WHAT WE CLAIM IS

1. A canister for receiving a disposable pump head assembly having a bearing housing member having walls with a predetermined shape, and having a cam for coupling to a motor for driving a disposable pump head assembly in order to pump fluid, the canister comprising:

an exterior wall portion configured to define a cavity for receiving the disposable pump head assembly inside the canister;

a bottom wall configured with an opening so the cam of the disposable pump head assembly can be coupled to a motor, the bottom wall also configured with interior walls formed therein with a shape corresponding to the predetermined shape of the walls of the bearing housing to receive the bearing housing portion of the disposable pump head assembly, and having a portion of the bottom wall configured to engage a lower portion of a diaphragm support plate to prevent rotational movement of the disposable pump head assembly in relation to the canister; and

a cover portion configured to detachably couple to the exterior wall portion for opening the canister to change the disposable pump head assembly, for closing the canister after the disposable pump head assembly has been changed to engage the portion of the bottom wall and the lower portion of the diaphragm support plate, and for pushing or urging the disposable pump head so as to frictionally engage with the motor.

2. A canister according to claim 1, wherein the interior walls are configured as curved walls that extend inwardly from the exterior walls.

3. A canister according to claim 1, wherein the interior walls are configured to form lobe-shaped cavities for receiving a bearing housing configured with reciprocating pistons that form part of a diaphragm pump.

4. A canister according to claim 1, wherein the cam is configured to drive reciprocating pistons that form part of a diaphragm pump.

5. A canister according to claim 1, wherein the supporting member is a support plate configured to receive reciprocating pistons that form part of a diaphragm pump.

CLAIMS

1. A disposable pump head and canister assembly, comprising:

a disposable pump head configured as an assembled modular unit having an upper housing with an input port and an output port, and being configured to be engaged to a motor so as to pump fluid into the input port, through the disposable pump head, and out the output port, the upper housing configured to couple to a support plate via a plurality of upper housing flexible tabs that snap fit to corresponding structure of the support plate; and

a canister having an exterior wall portion, a cover and a latching arrangement, where the exterior wall portion is configured so as to form an interior cavity dimensioned to receive the disposable pump head, and where the cover is configured to close and be latched to the exterior wall by the latching arrangement so as to engage the disposable pump head and the motor.

2. A disposable pump head and canister assembly according to claim 1, wherein the cover has a compressible member, including a compressible pad, dimensioned so as to push a top surface of the disposable pump head so as to frictionally engage the disposable pump head and the motor.

3. A disposable pump head and canister assembly according to claim 1, wherein the latching arrangement comprises a part for grabbing a lip of the cover.

4. A disposable pump head and canister assembly according to claim 1, wherein the disposable pump head comprises a diaphragm pump having a snap fit combination including the upper housing, a valve housing, reciprocating pistons, a diaphragm, a diaphragm support plate, and an outer piston plate.

5. A disposable pump head and canister assembly according to claim 1, wherein the exterior wall portion is configured with openings for receiving the input port and the output port of the disposable pump head.

6. A disposable pump head and canister assembly according to claim 1, wherein the disposable pump head is frictionally engaged to the motor by an engagement using a "D" Drive to eliminate the need for fasteners.

7. A canister for receiving a disposable pump head assembly having a bearing housing member having walls with a predetermined shape, and having a cam for coupling to a motor for driving the disposable pump head assembly in order to pump fluid, the canister comprising:

an exterior wall portion configured to define a cavity for receiving the disposable pump head assembly inside the canister;

a bottom wall configured with an opening so the cam of the disposable pump head assembly can be coupled to a motor, the bottom wall also configured with interior walls formed therein with a shape corresponding to the predetermined shape of the walls of the bearing housing to receive the bearing housing portion of the disposable pump head assembly, and having a portion of the bottom wall configured

to engage a lower portion of a diaphragm support plate to prevent rotational movement of the disposable pump head assembly in relation to the canister; and

a cover portion configured to detachably couple to the exterior wall portion for opening the canister to change the disposable pump head assembly, for closing the canister after the disposable pump head assembly has been changed to engage the portion of the bottom wall and the lower portion of the diaphragm support plate, and for pushing or urging the disposable pump head so as to frictionally engage with the motor.

8. A canister according to claim 7, wherein the interior walls are configured as curved walls that extend inwardly from the exterior walls.

9. A canister according to claim 7, wherein the interior walls are configured to form lobe-shaped cavities for receiving a bearing housing configured with reciprocating pistons that form part of a diaphragm pump.

10. A canister according to claim 7, wherein the cam is configured to drive reciprocating pistons that form part of a diaphragm pump.

11. A canister according to claim 7, wherein the supporting member is a support plate configured to receive reciprocating pistons that form part of a diaphragm pump.

12. A disposable diaphragm pump head configured to be received in a canister so as to form part of a disposable pump head and canister assembly, the disposable diaphragm pump head comprising:

an assembled modular unit configured with:

an upper housing configured with an input port and an output port, configured with a cavity portion, and also configured with a plurality of upper housing flexible tabs;

a combination of a valve housing, pistons and a diaphragm, the valve housing being configured in the cavity portion of the upper housing; and

a diaphragm support plate configured with corresponding structure to couple to the plurality of upper housing flexible tabs via a snap fit configuration, so that the combination of the valve housing, pistons and diaphragm may be configured and arranged between the upper housing and the diaphragm support plate.

13. A disposable diaphragm pump head according to claim 12, wherein the disposable pump head further comprises an outer piston plate, a bearing housing and a bearing, where the bearing housing is configured to couple the bearing and the outer piston plate to the pistons using corresponding fasteners so as to form part of the assembled modular unit.

14. A disposable diaphragm pump head according to claim 13, wherein the bearing is configured to receive a cam portion.