



US 20030159399A1

(19) **United States**

(12) **Patent Application Publication**  
**Werren**

(10) **Pub. No.: US 2003/0159399 A1**

(43) **Pub. Date: Aug. 28, 2003**

(54) **DECK SPACER**

**Publication Classification**

(76) Inventor: **William C. Werren**, Fallston, MD (US)

(51) **Int. Cl.<sup>7</sup>** ..... **E04G 21/14**; E04D 15/00;  
E04F 21/00

(52) **U.S. Cl.** ..... **52/749.1**; 52/105; 52/127.1

Correspondence Address:

**ROYAL W. CRAIG**  
**SUITE 153**  
**10 NORTH CALVERT STREET**  
**BALTIMORE, MD 21202 (US)**

(57) **ABSTRACT**

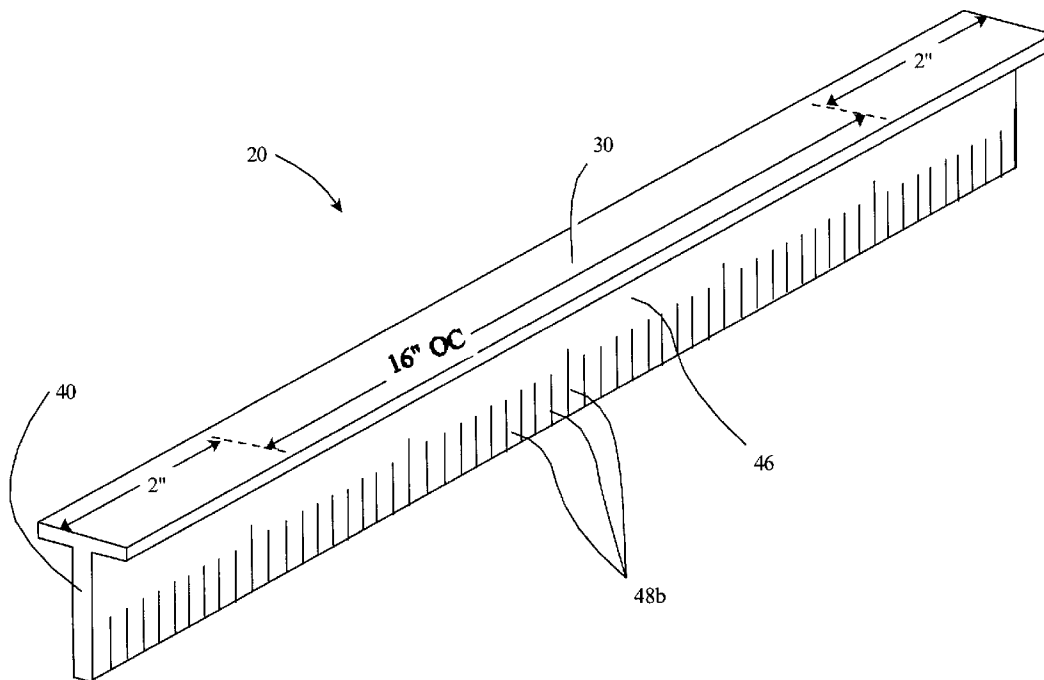
Disclosed herein is a spacing device utilized in the construction of decks and the like from composite building planks. The spacing device generally comprises a straight length of material possessing a T-shaped cross-section. The vertical element (or leg) of the "T" is used to establish the space between the polymer planks of a deck. The horizontal element prevents the spacer from falling through the space established by the T's leg. The spacing device is fabricated of a strong, lightweight material such as aluminum to provide the durability and portability required by the nature of its usage. The present invention's design is simple and straightforward, and can be economically manufactured and sold.

(21) Appl. No.: **10/349,148**

(22) Filed: **Jan. 21, 2003**

**Related U.S. Application Data**

(60) Provisional application No. 60/350,093, filed on Jan. 18, 2002.



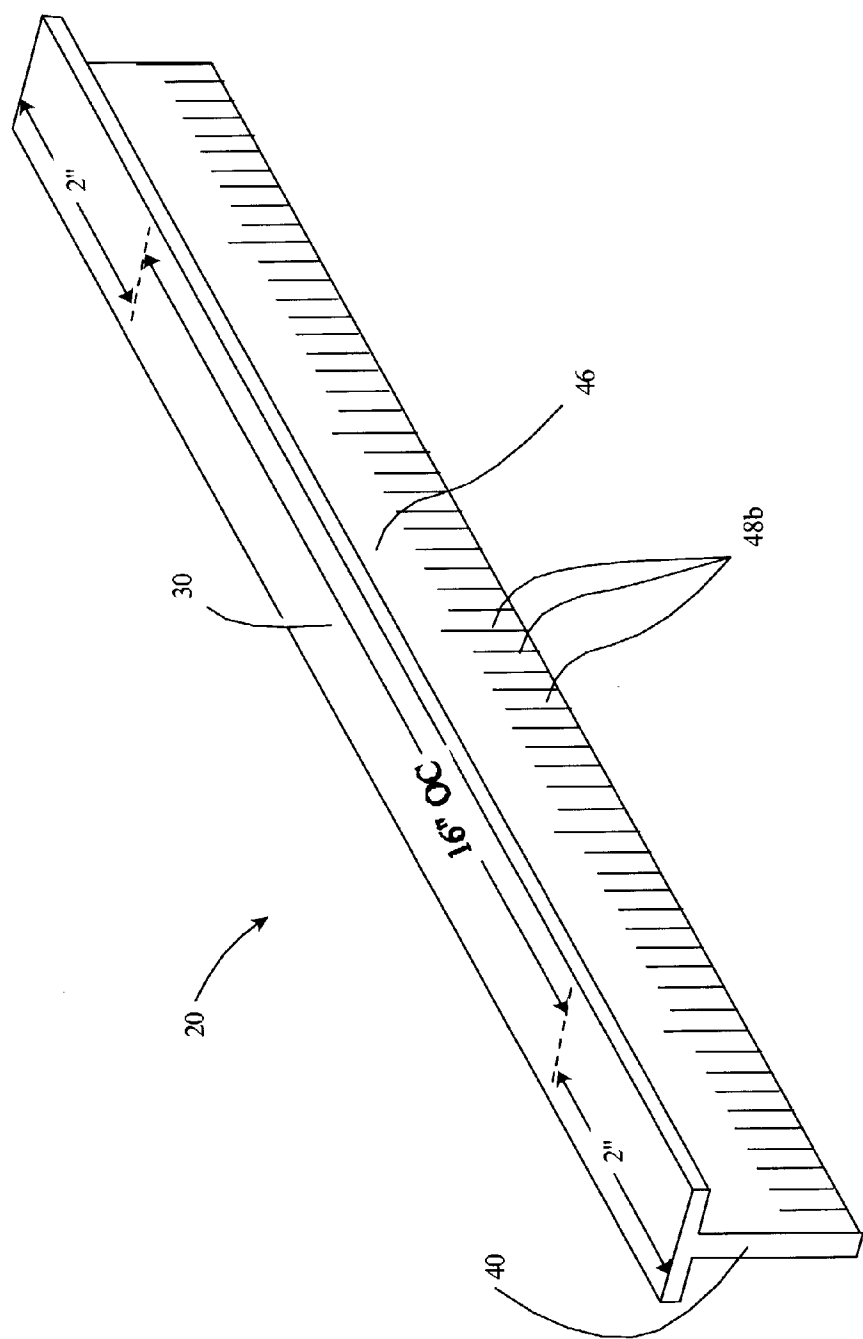


FIG. 1

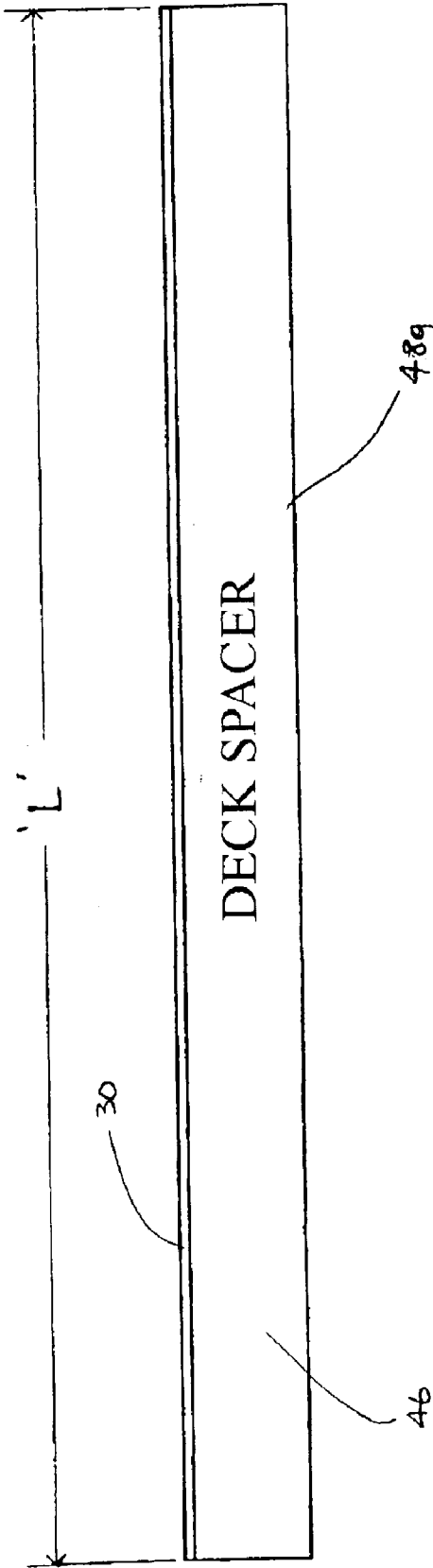


FIG. 2

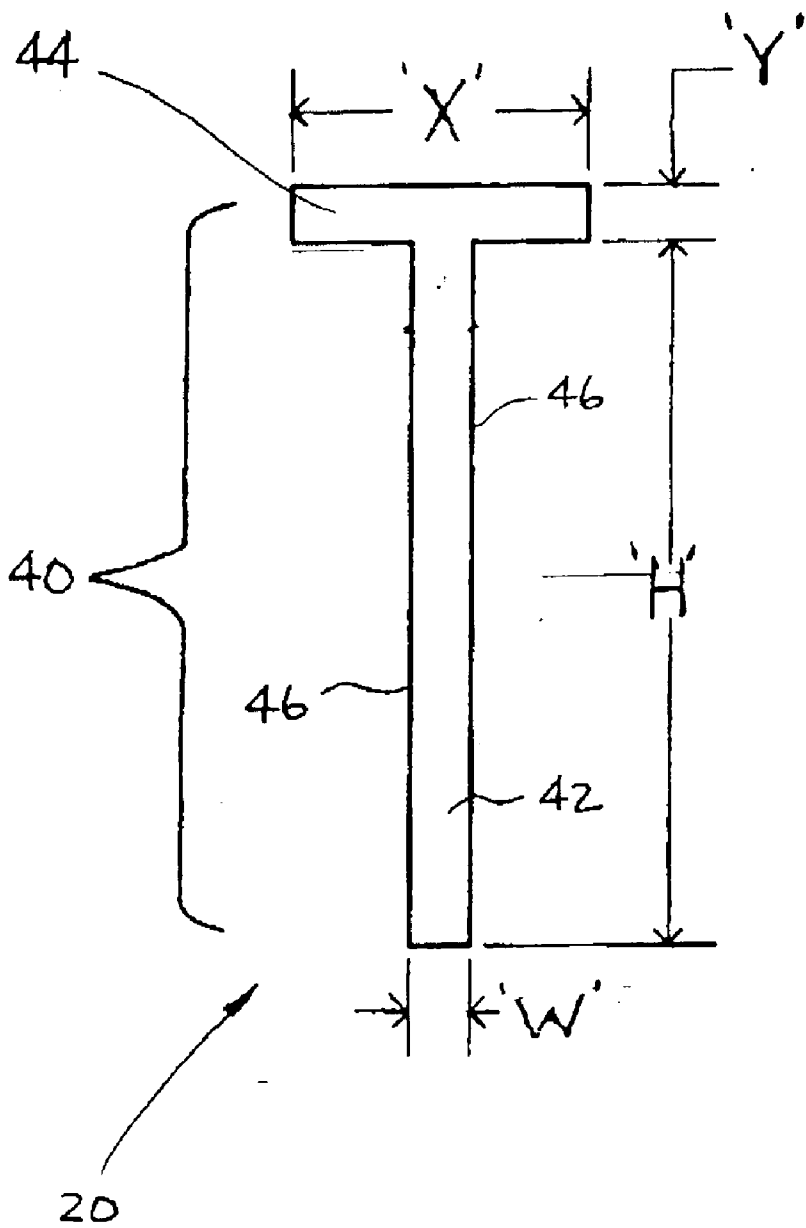


FIG. 3

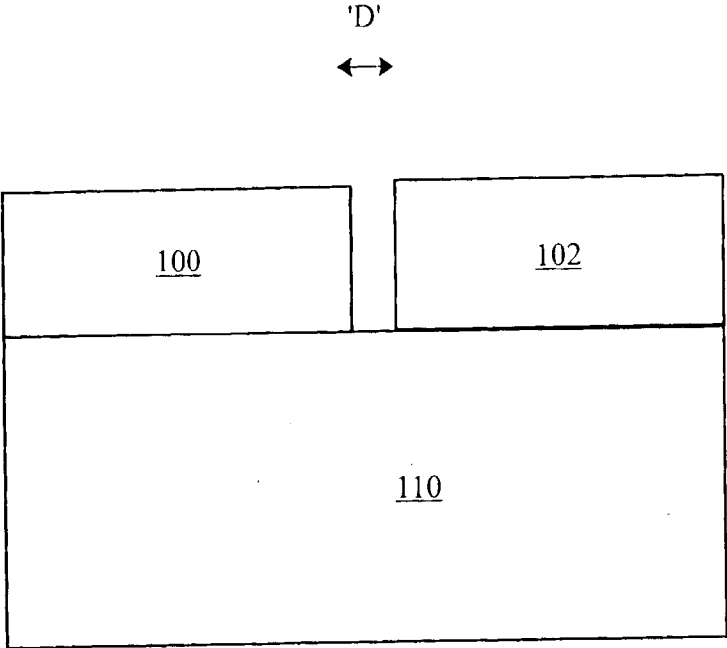


FIG. 4

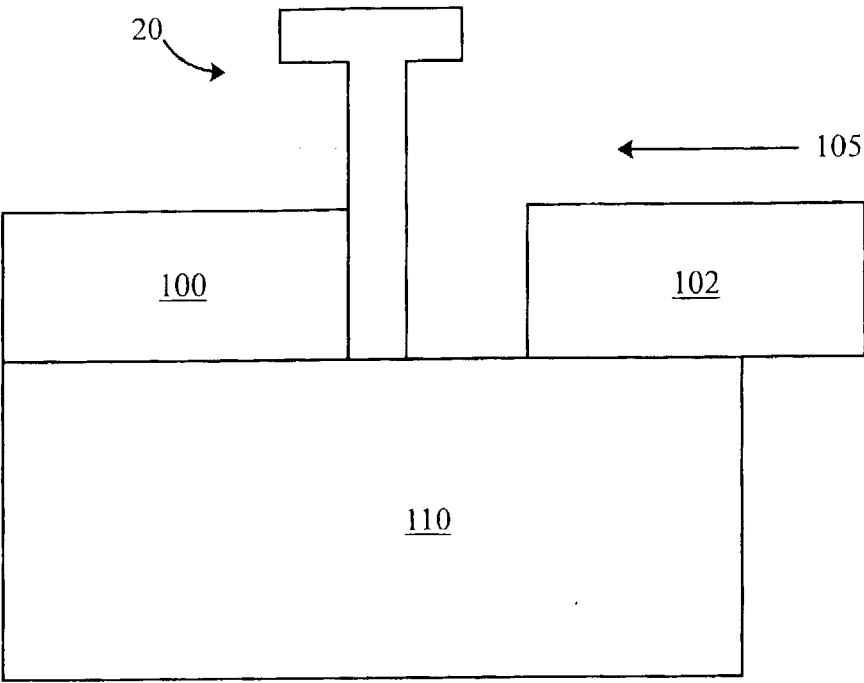


FIG. 5

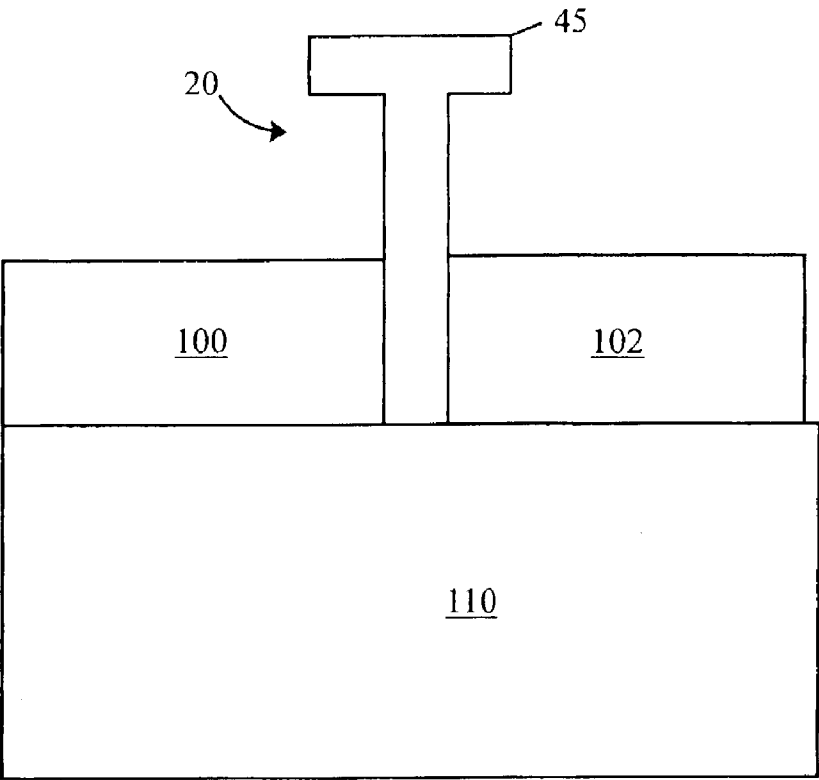


FIG. 6

## DECK SPACER

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application derives priority from U.S. Provisional Application Ser. No. 60/350,093 filed Jan. 18, 2002.

### BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to tools used for home improvement and construction and, more particularly, to a spacer device for use in the construction of decks and the like using polymer building materials.

[0004] 2. Description of the Background

[0005] There are a number of composite materials used in fabricating decking. One of the first composites introduced was Trex®, a combination of furniture sawdust mixed with plastic from Owens Corning. Trex® requires virtually no maintenance, comes with a lifetime warranty and does not need to be sealed. Newer composite lumbers include: TimberTech®, SmartDeck™ and Dreamworks™. The maintenance-free aspects of these composites has helped them to gain widespread acceptance in recent years. Aluminum and PVC are also good artificial decking materials as well. However, in all the above cases the deck planking is subject to expansion and contraction in hot weather. In addition, planks that are pressed tight can trap moisture and encourage rot. Consequently, the carpenter must carefully space the individual deck planks before securing them to create a gap for air and drainage. This is currently done with nails by inserting a nail between the planks at each joist and pounding it slightly into the joist. The planks are then butted tight and nailed down, right on each joist. Proper spacing in this manner ensures that the decking can accommodate warp, that it will provide adequate water drainage, and that it will have proper aesthetics (e.g. a uniform look/feel). Once the next plank is fully installed, the “spacing” nails are removed for reuse. The shallow indentations, in the underlying beams, left after the spacing nails have been removed do not cause any short- or long-term structural harm to the deck. However, the use of nails is time-consuming because a plurality of nails must be inserted individually lengthwise along each plank and pounded in to stay there. The nails must later be individually removed. There are known spacers that simplify deck spacing to an extent. For example, the Deck Spacer available at <http://www.deckspacer.com/purports> to save time and labor of laying deck boards, ensures even spacing throughout the deck, and offers both 1/8" and 1/4" spacing. However, the carpenter must still carry and apply a plurality of Deck Spacers lengthwise along each plank to ensure uniform spacing.

[0006] Therefore, there remains a need for a spacing device configured for use with composite decking planks which increases the carpenters productivity on the job by taking the guesswork out of spacing. To the best of the knowledge of the present inventor, a spacing device meeting these requirements does not exist. A device of this type should be ergonomic (i.e. durable, lightweight) to optimize its “ease of use” and economical to manufacture and sell to ensure widespread use.

### SUMMARY OF THE INVENTION

[0007] It is, therefore, the primary object of the present invention to provide an improved spacing device for positioning the polymer planks of a deck or the like in a consistent manner for utilitarian and aesthetic purposes.

[0008] It is another object of the present invention to provide an improved spacing device that is ergonomic and multi-functional.

[0009] Still another object of the present invention is to provide an improved spacing device that is economical to manufacture.

[0010] These and other objects are accomplished by a spacing device that generally comprises a straight length of material possessing a T-shaped cross-section. The vertical element (or leg) of the “T” is used to establish the space between the polymer planks of a deck. The horizontal element prevents the spacer from falling through the space established by the T’s leg. The spacing device of the present invention is fabricated of a strong, lightweight material such as aluminum to provide the durability and portability required by the nature of its usage. The present invention’s design is simple and straightforward, and can be economically manufactured and sold.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Other objects, features, and advantages of the present invention will become more apparent from the following detailed description of the preferred embodiments and certain modifications thereof when taken together with the accompanying drawings in which:

[0012] FIG. 1 is an isometric view of an improved spacing device 20 according to a first embodiment of the present invention.

[0013] FIG. 2 is a front perspective view of the spacing device 20 as in FIG. 1.

[0014] FIG. 3 is an end perspective view of the spacing device 20, as in FIGS. 1 and 2, clearly showing the T-shaped cross-section 40.

[0015] FIG. 4 is an end perspective view of polymer planks 100, 102 that will be spaced at an appropriate interval by using a first embodiment of the present invention.

[0016] FIG. 5 is an end perspective view of the spacing device 20 demonstrating its usage in positioning polymer planks 100, 102 at an appropriate interval.

[0017] FIG. 6 is an end perspective view of the spacing device 20 demonstrating its usage in positioning polymer planks 100, 102 as in FIG. 5.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] FIGS. 1-3 are, respectively, isometric, front, and end perspective views of an improved spacing device 20 according to a first embodiment of the present invention.

[0019] The spacing device 20 according to the present invention generally comprises a straight length of rigid material 30 possessing a T-shaped cross-section 40. The material 30 may be aluminum or polymer extruded into a T-shaped cross-sectional configuration. However, any

durable, lightweight, economical substance that can be formed with a T-shaped cross-section may be used to fabricate the present invention. Examples may include polymers such as PVC or nylon. The present invention's design is simple and straightforward, and can be economically manufactured and sold.

[0020] The vertical element (or leg) 42 of the "T" serves two purposes. First, by means of its width 'W' it establishes the spacing between the polymer planks of a deck (see discussion associated with FIG. 4 below). The width 'W' of the leg 42 may vary and will depend upon application-specific parameters such the width of each plank (to address drainage issues) or the degree of "open-ness" desired by the owner of the building to which the deck is being added. The second purpose of the vertical element 42 is to serve as an abutment against the underlying joists of the deck to keep the horizontal element 44 above the top of the planks, thereby making extraction much easier. In this regard, the height 'H' of the leg 42 is preferably just slightly more than the thickness of the planks with which the spacing device 20 is to be used, and 1½" is a suitable height for common planks. When inserted, the bottom of the vertical element 42 will abut the underlying joists, and this forces the top of the spacing device 20 to protrude over the planks.

[0021] To further simplify extraction, the horizontal element 44 possesses a width 'X' that is preferably equal to 'W' plus ½" that prevents the present invention from falling through the space established by the leg 42, and a thickness 'Y' that provides for the easy gripping of the device 20 for extraction from between two planks once both have been firmly attached to all appropriate support cross-members.

[0022] The two side faces 46 of the leg 42 provide surfaces on which a variety of indicia 48 may be inscribed. For example, the indicia 48a on one side may include all, or part, of the name of the device 20 or an advertiser. The indicia 48b on the flip side preferably includes ruler markings to make the device multi-functional.

[0023] The top face of the device carries a 16" O.D. ruler indicia to help space nails when they are pounded in.

[0024] The overall length 'L' of the present device 20 should be sufficient so that only one needs to be used to align a 16-20' plank, and a length L of 1'8" has been found sufficient for this purpose.

[0025] FIGS. 4-6 are end perspective views of polymer planks 100, 102 and the use of the spacing device 20 in positioning them at an appropriate interval.

[0026] With reference to FIG. 4, two planks 100, 102 are shown resting on one or more supporting joists 110. Plank 100 has been firmly attached by screws (not shown) to the supporting joists 110. A second plank 102 is unattached to the joists 110 and positioned a distance 'D' from the attached plank 100. The most efficient use of the device 20 requires distance 'D' to be greater than the width 'W' of the device's leg 42, but less than the width 'X' of its horizontal section 44.

[0027] As shown in FIG. 5, the spacing device 20 is then placed in the gap between the two planks 100, 102. The unattached plank 102 is pushed or pulled, in the direction of arrow 105, toward the attached plank 100 until its surface 103 contacts the spacing device 20. This pushing or pulling is best accomplished with an existing decking tool such as available from Stanley®, which gives a long handle and

provides great leverage for pushing or pulling the joists against the deck spacer of the present invention.

[0028] While the positions of the planks 100, 102 and the spacing device 20 are maintained as shown in FIG. 6, screws (not shown) are inserted through plank 102 to firmly attach it to the joists 110. Once the plank 102 has been firmly attached to the joists 110, the device 20 is extracted for reuse by grasping the ends 45 of the horizontal section 44.

[0029] Generally, the planks 100, 102 are of a length (3 to 12 feet) that require the simultaneous use of two spacing devices 20. When exactly two are utilized, the devices 20 are placed in position between the planks 100, 102 at points near the ends of the planks 100, 102. However, circumstances will arise where only one device can be used (typically when the length of the planks are less than 3 feet), or it is recommended that three or more be utilized (planks longer than 12 feet). When these situations arise, the spacing device(s) 20 may need to be positioned at points along the planks 100, 102 other than the ends. The functionality of the spacing device 20 is not compromised by use at points other than the end of the planks 100, 102.

[0030] Using a combination of an existing decking tool with the present invention, deck installation time can be cut to a fraction, and the results are excellent because the polymer planks of the deck are consistently placed.

[0031] Having now fully set forth the preferred embodiment and certain modifications of the concept underlying the present invention, various other embodiments as well as certain variations and modifications of the embodiments herein shown and described will obviously occur to those skilled in the art upon becoming familiar with said underlying concept. It is to be understood, therefore, that the invention may be practiced otherwise than as specifically set forth in the appended claims.

I claim:

1. A spacing device comprising:

a length of substantially rigid material having a uniform cross-section comprised of a substantially rectangular horizontal member and a substantially rectangular vertical member intersecting one side of said horizontal member;

wherein said horizontal member and vertical member are joined at a right angle thereby giving said length of material a T-shaped cross-section for placement between two elongate articles in need of spacing.

2. The spacing device according to claim 1 wherein said vertical member possesses two substantially parallel faces suitable for inscribing indicia.

3. The spacing device according to claim 2 wherein said indicia comprise alphanumeric characters.

4. The spacing device according to claim 2 wherein said indicia comprise a ruler.

5. The spacing device according to claim 1 wherein said horizontal member possesses a top face having a 16" length indicia inscribed thereon.

6. The spacing device according to claim 1 wherein a height of said vertical member is slightly more than the thickness of the planks with which the spacing device is to be used.

7. The spacing device according to claim 6, wherein a height of said vertical member is 1½".

**8.** The spacing device according to claim 6, wherein a width of said horizontal member is equal to a thickness of said vertical member plus  $\frac{1}{2}$ " to prevent the spacing device from falling through joists.

**9.** The spacing device according to claim 6, wherein said horizontal member and said vertical member are of uniform length.

**10.** The spacing device according to claim 9, wherein said horizontal member and said vertical member are 20" in length.

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