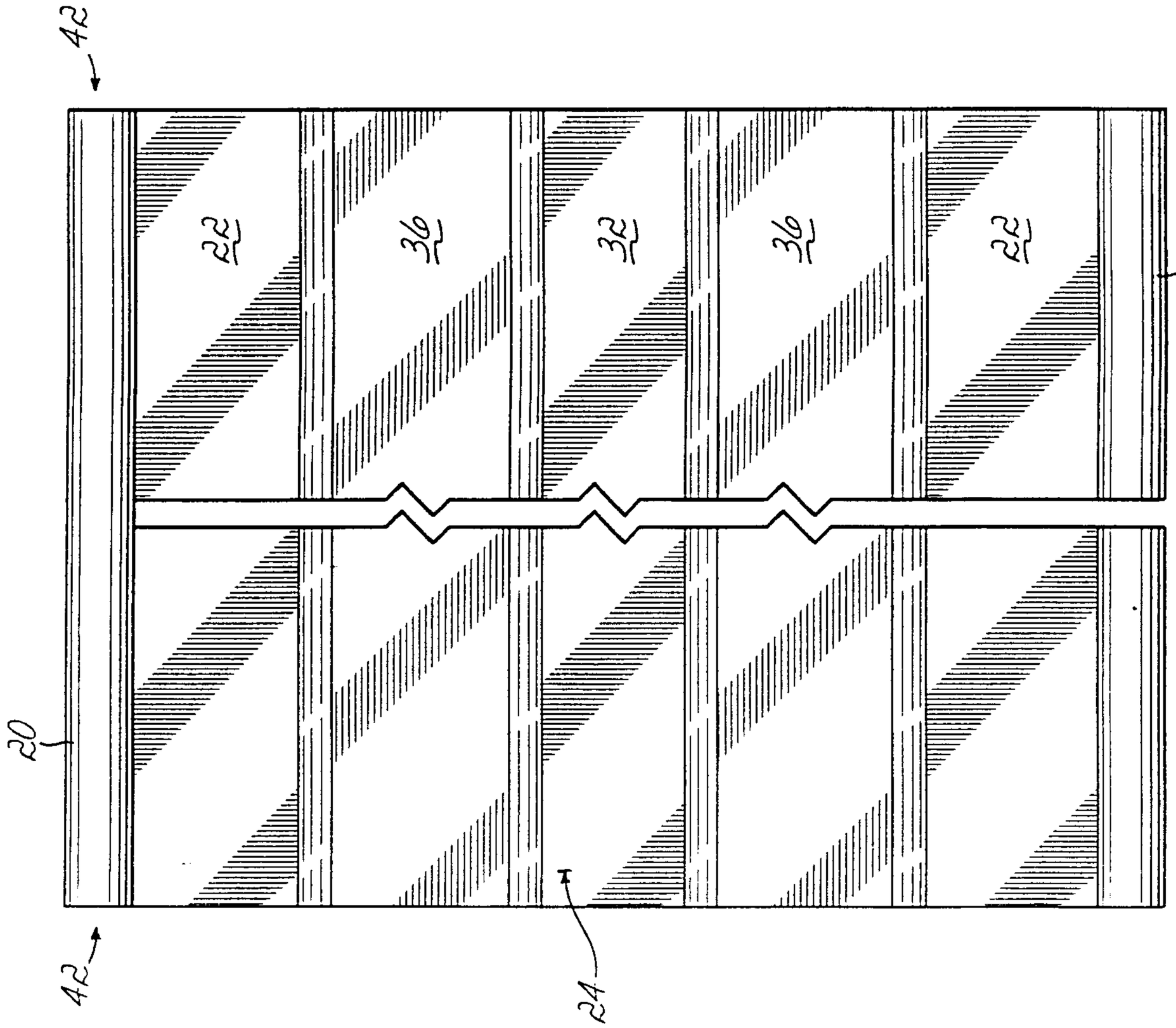
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FIG. 3

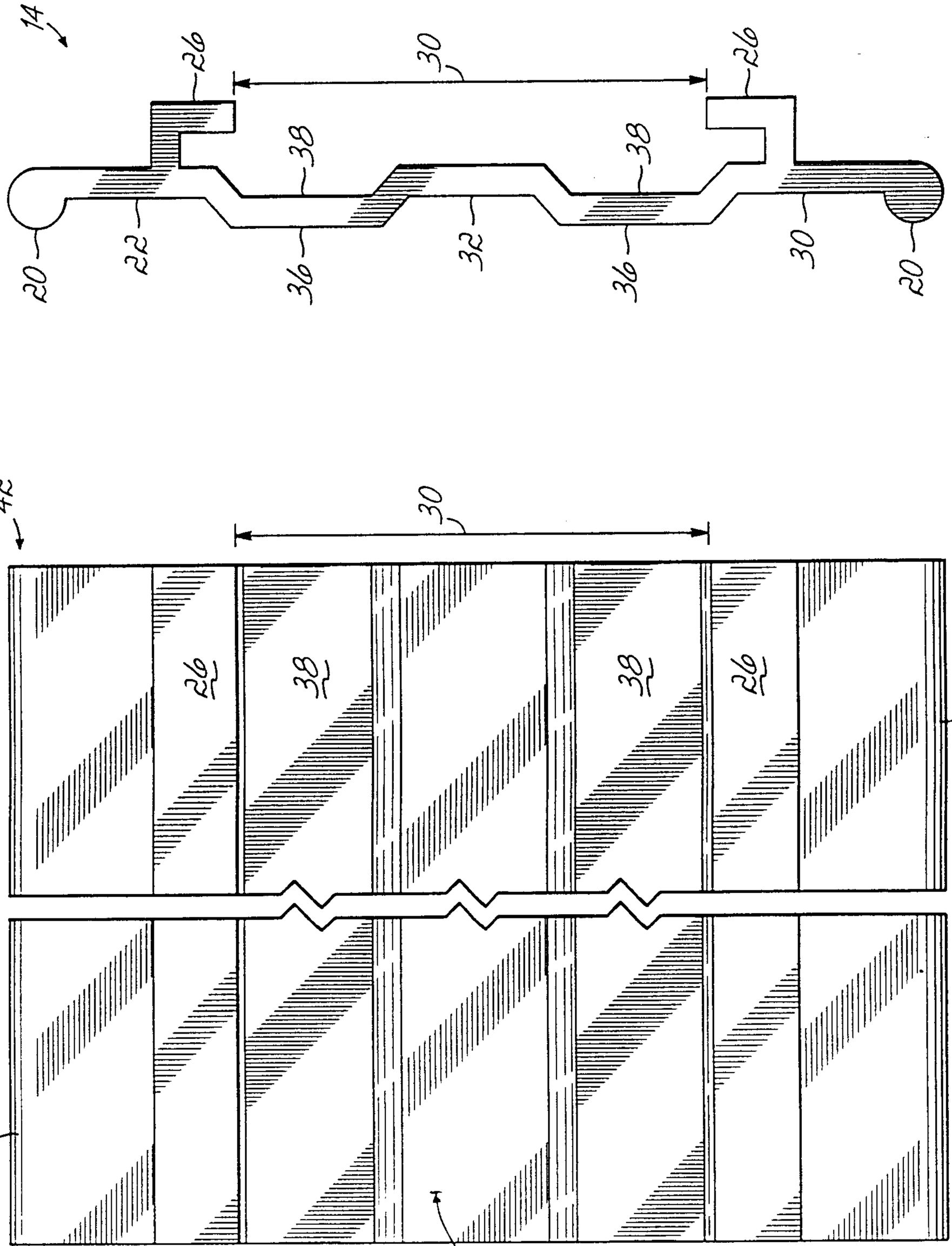

FIG. 6

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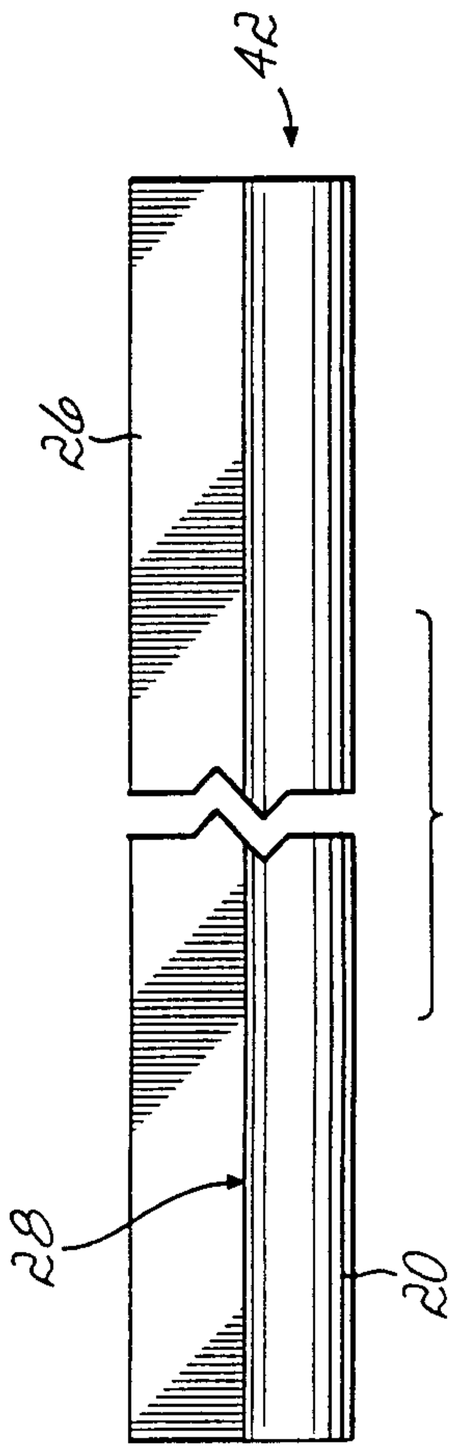


FIG. 7

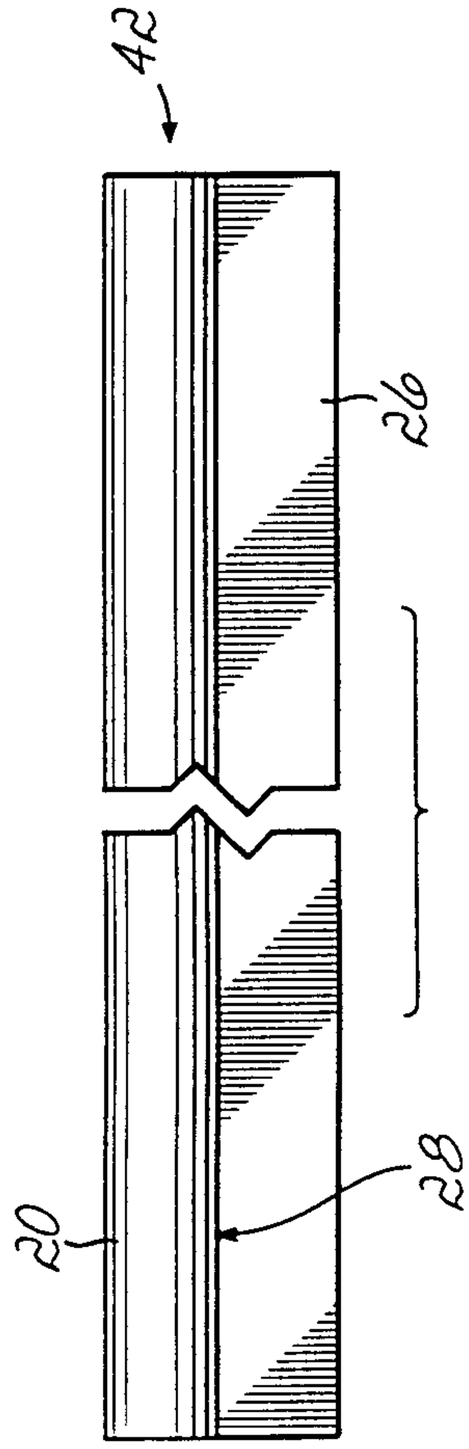
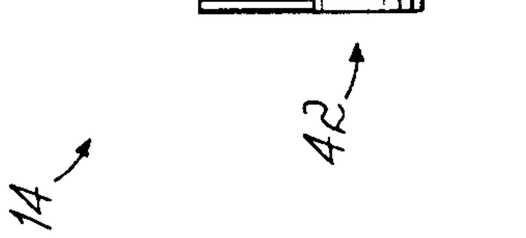
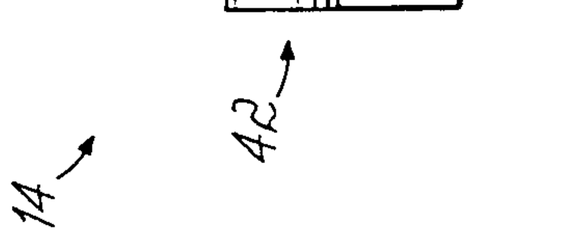


FIG. 8





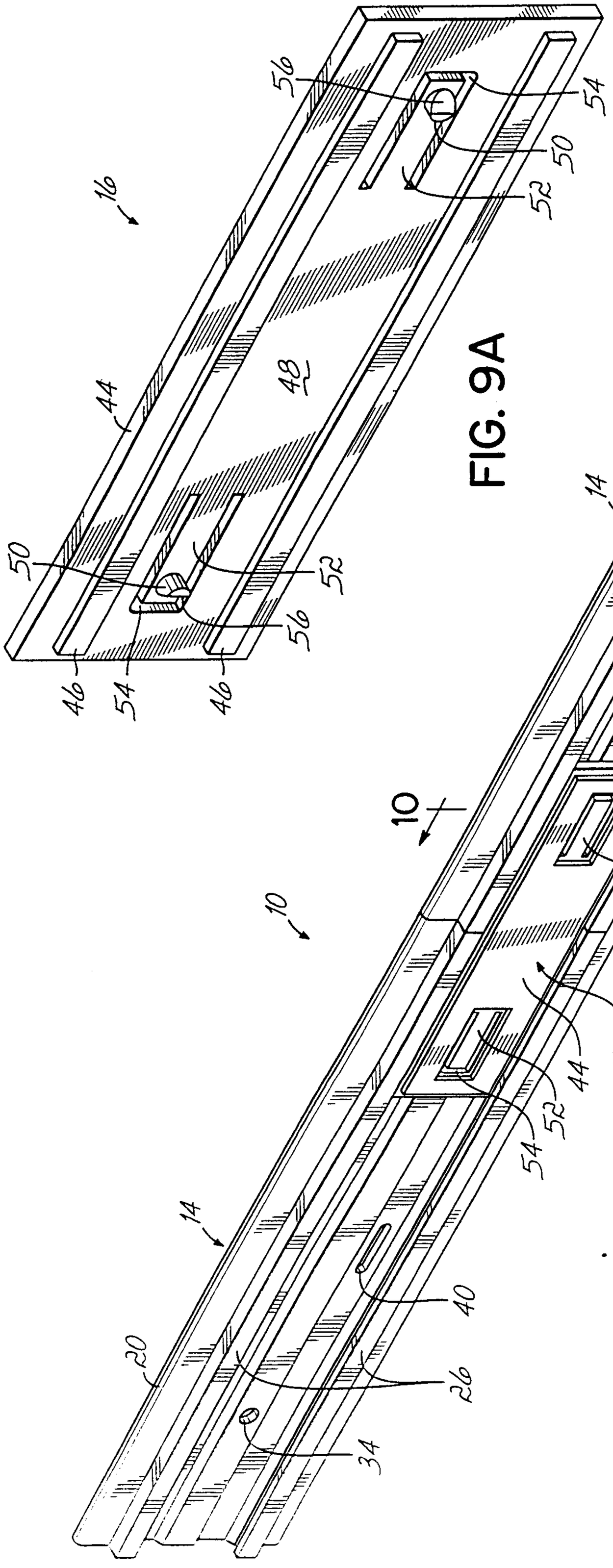

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FIG. 9A

FIG. 9

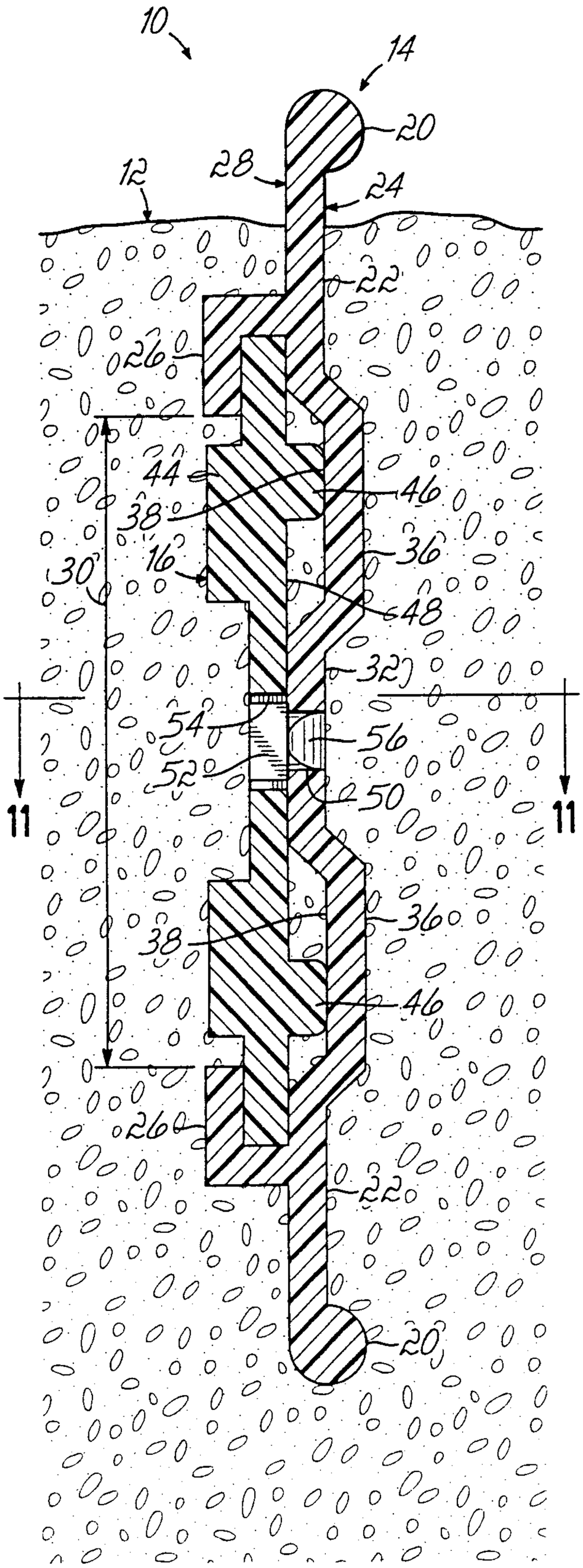
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FIG. 10

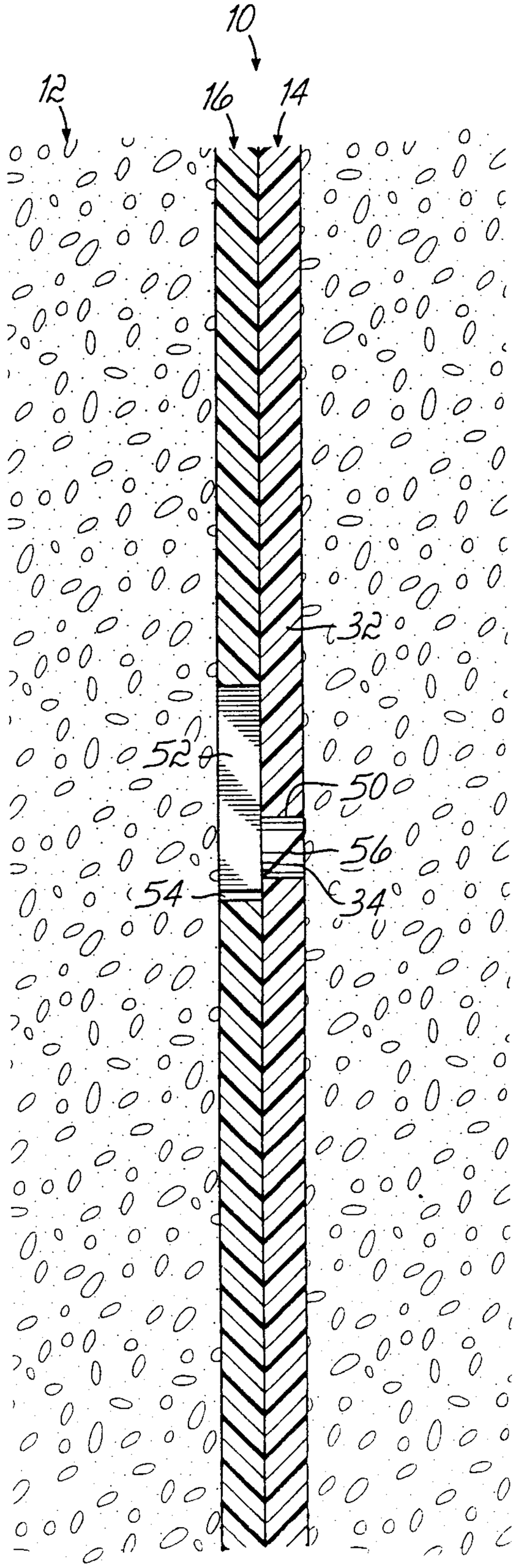
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FIG. 11

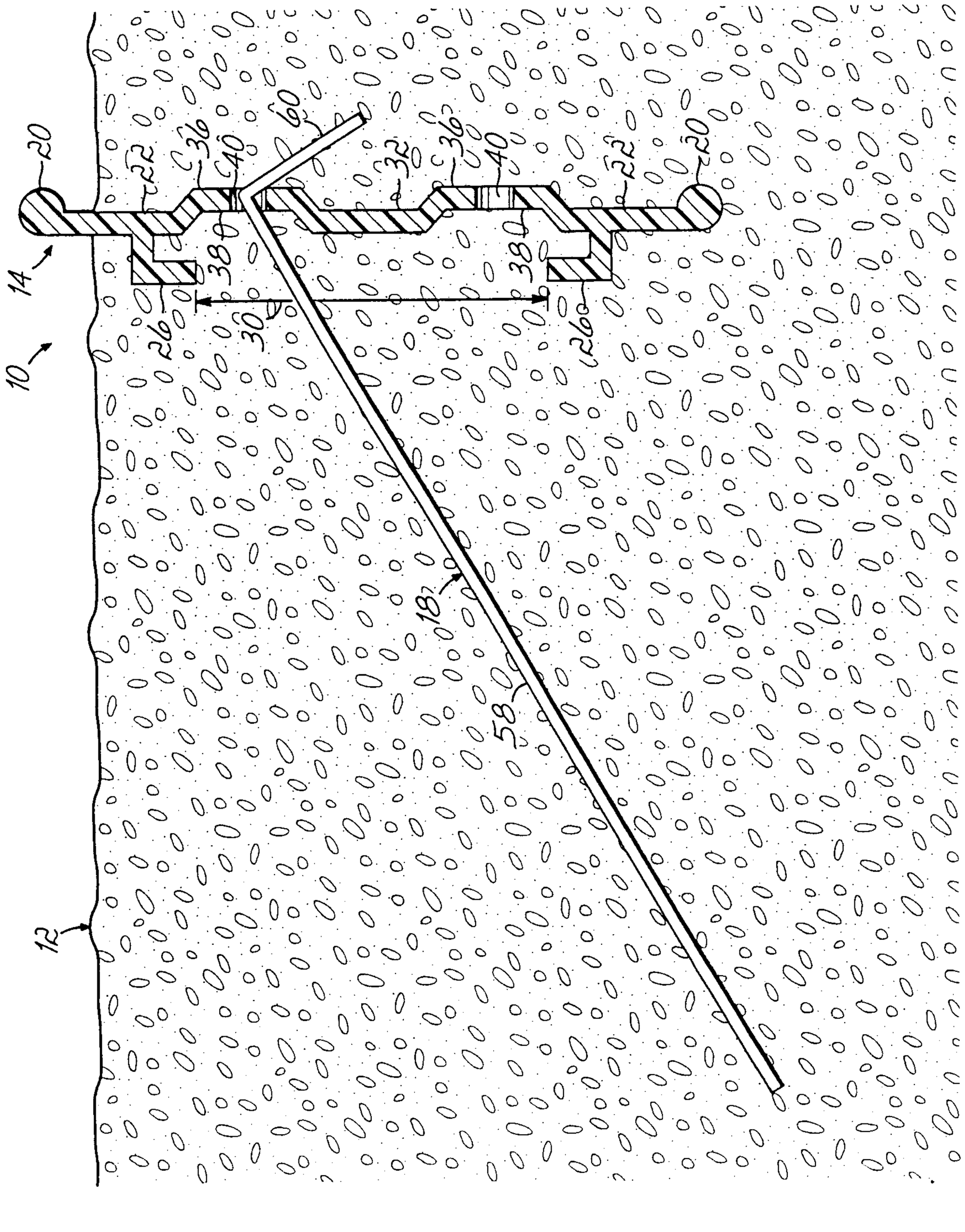
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FIG. 13

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FIG. 12

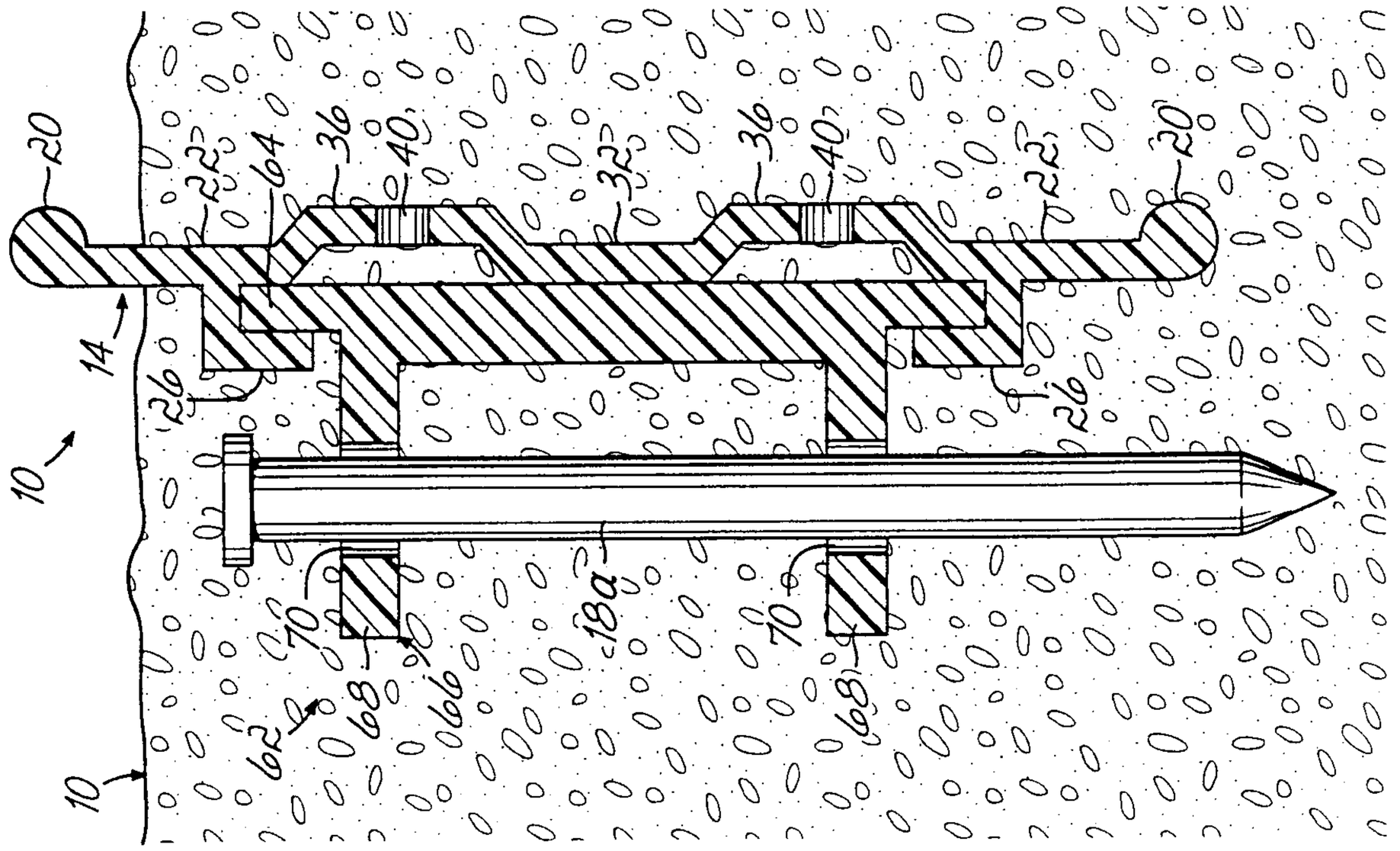
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FIG. 15

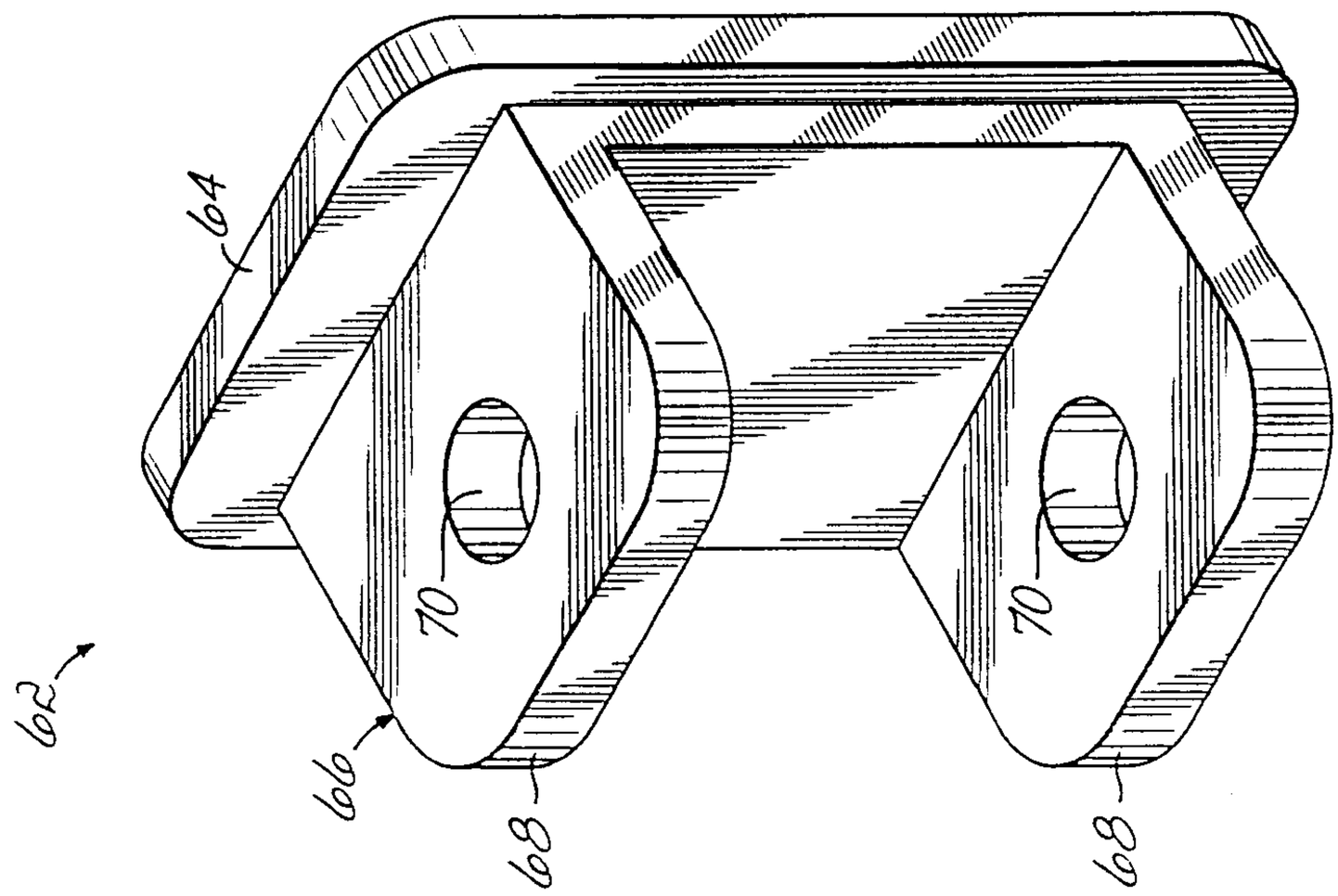
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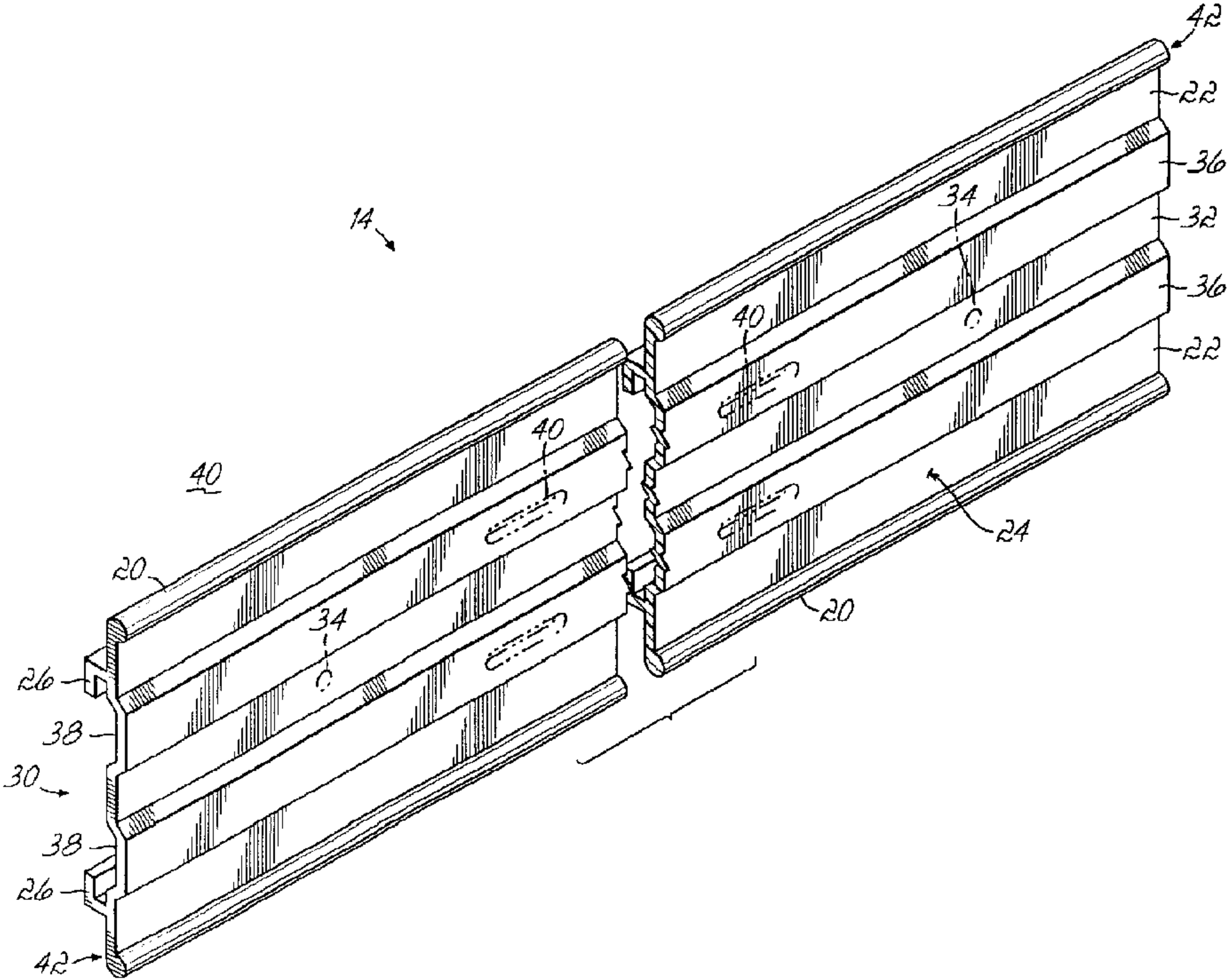
FIG. 14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