WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:

a main body of the image forming apparatus;

an opening/closing unit that is provided to be opened or closed with respect to the main body; and

a loading portion that applies a load on a movement of the opening/closing unit,

wherein the loading portion includes

a rotating member,

a damper unit that applies a load to a rotation of the rotating member, and

an arm portion that is engaged with the rotating member to cause the rotating member to be rotated according to the movement of the opening/closing unit,

wherein a load of the damper unit is applied to the moving opening/closing unit by engaging the arm portion with the rotating member,

wherein the arm portion includes

a first arm member that includes a first engagement portion to be engaged with the rotating member, and

a second arm member that includes a second engagement portion to be engaged with the rotating member when the opening/closing unit is opened larger than a position of the opening/closing unit where the rotating member and the first arm member are engaged, and is provided to be movable with respect to the first arm member, and

wherein the first arm member and second arm member move relatively to each other in conjunction with an opening/closing operation of the opening/closing unit.

2. The image forming apparatus according to claim 1,

wherein an impact of the opening/closing unit is buffered by a load of the damper unit by an engagement between the first engagement portion and the rotating member according to an opening operation of the opening/closing unit,

the arm portion is extended according to the opening operation of the opening/closing unit by making the first arm member having the first engagement portion moves relatively to the second arm member having the second engagement portion by in a state in that the engagement between the first engagement portion and the rotating member is released and the second engagement portion and the rotating member are engaged.

3. The image forming apparatus according to claim 2,

wherein the damper unit applies a load to a rotation in a direction of opening the opening/closing unit of the rotating member.

4. The image forming apparatus according to claim 1,

wherein a projection is provided in the second arm member, and a stopper member used to abut on the projection

is provided in the main body, and

wherein the second arm member having the projection stops moving by making the projection abut on the stopper member and the first arm member moves relatively to the second arm member according to a closing operation of the opening/closing unit, thereby the arm portion is shrunk.

5. The image forming apparatus according to claim 4,

wherein the damper unit does not apply a load to a rotation in a direction of closing the opening/closing unit of the rotating member.

6. The image forming apparatus according to claim 1,

wherein the first arm member is provided in the opening/closing unit, and the damper unit is provided in the main body, and

wherein the first and the second arm members move according to an opening operation of the opening/closing unit, an impact of the opening/closing unit is buffered by a load of the damper unit by an engagement between the first engagement portion and the rotating member, and

the first arm member having the first engagement portion moves relatively to the second arm member having the second engagement portion according to the opening operation of the opening/closing unit in a state that releasing the engagement between the first engagement portion and the rotating member and the second engagement

portion and the rotating member are engaged.

7. The image forming apparatus according to claim 1, wherein the damper unit includes a prevention member to prevent an engagement between the rotating member and the engagement portion from being released in a rotating axial direction.

8. The image forming apparatus according to claim 1, wherein the rotating member is a gear, and the first arm member is a rack member having a gear portion that is meshed with the gear in a predetermined range corresponding to the opening position.

9. The image forming apparatus according to claim 1, wherein the second arm member includes a surface that is extended in an arrangement direction of a gear portion of the rack member.

10. The image forming apparatus according to claim 1, wherein the first arm member moves relatively to the second arm member according to an operation of closing the opening/closing unit, thereby the arm portion is shrunk.

11. An image forming apparatus comprising:
a main body of the image forming apparatus;
an opening/closing unit that is opened or closed with

respect to the main body;

a gear that is rotated;

a damper unit that applies a load to a rotation of the gear;

a rack member that includes a gear portion to be meshed with the gear and rotates the gear according to a movement of the opening/closing unit; and

a slide member that is provided in the rack member to be movable,

wherein the rack member and the slide member move relatively to each other in an arrangement direction of teeth of the gear portion according to the movement of the opening/closing unit.

12. The image forming apparatus according to claim 11,

wherein the slide member includes an engagement portion to be engaged with the gear, and

wherein the rack member and the slide member move relatively to each other such that the teeth of the gear portion and the engagement portion are separated according to an opening operation of the opening/closing unit in a state where the gear and the engagement portion are engaged.

13. The image forming apparatus according to claim 12,

wherein the damper unit applies a load to a rotation of the gear when the opening/closing unit is opened.

14. The image forming apparatus according to claim 11, further comprising

a stopper member that abuts on the slide member,

wherein the movement of the slide member is stopped by making the slide member abut on the stopper member according to a closing operation of the opening/closing unit, and the slide member and the rack member move relatively to each other.

15. The image forming apparatus according to claim 14,

wherein the damper unit does not apply a load to a rotation of the gear when the opening/closing unit is closed.

16. The image forming apparatus according to claim 11,

wherein the rack member is provided in the opening/closing unit, and

wherein the damper unit is provided in the main body.

17. The image forming apparatus according to claim 11,

wherein the damper unit includes a prevention member to prevent an engagement between the gear and the gear portion of the rack member from being released in a rotating axial direction of the gear.

18. The image forming apparatus according to claim 11,

wherein the slide member is extended in the

arrangement direction of teeth of the gear portion.

12. The image forming apparatus according to claim 11,

wherein the slide member includes an engagement portion to be engaged with the gear, and

wherein the rack member and the slide member move relatively to each other such that the gear portion of the rack member and the engagement portion are close according to an operation of closing the opening/closing unit.

What is claimed is:

1. An image forming apparatus comprising:

a main body of the image forming apparatus;

an opening/closing unit that is provided to be opened or closed with respect to the main body; and

a loading portion that applies a load on a movement of the opening/closing unit,

wherein the loading portion includes

a rotating member,

a damper unit that applies a load to a rotation of the rotating member, and

an arm portion that is engaged with the rotating member to cause the rotating member to be rotated according to the movement of the opening/closing unit,

wherein a load of the damper unit is applied to the moving opening/closing unit by engaging the arm portion with the rotating member,

wherein the arm portion includes

a first arm member that includes a first engagement portion to be engaged with the rotating member, and

a second arm member that includes a second engagement portion to be engaged with the rotating member when the opening/closing unit is opened larger than a position of the opening/closing unit where the rotating member and the first arm member are engaged, and is provided to be movable at the first arm member so as to change a projecting amount from the first arm member, and

wherein the first arm member and second arm member move relatively to each other in conjunction with an opening/closing operation of the opening/closing unit.

2. The image forming apparatus according to claim 1,

wherein an impact of the opening/closing unit is buffered by a load of the damper unit by an engagement between the first engagement portion and the rotating member according to an opening operation of the opening/closing unit,

the arm portion is extended according to the opening operation of the opening/closing unit by making the first arm member having the first engagement portion moves relatively to the second arm member having the second engagement portion by in a state in that the engagement between the first engagement portion and the rotating member is released and the second engagement portion and the rotating member are engaged.

3. The image forming apparatus according to claim 2,

wherein the damper unit applies a load to a rotation in a direction of opening the opening/closing unit of the rotating member.

4. The image forming apparatus according to claim 1,

wherein a projection is provided in the second arm member, and a stopper member used to abut on the projection is provided in the main body, and

wherein the second arm member having the projection stops moving by making the projection abut on the stopper member and the first arm member moves relatively to the second arm member according to a closing operation of the opening/closing unit, thereby the arm portion is shrunk.

5. The image forming apparatus according to claim 4,

wherein the damper unit does not apply a load to a rotation in a direction of closing the opening/closing unit of the rotating member.

6. The image forming apparatus according to claim 1,

wherein the first arm member is provided in the opening/closing unit, and the damper unit is provided in the main body, and

wherein the first and the second arm members move according to an opening operation of the opening/closing unit, an impact of the opening/closing unit is buffered by a load of the damper unit by an engagement between the first engagement portion and the rotating member, and

the first arm member having the first engagement portion moves relatively to the second arm member having the second engagement portion according to the opening operation of the opening/closing unit in a state that releasing the engagement between the first engagement portion and the rotating member and the second engagement portion and the rotating member are engaged.

7. The image forming apparatus according to claim 1,

wherein the damper unit includes a prevention member to prevent an engagement between the rotating member and the engagement portion from being released in a rotating axial direction.

8. The image forming apparatus according to claim 1,

wherein the rotating member is a gear, and the first arm member is a rack member having a gear portion that is meshed with the gear in a predetermined range corresponding to the opening position.

9. The image forming apparatus according to claim 1,

wherein the second arm member includes a surface that is extended in an arrangement direction of a gear portion of the rack member.

10. The image forming apparatus according to claim 1,

wherein the first arm member moves relatively to the second arm member according to an operation of closing the opening/closing unit, thereby the arm portion is shrunk.

11. An image forming apparatus comprising:

a main body of the image forming apparatus;

an opening/closing unit that is opened or closed with respect to the main body;

a gear that is rotated;

a damper unit that applies a load to a rotation of the gear;

a rack member that includes a gear portion to be meshed with the gear and rotates the gear according to a movement of the opening/closing unit; and

a slide member that is provided in the rack member to be movable so as to change a projecting amount from a leading edge of the lack member,

wherein the rack member and the slide member move relatively to each other in an arrangement direction of teeth of the gear portion according to the movement of the opening/closing unit.

12. The image forming apparatus according to claim 11,

wherein the slide member includes an engagement portion to be engaged with the gear, and

wherein the rack member and the slide member move relatively to each other such that the teeth of the gear portion and the engagement portion are separated according to an opening operation of the opening/closing unit in a state where the gear and the engagement portion are engaged.

13. The image forming apparatus according to claim 12,

wherein the damper unit applies a load to a rotation of the gear when the opening/closing unit is opened.

14. The image forming apparatus according to claim 11, further comprising

a stopper member that abuts on the slide member,

wherein the movement of the slide member is stopped by making the slide member abut on the stopper member according to a closing operation of the opening/closing unit, and the slide member and the rack member move relatively to each other.

15. The image forming apparatus according to claim 14,

wherein the damper unit does not apply a load to a rotation of the gear when the opening/closing unit is closed.

16. The image forming apparatus according to claim 11,

wherein the rack member is provided in the opening/closing unit, and

wherein the damper unit is provided in the main body.

17. The image forming apparatus according to claim 11,

wherein the damper unit includes a prevention member to prevent an engagement between the gear and the gear portion of the rack member from being released in a rotating axial direction of the gear.

18. The image forming apparatus according to claim 11,

wherein the slide member is extended in the arrangement direction of teeth of the gear portion.

19. The image forming apparatus according to claim 11,

wherein the slide member includes an engagement portion to be engaged with the gear, and

wherein the rack member and the slide member move relatively to each other such that the gear portion of the rack member and the engagement portion are close according to an operation of closing the opening/closing unit.