found that there is still room for improvement regarding effective utilization of steam. Especially, the present inventors have found that efficient steam-boiling can be realized by applying the steam to the group of noodle strings conveyed at an upper stage portion of the steaming machine.

[0007] The present inventors have diligently studied, and as a result, found that in the multistage steaming machine, efficient steam-boiling can be realized in such a manner that: the conveyor is provided at multiple stages such that the group of noodle strings carried in the steam chamber main body portion goes and returns plural times in the steam chamber main body portion along a first direction to be conveyed from an upper stage toward a lower stage in the steam chamber main body portion; and in addition, the group of noodle strings conveyed at the upper stage portion in the steam chamber main body portion is exposed to the steam to be conveyed to the lower stage.

Solution to Problem

[0008] According to an aspect of the present invention, there is provided a multistage steaming machine including: 1) a steam chamber main body portion including an inlet side through which a group of noodle strings to be steam-boiled is introduced and an outlet side through which the group of steam-boiled noodle strings is discharged; 2) one or a plurality of conveyors arranged in the steam chamber main body portion so as to convey the group of noodle strings and formed at multiple stages such that the group of noodle strings carried in the steam chamber main body portion through the inlet side goes and returns plural times along a first direction to be conveyed from an upper stage to a lower stage in the steam chamber main body portion and is then discharged through the outlet side; and 3) one or a plurality of steam pipes configured to apply steam to the group of noodle strings conveyed by the one or a plurality of conveyors at the upper stage in the steam chamber main body portion.

[0009] The present inventors have further found that in the above multistage steaming machine, the steam can be further efficiently utilized by providing a member, which reduces a volume filled with the steam, in a space in the steam chamber main body portion.

[0010] According to the above embodiment, a member that reduces a volume filled with the steam in the steam chamber main body portion is provided in a space in the steam chamber main body portion.

[0011] Further, it is preferable that the above member exist inside the conveyor. According to the above embodiment, the member is provided inside the one or a plurality of conveyors.

[0012] Furthermore, it is preferable that in the above multistage steaming machine, a tunnel-shaped noodle introducing portion be provided at the inlet side of the steam chamber main body portion, and a tunnel-shaped noodle discharging portion be provided at the outlet side of the steam chamber main body portion.

[0013] In an embodiment, the above multistage steaming machine, further includes: 1) a tunnel-shaped noodle introducing portion which is connected to the inlet side of the steam chamber main body portion and through which the group of noodle strings to be steam-boiled is conveyed in an obliquely upward direction; and 2) a tunnel-shaped noodle discharging portion which is connected to the outlet side of the steam chamber main body portion and through which the group of steam-boiled noodle strings is conveyed in an obliquely downward direction.

[0014] The present inventors have further found that in the above multistage steaming machine, the steam can be efficiently utilized by further reducing the leakage of the steam when a lower end of the steam chamber main body portion is arranged higher than an inlet end of the noodle introducing portion, and the lower end of the steam chamber main body portion is arranged higher than an outlet end of the noodle discharging portion.

[0015] In an embodiment, a lower end of the steam chamber main body portion is arranged higher than an inlet end of the noodle introducing portion; and the lower end of the steam chamber main body portion is arranged higher than an outlet end of the noodle discharging portion.

Advantageous Effects of Invention

[0016] According to the above embodiments of the multistage steaming machine of the present invention, since the steam pipes are provided at the upper stage in the steam chamber main body portion, a space where the steam pipes are provided does not have to be provided at a middle or lower stage. With this, the volume filled with the steam in the steam chamber main body portion can be reduced.

Therefore, the steam can be efficiently utilized without waste by using the multistage steaming machine as per embodiments of the present invention. On this account, the multistage steaming machine according to embodiments of the present invention can be suitably used while satisfying a request of energy saving in recent years.

Brief Description of Drawings