CLAIMS

1 A frame for the support of a bladed array, such as a compressor rotor stage or turbine rotor stage for turbo machinery, comprising a collar configured to fit around a radially outer periphery of the array, whereby the collar is provided with a closure mechanism and the closure mechanism is configured to, in use, close the collar around the bladed array such that at least part of at least some of the blades are engaged with and/or captured by the radially inner surface of the collar such that the collar and bladed array are held in a fixed relationship relative to one another.

2 A frame as claimed in claim 1, wherein the inner surface of the collar comprises a flexible sheet of material provided with flanges which extend radially inwardly to define a channel configured to receive at least part of at least some of the blades.

3 A frame as claimed in claim 1 or claim 2 wherein the collar is provided with at least one flexible joint which extends over a continuous section of the flexible sheet of material.

4 A frame as claimed in any one of the preceding claims wherein the inner surface of the collar is provided with a compliant lining configured to, in use, at least in part conform to the shape of the blade parts it is engaged with and/or captures.

5 A frame as claimed in claim 4 wherein the compliant lining comprises a rubber and/or plastic material.

6 A frame as claimed in any one of the preceding claims wherein the collar is split to define two ends which are linkable by the closure mechanism.

7 A frame as claimed in claim 6 wherein the collar comprises parts which are linked to each other by a separable joint.

8 A frame as claimed in claim 7 wherein the separable joint is hinged to permit the parts to pivot relative to one another.

9 A frame as claimed in claim 7 or claim 8 wherein the separable joint comprises a pin which is removable to enable separation of the separable joint.

10 A frame as claimed in any one of the preceding claims wherein at least one coupling is provided on the radially outer surface of the collar which is configured to, in use, support the weight of the frame and bladed array.

11 A frame as claimed in claim 10 wherein at least four but no more than six couplings are spaced around the radially outer surface of the collar.

12 A frame as claimed in claim 10 or claim 11 wherein the frame further comprises a stand configured to support the collar, the stand comprising at least one leg which is pivotably engaged with the at least one coupling.

13 A frame as claimed in any one of the preceding claims wherein gear engagement features are provided on the outer surface of the collar for engagement with means for rotation of the collar.

14 A frame as claimed in any one of claim 10 to 13 wherein rollers are provided substantially diametrically opposite the at least one coupling.

15 A frame as claimed in any one of the preceding claims wherein the frame further comprises a support radially outwards of the collar, with rotatable bearing means located between the collar and the support such that the collar and support are rotatable relative to one another.

16 A frame as claimed in any one of the preceding claims wherein radially outer surface of the collar defines a channel configured to receive a drive belt or chain.

17 A method of supporting of a bladed array, such as a compressor rotor stage or turbine rotor stage for turbo machinery, wherein the array is supported on its radially outer periphery.

18 A method of supporting a bladed array as claimed in claim 17 wherein the array is lifted and/or rotated whilst supported on its radially outer periphery.

CLAIMS

1 A frame for the support of a bladed array, such as a compressor rotor stage or turbine rotor stage for turbo machinery, comprising a collar configured to fit around a radially outer periphery of the array, whereby the collar is provided with a closure mechanism and the closure mechanism is configured to, in use, close the collar around the bladed array such that at least part of at least some of the blades are engaged with and/or captured by the radially inner surface of the collar such that the collar and bladed array are held in a fixed relationship relative to one another; wherein the inner surface of the collar comprises a flexible sheet of material provided with flanges which extend radially inwardly to define a channel configured to receive at least part of at least some of the blades.

2 A frame as claimed in claim 1 wherein the collar is provided with at least one flexible joint which extends over a continuous section of the flexible sheet of material.

3 A frame as claimed in any one of the preceding claims wherein the inner surface of the collar is provided with a compliant lining configured to, in use, at least in part conform to the shape of the blade parts it is engaged with and/or captures.

4 A frame as claimed in claim 3 wherein the compliant lining comprises a rubber and/or plastic material.

5 A frame as claimed in any one of the preceding claims wherein the collar is split to define two ends which are linkable by the closure mechanism.

6 A frame as claimed in claim 5 wherein the collar comprises parts which are linked to each other by a separable joint.

7 A frame as claimed in claim 6 wherein the separable joint is hinged to permit the parts to pivot relative to one another.

8 A frame as claimed in claim 6 or claim 7 wherein the separable joint comprises a pin which is removable to enable separation of the separable joint.

9 A frame as claimed in any one of the preceding claims wherein at least one coupling is provided on the radially outer surface of the collar which is configured to, in use, support the weight of the frame and bladed array.

10 A frame as claimed in claim 9 wherein at least four but no more than six couplings are spaced around the radially outer surface of the collar.

11 A frame as claimed in claim 9 or claim 10 wherein the frame further comprises a stand configured to support the collar, the stand comprising at least one leg which is pivotably engaged with the at least one coupling.

12 A frame as claimed in any one of the preceding claims wherein gear engagement features are provided on the outer surface of the collar for engagement with means for rotation of the collar.

13 A frame as claimed in any one of claim 9 to 12 wherein rollers are provided substantially diametrically opposite the at least one coupling.

14 A frame as claimed in any one of the preceding claims wherein the frame further comprises a support radially outwards of the collar, with rotatable bearing means located between the collar and the support such that the collar and support are rotatable relative to one another.

15 A frame as claimed in any one of the preceding claims wherein radially outer surface of the collar defines a channel configured to receive a drive belt or chain.