A connecting head for connecting a first scaffold post to a second post has opposed upper and lower wedge sections that are integrally formed with a post retaining section for coaxially receiving one end of the first post within the post retaining section.
CONNECTING DEVICE FOR SCAFFOLDING

FIELD OF THE INVENTION

[0001] The present invention relates to a scaffold system and to a connecting device for attaching horizontal and vertical scaffold posts.

BACKGROUND OF THE INVENTION

[0002] Scaffold systems generally include a plurality of vertical posts and horizontal and/or diagonally extending posts. The horizontal and/or diagonally extending posts are attached to a vertical post with a connecting head. The vertically extending posts generally include a perforated disk for receiving the connecting head. Numerous types of connecting heads are currently in use.

[0003] One type of connecting device is described in the Langer U.S. Pat. No. 5,127,757. The connecting head is manufactured from a malleable cast iron and is mounted within an end of the horizontal scaffold post.

[0004] Another connecting device is disclosed in the Hengstenberg et al. U.S. Pat. No. 6,406,211 B1, which also describes a connecting device for a bearing arm which is mounted within a horizontal post.

[0005] Still other connecting devices are described in U.S. Pat. Nos. 4,180,342; 4,394,095; 4,595,077; 4,840,513; 4,867,274; 4,958,702; 5,024,057; 5,172,997; 5,207,527; 5,217,314; 5,868,223; 6,045,287; and in GB Nos. and U.S. Pat. Nos. 1,599,842, 1,504,101. It is a concern in the industry that the scaffold be able to withstand extreme stresses, and in particular, any twisting or flexing that might occur under heavy loads. The present invention provides an improvement over such devices.

[0006] It is an object of the present invention to provide an improved scaffolding connection that better withstands the extreme stresses applied to the scaffold under heavy loads.

[0007] It is a further object of the present invention to provide a scaffold which is both easily and efficiently manufactured.

[0008] In particular, it is desired to provide a scaffold and connecting head that is useful with various lengths of posts.

[0009] It is also an object of the present invention to provide a connecting head that is useful on posts that do not always meet the acceptable tolerances required for the lengths of the horizontal scaffold posts.

[0010] These and other objects of the present inventions are achieved by the scaffold and connecting head described herein.

SUMMARY OF THE INVENTION

[0011] The present invention is directed to a connecting head for connecting a first scaffold post to a second post that has a perforated disk annularly disposed thereon. The connecting head has opposed upper and lower wedge sections. The upper and lower wedge sections are integrally formed with a post retaining section for coaxially receiving one end of the first post within the post retaining section. The upper and lower wedge sections define a wedge receiving opening, and the upper and lower wedge sections define a horizontally extending slot for receiving the perforated disk.

[0012] The post retaining section includes a ledge provided on a back surface of the connecting head. In certain embodiments, the ledge provides a welding area extending around at least a portion of an outer surface of the back surface of the connecting head.

[0013] The upper wedge section has an upper face which extends from the post retaining section at an acute angle from an axis extending through the connecting head. The upper face terminates at an upper planar surface that is parallel to the axis extending through the connecting head.

[0014] The upper and lower wedge sections define first and second front end faces, respectively, where each front end face is in the same longitudinally extending plane. In certain embodiments, the ratio of the first front end face of the upper wedge section to the second front end face of the lower wedge section ranges from approximately 1:1.5:1 to approximately 1:1.

[0015] In certain embodiments, the ledge has a terminating face which defines a portion of the welding area for welding the connecting head to the post. The ledge has an outer diameter greater than an outer diameter of the post. The ledge defines a terminating surface and an inner side which is generally perpendicular to a back surface of the connecting head.

[0016] In certain embodiments, the connecting head includes a wedge opening that has a first end at a predetermined distance from an upper front end face on the upper wedge section. The wedge opening extends along a radially extending upper face of the upper wedge section, and terminates at a preferred distance from the post retaining area. The wedge opening extends a sufficient distance from the first end to the second end such that a wedge disposed in the wedge opening can be pivoted into a generally parallel relationship with the post to allow an assembled post/connecting head/wedge assembly to be efficiently stored and/or shipped.

[0017] Also, in certain embodiments, the connecting head has a lower wedge section that generally extends in a radial outward direction from the ledge such that the lower wedge section defines a lower face which extends at an acute angle from an axis extending through the connecting head. The lower face terminates at a lower edge and the lower wedge section further includes a lower planar surface adjacent the lower edge and terminating at a lower front end face.

[0018] The connecting head can include a lower wedge receiving opening that extends through the lower face. The lower wedge receiving opening has a first, or front, edge and a second, or back, edge. The first edge of the lower wedge receiving opening is adjacent the lower edge of the lower planar face while the second edge is in an opposed relationship to the first edge whereby the lower wedge receiving opening is sufficiently large to accept at least a first end of the wedge but is also sufficiently small such that the lower face defines a substantially large load bearing surface. The opening is also small enough that the wedge will not fall through. The lower face is not technically load bearing, but having a small opening does increase the overall strength by increasing the buckling resistance of the lower wedge, therefore the casting is able to handle higher loads.

[0019] In yet other embodiments, the present invention also relates to a connecting device comprising a connecting head and a wedge movably disposed therein.
Other objects and advantages of the present invention will become apparent to those skilled in the art upon a review of the following detailed description of the preferred embodiments and the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a back perspective view of a connecting head showing a wedge in phantom.

FIG. 2 is a front perspective view of a connecting head showing a wedge in phantom.

FIG. 3 is a front view of the connector shown in FIG. 1 showing the interior surfaces in phantom.

FIG. 4 is a back view of the connecting head shown in FIG. 1 showing the interior surfaces in phantom.

FIG. 5 is a side elevation view of the connecting head shown in FIG. 1 showing the interior surfaces in phantom.

FIG. 6 is a cross-sectional view of the embodiment shown in FIG. 5.

FIG. 7 is a sectional view taken along the line 7-7 in FIG. 3 showing an opening in phantom.

FIG. 8 is a sectional view taken along the line 8-8 in FIG. 3 showing an opening in phantom.

FIG. 9 is a perspective view of a section of scaffold, partially broken away, showing a connecting device that is mounted on a horizontal post and is attached to a vertical post.

FIG. 10 is a side elevation view, partially in cross-section and broken-away, showing a connecting head and wedge for mounting a horizontal post onto a perforated disk attached to a vertical post.

FIG. 11 is a perspective view of a connecting head mounted on a horizontal post and showing a pivotally moveable wedge in phantom.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIGS. 9 and 10, a portion of a scaffold system generally 10 is shown. The scaffold system 10 includes a plurality of vertically extending posts 12 and a plurality of horizontally extending posts 14. For ease of illustration and description, only one vertical post 12 and one horizontal post 14 is described in detail. It should be understood, however, that scaffold systems typically contain many vertical and horizontal posts, and that the present invention is useful on all such posts. As shown in FIGS. 9 and 10, the vertical post 12 is connected to the horizontal post 14 by an annually extending perforated disk 20 which is coaxially attached to the vertical post 12. The disk 20 generally includes a plurality of spaced apart large openings 22 and small openings 24. The openings 22 and/or 24 in the disk 20 can be made to receive the other sized diagonal elements and can be present in the disk 20 in order to lessen the weight of the disk 20. The openings 22 and 24 generally accommodate a wedge 30, as will be described in detail below. The wedges 30 can be used on any of the openings, and the larger openings allow horizontal diagonals to be placed in at a variety of angles. For example, 45 degrees on a 5' by 5' bay, or 27 degrees on a 5' by 10' bay.

A connecting device 40 is secured to an end 15 of the horizontal post 14. Referring now to FIG. 1 along with FIGS. 9 and 10, the connecting head 40 generally defines a back surface 42. In the embodiment shown, the back surface 42 has a generally circular shape. However, it is to be understood that, in certain embodiments, the shape of the back surface 42 can be any shape to accommodate a correspondingly shaped post 14. In practice, the posts 14 are generally circular, rectangular, square or U-shaped. In the embodiment shown, the back surface 42 of the connecting head 40 is substantially surrounded by a retaining ledge 44 which extends in a co-axial direction from the back surface 42. In other embodiments, the retaining ledge extends around at least a portion of the back surface 42 of the connecting head 40.

The retaining ledge 44 defines an opening, or post retaining section, 43, as will be further described herein. In practice, the post retaining section 43 comprises the distance from one portion of the retaining ledge 44 to an opposing portion of the retaining ledge 44 and defines a preferred diameter. This diameter is of a sufficient length such that the end 15 of the post 14 is easily positioned within the post retaining section 43 and is held in such position by at least a portion of the retaining ledge 44.

It should be understood that, in the scaffold industry, the posts are manufactured to meet predetermined set tolerances in both length and in diameter. In practice, however, the posts 14 might have slightly different lengths and/or diameters. Since a scaffold system requires numerous posts, these small differences in length and/or diameters become somewhat problematic. The connecting head 40 solves that problem by having the corresponding diameter of the back surface 42 be sufficiently large to allow the end 15 of the post 14 to be readily positioned the post retaining section 43. As best seen in FIGS. 5 and 6, the retaining ledge 44 defines a terminating surface 45 and an inner side 46 which is generally perpendicular to the back surface 42. In certain embodiments, the inner side 46 has a length of approximately 4-6 mm. In other embodiments, the length of the inner side 46 can vary from about 3 to about 10 mm. In certain embodiments, the side 46 of the retaining ledge 44 generally has a height sufficient to allow the end 15 of the post 14 to be positioned within the opening, or post retaining section, 43.

The back surface 42 can further define at least one interior opening 48 extending axially through the weight of the connecting head 40.

The connecting head 40 also generally defines two opposing wedge sections 52 and 54. For ease of illustration, these wedge sections will be generally defined herein as an upper wedge section 52 and a lower wedge section 54.

The upper wedge section 52 generally extends in an increasingly radial outward direction from the ledge 44 such that the upper wedge section 52 defines an upper face 56 which extends at an acute angle from an axis A, as shown in FIG. 1, that extends through the connecting head 40. The upper face 56 terminates at an upper edge 58. The upper wedge section 52 further defines an upper planar surface 60. The upper planar surface 60 is in a parallel and spaced apart relationship to a plane defined by the axis A.
The upper wedge 52 further defines opposing first and second upper sides 62 and 64. The opposing upper sides 62 and 64 are generally symmetrical and for ease of illustration, only reference will be made to the upper side 62 herein. The upper side 62 generally depends at a perpendicular or right angle from the upper surface 60. The upper face 56 and the upper side 62 generally meet at an angled section 66. The angled section 66 can have a desired generally curved radius, as shown in FIG. 1.

As best seen in FIGS. 5 and 6, the upper side 62 terminates at a lower disk receiving surface 68 such that an opening 70 is generally defined. The opening 70 is in substantially a center portion of the connecting head 40, as will be further described below. The opening 70 has a sufficient width to generally receive the disk 20, as shown in FIGS. 9 and 10. For ease of illustration, in the embodiments shown, the opening 70 are referred to as being oriented in a general horizontal direction; it should be understood, however, that when the connecting head 40 is mounted on a post that is used as a diagonal support, such opening will be oriented in a direction other than horizontal. The casting used for "horizontal diagonals" is exactly the same. The casting used for "vertical diagonals" is the same design for the two wedge sections, but the section at the back (42, 43, 44, 45, 46) is different. Thus the opening 70 is the same.

Referring now to FIGS. 2, 5, and 6, the upper wedge section 52 terminates at an upper front end face 72. The upper front end face 72 of the upper wedge section 52 generally has an arcuate surface such that the upper front end face 72 matingly engages an exterior surface of the vertical posts 12, as shown in FIG. 10. It should be understood that the radius of the arcuate surface of the upper front end face 72 generally corresponds to the radius of the vertical post 12.

In certain embodiments, the overall height of the upper front end face 72 generally ranges from about 26 to about 28 mm, and in certain embodiments, about 27 mm. In certain embodiments, the upper side 62 has a length of about 35 to about 36 mm, and in certain embodiments about 35.6 mm.

The upper wedge section 52 defines a wedge opening 76. The wedge opening 76 starts at a predetermined distance from, and is in a spaced apart relationship to the upper front end face 72. The wedge opening 76 longitudinally extends from a first end 77 in the planar surface 60 and along the radially extending upper face 56. The wedge opening 76 terminates at a second end 78 at a preferred distance from the ledge 44. The wedge opening 76 is sufficiently wide to allow the wedge 30 to be placed therein. The wedge opening 76 extends a sufficient distance along the surface of height of the extending upper surface 56 such that the wedge 30 can be pivoted into a generally parallel relationship with the post 14, as generally shown in FIG. 11. The parallel positioning of the wedge 30 adjacent the post 14 allows the assembled post/connecting head and wedge assembly to be efficiently stored and/or shipped.

Referring again to FIGS. 1 and 2 and to FIGS. 5 and 6, in particular, the lower wedge section 54 generally extends in an increasingly radial outward direction from the ledge 44 such that the lower wedge section 54 defines a lower face 82 which extends at an acute angle from an axis A, as shown in FIG. 1. The lower face 82 terminates at a lower edge 84. The lower wedge section 54 further includes a planar lower surface 88 adjacent the edge 84 and terminating at a lower front face 92. The planar lower surface 88 is in a parallel and spaced apart relationship to a plane defined by the axis A.

In a similar manner as with the upper front end face 72, the lower front end face 92 of the lower wedge section 54 generally has an arcuate surface such that the lower front end face 92 matingly engages the exterior surface of the vertical posts 12, as shown in FIG. 10. It should be understood that the radius of the arcuate surface of the lower front end face 92 generally corresponds to the radius of the vertical post 12. In certain embodiments, the overall height of the lower front end face 92 generally ranges from about 23 to about 25 mm, and in certain embodiments, about 24 mm. In certain embodiments, the lower side 94 has a length of about 32 to about 33 mm, and in certain embodiments about 32.2 mm.

The lower wedge 54 further defines opposing first and second lower sides 94 and 95. The opposing lower sides 94 and 95 are generally symmetrical and for ease of illustration, only reference will be made to the lower side 94 herein.

The lower edge 84 and the lower side 94 generally meet at an angled corner section 96. The angled corner section 96 can have a desired generally curved radius. The lower side 94 is substantially in the same plane as the upper side 62. The lower side 94 extends from the lower end 82 and terminates at a disk receiving surface 98. The disk receiving surface 98 further defines the disk receiving opening 70. Thus, the opposing upper and lower disk receiving surfaces 68 and 98, respectively, define the disk receiving opening 70.

Referring again now to the FIG. 10, the wedge 30 generally includes a first tapering end 32 which defines an axially extending opening 33 for receiving a retaining pin, not shown. The wedge 30 generally tapers from the first end 32 to a second end 34 at an angle such that, when the wedge 30 is in a securing position within the connecting head 40, a front surface 35 of the wedge 30 contacts at least a portion of an interior surface 72 of the upper front end face 72 and at least a portion of an interior surface 92 of the lower front end face 92. The wedge 30 further includes a back angled surface 36. At least a portion of the angled back surface 36 of the wedge 30 contacts an outer edge 25 of the opening 24 in the perforated disk 20 when the wedge 30 is in the securing position within the connecting head 40.

The lower wedge section 54 further defines a lower wedge receiving opening 100. The lower wedge receiving opening 100 has a first, or front, edge 102 and a second, or back, edge 104. The first edge 102 is adjacent the lower edge 84 of the lower planar face 88 while the second edge 104 is in an opposed relationship to the first edge 102. The lower wedge receiving opening 100 is sufficiently large to accept at least the first end 32 of the wedge 30, as described below, but is also sufficiently small such that the lower face 82 defines a substantially large load bearing surface. That is, the lower face 82 generally extends from the edge 44 to the lower wedge receiving opening 100, as best seen in FIGS. 5 and 6. The lower face 82 of the lower wedge section 54 provides additional support to the connecting head 40 such that stresses placed on the connecting head 40 and the scaffold system 10 are better distributed within the entire connecting head 40 and are also distributed, or brought to
bear, on the horizontal post 14. In certain embodiments, the lower wedge receiving opening 100 is about 12-14 mm by 15-17 mm.

[0049] It should be understood that there are competing stresses and forces being brought to bear on the connecting head 40 when the scaffold is in use. It is therefore desired to reduce the weight of the connecting head 40 as much as practical and safe since, necessarily, any scaffold structure will contain many 10s or 100s of such connecting heads.

[0050] It is also to be understood that various openings, such as an upper opening 110 extending through the upper front end face 72 and a lower opening 112 extending through the lower front end face 92, can be made in the connecting head 40. These openings 110 and/or 112 prevent any crack propagation if one of the sections begins to fail or “crack”, along surfaces 92 or 72. Further, as can be seen by the FIGS. 3, 4, 5 and 6, the connecting head 40 has a generally hollow interior in order to further reduce the weight of each head. Additionally, in certain embodiments, it is possible to provide an upper chamfered surface 114 adjacent the upper front end face 72. Similarly, a lower chamfered surface 116 can be positioned at an inwardly sloping angle from the lower front end face 92. These chamfered surfaces are designed to avoid the weld between the vertical post and the ring.

[0051] One stress that has typically caused damage or failure of the prior art scaffolds is the stress that is brought on the connecting head at the point of engagement with the horizontal post. The present invention overcomes, or at substantially lessens, such stresses by providing additional support to the post 14.

[0052] Such additional support is provided by the connecting head 40 which allows for a better and more consistent weld than prior art designs. The 90\degree angle, or “v”, between the surfaces of the connecting head 40 and the post 14 allows for equal penetration of the weld into the two different members. In the past, when a thin strip of steel (i.e., the post), was welded to a large thick mass (i.e., the prior art design casting), there was not a very good penetration of the weld into the thicker material. The thicker material does not heat up as quickly as the thinner material; therefore, the weld is often “cold”. In contrast, one feature of the present invention is that the retaining ledge 44 of the connecting head 40 and the post 14 have a similar thickness, and a similar mass. When the connecting head 40 is welded to the post 14, the retaining ledge 44 and the post 14 heat up at the same rate. The weld 122 penetrates evenly into the retaining ledge 44 of the connecting head 40 and the post 14.

[0053] Further support is provided by the post retaining section 43 of the connecting head 40. The post retaining section 43 comprises the retaining ledge 44 and the inner side 46 of the retaining ledge 43. As shown in FIG. 10, the end 15 of the post 14 is positioned within the post retaining section 43. The inner side 46 also provides support and positioning guidance to the end 15 of the horizontal post 14 during the manufacturing of a post/connecting head assembly.

[0054] During assembly of the connecting head 40 onto the horizontal post 14, the first end 15 of the horizontal post 14 is positioned within the post retaining section 43. In certain embodiments, the end 15 is scalpingly engaged against the back surface 42 and at least a portion of the side 46 of the retaining ledge 44. In other embodiments, where the length of the post 14 is somewhat shorter, the end 15 is at least substantially positioned within the post retaining section 43, as defined by the retaining ledge 44 and the side 46. In both instances, an outer surface 16 of the first end 15 and the retaining ledge 44 define a weld area, generally shown in FIG. 10 as 120, for receiving a suitable welding material 122. The weld 122 can substantially surround the retaining ledge 44 and the outer surface of the post 14 to matingly hold the first end 15 of the post 14 within the connecting head 44. The retaining ledge 44 thereby provides a further advantage during manufacturing of the post/connecting head assembly by accommodating any minor differences in length from one horizontal post to the next horizontal post. The post retaining section 43 is of a sufficient dimension so as to accommodate differences in the diameter and/or length of the horizontal post. In contrast to earlier designs which use a “butt” weld to mate the tube (or post) to the casting, the present invention uses a fillet weld, which provided better support and a more consistent weld. Since the weld 122 extends substantially around the retaining ledge 44 and matingly engages the end 15, the weld 122 provides additional support and distribution of the stresses along a continuous circumference of the connecting head 40.

[0055] The back surface 42 and the retaining ledge 44 additionally provide support for holding the horizontal post 14 in position during the manufacturing process such that the exterior weld area 120 is readily accessible to the assembler. A steady and generally uniform weld bead 122 can be formed substantially around the entire exterior diameter of the first end 15 and the terminating surface 45 of the retaining ledge 44.

[0056] Typically, the connecting head 40 is made of a cast steel. During assembly, the welding area 120 is easily accessible with a conventional welding apparatus to provide a secure fillet weld. Further, the weld 122 on the outside of the post 14 allows the weld to be substantially uniform and to achieve sufficient welding penetration.

[0057] In addition, the connecting head 40 is especially useful with horizontal posts having less than precise lengths. The end 15 of the post 14 extends into the opening defined by the retaining ledge 44 to a desired precise length and is welded to the connecting head 40 at the external welding area 120.

[0058] According to the present invention, there is no need to fill any gaps in with weld material if the post is shorter than the desired length. In contrast, the prior design does require additional weld material (which is a disadvantage) if the post is a little too short. Also, with the prior design, if the post is too long, the post/connecting head structure will not fit in the overall scaffold structure, otherwise, the overall length of the horizontal structure will be too long. The present invention also overcomes this disadvantage, since if the post is too long, any excess length of the post 14 can be accommodated by positioning a greater amount of the post end 15 within the connecting head 40. The length tolerance required for the connecting head of the present invention is approximately two to three times as forgiving as the prior designs.

[0059] In certain embodiments of the connecting head 40, the upper and lower front end faces 72 and 92, respectively,
of the upper wedge section 52 and the lower wedge section 54, respectively, have a ratio of upper: lower height that ranges from about 1.15:1 to about 1:1. Further, the surface area of contact of the upper and lower end faces 72 and 92 against the vertical post 12 ranges from about 785 to about 795 mm², and, in certain embodiments, about 790 mm². Thus, the forces of the connecting head 44 on the vertical post 14 are more evenly distributed along the upper front end face 72, the point of contact 25 between the wedge 30 and the perforated disk 20, and the lower front end face 92.

[0060] Although the present invention has been described with respect to its preferred embodiments, those skilled in the art will recognize changes which may be made in the aforementioned embodiments which do not depart from the spirit of the invention already described in the specification and embodied in the following claims.

1. A connecting head for connecting a first scaffold post to a second post, the second post having a perforated disk annually disposed thereon, the connecting head comprising a opposed upper and lower wedge sections,

   the upper and lower wedge sections being integrally formed with a post retaining section for coaxially receiving one end of a first post within the post retaining section,

   the upper and lower wedge sections defining a horizontally extending slot for receiving a perforated disk,

   wherein the upper and lower wedge sections define first and second front end faces, respectively, each front end face being in the same longitudinally extending plane, and wherein the ratio of the first front end face of the upper wedge section to the second front end face of the lower wedge section ranges from approximately 1.15:1 to approximately 1:1.

2. The connecting head of claim 1, wherein the post retaining section includes a ledge provided on a back surface of the connecting head, the ledge providing a welding area extending around at least a portion of an outer surface of the back surface of the connecting head.

3. The connecting head of claim 1, wherein the upper wedge section defining an upper face which extends from the post retaining section at an acute angle from an axis extending through the connecting head, the upper face terminating at an upper surface, the upper surface extending in a plane that is parallel to the axis extending through the connecting head.

4. (canceled)

5. The connecting head of claim 2, wherein the ledge has a terminating face which defines a portion of the welding area for welding the connecting head to a post.

6. The connecting head of claim 5, wherein the ledge has an outer diameter greater than an outer diameter of a post.

7. The connecting head of claim 2, wherein the ledge defines a terminating surface and an inner side which is generally perpendicular to a back surface of the connecting head.

8. The connecting head of claim 1, wherein the upper wedge opening has a first end at a predetermined distance from an upper front end face on the upper wedge section, the upper wedge opening extending along an upper face of the upper wedge section, and the upper wedge opening terminating at a preferred distance from the post retaining area; the upper wedge opening extending a sufficient distance from the first end to the second end such that a wedge disposed in the upper wedge opening can be pivoted into a generally parallel relationship with the post to allow an assembled post/connecting head/wedge assembly to be efficiently stored and/or shipped.

9. The connecting head of claim 2, wherein the lower wedge section generally extends in an outward direction from the ledge such that the lower wedge section defines a lower face which extends at an acute angle from an axis extending through the connecting head, the lower face terminating at a lower edge, the lower wedge section further includes a lower planar surface adjacent the lower edge and terminating at a lower front end face.

10. The connecting head of claim 9, wherein a lower wedge receiving opening extends through the lower face, the lower wedge receiving opening having a first, or front, edge and a second, or back, edge, the first edge of the lower wedge receiving opening being adjacent the lower edge of the lower planar face while the second edge is in an opposed relationship to the first edge whereby the lower wedge receiving opening is sufficiently large to accept at least a first end of the wedge but is also sufficiently small such that the lower face defines a substantially large load bearing surface.

11. A connecting device for connecting a first scaffold post to a second post, the second post having a perforated disk annually disposed thereon, the connecting device comprising a connecting head and a wedge movably disposed therein,

   the connecting head comprising opposed upper and lower wedge sections,

   the upper and lower wedge sections being integrally formed with a post retaining section for coaxially receiving one end of the first post within the post retaining section,

   the upper and lower wedge sections defining a wedge receiving opening, and

   the upper and lower wedge sections defining a horizontally extending slot for receiving a perforated disk,

   wherein the upper and lower wedge sections define first and second front end faces, respectively, each front end face being in the same longitudinally extending plane, and wherein the ratio of the first front end face of the upper wedge section to the second front end face of the lower wedge section ranges from approximately 1.15:1 to approximately 1:1.

12. The connecting device of claim 11, wherein the post retaining section includes a ledge provided on a back surface of the connecting head, the ledge providing a welding area extending around at least a portion of an outer surface of the back surface of the connecting head.

13. The connecting device of claim 11, wherein the upper wedge section defining an upper face which extends from the post retaining section at an acute angle from an axis extending through the connecting head, the upper face terminating at an upper surface, the upper surface extending in a plane that is parallel to the axis extending through the connecting head.

14. (canceled)

15. The connecting device of claim 12, wherein the ledge has a terminating face which defines a portion of the welding area for welding the connecting head to a post.
16. The connecting device of claim 15, wherein the ledge has an outer diameter greater than an outer diameter of a post.

17. The connecting device of claim 12, wherein the ledge defines a terminating surface and an inner side which is generally perpendicular to a back surface of the connecting head.

18. The connecting device of claim 11, wherein the upper wedge opening has a first end at a predetermined distance from an upper front end face on the upper wedge section, the upper wedge opening extending along a radially extending upper face of the upper wedge section, and the upper wedge opening terminating at a preferred distance from the post retaining area; the upper wedge opening extending a sufficient distance from the first end to the second end such that a wedge disposed in the upper wedge opening can be pivoted into a generally parallel relationship with the post to allow an assembled post/connecting head/wedge assembly to be efficiently stored and/or shipped.

19. The connecting device of claim 12, wherein the lower wedge sections generally extends in a direction from the ledge such that the lower wedge section defines a lower face which extends at an acute angle from an axis extending through the connecting head, the lower face terminating at a lower edge, the lower wedge section further includes a lower planar surface adjacent the lower edge and terminating at a lower front end face.

20. The connecting device of claim 19, wherein a lower wedge receiving opening extends through the lower face, the lower wedge receiving opening having a first, or front, edge and a second, or back, edge, the first edge of the lower planar face while the second edge is in an opposed relationship to the first edge whereby the lower wedge receiving opening is sufficiently large to accept at least a first end of a wedge but is also sufficiently small such that the lower face defines a substantially large load bearing surface.

21. A connecting head for connecting a first scaffold post to a second post, the second post having a perforated disk annually disposed thereon, the connecting head comprising opposed upper and lower wedge sections, the upper and lower wedge sections being integrally formed with a post retaining section for coaxially receiving one end of a first post within the post retaining section, the upper and lower wedge sections defining a horizontally extending slot for receiving a perforated disk, wherein the upper wedge section defining an upper face which extends from the post retaining section at an acute angle from an axis extending through the connecting head, the upper face terminating at an upper surface, the upper surface extending in a plane that is parallel to the axis extending through the connecting head.

22. A connecting device for connecting a first scaffold post to a second post, the second post having a perforated disk annually disposed thereon, the connecting device comprising a connecting head and a wedge movably disposed therein,

the connecting head comprising opposed upper and lower wedge sections,

the upper and lower wedge sections being integrally formed with a post retaining section for coaxially receiving one end of the first post within the post retaining section,

the upper and lower wedge sections defining a wedge receiving opening, and

the upper and lower wedge sections defining a horizontally extending slot for receiving a perforated disk,

wherein the upper wedge section defining an upper face which extends from the post retaining section at an acute angle from an axis extending through the connecting head, the upper face terminating at an upper surface, the upper surface extending in a plane that is parallel to the axis extending through the connecting head.

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