Claims

1. A lateral pharyngeal wall tractor (9) characterized in that:

A) the lateral pharyngeal wall tractor (9) comprises a bone fixer (1), a traction mechanism (2) and a lateral pharyngeal wall fixer (3);

B) the bone fixer (1) is provided with a bone fixing mechanism (11) capable of being fixed on an alveolar process (81), a pterygoid hamulus (82) or a pterygoid process (83) and with a connecting mechanism (12) capable of being connected to the traction mechanism (2), wherein the bone fixing mechanism (11) and the connecting mechanism (12) are connected to each other;

C) the traction mechanism (2) is a thread, a linear mechanism or a flat mechanism that is made of a material capable of being implanted in a human;

D) the lateral pharyngeal wall fixer (3) comprises a lateral pharyngeal wall fixing mechanism (31) capable of being fixed on a lateral pharyngeal wall and a connecting mechanism (32) capable of being connected to the traction mechanism (2), wherein the lateral pharyngeal wall fixing mechanism (31) and the connecting mechanism (32) are connected to each other; and

E) the bone fixing mechanism (11) of the bone fixer (1) is fixed on an alveolar process (81), a pterygoid hamulus (82) or a pterygoid process (83) of a maxillary third molar, the lateral pharyngeal wall fixing mechanism (31) of the lateral pharyngeal wall fixer (3) is fixed on a palatopharyngeus muscle (7) or other submucous tissues of the lateral pharyngeal wall, one end of the traction mechanism (2) is connected to the connecting mechanism (32) of the lateral pharyngeal wall fixer (3) and the other end is fixed on the connecting mechanism (12) of the bone fixer (1), and the bone fixer (1) and the lateral pharyngeal wall fixer (3) are connected to each other through the traction mechanism (2),

wherein elastic traction force of the traction mechanism (2) is greater than collapse force of the lateral pharyngeal wall caused by negative pressure during inspiration and is less than contraction force of muscles of the lateral pharyngeal wall during deglutition.

2. The lateral pharyngeal wall tractor according to claim 1, wherein the bone fixing mechanism (11) of the bone fixer (1) comprises a bone nail (11-1).

3. The lateral pharyngeal wall tractor according to claim 2, wherein the bone nail (11-1) is a threaded bone nail which is made of a material capable of being implanted in a human body for a long time.

4. The lateral pharyngeal wall tractor according to claim 1, wherein the bone fixing mechanism (11) of the bone fixer (1) comprises a bone claw (11-2) capable of being fixed on a pterygoid hamulus (82) or a pterygoid process (83), and the bone claw (11-2) is provided with a hook (11-2-1).

5. The lateral pharyngeal wall tractor according to claim 1, wherein the bone fixing mechanism (11) of the bone fixer (1) comprises a connecting ring (11-3)

capable of being fitted on a pterygoid hamulus (82), and the connecting ring (11-3) is provided with a through hole (11-3-1) through which the pterygoid hamulus (82) can pass.

6. The lateral pharyngeal wall tractor according to claim 1, wherein the bone fixing mechanism (11) of the bone fixer (1) comprises a bracket (11-4) capable of being fitted into a pterygoid process (83), the bracket (11-4) is provided with supporting legs (11-4-1), and the supporting legs (11-4-1) are respectively fixed on a medial plate (83-1) and a lateral plate (83-2) of the pterygoid process (83).

7. The lateral pharyngeal wall tractor according to claim 1, wherein the bone fixing mechanism (11) of the bone fixer (1) comprises a connecting hook (11-5) which can be hung on a pterygoid hamulus (82) or a pterygoid process (83).

8. The lateral pharyngeal wall tractor according to claim 1, wherein the traction mechanism (2) comprises a thread (20) which is made of a material capable of being implanted in a human body for a long time.

9. The lateral pharyngeal wall tractor according to claim 8, wherein the thread (20) is a thread with elasticity.

10. The lateral pharyngeal wall tractor according to claim 1, wherein the traction mechanism (2) comprises an elasticity generator (21) which can generate elastic traction force.

11. The lateral pharyngeal wall tractor according to claim 10, wherein the elasticity generator (21) comprises a spring mechanism (21-1).

12. The lateral pharyngeal wall tractor according to claim 10, wherein the elasticity generator (21) comprises a spring mechanism (21-1), a shell (21-2), and a slider (21-3) capable of being connected to a thread (20), and wherein the spring mechanism (21-1) and the slider (21-3) are movably installed in the shell (21-2).

13. The lateral pharyngeal wall tractor according to claim 10, wherein the traction mechanism (2) comprises at least one elasticity generator (21), and wherein the elasticity generators (21) are arranged at both ends of the traction mechanism (2), or the elasticity generator (21) is arranged in the middle of the traction mechanism (2).

14. The lateral pharyngeal wall tractor according to claim 1, wherein the lateral pharyngeal wall fixing mechanism (31) of the lateral pharyngeal wall fixer (3) is a binding thread (31-1), a binding strap (31-2), a fixing hook (31-3), a tissue clip (31-4) or a curved fixing plate (31-5) which can be tied or fixed on the submucous tissue of the lateral pharyngeal wall.

15. The lateral pharyngeal wall tractor according to claim 14, wherein the curved fixing plate (31-5) is a C-shaped or U-shaped curved fixing plate.

16. The lateral pharyngeal wall tractor according to claim 14, wherein the curved fixing plate (31-5) is a curved fixing plate with a combined structure, the curved fixing plate with the combined structure comprises a reinforcing rib (31-5-1) and a membrane (31-5-2), and the membrane (31-5-2) is attached to the reinforcing rib (31-5-1).

17. The lateral pharyngeal wall tractor according to claim 16, wherein the reinforcing rib (31-5-1) or the membrane (31-5-2) is capable of elastically deforming under the action of external force and returning or substantially returning to the original shape after removal of the external force.