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(71) Applicant: **Gibson, Sidney**

Stratford, ON N5A 7X7 (CA)

(72) Inventor: **Gibson, Sidney**

Stratford, ON N5A 7X7 (CA)

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(74) Representative: **Cabinet Hirsch**

58, avenue Marceau

75008 Paris (FR)

(54) **Stair bracket system and method**

(57) A stair bracket system and method is provided for constructing the framework of a staircase or terrace seating, having a plurality of modular brackets which are assembled in combination with wooden or steel or composite lumber structural members to result in the risers. Each of the brackets of the present invention has a bot-

tom edge, a front and lower section, a back end edge, a top section and bracing members, so that a staircase or terrace seating can be constructed by forming at least a pair of side frames.

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Description

Field of the Invention

[0001] The invention relates generally to the assembly of stair risers for the construction of a flight of stairs, and, more particularly, to a bracket suitable for modular construction of risers.

Background of the Invention

[0002] Typically, the construction of a flight of stairs has throughout the years involved cutting a pair of stair risers out of elongated pieces of lumber with right angular notches being cut into each piece at appropriate spacings before positioning and nailing down stair treads.

[0003] The building of staircases is therefore time consuming and the cutting of lumber requires great skill, care and craftsmanship. This cutting is often on a custom basis and is usually done offsite. This is all time consuming and is often the cause of delays in the course of construction projects.

[0004] Furthermore, stair risers constructed out of wood have been known to deteriorate, especially when used outdoors.

[0005] In light of the above, there is a need for a system and method for constructing risers easily on site avoiding the need for custom ordering offsite. There exists also a need for making the construction of staircases, or any similar type of construction, easy and convenient for the everyday handyman.

Summary of the Invention

[0006] It is therefore an object of the present invention to provide an improved, easy to use system and method for constructing staircases. A bracket system is provided which can be fitted together with a main lumber member directly onsite to fabricate the risers for a flight of stairs. Numerous identical brackets will be used depending on the overall size of the staircase.

[0007] A specific object of the present invention is to provide a modular molded bracket system which when coupled and fastened together with a structural member such as a piece of lumber will provide stair risers quickly and efficiently.

[0008] It is an object of the present invention to provide a bracket for use in the construction of a riser comprising at least one bottom edge, a front section, at least one back end edge, a top section, a lower section and at least one bracing member.

[0009] It is yet a further object of the present invention to provide a system for the construction of a riser framework comprising a plurality of modular brackets and structural members wherein the brackets are suitably positioned along the structural members and securely attached thereon resulting in a series of risers ready for

accepting treads.

[0010] It is still a further object of the present invention to provide a method for the construction of a riser framework comprising the steps of cutting to length structural members, securely positioning and fastening a plurality of modular brackets onto said structural members and securely positioning the resulting risers in place.

[0011] The foregoing and other features of the present invention are more fully described with reference to the following drawings annexed hereto. Other objects, features and advantages of the present invention will be apparent from the description hereinafter.

Brief Description of the Invention

[0012]

Figure 1 is a perspective view of the bracket of the present invention;

Figure 2 is a perspective view of a flight of stairs, constructed using the bracket of Figure 1; and

Figure 3 is a side elevational view of the bracket and the structural member to be connected thereto.

Detailed Description of the Invention

[0013] Referring first to Figure 1, a bracket 10 of the present invention to be used in the construction of a riser is illustrated which is comprised of at least one bottom edge 12, a front section 14, a lower section 13, at least one back end edge 16, a top section 18 and at least one bracing member 20 wherein said lower section 13, front section 14 and top section 18 enclose an open space providing for great strength and rigidity. As further illustrated in Figure 1, the top section 18 is comprised of apertures 19 for the secure positioning and attachment of treads therein. Bracing member 20 is also comprised of apertures 21 for secure positioning and attachment to a structural member 22 in the construction of risers which may be used for staircases or terrace seating, for instance. It is understood that the bracket 10 of the present invention may also be used for other similar purposes calling for the presence of at least one riser member.

[0014] Said bracing member 20 is adaptably shaped and angled for flush positioning to the structural member forming the basis of the staircase being constructed, for instance.

[0015] Preferably the design of the bracket 10 will be such that it is suitable for manufacture by simple molding techniques in order to achieve maximum potential strength and rigidity, using long lasting non-rotting materials. In a preferred case, the bracket 10 will be molded from reinforced plastics materials. Referring to Figure 2, there is illustrated an exemplary flight of stairs built using a plurality of brackets 10. The system and method of the

present invention allows for the construction of a riser framework which is comprised of a plurality of modular brackets 10 securely positioned at proper intervals and attached to structural members 22, said structural members 22 being cut to length depending on the need of the situation and can be made of wood, steel or composite lumber for instance.

[0016] The brackets 10 are then attached to the structural members 22 through apertures 21 of the bracing members 20. As illustrated, the bracket 10 is comprised of two bracing members 20 having two corresponding apertures 21 for straddling the structural member 22 up to and abutting lower section 13 for easy positioning and securing to said structural member 22. It is understood that the number of bracing members 20 can be varied and that in some instances it might even be possible to use only one or even up to four bracing members 20 to be positioned on opposite sides of the bracket 10 in that case.

[0017] Once the brackets 10 have been secured to the structural members 22 a series of risers will result therefrom. The riser framework is then ready for positioning and for receiving the treads 30.

[0018] As illustrated in Figure 3, once the riser framework is in place the treads 30 are securely positioned and attached to top section 18 of the bracket 10 through apertures 19. Any suitable fastening means may be used to secure the treads 30 but typically these may be screws to be inserted upwardly into the underside of said treads 30.

[0019] Other embodiments and uses of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. The specification and examples should be considered exemplary only and do not limit the intended scope of the invention.

Claims

1. A bracket for use in the construction of a riser comprising:
 - (1) at least one bottom edge;
 - (2) a front section;
 - (3) at least one back end edge;
 - (4) a top section;
 - (5) a lower section; and
 - (6) at least one bracing member.
2. A bracket according to claim 1, wherein the bracing member is adaptedly shaped for positioning and secure fastening to a structural member.
3. A bracket according to claim 2, wherein the bracing member is comprised of at least one aperture for secure attachment of said bracket to said structural member.
4. A bracket according to claim 1, wherein the top section is comprised of apertures for secure attachment of treads thereon.
5. A bracket according to claim 1, wherein the bracket is made of reinforced plastics material.
6. A system for the construction of a riser framework, comprising:
 - (1) a plurality of modular brackets; and
 - (2) structural members;
 wherein the brackets are suitably positioned along the structural members and securely attached thereon resulting in a series of risers.
7. A system according to claim 6, wherein the brackets comprise bracing members with apertures for secure attachment of said brackets to said structural members.
8. A system according to claim 6, wherein the brackets are made of reinforced plastics material.
9. A system according to claim 6, wherein the structural members are made of wood, steel or composite lumber.
10. A method for the construction of a riser framework, comprising the steps of:
 - (1) cutting to length structural members;
 - (2) securely positioning and fastening a plurality of modular brackets onto said structural members; and
 - (3) securely positioning the resulting risers in place.

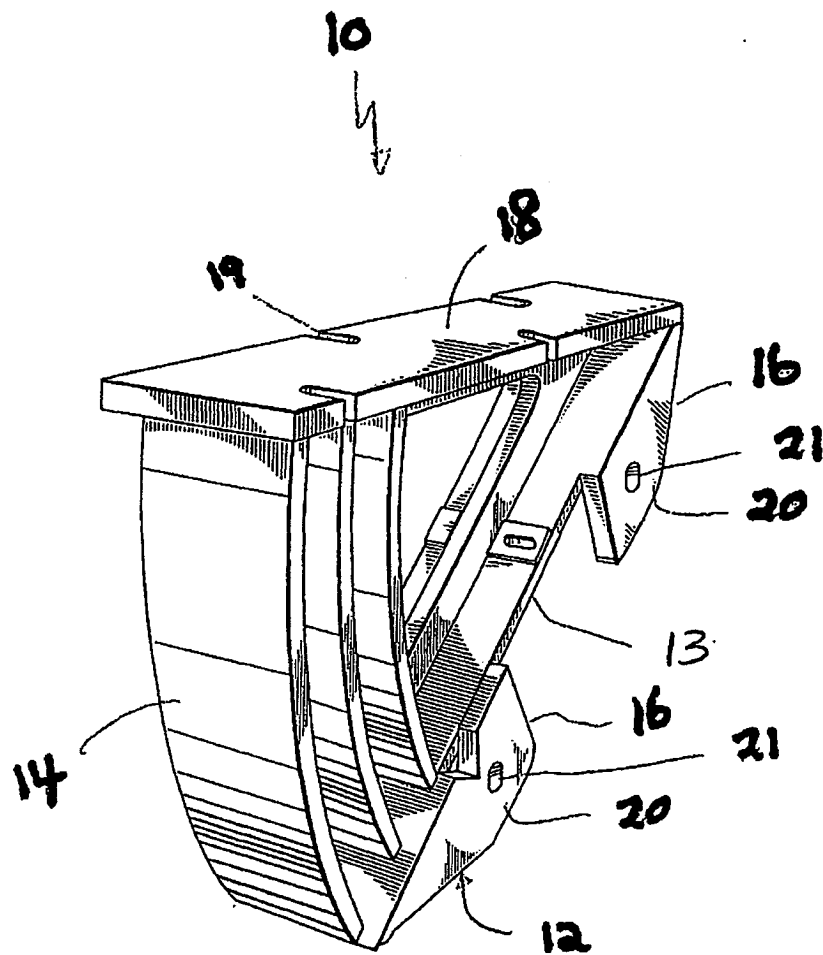


FIG. 1

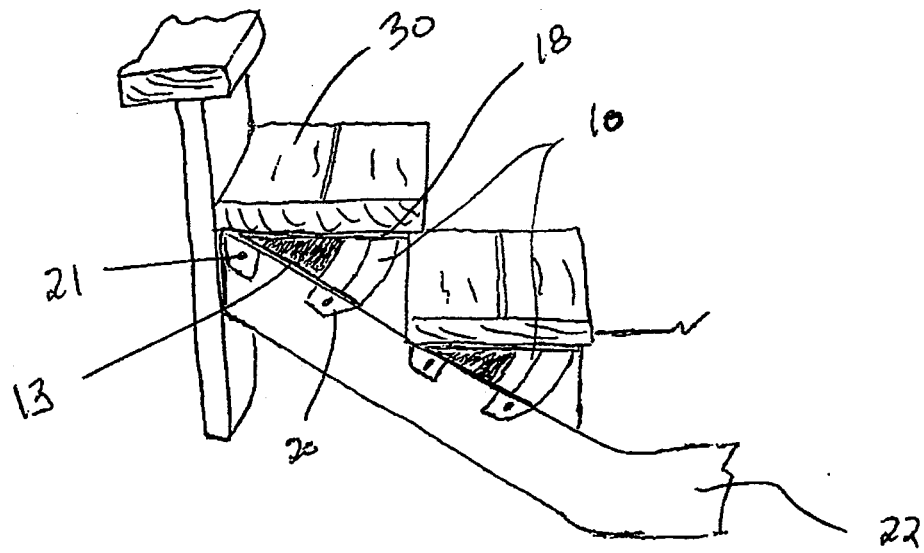


FIG. 2

