

1985 Wesleyan FIST Fountain Patent + TEXT
w drawings submitted
to Army in unsolicited
Proposal

B. FIST Fountain

Yet another aspect of the proposed approach involves the provision and use of a central reservoir or drinking/refilling tank structure (hereafter referred to as "FIST Fountain") to enable a user to drink therefrom by connecting the supply tube directly thereto, or to refill a depleted canteen by connecting a refill tube thereto and applying a sufficient pressure differential between the reservoir and the interior of the canteen to refill the canteen. It would be shortsighted not to consider resupply methodology when developing fluid supply and delivery devices for an integrated protective system.

A preferred embodiment of this aspect of the approach includes a flexible can liner fluid-tightly attached to the interior of the cap for the reservoir, one or more pin receiving plugs of the type interconnectable with the M1 cap drink pin presently used on drinking systems for protective masks, and a dip tube or straw extending from each such receiving plug into the interior of the liner. A separate transfer tube may be utilized to refill a canteen directly from the FIST Fountain, with each end of the tube having the mating M1 cap drink pin assembly thereon, enabling connection at the FIST Fountain cap and the canteen cap. Refilling may be accomplished by gravity flow or by pressure-assisted flow.

Brief Description of the Drawings

These and further aspects of the proposed approach may best be understood by referring to the accompanying drawings, wherein:

Fig. 1 is a view of the system of the proposed approach showing connection of the system to a protective mask;

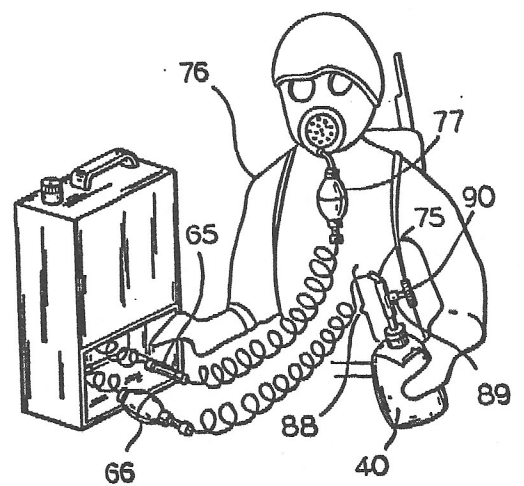
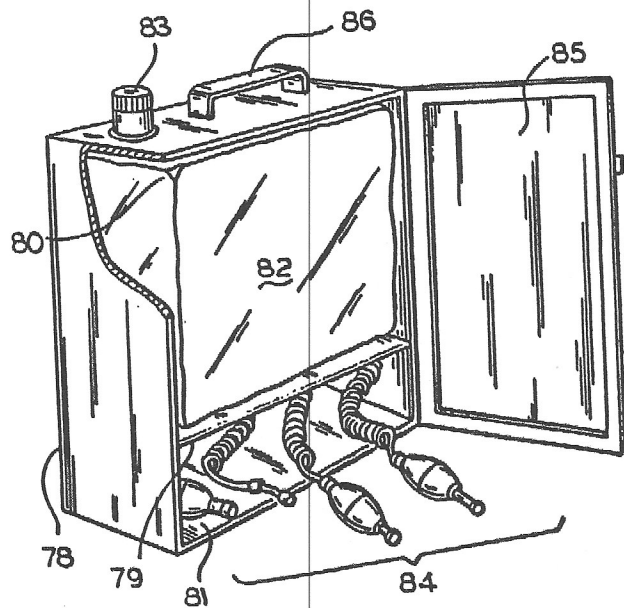
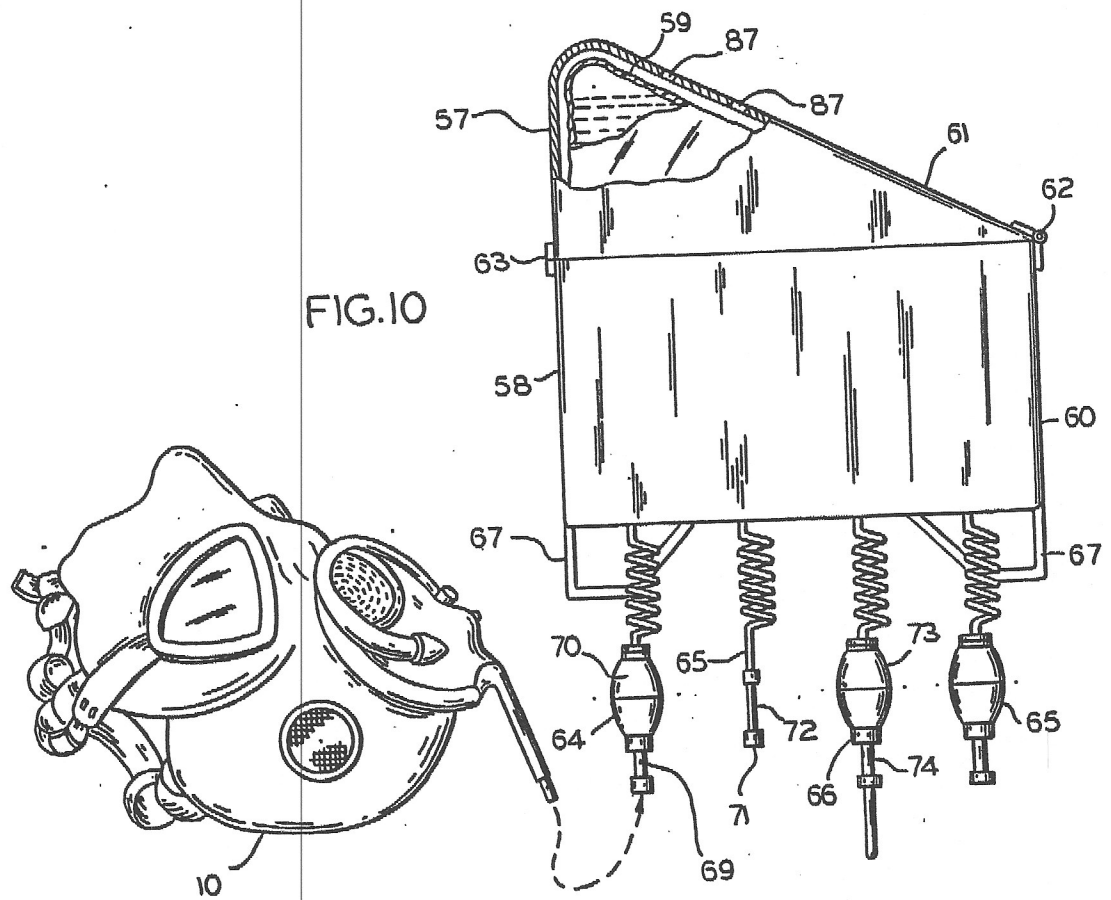
Fig. 2 is a perspective view of the cap and drain tube assembly insertable into the canteen structure;

Fig. 3 is partial sectional view along 3-3 of Fig. 1;

Fig. 4 is a partial sectional view of one aspect of the proposed approach illustrating a canteen structure having an interior liner;

Fig. 5 is a graphic illustration of the prior art;

Use or disclosure of data contracting on this sheet is
subject to the restriction on the title page of this proposal or quotation.



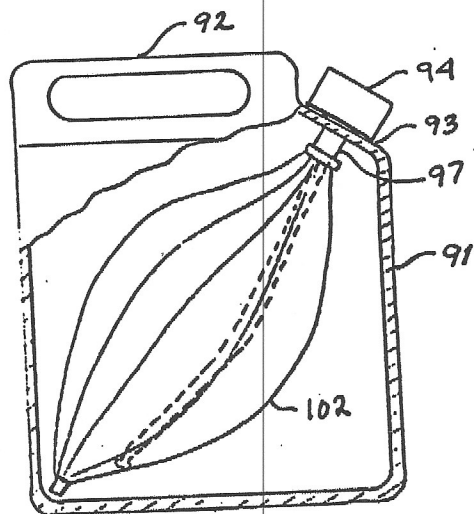


Fig 13

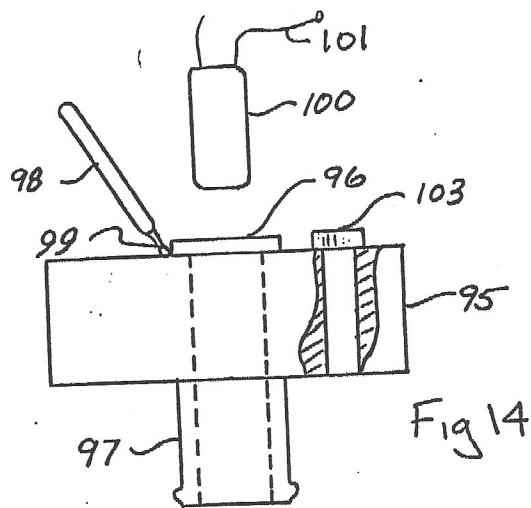


Fig 14

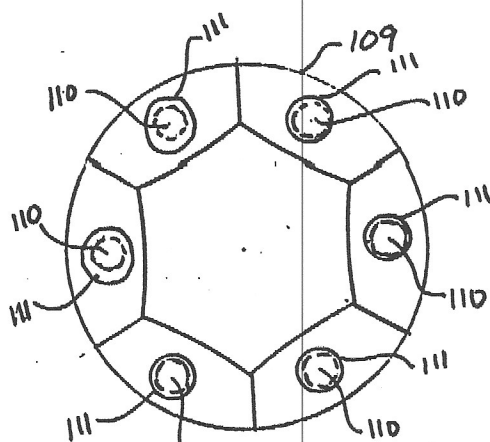


Fig 16

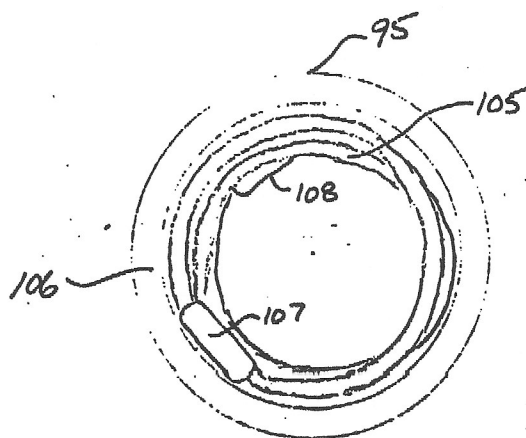


Fig 15

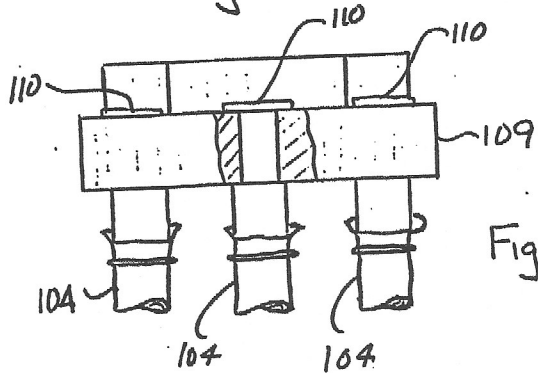


Fig 17

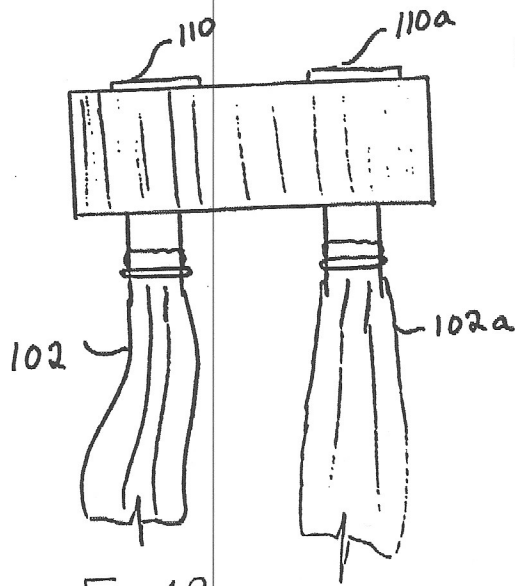
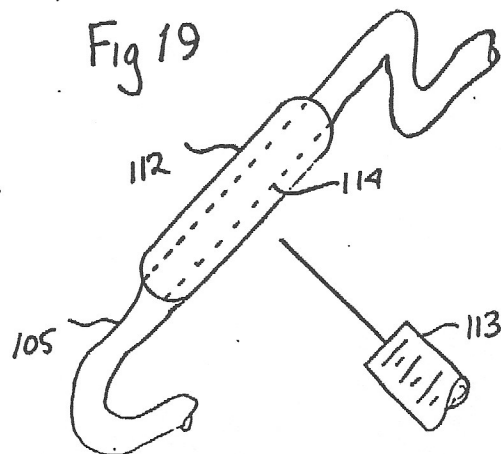
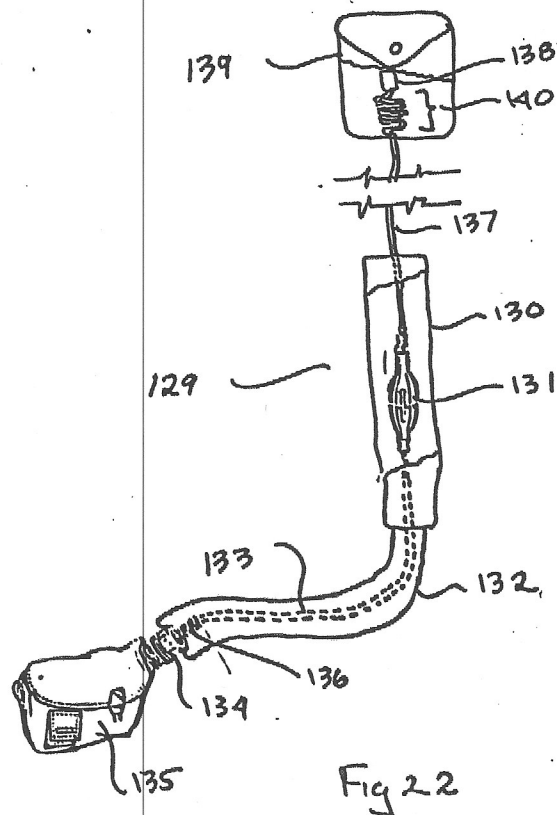
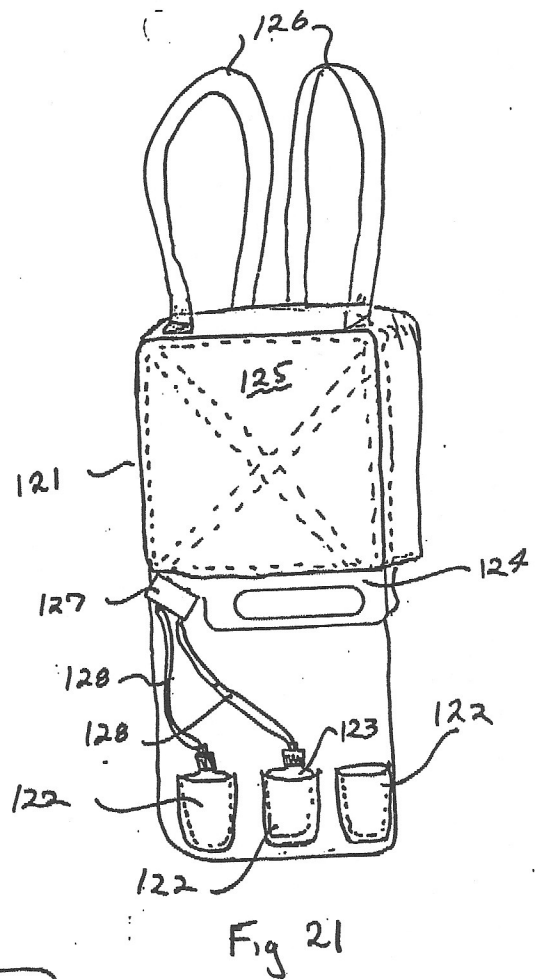
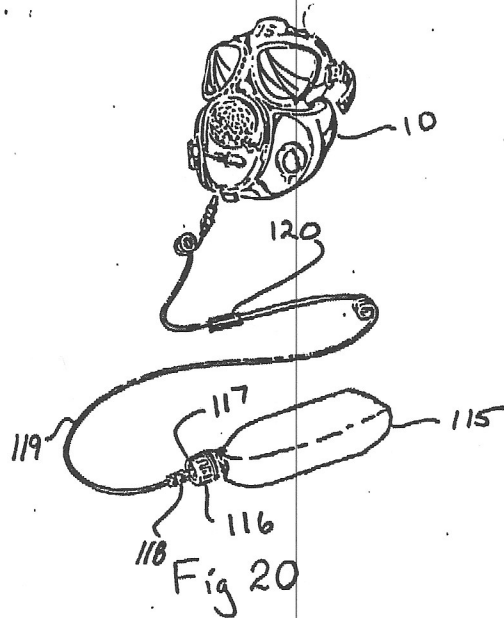


Fig 18

Fig 19







REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY TROOP SUPPORT COMMAND
NATICK RESEARCH AND DEVELOPMENT CENTER
NATICK, MA
01760-50FE
May 22, 1986

1986
Army's
Fountain
Evaluation

Office of the Commander

Mr. Wesley C. Schneider
President
Wesleyan Company Incorporated
~~1030 North State Street~~
~~Chicago, Illinois 60610~~

Dear Mr. Schneider:

The U.S. Army Natick Research, Development, and Engineering Center has just completed an evaluation of your unsolicited proposal entitled "FIST Fountain."

The findings of this evaluation are outlined at enclosure 1 and indicate that the "FIST Fountain" is unable to fill the standard issue canteen and the rate of transfer appears to be too slow for military application. This system, however, does have the ability to fill collapsed, air free canteens. For this reason, our findings have been forwarded to the U.S. Army Chemical School for further evaluation of the practical application of the "FIST Fountain" in contaminated environments.

Any questions concerning this evaluation of the "FIST Fountain" should be directed to Mr. Patrick R. Snow, Jr., (617)651-5434.

Sincerely,

A. D. Rodgers, III
A. D. Rodgers, III
Colonel, QM
Commanding

Enclosure

FIST FOUNTAIN EVALUATION

Capacity: Five (5) gallons

Chemical Integrity: The use of a foil laminate inside the current 5-gallon can is an effective and economical means to provide chemical protection. The foil laminate coupled with the thick walled 5-gallon can will provide adequate protection from chemical warfare agents, while at the same time utilize current technology available to the Government.

Transfer Rate: The transfer rate of water from the 5-gallon can to a canteen is extremely slow (more than ten (10) minutes to completely fill a two (2) quart canteen).

*Verified
1 qt
canteens
via m
new cap*

Transfer Mode: In its current configuration, only collapsed, air free canteens can be refilled. Rigid one (1) quart canteens which are standard issue cannot be filled with water using this system. However, the use of standard canteen caps and pins is advantageous since this is current technology already in use within the Government.

Patrick R. Snow Jr.
Patrick R. Snow Jr.
Chemical Engineer

1993

Doug Bryce - MC - First Platoon
Siphoned off to favored
Marine Corps Supplier

To:
Cc:
Bcc:
From:
Subject:
Date:
Attach:
Certify:
Forwarded by:

GGWF8Y@MQGMCCDC@GGSNAD0G
GDSS04@GGSYSCOM@GGSNAD0G, GDSS16@GGSYSCOM@GGSNAD0G
GDSS38@GGSYSCOM@GGSNAD0G, GDSS24@GGSYSCOM@GGSNAD0G
GDSS11@GGSYSCOM@GGSNAD0G

Kiski
Tech!

NBC PROJ OFFICER@SSC@MARCORSYSCOM
MNS FOR A CANTEEN REFILLING SYSTEM
Friday, January 8, 1993 9:41:37 EST

N

George,

Per our discussion yesterday, the following info is provided for paragraph 4b of the subject MNS:

"b. The Marine Corps will utilize the following approaches to determine the material fix for a canteen filling system.

(1) Product Improvement Program (PIP). The existing canteen cap and/or various water holding tanks/cans may be modified to accomodate this effort. The Kiski Technology Inc accomplishes this effort by modifying various water holding tanks/cans to accomodate refilling in a chemical environment.

(2) Non-developmental Item (NDI). U. S. Army Dugway Proving Grounds, under the D049 Project, evaluated a chemical vapor hazard canteen filling device for a water buffalo only.

(3) Should neither of the above efforts be acceptable a developmental effort will be established to meet the objective."

Doug

P.S. George, if this is not enough, let me know and we'll provide additional info.

Oct-1993 p182
 Marine Corps
 Request for Cost
 Study

MARINE Corps. Secretary
starts program to take first
MARINE ENHANCEMENT PROGRAM
NEED STATEMENT *Fountain from*

Source: CG, II MEF FONS dtd 29 Feb 1991

Wesleyan to give
IT to KISK: TECH
(see p. 2)

1. Title. CANTEEN REFILLING SYSTEM (CRS)
2. Problem. Current allowances provide two canteens per Marine. This is sufficient as long as Marines are not dressed out in nuclear, biological, and chemical (NBC) protective clothing, and are not operating in a contaminated environment. Marines forced to operate in a chemical environment will be limited on the amount of water for individual use. In the event an individual Marine consumes both canteens of water, he is unable to refill his canteens. Currently, a system does not exist that allows Marines to refill their canteens while operating in a toxic chemical environment.
3. Justification. MAGTFs must be capable of fighting across the spectrum of conflict. With the proliferation of nuclear, biological, and chemical weapons and technology, MAGTFs must be prepared to operate and fight in this type of environment. The capability to protect Marines from the hazardous effects of all chemical warfare munitions is required. In order to maintain bodily fluid and electrolyte levels, a Marine needs to consume from 1-2 gallons of water daily under certain climatic conditions. Marines depend upon those canteens they are issued and need a capability to refill, with water, canteens in an NBC contaminated environment. The Canteen Refilling System (CRS) will provide Marines with a system that enables them to refill canteens while in that contaminated environment.
4. Operational Concept. Marines will be capable of refilling their canteens as their individual canteens become empty. Therefore, allowing them to continue to operate effectively for longer periods of time.
5. Organizational Concept. All elements of the MAGTF will have CRS capability.
6. Desired Characteristics. The CRS should possess the following general capabilities:
 - a. Be compatible with a variety of common water distribution systems.
 - b. Be capable of filling more than two canteens at once.
 - c. Provide self-protection to ensure the refill fittings cannot become contaminated as a result of airborne NBC contamination.

ATTACHMENT (12)

OCT 1993 P292

*Marine Steel Wellpoints
First Fountain*

d. Be equipped with connectors allowing interface with the M1 canteen cap.

e. Be adaptable with the five gallon water container.

f. Be lightweight, durable and man portable for short distances.

g. Be capable of operation in adverse weather conditions and at night by one person who is in Mission Oriented Protective Posture IV.

h. Be maintainable at the organizational level and the various components be as inexpensive as possible.

7. Support Requirements: No new support facilities, test equipment, or repair equipment will be developed for this system. This system must be repairable within the existing maintenance support structure.

8. Alternatives Considered

a. The existing canteen cap and/or various water holding tanks/cans may be modified to accommodate this effort.

b. The U.S. Army Proving Grounds at Dugway, Utah have, under the D049 Project, evaluated a chemical agent vapor hazard canteen filling device for the M149 water (buffalo) tank.

9. Availability. Kiski Technology Inc. has developed several prototype systems that can be adapted to a variety of common water distribution fittings.

10. Procurement. The need must be resolved as soon as possible. With the proliferation of nuclear, biological, and chemical weapons and technology, MAGTFs must be prepared to operate and fight in this type of environment.

11. Recommendation. The CRS should be designated a MEP initiative.