

Figure 1

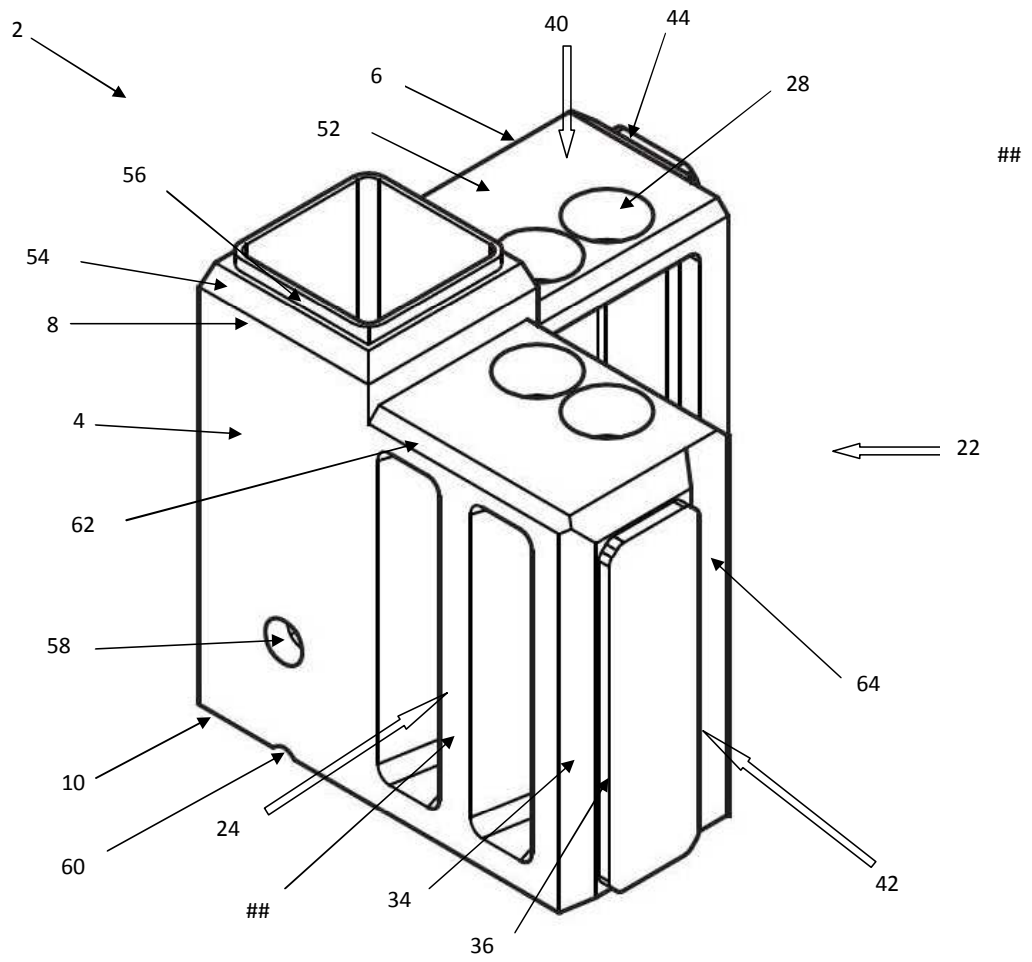


Figure 2

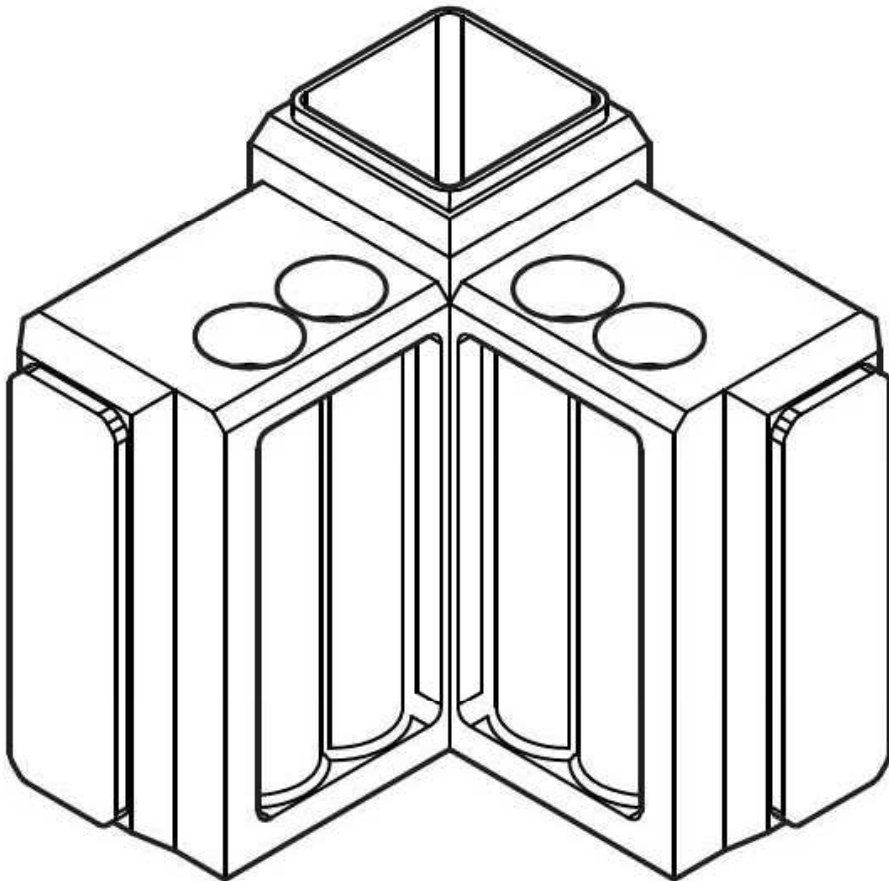


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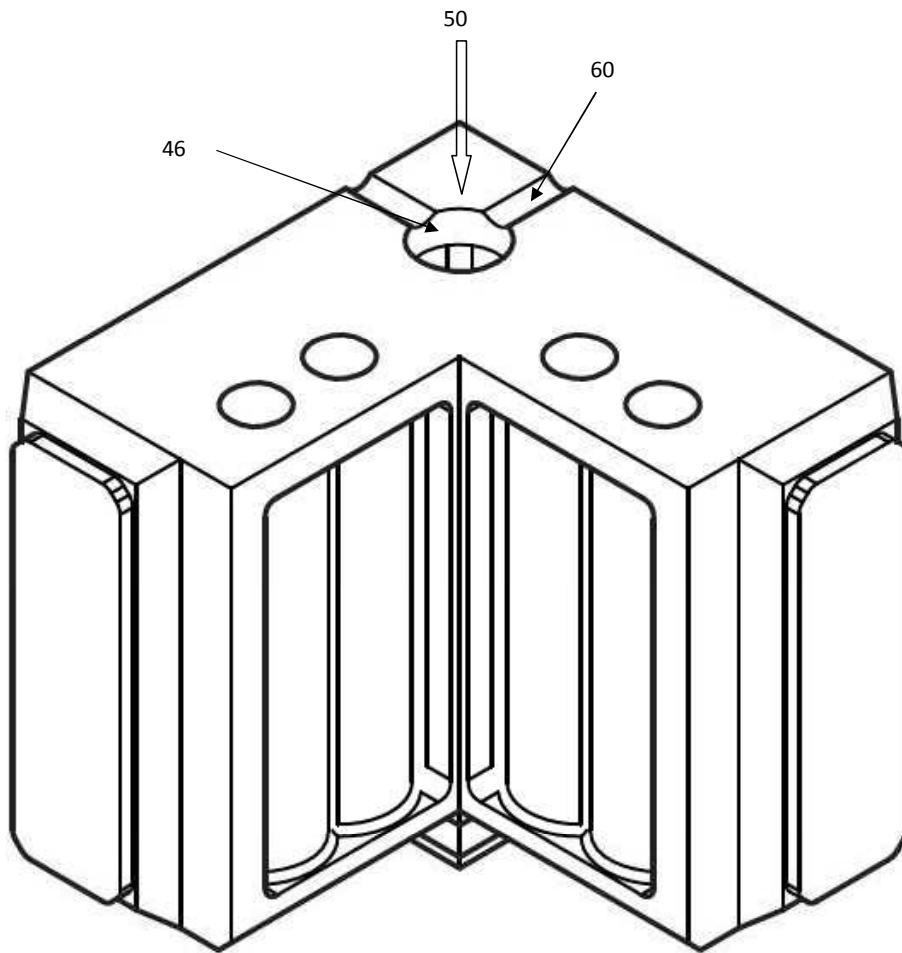


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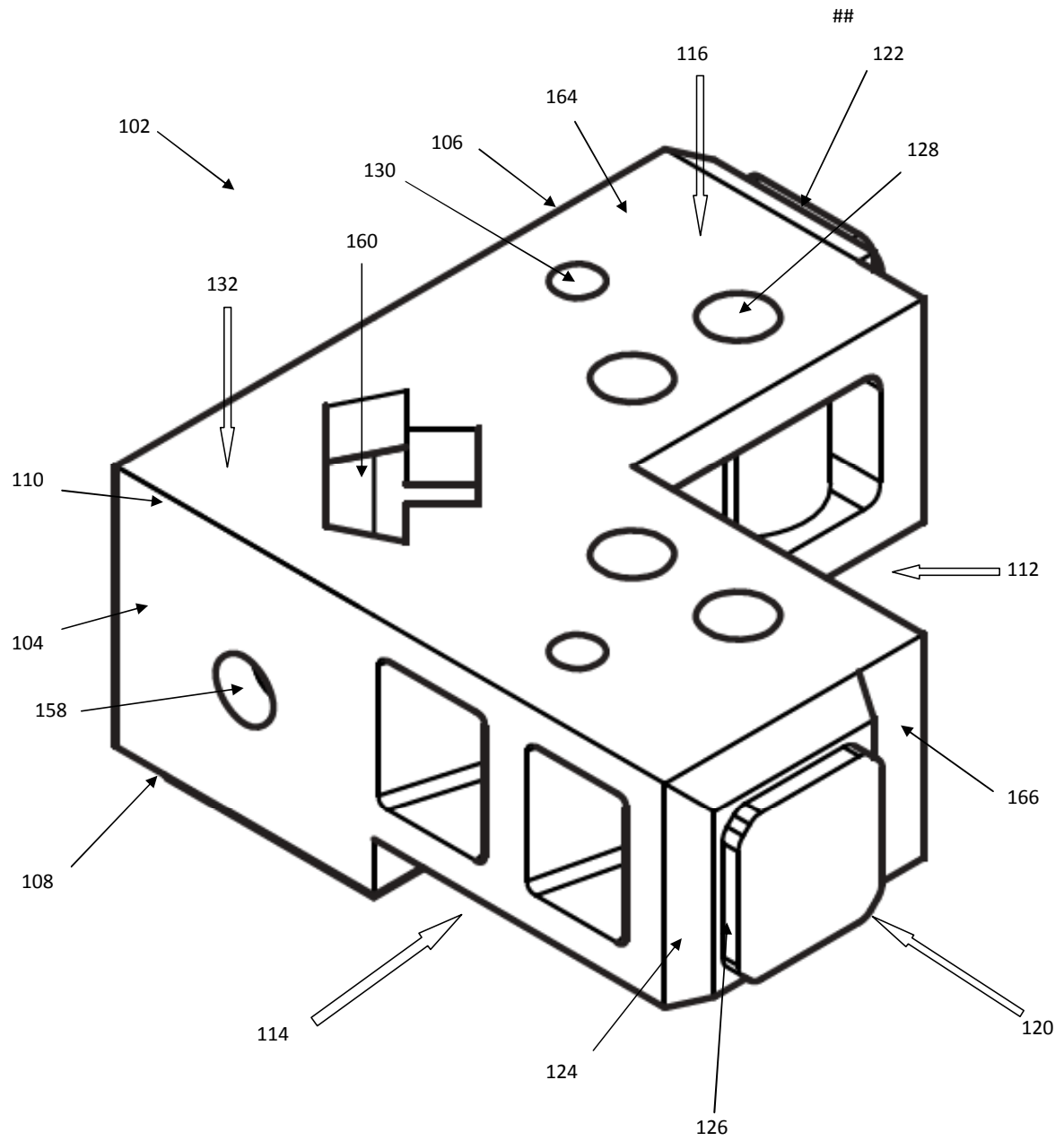


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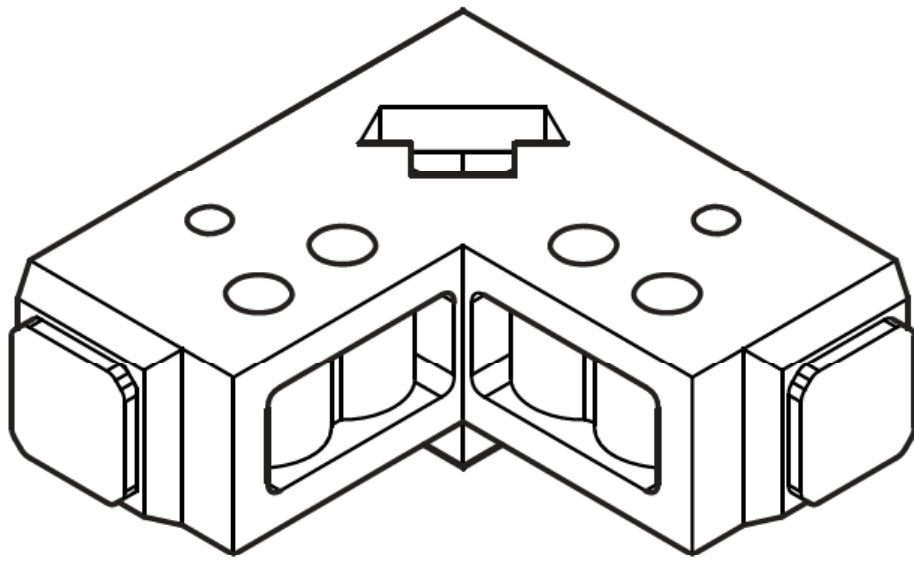


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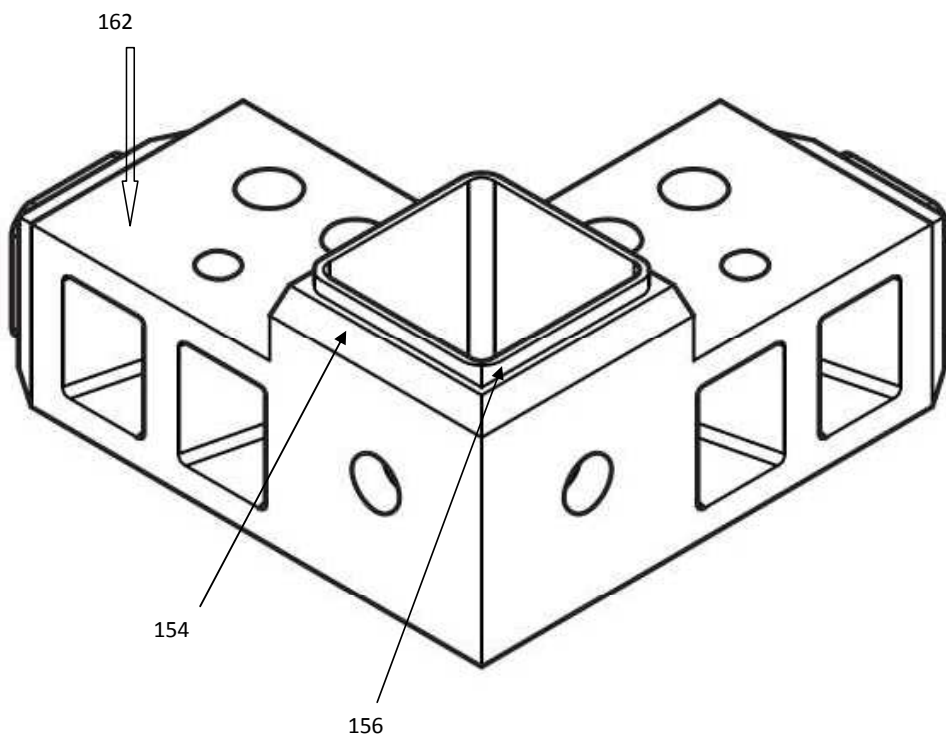


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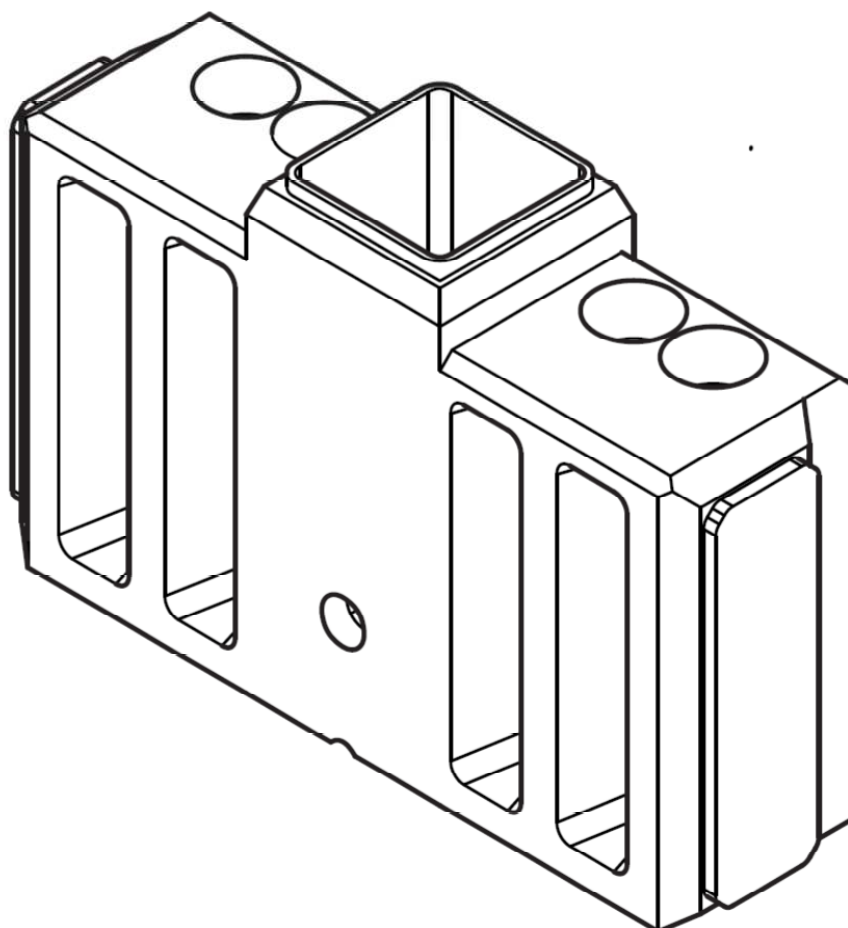


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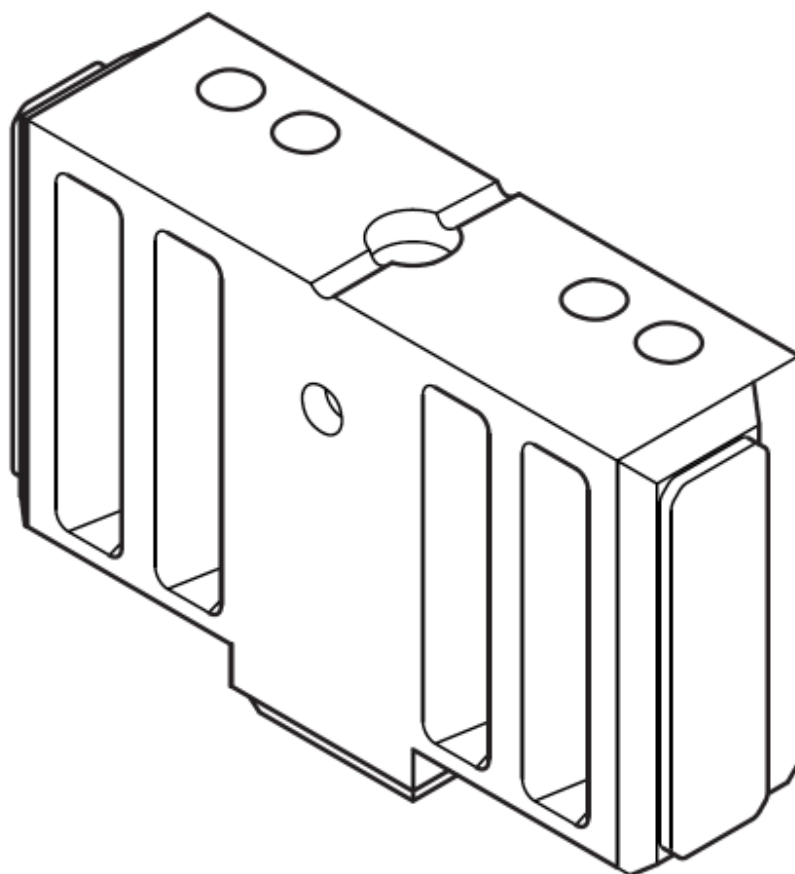


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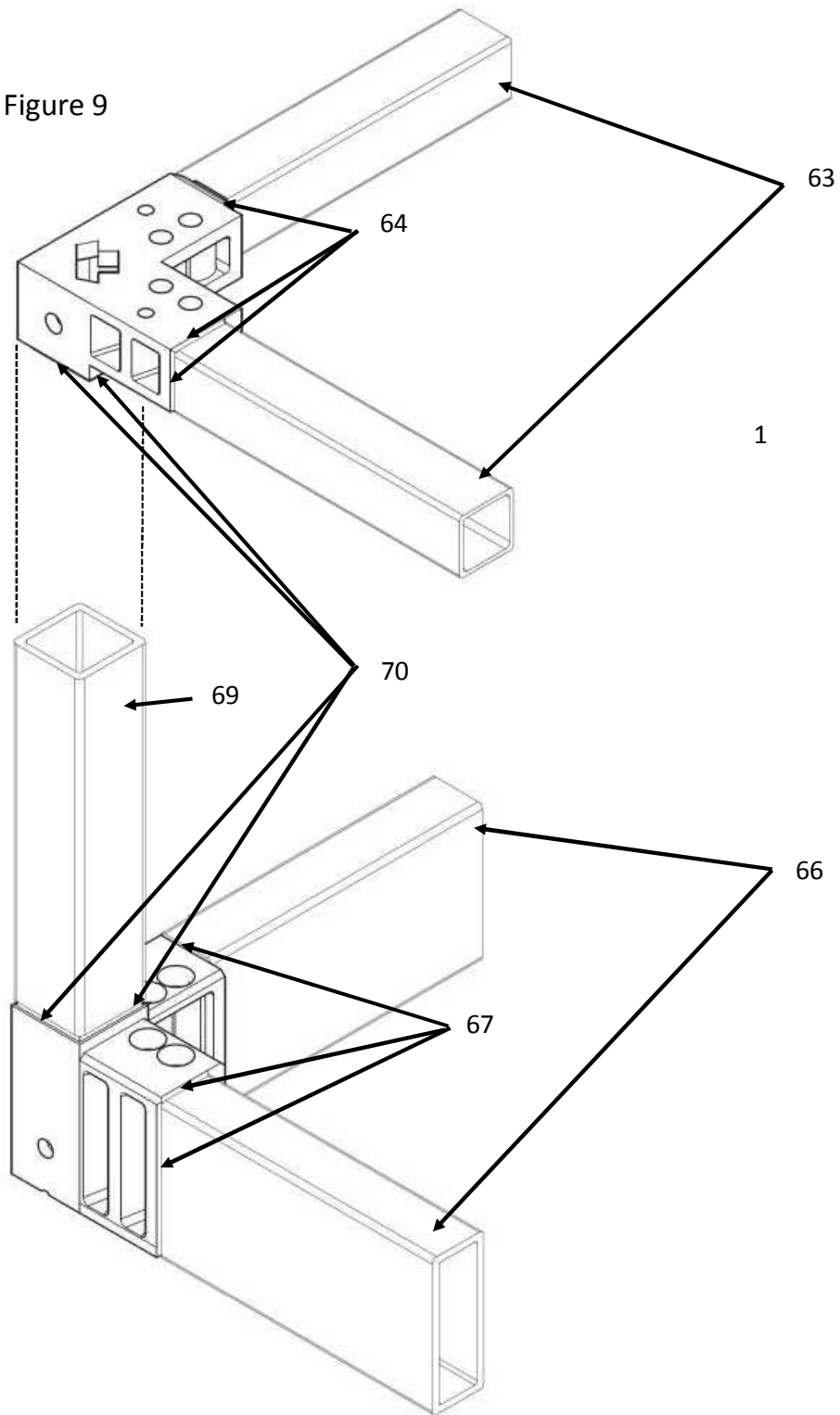


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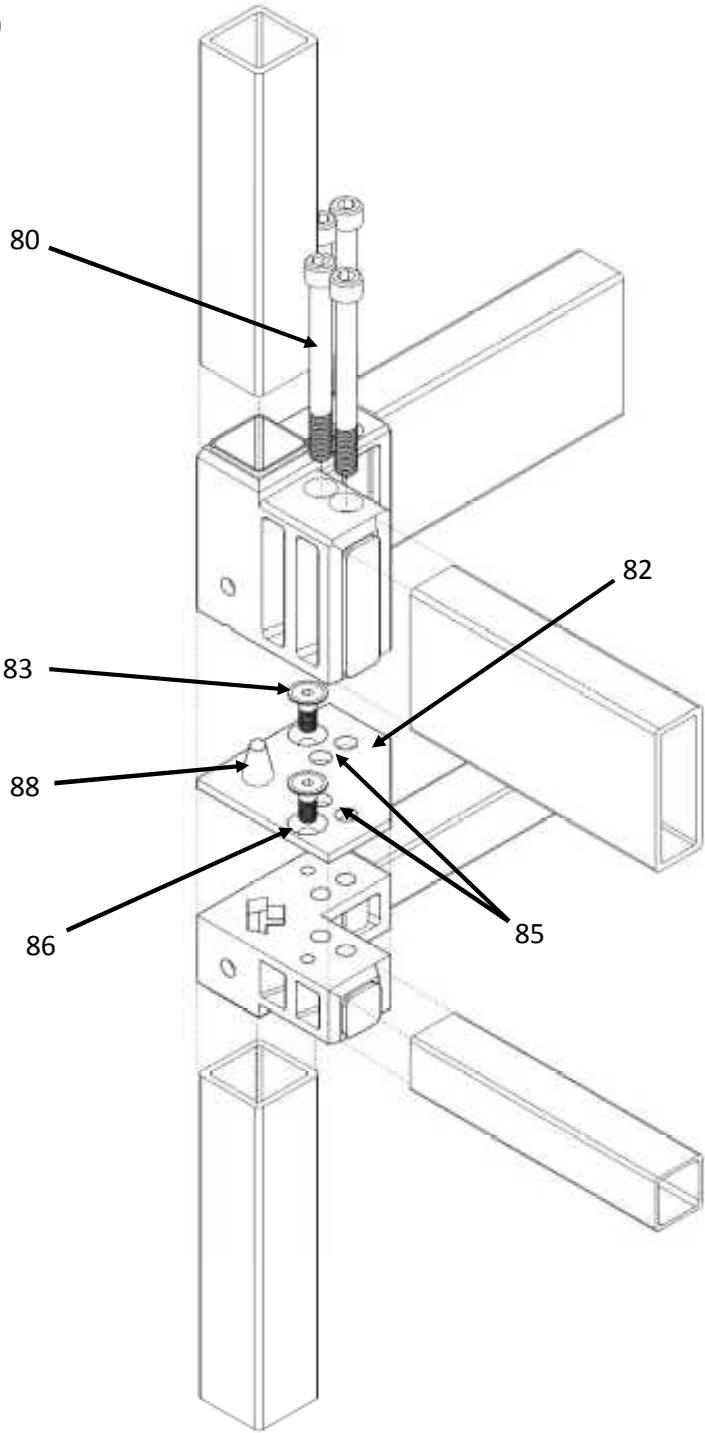


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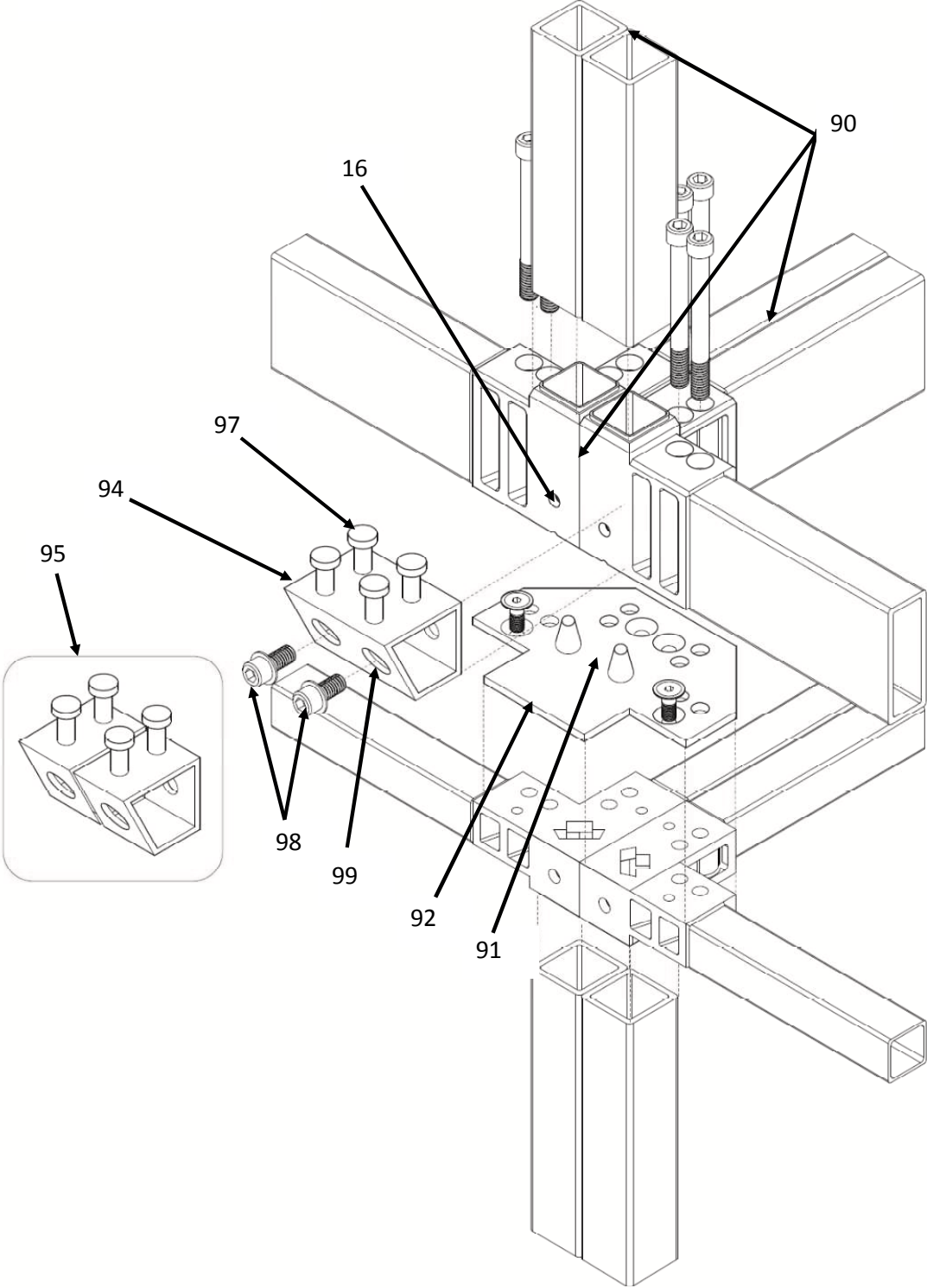


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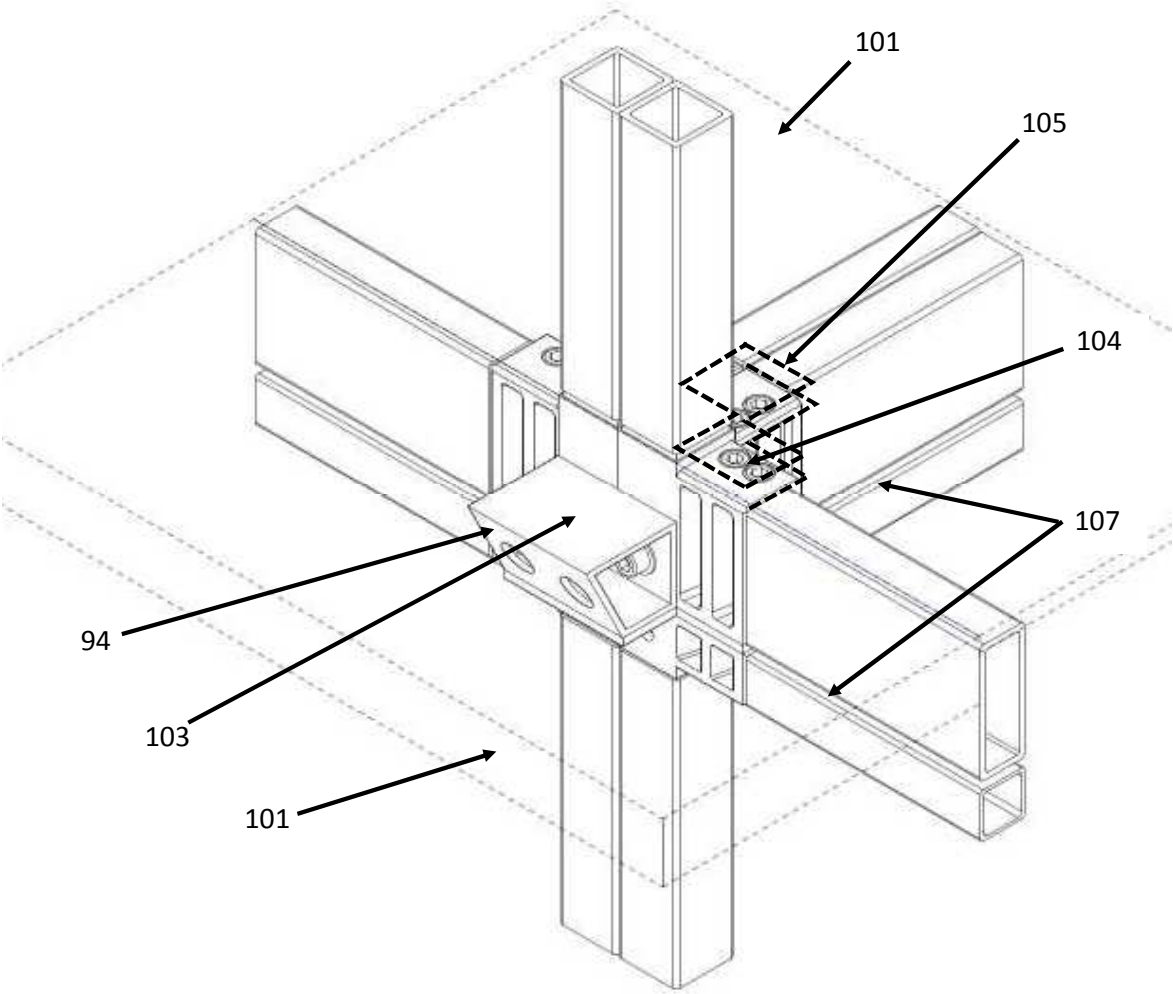
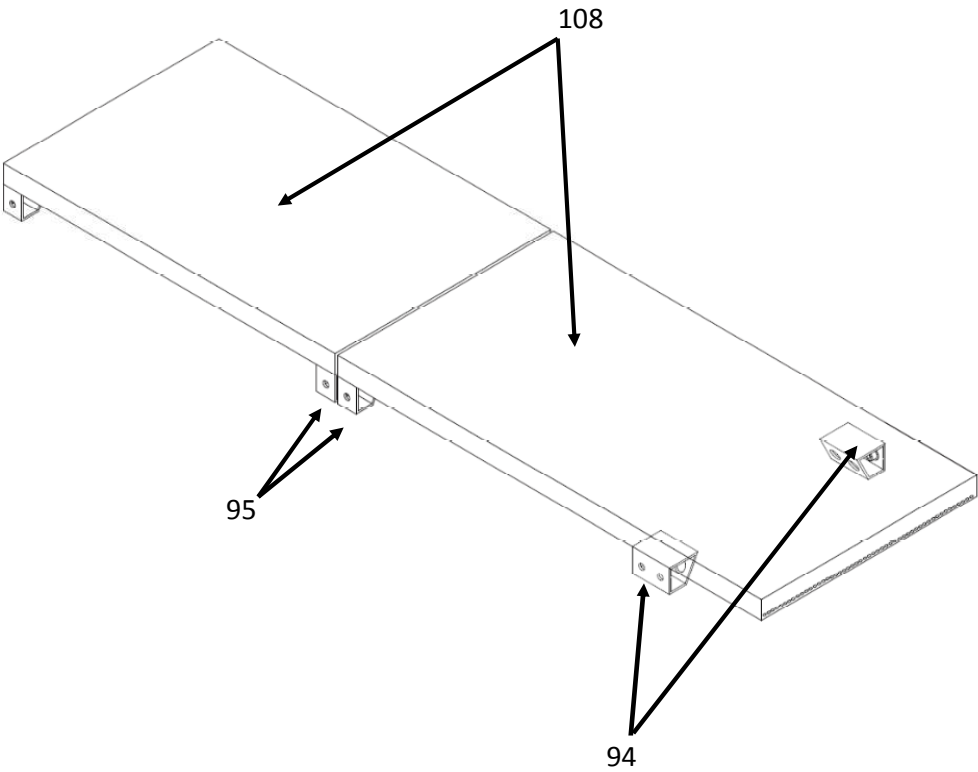


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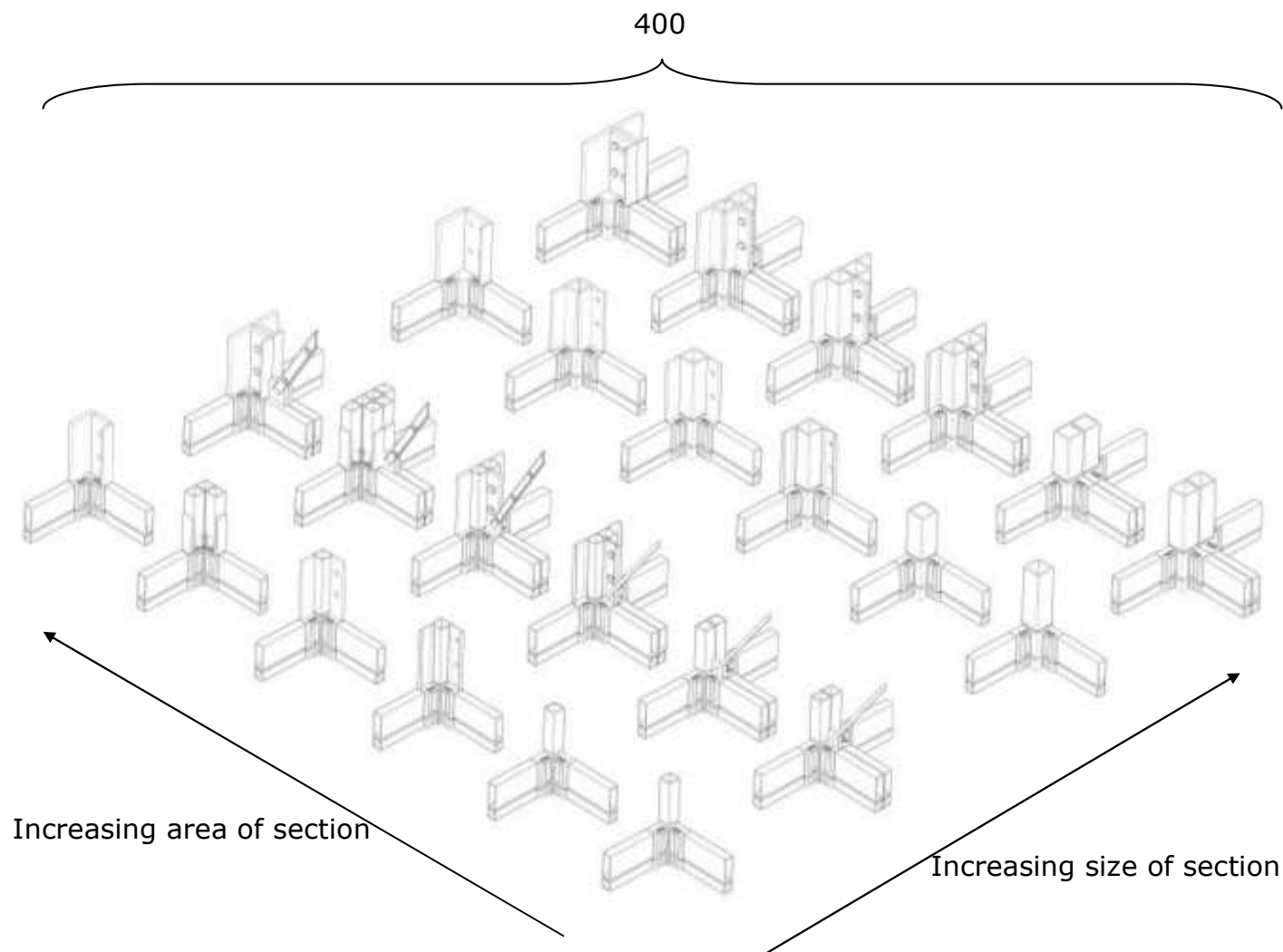


Figure 14

Figure 15

401

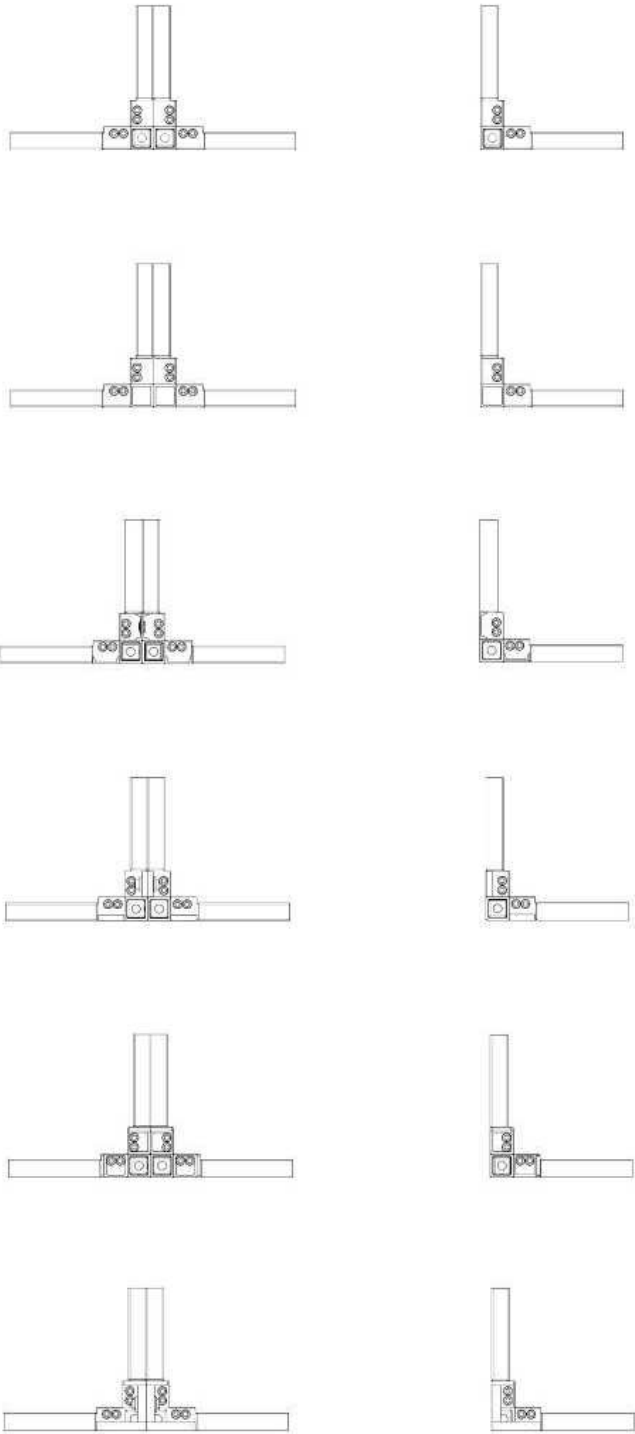


Figure 16

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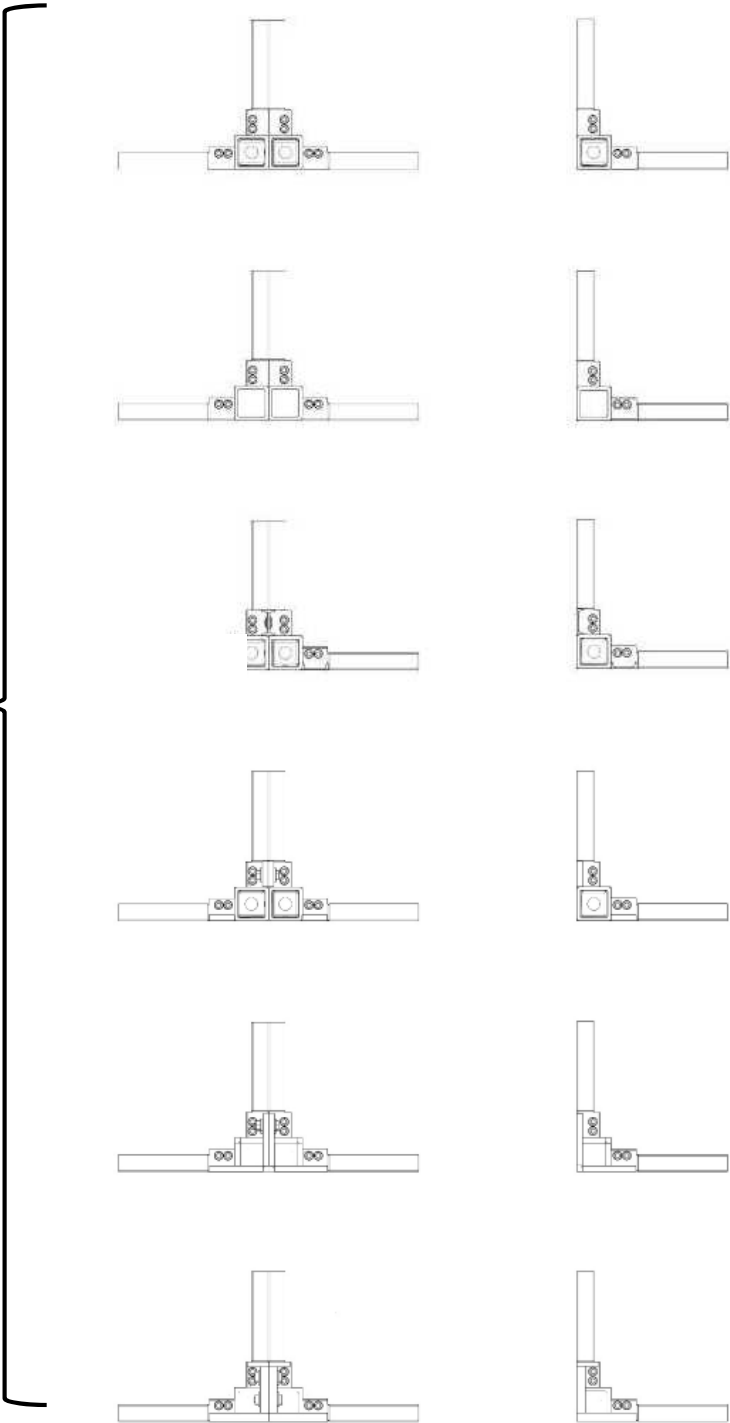


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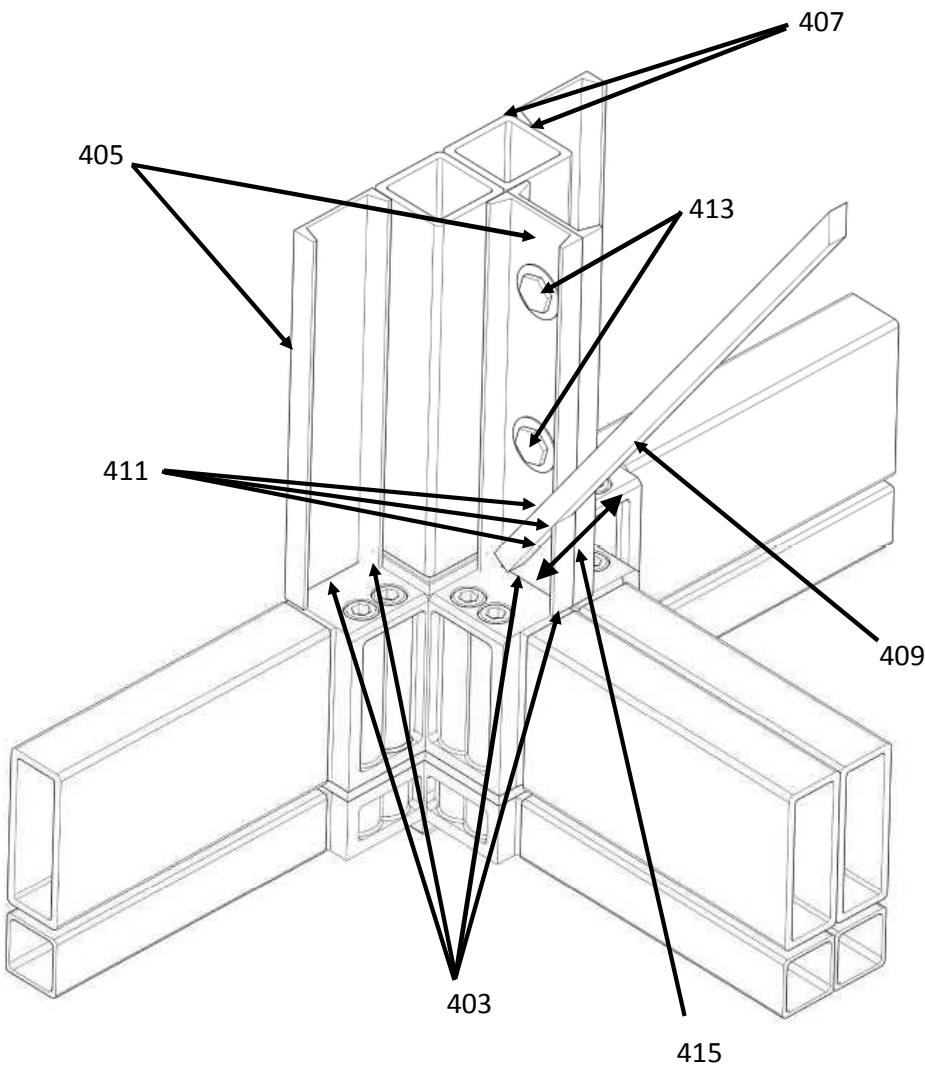


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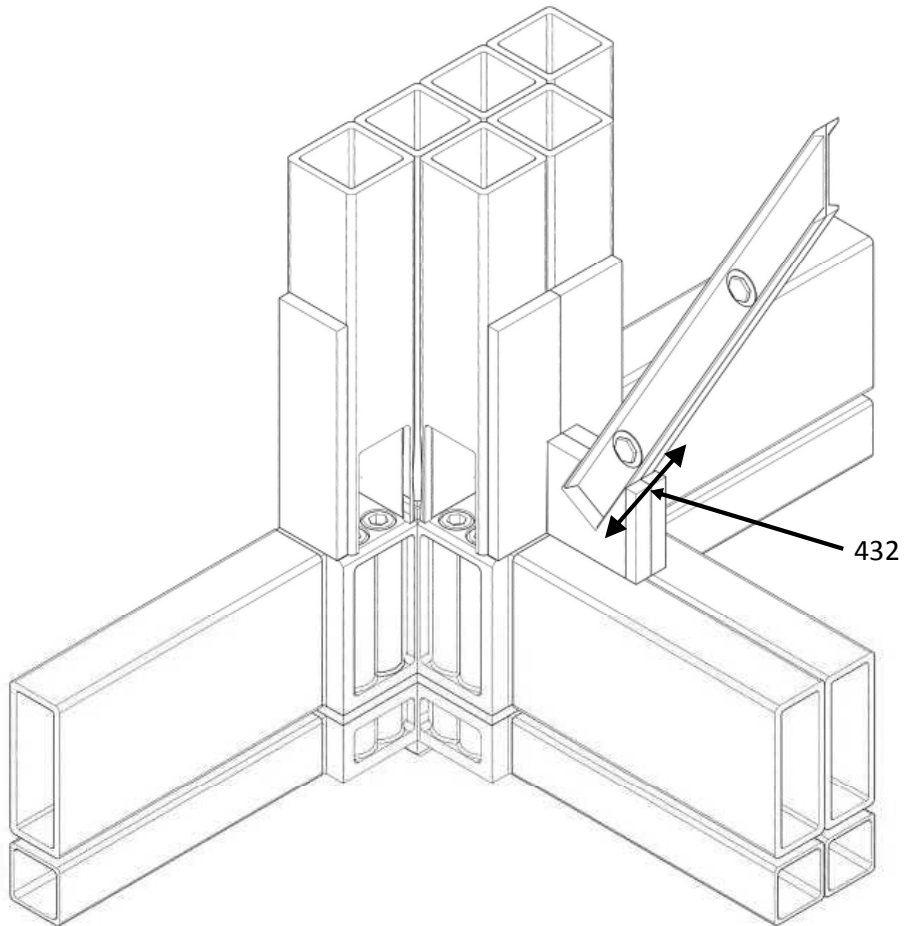
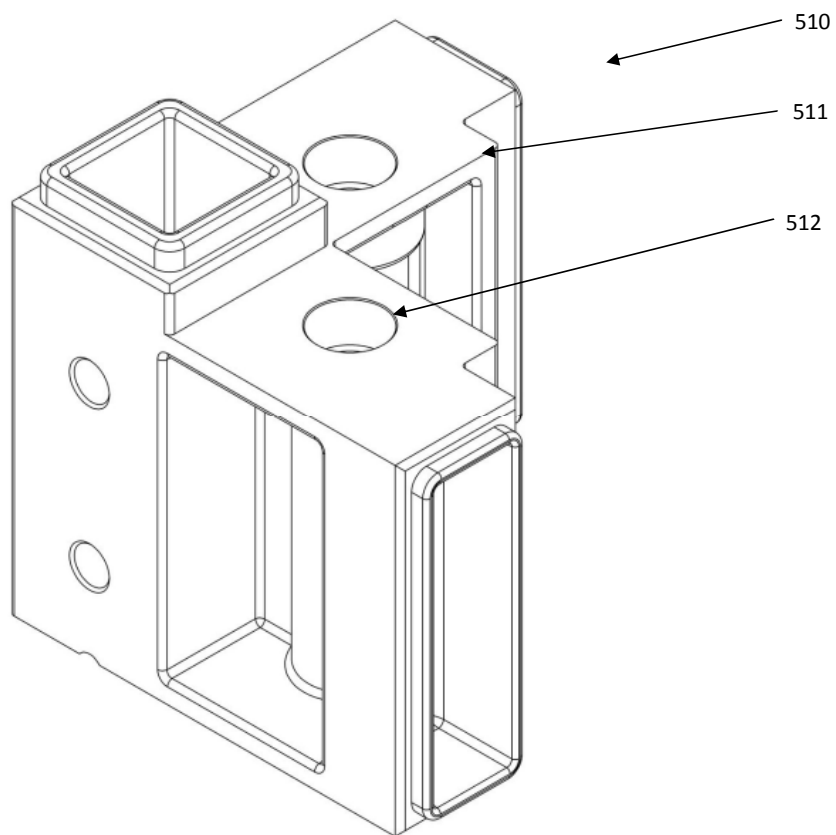
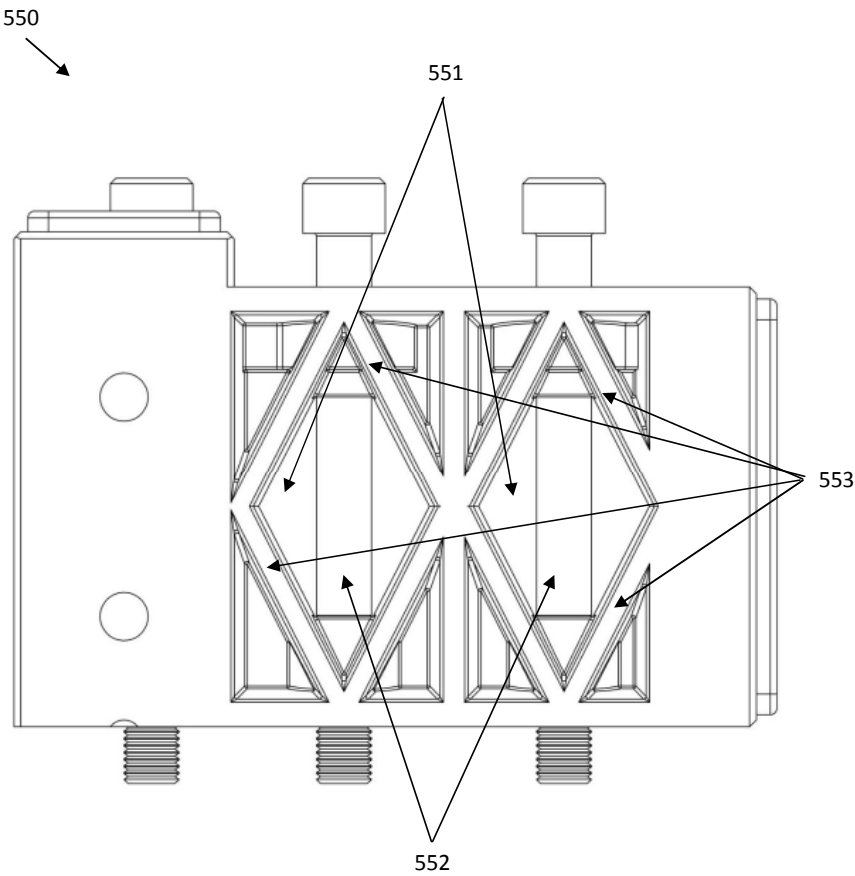


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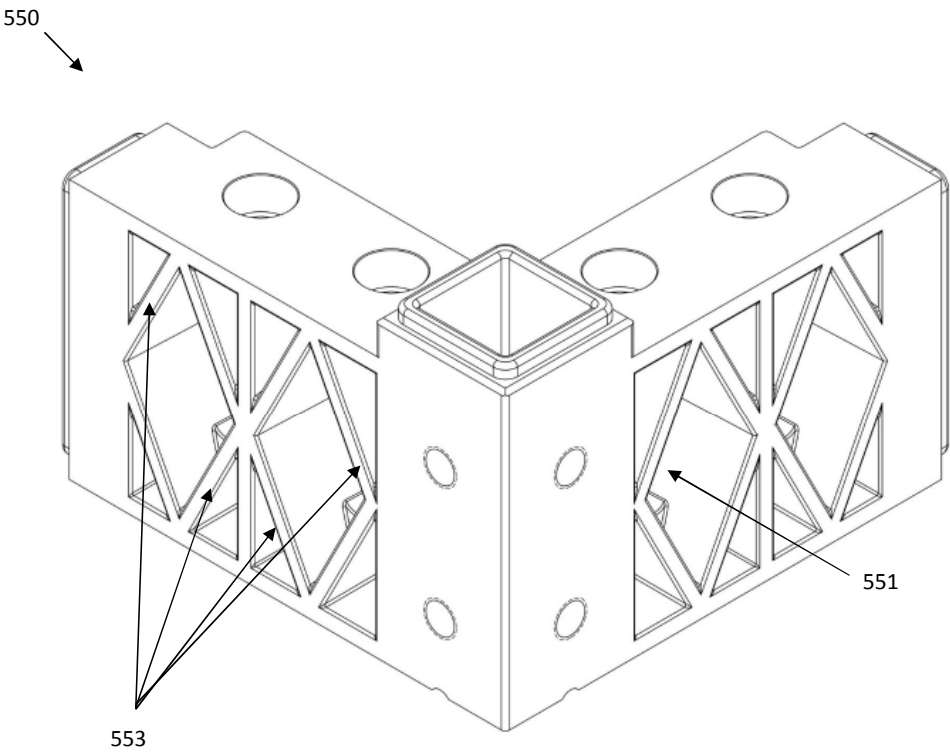
Note	Figure 21
510	single hole connection block with shortened arms
511	short arm
512	single hole in short arm

Figure 25



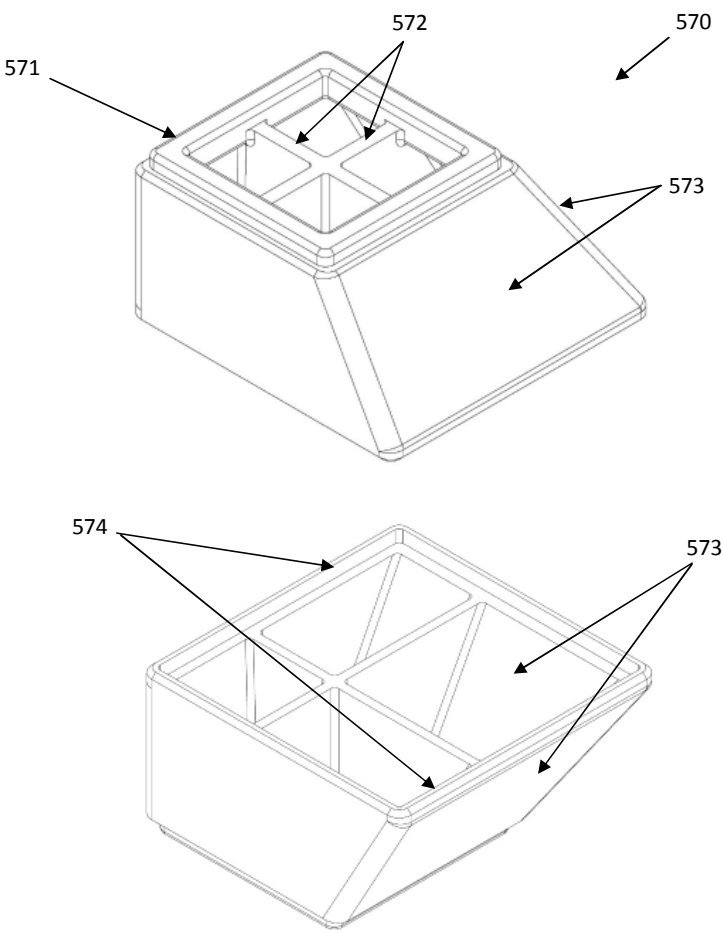
Note	Figure 25
550	lower corner connector with apertures and reinforcing ribs
551	apertures
552	exposed shanks of vertical tension bolts
553	reinforcing ribs

Figure 26



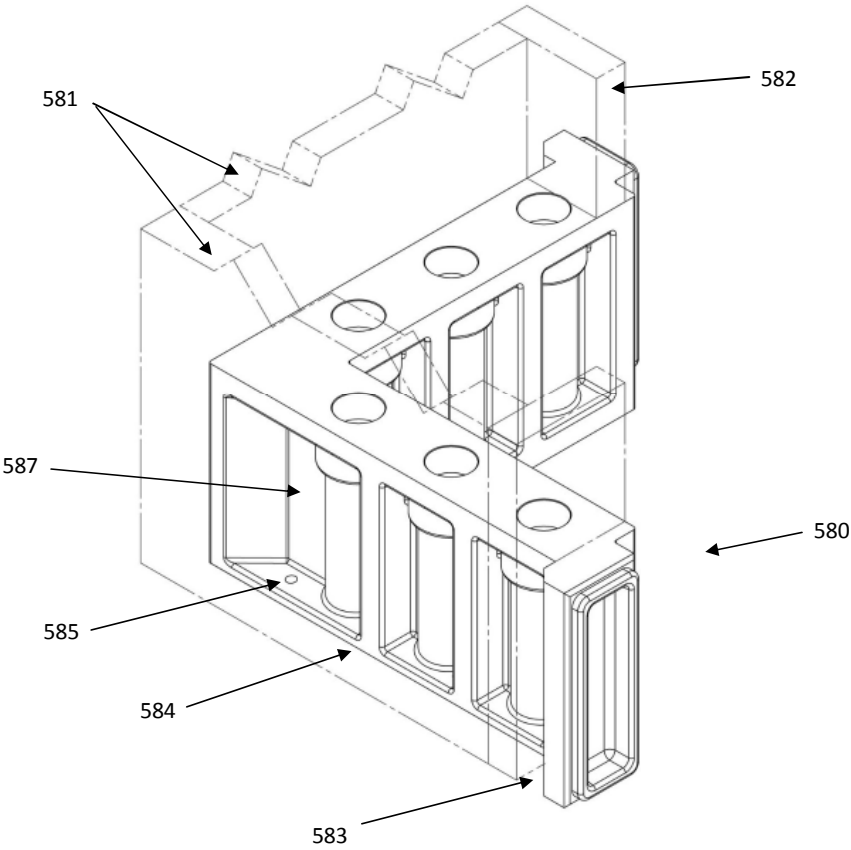
Note	Figure 26
550	lower corner connector with apertures and reinforcing ribs
551	apertures
553	reinforcing ribs

Figure 27



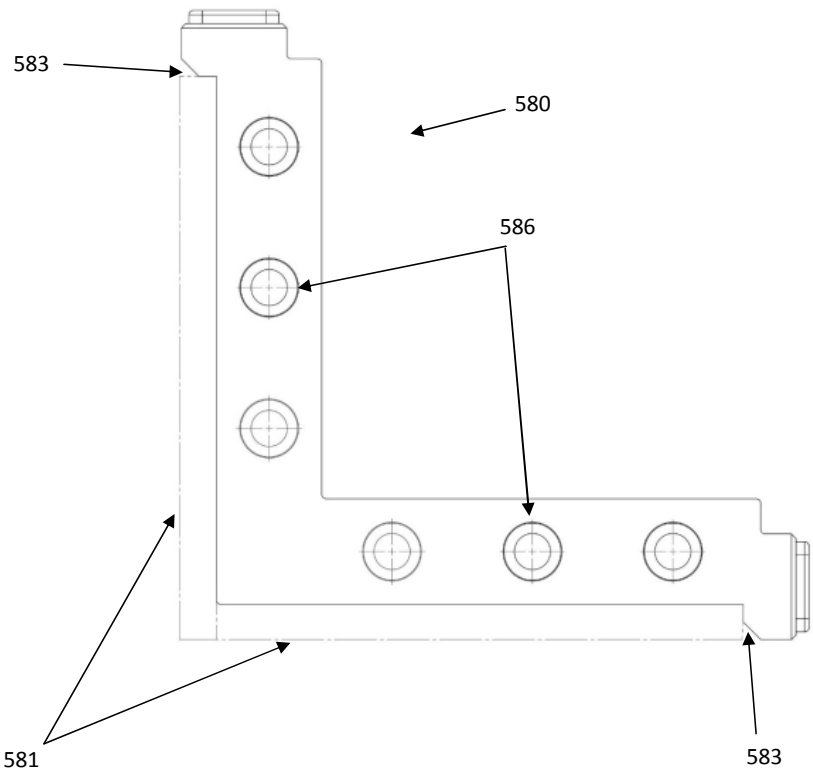
Note	Figure 27
570	column to connector size transition adapter
571	weld backer
572	reinforcing ribs
573	sloping faces
574	joining features on lower face

Figure 28



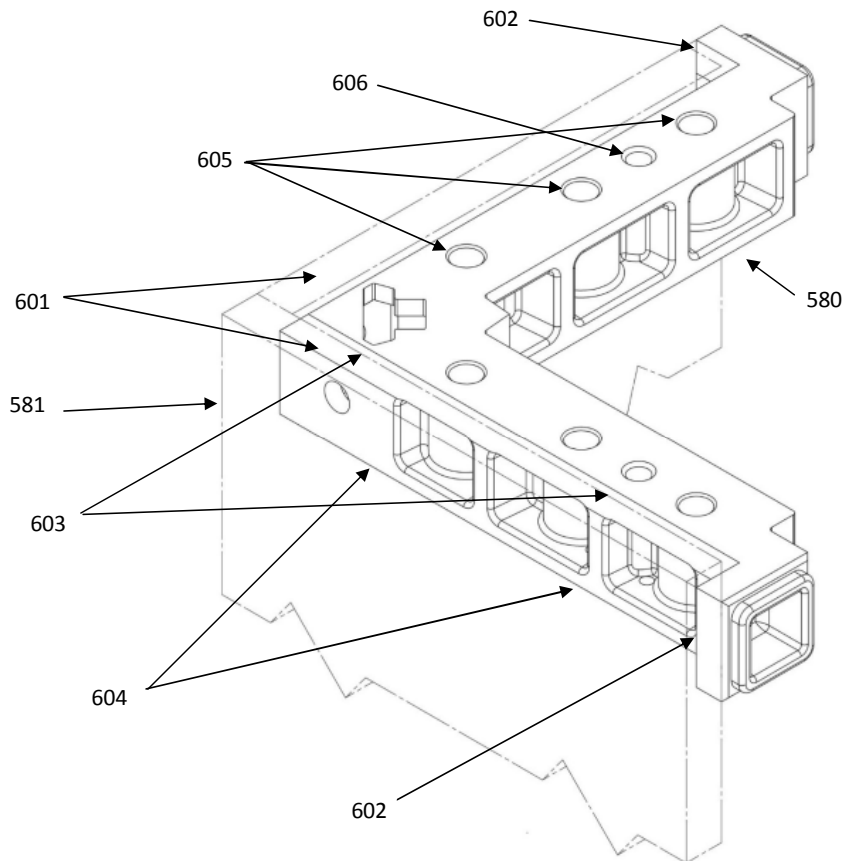
Note	Figure 28
580	lower plate connector
581	column made of plate
582	end bars on outer edge of plate column
583	weld preparation at arm end
584	weld preparation at lower edge of plate
585	weep hole
586	bolt holes
587	cavity

Figure 29



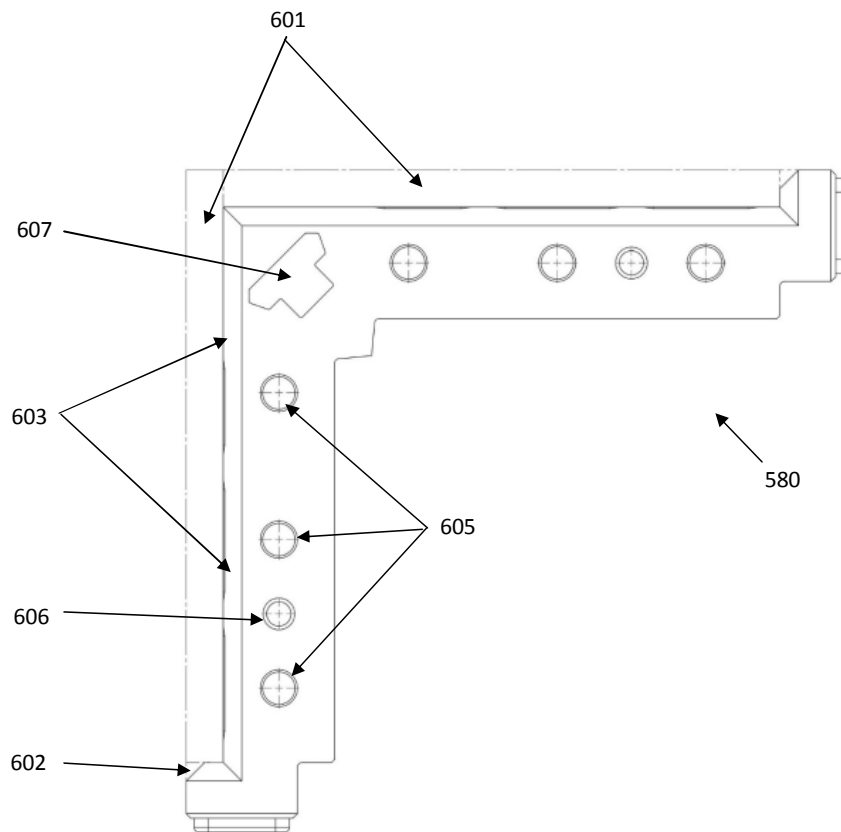
Note	Figure 29
580	lower plate connector
581	column made of plate
583	weld preparation at arm end
586	bolt holes

Figure 30



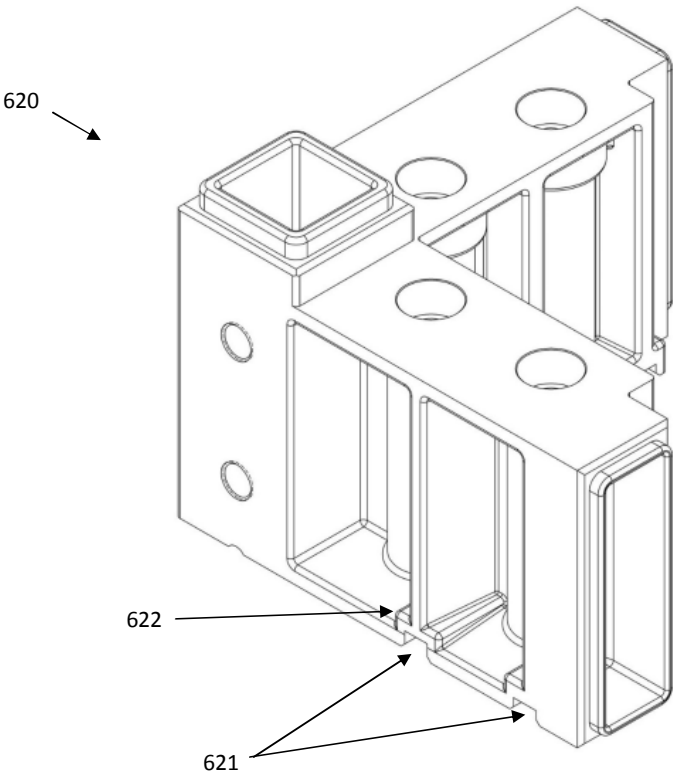
Note	Figure 30
580	upper plate connector
581	column made of plate
601	upper end of column made of plate
602	location of vertical weld on arm end
603	location of welds to upper face of arm and body
604	location of welds to underside of arm and body
605	threaded holes to receive vertical tension fasteners (typ)
606	threaded hole to receive gusset plate fasteners (typ)

Figure 31



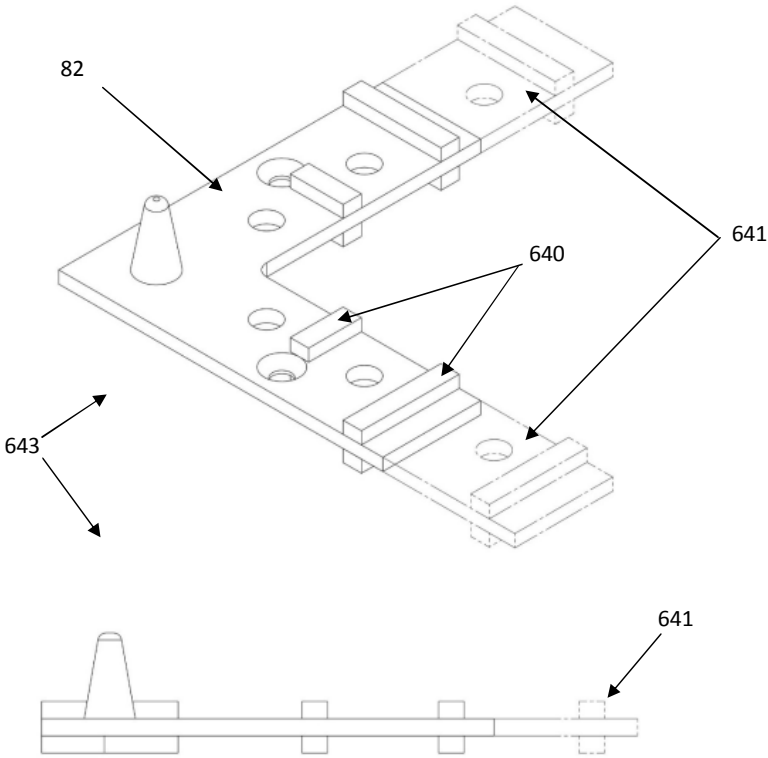
Note	Figure 31
580	upper plate connector
601	upper end of column made of plate
602	location of vertical weld on arm end
603	location of welds to upper face of arm and body
605	threaded holes to receive vertical tension fasteners (typ)
606	threaded hole to receive gusset plate fasteners (typ)
607	opening to engage hoisting means

Figure 32



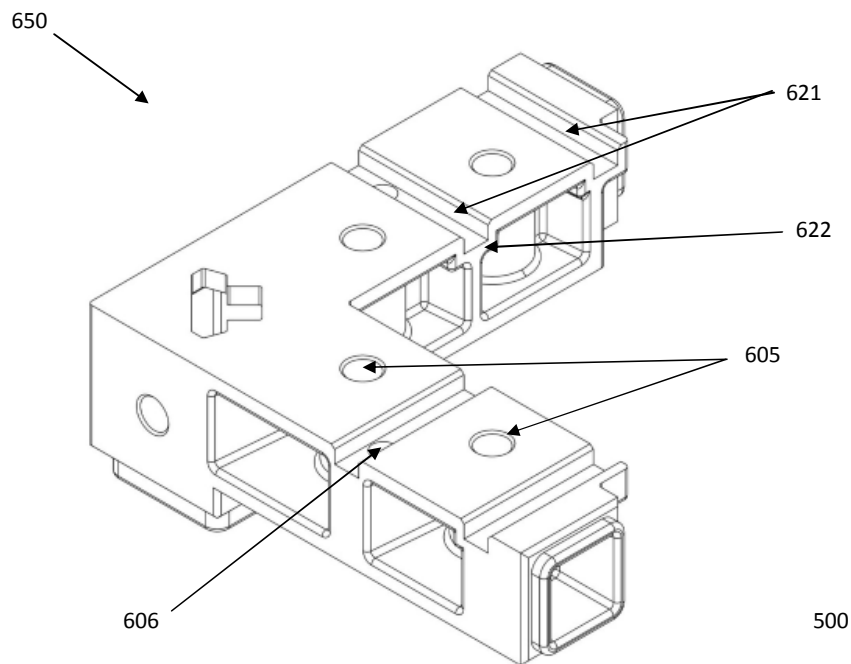
Note	Figure 32
620	lower connection block with shear resistance slots
621	shear resistance slots
622	thickened area for slot

Figure 34



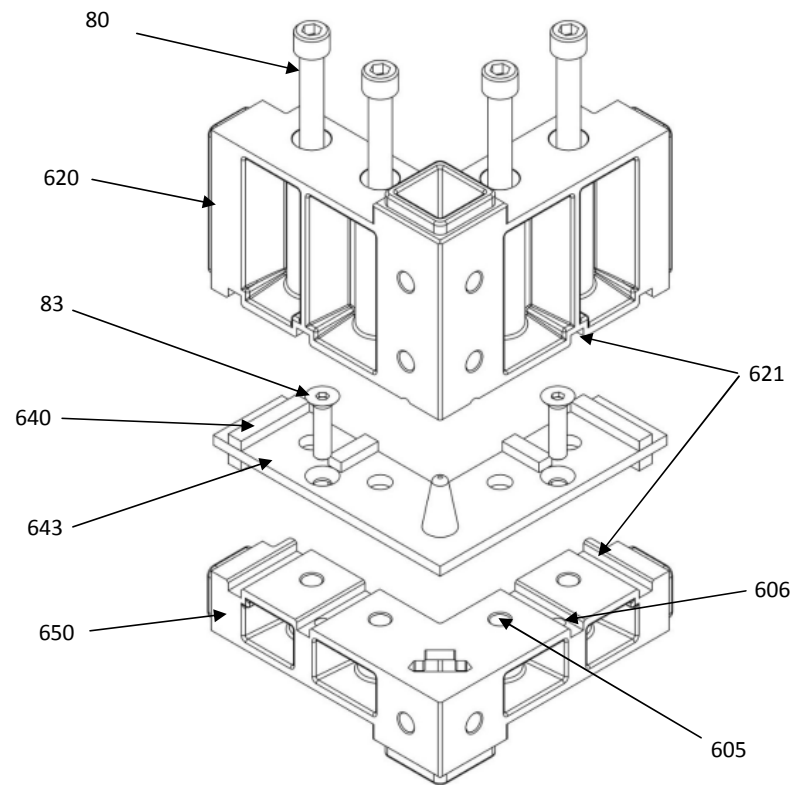
Note	Figure 34
643	gusset plate with shear resistance bars
640	shear resistance bars
641	optional extended gusset plate with additional shear resistance bars
82	gusset plate

Figure 35



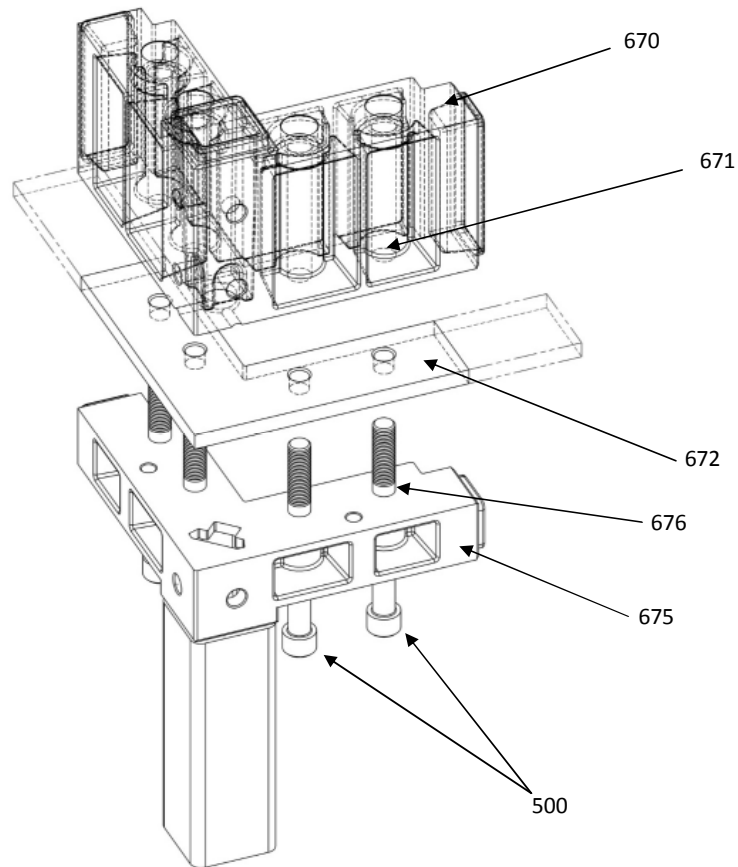
Note	Figure 35
650	upper connection block with shear resistance slots
621	shear resistance slots
622	thickened area for slot
605	threaded holes to receive vertical tension fasteners (typ)
606	threaded hole to receive gusset plate fasteners (typ)
607	opening to engage hoisting means

Figure 36



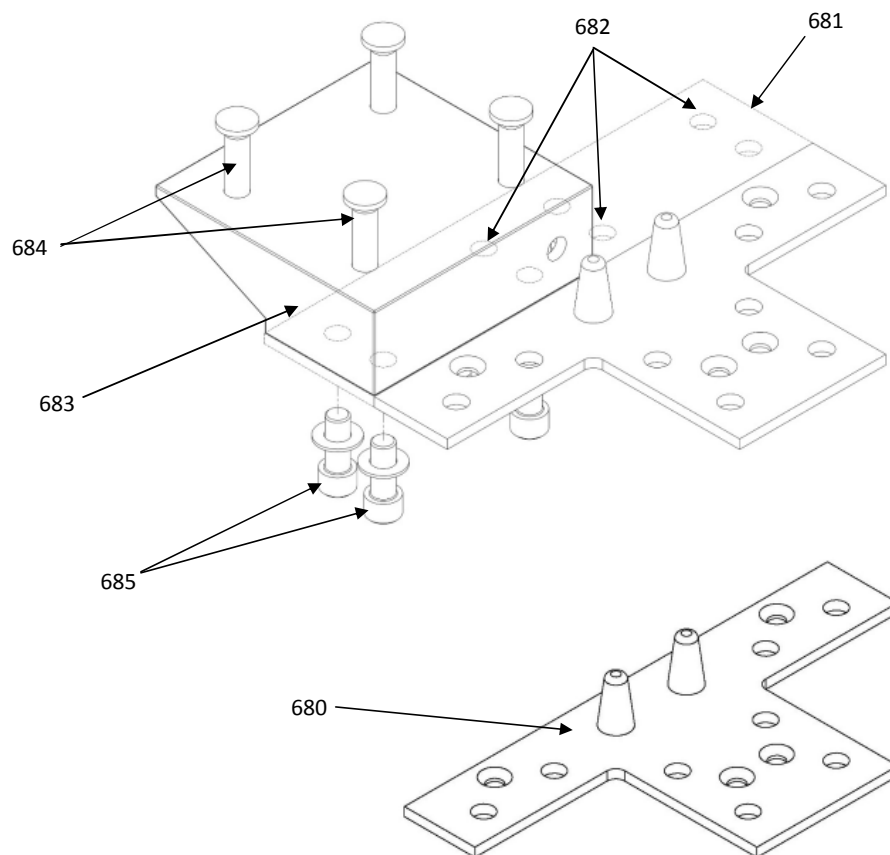
Note	Figure 36
620	lower connection block with shear resistance slots
650	upper connection block with shear resistance slots
621	shear resistance slots
605	threaded holes to receive vertical tension fasteners (typ)
606	threaded hole to receive gusset plate fasteners (typ)
80	vertical tension fasteners
83	gusset plate fasteners
643	gusset plate with shear resistance bars
640	shear resistance bars

Figure 37



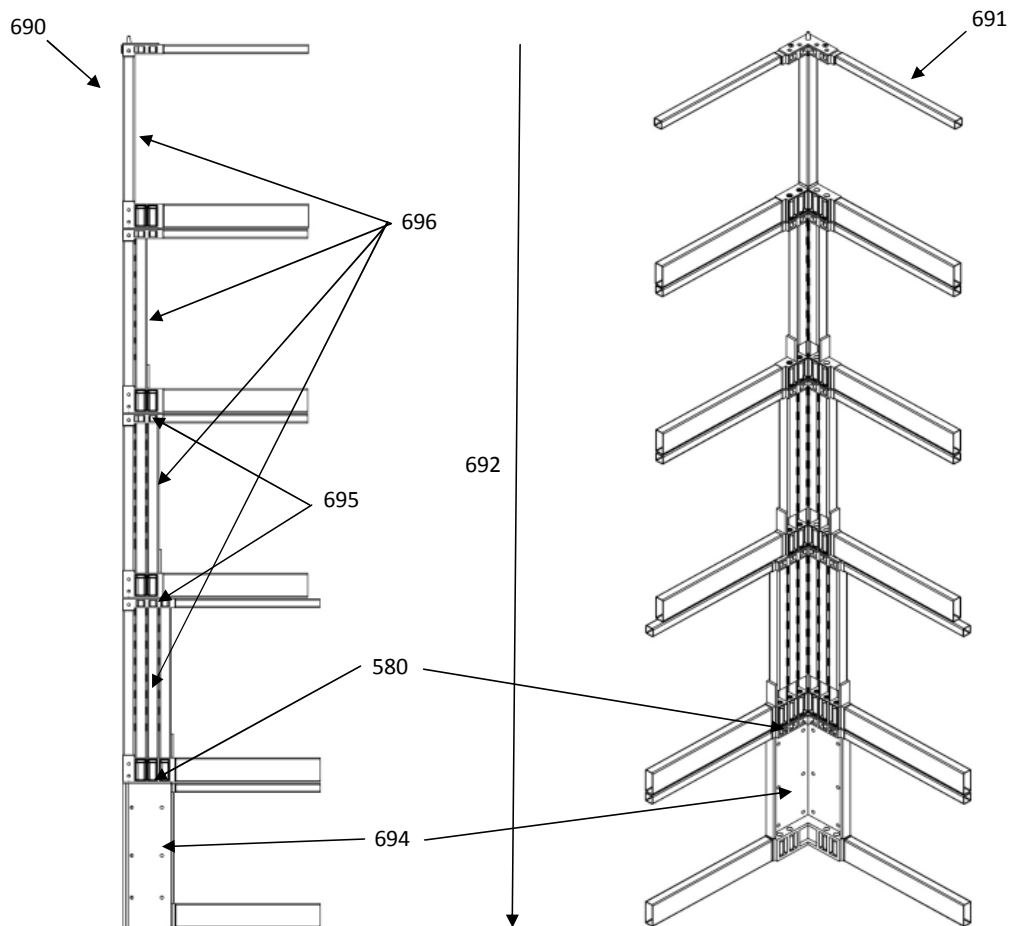
Note	Figure 37
80	vertical tension fasteners
670	lower block
671	threaded holes for engaging vertical tension fasteners
672	gusset plate with through holes to pass fasteners <u>or</u> threaded holes for engaging vertical tension fasteners
675	upper connection block
676	drilled holes for passing vertical tension fasteners through lower block

Figure 38



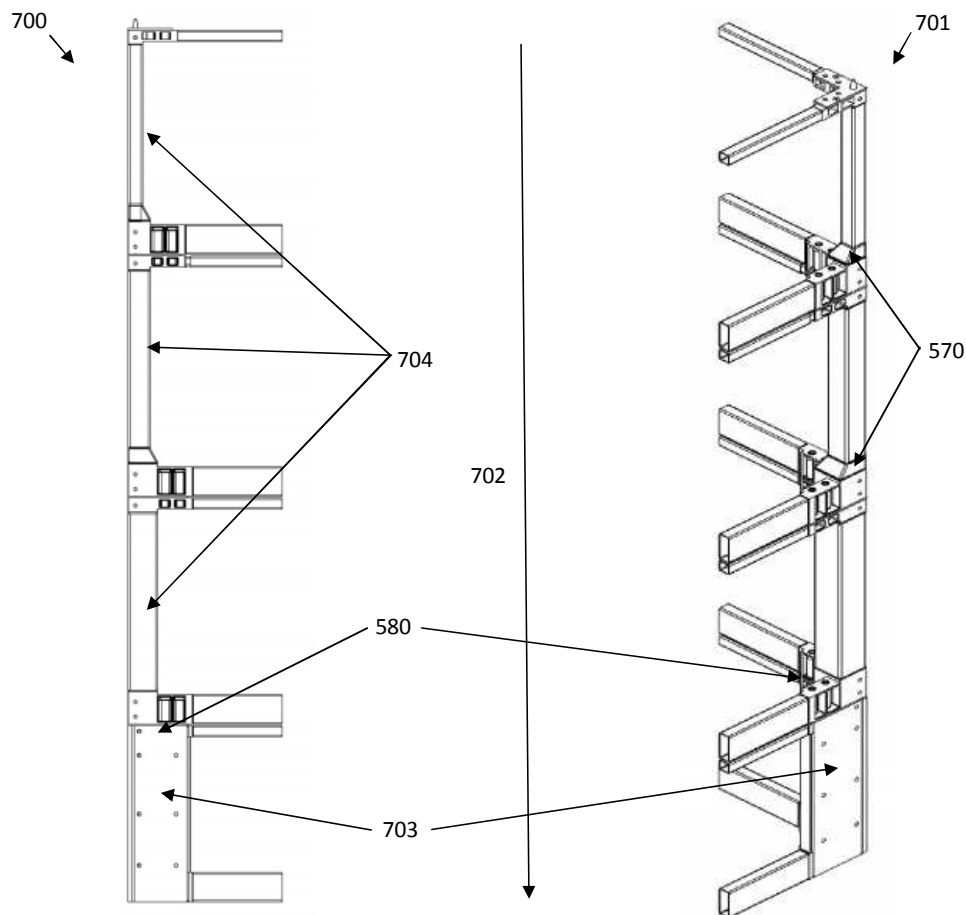
Note	Figure 38
680	typical un-extended double gusset plate
681	extension of gusset plate
682	holes for the connection of accessories
683	hallway slab or accessory connection block
684	bolts or studs to engage to concrete or other material
685	Fasteners for joining accessories

Figure 39



Note	Figure 39
690	side view of structurally graduated stack with increasing numbers of vertical structural elements
691	perspective view of structurally graduated stack with increasing numbers of vertical structural elements
692	increasing weight per foot and load-bearing capacity
694	portion of column fabricated with built up plate
695	connection blocks with various arm lengths
696	groups of vertical structural elements

Figure 40



Note	Figure 40
570	column to connector size transition adapters
700	side view of structurally graduated stack with increasing numbers of vertical structural elements
701	perspective view of structurally graduated stack with increasing numbers of vertical structural elements
702	increasing weight per foot and load-bearing capacity
703	portion of column fabricated with built up plate
704	increasingly larger tubular sections