

# Patent Claims Diagrams<sup>1</sup>

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## *A Visual Manifestation of Inventions, Claims, Novelty, Obviousness, Infringement, and Validity*

The following diagrams are intended to provide a visual representation of independent and dependent claims within the realm of the US patent laws. Specifically, the diagrams should facilitate a clearer understanding of independent and dependent claims in the context of patentability<sup>3</sup>, infringement<sup>4</sup>, and validity<sup>5</sup>. Due to its symmetry and ease of visualization, the independent and dependent claims in all the diagrams are represented by concentric circles, where possible, although the shape needs to be neither circular nor concentric. Additionally, broken lines are used, instead of solid lines, where possible, to indicate that the scopes of the claims are subject to interpretation. This interpretation occurs at two stages, first when the application is examined at the USPTO and second when the patent claims are construed in court during litigation. The two interpretations may vary because the first relies substantially on the file wrapper, while the second further involves such factors as additional undiscovered extrinsic evidence and attorney arguments.

Diagram 1, depicts two patented inventions and a proposed invention in a field of art, say the mechanical engineering field, each having one independent claim and one or more dependent claims. Specifically, the proposed invention is depicted as an outer circle of a scope radius  $R$ , representing the independent claim<sup>6</sup>, and six other circles of different scope radii, representing the dependent claims<sup>7</sup> inscribed within the independent claim. Each dependent claim has a scope radius that is smaller than the scope radius ( $R$ ) of the independent claim. In particular, the dependent claim of radius ( $r_6$ ) is the most sophisticated embodiment of the invention, yet its scope is the smallest, a concept that is difficult, at first, to many engineers, scientists, and professionals in the field. This is

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<sup>3</sup> 35 USC §§ 102, 103.

<sup>4</sup> 35 USC § 271.

<sup>5</sup> 35 USC §§ 102, 103.

<sup>6</sup> 37 CFR § 1.75.

<sup>7</sup> *Id.*

because an inferior device/method<sup>8</sup> may be produced utilizing fewer limitations but substantially functioning the same as the more sophisticated version.

Diagram 2, depicts a proposed invention that lacks novelty<sup>9</sup> with respect to two patented inventions. In this diagram, both patented inventions independently disclose the proposed invention, although only one patented invention is enough to reject the proposed invention as nonpatentable<sup>10</sup>. The scope of the patented inventions R<sub>1</sub> and R<sub>2</sub> may be increased/decreased by examiner/attorney arguments during examination to reject or allow the proposed invention.

Diagram 3, depicts a proposed invention that is obvious<sup>11</sup> in view of two patented inventions. In this diagram, both patented inventions are utilized to obviate the proposed invention in combination, although only one patented invention is enough to reject the proposed invention as nonpatentable<sup>12</sup>. As can be seen, the scope of the patented inventions R<sub>1</sub> and R<sub>2</sub> may be increased/decreased by examiner/attorney arguments during examination to reject or allow the proposed invention.

Diagram 4, depicts infringement of a patented invention by an accused device/method<sup>13</sup>. An accused device/method can infringe the independent as well as one or more dependent claims of a patented invention. As can be seen, an accused device/method may infringe the independent claim of a patented invention without infringing any of the dependent claims. However, an accused device/method cannot infringe any of the dependent claims of a patented invention without simultaneously infringing the independent claim.<sup>14</sup>

Diagram 5, depicts the validity of a patented invention that is often challenged in infringement litigation after claim construction.<sup>15</sup> Patent claims are presumed valid independently of the validity of other claims<sup>16</sup>. Consequently, an adequate number of dependent claims must be included in the patent application so that if an independent claim is rendered invalid, a corresponding dependent claim may cover the accused device/method.

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<sup>8</sup> For simplicity, device/method is used, throughout this paper, to represent a thing that may be patented under 35 USC § 101.

<sup>9</sup> 35 USC § 102.

<sup>10</sup> *Id.*

<sup>11</sup> 35 USC § 103.

<sup>12</sup> *Id.*

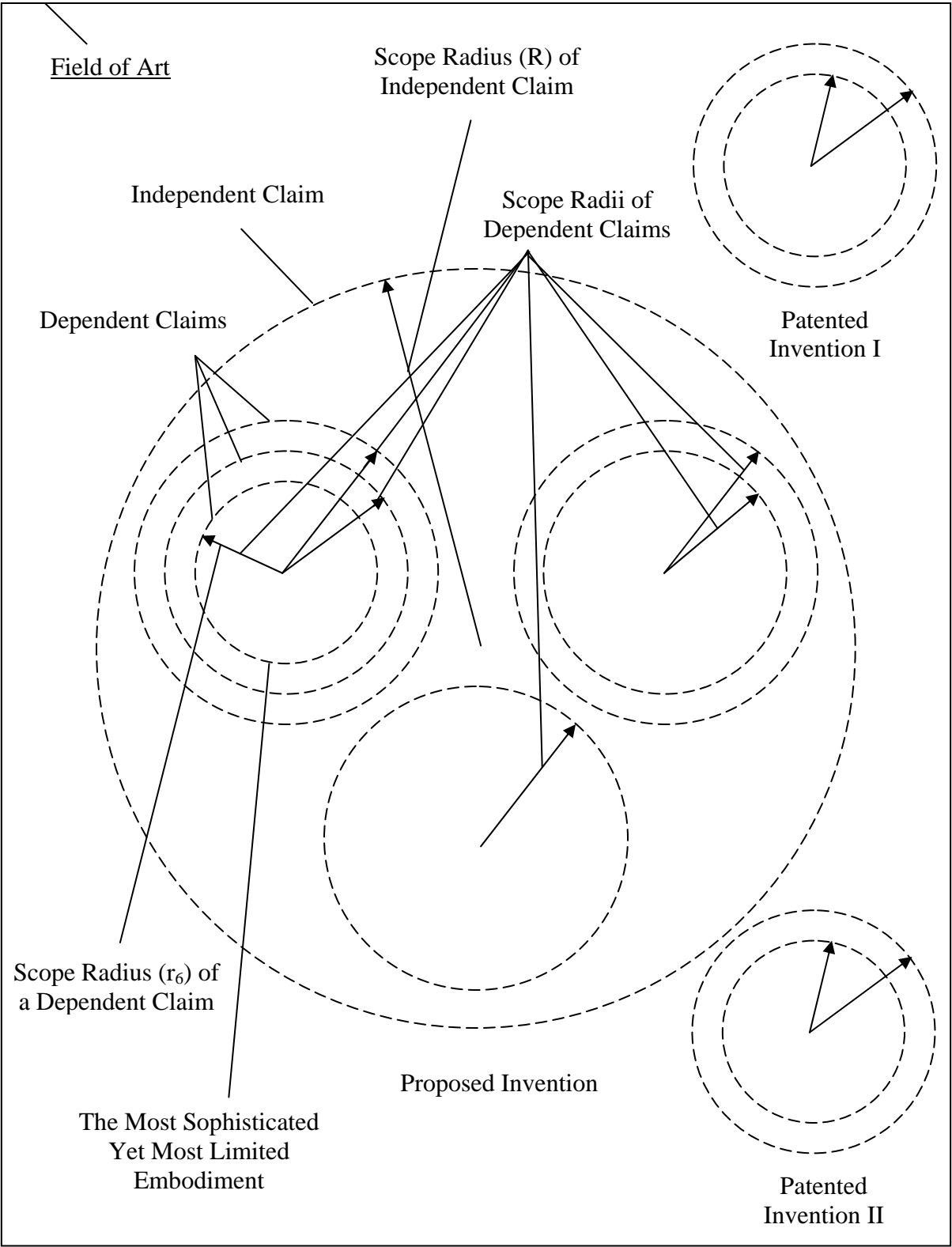
<sup>13</sup> See footnote 8.

<sup>14</sup> 37 CFR § 1.75.

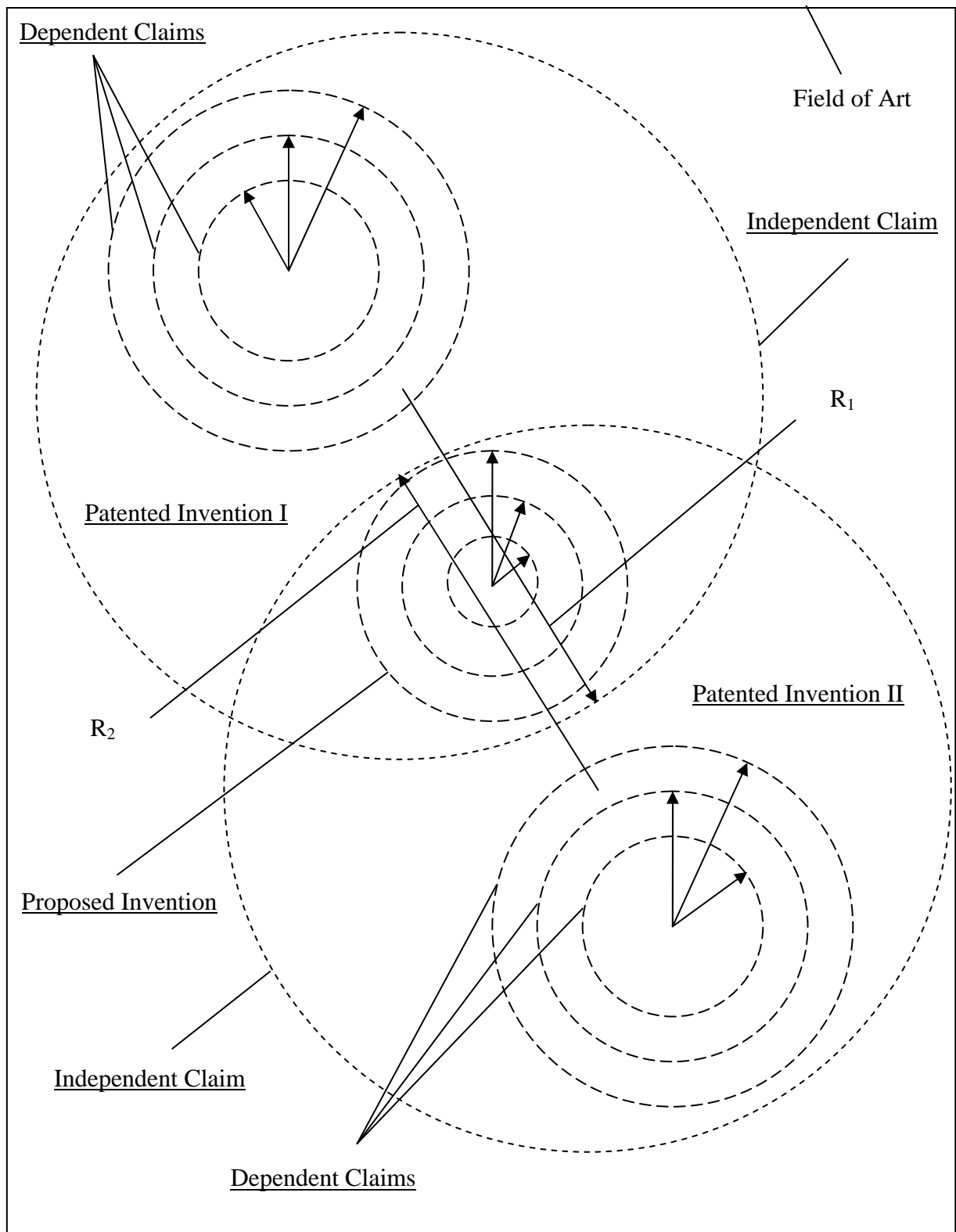
<sup>15</sup> *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

<sup>16</sup> 35 USC § 282.

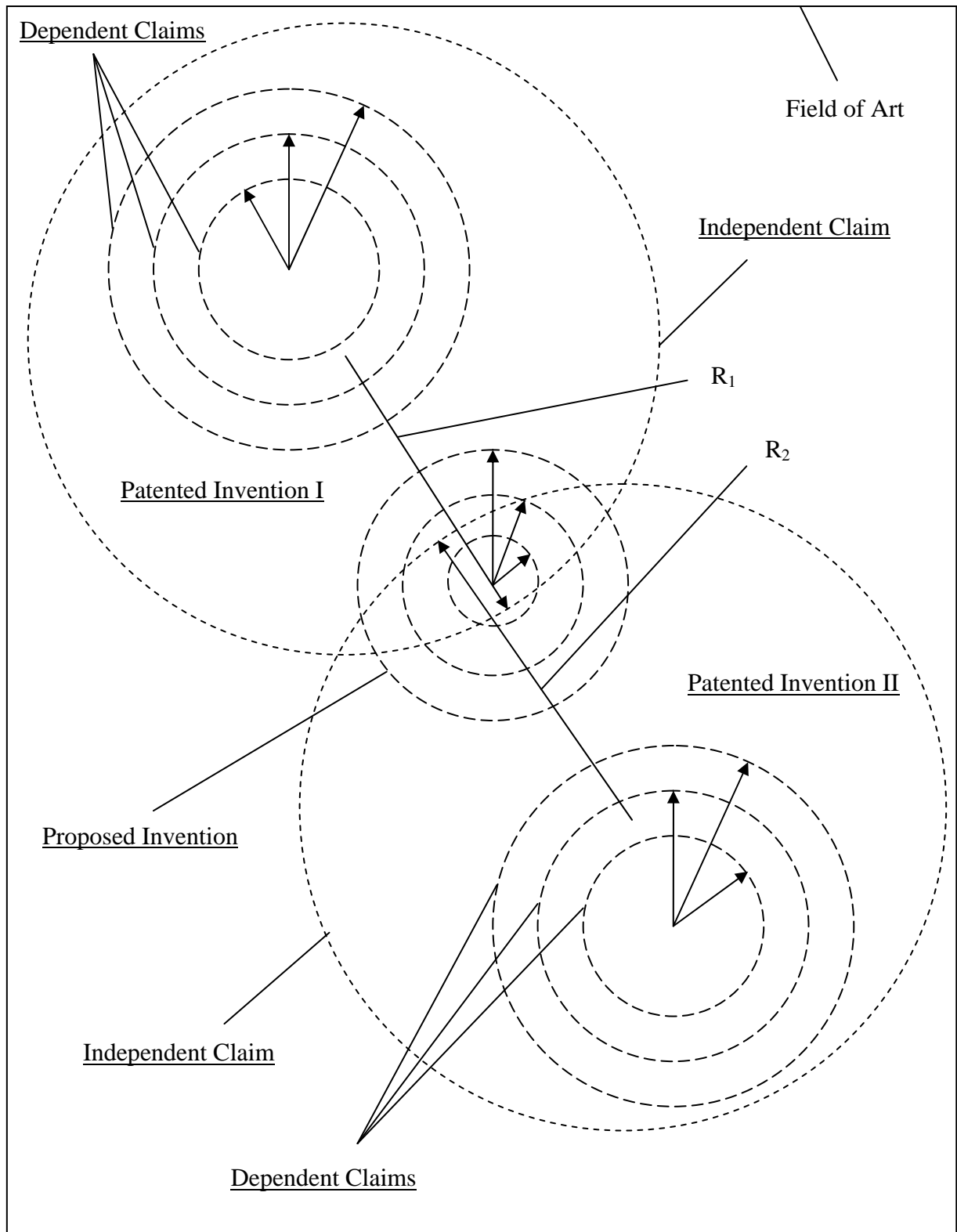
**DIAGRAM 1:** Visual Representation of Independent and Dependent Claims of a Proposed Invention and Their Relationships to a Patented Invention.



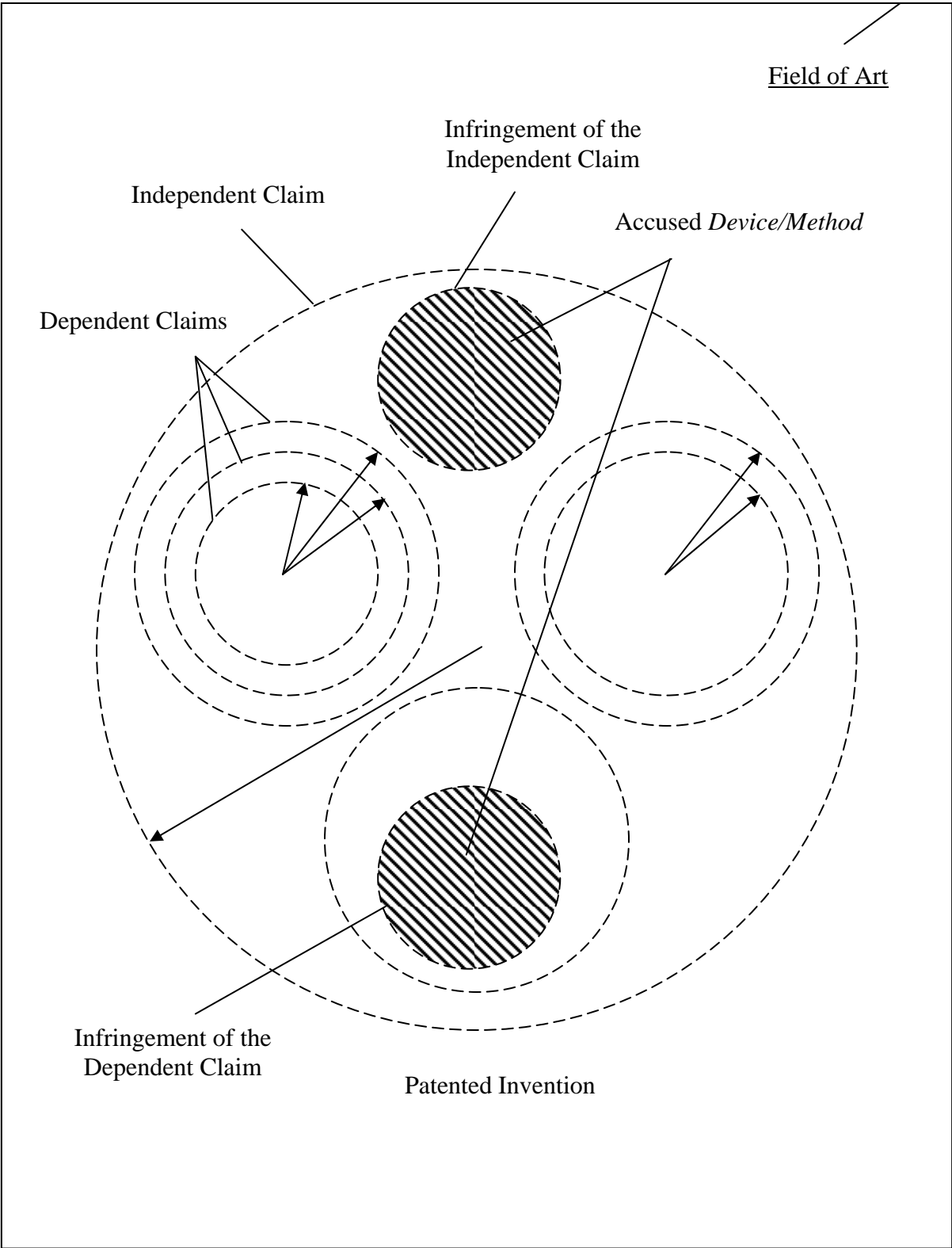
**DIAGRAM 2:** Visual Representation of a Proposed Invention that Lacks Novelty With Respect to Two Patented Inventions Under 35 USC § 102.



**DIAGRAM 3:** Visual Representation of a Proposed Invention that Is Obvious With Respect to Two Patented Inventions Under 35 USC § 103.



**DIAGRAM 4:** Visual Representation of Infringement of the Independent and Dependent Claims of a Patented Invention by an Accused *Device/Method*.



**DIAGRAM 5:** Visual Representation of Validity of a Patented Invention and Infringement/Non-Infringement by an Accused *Device/Method* After Claim Construction.

