CLAIMS

1. A blister packaging machine that manufactures a blister pack, the blister pack including:

an inside container including an inside pocket accommodating a predetermined content;

an outside container including an outside pocket accommodating the inside pocket; and

a cover provided so as to close openings of the inside pocket and the outside pocket in a state in which the content is accommodated in the inside pocket while the inside pocket is accommodated in the outside pocket,

a predetermined chamber being formed between the inside pocket in the outside pocket and the outside pocket, in a belt-shaped inside container film to be conveyed;

sealing means provided downstream of the supply means according to a position where conveying paths of the inside container film and a belt-shaped outside container film to be conveyed, the sealing means obtaining a belt-shaped blister film including the inside container film, the outside container film, and a belt-shaped cover film by closing the openings of the inside pocket and the outside pocket using the cover film to seal an insides of the inside and outside pockets;

punching means for punching the blister film on a downstream side of the sealing means; and

pocket forming means for forming the inside pocket with respect to the inside container film, and forming the outside pocket with respect to the outside container film on an upstream side of the sealing means,

wherein the inside container film has air permeability,

the sealing means heats an overlapping portion of an outside flange corresponding unit protruding outward from an opening end of

the outside pocket in the outside container film, an inside flange corresponding unit protruding outward from an opening end of the

inside pocket in the inside container film, and the cover film, and welds the inside flange corresponding unit and the cover film to the outside flange corresponding unit, and

the pocket forming means includes:

inside pocket forming means for deforming the inside and outside container films by pressing the inside and outside container films in an overlapping state, forming the inside pocket in the inside container film, and forming a temporary outside pocket having a shape substantially identical to that of the inside pocket in the outside container film; and

outside pocket forming means for performing at least one of supply of gas to the temporary outside pocket

through the inside container film and suction of the temporary outside pocket onto an opposite side to the inside pocket, expanding the temporary outside pocket to bring the temporary outside pocket into close contact with a recessed mold including a recess having a shape corresponding to the outside pocket, and forming the outside pocket in the outside container film.

2. The blister packaging machine according to claim 1, wherein the inside pocket forming means is configured to be heatable, and configured to be disposed in the recess when the inside and outside container films are pressed, and

the outside pocket forming means is configured to expand the temporary outside pocket while the inside pocket forming means is disposed in the recess to support the inside pocket.

3. A blister packaging machine that manufactures a blister pack, the blister pack including:

an inside container including an inside pocket accommodating a predetermined content;

an outside container including an outside pocket accommodating the inside pocket; and

a cover provided so as to close openings of the inside pocket and the outside pocket in a state in which the content is accommodated in the inside pocket while the inside pocket is accommodated in the outside pocket,

a predetermined chamber being formed between the inside pocket in the outside pocket and the outside pocket,

the blister packaging machine comprising:

supply means for supplying the content to the inside pocket formed in a belt-shaped inside container film to be conveyed;

sealing means provided downstream of the supply means according to a position where conveying paths of the inside container film and a belt-shaped outside container film to be conveyed, the sealing means obtaining a belt-shaped blister film including the inside container film, the outside container film, and a belt-shaped cover film by closing the openings of the inside pocket and the outside pocket using the cover film to seal an insides of the inside and outside pockets;

punching means for punching the blister film on a downstream side of the sealing means; and

pocket forming means for forming the inside pocket with respect to the inside container film, and forming the outside pocket with respect to the outside container film on an upstream side of the sealing means,

wherein the inside container film has air permeability,

the sealing means heats an overlapping portion of an outside flange corresponding unit protruding outward from an opening end of the outside pocket in the outside

container film, an inside flange corresponding unit protruding outward from an opening end of the inside pocket in the inside container film, and the cover film, and welds the inside flange corresponding unit and the cover film to the outside flange corresponding unit, and

the pocket forming means includes:

inside pocket forming means for deforming the inside and outside container films by pressing the inside and outside container films in an overlapping state, forming a predetermined temporary inside pocket in the inside container film, and forming a temporary outside pocket having a shape substantially identical to that of the temporary inside pocket in the outside container film; and

outside pocket forming means for performing at least one of supply of gas to the temporary outside pocket through the inside container film and suction of the temporary outside pocket onto an opposite side to the temporary inside pocket, expanding the temporary outside pocket to bring the temporary outside pocket into close contact with a recessed mold including a recess having a shape corresponding to the outside pocket, and forming the outside pocket in the outside container film, and

the inside pocket is formed in the inside container film by pressing the temporary inside pocket using the inside pocket forming means after the formation of the

outside pocket.

4. The blister packaging machine according to any one of claims 1 to 3, further comprising preliminary welding means for welding the inside flange corresponding unit and the outside flange corresponding unit on the upstream side of the sealing means.

5. The blister packaging machine according to any one of claims 1 to 4, further comprising heating means for simultaneously heating the outside container film and the inside container film in the overlapping state before the inside pocket forming means presses the inside and outside container films.

6. The blister packaging machine according to any one of claims 1 to 5, wherein the inside container film is a nonwoven fabric made of a thermoplastic resin material.

7. A method for manufacturing a blister pack, the blister pack including:

an inside container including an inside pocket accommodating a

predetermined content;

an outside container including an outside pocket accommodating the inside pocket; and

a cover provided so as to close openings of the inside pocket and the outside pocket in a state in which the content is accommodated in the inside pocket while the

inside pocket is accommodated in the outside pocket,

a predetermined chamber being formed between the inside pocket in the outside pocket and the outside pocket,

the blister pack manufacturing method comprising:

a supply step of supplying the content to the inside pocket formed in a belt-shaped inside container film to be conveyed;

a sealing step of obtaining a belt-shaped blister film including the inside container film, a belt-shaped outside container film to be conveyed, and a belt-shaped cover film by closing the openings of the inside pocket and the outside pocket using the cover film to seal an insides of the inside and outside pockets in a state in which the inside pocket is accommodated in the outside pocket formed in the outside container film while the inside container film and the outside container film overlap each other after the supply step;

a punching step of punching the blister film after the sealing step; and

a pocket forming step of forming the inside pocket with respect to the inside container film, and forming the outside pocket with respect to the outside container film before the sealing step,

wherein the inside container film has air permeability,

in the sealing step, an overlapping portion of an

outside flange corresponding unit protruding outward from an opening end of the outside pocket in the outside container film, an inside flange corresponding unit protruding outward from an opening end of the inside pocket in the inside container film, and the cover film is heated to weld the inside flange corresponding unit and the cover film to the outside flange corresponding unit, and

the pocket forming step includes:

an inside pocket forming step of deforming the inside and outside container films by pressing the inside and outside container films in an overlapping state, forming the inside pocket in the inside container film, and forming a temporary outside pocket having a shape substantially identical to that of the inside pocket in the outside container film; and

an outside pocket forming step of performing at least one of supply of gas to the temporary outside pocket through the inside container film and suction of the temporary outside pocket onto an opposite side to the inside pocket, expanding the temporary outside pocket to bring the temporary outside pocket into close contact with a recessed mold including a recess having a shape corresponding to the outside pocket, and forming the outside pocket in the outside container film.

8. The blister pack manufacturing method according to

claim 7, wherein in the inside pocket forming step, the inside and outside container films are pressed by inside pocket forming means that can be heated, and the inside pocket forming means is disposed in the recess when the inside and outside container films are pressed, and

in the outside pocket forming step, the temporary outside pocket is expanded while the inside pocket forming means is disposed in the recess to support the inside pocket.

9. A method for manufacturing a blister pack, the blister pack including:

an inside container including an inside pocket accommodating a predetermined content;

an outside container including an outside pocket accommodating the inside pocket; and

a cover provided so as to close openings of the inside pocket and the outside pocket in a state in which the content is accommodated in the inside pocket while the inside pocket is accommodated in the outside pocket,

a predetermined chamber being formed between the inside pocket in the outside pocket and the outside pocket,

the blister pack manufacturing method comprising:

a supply step of supplying the content to the inside pocket formed in a belt-shaped inside container film to be conveyed;

a sealing step of obtaining a belt-shaped blister film including the inside container film, a belt-shaped outside container film to be conveyed, and a belt-shaped cover film by closing the openings of the inside pocket and the outside pocket using the cover film to seal an insides of the inside and outside pockets in a state in which the inside pocket is accommodated in the outside pocket formed in the outside container film while the inside container film and the outside container film overlap each other after the supply step;

a punching step of punching the blister film after the sealing step; and

a pocket forming step of forming the inside pocket with respect to the inside container film, and forming the outside pocket with respect to the outside container film before the sealing step,

wherein the inside container film has air permeability,

in the sealing step, an overlapping portion of an outside flange corresponding unit protruding outward from an opening end of the outside pocket in the outside container film, an inside flange corresponding unit protruding outward from an opening end of the inside pocket in the inside container film, and the cover film is heated to weld the inside flange corresponding unit and the cover film to the outside flange corresponding unit, and

the pocket forming step includes:

a temporary pocket forming step of deforming the inside and outside container films by pressing the inside and outside container films in an overlapping state, forming a predetermined temporary inside pocket in the inside container film, and forming a temporary outside pocket having a shape substantially identical to that of the temporary inside pocket in the outside container film;

an outside pocket forming step of performing at least one of supply of gas to the temporary outside pocket through the inside container film and suction of the temporary outside pocket onto an opposite side to the temporary inside pocket, expanding the temporary outside pocket to bring the temporary outside pocket into close contact with a recessed mold including a recess having a shape corresponding to the outside pocket, and forming the outside pocket in the outside container film; and

an inside pocket forming step of forming the inside pocket in the inside container film by pressing the temporary inside pocket after the outside pocket forming step.

10. The blister pack manufacturing method according to any one of claims 7 to 9, further comprising a preliminary welding step of welding the inside flange corresponding unit and the outside flange corresponding unit before the

sealing step.

11. The blister pack manufacturing device according to any one of claims 7 to 10, further comprising a heating step of simultaneously heating the outside container film and the inside container film in the overlapping state before the both container films are pressed and deformed.

12. The blister pack manufacturing method according to any one of claims 7 to 11, wherein the inside container film is a nonwoven fabric made of a thermoplastic resin.