CLAIMS

1. An overhead transport vehicle, comprising:

a gripping unit that grips an article;

a suspension unit that suspends the gripping unit;

a drive unit configured to lower the gripping unit by reeling out the suspension unit and to raise the gripping unit by reeling up the suspension unit;

a transport vehicle body to which the suspension unit and the drive unit are attached;

a detection unit that detects swing of the gripping unit; and

a controller configured that controls the drive unit to reel up the suspension unit and store the gripping unit into the transport vehicle body,

wherein in reel-up control to reel up the suspension unit, when swing of the gripping unit detected by the detection unit exceeds a predetermined width, the controller stops reeling up the suspension unit, maintains the gripping unit at a standby position lower than a storage position at which the gripping unit is stored into the transport vehicle body and then, when swing of the gripping unit becomes equal to or less than the predetermined width, the controller reels up the suspension unit, and

wherein in the reel-up control to reel up the suspension unit, when first swing waiting control to maintain the gripping unit at the standby position is performed at least once, the controller stops reeling up the suspension unit for a certain period of time at the time when the gripping unit reaches a convergence position between the standby

position and the storage position and performs second swing waiting control to maintain the gripping unit at the convergence position.

2. The overhead transport vehicle according to claim 1,

wherein the predetermined width is set to be larger than a permissible value of swing of the gripping unit and/or the article permitted when the gripping unit is stored into the transport vehicle body.

3. The overhead transport vehicle according to claim 1,

wherein a second reel-up speed during the reel-up control from the convergence position to the storage position is slower than a first reel-up speed during the reel-up control to the convergence position.

4. An overhead transport vehicle, comprising:

a gripping unit that grips an article;

a suspension unit that suspends the gripping unit;

a drive unit configured to lower the gripping unit by reeling out the suspension unit and to raise the gripping unit by reeling up the suspension unit;

a transport vehicle body to which the suspension unit and the drive unit are attached;

a detection unit that detects swing of the gripping unit; and

a controller configured that controls the drive unit to reel up the suspension unit and store the gripping unit into the transport vehicle body,

wherein in reel-up control to reel up the suspension unit, when swing of the gripping unit detected by the detection unit exceeds a predetermined width, the controller stops reeling up the suspension unit, maintains the gripping unit at a standby position lower than a storage position at which the gripping unit is stored into the transport vehicle body and then, when swing of the gripping unit becomes equal to or less than the predetermined width, the controller reels up the suspension unit, and

wherein in reel-out control to reel out the suspension unit, when swing of the gripping unit detected by the detection unit exceeds the predetermined width, the controller stops reel-out of the suspension unit, and then, when swing of the gripping unit becomes equal to or less than the predetermined width, the controller reels up the suspension unit and maintains the gripping unit at a convergence position lower than the storage position.

5. A method of controlling a raising/lowering of a gripping unit in an overhead transport vehicle including the gripping unit that grips an article, an suspension unit that suspends the gripping unit, a drive unit configured to lower the gripping unit by reeling out the suspension unit and to raise the gripping unit by reeling up the suspension unit, a transport vehicle body to which the suspension unit and the drive unit are attached, and a detection unit that detects swing of the gripping unit,

in reel-up control to reel up the suspension unit, the method of controlling raising/lowering of the gripping unit comprises:

detecting swing of the gripping unit by the detection unit; and

reeling up the suspension unit, the reeling up including stopping

reeling up the suspension unit, maintaining the gripping unit at a standby position lower than a storage position at which the gripping unit is stored in the transport vehicle body when the swing of the gripping unit exceeds a predetermined width, and then reeling up the suspension unit when swing of the gripping unit becomes equal to or less than the predetermined width, and

wherein, in the reel-up control to reel up the gripping unit, when first swing waiting control to maintain the gripping unit at the standby position is performed in the reeling up at least once, reel-up of the gripping unit is stopped for a certain period of time at the time when the gripping unit reaches a convergence position between the standby position and the storage position, and second swing waiting control to maintain the gripping unit at the convergence position is performed.