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(54) **Title:** COMBINING BLOW HEAD MECHANISM AND TAKE OUT MECHANISM AND ADDING A NEW TAKE OUT MECHANISM FOR I.S. MACHINES

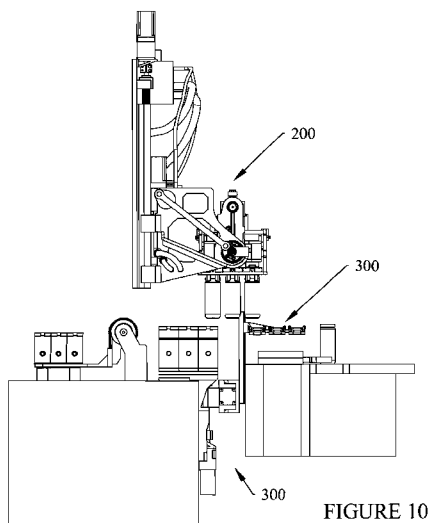


FIGURE 10

(57) **Abstract:** At I.S. (Individual Section) machines which are used to manufacture glass containers the combined blow-take out mechanism (200) converts the parison (2) to the final product (3). During that process, the parison (2) is blown and the finish part (4) is cooled. Then, the final product (3) is transferred from the blow side (12) over the dead plate (16). The final product (3) which is transferred over the dead plate (16) is kept over the dead plate (16) with a certain time by the new take out mechanism (300) until it gets cool enough. Then, it is left onto the dead plate (16). Also, the up-down movement mechanism (320) which is optionally added to the new take out mechanism, leaves the final product (3) onto the dead plate (16) from a shorter distance.



AMENDED CLAIMS

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- 1) A combined blow-take out mechanism for blowing glass containers in a blow mold and transferring said blown glass containers from said blow mold on a new take out mechanism
5 in an I.S. machine, comprising;
a mounting plate mechanism including
a mounting plate for mounting said combined blow-take out mechanism over a
section box, and
a servo motor for positioning vertically of an up-down movable body, side arms
10 and a combined blow-take out head,
said up-down movable body including
a servo motor for positioning of said combined blow-take out head, and
centering pins for centering of said combined blow-take out head, supplying
final blow air and finish cooling air to said combined blow take out head,
15 said combined blow-take out head including
a movable body for mounting a lock ring,
a spline shaft for guiding and sliding of said moveable body,
said lock ring for mounting said blow head and transporting final blow air and
finish cooling air to said blow head,
20 said blow head for applying final blow air for forming said glass containers and
finish cooling air for cooling finish side of said glass containers,
a drive cylinder for opening and closing of take out tongs,
an adjustment nut for adjusting of opening degree of said take out tongs, and
said take out tongs for taking said glass containers from said blow mold and
25 transferring said glass containers from said blow mold to said new take out
mechanism.
- 2) A new take out mechanism for taking glass containers from a combined blow-take out
mechanism, waiting said glass containers over a dead plate and leaving said glass containers
30 onto said dead plate in an I.S. machine, comprising;
an up-down movement mechanism including
a servo motor for positioning vertically of leaving point of said glass containers
over said dead plate,
a right-left movement mechanism including
a servo motor for positioning horizontally to take said glass containers from said
35 combined blow-take out mechanism, and

a gripper mechanism including

a gripper for waiting certain time of said glass containers over said dead plate
and leaving said glass containers onto said dead plate.

- 3) A process for blowing glass containers in a blow mold, transferring blown glass containers
5 from said blow mold to a new take out mechanism and leaving said glass containers onto a
dead plate in an I.S. machine, which comprises the steps of;
- a) positioning of a combined blow-take out head over said blow mold with a certain
distance by drive parts of an up-down movable body,
 - b) centering of said combined blow-take out head with centering pins which are located on
10 said up-down movable body,
 - c) moving down a blow head until it touches to said blow mold by the help of pneumatic air
and centering with spline shafts,
 - d) applying of final blow air from inside holes of said centering pins and applying of finish
cooling air from inside holes of said centering pins,
 - 15 e) cutting off pneumatic air said blow head returning to park position with springs under
pressure,
 - f) opening of said blow mold,
 - g) closing of take out tongs via the application of pneumatic air to a cylinder and said glass
containers taking from inside of said blow mold with said take out tongs,
 - 20 h) returning of said centering pins to park position with outward directional movement,
 - i) transferring of said glass container from blow side over said dead plate with said
combined blow-take out head,
 - j) cutting off pneumatic air, a cylinder rod is being pushed to downward direction by the
force of a spring, opening said take out tongs and leaving said glass container to said new
25 take out mechanism,
 - k) taking of said glass containers from said combined blow-take out head by gripper claws,
 - l) waiting of said glass containers over said dead plate with a certain time and height, and
 - m) leaving of said glass containers onto said dead plate.

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