CLAIMS

What is claimed is:

1. A washing machine comprising:

a water tub;

a rotary tub made of stainless steel provided rotatably in the water tub; and

a hydrophilic portion provided by coating a hydrophilic material on the outer surface of the rotary tub,

wherein hydrophilicity is present on a surface of the hydrophilic portion before coming in contact with water and contaminant is lifted off by intrusion of water between the surface of the hydrophilic portion and contaminant attached to the hydrophilic portion.

~~2. The washing machine according to claim 1, wherein the hydrophilic portion comprises a hydrophilic material coated on an outer surface of the rotary tub.~~

~~3~~2. The washing machine according to claim 1 ~~or 2~~, wherein the hydrophilic portion is provided on an outer surface of a side section of the rotary tub.

~~4~~3. The washing machine according to claim ~~3~~2, wherein the hydrophilic portion is provided throughout the outer surface of the side section of the rotary tub.

~~5~~4. The washing machine according to claim ~~3~~2, wherein the hydrophilic portion is provided on a portion of the outer surface of the side section of the rotary tub.

~~6~~5. The washing machine according to any one of claims 1 to ~~5~~4, wherein the hydrophilic portion is provided on an outer surface of a bottom portion of the rotary tub.

~~7~~6. The washing machine according to claim ~~6~~5, wherein the hydrophilic portion is provided throughout the outer surface of the bottom portion of the rotary tub.

~~8~~7. The washing machine according to claim ~~6~~5, wherein the hydrophilic portion is provided on a portion of the outer surface of the bottom portion of the rotary tub.

~~9~~8. The washing machine according to any one of claims 1 to ~~8~~7, wherein the hydrophilic portion is provided on a screw mounted on the rotary tub.

~~10~~9. The washing machine according to any one of claims 1 to ~~9~~8, wherein the hydrophilic portion is provided on an inner surface of the rotary tub.

~~11~~10. The washing machine according to any one of claims 1 to ~~10~~9, wherein multiple holes are provided on the rotary tub, the hydrophilic portion being provided on end surfaces of the holes.

~~12~~11. The washing machine according to any one of claims 1 to ~~11~~10, wherein the rotary tub is made of metal and the hydrophilic portion is coated by baking the hydrophilic material on the outer surface of the rotary tub.

~~13~~12. The washing machine according to any one of claims 1 to ~~12~~11, wherein the hydrophilic portion has a thickness equal to or less than 10 μm.

~~14~~13. The washing machine according to any one of claims 1 to ~~13~~12, wherein the hydrophilic portion has a surface roughness equal to or less than 2 μm.

~~15~~14. The washing machine according to any one of claims 1 to ~~14~~13, wherein the hydrophilic portion is colored.

~~16~~15. The washing machine according to any one of claims 1 to ~~15~~14, wherein the hydrophilic portion includes a silicon oxide and has a pencil hardness equal to or greater than 5H.

~~17~~16. The washing machine according to any one of claims 1 to ~~16~~15, wherein a contact angle of water on the hydrophilic portion is less than a lower limit of contact angle of water on glass.

~~18~~17. The washing machine according to any one of claims 1 to ~~17~~16, wherein the rotary tub is a drum configured to rotate about a horizontal axis or a rearwardly declining axis.

~~19~~18. The washing machine according to claim ~~18~~17, wherein the hydrophilic portion is provided on a reinforcement member configured to strengthen a bottom portion of the drum.

~~20~~19. The washing machine according to any one of claims 1 to ~~17~~16, wherein the rotary tub is configured to rotate about a vertical axis.

~~21~~20. The washing machine according to claim ~~20~~19, wherein the hydrophilic portion is provided on a reinforcement member configured to strengthen a bottom portion of the rotary tub.

~~22~~21. The washing machine according to any one of claims 1 to ~~21~~20, wherein the hydrophilic portion constantly exerts hydrophilicity.

~~23~~22. A washing machine comprising:

a water tub;

a rotary tub made of stainless steel provided rotatably in the water tub; and

a hydrophilic coating inhibiting propagation of mold coated on the outer surface of the rotary tub,

wherein hydrophilicity is present on a surface of the coating before coming in contact with water and contaminant is lifted off by intrusion of water between the surface of the coating and contaminant attached to the coating.

~~24~~23. A washing machine comprising:

a water tub;

a rotary tub made of stainless steel provided rotatably in the water tub; and

a hydrophilic coating inhibiting attachment of contaminant coated on the outer surface of the rotary tub,

wherein hydrophilicity is present on a surface of the coating before coming in contact with water and contaminant is lifted off by intrusion of water between the surface of the coating and contaminant attached to the coating.

~~25~~24. A washing machine comprising:

a water tub;

a rotary tub made of stainless steel provided rotatably in the water tub; and

a hydrophilic coating inhibiting attachment of detergent coated on the outer surface of the rotary tub,

wherein hydrophilicity is present on a surface of the coating before coming in contact with water and contaminant is lifted off by intrusion of water between the surface of the coating and contaminant attached to the coating.