gap up to the bottom, a flow in the film width direction cannot be sufficiently formed inside the suction nozzle. That is, for a wide film, a uniform suction wind speed cannot be obtained in the film width direction. That is, the suction wind speed particularly increases at a place to which a suction device such as a blower or a vacuum pump is connected, and the suction wind speed decreases at a place far from the place to which the suction device is connected in the film width direction to cause a problem that the suction removal performance for the removed substance is insufficient.

[0009] Therefore, embodiments of the present invention provide, as a mechanism for removing a coating film from a base film with the coating film, a coating film removing mechanism that can prevent the removed substance from being reattached to the film to cause contamination by reliably sucking and removing the removed substance while preventing scattering and deposition of the removed substance, and can stably remove the coating film continuously for a long time.

Solution to Problem

[0010] According to a first aspect of the present invention, there is provided a mechanism for removing a coating film from a coated film that includes the coating film on at least one surface of a base film and is conveyed. The mechanism includes: a removing member that includes a tip portion extending in a film width direction, and is for removing the coating film by bringing the tip portion into contact with the coated film; and a nozzle member disposed on an upstream side of the removing member in a film conveyance direction. The removing member and the nozzle member constitute a suction nozzle that sucks the coating film removed by the tip portion, and a side surface of the removing member on a downstream side in the film conveyance direction and a side surface of the nozzle member on an upstream side in the film conveyance direction

are inclined so as to approach each other toward the tip portion.

The coating film removing mechanism according to the above aspect of the present invention is preferably any one of the following embodiments.

In an embodiment of the above aspect of the coating film removing mechanism, the suction nozzle includes: an opening portion that extends in the film width direction and is opened in a vicinity of the tip portion; a slit portion that extends in the film width direction and is a flow path communicating with the opening portion; and a decompression chamber that is a space having a larger cross-sectional area perpendicular to a suction direction than the slit portion.

In an embodiment of the above aspect of the coating film removing mechanism, the suction nozzle forms the opening portion, the slit portion, and the decompression chamber with the nozzle member and a side surface of the removing member on the upstream side in the film conveyance direction.

An embodiment of the above aspect of the coating film removing mechanism further includes a spacer member between the removing member and the nozzle member, wherein the nozzle member, the spacer member, and a side surface of the removing member on the upstream side in the film conveyance direction form the opening portion, the slit portion, and the decompression chamber.

In an embodiment of the above aspect of the coating film removing mechanism, an opening width of the opening portion in the film width direction is 4% to 150% with respect to a film width of the coated film to become a target for removing.

In an embodiment of the above aspect of the coating film removing mechanism, an angle formed by the coated film and the side surface of the removing member on the upstream side in the film conveyance direction is 30° to 120°.

According to a second aspect of the present

invention, there is provided a coating film removing equipment including: an unwinding device for unwinding the coated film wound in a roll; a winding device for winding the base film with the coating film removed; and the above aspect of the coating film removing mechanism, the coating film removing mechanism being placed between the unwinding device and the winding device and being for removing the coating film from the coated film to be conveyed.

Advantageous Effects of Invention

[0011] When the coating film removing mechanism according to the above embodiments of the present invention is used, in the case of removing a coating film of a base film with the coating film, it is possible to stably and continuously remove the coating film without reattachment of the removed coating film to the base film.

Brief Description of Drawings

[0012] FIG. 1 is a schematic view of a coating film removing equipment of the present invention.

FIG. 2 is a schematic cross-sectional view of the coating film removing mechanism used in FIG. 1.

FIG. 3 is a perspective view of the inside of the coating film removing mechanism in FIG. 2.

FIG. 4 is a perspective view of the inside of the coating film removing mechanism of the present invention according to a different aspect from FIG. 3.

FIG. 5 is a schematic top view of the coating film removing mechanism illustrated in FIG. 2.

FIG. 6 is a schematic top view of a coating film