There is therefore a desire to provide a joining system in which these undesirable features are eliminated or reduced.

This is achieved by means of a joining system arrangement as disclosed in the following claims.

A joining system arrangement for building elements is provided. The building elements that are to be joined may be a column and a beam, a stair enclosure and a stair unit, a balcony and a wall or column or other building elements. The arrangement according to the invention will be capable of being arranged in any of these elements. The arrangement according to the invention, when used, is preferably embedded in a building element. The joining system comprises a box element adapted for embedment in a first building element, such that an open side of the box element lies flush with a surface of the building element. This open side of the box element will then, in use, be faced towards the second building element to which the first building element is to be fixed. Furthermore, the box element according to the invention is adapted such that a bridge element can be inserted into the box element. The bridge element may be of a type that can be moved between a fully retracted position inside the box element, where none or only small parts of the bridge element project outside the box element, and a position in which it is able to cooperate with both building elements for the interconnection thereof. Final interconnection of the building elements will also normally involve grouting of the space between the building elements after they have been connected using a joining system according to the invention. The box element in the joining system comprises four side faces arranged around the open side and a back plate. It is an essentially closed box element, such that it can be embedded in the building element without the internal space in the box element being filled during the concreting. There may be more openings that the open side, but any other openings will then be so configured than they keep the internal space from being filled during the concreting of the building element.

According to the invention, the joining system further comprises at at least one side face of a box element, at least one load transmitting element, which is arranged externally on the at least one side face and so configured that at least two surface portions are formed, constituting a rounded face, which are turned away from the side face of the box element and from each other. In normal use, such a side face provided with load transmitting elements will be directed upwards, but other orientations are also conceivable.

The box element according to the invention has four side faces, which surround the open side. The side faces have a width which extends between the edges that are secured to adjacent side faces, and furthermore the side faces have a length which extends from the open side to a back plate. The back plate is arranged at an opposite side of the box element in relation to the open side. The side faces also have a

~~AMENDED~~ CLAIMS

1. A joining system arrangement for building elements ~~(1, 2)~~, which joining system comprises a box element ~~(10)~~ adapted for embedment in a first building element ~~(1)~~, such that an open side ~~(16)~~ of box element ~~(10)~~ will be flush with a surface of the building element ~~(1)~~, and arranged such that a bridge element ~~(20)~~ can be inserted into the box element ~~(10)~~ which comprises four side faces ~~(11, 12, 13, 14)~~ arranged around the open side ~~(16)~~ and a back plate ~~(15)~~, characterised in that the joining system, at at least one side face ~~(11)~~ of box element ~~(10)~~, further comprises at least one load transmitting element ~~(30)~~ which is arranged externally on the at least one side face ~~(11)~~, the at least one load transmitting element ~~(30)~~ being so configured that at least two surface portions ~~(31)~~ are formed, constituting a rounded face, which are turned away from the side face ~~(11)~~ of the box element and from each other.

2. An arrangement according to claim 1, characterised in that at a side face ~~(11)~~ of the box element ~~(10)~~ there are arranged two load transmitting elements ~~(30)~~, positioned close to opposite edges of the side face ~~(11)~~.

3. An arrangement according to claim 1 or 2, characterised in that the load transmitting element(s) ~~(30)~~ extend from the open side ~~(16)~~ of the box element ~~(10)~~ and lengthwise in across the side face ~~(11)~~ of the box element ~~(10)~~.

4. An arrangement according to claims 2 and 3, characterised in that the load transmitting elements ~~(30)~~ extend widthwise from the opposite edges and in a direction towards each other.

5. An arrangement according to claim 2, characterised in that the load transmitting elements ~~(30)~~ are formed of elements which have an essentially round cross-section.

6. An arrangement according to claim 2, characterised in that a centre line of a cross-section of the load transmitting element ~~(30)~~ in a projection down onto the side face ~~(11)~~ to which the load transmitting element ~~(30)~~ is arranged, is located at a distance from the edge of the side face ~~(11)~~.

7. An arrangement according to one of the preceding claims, characterised in that the joining system further comprises at least one reinforcing bar ~~(40)~~ which extends across the width of the side face ~~(11)~~ provided with the load transmitting element ~~(30)~~, and it bends off and extends further across at least a part of the width of adjacent side faces ~~(12, 13)~~, after which it bends off and extends in a longitudinal

direction of the side faces ~~(11, 12, 13, 14)~~, in a direction away from the open side ~~(16)~~ of the box element.