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(54) **POSEABLE FIGURE**

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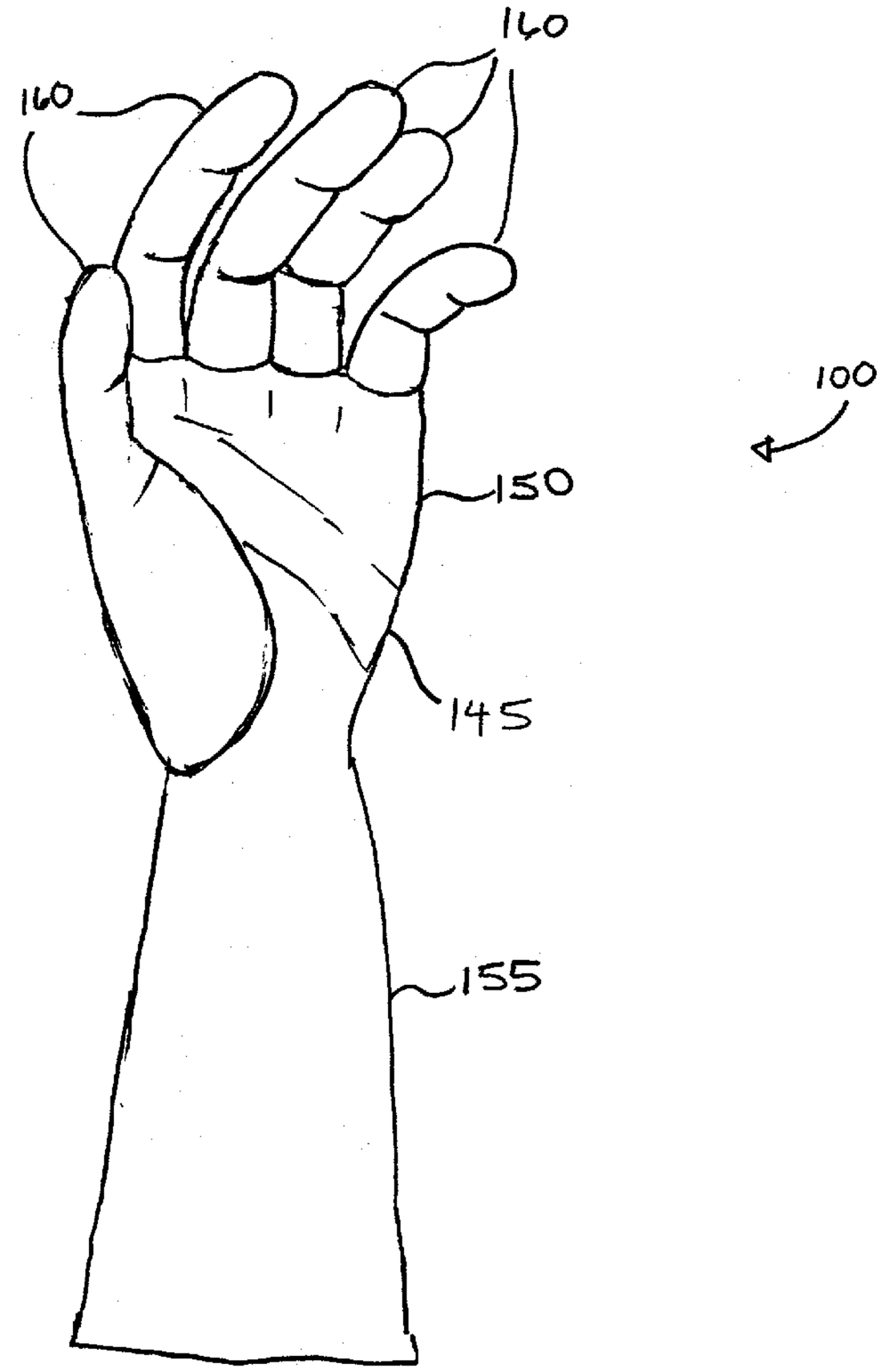
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(57) **ABSTRACT**

A bendable portion for a toy figure includes a bendable internal piece, a first rigid element coupled to the bendable internal piece to prevent it from being bent in the region to which the first rigid element is coupled, and a resilient outer layer covering the bendable internal piece and the first rigid element. The bendable internal piece has a shape that permits the bendable internal piece to be bent about a first axis to establish different configurations, that retains those configurations after being bent, and that impedes bending of the bendable internal piece about a second axis perpendicular to the first axis such that a force required to bend the bendable internal piece about the second axis is more than twice a force required to bend the bendable internal piece about the first axis. The resilient outer layer defines an outer surface of the bendable portion.



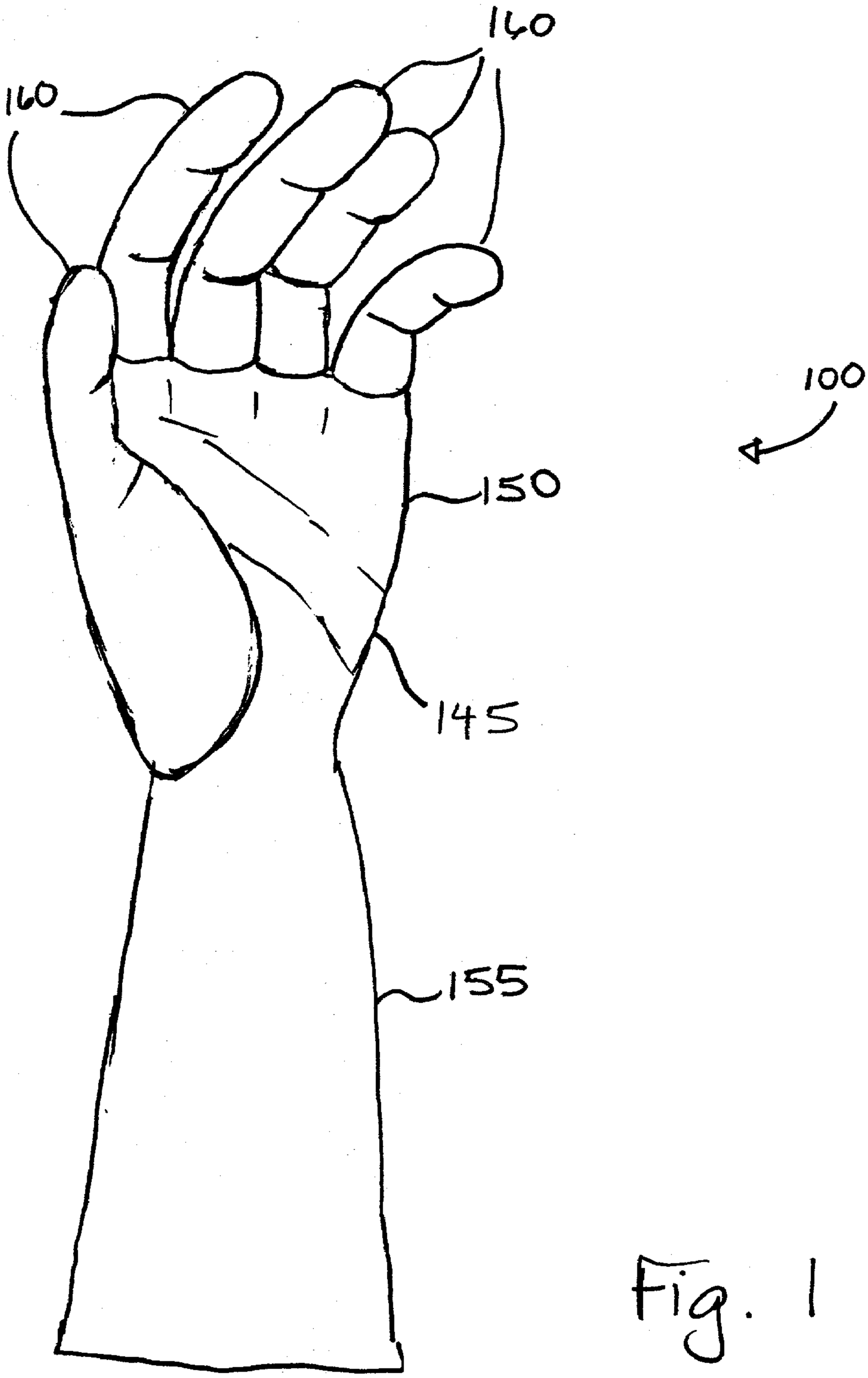


Fig. 1

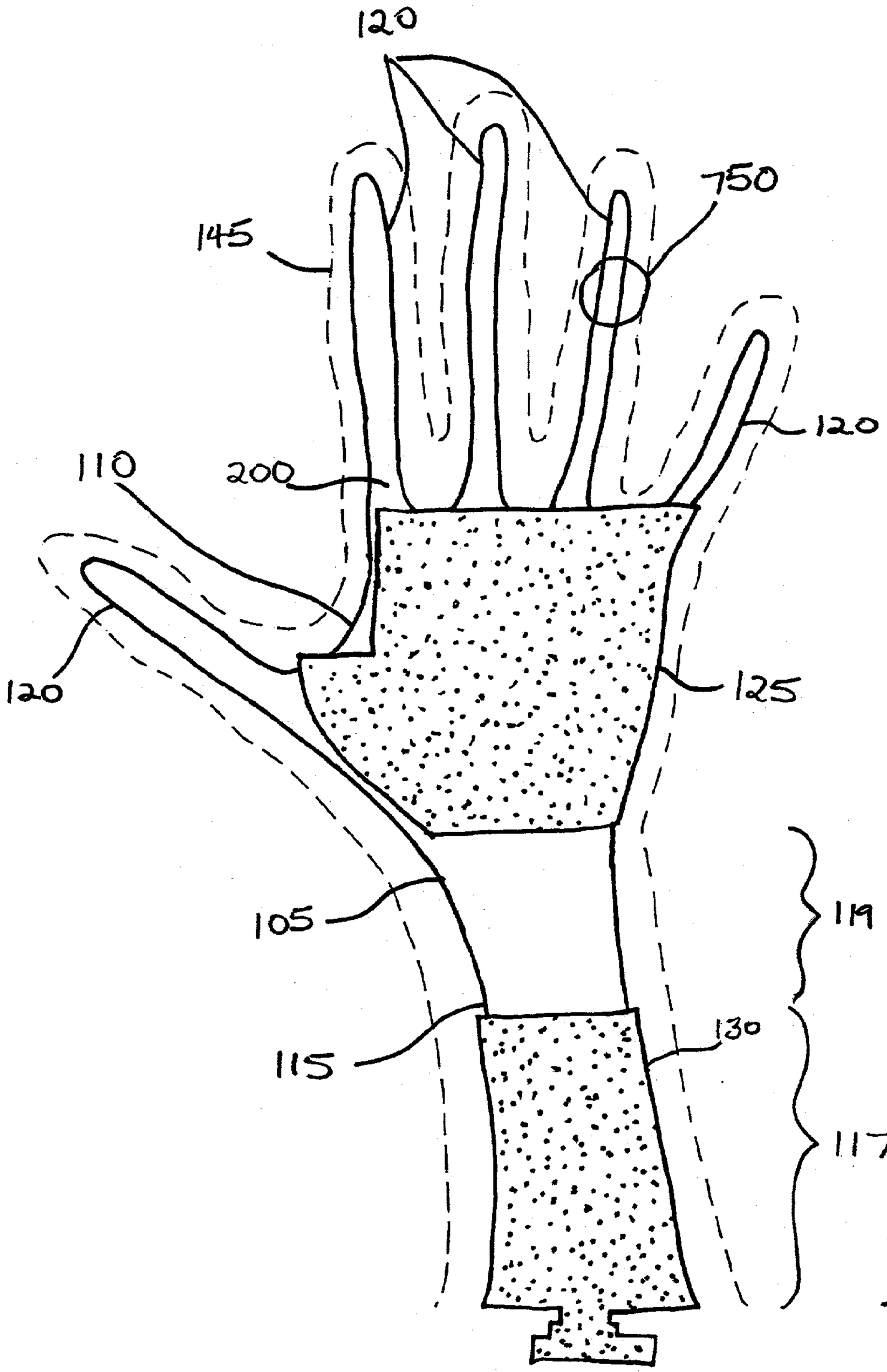


Fig. 2

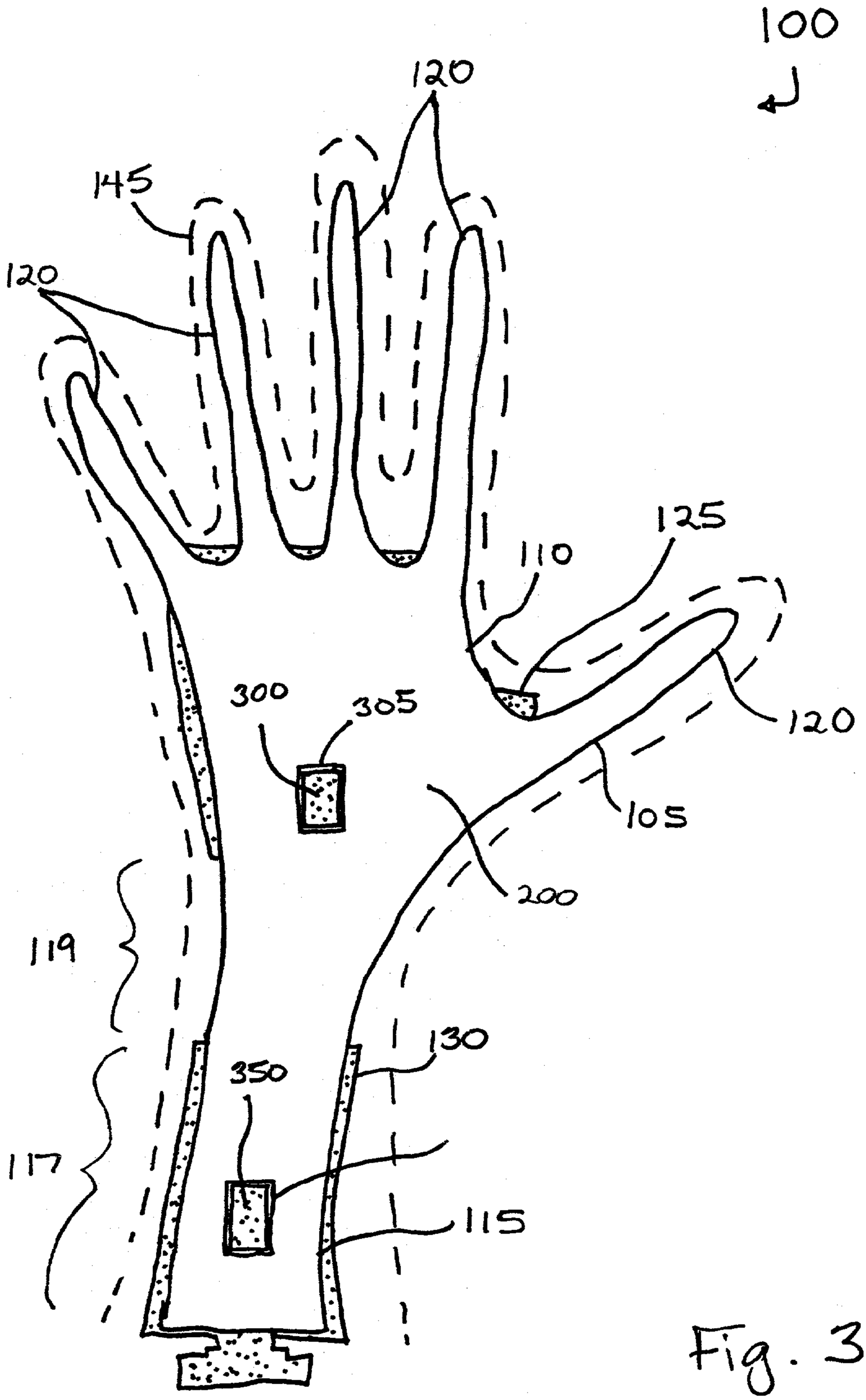


Fig. 3

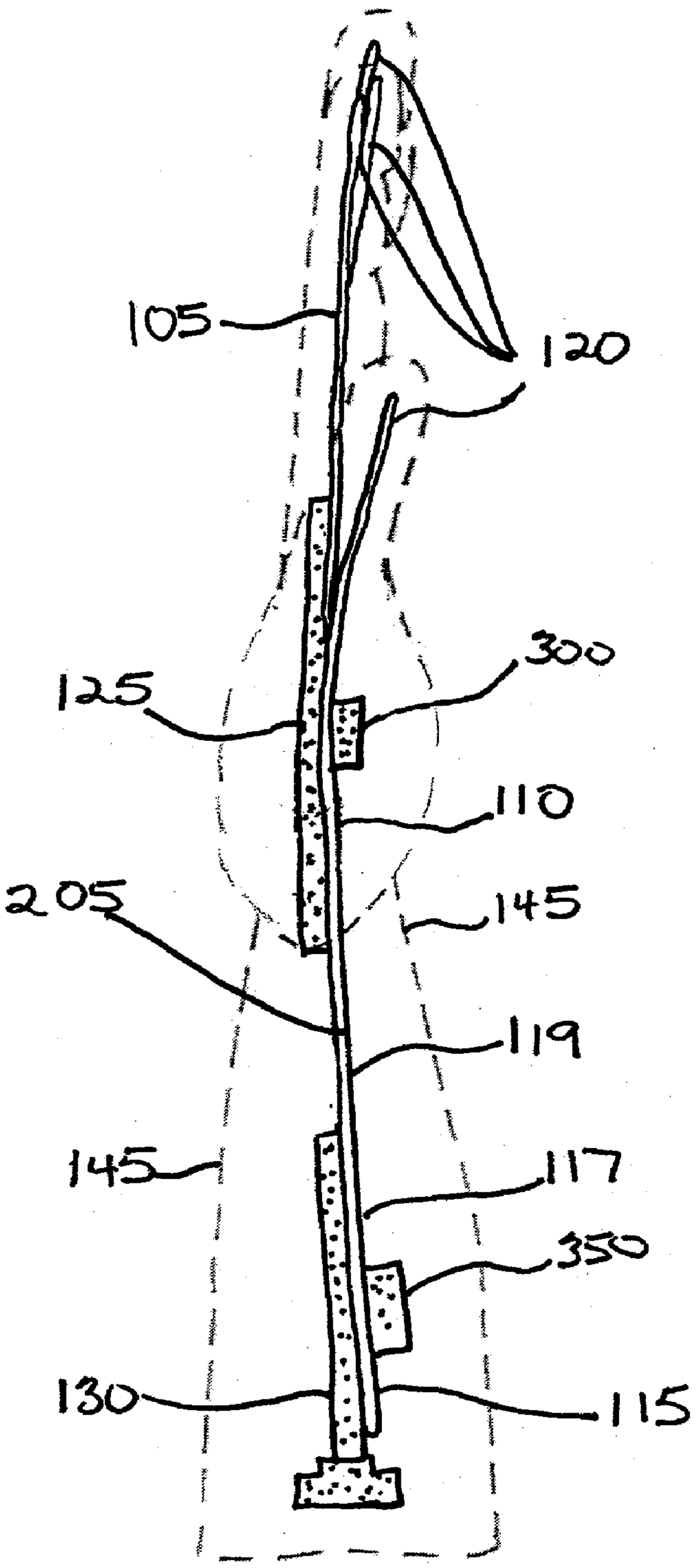


Fig. 4

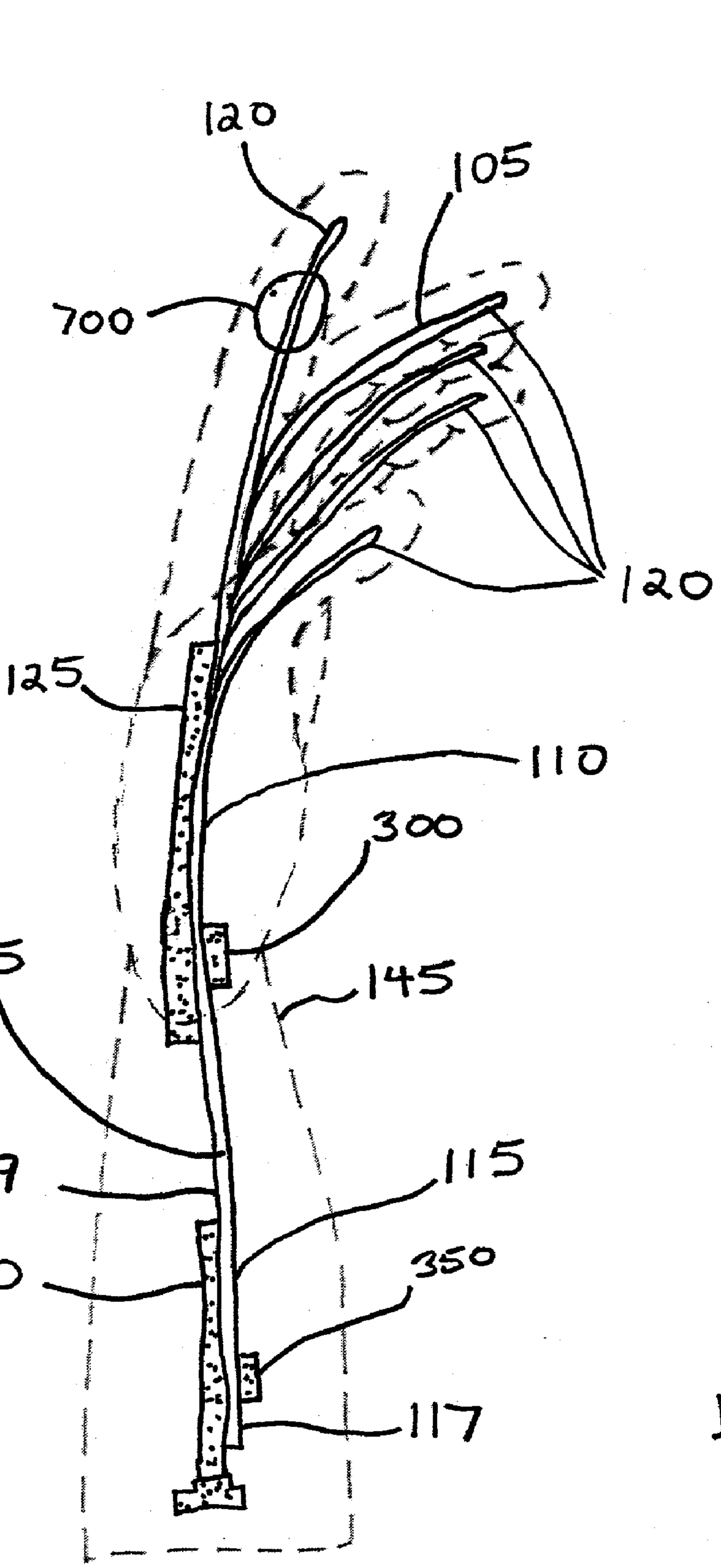


Fig. 5

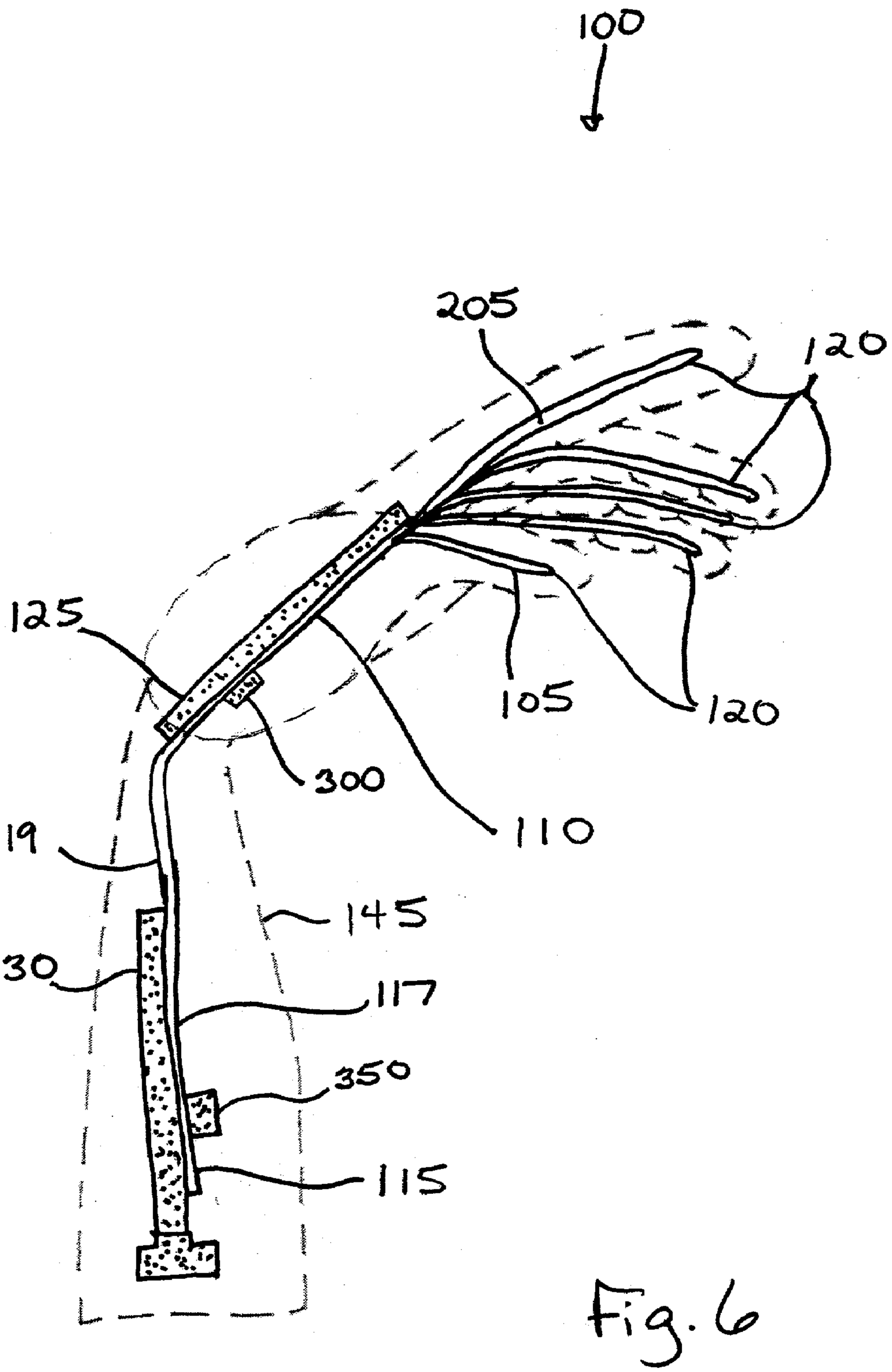


Fig. 6

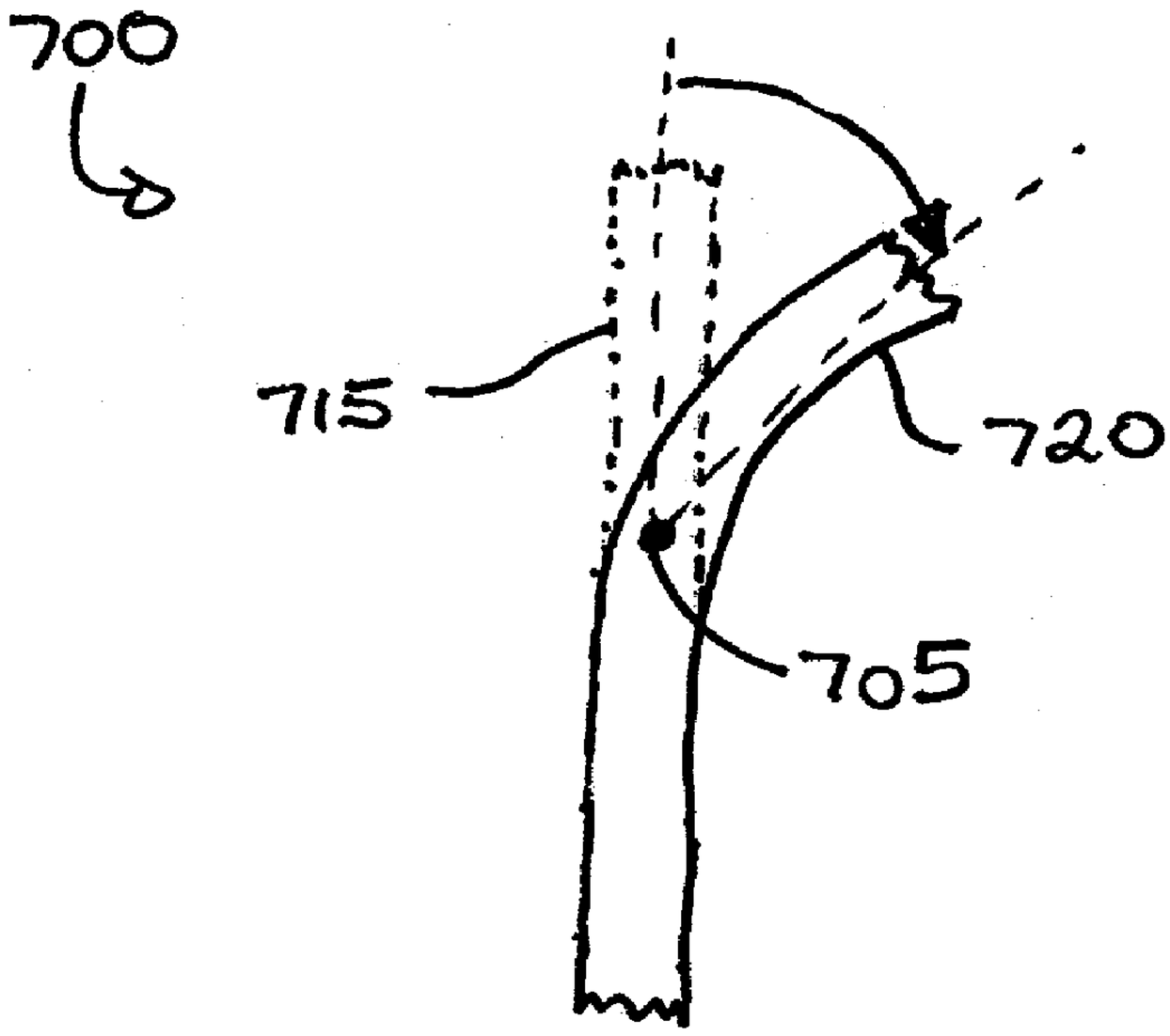


Fig. 7

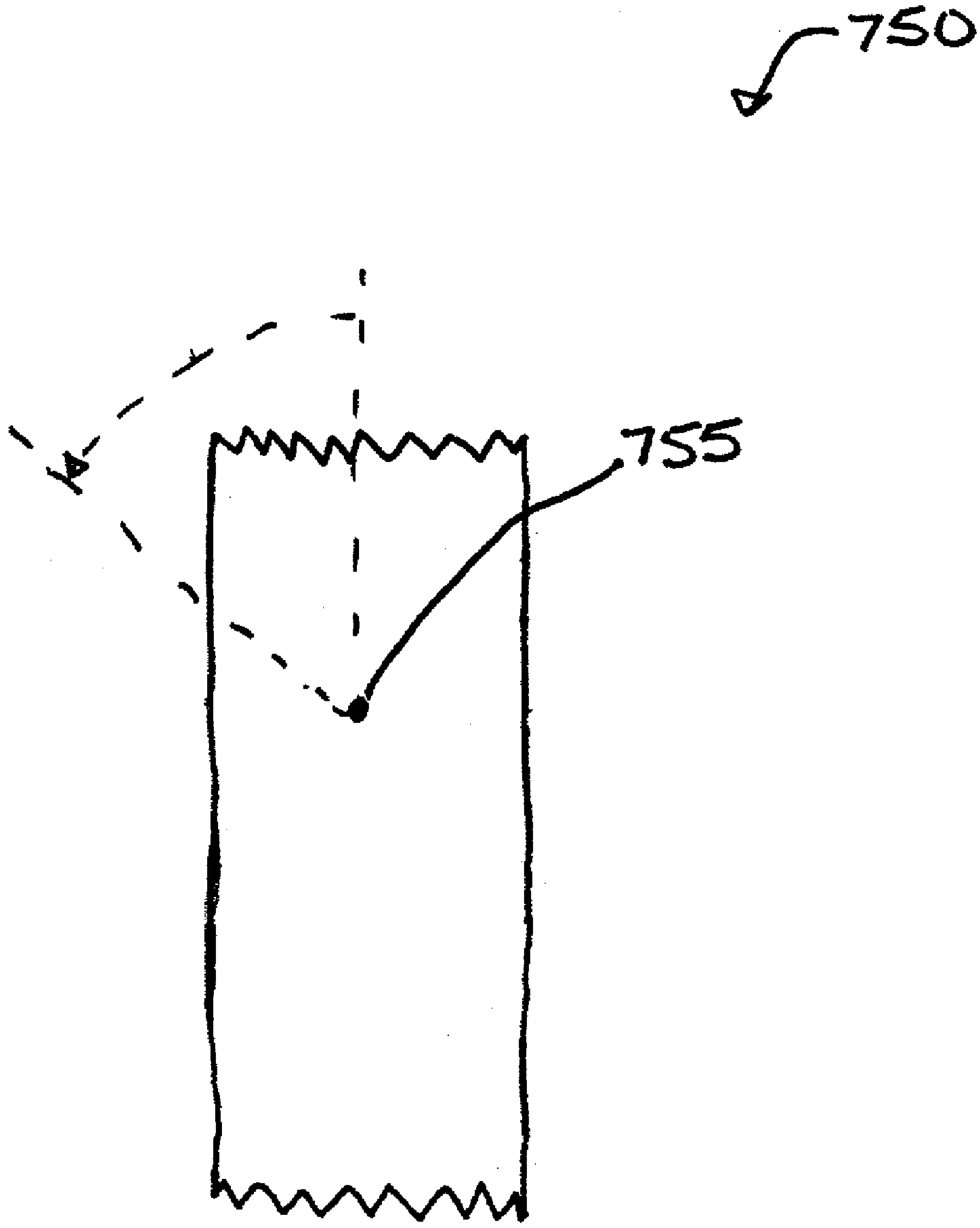


Fig. 8

POSEABLE FIGURE

TECHNICAL FIELD

[0001] This description relates to poseable figures.

BACKGROUND

[0002] A poseable figure is a figure that may be oriented into a selected pose that is retained until the figure is oriented into another pose.

SUMMARY

[0003] In one general aspect, a bendable portion for a toy figure includes a bendable internal piece, a first rigid element coupled to the bendable internal piece such that the bendable internal piece is prevented from being bent in a region to which the first rigid element is coupled, and a resilient outer layer covering the bendable internal piece and the first rigid element to define an outer surface of the bendable portion of the toy figure. The bendable internal piece is made from a material and has a shape that permits the bendable internal piece to be bent about a first axis to establish different configurations and to retain those configurations after being bent. Furthermore, the shape and material of the bendable internal piece impede bending of the bendable internal piece about a second axis perpendicular to the first axis such that a force required to bend the bendable internal piece about the second axis is more than twice a force required to bend the bendable internal piece about the first axis.

[0004] Implementations may include one or more of the following features. For example, the material of the bendable internal piece may include a sheet of metal. The first rigid element may include plastic. The resilient outer layer may be made from a material that includes a resilient material, such as latex, synthetic resin, foam, or rubber. The resilient material may be molded around the bendable internal piece and the first rigid element to form the resilient outer layer. More generally, the resilient outer layer may be made from a material that is selected to permit bending and retention of the configurations of the bendable internal piece.

[0005] The bendable internal piece may include a body to which the first rigid element is coupled, and an extension emanating from the body. The bendable internal piece may include a projection emanating from the body at end that is opposite the end from which the extension emanates. The body may be in the form of a palm of a hand, the extension may be in the form of a forearm, and the projection may be in the form of a finger. An area of the projection may be smaller than an area of the body. The portion may further include a second rigid element coupled to a first portion of the extension such that the bendable internal piece is prevented from being bent at the first portion of the extension. The first and second rigid elements may be configured to permit the bendable internal piece to be bent within a second portion of the extension that is between the body and the first portion of the extension.

[0006] Aspects of the figure can include one or more of the following advantages. For example, the bendable portion for the toy figure may be bent into realistic shapes because the bendable internal piece is made from a material and has a shape that permits bending in particular directions while impeding bending in other directions.

[0007] Other features and advantages will be apparent from the description, the drawings, and the claims.

DESCRIPTION OF DRAWINGS

[0008] **FIG. 1** is a perspective view of a bendable portion of a toy figure.

[0009] **FIGS. 2 and 3** are front and back views of the bendable portion of **FIG. 1**.

[0010] FIGS. **4-6** are perspective side views of the bendable portion of **FIG. 1**.

[0011] **FIG. 7** is a side view of a region of the bendable portion of **FIG. 1**.

[0012] **FIG. 8** is a front view of a region of the bendable portion of **FIG. 1**.

[0013] Like reference symbols in the various drawings indicate like elements.

DETAILED DESCRIPTION

[0014] Referring to FIGS. **1-4**, with particular reference to **FIGS. 2 and 3**, a bendable portion **100** of a toy figure in the shape of a forearm and hand includes a bendable internal piece **105** including a palm **110**, a forearm **115** having an arm portion **117** and a wrist portion **119** and emanating from the palm **110**, and fingers **120** emanating from the palm **110**. The portion **100** also includes a first rigid element **125** coupled to the piece **105** at the palm **110** and a second rigid element **130** coupled to the piece at the arm portion **117** of the forearm **115**.

[0015] To provide a realistic form, the portion **100** includes a resilient outer layer **145** formed around the piece **105** and the rigid elements **125**, **130** to define an outer surface of the portion **100**. In figures other than **FIG. 1**, the portion **100** is shown with the outer layer **145** removed but depicted using broken lines. The outer layer **145** includes a palm region **150** covering the palm **110**, a forearm region **155** covering the forearm **115**, and finger regions **160** covering each of the fingers **120**.

[0016] As is best shown in **FIGS. 3 and 4**, the first rigid element **125** is coupled to the palm **110** of the piece **105** using a snap fit or an interference fit between a protrusion **300** formed in the first rigid element **125** and a hole **305** formed in the palm **110** of the piece **105**. Additionally or alternatively, the first rigid element **125** may be glued to the palm **110**. Similarly, the second rigid element **130** is coupled to the arm portion **117** using a snap fit or an interference fit between a protrusion **350** formed in the second rigid element **130** and a hole **355** formed in the arm portion **117**. Additionally or alternatively, the second rigid element **130** may be glued to the arm portion **117**.

[0017] Referring also to **FIG. 7**, the piece **105** is made from a material and has a shape that permits it to be bent in a region **700** of the piece **105** about a first axis **705** (coming out of the page) to establish different configurations and to retain those configurations after being bent. The original form of the region **700** is illustrated by dotted line **715** and the bent form of the region **700** is illustrated by solid line **720**.

[0018] Additionally, referring also to **FIG. 8**, the material and shape of the piece **105** impedes bending of the piece **105**

in a region **750** of the piece **105** about a second axis **755** (coming out of the page) that is perpendicular to the first axis **705** in that region **750**. In this way, a force required to bend the bendable internal piece about the second axis **755** is greater than (for example, more than twice) a force required to bend the bendable internal piece about the first axis **705**.

[**0019**] Referring to FIGS. **4-6** in particular, in operation, the piece **105** is prevented from being bent in regions to which the first and second rigid elements **125**, **130** are coupled. Thus, the portion **100** may be bent in those regions of the piece **105** not coupled to the rigid elements **125**, **130**. In particular, the fingers **120** and the wrist portion **119** may be bent in regions about respective first axes. For example, as shown in **FIG. 4**, the fingers **120** are bent a small amount while the wrist portion **119** is left straight. In **FIG. 5**, the fingers **120** are bent even more than in **FIG. 4**, and the wrist portion **119** is again left straight. In **FIG. 6**, the fingers **120** are bent as in **FIG. 4**, and the wrist portion **119** is bent as well.

[**0020**] The piece **105** is made of any suitable flexible material that is poseable in that the material may be oriented into a selected pose that is retained until the material is oriented into another pose. Thus, for example, the piece **105** may be made from a thin sheet of metal.

[**0021**] The outer layer **145** is made of any suitable resilient material that permits bending and retention of the shape of the piece **105**. The material for the outer layer **145** is selected to impart a realism to the portion **100**. Thus, for example, because the portion **100** is shaped like a human hand, wrist, and forearm, the material for the outer layer **145** is chosen to imitate the texture and feel of the human hand, wrist, and forearm. The material for the outer layer **145** may be latex, synthetic resin, foam, rubber, or a similar soft pliable material that can be cast or molded over the piece **105** and the rigid elements **125**, **130** coupled to the piece **105**. In one example, the material for the outer layer **145** is polyvinylchloride (PVC) having a Durometer (Shore A) of about 65.

[**0022**] The first and second rigid elements **125**, **130** may be made of any suitable rigid material, such as, for example, rigid plastic.

[**0023**] Other implementations are within the scope of the following claims. For example, the first or second rigid elements may be coupled to the piece using any suitable technique, including spot welding or by attachment with a screw.

[**0024**] The portion is shown in the shape of a human hand, wrist, and forearm. The portion may be formed into other shapes, such as, for example, a human foot, ankle, and heel; a hand, wrist, and forearm of another animal, such as a gorilla; an appendage from another animal; or a body of another animal, such as, for example, the body and tentacles of an octopus.

What is claimed is:

1. A bendable portion for a toy figure, the portion comprising:

a bendable internal piece made from a material and having a shape that permits the bendable internal piece to be bent about a first axis to establish different configurations, that retains those configurations after being bent, and that impedes bending of the bendable internal piece about a second axis perpendicular to the first axis such that a force required to bend the bendable internal piece about the second axis is more than twice a force required to bend the bendable internal piece about the first axis;

a first rigid element coupled to the bendable internal piece such that the bendable internal piece is prevented from being bent in a region to which the first rigid element is coupled; and

a resilient outer layer covering the bendable internal piece and the first rigid element to define an outer surface of the bendable portion of the toy figure.

2. The portion of claim 1 in which the material of the bendable internal piece includes sheet metal.

3. The portion of claim 1 in which the bendable internal piece includes:

a body to which the first rigid element is coupled; and

an extension emanating from the body.

4. The portion of claim 3 in which the bendable internal piece includes a projection emanating from the body at end that is opposite the end from which the extension emanates.

5. The portion of claim 4 in which:

the body is in the form of a palm of a hand;

the extension is in the form of a forearm; and

the projection is in the form of a finger.

6. The portion of claim 3 in which an area of the projection is smaller than an area of the body.

7. The portion of claim 3 further comprising a second rigid element coupled to a first portion of the extension such that the bendable internal piece is prevented from being bent within first portion.

8. The portion of claim 7 in which the first and second rigid elements are configured to permit the bendable internal piece to be bent within a second portion of the extension that is between the body and the first portion of the extension.

9. The portion of claim 7 in which the second rigid element includes plastic.

10. The portion of claim 1 in which the first rigid element includes plastic.

11. The portion of claim 1 in which the resilient outer layer is made from a material that includes a resilient material.

12. The portion of claim 11 in which the resilient material is molded around the bendable internal piece and the first rigid element to form the resilient outer layer.

13. The portion of claim 1 in which the resilient outer layer is made from a material that includes one or more of latex, synthetic resin, foam, and rubber.

14. The portion of claim 1 in which the resilient outer layer is made from a material that is selected to permit bending and retention of the configurations of the bendable internal piece.

15. A bendable portion for a toy figure, the portion comprising:

a bendable internal piece made from a material and having a shape that permits the bendable internal piece to be bent about a first axis to establish different configurations, that retains those configurations after being bent, and that impedes bending of the bendable

internal piece about a second axis perpendicular to the first axis such that a force required to bend the bendable internal piece about the second axis is more than twice a force required to bend the bendable internal piece about the first axis, the bendable internal piece includes:

a body shaped in the form of a palm of a human hand,

an extension emanating from the body and shaped in the form of a wrist and forearm of the human hand, and

projections emanating from the body and shaped in the form of fingers of the human hand;

a first rigid element coupled to the body of the bendable internal piece such that the bendable internal piece is prevented from being bent in the body;

a second rigid element coupled to a portion of the extension that is shaped like a forearm such that the bendable internal piece is prevented from being bent in the extension portion; and

a resilient outer layer covering the bendable internal piece and the first and second rigid elements to define an outer surface of the bendable portion of the toy figure;

in which a region of the piece not coupled to the first and second rigid elements is bendable into a pose in a direction about a bend axis that is perpendicular to the side surface in the region at which the piece is bent.

* * * * *