

CLAIMS

What is claimed is:

1. A detachable prosthodontic device (100), comprising:
 - an abutment (110) for connecting with an implant (104) and comprising an abutment collar (111) and a hollow chamber (112), wherein the hollow chamber (112) comprises an opening (113) and an outer surface (114), and a screw hole (517) is arranged on the abutment wall (115) of the hollow chamber (112);
 - a suprastructure (120) provided with a receiving region (121) and an inner surface (122) surrounding the receiving region (121); and
 - a screw (130) comprising a screw head (132) and a screw rod (134), wherein the screw head (132) comprises a contact member (222) and a guiding member (224), the screw rod (134) is provided with a screw thread (230), the contact member (222) comprises a top surface (226), the guiding member (224) is positioned between the contact member (222) and the screw rod (134), and when the screw (130) is mounted in the screw hole (517), a portion of the screw head (132) protrudes outward from the outer surface (114) of the hollow chamber (112) but the screw (130) does not penetrate the suprastructure (120);
 - wherein when the suprastructure (120) is sleeved onto the abutment (110), partial area of the outer surface (114) of the hollow chamber (112) contacts with partial area of the inner surface (122) of the suprastructure (120), and the screw head (132) supports an opposing side of the inner surface (122) to apply a force onto the inner surface (122) to thereby detachably retain the suprastructure (120) onto the abutment (110).
2. The detachable prosthodontic device (100) of claim 1, wherein a guiding region (618) having an shape matching with the guiding member (224) is arranged in the screw hole (517), when the screw (130) is mounted in the screw hole (517), the guiding member (224) is positioned in the guiding region (618) and the contact member (222) protrudes outward from the outer surface (114) of the hollow chamber (112), and when the partial area of the outer surface (114) of the hollow chamber (112) contacts with the partial area of the inner surface (122) of the

suprastructure (120), the contact member (222) supports the opposing side of the inner surface (122) to apply the force onto the inner surface (122).

3. The detachable prosthodontic device (100) of claim 2, wherein the contact member (222) has a rectangular-shaped lateral face.

4. The detachable prosthodontic device (100) of claim 1, wherein the screw rod (134) has a length less than a half of an inner diameter of the hollow chamber (112).

5. The detachable prosthodontic device (100) of claim 1, wherein the screw rod (134) has a length less than a thickness of the abutment wall (115) of the hollow chamber (112).

6. The detachable prosthodontic device (100) of claim 1, wherein the screw rod (134) has a length less than 150% of a thickness of the abutment wall (115) of the hollow chamber (112).

7. The detachable prosthodontic device (100) of claim 1, wherein the screw rod (134) has a length ranging from 0.5 to 3.5 millimeters.

8. The detachable prosthodontic device (100) of claim 1, wherein thread turns of the screw rod (134) range from 1.5 to 6.

9. The detachable prosthodontic device (100) of claim 1, wherein the screw rod (134) has a screw pitch ranging from 0.1 to 1.0 millimeter.

10. The detachable prosthodontic device (100) of claim 1, wherein the screw head (132) has a diameter ranging from 0.5 to 3.0 millimeters.