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IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF TEXAS DALLAS DIVISION

ORIGINAL

PRIMESOURCE BUILDING PRODUCTS, INC.,

Plaintiff,

v.

PHILLIPS SCREW COMPANY,

Defendant.

§ § § § § § § § § §

3-07 CV 0303-M CIVIL ACTION NO. _____

COMPLAINT FOR DECLARATORY JUDGMENT

PrimeSource Building Products, Inc. ("PrimeSource") complains of Phillips Screw Company ("Phillips") requesting a declaratory judgment that U.S. Patent 6,941,635 ("the '635 patent") is invalid and/or not infringed by PrimeSource. A copy of the '635 patent is attached as Exhibit A.

I. PARTIES

1. Plaintiff, PrimeSource Building Products Inc., is a Delaware corporation having its principal place of business at 2115 East Beltline Road, Carrollton, Texas 75006.

2. Defendant, Phillips Screw Company, is a Delaware corporation having its principal place of business in Bellingham, Massachusetts 02019.

II. NATURE OF THE ACTION

3. This is an action for a declaration of rights under the patent laws of the United States, as amended, 35 U.S.C. § 101 et seq. Actual controversy exists within this Court's jurisdiction among the parties concerning these rights. This Court is authorized to declare the rights of the parties pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202 and the Texas Declaratory Judgment Act, Ch. 37, Tex. Civ. Prac. & Rem. Code. In particular,

PrimeSource seeks a declaration that the '635 patent is invalid and that PrimeSource has not infringed the '635 patent.

III. JURISDICTION AND VENUE

4. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338.

5. This Court has personal jurisdiction over Phillips because Phillips conducts business in Texas and this Judicial District.

6. Venue is proper under 28 U.S.C. §§ 1391(b) and 1400(b).

IV. BACKGROUND

7. PrimeSource is one of the largest purveyors of fasteners in the world, and one of the largest distributors of building materials in the United States. Its product lines include the Grip-Rite® family of products and Pro-Twist® Construction Fasteners. Grip-Rite® is one of the top selling brand of fasteners in the United States.

8. On January 3, 2007, Phillips sent PrimeSource a cease and desist letter claiming that PrimeSource's new Grip-Rite® deck screws, for example product number H3CSB1, (the Accused Products) infringe the '635 patent. Phillips threatened litigation if PrimeSource did not cease and desist from further manufacture of the Accused Products. A true and correct copy of the Phillips January 3, 2007, cease and desist letter is attached as Exhibit B.

9. On January 9, 2007, PrimeSource sent Phillips a responsive letter, including a dimensional spreadsheet of the new deck screws in question and relevant prior art, to show that Phillips' infringement claims have no basis in law or fact. A true and correct copy of the PrimeSource response (without attachments) is attached as Exhibit C.

10. On February 8, 2007, Phillips sent a second cease and desist letter continuing to demand that PrimeSource "immediately cease and desist from further manufacturing, marketing,

selling, offering for sale and/or importing such new deck screws.” In this letter, Phillips threatened to “consider all its legal options under its U.S. Patent, including seeking preliminary and permanent injunctive relief, damages, costs and attorneys fees.” A true and correct copy of the Phillips February 8, 2007 cease and desist letter is attached as Exhibit D.

11. PrimeSource believes Phillips’ claims are without merit and there is a clear threat of a future suit for damages and attorneys fees if PrimeSource refuses to comply with Phillips’ demands to immediately cease and desist. Accordingly, PrimeSource now seeks a declaratory judgment from the Court that the Accused Products do not infringe the ‘635 patent and that the ‘635 patent is invalid and unenforceable.

COUNT I
DECLARATION OF NON-INFRINGEMENT

12. PrimeSource incorporates all previous allegations of paragraphs 1 to 11 of this complaint as set forth herein.

13. A judiciable and actual controversy exists between Phillips and PrimeSource concerning whether PrimeSource’s Accused Products infringe the ‘635 Patent under 35 U.S.C. § 271.

14. PrimeSource requests a declaration from this Court that none of PrimeSource’s Accused Products infringe the ‘635 patent, directly or indirectly, either literally or under the doctrine of equivalents.

COUNT II
DECLARATION OF INVALIDITY AND UNENFORCEABILITY

15. PrimeSource incorporates all previous allegations of paragraphs 1 to 14 of this complaint as set forth herein.

16. A judiciable and actual controversy exists between Phillips and PrimeSource concerning the validity of the '635 patent under 35 U.S.C. §§ 101 *et seq.*

17. PrimeSource requests a declaration from this Court that the '635 patent is invalid and unenforceable pursuant to 35 U.S.C. § 101 *et seq.*, including but not limited to 35 U.S.C. §§ 101, 102, 103, and 112.

PRAYER FOR RELIEF

WHEREFORE, PrimeSource respectfully requests that the Court enter judgment:

a. Declaring that U.S. Patent No. 6,941,635 is not infringed, directly or indirectly, literally or under the doctrine of equivalents, by the manufacture, sale, offer for sale, use, distribution and importation of the Accused Products;

b. Declaring that U.S. Patent No. 6,941,635 is invalid and unenforceable pursuant to the patent law of the United States;

c. Awarding PrimeSource its costs and all reasonable and necessary attorneys' fees incurred in connection with this action; and

d. Such other and further relief, at law or in equity, as the Court may deem just.

Respectfully submitted,

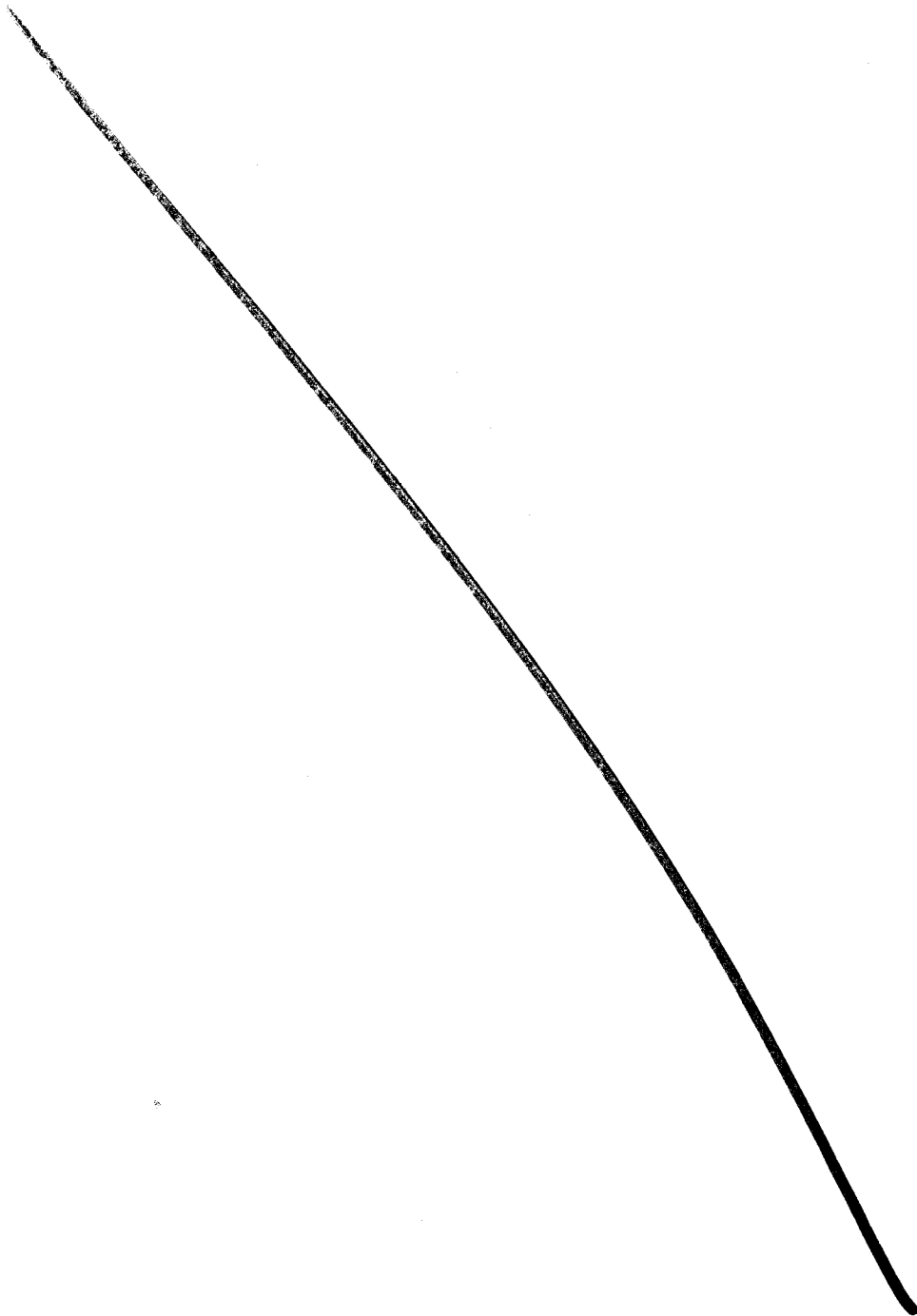
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A



(12) **United States Patent**
Craven

(10) **Patent No.:** US 6,941,635 B2
 (45) **Date of Patent:** Sep. 13, 2005

- (54) **SCREW FOR REMNANT-PRODUCING ALTERNATIVE LUMBER MATERIAL**
- (75) **Inventor:** Arnold Craven, Holyoke, MA (US)
- (73) **Assignee:** Phillips Screw Company, Wakefield, MA (US)
- (*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) **Appl. No.:** 10/686,021

(22) **Filed:** Oct. 16, 2003

(65) **Prior Publication Data**

US 2004/0151559 A1 Aug. 5, 2004

Related U.S. Application Data

(62) Division of application No. 09/783,124, filed on Feb. 15, 2001, now Pat. No. 6,666,638.

(51) **Int. Cl.⁷** B23P 11/02

(52) **U.S. Cl.** 29/525.11; 411/413

(58) **Field of Search** 29/525.11; 411/412, 411/413

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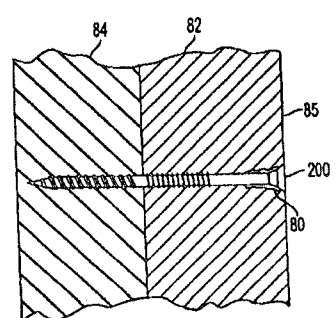
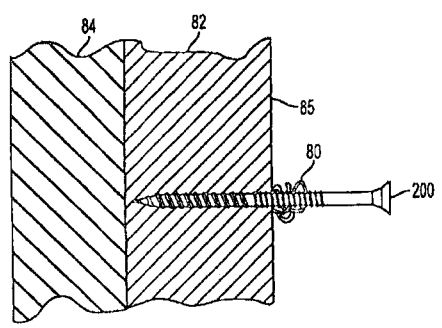
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Primary Examiner—David P. Bryant
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(57) **ABSTRACT**

A fastener for securing remnant-producing materials, a method of manufacturing the fastener, and a method of using the fastener are provided. The fastener is configured such that in use any remnants or slivers produced by rotation of the fastener are forcibly driven into the surface of the material. In one aspect, the fastener has two separate threaded portions, a first or lower threaded portion and a second or upper threaded portion. The threads on the lower threaded portion have a pitch that is different from the threads on the upper threaded portion. In one embodiment, the lower threaded portion threads have a larger pitch than the threads on the upper threaded portion. In use, after the lower threaded portion is completely inserted into the material, the upper threaded portion of the fastener enters the material. Because the upper threaded portion has threads that have a pitch that is different from the threads on the lower threaded portion, the threads on the upper threaded portion capture the remnants that have been extruded within or onto the surface of the material. As the fastener is completely inserted into the material, the remnants that have been extruded by the lower threaded portion of the fastener are substantially retained in the bore by the upper threaded portion of the fastener.

5 Claims, 9 Drawing Sheets



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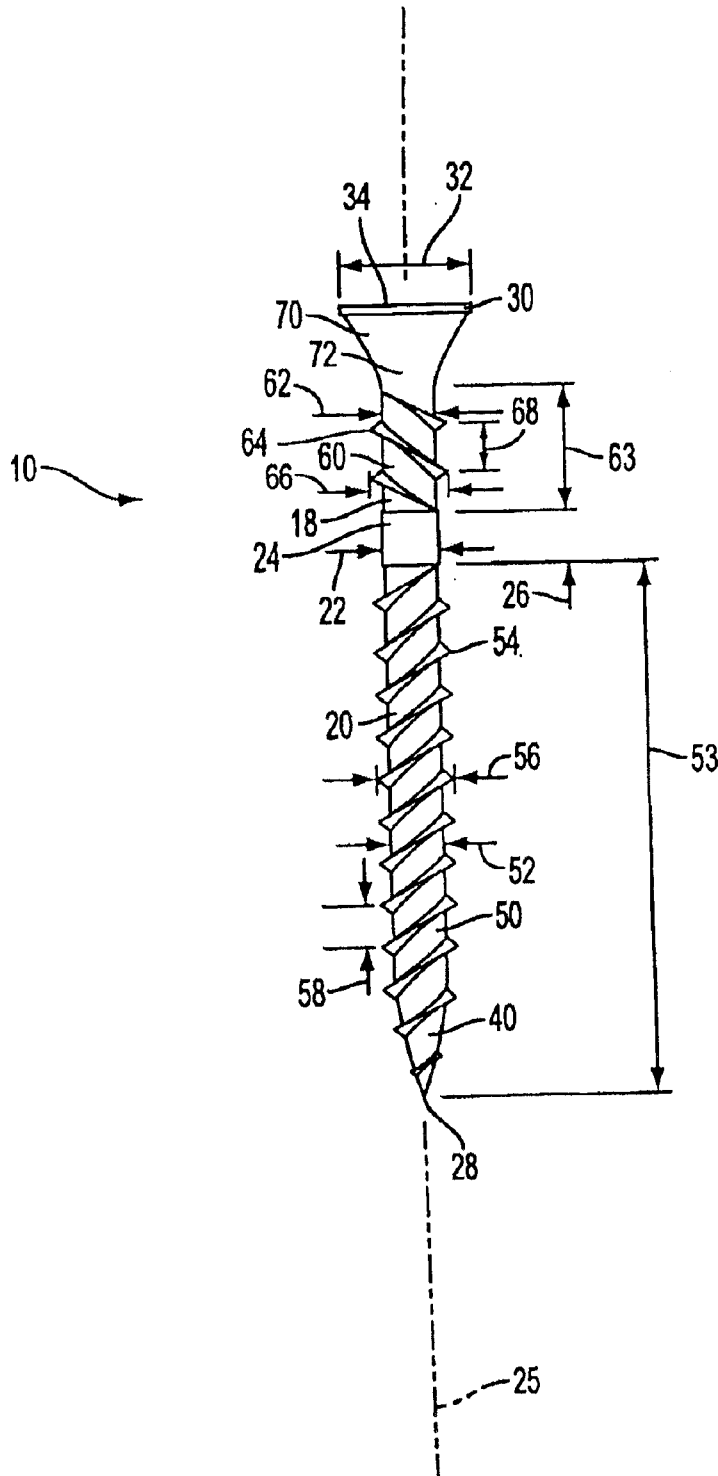


FIG. 1

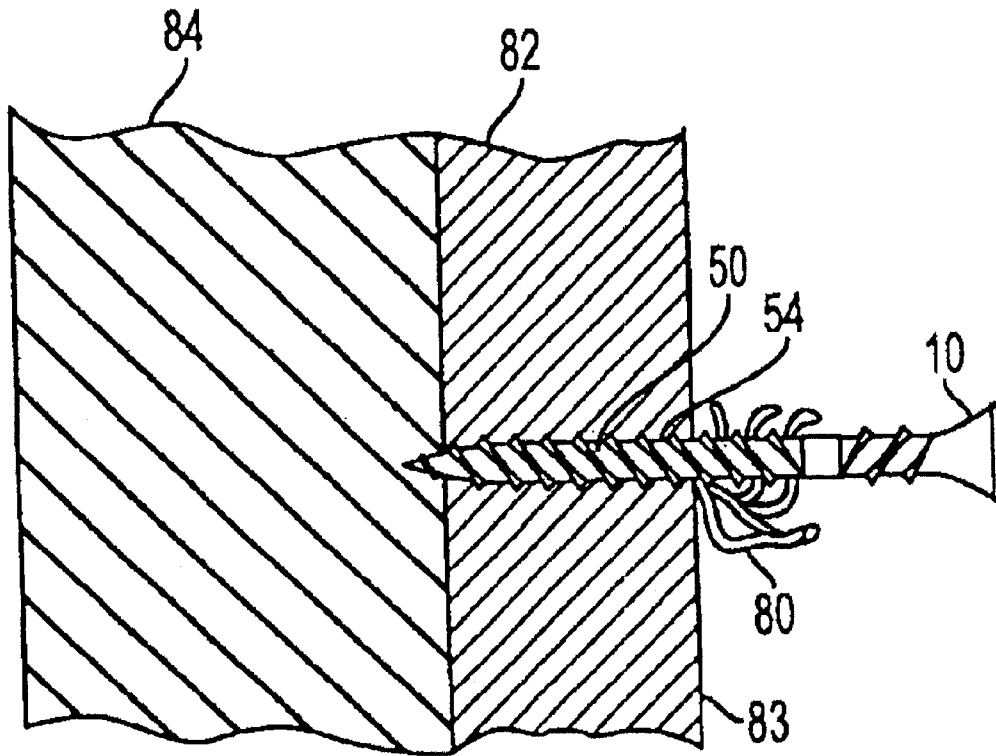


FIG. 2

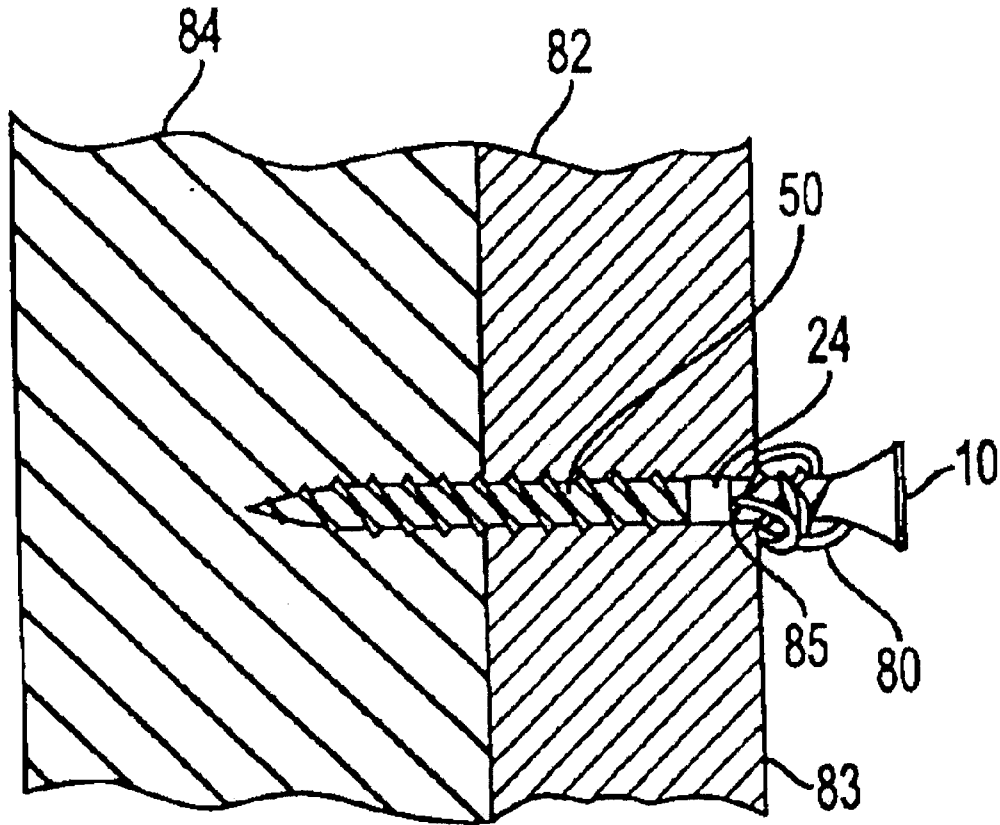


FIG. 3

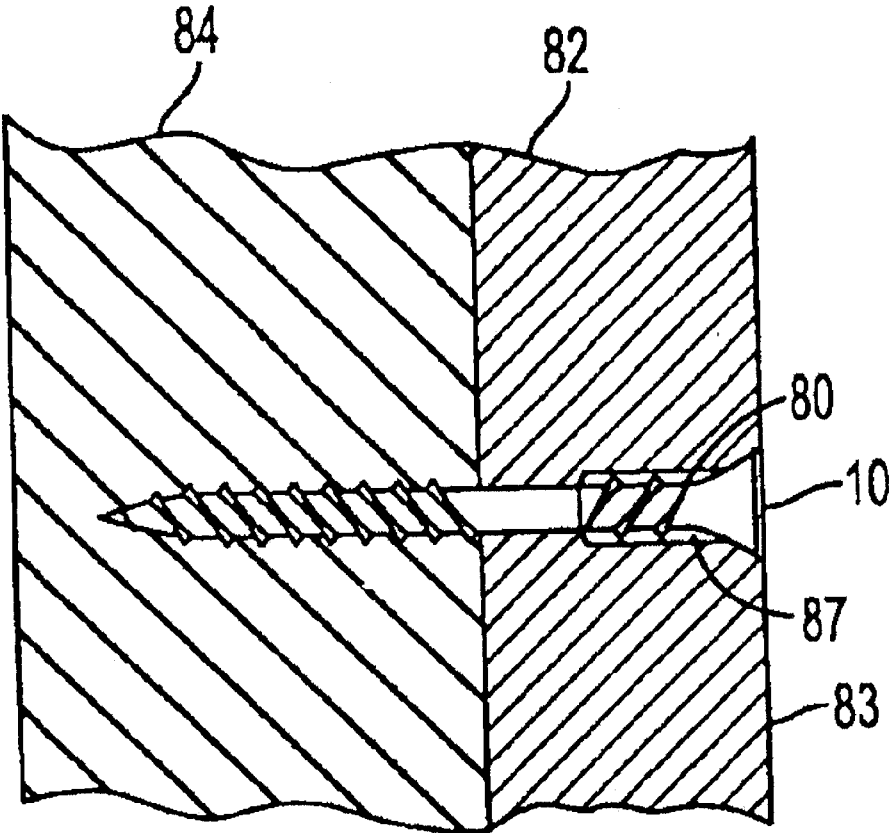


FIG. 4

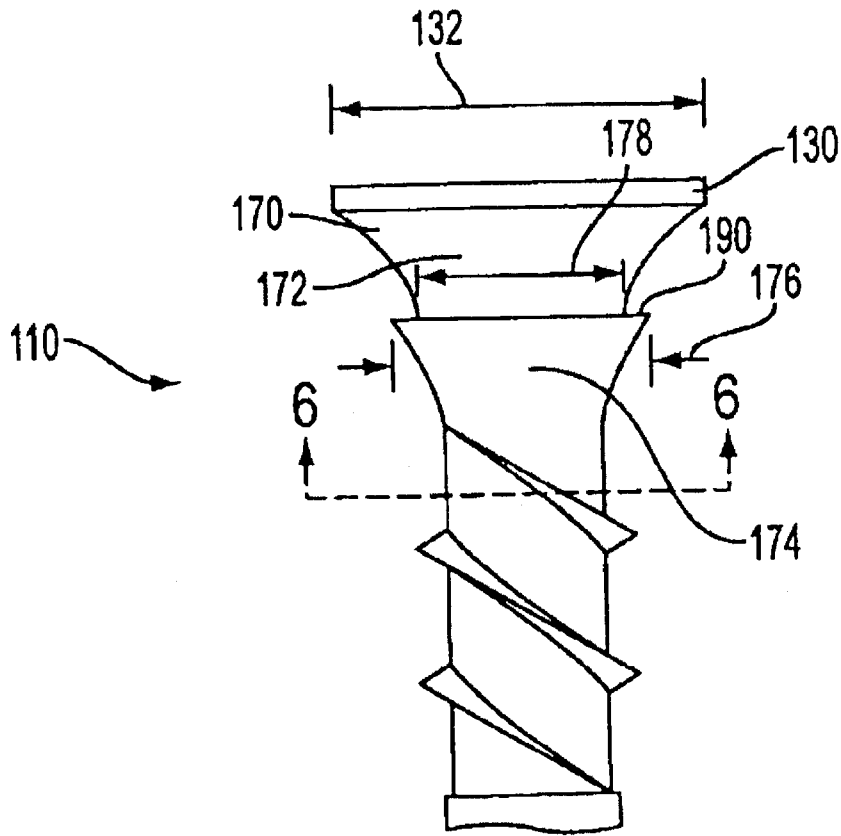


FIG. 5

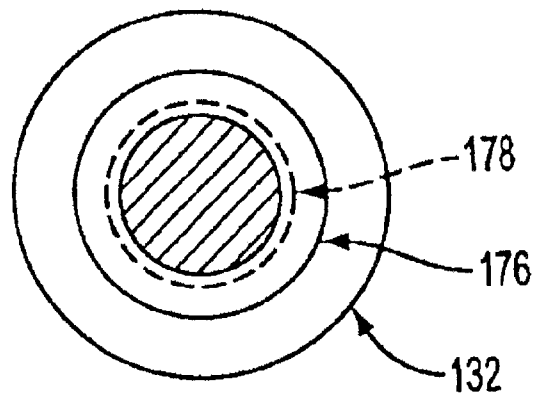


FIG. 6

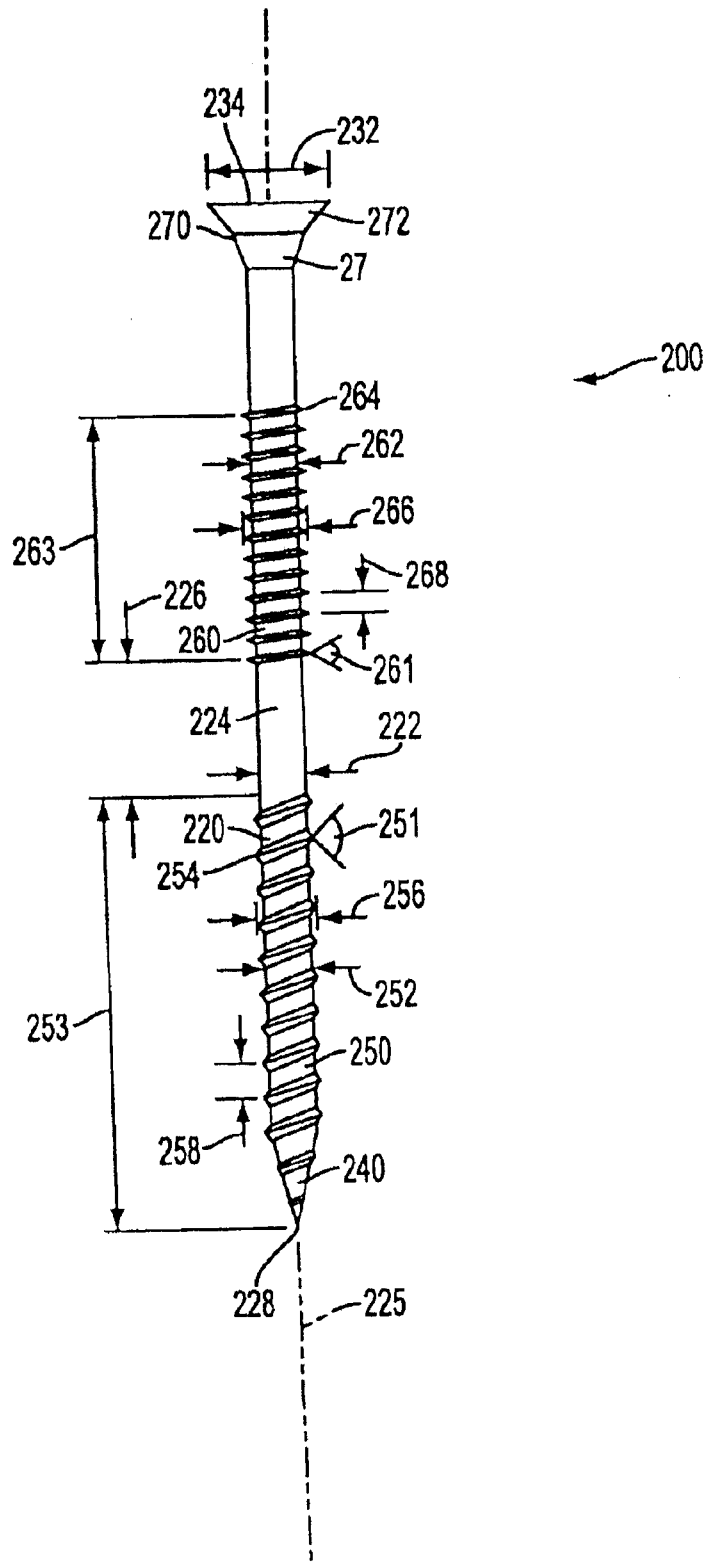


FIG. 7

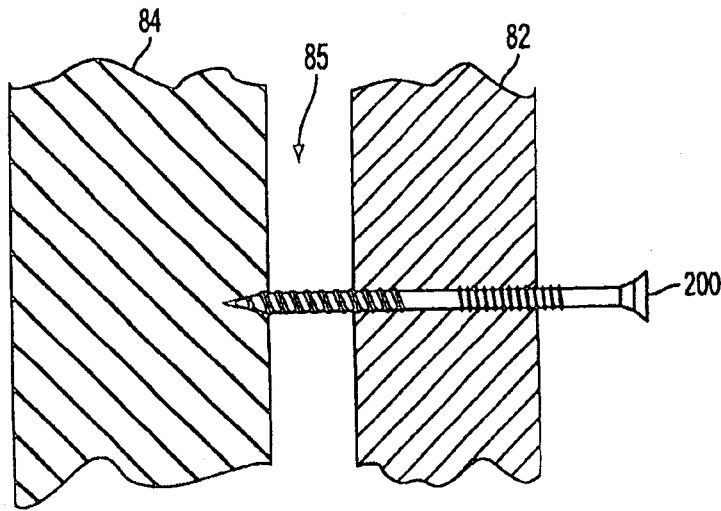


FIG. 8

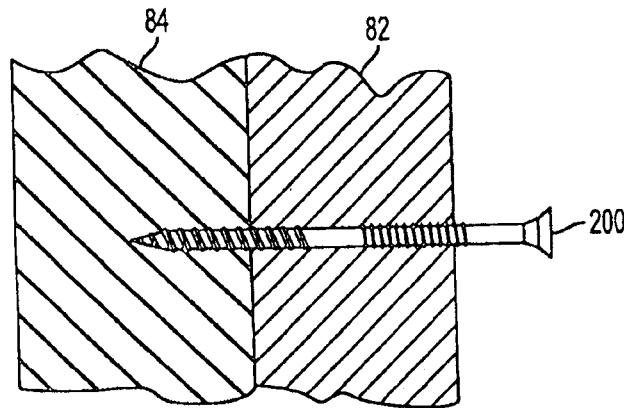


FIG. 9

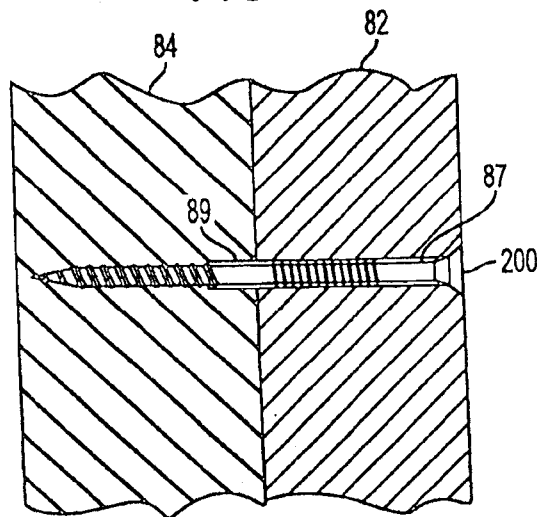


FIG. 10

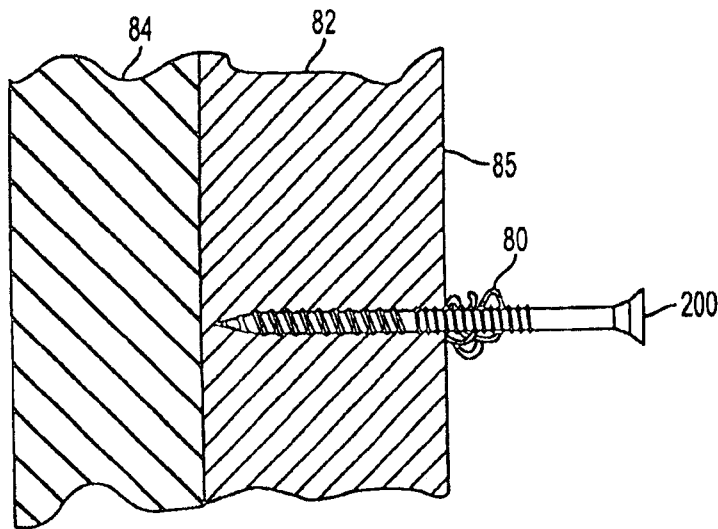


FIG. 11

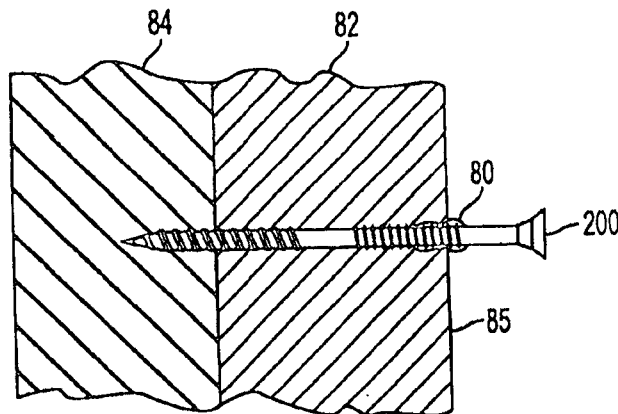


FIG. 12

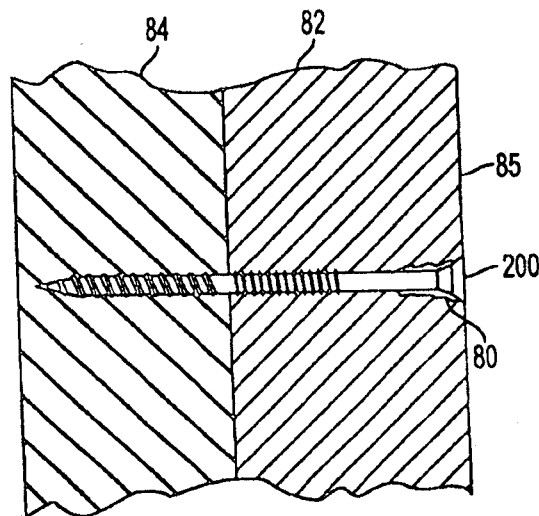


FIG. 13

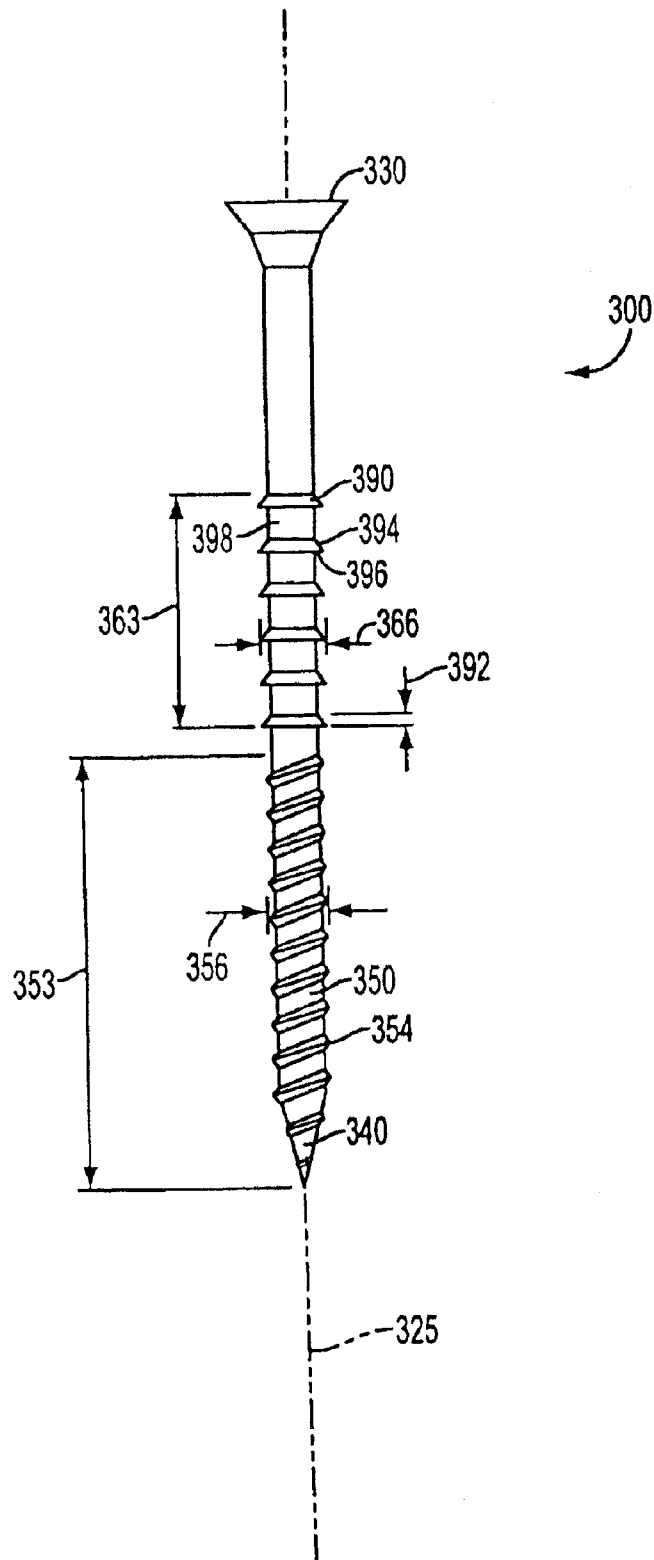


FIG. 14

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SCREW FOR REMNANT-PRODUCING ALTERNATIVE LUMBER MATERIAL

This application is a divisional of U.S. patent application Ser. No. 09/783,124, filed Feb. 15, 2001, now U.S. Pat. No. 6,666,638, the entire disclosure of which is incorporated by reference herein.

BACKGROUND

The present invention relates generally to fastening systems. In particular, the present invention relates to a screw for penetrating and securing a workpiece.

In construction and furniture building involving wood products, the use of alternative materials is becoming more common. Some alternative materials are made entirely from post-consumer polyethylene waste such as bottles and other recycled plastics. Other alternative materials are manufactured by mixing wood and other materials such as glass, steel, and carbon fibers with a suitable binder to vary the characteristics of the final material. Materials alternative to wood are used to construct everything from cabinets to decks. Such alternative materials are made by various processes. For example, alternative material lumber may be made by blending recycled plastic resins with sawdust and extruding the blended mixture into standard lumber sections.

Such alternative materials have many advantages over wood. The alternative materials are often stronger and more durable than even pressure treated lumber. Many materials also offer better resistance to moisture, corrosive substances, termites and other insects, and other environmental strains that often prove to be detrimental to wood.

The use of standard fasteners with these alternative materials, however, may produce unwanted results. Screws are commonly used to affix one workpiece to another. However, some of the above mentioned alternative materials may not compress as readily as wood to accommodate the added volume of the inserted screw. With respect to some of the above-mentioned alternative materials, insertion of the screw, particularly if there is no pre-drilled hole to accommodate the screw, can cause remnants or shavings to be cut, extruded, or otherwise removed from the hole made by the screw. Such alternative materials may be referred to as "remnant-producing" materials, and may include materials in addition to the alternative materials mentioned above. Some of the remnants may remain attached to the material or held to the material by the screw, and extend above the material surface. These remnants then have to be removed by sanding or other methods. A common way to reduce this problem is to pre-drill holes in the locations where a screw-type fastener must be inserted. This technique is laborious and time consuming. What is needed is a fastener adapted for use with a remnant-producing material where insertion of the fastener, particularly without pre-drilling holes, leaves a smoother surface on the remnant-producing material, reducing or eliminating remnants.

SUMMARY

The present inventions provide a fastener for securing remnant-producing materials, a method of manufacturing the fastener, and a method of using the fastener so that remnants or slivers produced by rotation of the fastener are substantially embedded within the remnant-producing material.

A fastener is provided having two separate threaded portions, a first or lower threaded portion having a first thread pitch and a second or upper threaded portion having

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a second thread pitch. The leading lower thread portion is designed to engage the work piece more firmly than the following upper thread portion. Thus, upon insertion of the screw, as both threaded portions engage the work piece, the first section substantially maintains its position or insertion rate with respect to the work piece defined by the pitch of the lower threads. The second threaded portion having a different thread pitch engages the work piece less firmly and thus is pulled through the work piece by the first set of threads substantially at the rate defined by the angle of the first set of threads. If the respective upper and lower thread pitches were equal, the upper threads would merely follow in the tracks or parallel to the tracks of the first leading threads. By making the thread pitches different, the second threaded portion engages and pulls with it remnants and/or wall material, retaining or pulling it into the bore.

In one aspect of the present inventions, the pitch of the second portion threads is less than the pitch of the threads of the first portion. The second threaded portion pitch in such an embodiment may spiral in the same direction as the first thread portion, may be of zero pitch, i.e., one or more rings around the screw shank, or may be of negative pitch, i.e., spiral in a direction that is opposite of the threads on the first or lower threaded portion.

In another aspect of the present inventions, the threads on the second or upper threaded portion have a larger diameter than the threads on the first or lower threaded portion.

In use, the first or lower threaded portion of the fastener is engaged with the remnant-producing material and rotated in the direction of the threads to insert the fastener into the material. This rotation may produce remnants or slivers by extruding, cutting, or some other mechanism. These remnants may extend from the hole in the material or workpiece surface made by the screw.

After the lower threaded portion is completely inserted into the material, the upper threaded portion of the fastener enters the material. Because the upper threaded portion has threads that have a different thread pitch relative to the threads on the lower threaded portion, the threads on the upper threaded portion capture the remnants that have been extruded within and/or onto the surface of the workpiece. As the fastener is completely inserted into the material, the remnants that have been extruded by the lower threaded portion of the fastener are substantially retained in the bore by the upper threaded portion of the fastener.

Therefore, a fastener and a method for inserting the fastener are provided to answer a need that currently exists in the construction industry.

These and other features and advantages of the invention will be more clearly understood from the following detailed description and drawings of preferred embodiments of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view of a screw according to a preferred embodiment of the present invention.

FIG. 2 is a cross-sectional view showing the screw of FIG. 1 engaged in a remnant-producing material.

FIG. 3 is a view similar to FIG. 2.

FIG. 4 is a view similar to FIG. 2.

FIG. 5 is a side view of a screw according to another preferred embodiment of the present invention.

FIG. 6 is a view taken along section line VI—VI of FIG. 5.

FIG. 7 is a side view of a screw according to another preferred embodiment of the present invention.

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FIG. 8 is a cross-sectional view showing the screw of FIG. 7 engaged in a remnant-producing material.

FIG. 9 is a view like FIG. 8.

FIG. 10 is a view like FIG. 8.

FIG. 11 is a view like FIG. 8.

FIG. 12 is a view like FIG. 8.

FIG. 13 is a view like FIG. 8.

FIG. 14 is a side view of a screw according to another preferred embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Refer now to FIG. 1 there being shown a fastener or screw, generally designated by reference numeral 10, according to a preferred embodiment of the present invention. The fastener 10 includes a shank 20 extending between a head 30 and a tapered tip 40. The head 30 has a diameter 32, and also includes a recess 34 (not shown) configured (e.g., slotted or cruciform shaped) to accommodate a driver for rotating the fastener 10. The screw 10 has an axis 25.

In the illustrated embodiment, the shank 20 of the fastener 10 has two threaded portions: a first or lower threaded portion 50 and a second or upper threaded portion 60. In a preferred embodiment, the lower threaded portion 50 has right-hand threads 54. The upper threaded portion 60 has left-hand threads 64. The lower threaded portion 50 has a length 53, a lower thread diameter 56, and a lower shank diameter 52. The upper threaded portion 60 has a length 63, an upper thread diameter 66, and an upper shank diameter 62.

The threads on the first or lower threaded portion 50 have a pitch 58 that is defined by the axial distance from a point (usually the crest) on a thread to a corresponding point on an adjacent thread. The threads on the second or upper threaded portion 60 have a pitch 68 that is similarly defined. In the illustrated embodiment, the thread pitch 68 of the upper threaded portion 60 is negative and thus is less than the thread pitch 58 of the lower threaded portion 50.

The head diameter 32 is greater than the shank diameters 52 and 62. As illustrated in FIG. 1, a neck 70 extends between the upper threaded portion 60 and the head 30. The neck 70 has an outer surface 72. In the illustrated embodiment, the neck 70 is manufactured to have a diameter enlarging in a tapered fashion to transition from the upper threaded portion shank diameter 62 to the head diameter 32. In the illustrated embodiment, the lower part of the neck 70 has the same diameter as the shank diameter 62, and the upper part of the neck 70 is the same in diameter as the head diameter 32. In this embodiment, the neck 70 is manufactured to be of increasing diameter from the lower portion to the upper portion of the neck 70. The neck surface 72 is tapered from the shank diameter 62 to the head diameter 32. Alternatively, a portion or portions of the neck could be straight or not tapered. The neck is tapered so that in use, as the leading surface, i.e., the neck surface 72 of the illustrated embodiment, enters a work piece, the work piece will gradually compress to accommodate the screw 10 as it is inserted, preferably without the need to pre-drill holes in the work piece. The desirable angle or degree of taper may depend upon the compressibility or the characteristic of the work piece. Any abrupt flange, protrusion, ridge or other surface in the leading neck surface 72 could engage the work piece and inhibit the screw's insertion into the work piece, particularly if the abrupt surface has to travel a substantial distance into the material.

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The upper threaded portion 60 and the lower threaded portion 50 are separated by a transition section 24 that has a length 26. The transition section 24 is manufactured to contain no threads. In the illustrated embodiment, the transition section 24 has a diameter 22 that is slightly greater than the shank diameters 52 and 62, but smaller than the upper and lower thread diameters 66 and 56. Alternatively, the transition section diameter 22 can be equal to or smaller than the shank diameters 52 or 62, but should not be so large as to substantially inhibit insertion of the screw into the work piece. For example, powdery material, such as drywall, easily breaks or compresses, and could accommodate abrupt changes or flanges, whether or not the material produces remnants from any paper or other coverings. However, other materials are more resistant to compression and tapered neck screw heads are more readily insertable into such materials.

The lower threaded portion 50 extends to the tapered tip 40 and a point 28, similar to a conventional wood screw. The point 28 is essentially a sharp end to the shank 20. As illustrated in FIG. 1, the tapered tip 40 is manufactured to be decreasing in diameter from the shank diameter 52 to the point 28. The threads 54 of the lower threaded portion 50 are conventionally manufactured to continue onto the tapered tip 40 and to end at the point 28. The lower threaded portion thread diameter 56 decreases at the tapered tip 40 and comes to an essentially sharp end on point 28. The lower threaded portion threads 54 on the tapered tip 40 and point 28 may be manufactured to be self-tapping threads. Self-tapping threads reduce the need to pre-drill holes in a workpiece.

The fastener 10 is manufactured from a blank that may initially be uniform in diameter. The blank, which may be made form steel, aluminum, or other material, is deformed by a thread rolling machine to achieve the form illustrated in FIG. 1. The blank may be rolled in a first direction to form the first or lower threaded portion 50. The blank may be rolled in a second direction to form the second or upper threaded portion 60. The head 30, the neck 70, and the tapered section 22 may be formed during the above mentioned rolling steps, or during separate rolling steps. Alternatively, the rolling machine may have appropriate dies so that the fastener 10 can be manufactured in one rolling step. During the rolling process, threads may receive forging properties that help increase the fastener's fatigue strength and loading strength.

Refer now to FIG. 2 that illustrates the fastener 10, a remnant-producing material 82, a base material 84, and remnants 80. In use, as the fastener 10 is rotated into the remnant-producing material 82, remnants are cut, extruded, or otherwise removed to the surface 83 of the remnant-producing material 82. The remnants 80 are forced out of the remnant-producing material 82 by the rotation of the threads 54 on the lower threaded portion 50 of the fastener 10.

Refer now to FIG. 3 that illustrates the fastener 10, the remnant-producing material 82, the base material 84, and remnants 80. In use, at this stage of the method of the present invention the lower threaded portion 50 and the transition section 24 are completely inserted into the remnant-producing material 82. The lower threaded portion 50 may also at this stage become engaged with the base material 84. The upper threaded portion 60 is at this stage at least partially inserted into the remnant-producing material 82. The upper threaded portion 60, by virtue of having threads 64 with a different pitch from the lower portion 50, captures the remnants 80 onto the upper threaded portion 60. The remnants 80 are captured by the threads 64 of the upper threaded portion 60 and may also be captured by the neck 70. As the fastener 10 is further inserted into the remnant-

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producing material 82, the remnants 80 are forcibly driven from the surface 83 of the remnant-producing material 82 and from the upper threaded portion 60 into the hole or bore 87 of the remnant-producing material 82 along with the fastener 10.

Refer now to FIG. 4 that illustrates the screw 10, the remnant-producing material 82, the base material 84, and the remnants 80. In use, at this stage of the method of the present invention the fastener 10 is completely inserted into the remnant-producing material 82. Remnants 80 that have been cut, extruded, or otherwise removed from the remnant-producing material 82, as illustrated in FIGS. 1 and 2, have been forcibly driven into the remnant-producing material 82 by the upper threaded portion 60, neck 70, and head 30. Remnants 80 are below head 30, thus leaving a smooth surface 83 on the remnant-producing material 82.

As is shown in FIG. 4, the screw 10 is utilized to clamp the remnant-producing material 82 to the base material 84. A common problem experienced when attempting to clamp one structure to another with a screw having threaded sections with a constant thread pitch is difficulty in tightly clamping, or seating, the two structures against one another. This is in part a result of a broaching effect stemming from the threaded section closest to the screw head, which leads to jacking, or the tendency for structures to remain separated. To ensure tighter seating of the two structures, a differential should be present between the threaded sections. Conventionally, a differential is approximated by pre-drilling the upper structure.

As shown in FIG. 4, the lower threaded portion 50 has a thread pitch which differs from the thread pitch of the upper threaded portion 60. This differential, coupled with the ability of the upper threaded portion 60 to pull the remnants 80 into, and thereby clean, the bore 87, suppresses jacking and allows a tight clamp between the remnant-producing material 82 and the base material 84. Consequently, an additional step of pre-drilling the remnant-producing material 82 is obviated.

To ensure proper clamping between the remnant-producing material 82 and the base material 84, preferably the uppermost extent of the lower threaded portion 50 should be fully within the base material 84 and close to the mating surfaces of the materials 82, 84 when the head 30 of the screw 10 is seated within the remnant-producing material 82. Since the uppermost extent of the lower threaded portion 50 should be near to the mating surfaces of the materials 82, 84, properly sized and configured screws 10 should be chosen based upon the relative thicknesses of the materials 82, 84.

Refer now to FIGS. 5 and 6 that show a screw, generally designated by reference numeral 110, according to another embodiment of the present invention. The fastener 110 has a head 130 that has a diameter 132. The fastener 110 has a neck 170 that has a lower neck portion 174 and an upper neck portion 172. The upper neck portion 172 and the lower neck portion 174 are separated by a land surface 190. The land surface 190 has an inside diameter 178 and an outside diameter 176.

As shown in FIG. 6, the lower neck portion 174 and the upper neck portion 172, as well as the neck 170 overall, have substantially tapered leading surfaces. Although the neck 170 has the land surface 190, no substantial abrupt leading surfaces or protrusions exist from the lower neck portion 174 to the head 130 as the neck 170 diameter increases, ultimately becoming the same in diameter as head diameter 132. In use, the substantially tapered leading surface of the

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lower neck portion 174 and an upper neck portion 172 can be inserted into a workpiece so that no substantial abrupt surface or protrusion enters the workpiece in a leading fashion, i.e. faces the workpiece in the direction of entry. Because the land surface 190 is not a leading surface, its abrupt nature should not substantially inhibit insertion of the screw into the workpiece. In the preferred embodiment of the neck illustrated in FIGS. 5 and 6, the remnants 80 that are cut or extruded from the remnant-producing material 82 may also be captured by the lower neck portion 174, the upper neck portion 172, and the land area 190.

Refer now to FIG. 7 there being shown a screw, generally designated by reference numeral 200, according to another embodiment of the present invention. The screw 200 has a first or lower threaded portion 250 that has threads 254. The threads 254 have a thread pitch 258 and a thread diameter 256. The screw 200 has a second or upper threaded portion 260 that has threads 264. The threads 264 have a thread pitch 268 and a thread diameter 266.

In this embodiment of the present invention, the lower threaded portion threads 254 and the upper threaded portion threads 264 spiral the same direction. Preferably, the threads 254 and 264 are right-hand threads, however, the threads 254 and 264 may be left-hand threads. In the illustrated embodiment, the lower threaded portion thread pitch 258 is greater than the upper threaded portion thread pitch 268. Preferably, the lower threaded portion thread diameter 256 is smaller than the upper portion thread diameter 266. Also preferably the lower threaded portion thread angle 251 is greater than the upper portion thread angle 261, because it is desired that the upper threads will grasp and pull material down the bore rather than extrude a new thread pattern in the bore.

The screw 200 has a transition section 224 that has no threads. The transition section provides an annulus between it and the inside surface of the bore for accepting remnant and bore material being drawn through the bore and may be selected to reside proximate the intersection of the two pieces being fastened together to thus aid in drawing those pieces together. Alternatively, no transition zone may be used. As is noted with reference to the threaded portions 50, 60 shown in FIG. 4, the thread pitch of the lower and upper threaded portions 250, 260 are different, and that difference suppresses jacking and enhances tight clamping between the remnant-producing material 82 and the base material 84.

A benefit of this embodiment is that the remnant-producing material 82 is urged toward the base material 84 if there is a gap between the two materials 82 and 84 at the time the screw 200 is inserted. Because the lower threaded portion thread pitch 258 is greater than the upper threaded portion thread pitch 268, the lower threaded portion 250 will travel at a quicker axial rate through a material than will the upper threaded portion 260. In use, with reference to FIG. 8, there may be a gap 85 between the remnant-producing material 82 and the base material 84 when the screw 200 engages the base material 84. With reference to FIGS. 9 and 10, the lower threaded portion 250 will travel at a quicker axial rate through the base material 84 relative to the axial travel rate of the upper threaded portion 260 through the remnant-producing material 82. Therefore, the remnant-producing material 82 will be urged toward the base material 84. Also shown in FIG. 10 are the annulus 89 which provides space for accepting bore material and remnants, and the bore 87 made by the threads 264. Finally, it should be noted that the uppermost extent of the lower threaded portion 250 is fully within the base material 84 and near to the mating surfaces of the materials 82, 84 when the head of the screw

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200 is seated within the remnant-producing material 82. While it is possible for a portion of the upper threaded portion 260 to extend into the base material 84, as shown in FIG. 10 all of the upper threaded portion 260 is resident within the remnant-producing material 82. Preferably, since the uppermost extent of the lower threaded portion 250 should be near to the mating surfaces of the materials 82, 84, properly sized and configured screws 200 should be chosen based upon the relative thicknesses of the materials 82, 84.

Refer now to FIGS. 11, 12, and 13, that illustrate how the screw 200 captures the remnants that have been extruded onto the surface of the remnant-producing material. In use, remnants 80 that are shaved, cut, or otherwise pushed to the surface 83 of the remnant-producing material 82 are captured by the threads 264 of the upper threaded portion 260. Because the upper threaded portion thread pitch 268 is smaller than the lower thread pitch 258, the upper threads 264 are able to capture the remnants 80. Additionally, because the upper thread pitch 268 is smaller than the lower thread pitch 258, the upper threads 264 deform the path cut in the remnant producing material 82 by the lower threads 254. Alternatively, the above mentioned useful task can be accomplished if the upper portion thread diameter 266 is greater than the lower portion thread diameter 256. When the screw 200 is fully inserted, the remnants 82 are forcibly driven into the remnant-producing material 82. Refer now to FIG. 14 that shows a screw, generally designated by reference numeral 300, according to another embodiment of the present invention. The screw 300 has a lower threaded portion 350 having threads 354 that a thread diameter 356. Instead of an upper threaded portion, the screw 300 has an upper annular ridge section 398 (spaced threads with zero pitch) that has annular ridges 390. The annular ridges have a ridge diameter 366 and a ridge height 392. Preferably, the ridge diameter 366 is greater than the lower thread diameter 356. The ridge diameter 366 may be equal to or smaller than the lower thread diameter 356. The annular ridge section 398 has a length 363 that may be smaller, equal to, or greater than the lower portion thread length 353. The annular ridges 390 have horizontally flat surface 396 and an angled surface 394. On the screw 300, the annular ridge flat surface is facing the tapered tip 340, and the annular ridge angled surface 394 faces the head 330.

The above description and drawings are only illustrative of preferred embodiments of the present inventions, and are not intended to limit the present inventions thereto. Any subject matter or modification thereof which comes within the spirit and scope of the following claims is to be considered part of the present inventions.

What is claimed as new and desired to be protected by Letters Patent of the United States is:

1. A method of using a fastener comprising:

providing a fastener having a shank, a head, a tapered section, a first threaded section and a second threaded section, said first threaded section being closer to said tapered section and said second threaded section being closer to said head, said first threaded section having a first thread angle and said second threaded section having a second thread angle smaller than said first thread angle, said first threaded section having threads having a first pitch and said second threaded section having threads having a second pitch different from said first pitch;

engaging said tapered segment of said fastener with a remnant-producing material;

rotating said fastener in the direction of said threads of the first threaded section thereby inserting said fastener into said remnant-producing material and producing remnants from said remnant-producing material;

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rotating said fastener in the direction of said threads of the first threaded section after said second threaded section becomes engaged with said remnant-producing material thereby causing said second threaded section to capture said produced remnants; and

rotating said fastener until said head engages with said remnant-producing material.

2. A method of clamping two structures together with a fastener, comprising:

providing a fastener having a shank, a head, a first threaded section and a second threaded section, said first threaded section being closer to said tapered section and said second threaded section being closer to said head, a neck section having no threads connecting said second threaded section and said head, said first threaded section having threads having a first pitch and said second threaded section having threads having a second pitch different from said first pitch;

engaging said first threaded section of said fastener with an alternative lumber material;

rotating said fastener in the direction of the threads of said first threaded section to insert said fastener into said alternative lumber material;

rotating said fastener in the direction of said threads of the first threaded section after said second threaded section becomes engaged with said alternative lumber material and said first threaded section becomes engaged with a second structure; and

rotating said fastener until said head engages with said alternative lumber material, wherein upon engagement of said head with said alternative lumber material said first threaded section is completely within said second structure.

3. The method of claim 2, wherein upon said engagement of said head in said first structure, one end of said first threaded section is proximate to a pair of mating surfaces of said two structures.

4. The method of claim 2, wherein said first structure is formed of remnant-producing material, said first threaded section producing remnants from said remnant-producing material and said second threaded section capturing said produced remnants.

5. A method of using a fastener in an alternative lumber material, the method comprising:

providing a fastener having a shank, a head, a tapered section, a first threaded section and a second threaded section, said first threaded section being closer to said tapered section and said second threaded section being closer to said head, said first threaded section having a first thread angle and said second threaded section having a second thread angle smaller than said first thread angle, said first threaded section having threads having a first pitch and said second threaded section having threads having a second pitch different from said first pitch;

engaging said tapered segment of said fastener with an alternative lumber material;

rotating said fastener in the direction of said threads of the first threaded section thereby inserting said fastener into said alternative lumber material and producing remnants from said alternative lumber material;

rotating said fastener in the direction of said threads of the first threaded section after said second threaded section becomes engaged with said alternative lumber material thereby causing said second threaded section to capture said produced remnants; and

rotating said fastener until said head engages with said alternative lumber material.

* * * * *

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DICKSTEINSHAPIRO LLP

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TEL (202) 420-2200 | FAX (202) 420-2201 | dicksteinshapiro.com

January 3, 2007

VIA FACSIMILE NO. (713) 651-5246

Marc L. Delflache, Esq.
Fulbright & Jaworski L.L.P.
1301 McKinney, Suite 5100
Houston, TX 77010-3095

Re: Phillips' Patent Rights

Dear Marc:

As discussed in our letter dated February 6, 2006, the U.S. Patent and Trademark Office issued, on September 13, 2005, U.S. Patent No. 6,941,635 ("the '635 patent"), related to Deck Screws. The '635 patent is assigned to Phillips, and is based on a divisional application of the application which issued as U.S. Patent No. 6,666,638 ("the '638 patent"). A copy of the '635 patent was enclosed with the February 6 letter.

It has come to our attention that PrimeSource/Grip Rite has marketed new deck screws, identified by product number H3CSB1, for example, that are covered by at least one or more claims of the '635 patent. These new deck screws are currently being sold at Home Depot. Under the terms of the April 26, 2005 Agreement between Phillips and PrimeSource, Phillips released PrimeSource to sell or otherwise dispose of its "existing inventory of the Deck Screw product" as defined in the Agreement. The new deck screws do not fall within the granted release. Such marketing of these new deck screws infringes the '635 patent.

Accordingly, our client demands that PrimeSource immediately cease and desist from further manufacturing, marketing, selling, offering for sale and/or importing such new deck screws. Unless we receive written assurances within 10 days that PrimeSource has ceased such activities, our client will consider all its legal options under its U.S. Patent, including seeking preliminary and permanent injunctive relief, damages, costs and attorneys fees.

RECEIVED

JAN 09 2007

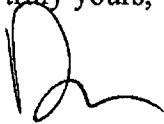
MARC L. DELFLACHE

DICKSTEINSHAPIRO LLP

Marc L. Delflache, Esq.
January 3, 2007
Page 2

We look forward to receiving your favorable response.

Very truly yours,



Donald A. Gregory
(202) 420-2274
GregoryD@dicksteinshapiro.com

DAG/PAV/kh/alw

cc: Phillips Screw Company

D

FULBRIGHT & JAWORSKI L.L.P.

A REGISTERED LIMITED LIABILITY PARTNERSHIP

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DALLAS, TEXAS 75201-2784

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MARC L. DELFLACHE
PARTNER
MDELFLACHE@FULBRIGHT.COM

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TELEPHONE: (214) 855-8000
FACSIMILE: (214) 855-8200

January 9, 2007

VIA FACSIMILE
CONFIRMATION VIA U.S. MAIL

Donald A. Gregory
Dickstein Shapiro LLP
1825 Eye Street NW
Washington, DC 20006-5403

Re: U.S. Patent No. 6,941,635

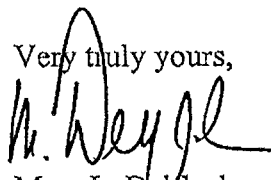
Dear Don:

I have received your letter of January 3, 2007 regarding the above-identified patent. The new deck screws currently being sold by PrimeSource, such as that identified by product number H3CSB1, do not infringe any claim of the '635 patent. For example, the new PrimeSource design has a thread angle of the upper portion larger than the thread angle of the lower portion unlike the limitations found in claims 1 and 5 of the '635 patent. In an effort to demonstrate this, attached please find an example of a dimensional spreadsheet of a particular size of the new design clearly representing the above-identified relationship.

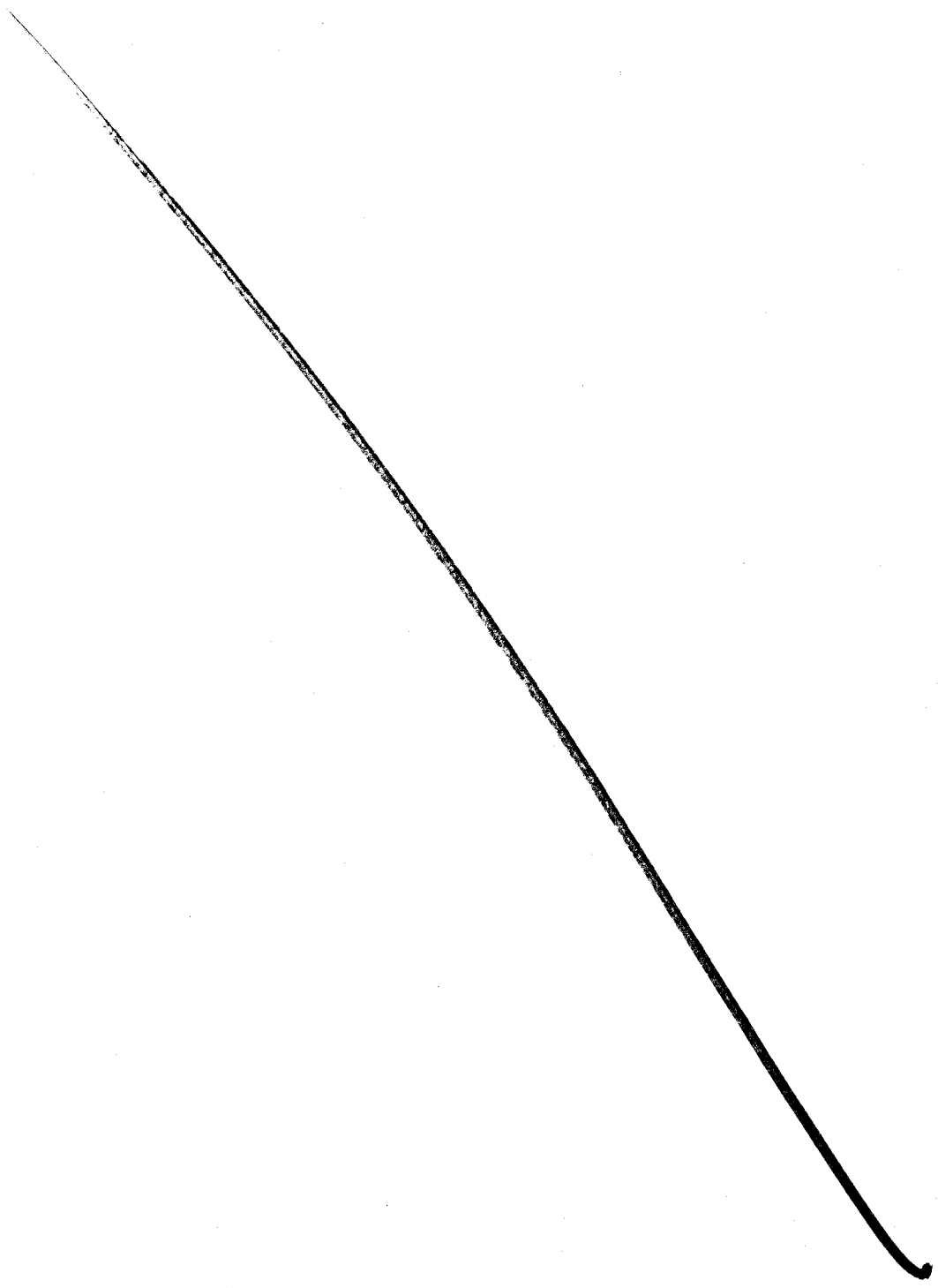
With respect to claims 2-4 of the '635 patent, these claims must necessarily include the above-identified limitation. Otherwise, they are clearly invalid based on uncited reference French patent no. FR 2,713,291, for example (copy attached).

In view of this explanation, I trust that your client does not intend to pursue claims against my client based on its current product design or that your client would not knowingly assert a patent having invalid claims.

Very truly yours,


Marc L. DeFlache

MLD/ljh
Encls.: as noted



D

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February 8, 2007

VIA FACSIMILE NO. (214) 855-8200

Marc L. Delflache, Esq.
Fulbright & Jaworski L.L.P.
2200 Ross Avenue, Suite 2800
Dallas, TX 75201-2784

Re: Phillips' Patent Rights

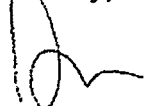
Dear Marc:

We have received your letter of January 9, 2007, and have considered the French published application, publication number 2,713,291. The French publication does not teach the methods claimed in Phillips' U.S. Patent No. 6,941,635 for using a fastener in remnant producing or alternate lumber materials, and clearly does not invalidate the Phillips patent.

Accordingly, our client continues its demand that PrimeSource immediately cease and desist from further manufacturing, marketing, selling, offering for sale and/or importing such new deck screws. Unless we receive written assurances within 10 days that PrimeSource has ceased such activities, our client will consider all its legal options under its U.S. Patent, including seeking preliminary and permanent injunctive relief, damages, costs and attorneys fees.

We look forward to receiving your favorable response.

Sincerely,



Donald A. Gregory
(202) 420-2274
GregoryD@dicksteinshapiro.com

DAG/alw

cc: Phillips Screw Company

CIVIL COVER SHEET

JS 44 (Rev. 11/04)

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

I. (a) PLAINTIFFS
 U.S. DISTRICT COURT
 NORTHERN DISTRICT OF TEXAS
 PrimeSource Banding Products, Inc.

DEFENDANTS
 Phillips Screw Company

(b) County of Residence of First Listed Plaintiff Dallas
 (EXCEPT IN U.S. PLAINTIFF CASES)

County of Residence of First Listed Defendant _____
 (IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE LAND INVOLVED.

Attorneys (If Known)

3-07CV0303-M

ORIGINAL

(c) Attorney's (Firm Name, Address, and Telephone Number)
 Marc L. Delflache, Fulbright & Jaworski, L.L.P.
 2200 Ross Avenue, Suite 2800, Dallas, Texas 75201
 (214) 855-8000

II. BASIS OF JURISDICTION (Place an "X" in One Box Only)

1 U.S. Government Plaintiff

3 Federal Question (U.S. Government Not a Party)

2 U.S. Government Defendant

4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)

Citizen of This State	PTF <input type="checkbox"/> 1	DEF <input type="checkbox"/> 1	Incorporated or Principal Place of Business In This State	PTF <input type="checkbox"/> 4	DEF <input type="checkbox"/> 4
Citizen of Another State	<input type="checkbox"/> 2	<input type="checkbox"/> 2	Incorporated and Principal Place of Business In Another State	<input type="checkbox"/> 5	<input type="checkbox"/> 5
Citizen or Subject of a Foreign Country	<input type="checkbox"/> 3	<input type="checkbox"/> 3	Foreign Nation	<input type="checkbox"/> 6	<input type="checkbox"/> 6

IV. NATURE OF SUIT (Place an "X" in One Box Only)

CONTRACT	TORTS	FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
<input type="checkbox"/> 110 Insurance <input type="checkbox"/> 120 Marine <input type="checkbox"/> 130 Miller Act <input type="checkbox"/> 140 Negotiable Instrument <input type="checkbox"/> 150 Recovery of Overpayment & Enforcement of Judgment <input type="checkbox"/> 151 Medicare Act <input type="checkbox"/> 152 Recovery of Defaulted Student Loans (Excl. Veterans) <input type="checkbox"/> 153 Recovery of Overpayment of Veteran's Benefits <input type="checkbox"/> 160 Stockholders' Suits <input type="checkbox"/> 190 Other Contract <input type="checkbox"/> 195 Contract Product Liability <input type="checkbox"/> 196 Franchise	PERSONAL INJURY <input type="checkbox"/> 310 Airplane <input type="checkbox"/> 315 Airplane Product Liability <input type="checkbox"/> 320 Assault, Libel & Slander <input type="checkbox"/> 330 Federal Employers' Liability <input type="checkbox"/> 340 Marine <input type="checkbox"/> 345 Marine Product Liability <input type="checkbox"/> 350 Motor Vehicle <input type="checkbox"/> 355 Motor Vehicle Product Liability <input type="checkbox"/> 360 Other Personal Injury	PERSONAL INJURY <input type="checkbox"/> 362 Personal Injury - Med. Malpractice <input type="checkbox"/> 365 Personal Injury - Product Liability <input type="checkbox"/> 368 Asbestos Personal Injury Product Liability PERSONAL PROPERTY <input type="checkbox"/> 370 Other Fraud <input type="checkbox"/> 371 Truth in Lending <input type="checkbox"/> 380 Other Personal Property Damage <input type="checkbox"/> 385 Property Damage Product Liability	<input type="checkbox"/> 422 Appeal 28 USC 158 <input type="checkbox"/> 423 Withdrawal 28 USC 157 PROPERTY RIGHTS <input type="checkbox"/> 820 Copyrights <input checked="" type="checkbox"/> 830 Patent <input type="checkbox"/> 840 Trademark	<input type="checkbox"/> 400 State Reapportionment <input type="checkbox"/> 410 Antitrust <input type="checkbox"/> 430 Banks and Banking <input type="checkbox"/> 450 Commerce <input type="checkbox"/> 460 Deportation <input type="checkbox"/> 470 Racketeer Influenced and Corrupt Organizations <input type="checkbox"/> 480 Consumer Credit <input type="checkbox"/> 490 Cable/Sat TV <input type="checkbox"/> 810 Selective Service <input type="checkbox"/> 850 Securities/Commodities/Exchange <input type="checkbox"/> 875 Customer Challenge 12 USC 3410 <input type="checkbox"/> 890 Other Statutory Actions <input type="checkbox"/> 891 Agricultural Acts <input type="checkbox"/> 892 Economic Stabilization Act <input type="checkbox"/> 893 Environmental Matters <input type="checkbox"/> 894 Energy Allocation Act <input type="checkbox"/> 895 Freedom of Information Act <input type="checkbox"/> 900 Appeal of Fee Determination Under Equal Access to Justice <input type="checkbox"/> 950 Constitutionality of State Statutes
REAL PROPERTY	CIVIL RIGHTS	PRISONER PETITIONS	LABOR	SOCIAL SECURITY
<input type="checkbox"/> 210 Land Condemnation <input type="checkbox"/> 220 Foreclosure <input type="checkbox"/> 230 Rent Lease & Ejectment <input type="checkbox"/> 240 Torts to Land <input type="checkbox"/> 245 Tort Product Liability <input type="checkbox"/> 290 All Other Real Property	<input type="checkbox"/> 441 Voting <input type="checkbox"/> 442 Employment <input type="checkbox"/> 443 Housing/Accommodations <input type="checkbox"/> 444 Welfare <input type="checkbox"/> 445 Amer. w/Disabilities - Employment <input type="checkbox"/> 446 Amer. w/Disabilities - Other <input type="checkbox"/> 440 Other Civil Rights	<input type="checkbox"/> 510 Motions to Vacate Sentence Habeas Corpus: <input type="checkbox"/> 530 General <input type="checkbox"/> 535 Death Penalty <input type="checkbox"/> 540 Mandamus & Other <input type="checkbox"/> 550 Civil Rights <input type="checkbox"/> 555 Prison Condition	<input type="checkbox"/> 710 Fair Labor Standards Act <input type="checkbox"/> 720 Labor/Mgmt. Relations <input type="checkbox"/> 730 Labor/Mgmt. Reporting & Disclosure Act <input type="checkbox"/> 740 Railway Labor Act <input type="checkbox"/> 790 Other Labor Litigation <input type="checkbox"/> 791 Empl. Ret. Inc. Security Act	<input type="checkbox"/> 861 HIA (1395ff) <input type="checkbox"/> 862 Black Lung (923) <input type="checkbox"/> 863 DIWC/DIWW (405(g)) <input type="checkbox"/> 864 SSID Title XVI <input type="checkbox"/> 865 RSI (405(g)) FEDERAL TAX SUITS <input type="checkbox"/> 870 Taxes (U.S. Plaintiff or Defendant) <input type="checkbox"/> 871 IRS—Third Party 26 USC 7609

V. ORIGIN (Place an "X" in One Box Only)

1 Original Proceeding

2 Removed from State Court

3 Remanded from Appellate Court

4 Reinstated or Reopened

5 Transferred from another district (specify)

6 Multidistrict Litigation

7 Appeal to District Judge from Magistrate Judgment

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):
35 U.S.C. 101, et seq.

Brief description of cause:
Declaratory judgment action re invalidity and non-infringement of U.S. Patent No. 6,941,635

VII. REQUESTED IN COMPLAINT:

CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23

DEMAND \$ _____

CHECK YES only if demanded in complaint:
 JURY DEMAND: Yes No

VIII. RELATED CASE(S) IF ANY (See instructions):

JUDGE _____ DOCKET NUMBER _____

DATE February 15, 2007 SIGNATURE OF ATTORNEY OF RECORD Marc Delflache by [Signature]

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____