Claims:

Claim 1 An unmanned cleaning apparatus suitable for cleaning a surface of a structure comprising:

a carriage adapted to be moved in upward and downward directions relative to the surface of a structure,

a cleaning element rotatably mounted on the carriage that in use rotates about a substantially horizontal axis, the cleaning element being configured to contact the surface,

at least a pair of support members mounted on the carriage to support the apparatus against the surface,

at least a pair of electric ducted fans, the electric ducted fans are battery powered and operable independently of any external power source to the cleaning apparatus, with the electric ducted fans of each pair positioned at each end of the carriage, and wherein each pair of electric ducted fans provide a combined thrust of at least 5% of a total weight of the cleaning apparatus in a direction toward the surface being cleaned to stabilise the apparatus against the surface being cleaned when in use; a motor that in use is operable remotely to rotate the cleaning element about its horizontal axis across the surface being cleaned; and

a spray boom that is mounted on the carriage providing a plurality of spaced apart nozzles that in use spray water towards the cleaning element and the surface of the structure being cleaned.

Claim 2 The apparatus as claimed in claim 1, further including at least one suspension member positioned proximate the top side of the carriage, which suspension member in use is configured to connect to a winch line, which line, in use connects the apparatus to a winch that moves the carriage in an upward or downward direction as required.

Claim 3 The apparatus as claimed in claim 1 or claim 2, wherein each pair of support members comprises a pair of wheels mounted on the carriage.

Claim 4 The apparatus as claimed in claim 3, comprising two pairs of wheels mounted on the carriage.

Claim 5 The apparatus as claimed in claim 4 wherein the wheels are mounted proximate each corner of the carriage.

Claim 6 The apparatus as claimed in any one of claims 1 to 5, comprising two pairs of the electric ducted fans, with one electric ducted fan of each pair positioned at each end of the carriage.

Claim 7. The apparatus as claimed in claim 6 wherein each fan at each end of the carriage is in a spaced apart arrangement from an adjacent fan at the same end, about the horizontal axis of the cleaning element.

Claim 8. The apparatus as claimed in any one of claims 1 to 7, wherein the apparatus further comprises a winching member that is mounted to the carriage to facilitate the upwards and downwards movement of the carriage relative to the surface of the structure when in use.

Claim 9. The apparatus as claimed in any one of claims 1 to 8, further comprising a shroud that covers the carriage and is configured to prevent the spraying of residual water away from a rear side of the cleaning apparatus .

Claim 10. The apparatus as claimed in claim 9, wherein each pair of electric ducted fans provide a combined thrust of at least 10% the weight of the cleaning apparatus.

Claim 11. The apparatus as claimed in any one of claims 1 to 10, wherein the cleaning element is a rotatable brush.

Claim 12. The apparatus as claimed in any one of claims 1 to 11 wherein the cleaning apparatus includes a battery powered motor that drives the cleaning element independently of any external power source.

Claim 13. The apparatus as claimed in any one of the claims 1 to 12 wherein each electric ducted fan is driven by a direct current (DC) motor.

Claim 14. The apparatus as claimed in any one of claims 1 to 13 wherein the position of each support member is adjustable in a forward and aft position relative to the cleaning element and surface being cleaned.

Claim 15. The apparatus as claimed in claim 14 wherein each support member is mounted on an adjustable depth track that is configured to allow the forward and aft movement of each wheel relative to the cleaning element.

Claim 16. The apparatus as claimed in any one of claim 1 to claim 15 further comprising at least a pair of lateral members configured and adapted to support the movement of the carriage across the structure surface when in use.

Claim 17. The apparatus as claimed in claim 16, wherein each lateral member comprises a pivoting arm that extends outwardly from the carriage.

Claim 18 The apparatus as claimed in claim 17, wherein each pivoting arm at its distal end includes an auxiliary movement member.

Claim 19 The apparatus as claimed in any one of claims 16 to 18, wherein the apparatus comprises at least two pairs of lateral members.

Claim 20. A cleaning system comprising a cleaning apparatus as claimed in any one of claims 1 to 19 and a portable winching member that in use is configured to winch the cleaning apparatus up and down a surface being cleaned, the winching member in use being positioned on a surface above the surface being cleaned by the cleaning apparatus.