radially the projection of the second pivoting member relative to the first pivoting member, comprising: a slot and key arrangement, wherein the first pivoting member is provided with a slot having a main axis along the longitudinal direction and the projection of the second pivoting member having a key adapted to engage with the slot of the first pivoting member to substantially prevent relative radial movement between the first pivoting member and the second pivoting member, wherein, upon tightening the or each fastener, the first pivoting member and the second pivoting member pivot about the projection, and the first pivoting member and the second pivoting member resiliently bend about the first free end of the tubular casing and the second free end of the tubular casing respectively, such that each proximal end of the first pivoting member and the second pivoting member are drawn together to both tighten the casing around the outer surface of the pipe and to apply a radial force to the bridge plate, and wherein at least one of the first pivoting member and the second pivoting member is convex, such that upon tightening the or each fastener the convex pivoting member is straightened..

There is also provided a pipe coupling comprising: a tubular casing, having a longitudinal gap between a first free end and a second free end, for fitting around a pipe; and a tensioning system for tightening the casing around the outer surface of the pipe, the system comprising: a first pivoting member, extending radially from the first free end of the tubular casing; a second pivoting member, extending radially from the second free end of the tubular casing, having a projection located at a distal end of the second pivoting member and extending towards the first pivoting member; a bridge plate located inside the casing for spanning the longitudinal gap between the first free end and the second free end of the tubular casing; at least one fastener; and means for restraining

second pivoting member. The projection from the first pivoting member is preferably integrally formed with the first pivoting member.

As mentioned in the above aspect, the restraining means comprises a slot and key arrangement. The first pivoting member is preferably provided with a slot having a main axis along the longitudinal direction of the pipe coupling and the projection of the second pivoting member has a key adapted to engage with the slot of the first pivoting member to substantially prevent relative radial movement between the first pivoting member and the second pivoting member. It is of course to be understood that the second pivoting member may be provided with the slot, and the first pivoting member provided with the key.

As mentioned above, ~~At~~ at least one of the first pivoting member and the second pivoting member ~~may be~~is convex, such that upon tightening the or each fastener the convex pivoting member is straightened. In one embodiment, both the first pivoting member and the second pivoting member are convex. The degree of curvature of the convex pivoting members is such that sufficient tension for coupling the pipes together has been applied to the fasteners when the pivoting members are substantially straight. Thus, a visual cue is provided as to when the pipe coupling is correctly installed. In this way, the present invention enables power tools, such as battery-operated screwdrivers, to be used to tighten the fasteners, and thus the time taken to install the pipe coupling may be reduced as compared to known pipe couplings. Furthermore, the need for torque wrenches to ensure sufficient torque has been applied to the fasteners is eliminated.

As used herein, the term ‘convex’ is used to describe the curvature of the pivoting members, wherein the convex form of the pivoting member means that each pivoting member curves away from the longitudinal gap between the free ends of the tubular casing.

The casing may be of generally U-shaped cross-section having a web portion with flanges projecting radially inwardly from the axial ends of the web portion to define an annular channel.

The pipe coupling may further comprise a tubular sealing gasket located inside the casing. In use of the pipe coupling, as the casing is tightened around the pipe ends, the casing presses the sealing gasket against the outer surfaces of the pipe ends to form seals. The first pivoting member and the second pivoting member press against the bridge plate, which in turn presses the sealing gasket against the outer surfaces of the pipe ends to form seals in the region of the longitudinal gap between the two free ends of the casing. Suitable sealing gaskets for use in a pipe coupling of this construction will be known to the skilled person, and may be made of resilient flexible material typically of rubber or synthetic rubber, or any other suitable material.

CLAIMS:

1. A pipe coupling comprising:

a tubular casing, having a longitudinal gap between a first free end and a second free end, for fitting around a pipe;

a tensioning system for tightening the casing around the outer surface of the pipe, the system comprising:

a first pivoting member, extending radially from the first free end of the tubular casing;

a second pivoting member, extending radially from the second free end of the tubular casing, having a projection located at a distal end of the second pivoting member and extending towards the first pivoting member;

a bridge plate located inside the casing for spanning the longitudinal gap between the first free end and the second free end of the tubular casing;

at least one fastener; and

means for restraining radially the projection of the second pivoting member relative to the first pivoting member, comprising:

a slot and key arrangement, wherein the first pivoting member is provided with a slot having a main axis along the longitudinal direction and the projection of the second pivoting member having a key adapted to engage with the slot of the first pivoting member to substantially prevent relative radial movement between the first pivoting member and the second pivoting member,

wherein, upon tightening the or each fastener, the first pivoting member and the second pivoting member pivot about the projection, and the first pivoting member and the second pivoting member resiliently bend about the first free end of the tubular casing and the second free end of the tubular casing respectively, such that each proximal end of the first pivoting member and the second pivoting member are drawn together to both tighten the casing around the outer surface of the pipe and to apply a radial force to the bridge plate, and~~.~~

wherein at least one of the first pivoting member and the second pivoting member is convex, such that upon tightening the or each fastener the convex pivoting member is straightened.

2. A pipe coupling according to Claim 1, further comprising: a first foot resiliently coupled to the proximal end of the first pivoting member and extending away from the second pivoting member; and a second foot resiliently coupled to the proximal end of the second pivoting member and extending away from the first pivoting member.

3. A pipe coupling according to Claim 2, wherein the first foot is connected to the first free end of the tubular casing, and the second foot is connected to the second free end of the tubular casing.

4. A pipe coupling according to Claim 3, wherein the first foot and the second foot are integrally formed with the first pivoting member and the second pivoting member respectively.

5. A pipe coupling according to any of the preceding claims, wherein the projection from the second pivoting member is resiliently coupled to the second pivoting member.

6. A pipe coupling according to Claim 5, wherein the projection from the second pivoting member is integrally formed with the second pivoting member.

7. A pipe coupling according to any of the preceding claims, the restraining means comprising a projection located at a distal end of the first pivoting member and extending towards the second pivoting member, wherein the projection of the first pivoting member engages with the projection of the second pivoting member to substantially prevent relative radial movement between the first pivoting member and the second pivoting member.

8. A pipe coupling according to Claim 7, wherein the projection from the first pivoting member is integrally formed with the first pivoting member.

~~9. A pipe coupling according to any of the preceding claims, wherein at least one of the first pivoting member and the second pivoting member is convex, such that upon tightening the or each fastener the convex pivoting member is straightened.~~

~~10.~~9. A pipe coupling according to any of the preceding claims, wherein the casing is of generally U-shaped cross-section having a web portion with flanges projecting radially inwardly from the axial ends of the web portion to define an annular channel.

~~11.~~10. A pipe coupling according to any of the preceding claims, further comprising a tubular sealing gasket located inside the casing.

~~12.~~11. A pipe coupling according to any of the preceding claims wherein the first pivoting member and the second pivoting member are plates extending along the longitudinal direction of the casing.

~~13.~~12. A pipe coupling according to any of the preceding claims, further comprising reinforcing plates connected to the tubular casing adjacent the free ends.

~~14.~~13. A pipe coupling according to any of the preceding claims, wherein the bridge plate is coupled to one of the first free end or the second free end of the tubular casing.

~~15.~~14. A pipe coupling according to any of the preceding claims, further comprising at least one arcuate gripping ring having inwardly projecting gripping teeth, located in the tubular casing.