A PORTABLE SHOWER AND DISINFESTOR UNIT.

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Purpose.—(a) Main: (1) hot showers; (2) disinfester (Serbian barrel principle). (b) Subsidiary: (1) hot water for ablutions; (2) hot water for cookhouse purposes.

Advantages.—This unit has been designed to meet the requirements of the smaller type of unit where only a cold water supply is laid on; it can also be used where no water supply is laid on but streams or wells exist by means of buckets, stirrup-pumps, etc.

(a) Very portable and compact.—The whole unit, except for the wooden support, which folds up, packs into the one barrel.

(b) Cheap to make and run.—The total cost of the machine as built was 30s. This included everything, except the tar drum and the oil drum, which were obtained from salvage.

(c) Extremely easy to work.—The unit when built can be run up in twenty minutes and converted into the Serbian barrel in ten minutes.

Component Parts.

(1) One 40-gallon tar drum.
(2) 8 to 10-gallon oil drum.
(3) Piece of metal piping (\(\frac{1}{2}\) to \(\frac{1}{4}\) inch) 21 by 5\(\frac{1}{2}\) inches.
(4) Water piping and joints \(\frac{3}{4}\) inch, roughly 30 feet.
(5) 3 feet rubber hose, 1 inch diameter.
(6) Sheet iron plate, for lid of main drum, 1 foot 11 inches diameter.
(7) Four watering-can roses with rubber connexion.
(8) Asbestos rubber for water and steam-tight joints.
(9) Roughly 50 feet of wood 3 by 2 inches for the supports.
(10) One tap, the handle of which is used as spanner for tightening the bolts of the supports.
(11) A length of hose-piping for leading cold water supply.
(12) Pot of red lead for insuring watertight joints.
(13) Bolts and screws.

Showers.—There are four showers at 2 feet intervals, the first being 4 feet from the tank. The handle at the beginning controls the supply of water. The far end of the shower pipe is supported by a bracket of wood 3 inches by 2 inches, making showers 6 feet 6 inches from the ground.

When the shower is erected it takes roughly fifty minutes for the main tank to be full of hot water. The Hydra Burner should be lit and put under
PORTABLE SHOWER & DISINFESTOR UNIT

COLD WATER TANK

MAIN TANK

COLD WATER AT BOTTOM OF BOILER

RUBBER CONNECTION

COLD WATER PIPE

2'-10"

POLES 7'-7" LONG

TRANSVERSE 2'-10"

TAP

STOODER IN SAFETY VALVE

TAP RUBBER OR METAL JOINT

STOODER

SAFETY VALVE PIPE

STEAM TIGHT JOINT

BOILER

HYDRA BURNER

METER PLATE

END PLATE

STEAM OUTLET

BRICKS
the boiler and the cold water turned on—this insures a much more rapid filling of the tank with hot water than filling it with cold water before lighting the Hydra Burner. There is no danger of the tank exploding because the safety valve is under no pressure and communicates directly with the main tank. As the pipe is higher than the cold water tank it does not interfere with the hot water supply.

On testing the shower the following results were obtained: (a) 50 men could have five minutes’ continuous hot water each in an hour; (b) 100 men could be bathed in an hour if eight men at a time were using the showers. Four men washing and cleansing and 4 men under the showers alternatively.

The cold water supply is kept continuously turned on to give the necessary pressure. The amount of cold water necessary to keep the showers at a hot, even temperature, is easily adjusted.

To Convert Unit to Serbian Barrel Disinfester.

Disconnect the shower unit; place the barrel on bricks; take the safety valve pipe and screw it into the hot water end of the boiler; leave the cold water pipe attached to the boiler, for the dual purpose of (a) acting as a safety valve to show when the boiler is nearly empty (when this occurs the steam, no longer under pressure from the remaining water, escapes) and (b) for refilling the boiler when empty.

Two pipe stoppers are used, one into the hot water pipe inlet and the other into the hole made by removing the safety valve pipe. Join safety valve pipe to hot water exit pipe by a metal jointing. Leave the shower control tap in sight. Leave main tank cold water connexion open to act as steam exit.

The barrel is now ready for use.

The top of the barrel is unscrewed and the clothes, etc., are put in, lid replaced and screwed down and the Hydra Burner lit.

On testing.—The time taken to disinfest 16 blankets was twenty-five minutes from the time of lighting the Hydra Burner.

For Cookhouses and Ablutions.

All that is needed is the boiler. The cold water feed pipe is left on, also the hot water pipe which is attached to the boiler. Hot water is produced in five to ten minutes. If a slow steady stream of cold water is added a constant flow of hot water is available. As soon as cold water is added to the boiler hot water comes out.

For heating purposes, where the Hydra Burner is not available, oil and water or an open fire will give the same results but they will be slower. In these cases the end plate of the boiler stand is removed, leaving the two side plates to act as a trench fire.

When packing.—The top of the main tank is unscrewed and into it is put the cold water tank which holds the boiler. The showers are taken down and the pipes unscrewed at the joints. These together with the remaining
dismantled parts are also placed in the main tank and the lid is then replaced. Therefore, when it is necessary to move, all that there is to be carried is one barrel and the collapsible wooden supports.

If the supports were also made of lengths of jointed piping they could be unscrewed and packed in the main tank as well, thus making the unit portable in one barrel. This was not done in this case as it would have added to the expense and the idea was to keep the cost of the unit as low as possible.