United States Patent 4,950,152 to Brun, published on August 21, 1990 teaches a plurality of injection cores are inserted by a movable platen into corresponding injection cavities defined by mold inserts within a stationary platen, and the cores extend through corresponding split transfer mold cavities. After hollow preforms with threaded neck portions are molded within the cavities, the preforms are removed from the mold cavities, separated from the injection cores, and then shifted transversely by the split transfer molds to cooling or blow cavities defined by blow cavity inserts within the stationary platen on opposite sides of the corresponding injection cavities. The transfer molds return to receive the injection cores, and corresponding blow core units are inserted into the preforms within the blow cavities for pressurizing and expanding the preforms into firm contact with the blow inserts. The preforms are removed from the blow cavities by the blow cores on alternate cycles of press operation and are then released by retraction of the blow cores. The split transfer molds are shifted transversely in opposite directions and are opened and closed by a cam system which includes cam tracks mounted on the movable platen and incorporating cam track switches.

SUMMARY

According to a first aspect described herein, there is provided a ~~molded article transfer device for use with an injection mold. The molded article transfer device includes a shuttle that is slidably arranged, in use, within the injection mold, the shuttle defining a first aperture, at least in part, that alternately accommodates: (i) a first mold stack arranged therein; and (ii) a first molded article received therein with opening of the first mold stack to retract it from the first aperture. The first molded article is transferable, in use, within the first aperture with shuttling movement of the shuttle.~~method of ejecting a first molded article from a first stack portion, comprising: opening of a first mold stack with movement of the first stack portion, including stripper sleeve, relative to a second stack portion of the first mold stack, wherein the first molded article is withdrawn with the first stack portion; holding a stripper sleeve immobile with the first molded article in supporting contact therewith; ejecting of the first molded article from the first stack portion with retracting an inner core and an outer core thereof relative to the stripper sleeve, wherein the stripper sleeve pushes the first molded article off of the outer core.

According to a second aspect described herein, there is provided an injection mold that includes a first mold half, a second mold half , a molded article transfer device, and an in-mold shutter. The first mold half includes a first mold shoe with a first stack portion of a first mold stack connected thereto. The second mold half includes a second mold shoe with a second stack portion of the first mold stack connected thereto. The in-mold shutter being configured to position, in use, the first stack portion and the second stack portion relative to each other, along a mold-stroke axis, to close and open a molding cavity that is defined therebetween for molding and ejecting, respectively, a first molded article. The molded article transfer device being configured to receive and transfer the first molded article with opening of the molding cavity.