

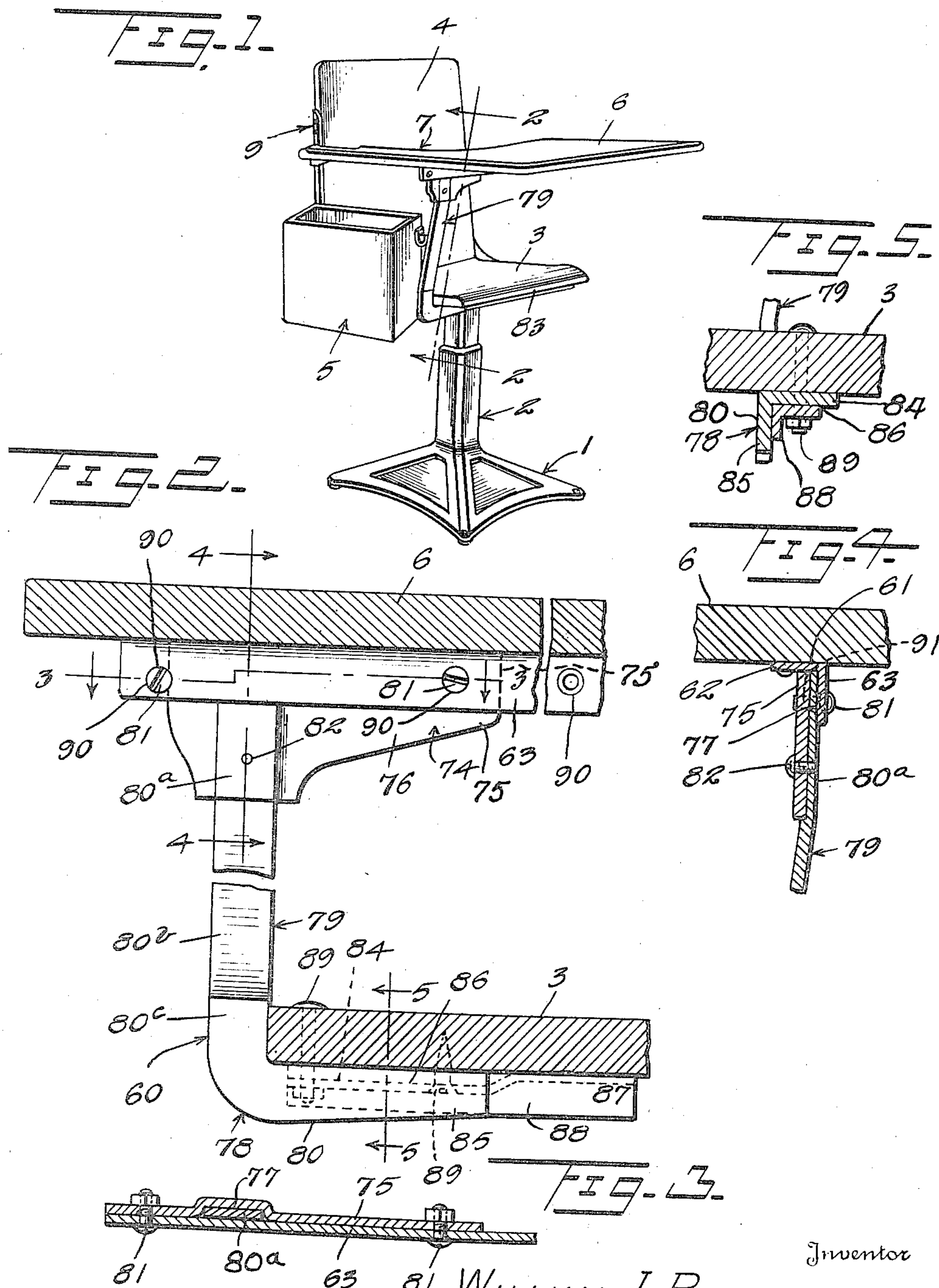
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COMBINED COUPLING AND SUPPORTING STRUCTURE

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COMBINED COUPLING AND SUPPORTING
STRUCTURE

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139,315. Divided and this application January
4, 1939, Serial No. 249,316

8 Claims. (Cl. 155—128)

This invention relates to a combined coupling and supporting structure and is a division of my co-pending application, Serial No. 139,315 filed April 27, 1937.

5 The combined coupling and supporting structure, in accordance with this invention is designed primarily for use as an element of an article of furniture for school and lecture rooms, and with such article of that type having a chair
10 element and a desk element disposed in spaced relation, but it is to be understood that the structure, in accordance with this invention is for employment in any connection for which it may be found applicable.

15 The invention aims to provide, in a manner as hereinafter set forth a structure forming a part of the aforesaid article for coupling the desk element to and in superposed spaced forwardly extended relation with respect to the seat of the
20 chair element, as well as to constitute a support for the desk element when the latter is coupled to the chair element.

The invention further aims to provide, in a manner as hereinafter set forth, a structure for
25 the purpose set forth which is comparatively simple in its construction and arrangement, strong, durable, compact, readily assembled and installed relative to the aforesaid chair and desk elements, thoroughly efficient in its use and com-
30 paratively inexpensive to manufacture.

Embodying the foregoing aims and others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts more specifically re-
35 ferred to and illustrated in the accompanying drawing, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as
40 claimed.

In the drawing:

Figure 1 is a perspective view of an article of furniture for school and lecture rooms and showing as an element thereof the combined coupling
45 and supporting structure in accordance with this invention,

Figure 2 is a section on line 2—2 Figure 1,

Figure 3 is a section on line 3—3 Figure 2,

Figure 4 is a section on line 4—4 Figure 2, and

50 Figure 5 is a section on line 5—5 Figure 2.

The article of furniture, as shown of which the combined coupling and supporting structure, in accordance with this invention is to form an element thereof is generally indicated at 1, and it
55 is in the form of a unit. The latter will consist

of a vertically adjustable pedestal element 2, a chair element formed of a seat 3 and a back 4, an open top book box element 5, a desk element 6, an arm rest element 7 and the aforesaid combined coupling and supporting structure 60, 5 which couples the desk element to the chair seat and supports such element. The seat 3 of the chair element is mounted on and secured to the upper end of the element 2. The element 5 is secured against one side edge of the seat 3 below
10 the arm rest element 7. The latter is integral with one side of the rear end of the desk element 6, extends rearwardly from the latter and is secured to the back 4. The element 6 is disposed in superposed spaced relation with respect to and
15 extends forwardly beyond the chair element by the structure 60. The element 6 is maintained in the position shown in Figure 1 by the combined coupling and supporting structure 60. The pedestal, chair, book box, desk and arm rest ele-
20 ments will not be specifically described, as they form no part of the invention of this application, and further because their constructions are specifically and fully set forth in my co-pending applications, Serial Numbers 139,315 and 139,316, 25
filed April 27, 1937.

The combined coupling and supporting structure 60 includes an angle bar 61 having horizontal and vertical flanges 62, 63 respectively. The flange 62 is secured to the lower face of element
30 6 in proximity to the rear edge of the latter. The flange 63 depends from the front of flange 62 and is apertured. The bar 61 constitutes a connector. The structure 60 also includes an upstanding coupling piece 74 formed of a wide upper part
35 75 and a flared lower part 76. The coupling piece 74 is formed in its outer face with a groove 77 which extends from the top to the bottom thereof. The structure 60 includes an angle-shaped upstanding combined coupling and sup-
40 porting member 78 formed of an upstanding arm 79 and a horizontally disposed lower arm 80 which extends inwardly at right angles from the lower end of arm 79. The latter includes a straight upper part 80^a, an inwardly inclined
45 rearwardly directed intermediate part 80^b of greater length than said upper part and a straight lower part 80^c. The part 80^a is arranged in the groove 77. The said parts 80^a, 80^c are disposed in parallel planes. The part 75 of the coupling
50 piece 74 is positioned against and secured to the rear face of flange 63 of bar 61 by a pair of hold-fast devices 81. The coupling piece 74 depends from flange 63. The upper end of arm 79 is arranged against the rear face of flange 63. The
55

arm 79 is secured to the part 76 of coupling piece 74 by the holdfast means 82 whereby the arm 79 is coupled with or connected to the desk element 6. The arm 79 in close proximity to its lower end has its inner lengthwise edge oppose in close relation the right side edge of seat 3, and said arm is of a length to extend below said seat. The arm 80 of member 78 is disposed below the lower face of seat 3 in proximity to the forward edge 83 of the latter. The arm 80 in vertical cross section consists of an upper horizontal flange 84 and a vertical flange 85 which depends from the front of flange 84. Secured to the lower face of the seat 3 in proximity to its edge 83 is the horizontal flange 86 of an angle bar 87. The latter includes a vertical flange 88 which depends from the front of the flange 86. The right end terminal portion of the angle bar 87 is offset with respect to the remaining portion of such bar to form a space between said offset portion and the lower face of seat 43 whereby a clearance is had for the positioning of arm 80 relative to seat 43. When the arm 80 of member 78 is arranged relatively to the lower face of seat 3, the flange 84 of arm 80 is arranged upon the offset portion of flange 86 of bar 87 and the flange 85 of arm 80 is positioned against the front face of the flange 88 of bar 87. The flanges 84 and 86 are secured together by the holdfast means 89. The parts of the structure 60 and the manner in which they are arranged and secured with the desk element 6 and seat 3 provides for supporting the desk element from and coupling it to the seat 3. The element 6 when coupled and supported is arranged in forwardly extended relation with respect to the chair element. The angle bar 87 provides a reinforcement for the seat 3.

A coupling and supporting structure 9 is provided for the rear end of the arm rest element 7 and is disposed at the right side of the back 4.

The bar 61, member 74 and holdfast means 81 constitutes what may be termed an upper connection means for coupling the structure 60 to the desk element 6.

The bar 87 and the holdfast means 89 constitutes a lower connection means for coupling the structure 60 to the seat 3.

The vertical flange 63 of the bar 61 is formed with a series of openings 90 for the selective passage of the holdfast devices 81. Preferably the number of openings 90 will be three and they are disposed in equi-distant spaced relation. It will be understood that the part 75 of the coupling piece 74 will be formed with a pair of openings 91, dotted line showing Figure 4 for the passage of the holdfast means 81. Normally the outer end opening and the intermediate opening of the said series of the openings 90 are to register with the openings 91, and when in registration the holdfast devices 81 extend therethrough for coupling or locking the desk parallel to the seat. The set of three openings 90 in the bar 61, the latter being secured to the desk element are to have a selected pair thereof coact with the openings 91 and the holdfast devices 81 for the purpose of straightening the bar 61 if it is faulty when produced. The selected pair of openings 90 may be the outer and intermediate openings of the set of openings 90 or the intermediate and inner openings of the set 90. If the bar 61 is not straight when produced, it is corrected before the arm rest is secured to the back, and after correction if the holdfast devices are not arranged in the position shown by Figure 2 they are moved to such position and the arm rest connected to the

back. The correction of bar 61 is first had by straightening its bent portion manually, and after which the holdfast devices correlate with those openings 90 which register with the openings 91 for the purpose of holding the bar for a period until its corrected portion has become set. Now if bar 61 should be bent downwardly to the right, due to the weight applied to the desk when the latter is in use, the arm rest and desk element is disconnected, after which the bar 61 is manually straightened and then the combined desk and arm rest element adjusted to an extent to bring the intermediate and inner openings of the set of openings 90 to register with the openings 91, after which the holdfast devices are correlated with such registering openings 90, 91 to hold the bar 61 for a period until its corrected portion has been set. After this the holdfast devices 81 are removed and the bar 61 adjusted to have its outer and intermediate openings of the set 90 register with the openings 91 after which the holdfast devices are correlated with such registering openings to anchor bar 61 to the coupling structure, after which the arm rest is again secured to the back. The distance between the openings 90 will correspond to the distance between the openings 91.

The bar 61 constitutes bracing means for the desk. The bar 87 provides a bracing means for the seat.

It is to be understood that the construction herein described is to be of a character which provides for the interchangeability of parts thereof with parts of other constructions designed by me and as shown, for example in my applications, Serial No. 139,315 filed April 27, 1937; Serial No. 139,316 filed April 27, 1937; Serial No. 249,316 filed January 4, 1939; and Serial No. 249,317 filed January 4, 1939.

The object is to provide a school desk and chair in which a small initial constructional investment may be preserved through the addition and interchange of parts. It is to this end that my various constructions may be said to be of the coordinated type.

What I claim is:

1. In a structure for coupling an upper element to a lower element and for supporting the upper element in spaced forwardly extended relation with respect to the lower element, said structure including a member formed of an upstanding arm and a horizontally disposed lower arm extending inwardly at right angles from the lower end of the upstanding arm, the latter being formed intermediate its ends with an inclined part, an upper connection means adapted to be anchored to the lower face of the said upper element, said upstanding arm having an upper straight portion extended into and being secured to said means, said lower arm being formed of a horizontal and a vertical flange, and a lower connection means adapted to be anchored against the lower face of the lower element and bearing against the lower face of the horizontal flange and inner face of the vertical flange of said lower arm.

2. In a structure for coupling an upper element to a lower element and for supporting the upper element in spaced forwardly extended relation with respect to said lower element, said structure including a member formed of an upstanding arm and a horizontally disposed lower arm integral with and extending inwardly from the lower end of said upstanding arm, an upper connection means adapted to be secured to and de-

pending from the lower face of said upper element, said upstanding arm having its upper portion extended into and secured to said connection means, said lower arm adapted to be positioned
 5 against the lower face of the lower element, a lower connection means adapted to be positioned against the lower face of the lower element and having an offset part bearing against said lower arm, and means common to said lower arm and
 10 lower connection means for anchoring them to said lower element.

3. In a structure for coupling an upper element to a lower element and for supporting the upper element in spaced forwardly extended relation
 15 with respect to the lower element, said structure including a member formed of an upstanding arm and a horizontally disposed lower arm extending inwardly at right angles from the lower end of the upstanding arm, the latter being formed in-
 20 termediate its ends with an inclined part, an upper connection means adapted to be anchored to the lower face of the said upper element, said upstanding arm having an upper straight portion extended into and being secured to said means,
 25 said lower arm being formed of a horizontal and a vertical flange, and a lower connection means adapted to be anchored against the lower face of the lower element and bearing against the lower face of the horizontal flange and inner face of
 30 the vertical flange of said lower arm, said upper connection means being arranged in close proximity to the rear end of said upper element, said lower connection means being arranged in close proximity to the front end of said lower
 35 element.

4. In a structure for coupling an upper element to a lower element and for supporting the upper element in spaced forwardly extended relation with respect to said lower element, said structure
 40 including a member formed of an upstanding arm and a horizontally disposed lower arm integral with and extending inwardly from the lower end of said upstanding arm, an upper connection means adapted to be secured to and de-
 45 pending from the lower face of said upper element, said upstanding arm having its upper portion extended into and secured to said connection means, said lower arm adapted to be positioned against the lower face of the lower ele-
 50 ment, a lower connection means adapted to be positioned against the lower face of the lower element and having an offset part bearing against said lower arm, means common to said lower arm and lower connection means for anchoring them
 55 to said lower element, said upper connection means being arranged in close proximity to the rear end of said upper element, and said lower connection means being arranged in close proximity to the front end of said lower element.

5. In a structure for coupling an upper element to a lower element and for supporting the upper element in spaced forwardly extended relation with respect to said lower element, said structure including a member formed of an up-
 60 standing arm and a horizontally disposed lower arm integral with and extending inwardly from the lower end of said upstanding arm, an upper connection means adapted to be secured to and depend from the lower face of said upper element,
 65 said upstanding arm having its upper portion extended into and secured to said connection means, said lower arm adapted to be positioned against the lower face of the lower element, a lower connection means adapted to be positioned
 70 against the lower face of the lower element and

having an offset part bearing against said lower arm, means common to said lower arm and lower connection means for anchoring them to said lower element, said upstanding arm including up-
 5 per and lower end terminal portions disposed in parallel planes and an inwardly inclined intermediate portion merging into the said end terminal portions, and said lower end terminal portion merging into the outer end of the lower arm and adapted to bear against one side of said lower
 10 element.

6. In a structure for coupling an upper element to a lower element for supporting the upper element in parallel forwardly extending relation with respect to the lower element and for
 15 bracing said elements, said structure including a member formed of an upstanding arm and a horizontally disposed lower arm extending inwardly from the lower end of the upper arm, a sectional upper connection means adapted to be
 20 secured to and depending from the upper element, said connection means including a pair of detachably connected parts, one adjustable lengthwise with respect to the other, said upstanding arm being secured to one of said parts,
 25 said lower arm adapted to be positioned against the lower face of the lower element, a lower connection means for coupling said lower arm to and adapted to be secured to the lower face of the lower element, one of the parts of the upper
 30 connection means constituting a brace for the upper element, and the lower connection means constituting a brace for said lower element.

7. In a structure for coupling an upper element to a lower element for supporting the upper ele-
 35 ment in parallel forwardly extending relation with respect to the lower element and for bracing said elements, said structure including a member formed of an upstanding arm and a horizontally disposed lower arm extending inwardly from
 40 the lower end of the upper arm, a sectional upper connection means adapted to be secured to and depending from the upper element, said connection means including a pair of detachably connected parts, one adjustable lengthwise with re-
 45 spect to the other, said upstanding arm being secured to one of said parts, said lower arm adapted to be positioned against the lower face of the lower element, a lower connection means for coupling said lower arm to and adapted to
 50 be secured to the lower face of the lower element, one of the parts of the upper connection means constituting a brace for the upper element, the lower connection means constituting a brace for said lower element, and said upstanding arm in-
 55 cluding upper and lower end terminal portions disposed in parallel planes and an inclined intermediate portion merging into said end terminal portions.

8. In a structure for coupling an upper element to a lower element for supporting the upper ele-
 60 ment in parallel forwardly extending relation with respect to the lower element and for bracing said elements, said structure including a member formed of an upstanding arm and a hori-
 65 zontally disposed lower arm extending inwardly from the lower end of the upper arm, a sectional upper connection means adapted to be secured to and depend from the upper element, said connection means including a pair of detachably
 70 connected parts, one adjustable lengthwise with respect to the other, said upstanding arm being secured to one of said parts, said lower arm adapted to be positioned against the lower face of the lower element, a lower connection means
 75

for coupling said lower arm to and adapted to be secured to the lower face of the lower element, one of the parts of the upper connection means constituting a brace for the upper element, the
5 said lower connection means constituting a brace for said lower element, said upstanding arm including upper and lower end terminal portions

disposed in parallel planes and an inclined intermediate portion merging into said end terminal portions, and that part of the upper connection means to which said upper arm is secured being formed with a groove for receiving
the upper terminal portion of the upper arm. 5

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