comprises a motorized horizontal slide assembly **302**, a motorized vertical slide assembly **304** and a pair of carrier arms **306**. Both the motorized horizontal slide assembly **302** and the vertical slide assembly **304** are disposed on a sliding bar attached across the inner width of the supporting frame of the towering elevator. The motorized horizontal slide assembly **302** is attached on the body length of the sliding bar **150**, wherein operationally, it is slidable along the length of the sliding bar **150** via the motorized assembly. The motorized vertical slide assembly **304** may be mounted on both ends of the sliding bar **150** to support the sliding bar **150** on the frame of the towering elevators, which allow the sliding bar **150** to move vertically along the height of the towering elevator. The carrier arm **306** is further supported on the motorized horizontal slide assembly **302** that allows the carrier arm **306** too movable along the body length of the sliding bar **150**. Such configuration allows the carrier arm **306** movable in any location within the frame of the towering elevator. Accordingly, it is able to load and unload the SMIF pods in any locations within the carrier system **100**.

[0032] In one embodiment of the present invention, the carrier arm **306** may be adapted as a fail-safe type mechanism to protect the equipment it handles. Desirably, it comprises extended arms projected to engage with the SMIF pod **101**.

[0033] As illustrated in **FIG. 3**, the pair of carrier arms **306** is adapted to grip on the two sides of the SMIF pod **101** to move it on the pod handler **100**. Preferably, the SMIF pod **101** casing defines a gripping profile allowing the carrier arms **306**. Such gripping profile can be channels coupling with the carrier arms **306**. The (pair of) carrier arms **306** comprises two parallel straight-bars actuated to simply slide together to grip the body of the SMIF pod **101**, and to move apart to release the same operationally. Such configuration does not require extra space to accommodate

CLAIMS

1. A picking means for being employed in a SMIF pod handler, said picking means comprising:

a motorized horizontal slide assembly;

a motorized vertical slide assembly; and

a pair of carrier arms;

wherein both the motorized horizontal slide assembly and the vertical slide assembly are disposed on a sliding bar provided by the pod handler;

wherein the motorized horizontal slide assembly is attached on the body length of the sliding bar, thereby it is slidable along the length of the sliding bar during operation;

wherein the motorized vertical slide assembly is mounted on both ends of the sliding bar to support the sliding bar on the pod handler, thereby, allowing the sliding bar to move vertically;

wherein the carrier arms are supported on the motorized horizontal slide assembly, thereby, the carrier arms are movable along the body length of the sliding bar;

wherein the carrier arms comprise a pair of parallel straight-bars adapted to clamp a casing body of a SMIF pod.

2. The picking means according to claim 1, wherein the straight-bars is adapted to slide together for clamping the SMIF pod, and slide apart for releasing the SMIF pod.

3. The picking means according to claim 2, wherein operationally, the carrier arms are positioned over the top of the SMIF pod through the horizontal and vertical slide assembly, the two straight-bars are actuated apart to give clearance to the SMIF pod, then the carrier arms are lowered and slide together to clamp the SMIF pod, thereby carrying the SMIF pod on the SMIF pod handler.