BASE WITH INFLATING MECHANISM FOR DISPENSING MACHINE FOR DEFlated BALLS

This invention relates to a base with inflation mechanism for deflated ball vending machines made up of an external pedal connected to two pneumatic pistons joined at the top thereof to a pressure gauge, from which there extends a hose connected to a T-connection, which in the bottom part thereof includes a washer to which there are attached two springs adhered to the internal walls of the vending machine, which allow the hose with the valve located on the outside of the machine to inject the air into the ball. The T-connection, in turn, is joined to another hose that has at the end thereof a relief valve covered on the outside of the machine by a cam that releases the air flow injected into the ball.
TECHNICAL FIELD

[0001] This invention has its technical application in the field of mechanics as it specifically provides a novel base with an inflation mechanism for deflated ball vending machines, which is completely different to existing vending machine bases.

BACKGROUND

[0002] According to the state of the art in the vending machines sector, there exist those wherein the end consumer can acquire rigid or solid balls that are small in size, because thanks to their consistency it is possible to use the current mechanism in this type of vending machines, which does not allow using any other type of balls that do not have these characteristics, and as a result no vending machine envisages in its structure a base that has an inflation mechanism for the balls.

[0003] Also in the state of the art, we can find air pumps for inflating balls, but these are not integrated in a ball vending machine.

[0004] Some of the drawbacks that exist in the above-mentioned technology relate precisely to the fact that no vending machine for deflated plastic balls exists which includes a pump in its structure for inflating the balls straight away, not to mention, a pump that has a cam connected to a relief valve that releases the air injected by the pump to prevent the excess air in the ball possibly causing it to break.

[0005] In the light of the above, before it was impossible to acquire a plastic ball, which is usually the type most children prefer playing with, from a vending machine and inflate it because, to date, existing vending machines exclusively sell another type of ball, and plastic balls that are already inflated have to be acquired in a self-service shop, and where appropriate, if they require more air inside, they will have to be inflated using an external pump not directly provided in any vending machine.

[0006] The base with an inflation mechanism for deflated ball vending machines proposed by the invention, has been designed precisely to overcome this problem in a completely satisfactory manner, and therefore focuses its characteristics on the actual structure of the vending machine comprising a pump in its internal mechanism, which has an external pedal internally connected to a hose provided with an integrated valve for inflating the ball outside the machine, which valve is joined in the central part thereof and inside the machine via an elbow connection to a hose that extends outside the machine by means of a relief valve covered by a rigid cam made of a galvanised sheet material, the main purpose of which consists in allowing the release of air when the plastic ball that is being inflated by the valve reaches its ideal size, thereby preventing the ball from breaking due to excess air in the inside thereof.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 is a front view of the base with an inflation mechanism for deflated ball vending machines.

Figure 2 illustrates a side perspective view, without the housing, of the base with the inflation mechanism for deflated ball vending machines.

Figure 3 is an upper, left angle side perspective view of the base with the inflation mechanism for deflated ball vending machines.

Figure 4 is a side isometric view of the base with the inflation mechanism for deflated ball vending machines.

With reference to said figures, the base with the inflation mechanism for deflated ball vending machines is mainly made up of the following components:

A. Base with inflation mechanism for deflated ball vending machines, comprising a pedal 1 located on the front, external part of the housing 2 of the vending machine, which pedal is connected in the inside of said machine to two pneumatic pistons 3 that at the top part thereof are connected in turn to an outlet 4 that contains a pressure gauge 5 and to which a hose 6 is connected, said hose being joined to a T-connection 7 the main purpose of which is to divide the air flow into two parts. On the one hand, when viewed from the front, this T-connection 7 is joined on the left to an elbow joint 8 through which it is joined to a hose 9 that goes up to a hole 10 located in the top central part of the vending machine, when viewed from the front, which contains a valve 11 for inflating the ball. This set of hoses and connections is retractable so that it can be used more effectively to inflate the ball, due to the fact that a washer 12 is provided in the T-connection 7, with two springs 13 being connected to two ends of said washer, which makes the retractable function possible, with said springs being anchored in turn respectively to a welded metal lug provided on the rear internal apex of the housing 2 that forms the vending machine in the bottom part thereof. On the other hand, viewed from the front, a hose 14 extends from the T-connection towards the right side, perpendicular to the inflation hose 9, which has a relief valve 15 provided at the end thereof, located on the right handle 16 of the vending machine.
when viewed from the front, and covered by a cam 17, the main purpose of which is to release the excess air from ball 18 which is injected by valve 11, and thereby prevent the ball from breaking due to excess air.

[0008] The base with an inflation mechanism for deflated ball vending machines proposed by the invention, has been designed precisely to solve this problem that has existed to date in the market, since there were no vending machines offering public consumers the sale of deflated balls that could be inflated, once removed from the machine by said consumers, directly in said vending machine, thereby introducing a new system of selling inflatable plastic balls and new vending machines for these balls that include a pump in their structure for inflating the ball.

[0009] Having sufficiently described the invention, I consider it to be a novelty and therefore claim that the content of the following clauses belongs exclusively to me.

Claims

1. Base with inflation mechanism for deflated ball vending machines characterized in that it is made up of a pumping mechanism for inflating balls characterized in that it has a pedal located in the front external part of the machine, which is connected in the inside thereof to two pneumatic pistons, which at the top part thereof are connected to an outlet that contains a pressure gauge and to which a hose is connected, joined to a T-connection the main purpose of which is to divide the air flow into two parts. On the one hand, this T-connection, on the top part thereof, is joined to an elbow piece from which there extends a hose that goes up to a hole located in the top central front part of the vending machine that contains a valve for inflating the ball. This set of hoses and connections is characterized in that it is retractable so that it is more effective for inflating the ball, because a washer is provided in the T-connection, with two springs being connected to two ends thereof, which allow the retractable function, with said springs being anchored respectively to a lug provided on the rear inner apex of the housing that forms the vending machine in the bottom part thereof. On the other hand, the T-connection is joined to a hose located towards the right side, when viewed from the front, perpendicular to the inflating hose, which is provided at the end thereof with a relief valve and is located on the right handle of the vending machine, when viewed from the front, characterized in that it is covered by a cam the main purpose of which is to release excess air from the ball that is injected by the valve, and thereby prevent the ball from breaking due to excess air.

2. Base with inflation mechanism for deflated ball vending machines characterized in that the metal lugs used to attach or anchor the springs can be replaced with rings or eyebolts, and these can be located in another internal part of the housing.

3. Base with inflation mechanism for deflated ball vending machines characterized in that the hoses used can be replaced by any other type of hose or tube.

4. Base with inflation mechanism for deflated ball vending machines characterized in that the elbow and the T connection can be of any material, or where appropriate either of them or both could be omitted depending on the type of connection provided on the piston pump.

5. Base with inflation mechanism for deflated ball vending machine characterized in that the cam and its respective relief valve can be replaced by any other type of sensor, including distance sensors, pressure sensors, proximity sensors, and volume sensors, inter alia; or they can be located at another angle or position on the base with inflation mechanism of the vending machine.

6. Base with inflation mechanism for deflated ball vending machine characterized in that the number of pneumatic pistons used can be increased or reduced.

7. Base with inflation mechanism for deflated ball vending machine characterized in that the springs can vary in number and can be replaced by any type of ties or flexible tensors; or where appropriate they can be completely omitted from inside the mechanism, thereby preventing the retractable function of the inflation system.

8. Base with inflation mechanism for deflated ball vending machine characterized in that instead of the base with the inflation mechanism being located in the bottom part of the vending machine, it can be located in any other position with respect to the vending machine.

9. Base with inflation mechanism for deflated ball vending machine characterized in that the pistons used to inflate the ball can be replaced at least by an electrical or mechanical compressor, or at least...
some type of mechanical or electrical bellows that provide pressurised air for inflating the ball.

10. Base with inflation mechanism for deflated ball vending machine characterized according to clauses 1, 2, 3, 4, 5, 6, 7, 8, and 9 characterized in that the pedal used can be replaced by at least one handle, or at least one lever, or at least some other electrically or mechanically driven means.