WHAT IS CLAIMED IS:

1. A respiratory mask configured to fit a plurality of differently-shaped human faces, comprising:

a frame portion (102) comprising a perimeter portion (110) and a conduit connection portion (106);

a seal portion (104) connected to the perimeter portion (110) of the frame, the seal (104) comprising a sealing surface (122) and a connecting surface, the connecting surface being connected to the perimeter portion (110), the sealing surface (122) configured to form a seal with a portion of a human face;

at least one of the frame portion (102) and the seal portion (104) comprising a variable stiffness portion (112) configured to selectively transition between a decreased stiffness state and an increased stiffness state, wherein the variable stiffness portion (112) comprises a density-dependent, variable viscosity material (114) contained in a compressible chamber (130),

the frame portion (102) being configured to be foldable between a folded configuration in which the perimeter portion (110) of the frame portion (102) is partially folded, and an unfolded configuration, the variable stiffness portion (112) locking the frame portion (102) in the folded configuration when the variable stiffness portion (112) is transitioned to the increased stiffness state.

2. The respiratory mask according to claim 1, wherein the variable viscosity material is a granular material (114,132).

3. The respiratory mask according to claim 1 or 2, wherein the compressible chamber (112,130) is an air-tight bladder configured to maintain a vacuum therein and so as to collapse against the granular material (114,132), increase the density thereof and thereby increase the viscosity of the granular material (114,132) therein and transition the variable stiffness portion (112,130) to the increased stiffness state.

4. The respiratory mask according to claim 3, additionally comprising a releasable one-way valve (120) mounted to the air-tight bladder (112).

5. The respiratory mask according to any one of claims 1 to 4, wherein the variable stiffness portion (112) is included in the seal portion (104), the variable stiffness portion (112) defining at least about 60-80% of the seal portion (104).

6. The respiratory mask according to any one of claims 1 to 5, wherein the variable stiffness portion (112) is included in the seal portion (104), and the variable stiffness portion (112) extends across at least about substantially the entire width of the seal portion (104).

7. The respiratory mask according to any one of claims 1 to 6, wherein the variable stiffness portion (112) is included in the seal portion (104) and defines a layer of the seal portion (112).

8. The respiratory mask according to any one of claims 1 to 7, wherein the variable stiffness portion (830) comprises a plurality of variable stiffness layers (900,902,904), the plurality of variable stiffness layers (900,902,904) comprising at least first and second granular jamming chambers.

9. The respiratory mask according to claim 8, wherein the first granular jamming chamber (900) comprises first granules and the second granular jamming chamber (902) comprises second granules, the first granules being different from the second granules.

10. The respiratory mask according to any one of claims 1 to 7, wherein the variable stiffness portion (630) is disposed in the seal portion (604) between the perimeter portion of the frame and the sealing surface of the seal portion (604), the mask additionally comprising a cushion portion (684,687,689,691,692) disposed between the variable stiffness portion (630) and the sealing surface.

11. The respiratory mask according to claim 10, wherein the variable stiffness portion (630) comprises a granular jamming chamber and wherein the cushion portion (684,691,692) comprises a gel.

12. The respiratory mask according to any one of claims 1 to 11, wherein the frame (202) comprises a seal support portion (240,242) connected to the seal portion (204) and is configured to be deformable through a clam-shelling movement.

13. The respiratory mask according to any one of claims 1 to 11, wherein the frame (202) comprises at least first and second frame portions and at least a first flexible portion (109) connecting the first and second frame portions and configured to allow the first and

second frame portions to be moved relative to one another in the clam-shelling movement, wherein the first flexible portion comprises a variable stiffness portion, wherein the variable stiffness portion is configured to be selectively transitionable between a first more flexible state and a second less flexible state, wherein the variable stiffness portion comprises a granular jamming chamber.

14. The respiratory mask according to claim 13, wherein the first and second frame portions are stiffer than the seal portion (104) and wherein the first and second frame portions define at least a portion of the seal support portion.

15. The respiratory mask according to any one of claims 1 to 14, wherein the seal portion comprises an inflatable bladder (3050,3350) disposed between the sealing surface and the connecting surface.