

a second one-way valve 65 is mounted to housing body portion 15 so as to be positioned between and in fluid communication with inlet chamber 12 and the inlet end of the sleeve of one-way elongated valve 25. As shown in the drawing, one-way valve 65 can be a duck-bill valve, such as those commercially available from Vernay Co., and particularly a duck-bill valve with a molded lip at its upper end. Valve 65 can be adhesively affixed to a disc or washer 66 of polymeric material, preferably the same material as body portion 15, and the subassembly of valve 65 and washer 66 adhesively sealed to the bottom of housing body 15 with the exposed lip of valve 65 fitting within the enlarged recess of bore 26. The outer annular perimeter of washer 66 preferably has substantially the same diameter as shoulder 24, so that upon assembly washer 66 becomes an extension of housing body 15 and shoulder 24. The open inlet end of valve 25 can be placed about washer 66 and shoulder 24, and thereafter a ring or band of rubber or heat shrinkable material 67 can be placed about the open, inlet end of the sleeve of valve 25, and if the latter, heat shrunk, to firmly affix and seal valve 25 to shoulder 24. The utilization of second valve 65 in conjunction with the apparatus of the present invention further enhances the utility of the apparatus to prevent the back flow of material if any material should remain in the inlet end of the sleeve of valve 25 or if any material should move in the reverse direction through valve 25.

The apparatus of the present invention can also include a port 68, which can be in the form of a nipple as shown in FIG. 11 for the purpose of applying suction or for draining discharge chamber 13. In providing port 68, it is preferable to modify housing body 11, and particularly housing 30 by moving the hydrophobic filter 33 and the cover 32 to another wall of housing 30 between the location of port 68 and the housing body 15 or upper housing 40 of the apparatus as shown. Port 31 is then closed by a solid wall which is sealed thereto as shown in the drawing. Furthermore, port 68 can be formed in cover 32, so that suction can be applied to discharge chamber 13 through filter 33, and thereby facilitate the drainage of fluids, and permit the drainage of small amounts of other materials such as small pieces of tissue, through the catheter apparatus in the same manner as fluids.

The apparatus of the present invention including port 68, can be utilized to collect drainage from the body cavity being drained, as illustrated FIG. 12. As shown, a conduit 69 is provided fitted or coupled to port 68 at one end and to drainage collection apparatus 70, at its other end. Apparatus 70 can comprise a first rotatable disc 71 having a tube 72 passing therethrough and extending upwardly to which conduit 69 is coupled. A second disc 73 is rotatably mounted to disc 71 by means of a fastener, such as rivet 74. Disc 73 has a plurality of tubes 75 circumferentially spaced about disc 73 which are each connected to a valve 76 and the valve in turn connected to drainage receptacles such as bags 77, which may be initially rolled, as shown. As tubes 75 are circumferentially spaced in disc 73 at the same radius from the center as tube 72 is spaced from the center of disc 71, each of tubes 75, and hence valves 76, and collection receptacles 77 can be selectively spaced under and in communication with tube 72 upon rotation of disc 73. In this manner, each of collection bags 77 can be sequentially filled with drainage material, and can be removed upon closing of the respective valve 76 for

analysis of the material, or for disposal, or for another purpose.

Alternatively, to provide drainage collection apparatus, a known collection device, such as the medical suction device described in U.S. Pat. No. 4,404,924 can be connected to port 68 to provide collection of the drainage material from discharge chamber 13 of the present apparatus as well as remote indication of the suction being applied to the apparatus.

Various changes coming within the spirit of the invention may suggest themselves to those skilled in the art; hence, the invention is not limited to the specific embodiments shown or described and uses mentioned, but the same is intended to be merely exemplary, the scope of the invention being limited only by the appended claims.

We claim:

1. Apparatus for drainage of a body cavity, comprising:
  - a housing body having portions defining an inlet chamber and a discharge chamber;
  - said housing body portion defining said inlet chamber having mounting means for supporting a catheter in sealed arrangement therewith and in fluid communication with said inlet chamber;
  - a catheter supported by said mounting means and extending outwardly from said inlet chamber, said catheter being in fluid communication with said inlet chamber;
  - an inlet port in said housing body portion defining said inlet chamber having inlet port sealing means which is adapted to reversibly receive a trocar and enable at least a portion of a trocar to pass through said inlet chamber and said catheter, and said inlet port sealing means for sealing said chamber against the ambient atmosphere in the absence of a trocar, and upon insertion and withdrawal of a trocar from at least said catheter to seal said inlet chamber from the ambient atmosphere;
  - a one-way valve mounted in said housing body and coupling said inlet chamber with said discharge chamber so as to prevent the passage of fluid between said chambers except through said valve, said valve having its inlet end in communication with said inlet chamber, said valve having its outlet end in fluid communication with said discharge chamber, said valve being adapted to permit passage of drainage material passing therethrough from its inlet end to its outlet end.
2. The apparatus as defined in claim 1 wherein the housing body portion defining said inlet chamber comprises a substantially solid body having a first bore extending therethrough and in fluid communication with said catheter and said inlet port and adapted to reversibly receive a trocar for passage therethrough, said substantially solid body having means for mounting the one-way valve thereto within said housing body, and said substantially solid body having a second bore therein in fluid communication with said first bore and in fluid communication with the inlet end of said one-way valve.
3. The apparatus as defined in claim 2 wherein said mounting means for supporting the catheter in said housing body portion defining said inlet chamber comprises a cannula sealingly affixed in a first end portion of the substantially solid body defining the first bore and supporting the catheter outwardly extending therefrom, the catheter being secured to said cannula.