CLAIMS

1. A portable sharpening apparatus comprising:

a body portion;

a cavity formed in the body portion for receiving an object having a face to be sharpened;

a surfacing member capable of sharpening and having an axis of operation, the surfacing member located in the body portion;

a motor arranged to drive the surfacing member at the axis of operation; and

a mouth communicating with the surfacing member and arranged in the body portion so as to direct an object to be sharpened towards the surfacing member,

wherein the mouth comprises a supporting means for locating an object to be sharpened at the surfacing member,

the supporting means comprises at least one tooth arranged in communication with the mouth and wherein the supporting means includes resilient means for biasing the tooth towards an inner portion of the mouth, such that in use the at least one tooth is urged away from the inner portion of the mouth by introduction in the mouth of an object to be sharpened.

2. A portable sharpening apparatus according to Claim 1, wherein the supporting means comprises one or more lateral support members for guiding the object to be sharpened such that, when in use, an object to be sharpened is orientated with a face to be sharpened parallel to the axis of operation of the surfacing member.

3. A portable sharpening apparatus according to Claim 1 or Claim 2, wherein the surfacing member comprises a rotatable abrasive drum having an axis of rotation.

4. A portable sharpening apparatus according to Claim 3, wherein the supporting means comprises one or more guiding fingers such that, when in use, an object to be sharpened is orientated along an axis substantially perpendicular to the axis of rotation of the abrasive drum.

5. A portable sharpening apparatus comprising:

a body portion;

a cavity formed in the body portion for receiving an object to be sharpened;

a rotatable abrasive drum capable of sharpening and having an axis of rotation, the abrasive drum located in the body portion;

a motor arranged to drive the abrasive drum; and

a mouth communicating with the abrasive drum and arranged in the body portion so as to direct an object to be sharpened towards the abrasive drum,

wherein the mouth has a supporting means for locating an object to be sharpened at the abrasive drum, the supporting means being such that, when in use, an object to be sharpened is orientated along an axis substantially perpendicular to the axis of rotation of the abrasive drum.

6. A portable sharpening apparatus according to Claim 5, wherein the mouth has an entrance delimited by a front edge, a rear edge, and an upper edge and a lower edge, the edges being substantially straight such that when in use an object to be sharpened is introduced to the mouth, the distance between the object to be sharpened and the upper and lower edges of the mouth is substantially uniform.

7. A portable sharpening apparatus according to Claim 5 or Claim 6, wherein the mouth comprises a front wall, a rear wall, an upper wall and a lower wall, the walls being substantially straight such that when in use an object to be sharpened is located within the mouth, the distance between the object to be sharpened and the upper and lower walls of the mouth is substantially uniform.

8. A portable sharpening apparatus according to Claim 6, wherein the mouth comprises a front wall, a rear wall, an upper wall and a lower wall, the walls being substantially straight such that when in use an object to be sharpened is located within the mouth, the distance between the object to be sharpened and the upper wall of the mouth at the entrance to the mouth and the distance between the object to be sharpened and the upper wall of the mouth at the abrasive drum is substantially uniform, and the distance between the object to be sharpened and the lower wall of the mouth at the entrance to the mouth and the distance between the object to be sharpened and the lower wall of the mouth at the abrasive drum is substantially uniform.

9. A portable sharpening apparatus according to any of Claims 5 to 8, further comprising an access gate located upstream of the abrasive drum and arranged in communication with the motor such that, when in use, the abrasive drum is driven by the motor in response to a displacement of the access gate by the introduction of an object to be sharpened into the mouth.

10. A portable sharpening apparatus according to Claim 9, wherein the displacement of the access gate is arranged to engage a switch, the switch being capable of activating the motor to drive the abrasive drum.

11. A portable sharpening apparatus according to Claim 10, wherein the switch comprises activation means arranged to activate the motor to drive the abrasive drum in response to the presence in the cavity of an object to be sharpened and further comprises deactivation means arranged to deactivate the motor in response to the absence in the cavity of an object to be sharpened.

12. A portable sharpening apparatus according to any preceding claim, wherein the abrasive drum is driven by the motor in response to an input from one or more sensors mounted on or within the body portion.

13. A portable sharpening apparatus according to any preceding claim, wherein the body portion is dimensioned and arranged to include orientating means adapted to prevent incorrect location of an object to be sharpened in the mouth.

14. A portable sharpening apparatus according to any preceding claim, comprising a sealable opening in the casing arranged in communication with the cavity.

15. A portable sharpening apparatus according to Claim 14, wherein the sealable opening comprises a slideable cover arranged to cover the opening and biased across the opening.

16. A portable sharpening apparatus according to Claim 15, wherein the slideable cover includes resilient means for biasing the cover into a closed position.

17. A portable sharpening apparatus according to Claim 1, wherein the supporting means comprises, a plurality of teeth located through at least one of the group of; a front wall, a rear wall, an upper wall and a lower wall of the mouth.

18. A portable sharpening apparatus according to Claim 1, wherein in use the at least one tooth or teeth is urged away from a first position in the inner portion of the mouth towards a second position in the cavity outside the walls of the mouth by introduction in the mouth of an object to be sharpened.

19. A portable sharpening apparatus according to Claim 1, wherein the tooth or teeth in the second position in the cavity are arranged to engage a switch, the switch being capable of activating the motor to drive the abrasive drum.

CLAIMS

1. A portable sharpening apparatus comprising:

a body portion;

a cavity formed in the body portion for receiving an object having a face to be sharpened;

a surfacing member capable of sharpening and having an axis of operation, the surfacing member located in the body portion;

a motor arranged to drive the surfacing member at the axis of operation; and

a mouth communicating with the surfacing member and arranged in the body portion so as to direct an object to be sharpened towards the surfacing member,

wherein the mouth comprises a supporting means for locating an object to be sharpened at the surfacing member,

the supporting means comprises at least one tooth arranged in communication with the mouth and wherein the supporting means includes resilient means for biasing the tooth towards an inner portion of the mouth, such that in use the at least one tooth is urged away from the inner portion of the mouth by introduction in the mouth of an object to be sharpened.

2. A portable sharpening apparatus according to Claim 1, wherein the supporting means comprises one or more lateral support members for guiding the object to be sharpened such that, when in use, an object to be sharpened is orientated with a face to be sharpened parallel to the axis of operation of the surfacing member.

3. A portable sharpening apparatus according to Claim 1 or Claim 2, wherein the surfacing member comprises a rotatable abrasive drum having an axis of rotation.

4. A portable sharpening apparatus according to Claim 3, wherein the supporting means comprises one or more guiding fingers such that, when in use, an object to be sharpened is orientated along an axis substantially perpendicular to the axis of rotation of the abrasive drum.

5. A portable sharpening apparatus comprising:

a body portion;

a cavity formed in the body portion for receiving an object to be sharpened;

a rotatable abrasive drum capable of sharpening and having an axis of rotation, the abrasive drum located in the body portion;

a motor arranged to drive the abrasive drum; and

a mouth communicating with the abrasive drum and arranged in the body portion so as to direct an object to be sharpened towards the abrasive drum,

wherein the mouth has a supporting means for locating an object to be sharpened at the abrasive drum, the supporting means being such that, when in use, an object to be sharpened is orientated along an axis substantially perpendicular to the axis of rotation of the abrasive drum; and

wherein the supporting means comprises at least one tooth arranged in communication with the mouth and wherein the supporting means includes resilient means for biasing the tooth towards an inner portion of the mouth, such that in use the at least one tooth is urged away from the inner portion of the mouth by introduction in the mouth of an object to be sharpened.

6. A portable sharpening apparatus according to Claim 5, wherein the mouth has an entrance delimited by a front edge, a rear edge, and an upper edge and a lower edge, the edges being substantially straight such that when in use an object to be sharpened is introduced to the mouth, the distance between the object to be sharpened and the upper and lower edges of the mouth is substantially uniform.

7. A portable sharpening apparatus according to Claim 5 or Claim 6, wherein the mouth comprises a front wall, a rear wall, an upper wall and a lower wall, the walls being substantially straight such that when in use an object to be sharpened is located within the mouth, the distance between the object to be sharpened and the upper and lower walls of the mouth is substantially uniform.

8. A portable sharpening apparatus according to Claim 6, wherein the mouth comprises a front wall, a rear wall, an upper wall and a lower wall, the walls being substantially straight such that when in use an object to be sharpened is located within the mouth, the distance between the object to be sharpened and the upper wall of the mouth at the entrance to the

mouth and the distance between the object to be sharpened and the upper wall of the mouth at the abrasive drum is substantially uniform, and the distance between the object to be sharpened and the lower wall of the mouth at the entrance to the mouth and the distance between the object to be sharpened and the lower wall of the mouth at the abrasive drum is substantially uniform.

9. A portable sharpening apparatus according to any of Claims 5 to 8, further comprising an access gate located upstream of the abrasive drum and arranged in communication with the motor such that, when in use, the abrasive drum is driven by the motor in response to a displacement of the access gate by the introduction of an object to be sharpened into the mouth.

10. A portable sharpening apparatus according to Claim 9, wherein the displacement of the access gate is arranged to engage a switch, the switch being capable of activating the motor to drive the abrasive drum.

11. A portable sharpening apparatus according to Claim 10, wherein the switch comprises activation means arranged to activate the motor to drive the abrasive drum in response to the presence in the cavity of an object to be sharpened and further comprises deactivation means arranged to deactivate the motor in response to the absence in the cavity of an object to be sharpened.

12. A portable sharpening apparatus according to any preceding claim, wherein the abrasive drum is driven by the motor in response to an input from one or more sensors mounted on or within the body portion.

13. A portable sharpening apparatus according to any preceding claim, wherein the body portion is dimensioned and arranged to include orientating means adapted to prevent incorrect location of an object to be sharpened in the mouth.

14. A portable sharpening apparatus according to any preceding claim, comprising a sealable opening in the casing arranged in communication with the cavity.

15. A portable sharpening apparatus according to Claim 14, wherein the sealable opening comprises a slideable cover arranged to cover the opening and biased across the opening.

16. A portable sharpening apparatus according to Claim 15, wherein the slideable cover includes resilient means for biasing the cover into a closed position.

17. A portable sharpening apparatus according to Claim 1, wherein the supporting means comprises, a plurality of teeth located through at least one of the group of; a front wall, a rear wall, an upper wall and a lower wall of the mouth.

18. A portable sharpening apparatus according to Claim 1, wherein in use the at least one tooth or teeth is urged away from a first position in the inner portion of the mouth towards a second position in the cavity outside the walls of the mouth by introduction in the mouth of an object to be sharpened.

19. A portable sharpening apparatus according to Claim 1, wherein the tooth or teeth in the second position in the cavity are arranged to engage a switch, the switch being capable of activating the motor to drive the abrasive drum.