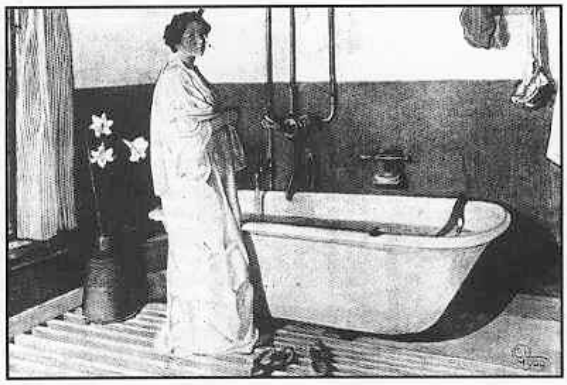
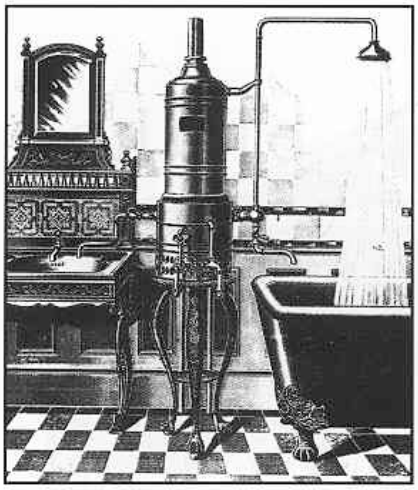
The TURN of the CENTURY



56. Painting by Carl Larson. A Fresh, Clean Bathroom, Sweden, 1909. (TCD, p.93).



57. Catalogue Illustration.
The Acme Patent Geyser, Cat.No.9,
George Farmiloe & Sons, London, 1901.
(ES, p.379).
This gas heater was arranged to serve both a bath and a basin.

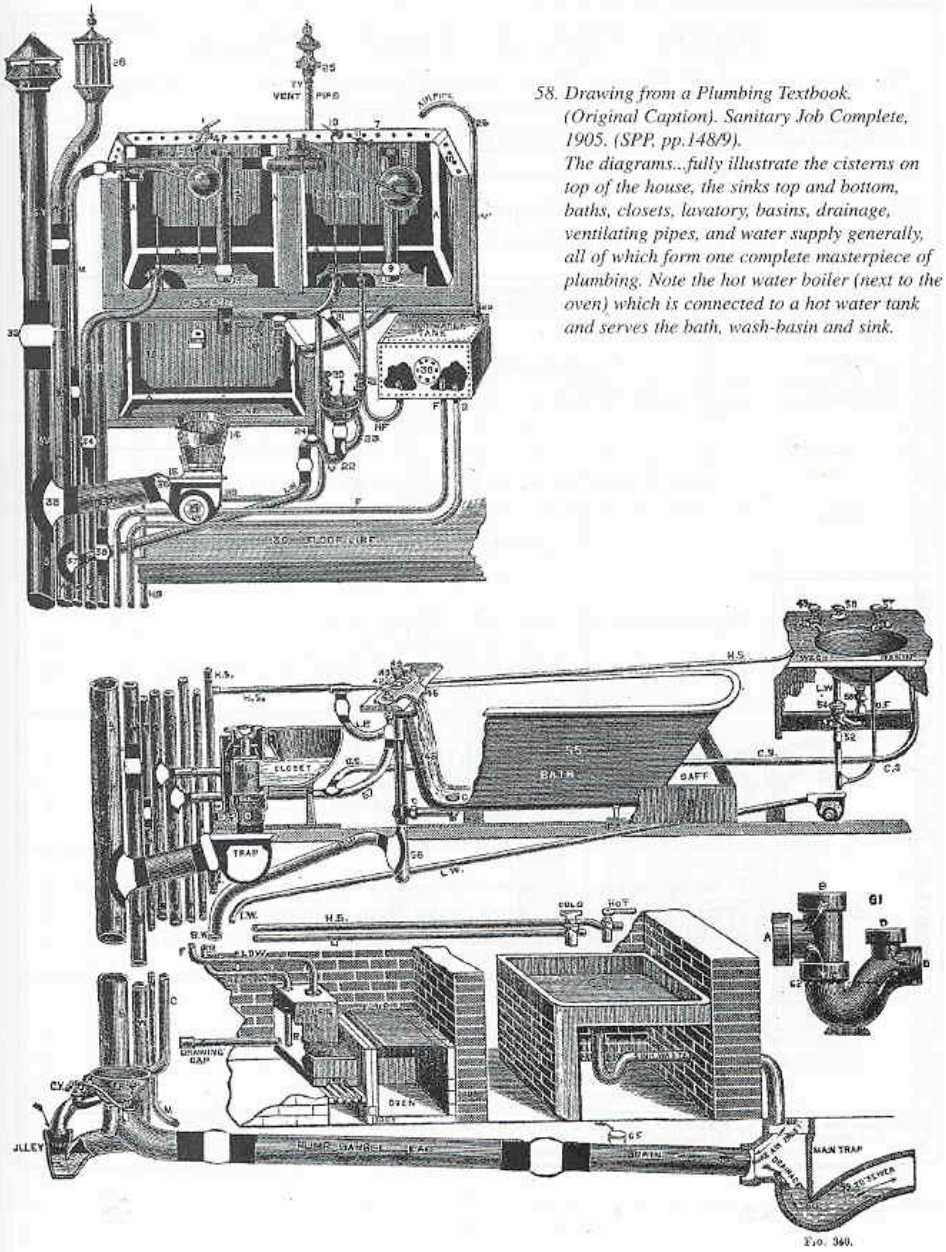
The Turn of the Century

The close of the reign of Queen Victoria saw the development of hot water boilers, both for heating and for domestic and institutional hot water supply. Up to this time, steam boilers had traditionally been used in schools, hospitals and large buildings where heating, cooking and a motive power source (for driving engines or generators) was required.

Some of the first domestic hot water systems used storage tanks or direct cylinders, the water often being heated by a kitchen range or boiler. Once the problems caused by boiler scaling, due to the constant changing of water, were realised indirect systems were widely adopted.

Surprisingly, a number of early systems used high pressure hot water boilers and kitchen ranges to heat a domestic hot water indirect cylinder. These were derived from the system first patented by A M Perkins in 1831, but the high temperatures employed, as much as 170°C, and the high system pressures, posed safety risks and it fell into disfavour with fire insurance companies. Boilers for the direct supply of hot water had to be specially developed. As a heating textbook of 1904 records: *"A coil boiler or any other form of boiler with small or contracted waterways is not suitable for direct hot water supply, because they are quickly choked with deposit."* Walter Jones, 2nd President of the IHVE advocated the adoption of an indirect method of heating domestic hot water. *"With indirect hot water supply the cost of upkeep in repairs or renewals is infinitesimal, the results obtained, and the convenience far than more compensate for the small extra cost."* So it was the indirect cylinder, usually located in the airing cupboard, with the boiler downstairs in the kitchen, that came into widespread use.

The gas-fired instantaneous water heater continued to be improved and its ability to provide hot water very quickly proved increasingly popular. In many houses, the geyser was fitted to existing circulating pipes to work in conjunction with, or independently of, the boiler or kitchen range. The standard size geyser recommended for ordinary domestic use at this time was capable of heating four gallons per minute. However, the industry was still learning of the risks in these installations. Contemporary textbooks refer to the perils of inadequate draught, foul flue gases, frost damage, explosions, problems of lime deposit and rust formation, and how to size and locate water cisterns, cold feed pipes and expansion pipes.



58. Drawing from a Plumbing Textbook. (Original Caption). Sanitary Job Complete, 1905. (SPP, pp.148/9).
The diagrams...fully illustrate the cisterns on top of the house, the sinks top and bottom, baths, closets, lavatory, basins, drainage, ventilating pipes, and water supply generally, all of which form one complete masterpiece of plumbing. Note the hot water boiler (next to the oven) which is connected to a hot water tank and serves the bath, wash-basin and sink.

(ABOUT HALF-SIZE)

PLAN FOR A TIME SHEET,

To be given up on Friday Evening or first thing Saturday Morning.

Write plainly in Ink as stated here and below; do not tear or soil this Time Sheet, which must be made up and kept ready for inspection first thing each morning. No money or wages under any pretence will be paid unless these and the rules below are strictly complied with

Write Name and Trade on this line, *Thomas Jordan, Plumber.*

Write your Address on this line, 31, *Old Lane, Hammersmith.*

P. J. DAVIES' Workman's Time Sheet for the Week ending *September* 28, 1883.

	WHERE AT.	Minutely write down the description of Work done each Day, and within the spaces for each day, and the time taken on EACH Job in the Hours' column.	HOURS.
Saturday's work	*General W. H. Smith, Wimbledon-pk.*	*To measuring Lead for large Tank in Turret; also the Cistern on third floor; also the Cistern on ground floor; also for the two Butler's Pantry Sinks; also for the two Housemaid's Sinks; and also for the Washing-up Sink in Scullery.*	4½
Monday's work	*Ditto.*	*To making Plank Platform for unrolling the sheet Lead for Cisterns.*	3
		To cutting out and taking up into the turret the Lead for lining large Tank.	1
		To unrolling, flapping out Lead, and turning up the two sides for large Tank.	2
Tuesday's work.	*Ditto.*	*To putting Lead into large Tank in Turret, soiling and preparing same for soldering.*	2½
		To shaving Lead and soldering up large Tank. 97 ft. run of soldering.	6½
Wednesday's work	*Ditto.*	*To cutting out Lead for Cistern on third floor and getting same up to Cistern.*	4
		To flapping out Lead and lining Cistern on third floor, and soldering up same, 30 ft. of soldering.	5
Thursday's work	*Ditto.*	*To cutting out Lead for Cistern on ground floor and taking same to Cistern.*	4
		To cutting out Lead for Butler's Pantry Sinks, and taking same to Sinks.	2
		To cutting out Lead for Housemaid's Sinks and taking same to Plumber's Shop.	3
Friday's work.	*Ditto.*	*To lining two Butler's Pantry Sinks, 24 ft. of soldering.*	5
		To lining two Housemaid's Sinks.	4
		Total Hours	49½

On the other side write the Materials either taken out or received, together with date when received or returned, and where for or from. If scaffolding, steps, ladders, cords, ropes, trucks, carting, &c., be had or used, state for how long employed, when taken out or returned.

59. From a Plumbing Textbook. Plan for a Time Sheet, 1905. (SPP, p.338).

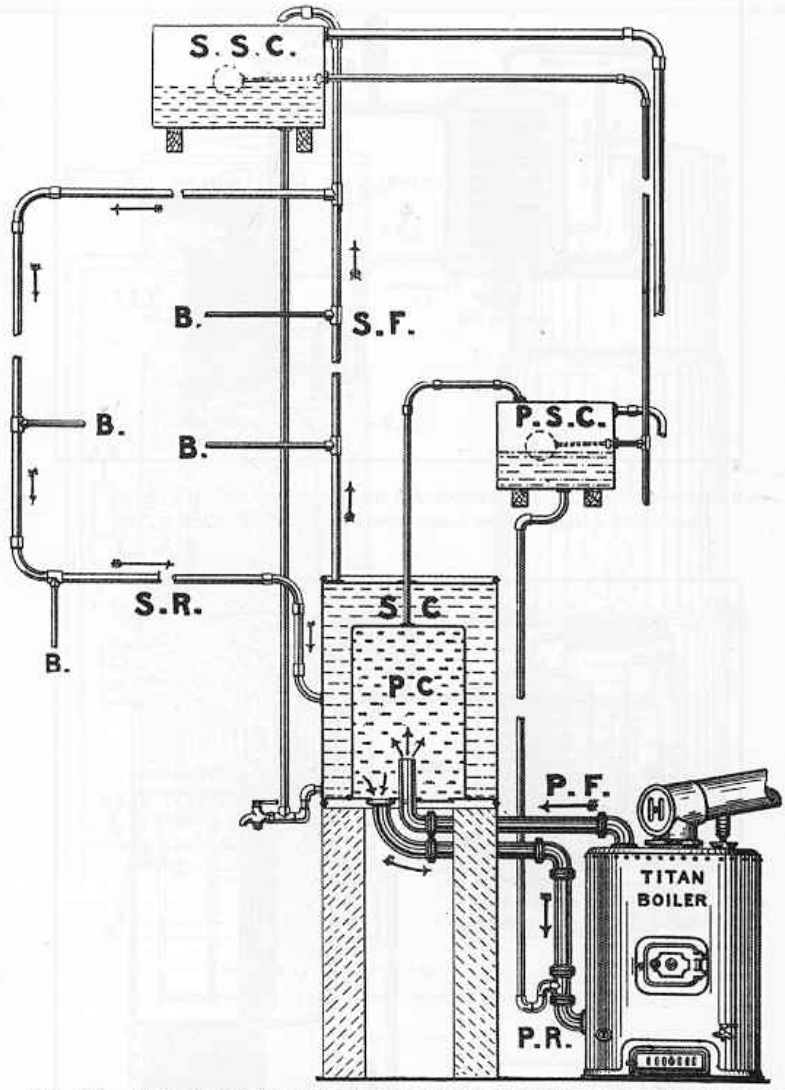
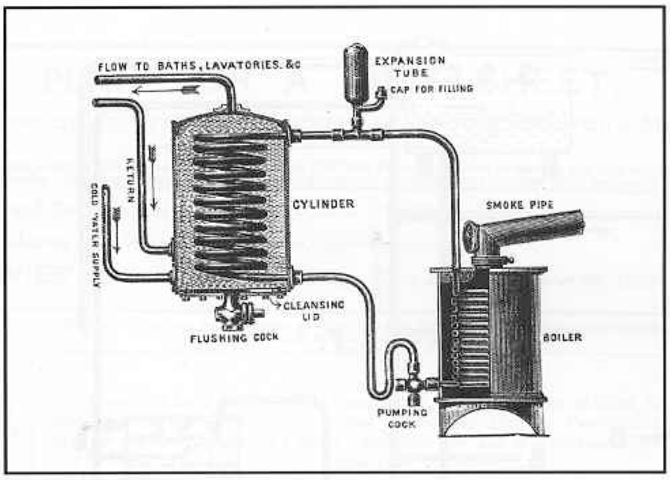


FIG. 129.—' TITAN '' BOILER AND DOUBLE CYLINDER FOR INDIRECT HOT WATER SUPPLY.

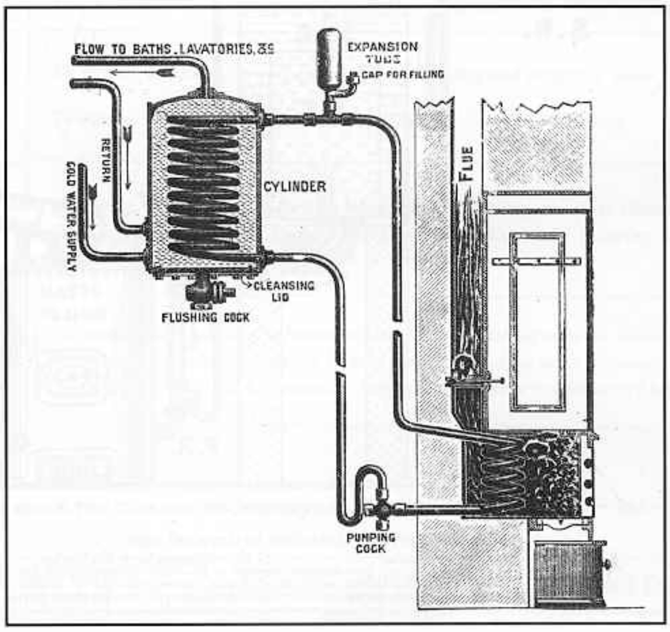
Description: B. Branches to draw-off taps.

P.C.	Primary Cylinder.		S.C.	Secondary Cylinder.	
P.F.	,,	Flow pipe.	S.F.	,,	Flow pipe.
P.R.	,,	Return pipe.	S.R.	,,	Return pipe.
P.S.C.	,,	Supply Cistern.	S.S.C.	,,	Supply Cistern.

60. Drawing from a Heating Textbook. A Titan Vertical Wrought Rivetted Self-Contained Boiler & Double Cylinder for Indirect Hot Water Supply, 1904. (HHW, p.271).



61. Drawing from a Heating Textbook. Hot Water Supply by Indirect Cylinder, Heated from a High Pressure Independent Furnace, 1904. (HHW, p.270).



62. Drawing from a Heating Textbook. Hot Water Supply by Indirect Cylinder, Heated by a High Pressure Coil in a Solid-Fuel Fired Kitchen Range, 1904. (HHW, p.269).

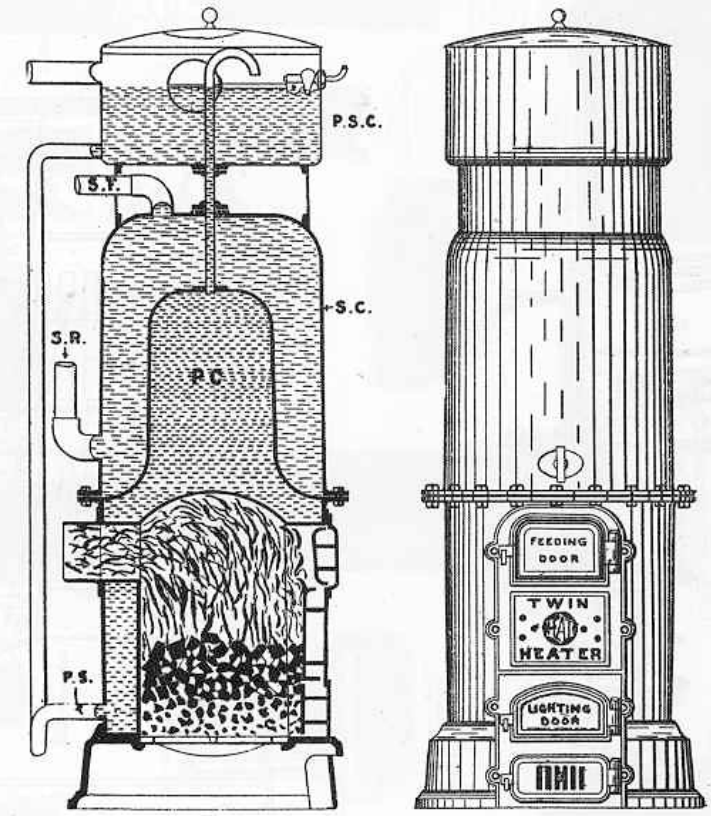


FIG. 130.

TWIN HEATER (PATENT) FOR INDIRECT HOT WATER SUPPLY.

Description :

P.C.	Primary Cylinder.	S.C.	Secondary Cylinder.
P.S.	,, Supply.	S.F.	,, Flow Pipe.
P.S.C.	,, Supply Cistern.	S.R.	,, Return Pipe.

63. Drawing from a Heating Textbook, Patented Twin Heater for Hot Water Supply, 1904. (HHW, p.273).

O plunge your hands in water,
Plunge them in up to the wrist;
Stare, stare in the basin
And wonder what you've missed.
Birthday Poem, W H Auden, 1907/73.

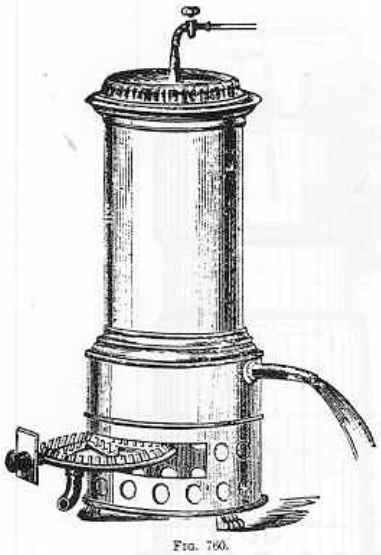


Fig. 760.

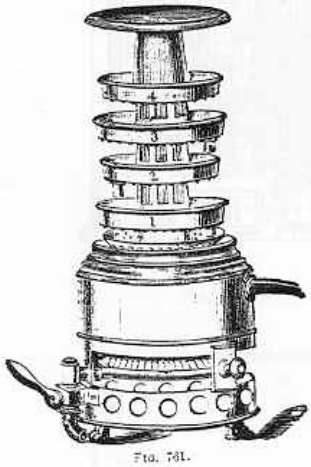


Fig. 761.

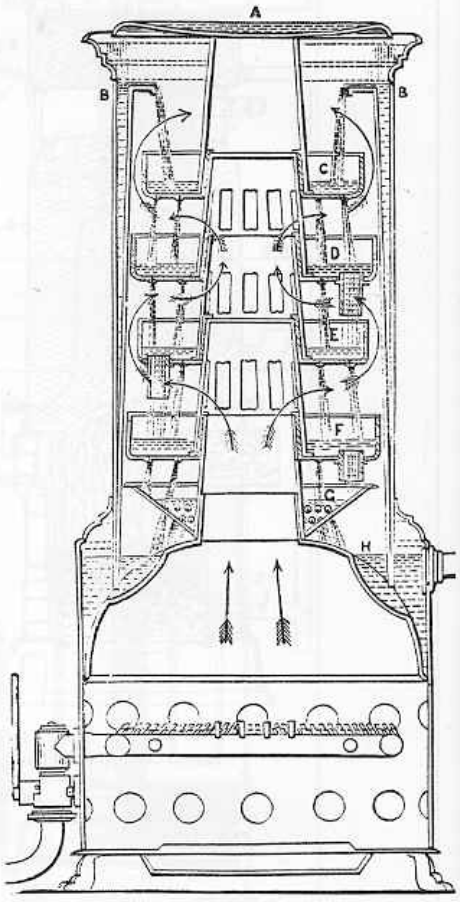
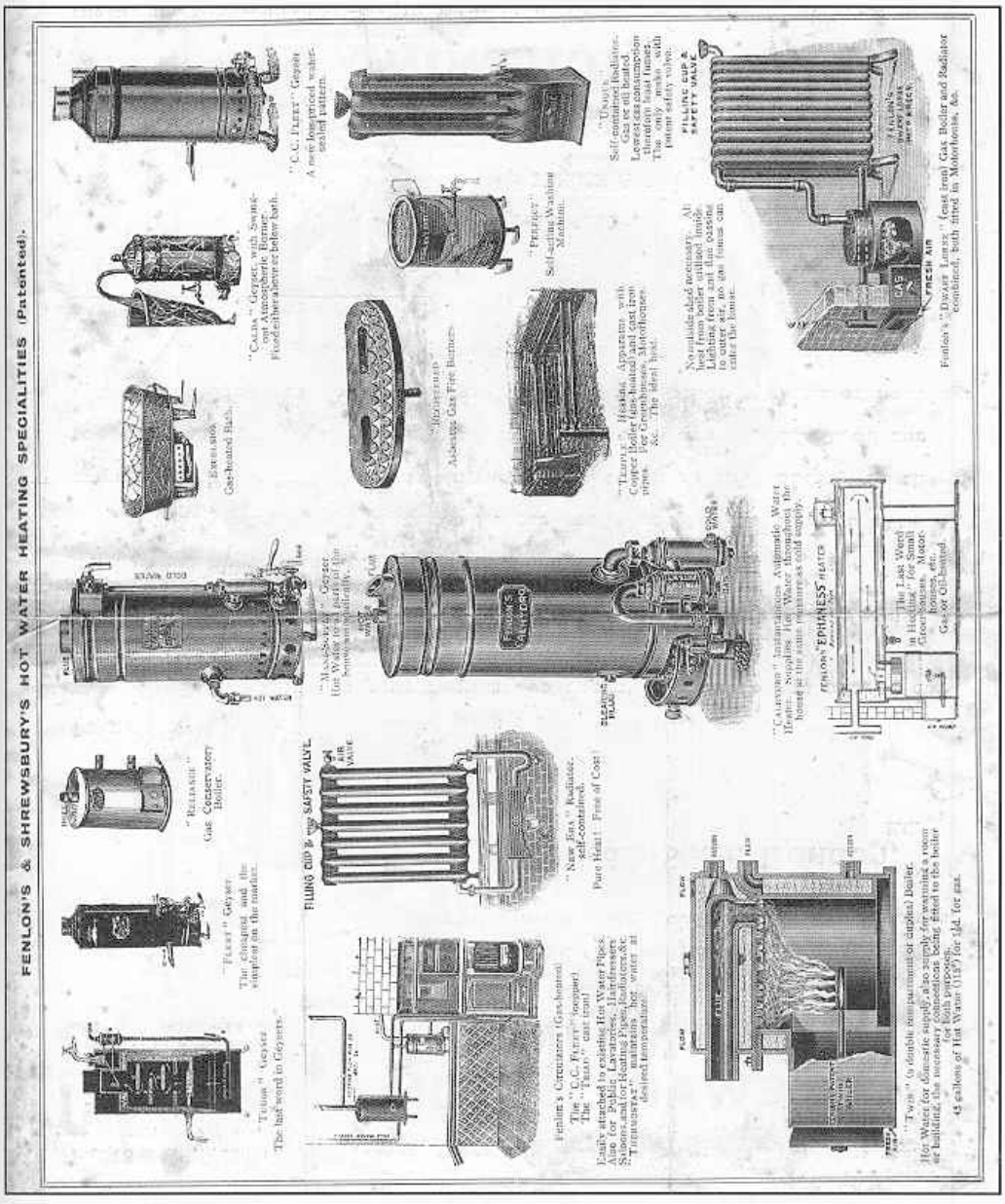


Fig. 762.

64. Drawings from a Plumbing Textbook, under the heading Hot Water Supply to Stabling. Ewart's Patent Califont Instantaneous Gas Hot Water Boiler, 1905.
(SSP, pp.317/8).
Top left, with casing in place; bottom left, casing part removed; right, section.

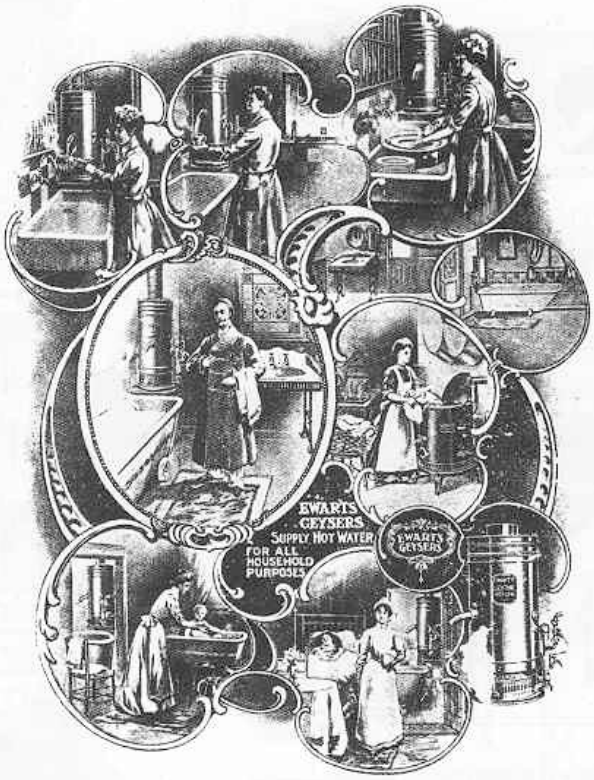


65. Fenlon's & Shrewsbury's Hot Water Heating Specialities, 1911. (Paul Yunnie Collection).

Hot Water Instantly, Night or Day.

EWART'S LIGHTNING GEYSER.

PATENTED. REGISTERED.



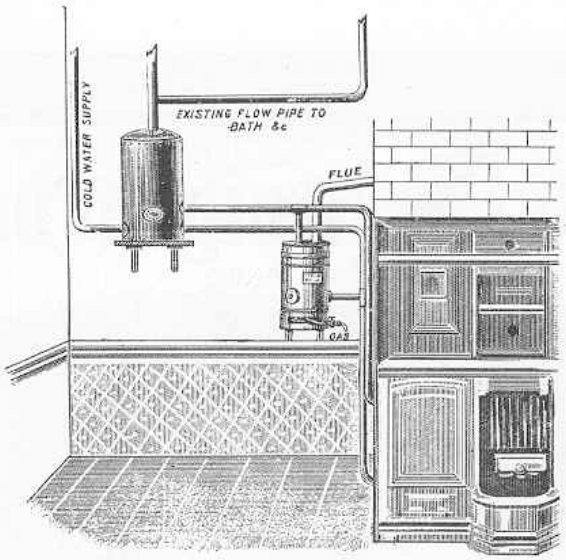
Illustrated Catalogue and Guide to Water Heating by Gas, post free on application to the Patentees and Manufacturers:

EWART & SON, LTD.,

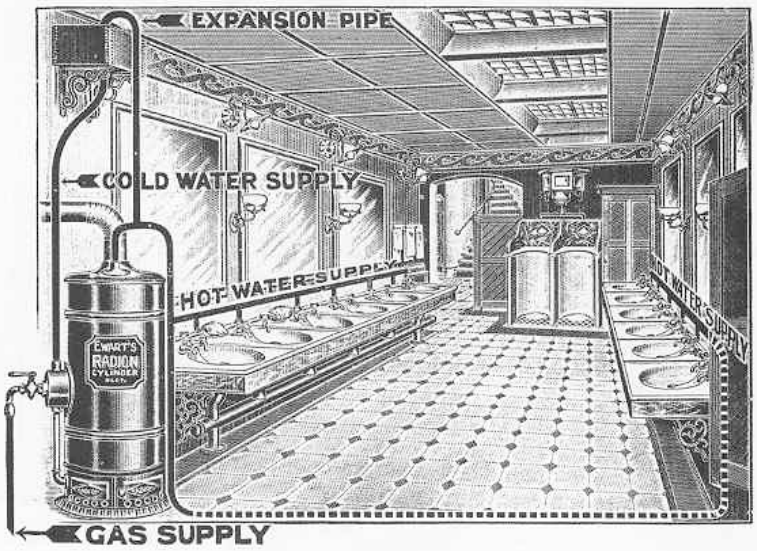
346-350 EUSTON ROAD, LONDON, N.W.

Telegrams: "GEYSER, LONDON." ESTABLISHED 1834. Telephones 2570, 2571, 2572 North

66. Advert. Ewart's Lightning Geyser, Ewart & Son, London, 1910. (MTP, p.xii).



67. Drawing from a Plumbing Textbook.
Combination Gas Geyser & Solid-Fuel Kitchen Range for Water Heating. 1910. (MTP, p.104).



68. Drawing from a Plumbing Textbook. An Ewart Radion Cylinder, or Gas Heated Geyser, providing Hot Water to Lavatory Wash-Basins, 1910. (MTP, p.105).

69. Advert. The Children's Enjoyment of the Bath Requires an Ample Supply of Hot Water, The British Commercial Gas Association, from Punch, 3 May 1916. (HGT Collection).