

the convexly-curved portion causes the movement of the cam body that results in movement of the platen in the second direction.

**[0035]** In an additional aspect, the first actuator component comprises a cam rail configured to be movable in the first direction; the second actuator component comprises a platen configured to be movable in the second direction; and the motion conversion mechanism comprises a cam surface and a cam follower coupling the cam rail to the platen and configured to convert motion of the cam rail in the first direction into movement of the platen in the second direction.

**[0036]** In a further aspect, the cam surface comprises a cam profile slot formed in the cam rail; and the cam follower comprises a follower element coupling the platen to the cam profile slot such that movement of the cam rail in the first direction causes movement of the cam follower within the cam profile slot that results in the movement of the platen in the second direction.

**[0037]** In an additional aspect, the invention provides an apparatus for displacing fluid from a fluid container including a first vessel and a second vessel connected or connectable to the first vessel and including a sealing partition preventing fluid flow from the second vessel, wherein the fluid container further includes an opening device configured to be contacted with the sealing partition to open the sealing partition and permit fluid flow from the second vessel, said apparatus comprising: a first actuator configured to be movable with respect to the first vessel to compress the first vessel and displace fluid contents thereof; and a second actuator movable with respect to the opening device and configured to contact the opening device and cause the opening device to open the sealing partition, wherein the second actuator is releasably coupled to the first actuator such that the second actuator moves with the first actuator until the second actuator contacts the opening device and causes the opening device to open the sealing partition, after which the second actuator is released from the first actuator and the first actuator moves independently of the second actuator to displace fluid from the first vessel.

**[0038]** In a further aspect, the invention provides a fluid container comprising: a first vessel; a second vessel connected or connectable to the first vessel; a sealing partition preventing fluid flow from the second vessel; and a spherical opening element initially supported within the second vessel by the sealing partition and configured to be contacted with the sealing partition to open the sealing partition and permit fluid flow from the second vessel.

**[0039]** In an additional aspect, the apparatus further comprises a fluid channel extending between the first and second vessels.

**[0040]** In a further aspect, the apparatus further comprises a seal within the fluid channel, the seal being configured to be breakable upon application of sufficient force to the seal to thereby connect the first and second vessels via the fluid channel.

**[0041]** In an additional aspect, the invention provides a fluid container comprising: a first vessel; a second vessel connected or connectable to the first vessel; a sealing partition preventing fluid flow from the second vessel; and a cantilevered lance having a piercing point and disposed with the piercing point adjacent to the sealing partition and configured to be deflected until the piercing point pierces the sealing partition to permit fluid flow from the second vessel.

**[0042]** In a further aspect, the fluid container further comprises a fluid channel extending between the first and second vessels.

**[0043]** In a further aspect, the apparatus further comprises a seal within the fluid channel, the seal being configured to be breakable upon application of sufficient force to the seal to thereby connect the first and second vessels via the fluid channel.

**[0044]** In an additional aspect, the invention provides a fluid container comprising: a first vessel; a second vessel connected or connectable to the first vessel; a sealing partition preventing fluid flow from the second vessel; and a cantilevered lance having a piercing point and being fixed at an end thereof opposite the piercing point, said cantilevered lance being disposed with the piercing point adjacent to the sealing partition and configured to be deflected until the piercing point pierces the sealing partition to permit fluid flow from the second vessel.

**[0045]** In a further aspect, the fluid container further comprises a substrate on which the first and second vessels are supported and which includes a chamber formed therein adjacent said sealing partition, wherein an end of the cantilevered lance is secured to the substrate and the piercing point of the lance is disposed within the chamber.

**[0046]** In an additional aspect, the fluid container further comprises a fluid channel extending between the first and second vessels.

**[0047]** In a further aspect, the fluid container further comprises a seal within the fluid channel, the seal being configured to be breakable upon application of sufficient force to the seal to thereby connect the first and second vessels via the fluid channel.

**[0048]** In an additional aspect, the invention provides a fluid container comprising: a first vessel; a second vessel connected or connectable to the first vessel; a sealing partition preventing fluid flow from the second vessel; and a lancing pin having a piercing point and disposed with the piercing point adjacent to the sealing partition and configured to be moved with respect to the sealing partition until the piercing point pierces the sealing partition to permit fluid flow from the second vessel.

**[0049]** In a further aspect, the lancing pin has a fluid port formed therethrough to permit fluid to flow through the lancing pin after the sealing partition is pierced by the piercing point.

**[0050]** In an additional aspect, the fluid container further comprises a substrate on which the first and second vessels are supported and which includes a chamber formed therein adjacent said sealing partition within which the lancing pin is disposed.

**[0051]** In a further aspect, the chamber comprises a segmented bore defining a hard stop within the chamber and said lancing pin includes a shoulder that contacts the hard stop to prevent further movement of the lancing pin after the piercing point pierces the sealing partition.

**[0052]** In an additional aspect, the fluid container further comprises a fluid channel extending between the first and second vessels.

**[0053]** In an additional aspect, the fluid container further comprises a seal within the fluid channel, the seal being configured to be breakable upon application of sufficient force to the seal to thereby connect the first and second vessels via the fluid channel.