CLAIMS

1. A device for connecting a first end-coupler (1) with a second end-coupler (2), in particular of a piping, wherein:

- the device comprises a nut (15) provided at a first end with a threaded bore (17) wherein the first end-coupler (1) is screwed along a longitudinal axis (X) up to a tightening position wherein the first end-coupler (1) is in axial stress with a second end-coupler (2) accommodated in the nut,
- the nut (15) and the second end-coupler (2) include axial bearing means (9, 19) to limit the axial displacement of the nut (15) with respect to the second end-coupler (2) in the nut screwing direction,
- the nut and both end-couplers each comprise a tubular body which undergoes said axial stress,
- one (2) of the end-couplers and the nut (15) are two mutual blocking elements comprising anti-rotation means (8, 20) including a protrusion (22) belonging to one of the blocking elements and able to radially elastically penetrate at least one recess (8) of the other blocking element (2), during a relative rotation between the nut (15) and the blocking end-coupler (2), and to come out therefrom when a torque exceeding a determined threshold is applied to the nut (15),

characterised in that the protrusion (22) belongs to an elastic tab (21) which is formed in the material of the tubular body (24) of one of the blocking elements.

2. The connecting device according to claim 1, characterised in that the second end-coupler (2) is one of the blocking elements.

3. The connecting device according to claim 2, characterised in that on the second end-coupler, the anti-rotation means (8) are located between a front end (204) of the second end-coupler (2), directed towards the first end-coupler (1), and the axial bearing means (9) of the second end-ccupler (2).

4. The connecting device according to one of claims 1 to 3, characterised by comprising several tabs (21), distributed about the longitudinal axis (X).

5. The connecting device according to one of claims 1 to 4, characterised in that on the nut, the anti-rotation means (14) are axially located between the threading (17) of the nut (15) and the bearing means (19).

6. The connecting device according to one of claims 1 to 5, characterised in that the at least one tab (21) has a substantially radial or oblique base (26) linked to the tubular body (24), and a substantially axial rod (27) linked to the base by a bent portion (28).

7. The connecting device according to claim 6, characterised in that each tab tapers from its base (26) towards the protrusion (22).

8. The connecting device according to one of claims 1 to 7, characterised in that the at least one tab (21) is linked to an annular rib (29) of the tubular body (24).

9. The connecting device according to claim 8, characterised in that there are several tabs (21) defined

by material remaining between cut-outs (31) of the rib (29).

10. The connecting device according to one of claims 1 to 9, characterised in that the at least one tab (21) is an initially radial or oblique tab which was then formed by bending to extend nearly axially in the area adjacent to the protrusion (22).

11. The connecting device according to one of claims 1 to 10, characterised in that the at least one tab (21) is of increased thickness (32) in the vicinity of its end to form the protrusion (22).

12. The connecting device according to one of claims 1 to 11, characterised in that it comprises between four and eight tabs (21) distributed over 360° about the longitudinal axis (X), and between twenty and forty recesses (8) shaped to accommodate said protrusions.

13. The connecting device according to one of claims 1 to 11, characterised in that the nut (15) includes at least one inner chamber (33) enabling the at least one tab (21) to be radially displaced outwardly in order to be radially disengaged from the at least one recess (8).

14. The connecting device according to one of claims 1 to 13, characterised in that the at least one tab (21) is formed on a radially inner face of the nut (15) and is completely located within the bore (23) of the tubular body (24) of the nut.

15. An end-coupler (2) for a connecting device according to any of the preceding claims, characterised by including recesses (8) having the form of faces arranged in a polygonal shape.

16. The end-coupler according to claim 15, characterised in that the faces are formed by material displacement which is operated axially starting from an end (204) of the end-coupler.

17. The end-coupler according to claim 16, characterised in that the material displacement is operated on an annular surface (7) which tapers at a relief angle (a) towards said end (204).

18. A method for making a nut tubular body for a connecting device according to one of claims 1 to 14, characterised in that during a step of boring the body, a radial rib (29) is allowed to remain, cut-outs (31) are formed in this rib to define tabs (21) between the cut-outs (31), and the tabs are folded back by plastic deformation.

19. The method according to claim 18, characterised in that the rib (29) is annular and in that the tabs (21) are folded back to assume a substantially axial orientation.

CLAIMS

1. A device for connecting a first end-coupler (1) with a second end-coupler (2), in particular of a piping, wherein:

- the device comprises a nut (15) provided at a first end with a threaded bore (17) wherein the first end-coupler (1) is screwed along a longitudinal axis (X) up to a tightening position wherein the first end-coupler (1) is in axial stress with the second end-coupler (2) accommodated in the nut,

  - the nut (15) and the second end-coupler (2) include axial bearing means (9, 19) to limit the axial displacement of the nut (15) with respect to the second end-coupler (2) in the nut screwing direction,

  - the nut and both end-couplers each comprise a tubular body which undergoes said axial stress,

  - one (2) of the end-couplers and the nut (15) are two mutual blocking elements comprising anti-rotation means (8, 14, 21) including a protrusion (22) belonging to one of the blocking elements and able to radially elastically penetrate at least one recess (8) of the other blocking element (2), during a relative rotation between the nut (15) and the blocking end-coupler (2), and to come out therefrom when a torque exceeding a determined threshold is applied to the nut (15),

characterised in that the protrusion (22) belongs to an elastic tab (21) which is formed in the material of the tubular body (24) of the one (2) of the blocking elements (2,15).

2. The connecting device according to claim 1, characterised in that the second end-coupler (2) is one of the blocking elements.

3. The connecting device according to claim 2, characterised in that on the second end-coupler, the anti-rotation means (8) are located between a front end (204) of the second end-coupler (2), directed towards the first end-coupler (1), and the axial bearing means (9) of the second end-coupler (2).

4. The connecting device according to one of claims 1 to 3, characterised by comprising several of said tabs (21), distributed about the longitudinal axis (X).

5. The connecting device according to one of claims 1 to 4, characterised in that on the nut, the anti-rotation means (14) are axially located between the threading (17) of the nut (15) and the bearing means (19).

6. The connecting device according to one of claims 1 to 5, characterised in that the at least one tab (21) has a substantially radial or oblique base (26) linked to the tubular body (24), and a substantially axial rod (27) linked to the base by a bent portion (28).

7. The connecting device according to claim 6, characterised in that each tab tapers from its base (26) towards the protrusion (22).

8. The connecting device according to one of claims 1 to 7, characterised in that the at least one tab (21) is linked to an annular rib (29) of the tubular body (24).

9. The connecting device according to claim 8, characterised in that there are several tabs (21) defined

by material remaining between cut-outs (31) of the rib (29).

10. The connecting device according to one of claims 1 to 9, characterised in that the at least one tab (21) is an initially radial or oblique tab which was then formed by bending to extend nearly axially in the area adjacent to the protrusion (22).

11. The connecting device according to one of claims 1 to 10, characterised in that the at least one tab (21) is of increased thickness (32) in the vicinity of its end to form the protrusion (22).

12. The connecting device according to one of claims 1 to 11, characterised in that it comprises between four and eight tabs (21) distributed over 360° about the longitudinal axis (X), and between twenty and forty recesses (8) shaped to accommodate said protrusions.

13. The connecting device according to one of claims 1 to 11, characterised in that the nut (15) includes at least one inner chamber (33) enabling the at least one tab (21) to be radially displaced outwardly in order to be radially disengaged from the at least one recess (8).

14. The connecting device according to one of claims 1 to 13, characterised in that the at least one tab (21) is formed on a radially inner face of the nut (15) and is completely located within the bore (23) of the tubular body (24) of the nut.

15. An end-coupler (2) for a connecting device according to any of the preceding claims, characterised by said recesses (8) having the form of faces arranged in a polygonal shape.

16. The end-coupler according to claim 15, characterised in that the faces are formed by material displacement which is operated axially starting from an end (204) of the end-coupler.

17. The end-coupler according to claim 16, characterised in that the material displacement is operated on an annular surface (7) which tapers at a relief angle (a) towards said end (204).

18. A method of making a nut tubular body for a connecting device according to one of claims 1 to 14, characterised in that during a step of boring the body, a radial rib (29) is allowed to remain, cut-outs (31) are formed in this rib to define elastic tabs (21) between the cut-outs (31), and the elastic tabs are folded back by plastic deformation.

19. The method according to claim 18, characterised in that the rib (29) is annular and in that the tabs (21) are folded back to assume a substantially axial orientation.