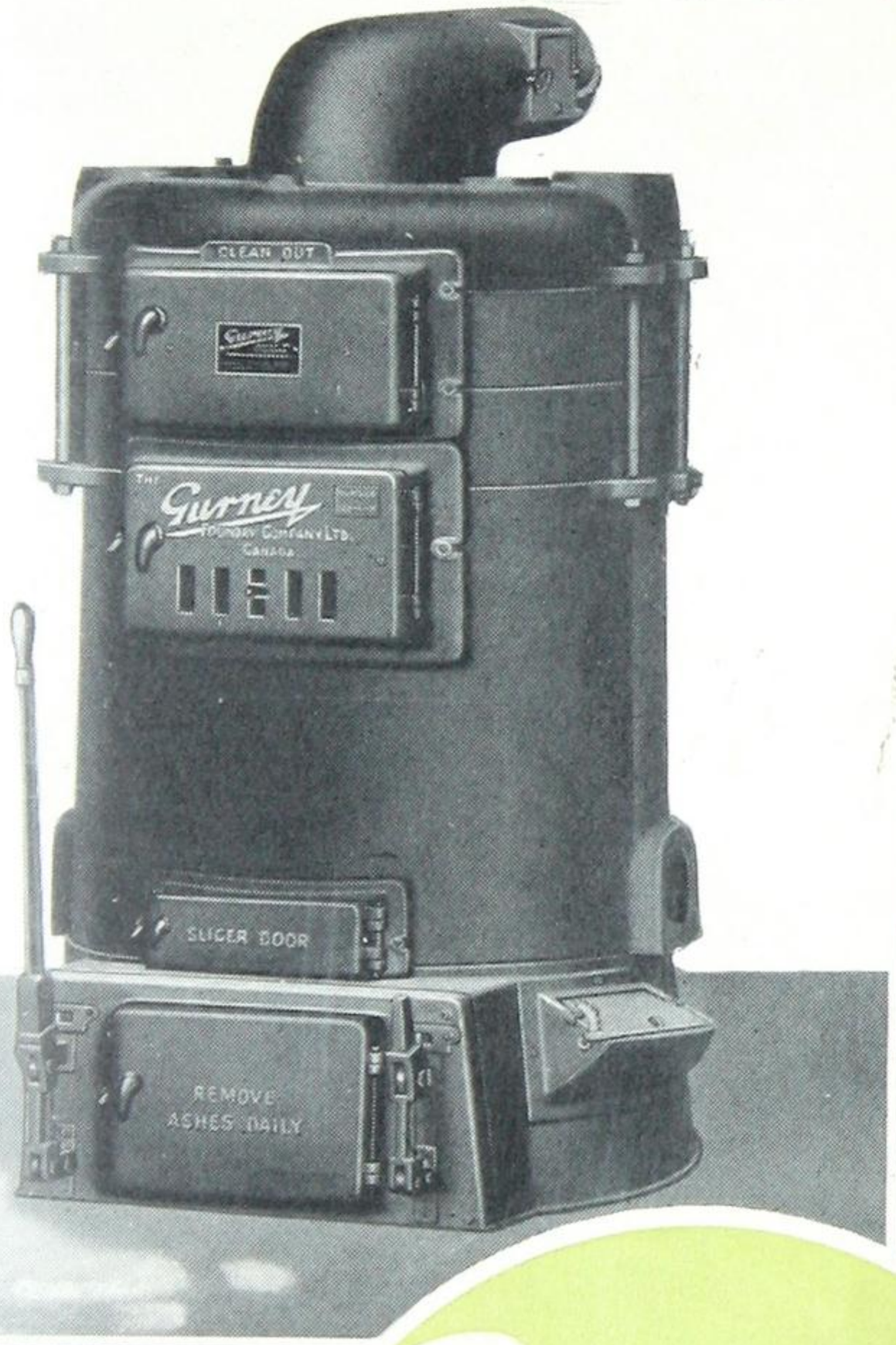
Ellery

BOILERS AND RADIATORS

A Better Boiler



Gurney

100 Series Round Boiler

THE GURNEY FOUNDRY COMPANY
LIMITED
TORONTO AND MONTREAL
WINNIPEG VANCOUVER

A Better Boiler

For Hot Water Heating

IN the New Hundred Series Gurney Boiler we are offering a more reliable and more economical boiler than was ever before available for practical heating. While designed for efficiency and economy, the ease of operation of this new boiler is a revelation.

Years of experience have taught us the factors which go toward making a perfect boiler. These are a deep firepot, large combustion space, ample fire travel with well designed flues, generous water connections between the sections, free water travel, a good grate with a deep ashpit, tight-fitting doors and perfect draft control. *This New Gurney Boiler has all of these.*

Both research and experience have shown that the firepot plays one of the most important parts in a heating boiler. The Hundred Series firepot is deeper than in any other boiler. This provides ample combustion space above the fuel bed, gives greater heating surface at the most effective point and increases the coal capacity, giving longer firing periods, lessened attention, steadier heat, a fire which is easier to control and above all *"Economy."* This deeper firepot will be specially appreciated in localities where coke or the lower grades of coal are burned.

All doors on this new boiler are tight fitting. The firedoor is of such size that any ordinary fire shovel may be used. The large clinker door and ashpit door make for ease in tending.

With the tight fitting doors previously mentioned draft control becomes a simple matter. Air is admitted to the fire where and when it is wanted. The draft door is located at the side of the base so that when automatic control is used the connecting chains are out of the way. The shutter of this draft is accurately balanced and operates on brass points which will not corrode. A means is provided allowing the draft to be set in any desired position by hand, or automatic control may be used.

A double checking damper is provided in the all cast iron, smoke hood. A slide draft is also provided in the firedoor.

The flue spaces through the sections have been carefully proportioned and are so arranged that there is positive staggering in all sizes of the boiler. This staggering ensures a long fire travel which extracts the maximum amount of heat from the hot gasses before they leave the boiler. All flue surfaces are easily cleaned through the large cleanout door at the front of the boiler.

All water connections between sections and firepot in the New Hundred Series Boiler are made with accurately machined, cast iron, oversize nipples.

The water travel is free and unobstructed at any point. Two large ports, one at either side of the firepot carry the water upward to the intermediate sections with a minimum amount of friction and provide a free internal water circulation.


CLEAN OUT
THE Gurney FOUNDRY COMPANY LTD. CANADA
SLICER DOOR
REMOVE ASHES DAILY

The upper section is worthy of special note. The outer part of this section is deeper than the balance of the sections, thus affording a large free circulation area that ensures a clear and rapid passing of the water to the flow connections. A positive circulation to all mains is assured.

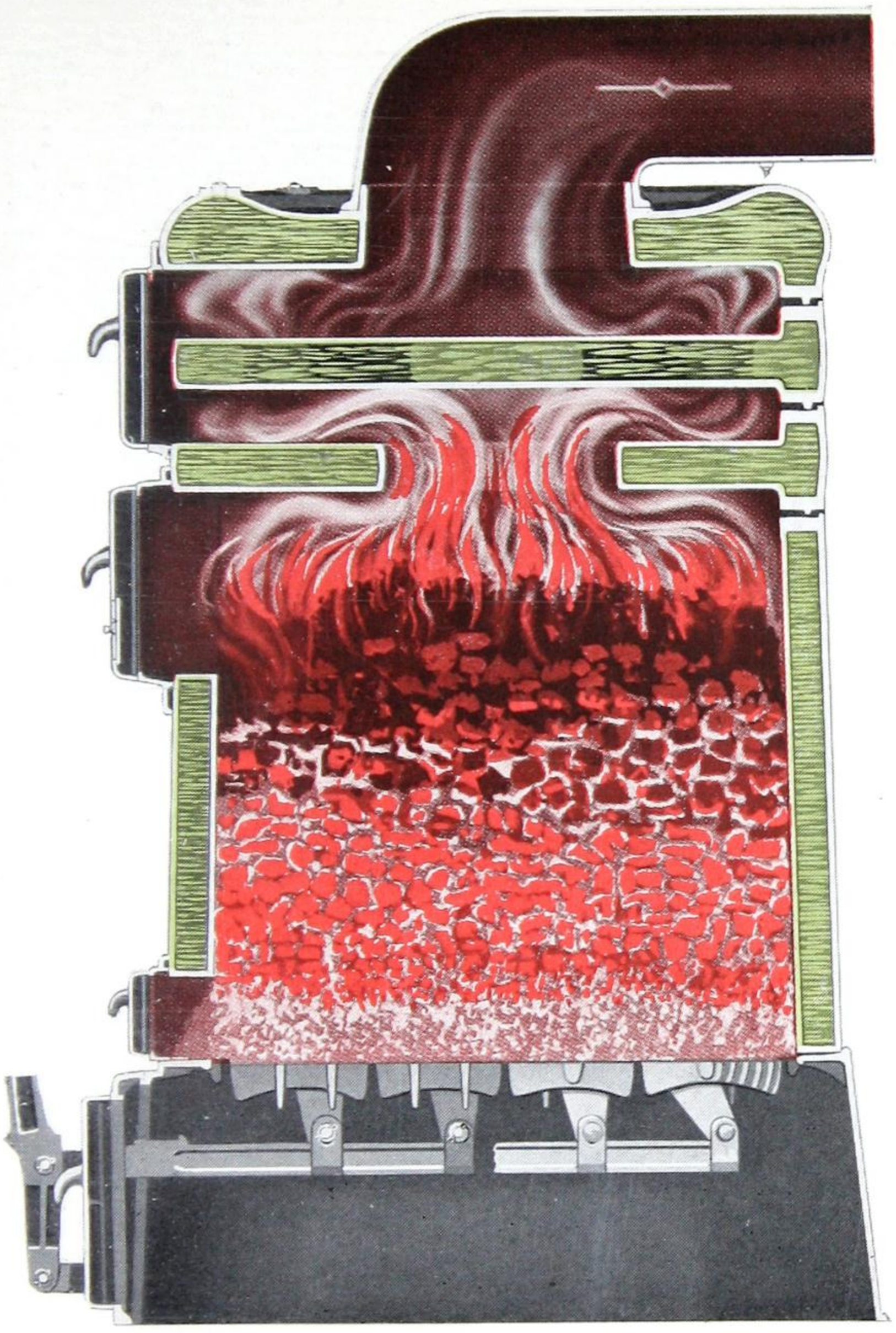
Any kind of coal or coke may be successfully burned in this boiler. This is due chiefly to the grate construction. The grates are of the rocking and dumping type—easy to operate. It is not necessary to stoop to shake or dump the fire. A simple locking device makes it impossible to dump the grates unless it is desired. In the design of the bars ample free air space has been allowed for perfect combustion without making the grate a fuel waster.

The fitter will be interested in knowing that the height of the bases in all sizes is uniform.

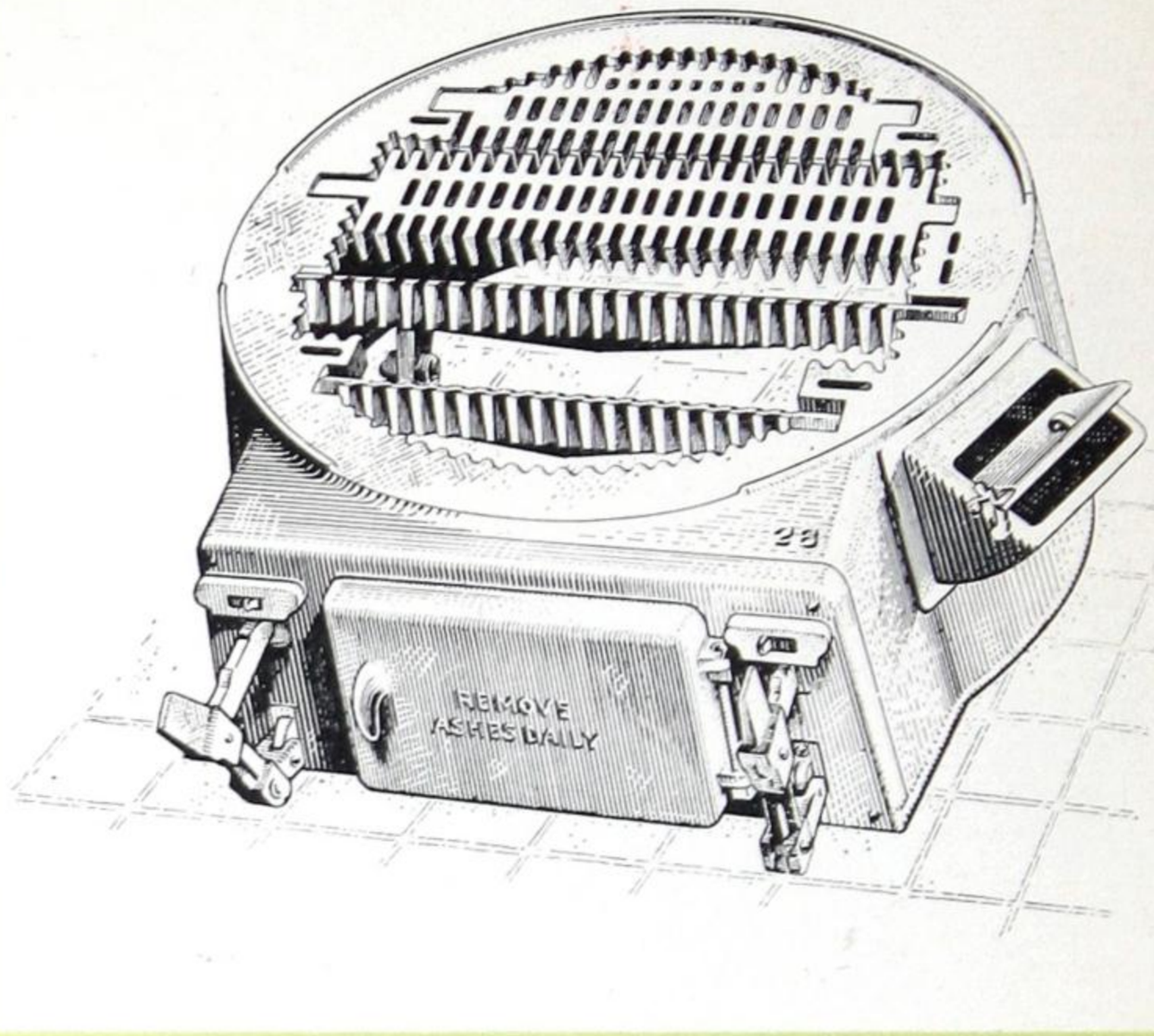
The ashpit is in one piece, deep enough to keep the ashes from the grates, and dust tight.

In keeping with modern practice tapped openings are provided for a hot water thermometer, altitude guage, automatic regulator and a relief valve. These accessories are not included with the boiler but they are available and their use adds much to the refinement of the heating plant.

In short, the many meritorious features of the New Gurney Hundred Series Boiler make it the most up-to-date and efficient boiler on the market.



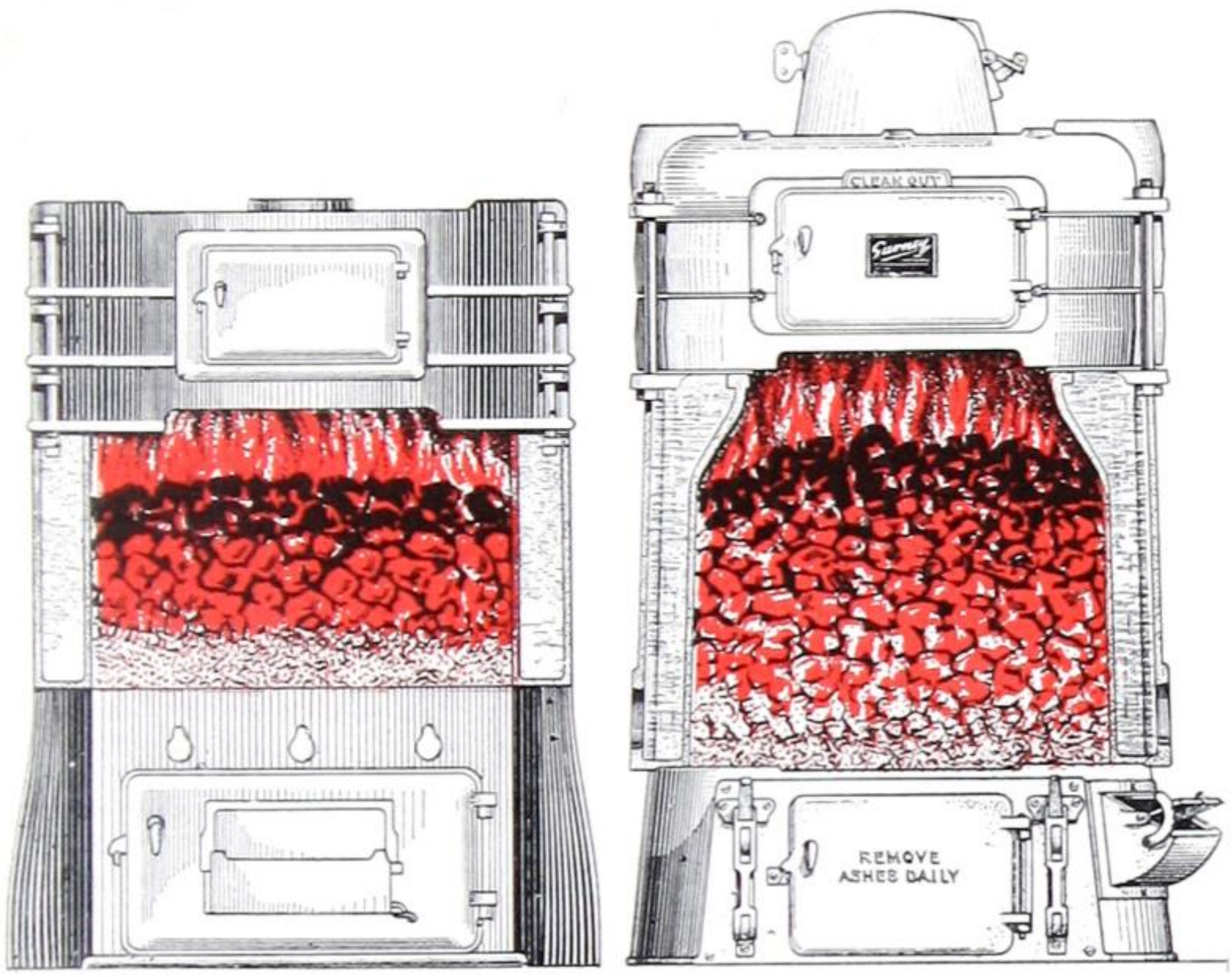
This Sectional view gives an excellent idea of the long fire travel and the deep firepot of the New Gurney Hundred Series Boiler. Note how the staggered flues cause the hot gases to pass completely around all the water sections before they pass out of the boiler.



Grates —
of the New 100 Series Boiler

The illustration above shows the base of the 28″ size. In the 28″ and 31″ sizes, two shakers are provided as illustrated while the 22″ and 25″ boilers have only one shaker connection.

The front position of this grate is shown in the "Dumping" position. You will note the heavy trussed construction of the bars and the dust tight, one piece, base.



A Typical Boiler of the Old Type

New Gurney 100 Series Boiler

The two boilers shown above give a graphic idea of the large firepot of the New Hundred Series Boiler.

This new firepot is one of the secrets of perfect combustion and economy. It has 25% to 50% greater coal capacity than other makes. This means, less attention, steadier heat, and an easier controlled fire.

Gurney New 100 Series Hot Water Boilers

For Hard or Soft Coal, Coke, Gas and Oil Burners

Boiler No.	Boiler Capacity Feet	Grate Dia. Inches.	Sizes & No. Inlets & Outlets. Inches.	Chimney Size. Inches.	Chimney Heights. Feet.
122-4	790	22	2-3	9 x 9	35
122-5	845	22	2-3	9 x 9	35
122-6	900	22	2-3	9 x 9	40
125-4	975	25	2-3 ½	9 x 9	35
125-5	1050	25	2-3 ½	9 x 9	35
125-6	1125	25	2-3 ½	9 x 9	40
128-4	1150	28	2-4	9 x 12	35
128-5	1250	28	2-4	9 x 12	40
128-6	1350	28	2-4	12 x 12	40
131-4	1725	31	2-4	12 x 12	40
131-5	1875	31	2-4	12 x 12	40
131-6	2025	31	2-4	12 x 12	45

Boiler Capacities

THE capacities of heating boilers are based on the use of a good grade of anthracite (hard coal) coal and it is assumed that the boiler is attached to a chimney flue of adequate size and draft.

Where soft coal or other fuels are used due consideration should be given their greater bulk in proportion to their weight and the necessary attendance required.

Due allowance should also be made for fuel of lower value than anthracite (hard coal) having 13000 B.T.U. per pound. When fuel of a lower value is used a larger sized boiler should be figured.

Figures given under capacities are for feet of direct cast iron radiation and the equivalent with the water 180 degrees Fahr. at the boiler. For indirect radiation allow 75% extra in figuring the footage.

When a pipe coil or heater in the fire-pot is used for heating domestic hot water allow for the equivalent of 75 to 100 feet of direct radiation.

In determining the size of boiler required all piping mains and risers are to be figured as radiating surface in addition to the direct cast iron radiation to be used, bearing in mind that usually such mains and risers have a greater cooling effect than an equivalent amount of direct radiation installed in heated rooms. On the average an addition to the direct cast iron radiation of 25% to 30% should be made to allow for the mains and risers.

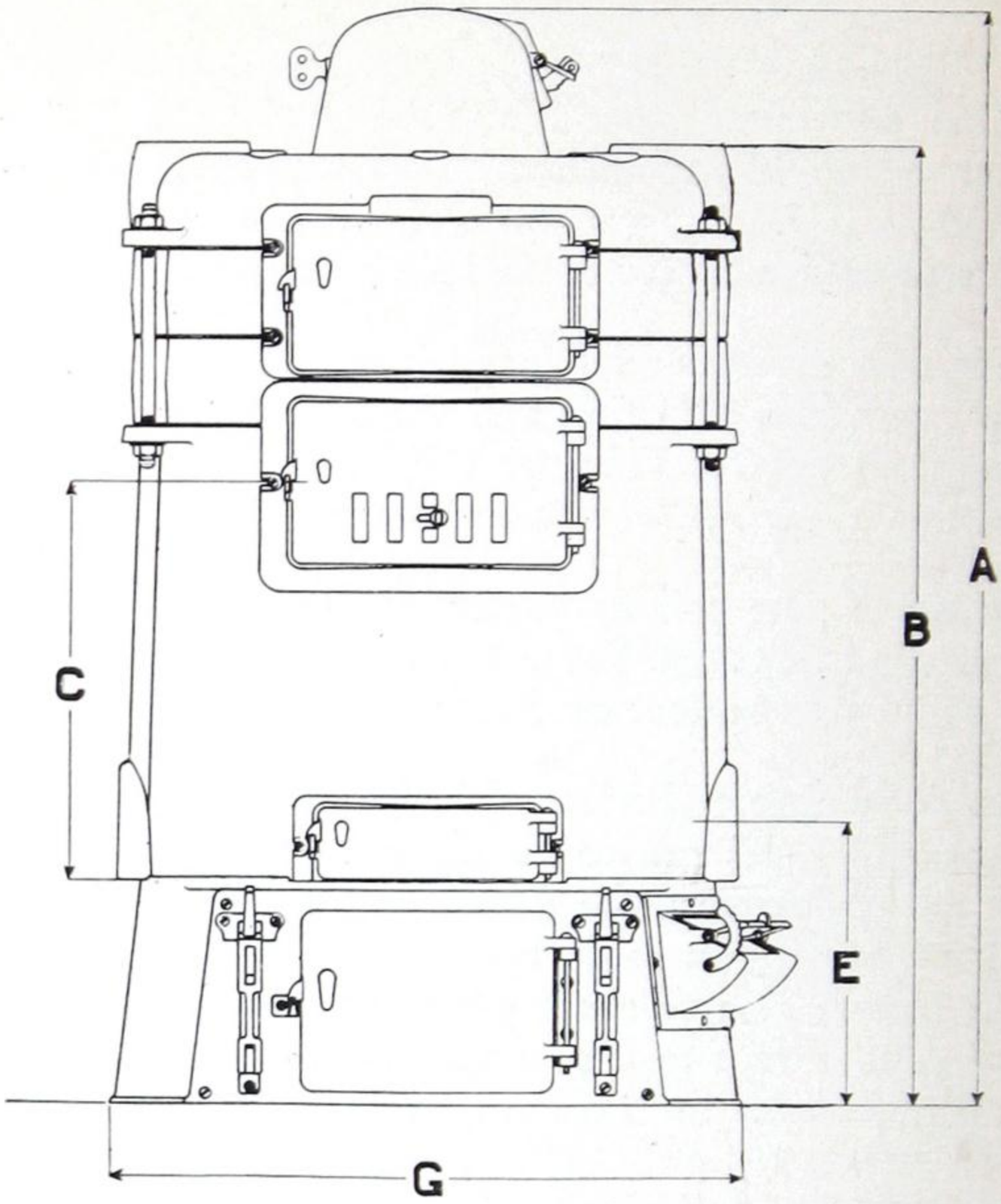
For economy and efficiency it is recommended that the boiler and all exposed lines of piping be substantially covered with asbestos or other equivalent insulating material.

We recommend the

4 Series—For low grade fuels, low chimneys and weak drafts.

5 Series—For normal conditions of chimney and drafts.

6 Series—For strong draft and tall chimneys, also where oil burners are used.



Measurements

Boiler No.	A	B	C	E	G
122-4-W	56 1/4	48 1/4	21	16 3/4	30 3/4
122-5-W	60 3/4	52 3/4	21	16 3/4	30 3/4
122-6-W	65 1/2	57 1/2	21	16 3/4	30 3/4
125-4-W	57 1/2	49 1/2	22	16 3/4	33 1/2
125-5-W	62 1/2	54 1/2	22	16 3/4	33 1/2
125-6-W	67 1/4	59 1/4	22	16 3/4	33 1/2
128-4-W	59 1/4	51 1/4	23	16 3/4	36 1/2
128-5-W	64 1/2	56 1/2	23	16 3/4	36 1/2
128-6-W	69 1/2	61 1/2	23	16 3/4	36 1/2
131-4-W	60 1/4	52 1/4	24	16 3/4	40 1/2
131-5-W	65 1/2	57 1/2	24	16 3/4	40 1/2
131-6-W	70 1/2	62 1/2	24	16 3/4	40 1/2

NOTE:—All measurements are in inches.

C-120-10M-5-27

Gurney

HEATERS

For Home Heating

THE GURNEY FOUNDRY COMPANY
LIMITED

TORONTO AND MONTREAL

WINNIPEG VANCOUVER

Gurney

HOT WATER HEATERS

THIS new line of Gurney Heaters marks a great improvement in heaters of this type. There are three sizes, as detailed on page 6, every one of which will be found thoroughly satisfactory for the job it is designed to fill.

They possess many qualities which commend them to the owner of the small and moderate sized home, having all the very best features of the large boilers used in the most pretentious residences yet are especially designed for medium and small homes.

They are also useful as auxiliaries where a smaller boiler would reduce the expense of operating a large boiler during mild weather. It is real economy to have one of these Gurney Heaters coupled alongside a large boiler.

The following special features of this line of heaters put them in a class by themselves.

They have the most power in proportion to their size.

Long firing period—due to great depth of fire-pot. Yet, even when the fuel is level with the center of the firedoor, ample space for perfect combustion of the gases is provided.

Large firedoor for easy firing—big enough to use an ordinary shovel.

Locking and dumping shaker arrangement—moderate shaking or dumping action is easily controlled.

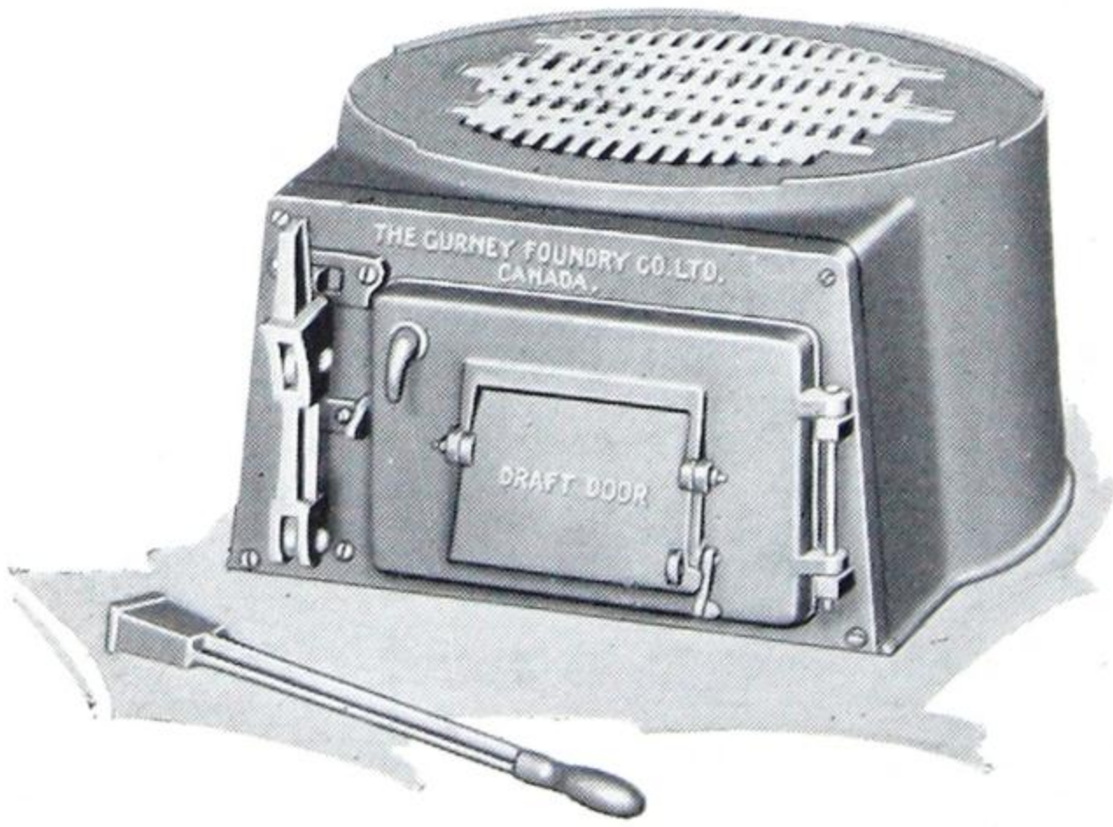
Easy to assemble. Every part is accurately made by the most modern foundry methods.

Great power in proportion to the coal burned. Scientifically designed heating surfaces and unrestricted water ways make this possible.

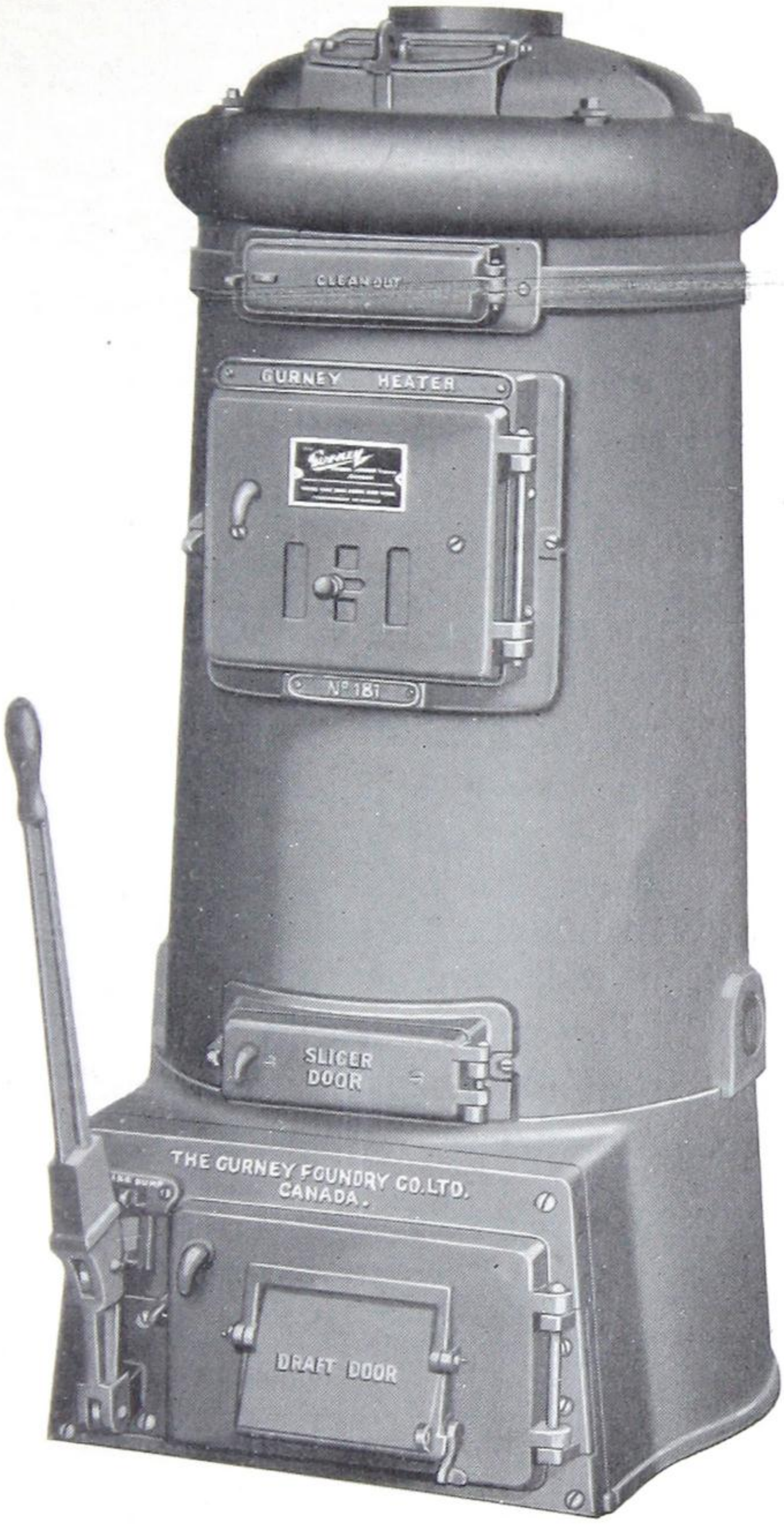
Deep ashpit with large door—makes the removal of ashes a simple matter.

Grates are designed to handle any kind of fuel. Sifting of ashes is unnecessary under normal operating conditions.

A large clinker door permits the removal of any ordinary clinker.



This illustration shows the design and construction of the grates. Any kind of fuel is handled with ease.



GURNEY HOT WATER HEATER No. 181

Note the various features as described in the previous pages.

Boiler Capacities

THE capacities of heating boilers are based on the use of a good grade of anthracite (hard coal) and it is assumed that the boiler is attached to a chimney flue of adequate size and draft.

Where soft coal or other fuels are used due consideration should be given their greater bulk in proportion to their weight and the necessary attendance required.

Due allowance should also be made for fuel of lower value than anthracite (hard coal) having 13000 B.T.U. per pound. When fuel of a lower value is used a larger sized boiler should be figured.

Figures given under capacities are for feet of direct cast iron radiation or the equivalent with the water 180 degrees Fahr. at the boiler. For indirect radiation allow 75% extra in figuring the footage.

When a pipe coil or heater in the fire-pot is used for heating domestic hot water allow for the equivalent of 75 to 100 feet of direct radiation.

In determining the size of boiler required all piping mains and risers are to be figured as radiating surface in addition to the direct cast iron radiation to be used, bearing in mind that usually such mains and risers have a greater cooling effect than an equivalent amount of direct radia-

tion installed in heated rooms. On the average an addition to the direct cast iron radiation of 25% to 30% should be made to allow for the mains and risers.

For economy and efficiency it is recommended that the boiler and all exposed lines of piping be substantially covered with asbestos or other equivalent insulating material.

RATINGS

Heater No.	Grate Diam.	Tappings Flow and Return	Rating Feet
Gurney Heater No. 121.....	12	3–1½	200
Gurney Heater No. 151.....	15	3–2	400
Gurney Heater No. 181.....	18	3–2	600

Note—All Dimensions in Inches.

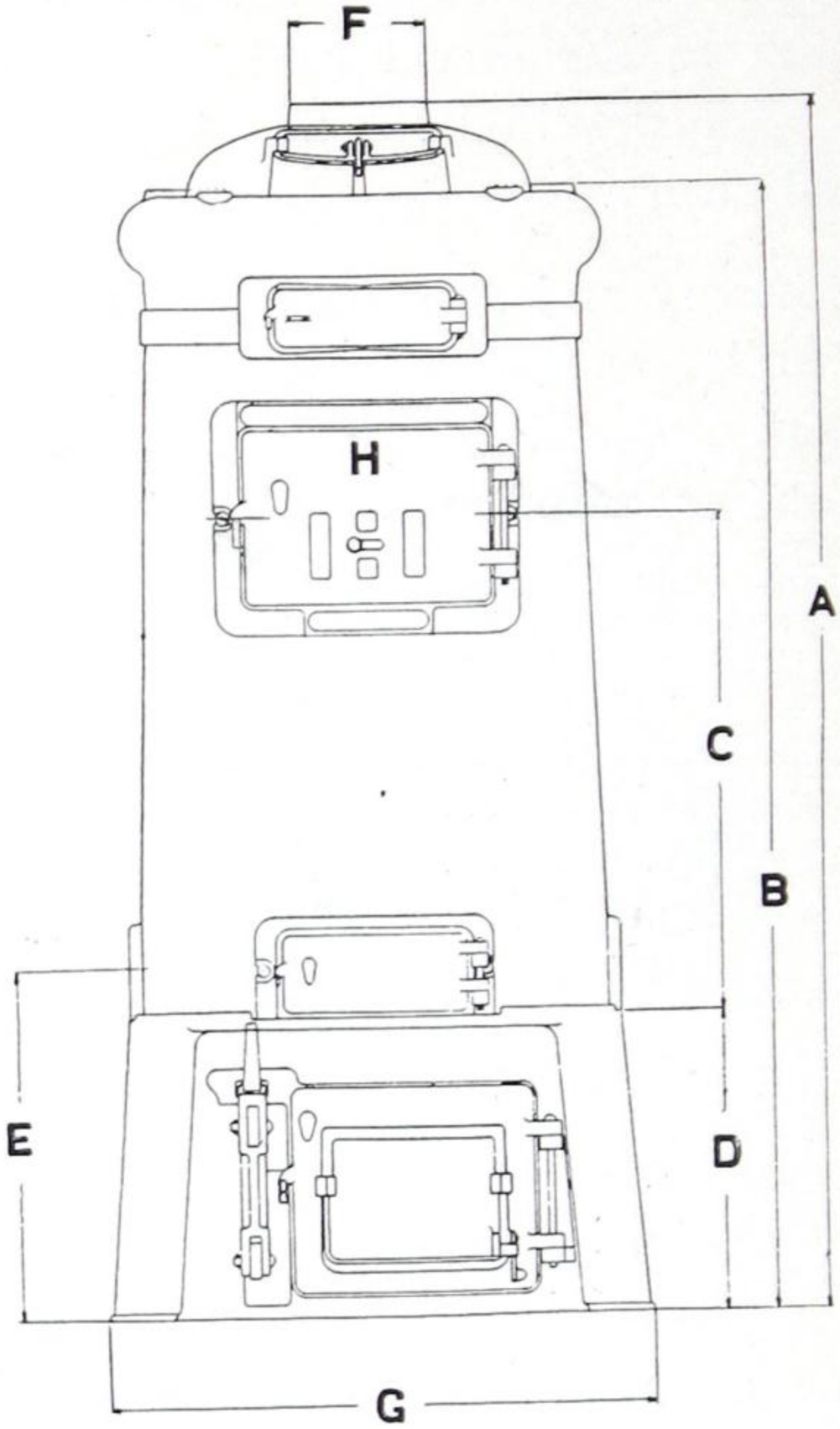
Above Ratings based on ANTHRACITE as fuel—when other grades are used, due allowance to be made.

Nos. 151 and 181 can be supplied with cast iron waterback for domestic hot water supply.

Nos. 151 and 181 are tapped for Altitude Gauge and Thermometer.

No. 121 is tapped for Thermometer only.

If Domestic Waterback is used for Hot Water Supply, due allowance is to be made for such load.



DIMENSIONS

Number	Hgt. to Top of Smoke Hood	Hgt. to Top of Supply Taps	Grate to Centre Fire Door	Height of Base	Hgt. to Centre of Return Taps	Diam. of Smoke Pipe	Width of Base	Size of Fire Door
	A	B	C	D	E	F	G	H
121	46	43	16½	13	15	6	21	7x10
151	52	48	21¼	13	15	6	23½	7x10
181	54	50	21¼	13	15	7	26	9½x11

C-127-5M-7-27

Gurney

Round Boilers

"G" Series
and
"B" Series

THE GURNEY FOUNDRY COMPANY
LIMITED

TORONTO AND MONTREAL

WINNIPEG VANCOUVER

GURNEY "G" SERIES
ROUND HOT WATER BOILER

(Illustrating No. 4-G.)

"G" SERIES
GURNEY HOT WATER BOILERS
Ratings, Weights, Etc.

No. of Boiler	Net Rating, Radiation, Feet	Gross Rating Radiation, Feet	Nominal Dia. Grate, Inches	Diameter of Smoke Collar, Inches	No. of Flow and Return Openings	Approximate Shipping Weights
1-G	235	375	17¼	7	2–2in.	910
2-G	335	550	20¼	7	4–2in.	1200
3-G	500	750	22	8	4–2in.	1375
4-G	670	1025	25	8	4–2in.	1550
5-G	835	1250	27	10	6–2in.	1950
6-G	1000	1500	29	10	6–2in.	2200

All mains should be adequately covered with good non-conducting material.

Make due allowance for mains and risers when selecting size of boiler required.

Detail measurements on pages 5 and 6.

Chimneys of adequate size are necessary to good results.

OXFORD
ROUND HOT WATER BOILER

(Illustrating No. 9-D.)

OXFORD HOT WATER BOILERS

Ratings, Weights, Etc.

No. of Boiler	Net Rating Radiation, Feet	Gross Rating Radiation, Feet	Diameter of Grate, Inches	Diameter of Smoke Collar, Inches	No. of Flow and Return Outlets	Approximate Shipping Weight, Low Base
6½-C	1250	1875	32¼	10	6–2	3300
7-B	1500	2250	35¼	11	8–2	3400
8-C	2000	3000	37	11	8–2	4700
9-D	2667	4000	38½	11	12–2	5300
10-C	4000	5500	42	12	12–2	5700

All mains should be adequately covered with good non-conducting material.

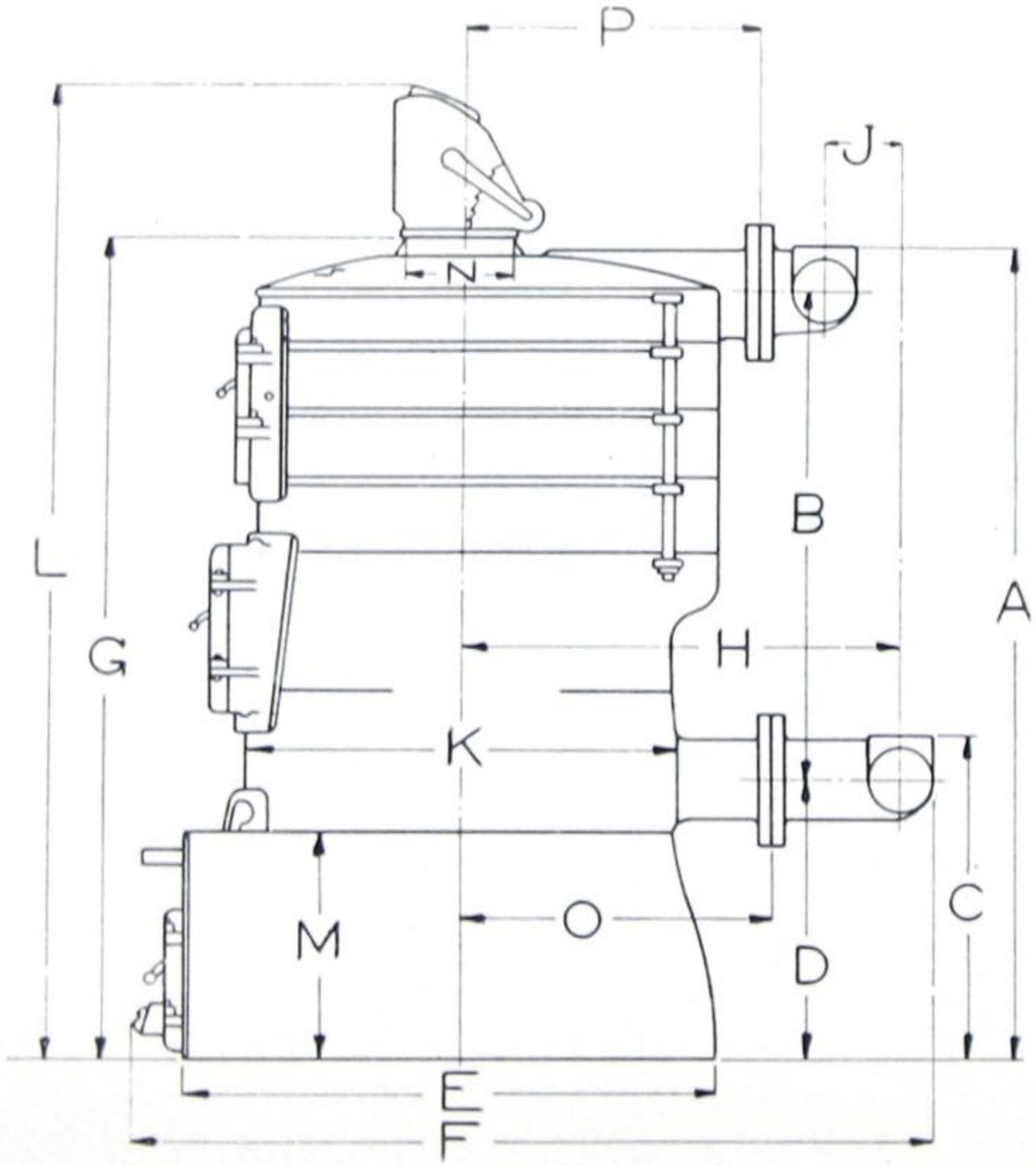
Make due allowance for mains and risers when selecting size of boiler required.

Detail measurements on pages 5 and 7.

Chimneys of adequate size are necessary to good results.

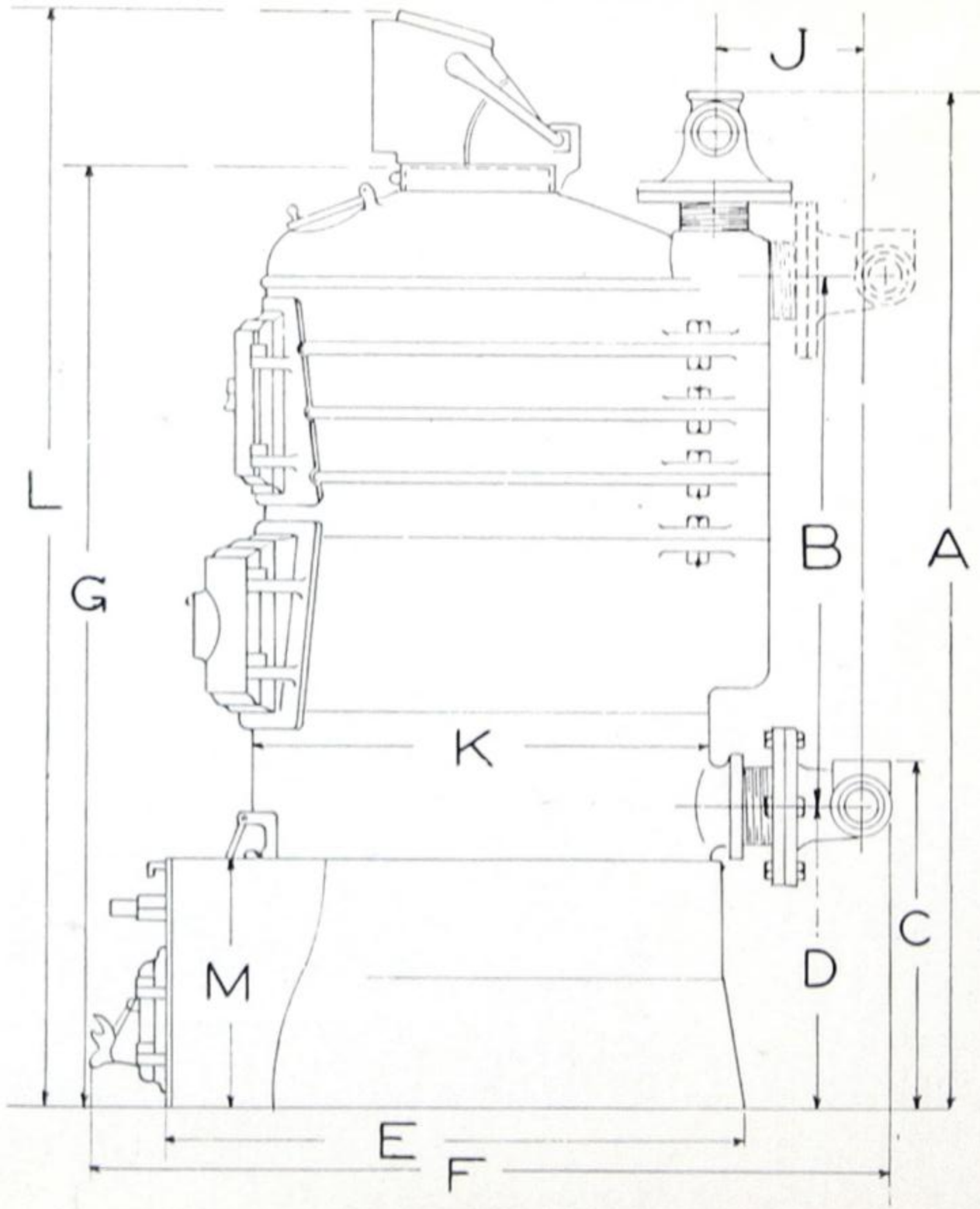
Where a low cellar height makes the saving of every inch desirable, we can supply a special top section with back outlet to take flow header.

This effects a saving in height of No. 6½-C. 11", No. 7-B. 10", No. 8-C. 9½", No. 9-D and No. 10-C. on application.



"G" SERIES

For dimensions see page 6.



"B" SERIES

For dimensions see page 7.

"G" SERIES GURNEY ROUND HOT WATER BOILERS

Dimensions

Dimen. / No. of Boiler	A Height to Top of Header, Inches	B Centre to Centre of Flanged Openings (Vertical)	C Floor to Top of Return Header	D Floor to Centre of Return, Inches	E Length of Base, Inches	F Length Overall, Inches	G Height to Top of Smoke Collar, Inches	H Centre of Boiler to Centre of Return	J Dist. between Flow and Return Headers Horizontal	K Outside Diameter of Fire-Pot, Inches	L Height to Top of Economizer, Inches	M Height of Base, Inches	O Centre of Boiler to Face of Return Flange	P Centre of Boiler to Face of Flow Header	Size of Valves for Twinning
1-G	45½	28	17¼	15½	26¼	39½	46	19½	....	20½	54½	13	15¼	15⅜	3
2-G	48½	29½	19	16½	30	47	48½	25¼	4½	24½	57¼	13	16¾	16¾	4
3-G	49½	29½	20½	17½	32	49¾	51	27	5	26	60	14½	18½	18¼	4
4-G	53	31	21¾	18¾	35	53¼	53½	29½	6¼	29	62½	15½	21	19¾	4
5-G	56	32	24½	21½	37¼	58½	56	32¼	5½	31½	66½	17½	22¼	21⅛	5
6-G	55¼	31¾	24	21	40	60	56½	32	5	34	67	17½	20½	22⅛	5

See diagram on page 5.

STANDARD DIMENSIONS OXFORD "B" SERIES ROUND HOT WATER BOILERS

Dimension	A	B	C	D	E	F	G	J	K	L	M	
No. of Boiler	Total Height to Top of Headers, inches	Centre of Return to Centre of Flow or Special Back Outlet	Floor to Top of Return, inches	Floor to Centre of Return, inches	Length of Base, inches	Length Over-all, inches	Height to Top of Smoke Collar, ins.	Centre to Centre of Headers, inches	Outside Diameter of Firepot, inches	Height to Top of Economizer, inches	Height of Base, inches	Size of Valve for Twinning
6½-C	73¼	37½	24½	20⅞	42¾	60	65¾	15	38½	76	17½	5
7-B	71½	36½	24½	20⅞	46½	62	65	11¼	41	76	17½	5
8-C	75¼	39	25	21⅜	48½	66	67	14	42¼	77½	17½	5
9-D	75½	38½	25	20⅞	48½	69½	65½	13	43¾	75¾	18	6
10-C	78		25¼	21	52	73	68½	14¾	51	79½	18	6

Where a low cellar height makes the saving of every inch desirable, we can supply a special top section with back outlet to take flow header.

This effects a saving in height of No. 6½-C 11 in., No. 7-B 10 in., No. 8-C 9½ in., No. 9-D and No. 10-C on application.

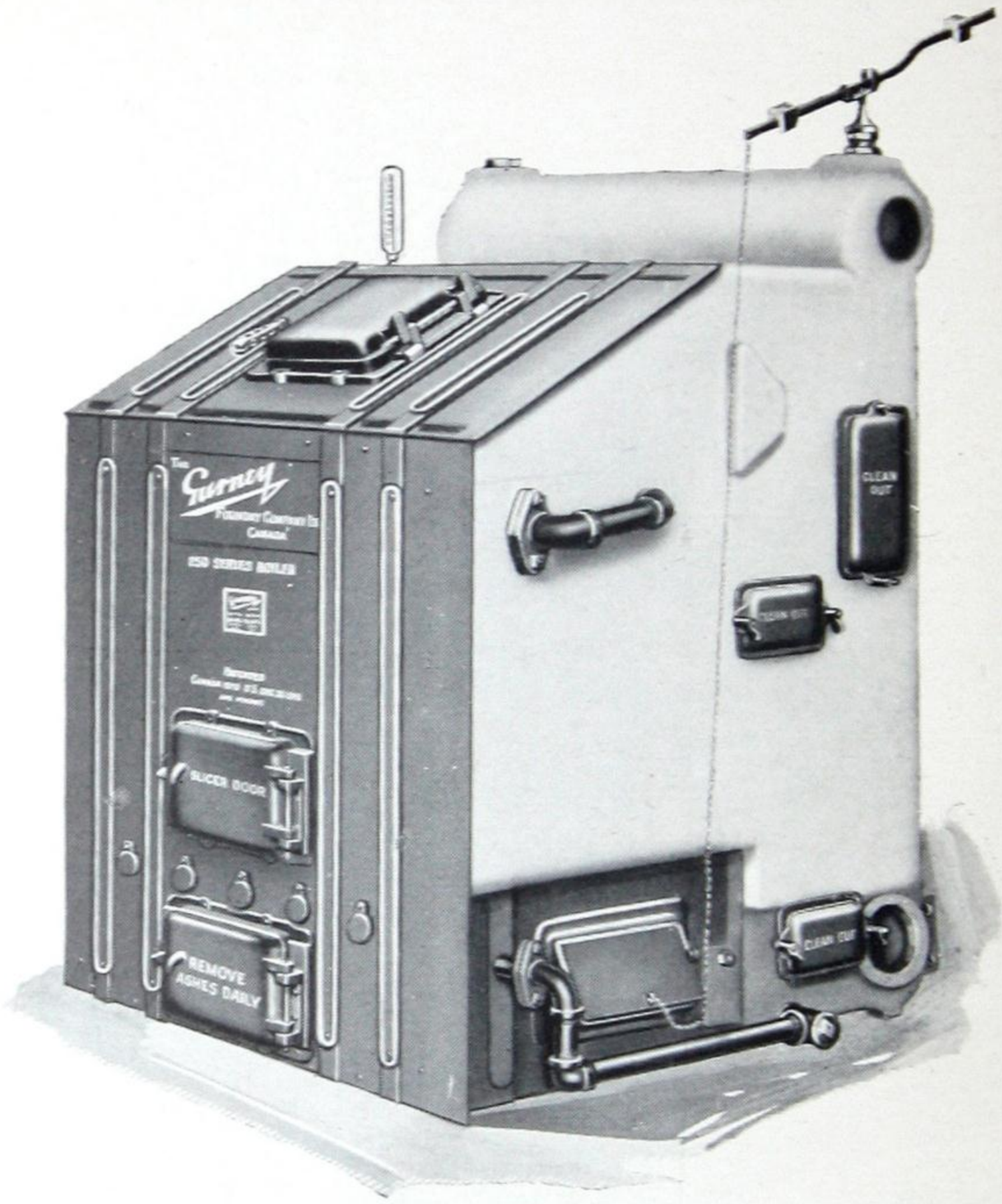
See diagram on page 5.

Gurney

250 Series Boiler

— for Heating —

A Soft Coal Boiler *that gives* Hard Coal Results



Illustrating a No. W-251-8
250 Series Boiler.

Gurney

250 SERIES BOILER

For Hot Water or Steam Heating

THE Gurney 250 Series Boiler provides a great improvement over all former types of heating boilers. It solves practically all the problems that have vexed both the makers and users of heating plants for years. Fuel economy, clean and easy operation, steady, even heat and the fact that it successfully burns non-caking soft coal with anthracite attention and results, are the factors which favor this boiler.

It is at once a radical departure in fuel burning and the successful application of scientific principles to the extraction of heat units from coal or coke. Instead of burning off the surface with up draft, the fuel is burned from the bottom in just such quantities as are required—no more, no less. Far greater fuel economy is achieved than with up draft and combustion is practically perfect. The proof of this is the fact that no greasy black soot will be found in the flues; only a fine, grey, ashy powder with scarcely a trace of unconsumed carbon. There is virtually no waste. The most stringent smoke laws are fully complied with, no matter what fuel is used.

The Gurney 250 Series Boiler is designed specially for use with non-caking soft coal and when this fuel is used it is without doubt an ideal heating unit. With it no more attention is required in this boiler than when using anthracite in the ordinary type of up draft boiler, and the cost of fuel of this character is considerably less.

A non-caking soft coal not only has a high heat value, but also a very low ash content. These features combined with present day price conditions make it an ideal fuel for heating when the building is equipped with a Gurney 250 Series Boiler.

As will be seen in the sectional view, the fuel chamber is filled through the door in the top and is fed by gravity to the fire as required. This constant feeding of the fuel aids the almost perfect combustion that takes place in this boiler.

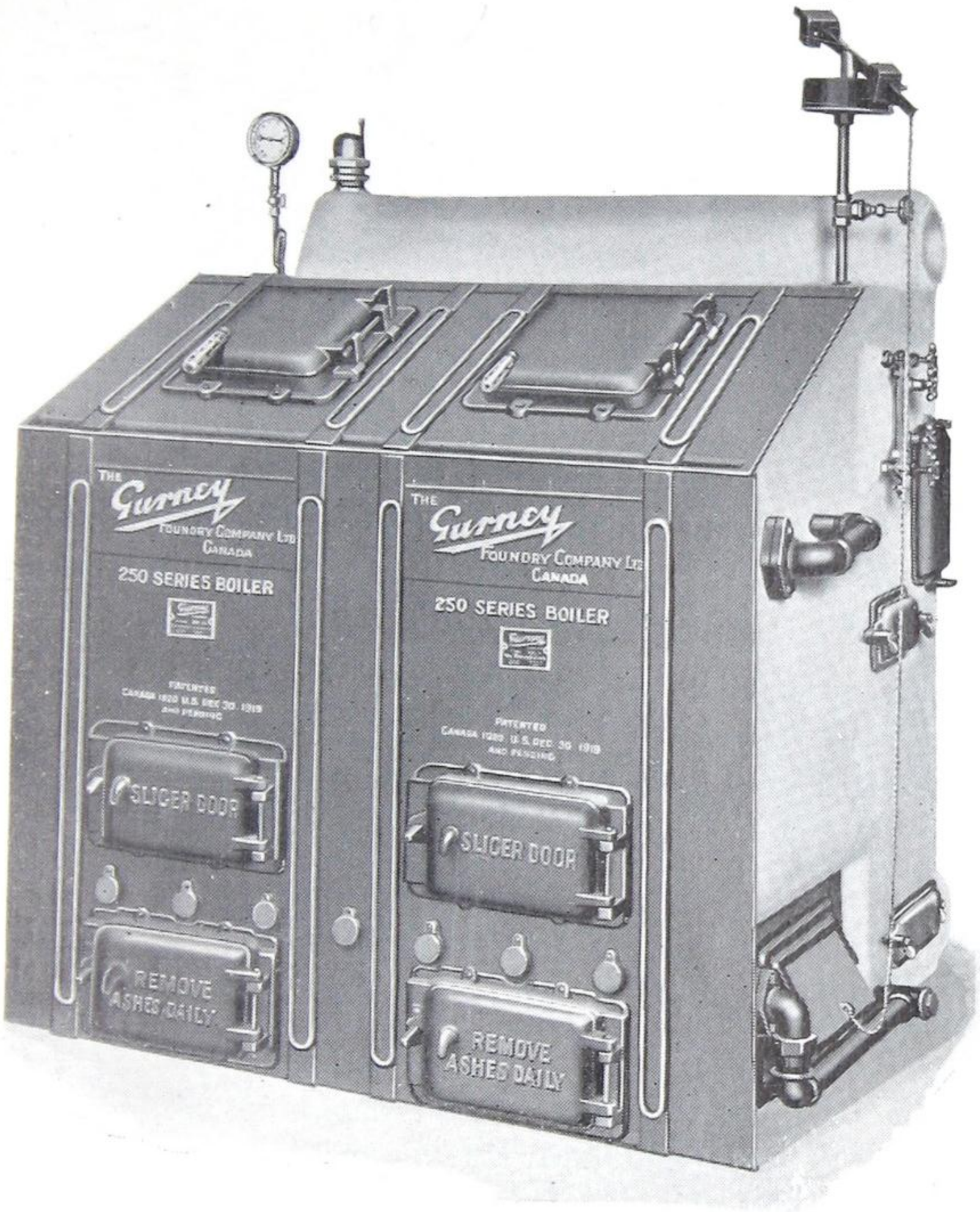
When you use the poker or shake the grates, **all** the ashes drop into the ashpit and not on the floor around the boiler. After the boiler has been in operation for from ten to fifteen hours, or even a full day without attention, the fire can be cleaned in a moment by a simple, easy movement of the grates.

Each grate bar is separate and independent of the others, and turns readily. Instead of a noisy rattling of the grates back and forth, each bar is shaken by itself without noise, depositing the accumulated ashes in the ashpit. When this is done the grates are as clean as when a new fire is started.

While turning the grates the coal is held back by a film of ash. Merely touching this ash releases the coal above, and a fresh glowing fire comes down onto the grate bars pushing the film of ash ahead of it. The fire then consists of live coal without any ash. Putting in fresh fuel does not retard the fire. You have a steady even heat all the time.

When cleaning the fire in the Gurney 250 Series Boiler, the stoking door is left open thus drawing the dust down into the flues. Because of this not a particle of dust escapes into the boiler room.

There are Gurney 250 Series Boilers for a wide range of Hot Water and Steam heating systems. They are made with a steam capacity of from 1100 feet of direct radiation to 4675 feet. For water the capacity runs from 1900 feet to 7750 feet.



Illustrating a No. S-251-9 250 Series Boiler.

The larger sizes are suitable for apartment houses, warehouses, public and semi-public buildings and stores. The smaller sizes will supply ample heat for medium and large size residences.

In Principle —

AS can be seen in the sectional view of the Gurney 250 Series Boiler, the fuel supply is carried in the fire-box in the front part of the boiler and is supported by the grates. The air necessary for combustion is admitted into the chamber beneath the grates through perfectly balanced draft doors at either end, and is supplied to the fire in three ways.

1. Directly through the grates.
2. Across the fire from front to back.
3. To the top of the fuel bed by passing up through the insulated front passage and then down through the magazine to the burning fuel.

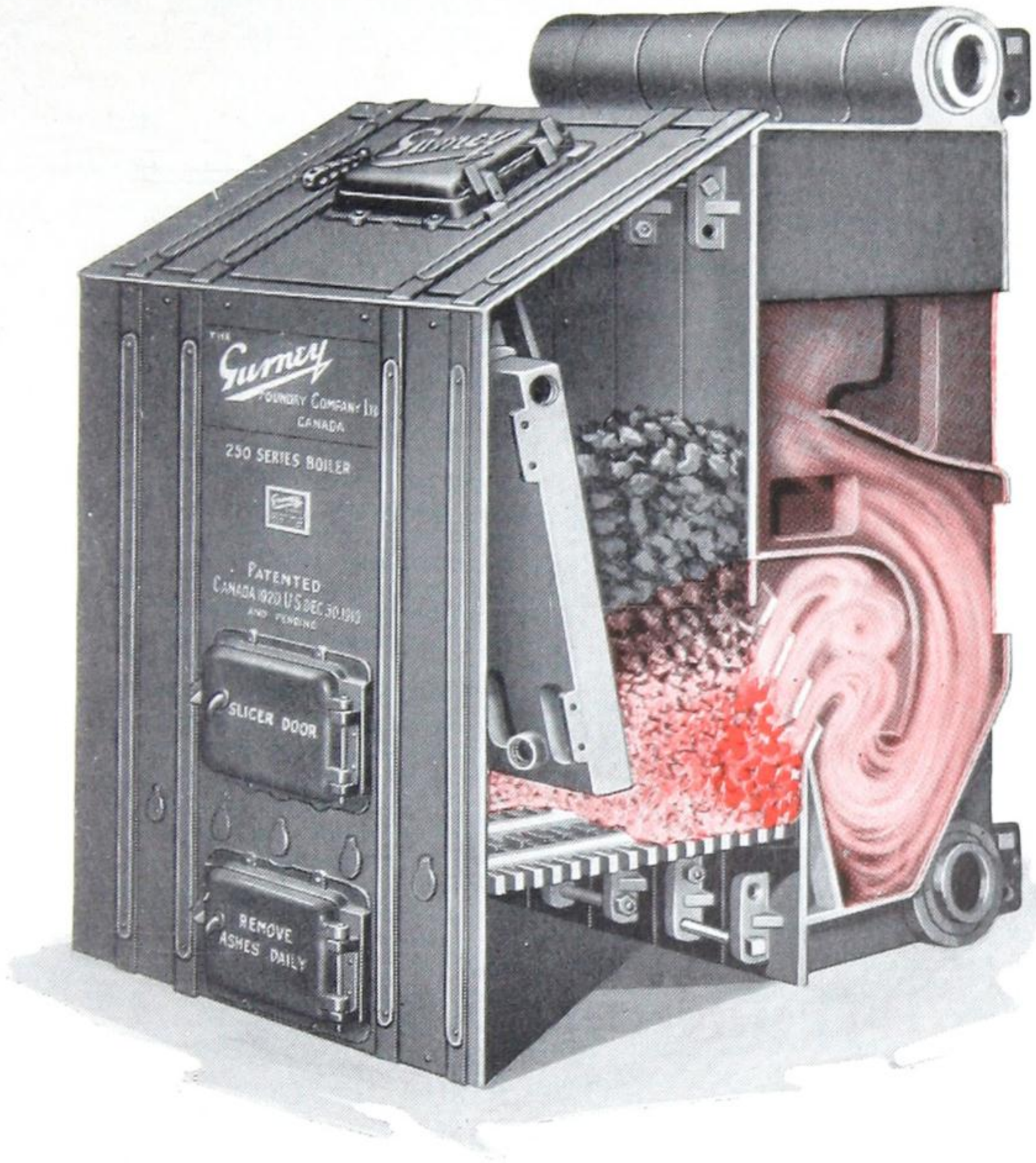
By means of this triple air supply an absolutely steady, even rate of combustion can be maintained. This feature is found in no other boiler.

Every particle of volatile matter released from the coal is forced down into the fire zone. No gases can escape into the flues and up the chimney without having first passed through the fire zone with its high temperatures of perfect combustion.

On leaving the fire-box the gases pass through the inclined louvres at the rear of the fuel bed into the combustion chamber. Due to the design and the construction of the walls of this chamber, the gases are given a whirling motion, thus thoroughly mixing them. They are then passed on downward before being sent to make their next pass across the vertical column of water.

This whirling motion gives a thorough mixing of the gases, technically known as turbulence, and insures such a thorough combustion as can be had in no other heating boiler.

On leaving the combustion chamber the gases pass to the front of the water section, then back again to the smoke outlet.



Sectional View of a 250 Series Boiler

In passing the fire and gases three times across the ascending column of water the greatest possible transfer of heat to the water is provided. The fire and gases are at their highest temperature when applied to the bottom of the sections where the water is the coolest, and as they pass and repass across the ascending stream of heated water, practically all the available heat is given off from these gases before they reach the smoke outlet. No other sectional heating boiler has such an essential feature. This construction eliminates all baffles and tortuous friction pro-

ducing courses for the water, as all the water surfaces are perfectly vertical and free to the ascending columns of heated water.

No cold air can possibly be admitted to the combustion chamber with its consequent chilling effect on the heating surfaces. It must first pass through the fire by one of the three courses previously mentioned.

The triple air supply and the triple fire pass are two of the reasons for the phenomenal efficiency of the Gurney 250 Series Boiler.

The stoking depth or distance to the back of the firebox remains constant in the Gurney 250 Series Boiler no matter how many sections there are in the boiler. A three foot poker or slicer is all that is needed to take care of the fire in all sizes of the boiler. This feature will be greatly appreciated as it not only adds to the ease of operation, but it also saves valuable space in the boiler room.

Construction —

THE Gurney 250 Series Boiler is a sectional cast iron heating boiler designed for either hot water or steam heating. In its design there are two fundamental units—the furnace where the coal is burned, and the boiler proper where the heat generated is used to heat the water.

The furnace section is water-enclosed on four sides, with the fire or feed door at the top. There is an air space between the furnace proper and the front of the boiler. The grate bars are of special design and extra heavy. They may be readily replaced, if necessary, by simply removing the old bar and putting in the new one without disturbing the boiler in any way. Each grate bar operates independently of the others and automatically locks in the correct position when the

shaker handle is removed. The size of the fire-box increases directly in proportion to the size of the boiler, thus always providing the correct grate area for the capacity of the boiler.

The water heating portion of the boiler is composed of hollow cast iron water sections, running from front to back, their number varying from 6 to 19 with the size of the boiler. These sections are of uniform size, no matter what size the boiler, and fit face to face, flue spaces being formed between them. Accurately machined, large size, cast iron push nipples are used to connect the water sections. Each section is bolted to the one beside it by four short bolts making assembly an easy proposition.

Facing the fire-box and directly above the grates are three inclined louvres between each section. These may be readily seen by referring to the sectional view and to the single section illustrated on page. These louvres communicate directly to the combustion chamber and the flues.

In the assembly of this boiler as additional sections are added, the smoke outlet automatically enlarges, unlike a square sectional boiler in which the size of the smoke outlet remains constant no matter how many sections there are in the boiler. The smoke outlet is at the back and the height is the same for all sizes of the boiler.

Ample clean-out facilities are provided so that all portions of the flues may be easily cleaned.

It will be noted that in this construction any one section, in all its parts, is as near the fire and gets as much heat as any other section. Each section delivers its portion of heat to the spacious dome or mixing chamber where the boiler is connected to the piping system.

Two Pages of Special Engineers

1. The water line in all sizes of the steam boiler is extremely low, being only 46". This means that a pit is seldom, if ever, required for this boiler—the saving and advantage here will be at once recognized. With this low height the proper grade can be given to the mains and the placing of the necessary return traps and air relief valves for the non-pressure or vapor system of heating is greatly facilitated. It eliminates many problems that would otherwise arise in the installation of these systems.

2. The steam boiler maintains a very steady, even water line under all conditions of firing and does not prime after the system has been properly blown off.

3. The steam dome is very liberal in size, and this, together with the straight, vertical water columns permitting a free flow of steam and water, provides steam free from entrained water. This goes far toward providing an efficient and noiseless heating system.

4. As has been mentioned previously, a three foot poker is all that is required for poking or slicing the fire. Space, therefore, can be saved and used to good advantage for other purposes. It is a fact that less boiler room space is required with a 250 Series Boiler of any given capacity than for any other make, due to its compactness and general arrangement.

Interest to Architects, and Fitters

5. The top of the smoke pipe (or breaching), which comes off the boiler at the rear, is only 41″ from the floor. It does not interfere in any way with the necessary flow and return mains.

The low smoke pipe also makes for greater safety, as it allows the fitter to keep the smoke pipe much farther away from exposed joists or beams than would otherwise be possible.

6. The largest piece used in the assembly of a Gurney 250 Series Boiler is only 42″ x 62″ x 6″. The advantage of this feature will be at once recognized. No walls, partitions or floors need be torn out and replaced when installing this boiler whether the building be completed and occupied, or not. Much greater ease in the assembling of the boiler is provided through the reduced size of the parts, making it a labor saver in every sense of the word and thus, a money saver. This feature applies to all sizes of both steam and water boilers.

7. The water sections are so accurately machined by special tools that all difficulty in their erection is eliminated.

8. A sufficient quantity of asbestos plaster is furnished to cover all the exposed water surfaces of the boiler to a thickness of 1½″. This covering is a decided benefit to a heating system.

Chimneys

A GOOD chimney is a money saver. To be a good chimney it must be of the size and height best suited to the capacity of the boiler to which it is attached. It must be tight throughout, with no other openings than that provided for the boiler (except a cleanout at base) and be uninfluenced by any surrounding objects.

Coal may be burned with very poor results, or it may be burned with most efficient results. A good chimney affords the means of providing the proper amount of air for perfect combustion, and the exhaust of the gases of combustion. Without the proper amount of air perfect combustion cannot take place. So it is evident to conserve the fuel a good chimney is essential wherever a stove, furnace or boiler is used, and this chimney should be proportioned to the demand. We are giving in the following tables the minimum size of chimney best suited to each size boiler. Greater heights will prove quite satisfactory, as a checking damper is easily applied if required.

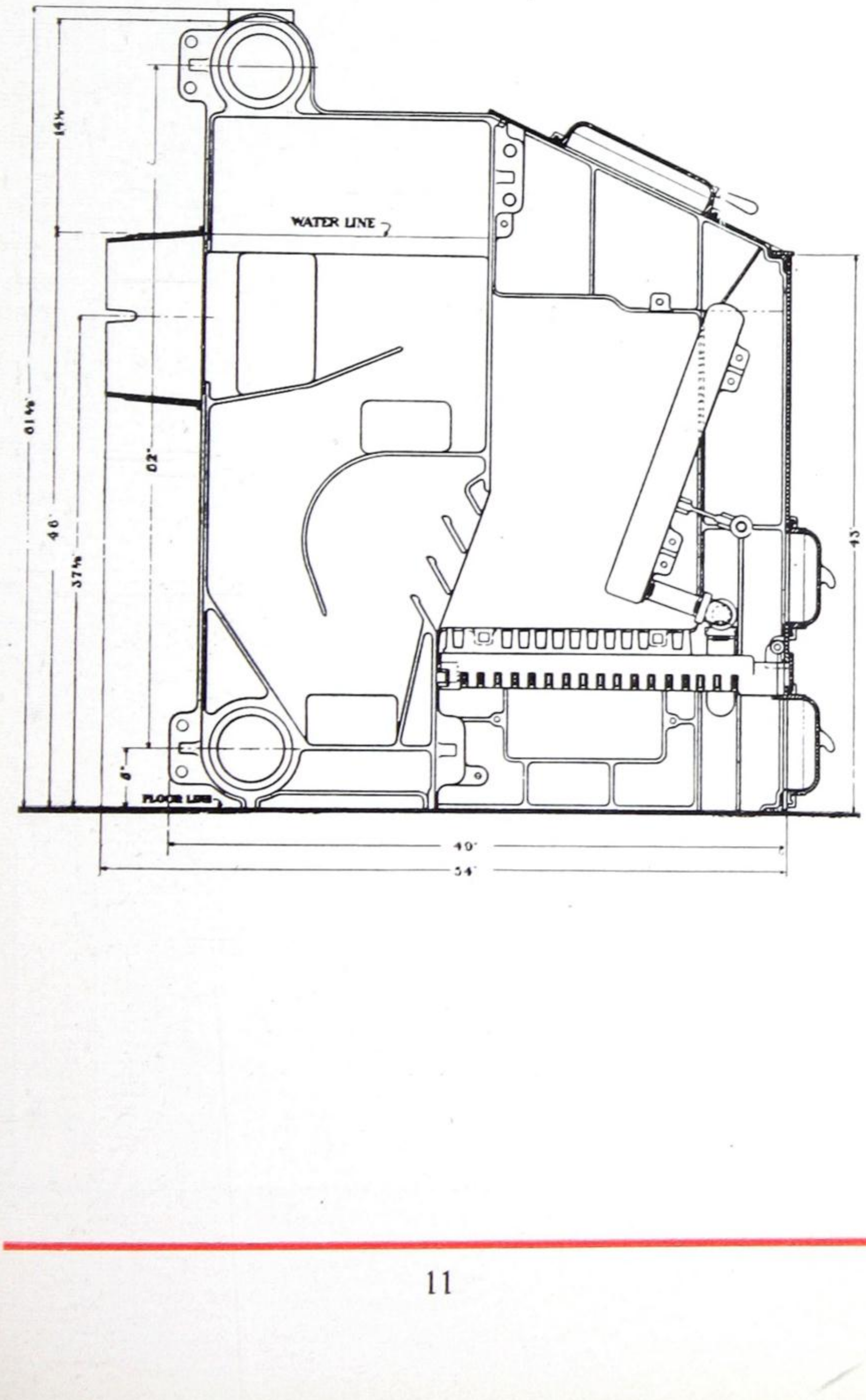
The sizes given are to be maintained throughout from the bottom to the top, and if any chimney tops or caps are used, their outlet area should be greater than the chimney size. Round chimneys of three-fourths the area of the square or rectangular sizes given will be found equally satisfactory. A wide and narrow chimney with one dimension much greater than the other dimension never proves satisfactory.

The Requirements for Chimneys may be summed up, for any stove, furnace, or boiler, as follows:—

(1) Straight and free from any obstructions.
(2) A separate flue should be provided for each fire.
(3) There should be no opening into the flue except that at the bottom to receive the smoke pipe from the boiler or furnace, and the cleanout opening door for the removal of soot.
(4) The same size and shape should be maintained throughout.
(5) They must be smoke tight and built up clear of influences by surrounding objects.
(6) They should be built on inside walls and not outside walls, wherever possible.
(7) They should be of a size and height best suited to the demand, according to the size of the boiler or furnace to which they are to be connected.

Use size and height in boiler tables.

GURNEY 250 SERIES BOILER
Dimensions



GURNEY 250 SERIES BOILER

RATINGS AND DIMENSIONS FOR HOT WATER

Number	Boiler capacity feet, direct cast iron radiation Equivalent	Length	Width over smoke collar	Height	Tappings flow and return each	Smoke Pipe		Chimney	
						Outlets on boiler	Size of breeching	Size	Height
W-251-6	1900	39″	54″	61⅝″	2–4″	1–12″	12″	12″ x 16″	50′
W-251-7	2350	45½″	54″	61⅝″	2–4″	1–14″	14″	12″ x 16″	50′
W-251-8	2800	52″	54″	61⅝″	2–4″	2–12″	16″	12″ x 16″	50′
W-251-9	3250	58½″	54″	61⅝″	2–4″	2–12″	16″	16″ x 16″	50′
W-251-10	3700	65″	54″	61⅝″	2–4″	2–12″	16″	16″ x 20″	60′
W-251-11	4150	71½″	54″	61⅝″	2–4″	2–14″	18″	16″ x 20″	60′
W-251-12	4600	78″	54″	61⅝″	3–4″	3–12″	20″	20″ x 20″	60′
W-251-13	5050	84½″	54″	61⅝″	3–4″	3–12″	20″	20″ x 24″	60′
W-251-14	5500	91″	54″	61⅝″	3–4″	3–14″	22″	20″ x 24″	70′
W-251-15	5950	97½″	54″	61⅝″	3–4″	3–14″	22″	20″ x 24″	70′
W-251-16	6400	104″	54″	61⅝″	3–4″	3–14″	22″	20″ x 24″	70′
W-251-17	6850	110½″	54″	61⅝″	3–4″	3–14″	22″	20″ x 24″	70′
W-251-18	7300	117″	54″	61⅝″	4–4″	4–14″	24″	24″ x 24″	70′
W-251-19	7750	123½″	54″	61⅝″	4–4″	4–14″	24″	24″ x 24″	70′

GURNEY 250 SERIES BOILER

RATINGS AND DIMENSIONS FOR STEAM

Number	Boiler capacity feet, direct cast iron radiation equivalent	Length	Width over smoke collar	Height	Water line	Tappings flow and return each	Smoke Pipe		Chimney	
							Outlets on boiler	Size of breeching	Size	Height
S-251-6	1100	39″	54″	61 5/8″	46″	2–4″	1–12″	12″	12″ x 16″	50′
S-251-7	1375	45 1/2″	54″	61 5/8″	46″	2–4″	1–14″	14″	12″ x 16″	50′
S-251-8	1650	52″	54″	61 5/8″	46″	2–4″	2–12″	16″	12″ x 16″	50′
S-251-9	1925	58 1/2″	54″	61 5/8″	46″	2–4″	2–12″	16″	16″ x 16″	50′
S-251-10	2200	65″	54″	61 5/8″	46″	2–4″	2–12″	16″	16″ x 20″	60′
S-251-11	2475	71 1/2″	54″	61 5/8″	46″	2–4″	2–14″	18″	16″ x 20″	60′
S-251-12	2750	78″	54″	61 5/8″	46″	3–4″	3–12″	20″	20″ x 20″	60′
S-251-13	3025	84 1/2″	54″	61 5/8″	46″	3–4″	3–12″	20″	20″ x 24″	60′
S-251-14	3300	91″	54″	61 5/8″	46″	3–4″	3–14″	22″	20″ x 24″	70′
S-251-15	3575	97 1/2″	54″	61 5/8″	46″	3–4″	3–14″	22″	20″ x 24″	70′
S-251-16	3850	104″	54″	61 5/8″	46″	3–4″	3–14″	22″	20″ x 24″	70′
S-251-17	4125	110 1/2″	54″	61 5/8″	46″	3–4″	3–14″	22″	20″ x 24″	70′
S-251-18	4400	117″	54″	61 5/8″	46″	4–4″	4–14″	24″	24″ x 24″	70′
S-251-19	4675	123 1/2″	54″	61 5/8″	46″	4–4″	4–14″	24″	24″ x 24″	70′

THE GURNEY FOUNDRY COMPANY
LIMITED

TORONTO AND MONTREAL

WINNIPEG VANCOUVER

C124-5M-7-27

Gurney

900 Series
Square Sectional Heating Boilers

16 Sizes

for Steam or Water

THE GURNEY FOUNDRY COMPANY
LIMITED

TORONTO AND MONTREAL

WINNIPEG VANCOUVER

Gurney

900 SERIES BOILERS

Square, Sectional, Cast Iron, Heating Boilers, for Water or Steam.

GURNEY Boilers of the 900 Series were specially designed to fill the requirements where head room is limited. Owing to their low water line, they are ideal for this purpose and make a compact installation.

The Gurney 900 Series Boilers are made in four grate widths covering a wide range of sizes so that they present capacities suitable for comparatively small installations and also for the larger class of work.

The steam boilers have a liberal steam space. The generous grate areas, large prime fire surfaces and unusual coal carrying capacity are recognized features to insure successful operation.

A proper mixture of the correct grades of iron are used in these boilers to produce castings of the greatest tensile strength. The design of the sections, with the well arranged heating surfaces, assures the greatest possible service under the most exacting conditions.

Ample flue areas are provided and so arranged that every part of the boiler can be readily cleaned. The sections are connected with extra large, accurately machined, cast iron push nipples, with every provision made for expansion and contraction.

The grates are of the Gurney rocking and dumping type which have given universal satisfaction. These grates are well adapted for the burning of the cheaper grades of fuel.

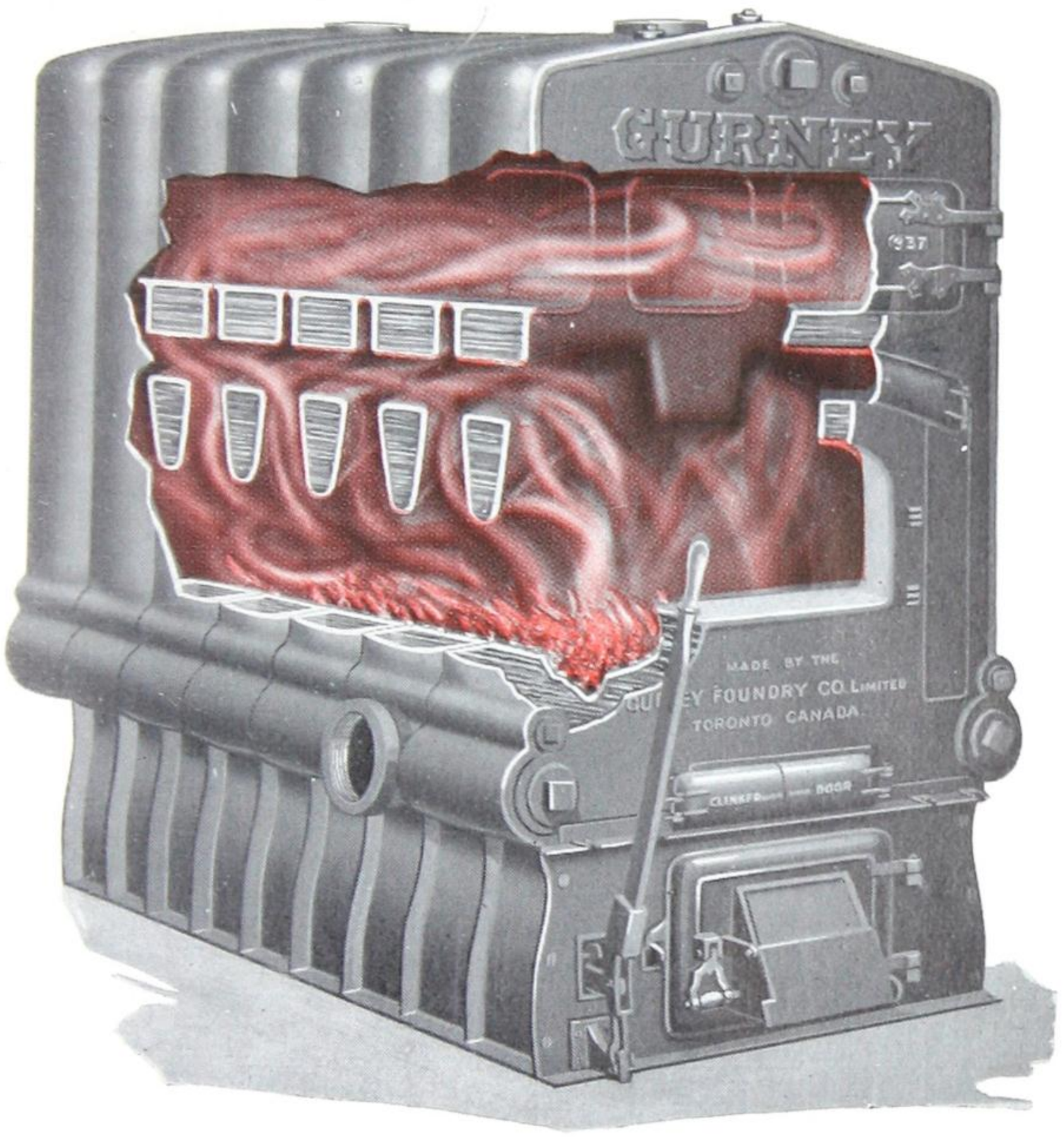
The accurate machining of the nipple ports in the sections of these boilers insures tight fitting joints and correct alignment. Even the largest of these boilers is easy to erect.

Gurney 900 Series are giving universal satisfaction throughout all sections of the country and we are sure that they will maintain the Gurney reputation whenever they are installed.

Oil Burning

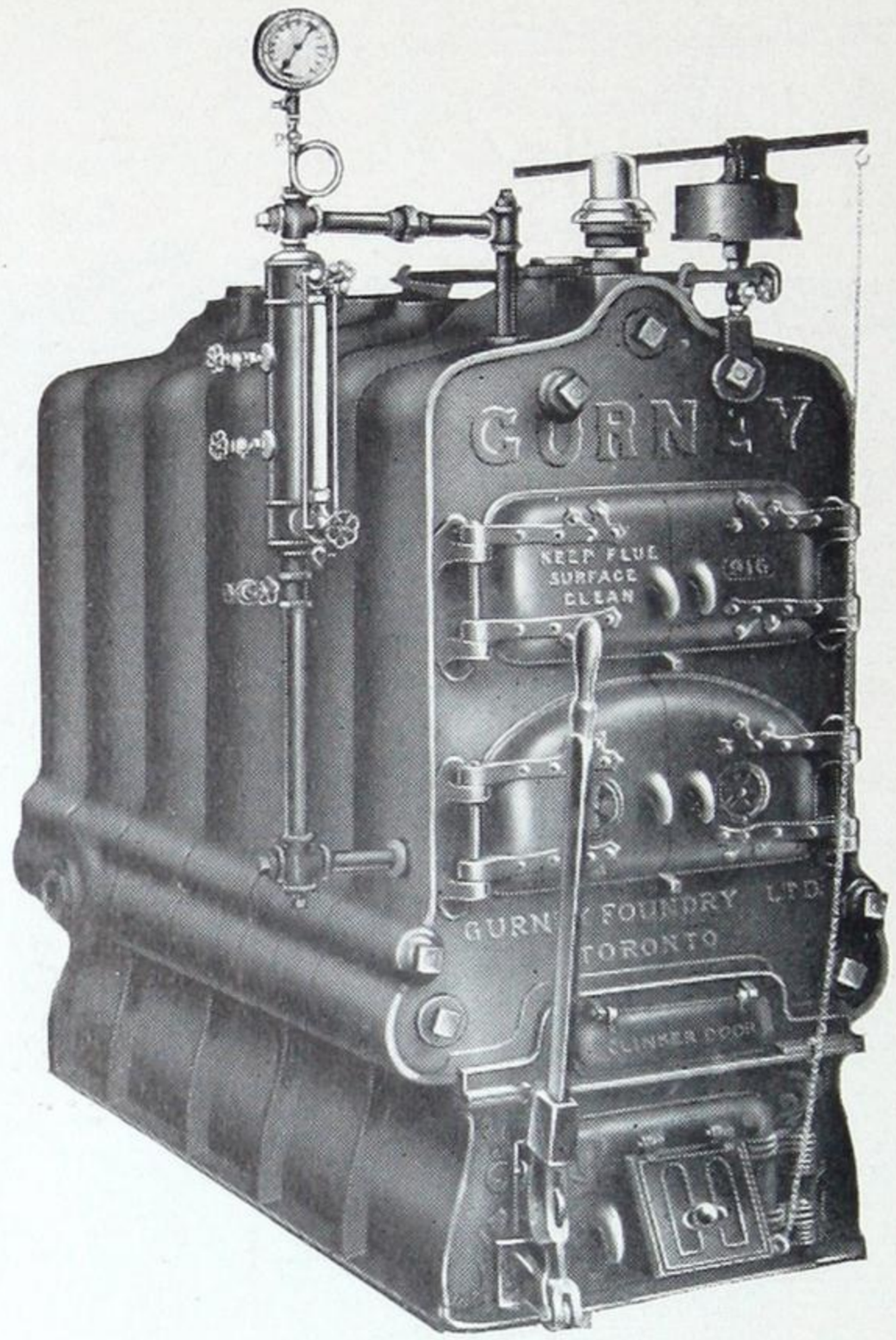
When oil burning equipment is being installed along with our 917, 924A—930 and 940 Series Boilers (Hot Water or Steam) we can furnish any of these with or without grates and with additional sections to meet the specifications of the oil burner equipment manufacturer.

A cast iron boiler is always the most satisfactory for use with oil burners. The Gurney 900 Series Boiler will give desired results when equipped with oil burning devices.



SECTIONAL VIEW OF A GURNEY 930 SERIES BOILER

The above sectional view gives a good general idea of the internal arrangement and fire travel of a 930 Series Boiler. You will note that the fire travel is three times the length of the boiler.



917 SERIES GURNEY STEAM BOILER

This series boiler is fitted with direct damper operated from front of boiler, a very desirable feature for starting occasional fires with soft coal in spring and fall of year.

No.	Rating Feet Gross	Outside Width Inches	Outside Length Inches	Size of Grate, Ins.	Flows, Ins.	Returns, Ins.	Approximate Shipping Weight, Lbs.
S914	600	29 1/8	43 1/2	17 x 30	2-4	2-2 1/2	1,900
S915	800	29 1/8	51 1/4	17 x 39	2-4	2-2 1/2	2,200
S916	1,000	29 1/8	60	17 x 48	2-4	2-2 1/2	2,600
S917	1,150	29 1/8	68 3/4	17 x 57	2-4	2-2 1/2	3,000

Regular steam trimmings included.

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.

917 SERIES GURNEY HOT WATER BOILER.

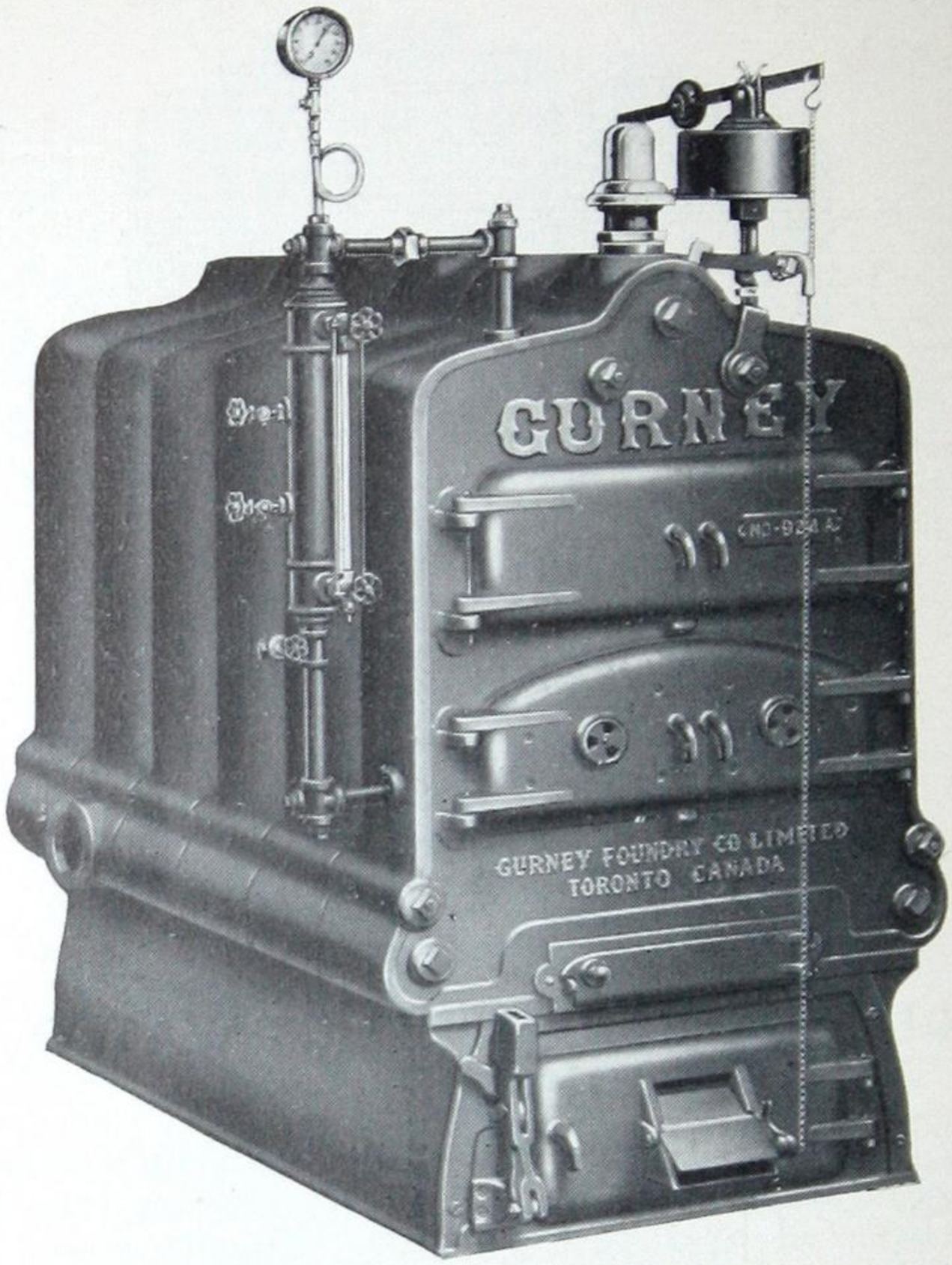
This series boiler is fitted with direct damper operated from front of boiler, a very desirable feature for starting occasional fires with soft coal in spring and fall of year.

No.	Rating Feet Gross	Outside		Size of Grate Inches	Flows, Inches	Returns, Ins.	Approximate Shipping Weight, Lbs.
		Width Inches	Length Inches				
W914	1,000	29 1/8	43 1/2	17 x 30	2-4	2-4	1,800
W915	1,325	29 1/8	51 1/4	17 x 39	2-4	2-4	2,100
W916	1,650	29 1/8	60	17 x 48	2-4	2-4	2,500
W917	1,975	29 1/8	68 3/4	17 x 57	2-4	2-4	2,900

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.



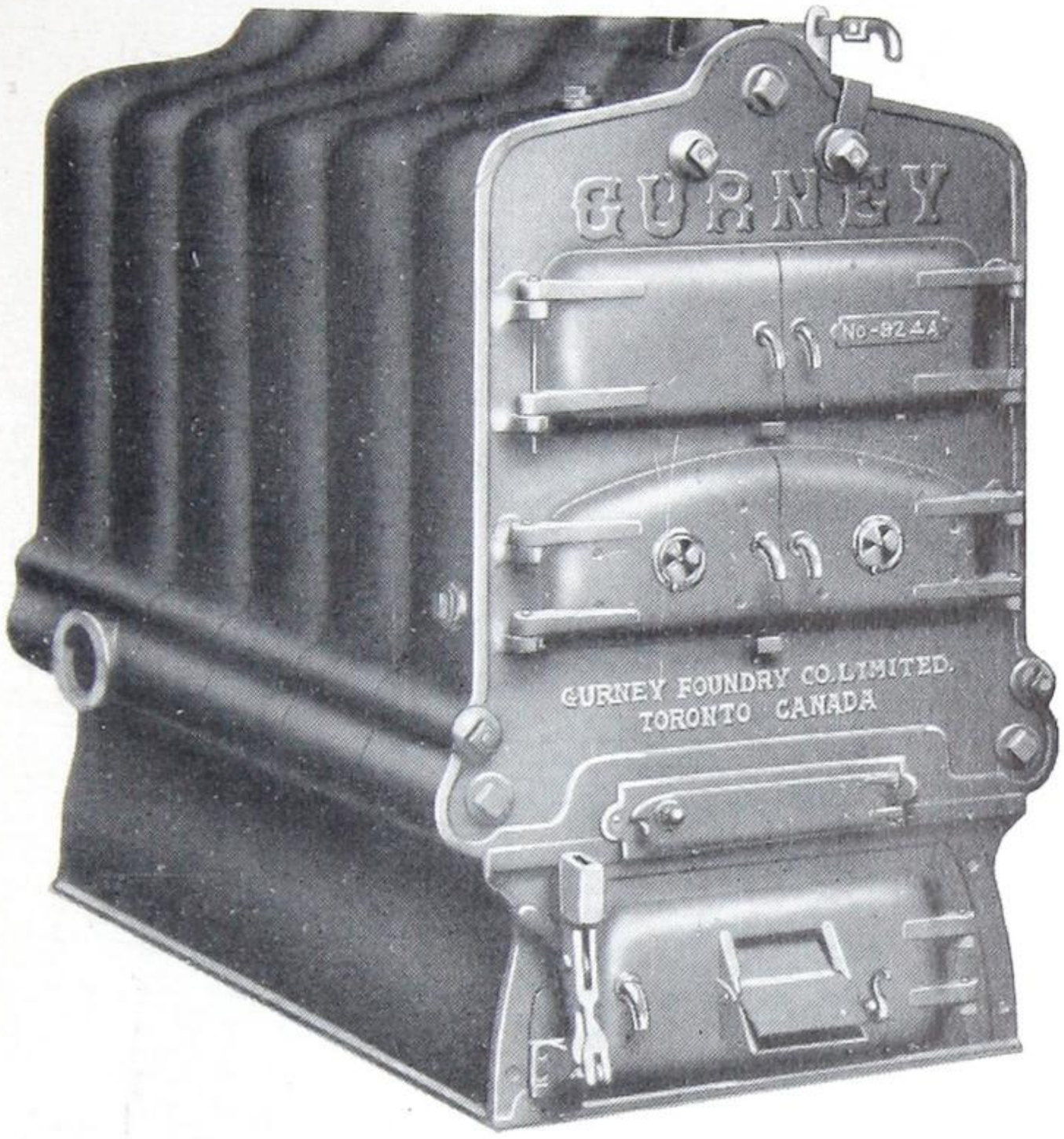
924A SERIES GURNEY STEAM BOILER

No.	Rating Feet Gross	Outside Width Inches	Outside Length nches	Size of Grate, Ins.	Flows, Ins.	Returns, Ins.	Approximate Shipping Weight, Lbs.
S924A	1,100	36	36	24 x 31	2-4	2-2	2,400
S925A	1,350	36	45	24 x 40	2-4	2-2	2,700
S926A	1,600	36	54	24 x 49	2-4	2-2	3,200
S927A	1,850	36	63	24 x 58	2-4	2-2	3,600

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.



924A GURNEY HOT WATER BOILER

No.	Rating Feet Gross	Outside		Size of Grate, Ins.	Flows, Ins.	Returns, Ins.	Approximate Shipping Weight, Lbs.
		Width Inches	Length Inches				
W924A	1,825	36	36	24 x 31	2-4	2-4	2,300
W925A	2,225	36	45	24 x 40	2-4	2-4	2,600
W926A	2,650	36	54	24 x 49	2-4	2-4	3,100
W927A	3,050	36	63	24 x 58	2-4	2-4	3,500

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.

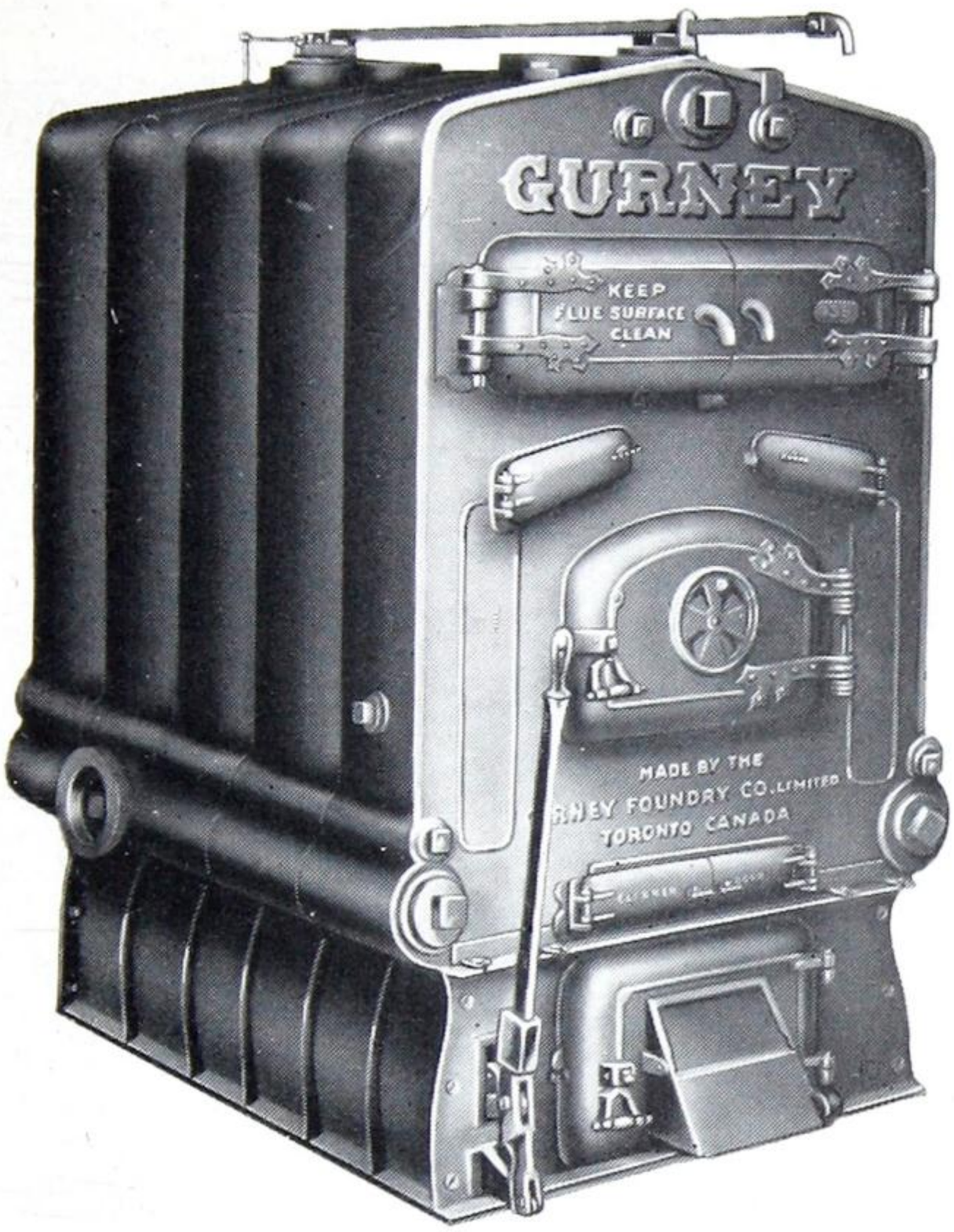
930 SERIES GURNEY STEAM BOILER

No.		Outside					
$935	1,625	44	51	30 x 37	2-5	2-5	4,100
$936	1,950	44	60	30 x 46	2-5	2-5	4,700
$937	2,275	44	68	30 x 54	2-5	2-5	5,300
$938	2,700	44	77	30 x 63	2-5	2-5	6,000

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.



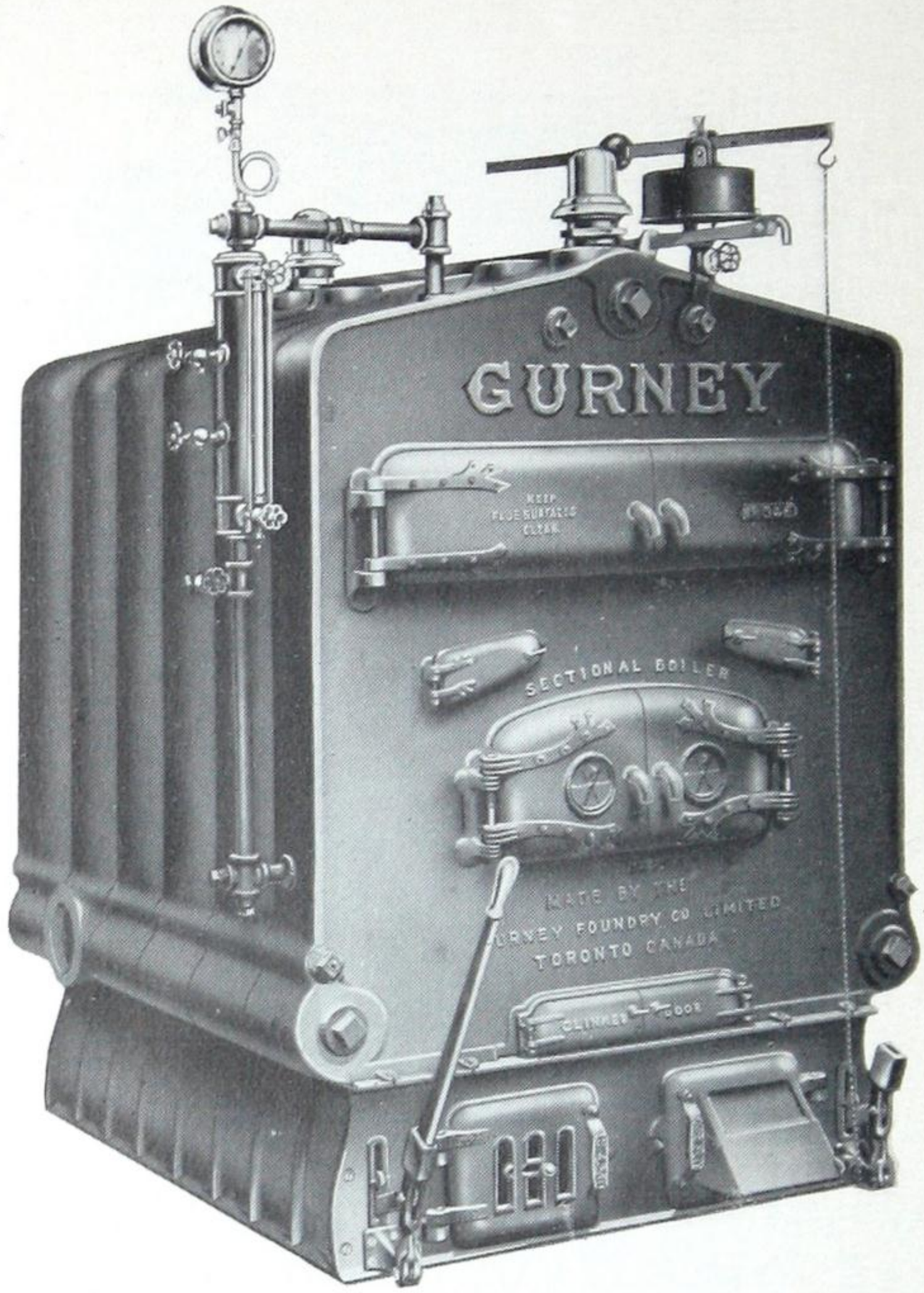
930 SERIES GURNEY HOT WATER BOILER

No.	Rating Feet Gross	Outside		Size of Grate, Ins.	Flows, Ins.	Returns, Ins.	Approximate Shipping Weight, Lbs.
		Width Inches	Length Inches				
W935	2,675	44	51	30 x 37	2-5	2-5	4,000
W936	3,200	44	60	30 x 46	2-5	2-5	4,600
W937	3,725	44	68	30 x 54	2-5	2-5	5,200
W938	4,450	44	77	30 x 63	2-5	2-5	5,900

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.



940 SERIES GURNEY STEAM BOILER

No.	Rating Feet Gross	Outside Width Inches	Outside Length Inches	Size of Grate Inches	Flows, Inches	Return Ins.	Approximate Shipping Weight, Lbs.
S945	2,625	56	51	42 x 37	2-5	2-4	5,900
S946	3,150	56	60	42 x 46	2-5	2-4	6,900
S947	3,675	56	69	42 x 55	2-5	2-4	7,900
S948	4,200	56	78	42 x 64	2-5	2-4	8,900

For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.

940 SERIES GURNEY HOT WATER BOILER.

No.	*Rating Feet Gross	Outside		Size of Grate Inches	Flows, Inches	Returns, Ins.	Approximate Shipping Weight, Lbs.
		Width Inches	Length Inches				
W945	4,325	56	51	42 x 37	2-5	2-5	5,800
W946	5,200	56	60	42 x 46	2-5	2-5	6,800
W947	6,050	56	69	42 x 55	2-5	2-5	7,800
W948	6,925	56	78	42 x 64	2-5	2-5	8,800

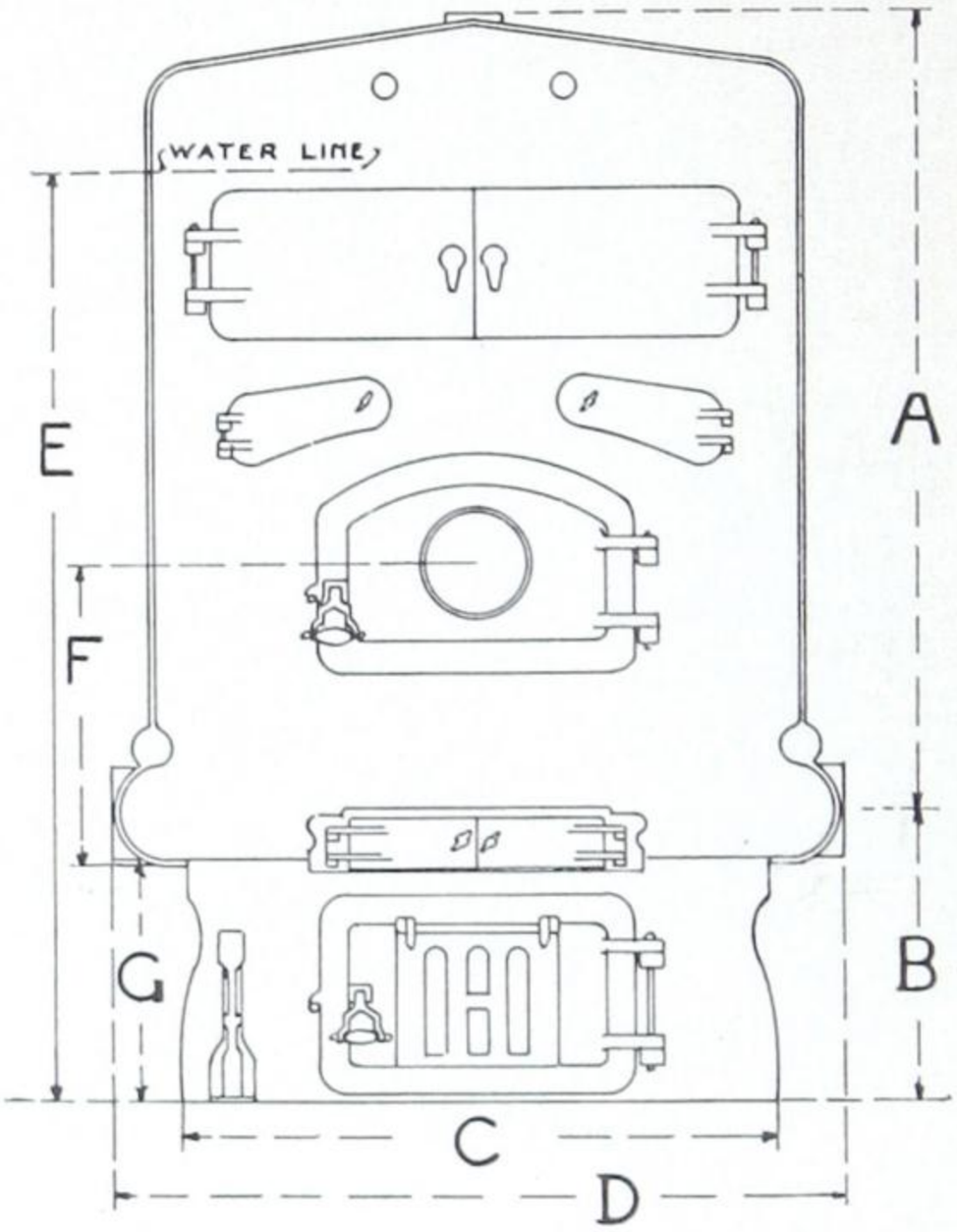
For detail measurements, see pages 12 and 13.

Make due allowance for mains and risers when selecting size of boiler required.

When soft coal or wood is used as fuel, select a size larger boiler than for hard coal.

900 SERIES GURNEY SECTIONAL BOILERS

Measurements



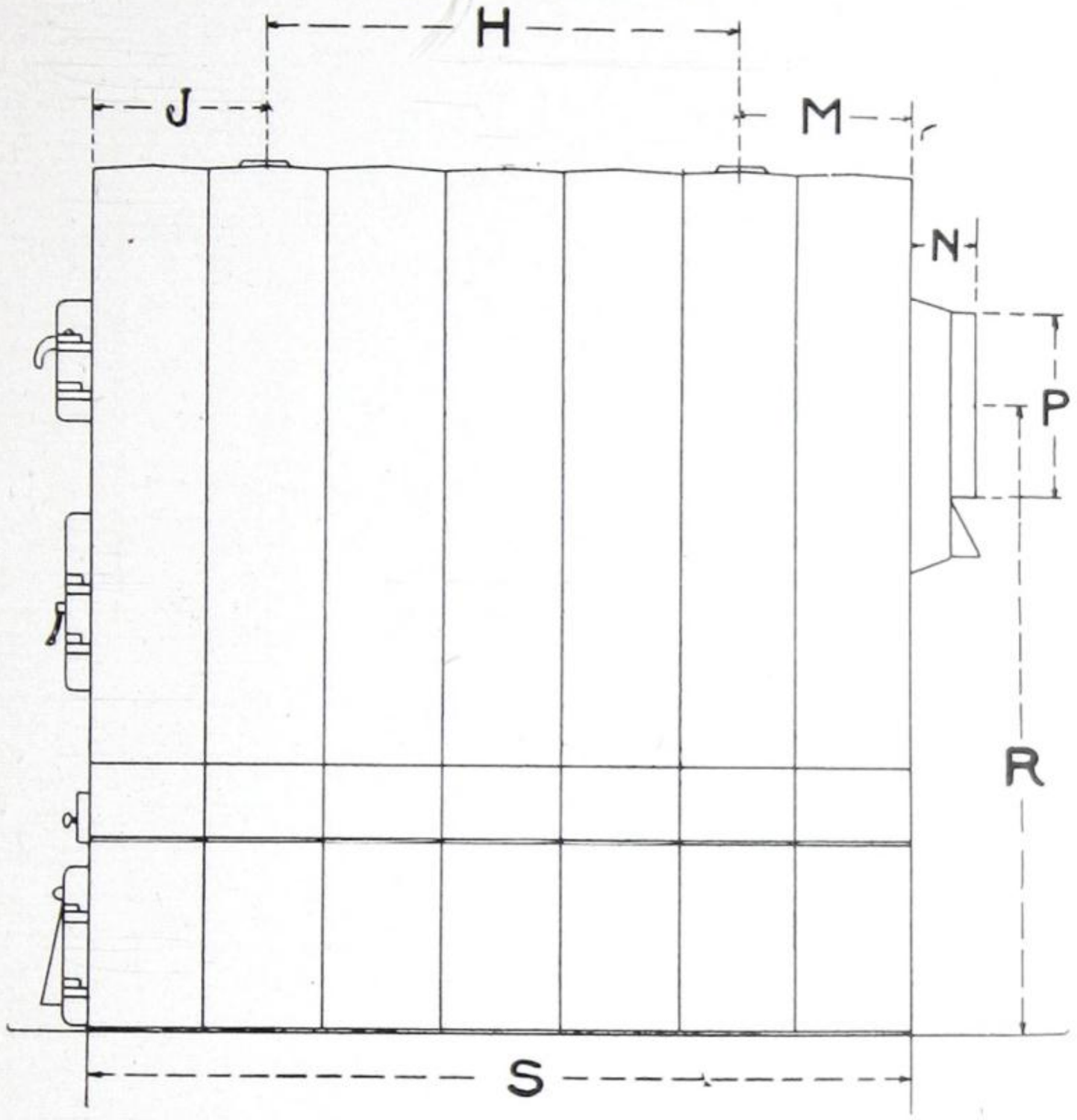
FRONT ELEVATION

Boiler	A	B	C	D	E	F	G
914	35½	14½	24	30	39½	14½	11
915	35½	14½	24	30	39½	14½	11
916	35½	14½	24	30	39½	14½	11
917	35½	14½	24	30	39½	14½	11
924A	38⅛	16⅞	29½	36½	43	15	14
925A	38⅛	16⅞	29½	36½	43	15	14
926A	38⅛	16⅞	29½	36½	43	15	14
927A	38⅛	16⅞	29½	36½	43	15	14
935	47	17	35	44	56	18½	14
936	47	17	35	44	56	18½	14
937	47	17	35	44	56	18½	14
938	47	17	35	44	56	18½	14
945	54½	18	47½	57	60	20	14
946	54½	18	47½	57	60	20	14
947	54½	18	47½	57	60	20	14
948	54½	18	47½	57	60	20	14

Above dimensions are in inches.

900 SERIES GURNEY SECTIONAL BOILERS

Measurements

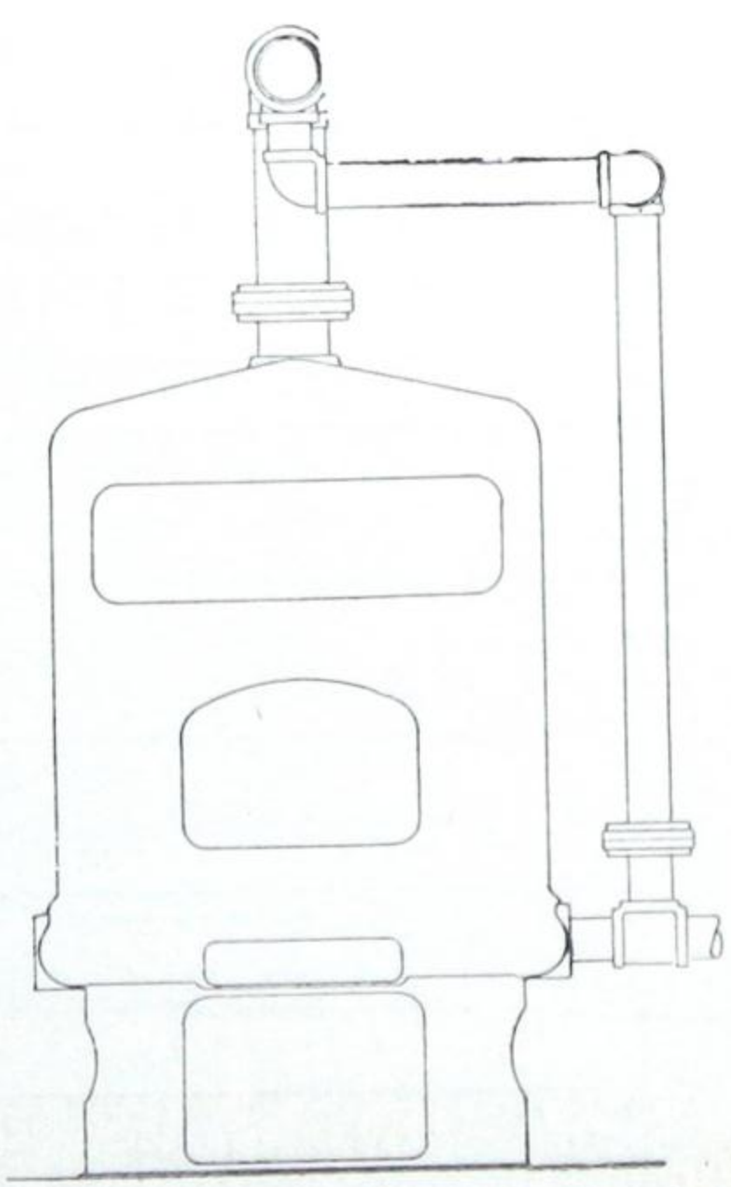


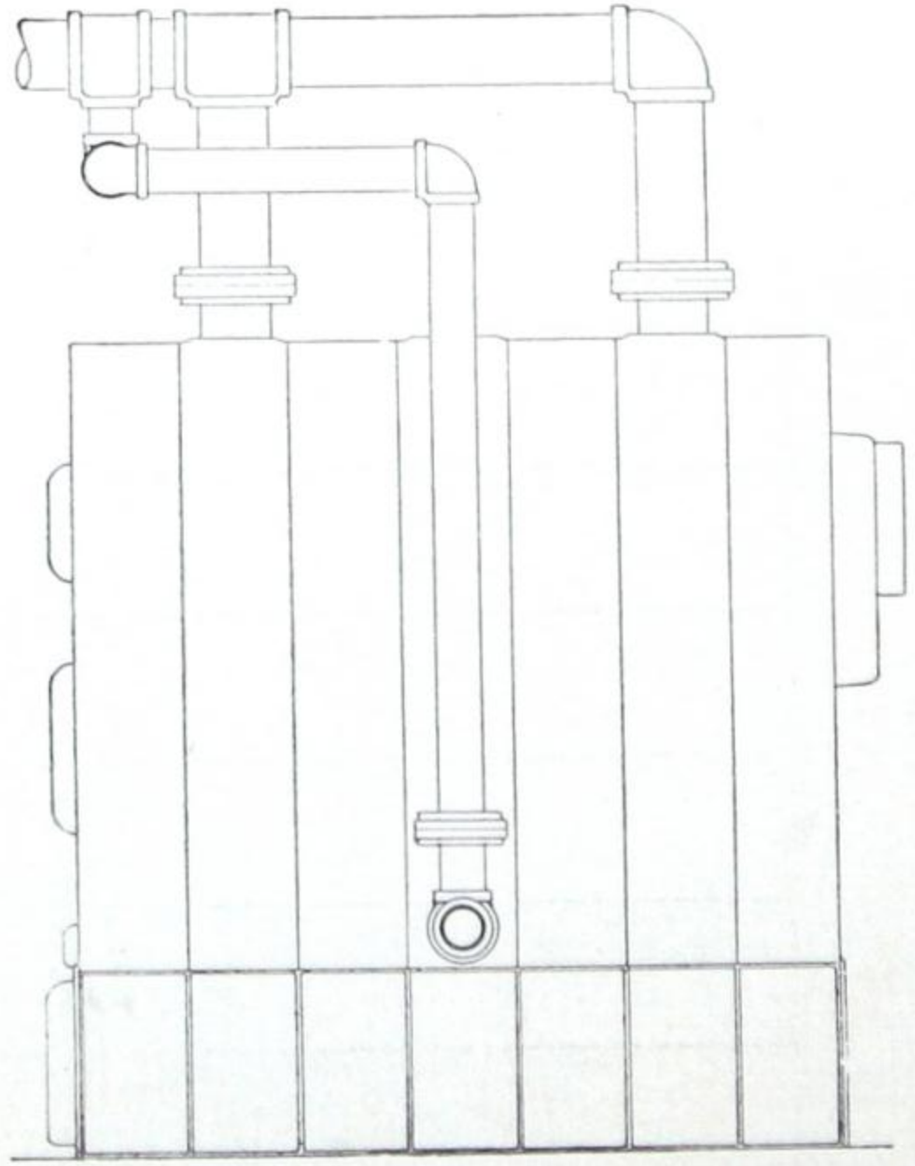
SIDE ELEVATION

No. of Boiler	H	J	M	N	P	R	S
914	8 3/4	13	13	7	9	35	37 3/4
915	17 3/4	13	13	7	9	35	46 1/2
916	26 3/4	13	13	7	9	35	55 1/4
917	35 3/4	13	13	7	9	35	64
924A	9	13 1/2	13 1/2	5 1/2	12	39 1/2	37 1/2
925A	18	13 1/2	13 1/2	5 1/2	12	39 1/2	46 1/2
926A	27	13 1/2	13 1/2	5 1/2	12	39 1/2	55 1/2
927A	36	13 1/2	13 1/2	5 1/2	12	39 1/2	64 1/2
935	18	13 1/2	13 1/2	5 1/2	12	49	46 1/2
936	27	13 1/2	13 1/2	5 1/2	12	49	55 1/2
937	36	13 1/2	13 1/2	5 1/2	12	49	64 1/2
938	45	13 1/2	13 1/2	5 1/2	12	49	73 1/2
945	18	13 1/2	13 1/2	5 3/4	15	52	46 1/2
946	27	13 1/2	13 1/2	5 3/4	15	52	55 1/2
947	36	13 1/2	13 1/2	5 3/4	15	52	64 1/2
948	45	13 1/2	13 1/2	5 3/4	15	52	73 1/2

Above dimensions are in inches.

BOILER CONNECTIONS





Showing correct method of connecting equalizing pipe from flow main to the return entering boiler.

Equalizing pipe for Series 917 and 924A-2", 930-2½", 940-3".

Gurney

BRIGHT IDEA WATER TUBE HEATING BOILERS

for Hot Water and Steam Heating

A Cast Iron, Sectional, Water Tube Heating Boiler

THE Gurney Bright Idea Safety Water Tube Boiler is built in 3 grate widths with water capacities of 2400 feet to 13500 feet and steam capacities of 1500 feet to 8300 feet.

The Bright Idea Boiler is composed of a series of half sections connected to top and side headers by means of extra heavy lock nut nipples. Into these sections are screwed (with fine machine thread) specially designed cast iron water tubes having diaphragms to insure positive water circulation.

This construction makes the Bright Idea Boiler absolutely proof against breakage by expansion and contraction—each section and tube is free to follow the lines given to it by the fire, and the tubular half section design eliminates all rigid joints. The arrangement of heating surfaces so formed is also the most practical and efficient obtainable. One square foot of horizontal heating surface is worth, from an efficiency standpoint, nearly three square feet of vertical surface. The Bright Idea heating surfaces are nearly all horizontal.

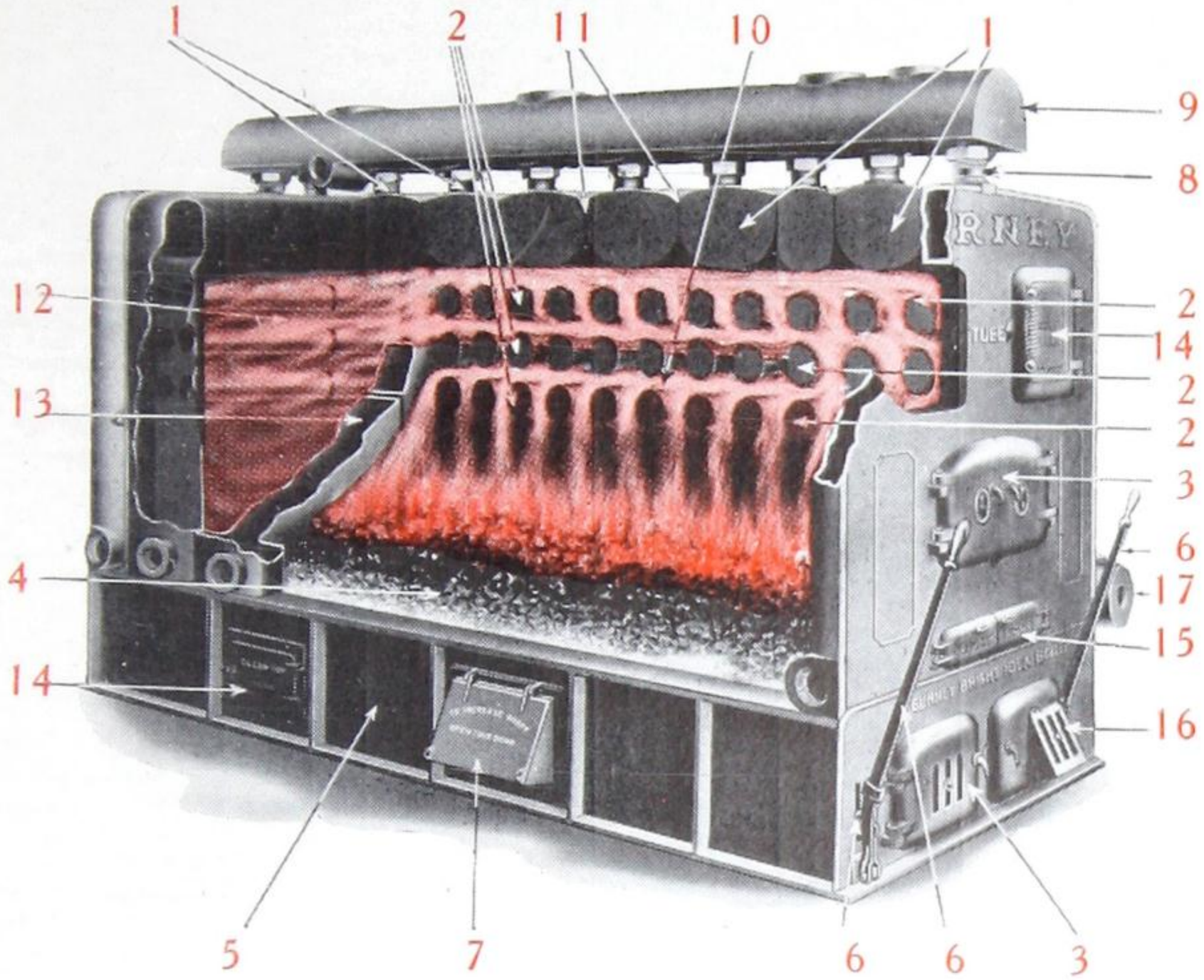
In event of accidents due to carelessness or faulty installation the Bright Idea Boiler has its advantages. Breakage with this boiler seldom means more than replacing one or two tubes at a very nominal expense beyond labor.

To give best results a boiler should be kept thoroughly clean: the tubular heating surfaces of the Bright Idea Boiler are practically self cleaning. A slight deposit of soot and dust is, however, unavoidable, but this can be readily removed through the large and conveniently located front and back flue doors.

All other features of the Bright Idea Boiler are in keeping with its remarkable efficiency and freedom from breakage; flue and fire doors are extra heavy and provided with baffle plates to prevent warping, the grates are extra heavy trussed castings built to withstand the hardest usage, and a convenient and practical device controls the shaking and dumping of the grates.

OIL BURNING

The large heating surface and all cast iron construction makes the Bright Idea Boiler eminently suitable for use with oil burning equipment.



The sectional view shown above illustrates many of the desirable features of the Bright Idea Boiler.

1. Each half section has separate connections to the headers which allows for expansion without danger of breaking sections.
2. The water tubes screwed into the sections, showing the arrangement of plain, winged and bundy tubes.
3. Large doors.
4. Deep firepot.
5. Generous ashpit.
6. Convenient shaking arrangement.
7. Side draft door.
8. Locknut screw nipples.
9. Large steam dome.
10. Large flue space.
11. Rust cannot form between sections.
12. Gas consuming chamber.
13. Bridge wall section.
14. Cleanout doors.
15. Clinker door.
16. Lift damper and slide.
17. Side header.

RATINGS

HOT WATER

No.	Capacity, Feet	Size Grate, Inches	Main Outlet, Inches, Flow and Return	Diam. Smoke Collar, Inches	Approx. Shipping Weights
W1,021	2,400	28 x 32	2-4	12	4,000
W1,022	2,800	28 x 38	2-4	12	4,400
W1,023	3,200	28 x 44	3-4	12	4,900
W1,024	3,600	28 x 50	3-4	12	5,400
W1,025	4,000	28 x 56	3-4	12	5,900
W1,130	4,600	40 x 44	1-6 and 1-4	14	7,200
W1,131	5,200	40 x 50	1-6 and 1-4	14	7,800
W1,132	5,800	40 x 56	1-6 and 1-4	14	8,400
W1,133	6,400	40 x 62	1-6 and 1-4	14	9,000
W1,250	7,300	48 x 51	2-6	20	11,500
W1,251	8,500	48 x 58	2-6	20	13,000
W1,252	10,000	48 x 65	2-6	20	14,400
W1,253	11,000	48 x 72	3-6	20	15,700
W1,254	12,500	48 x 72	3-6	20	17,800
W1,255	13,500	48 x 72	3-6	20	20,000

STEAM

No.	Capacity, Feet	Hgt. Water Line, Ins.	Size Grate, Inches	Flow Outlets, Inches	Return Outlets, Inches	Dia. Smoke Collar, In.	Approx. Shipping Weights
S1,021	1,500	53½	28 x 32	2-4	2-3	12	4,000
S1,022	1,750	53½	28 x 38	2-4	2-3	12	4,400
S1,023	2,000	53½	28 x 44	3-4	2-3	12	4,900
S1,024	2,250	53½	28 x 50	3-4	3-3	12	5,400
S1,025	2,500	53½	28 x 56	3-4	3-3	12	5,900
S1,130	2,800	57	40 x 44	1-6 and 1-4	2-4	14	7,200
S1,131	3,200	57	40 x 50	1-6 and 1-4	2-4	14	7,800
S1,132	3,600	57	40 x 56	1-6 and 1-4	2-4	14	8,400
S1.133	3,900	57	40 x 62	1-6 and 1-4	2-4	14	9,000
S1,250	4,500	58	48 x 51	2-6	2-4	20	11,500
S1,251	5,300	58	48 x 58	2-6	2-4	20	13,000
S1,252	6,000	58	48 x 65	2-6	2-4	20	14,400
S1,253	6,800	58	48 x 72	3-6	3-4	20	15,700
S1,254	7,500	58	48 x 72	3-6	3-4	20	17,800
S1,255	8,300	58	48 x 72	3-6	3-4	20	20,000

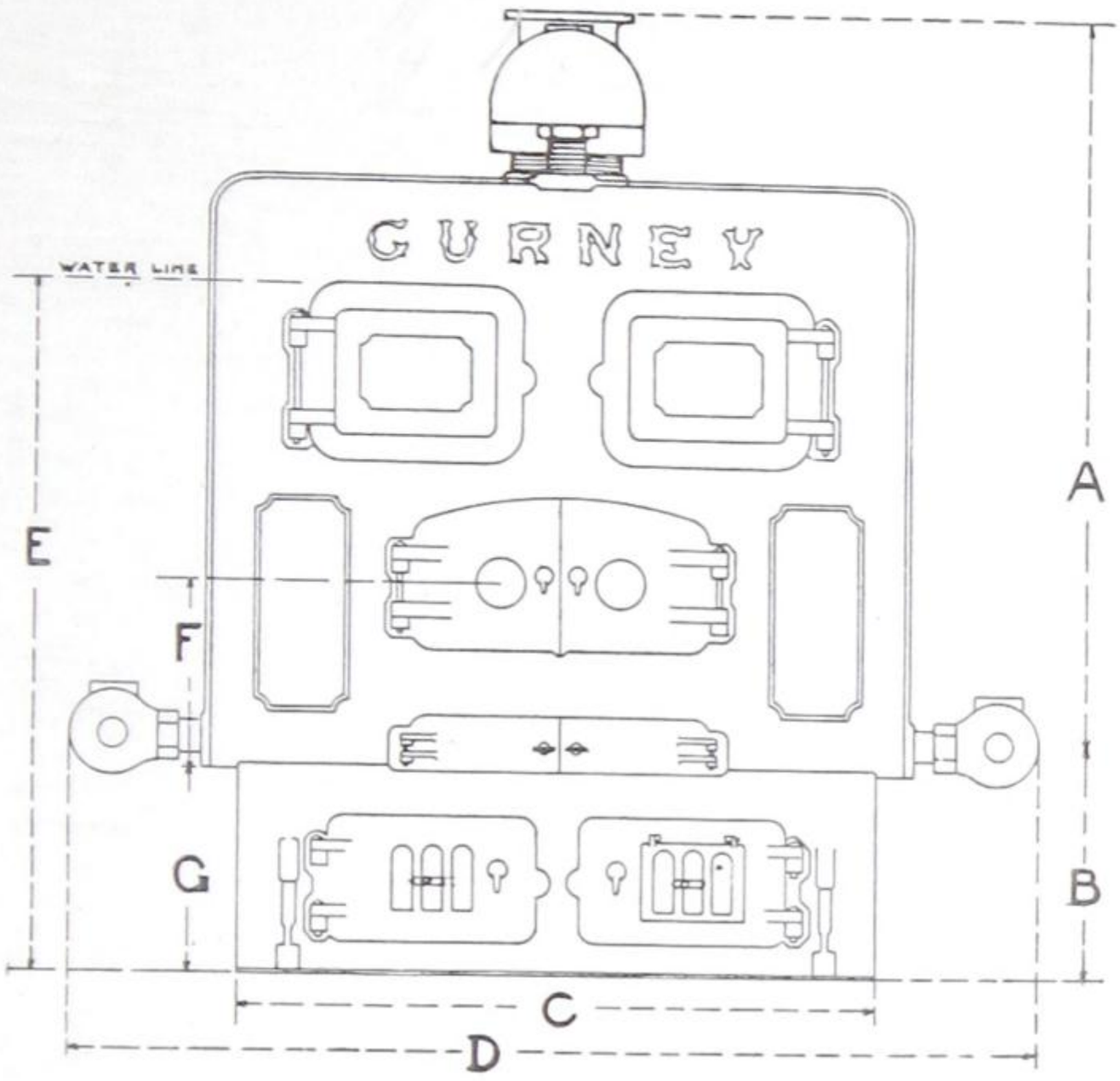
All ratings are gross. Allow for radiation of piping when selecting size of Boiler.

Direct-indirect radiation requires 40% increased boiler power.

Indirect radiation requires 75% increased boiler power.

BRIGHT IDEA SECTIONAL BOILERS

Measurements



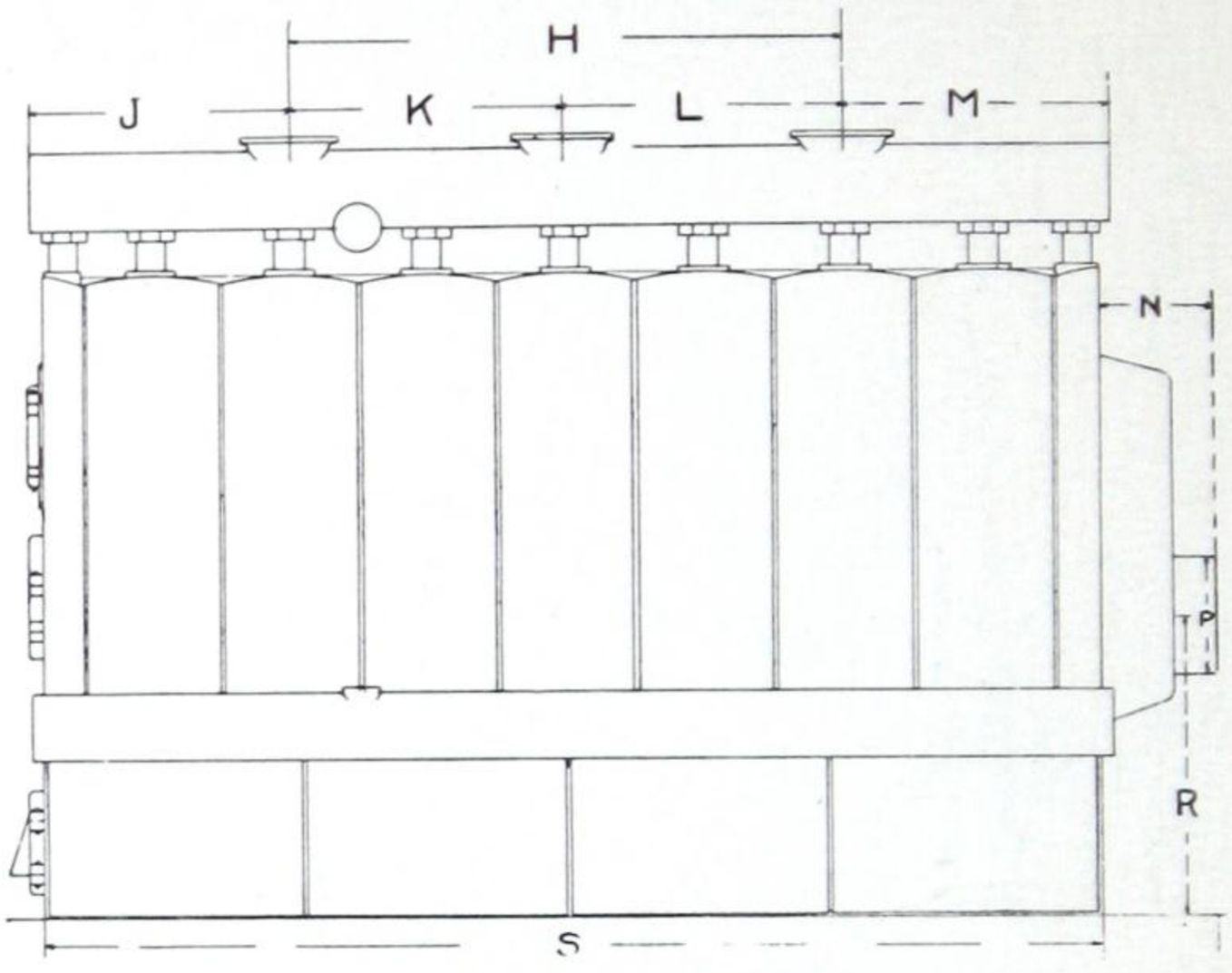
FRONT ELEVATION

No. of Boiler	A	B	C	D	E	F	G
1021	56 1/4	16 1/4	35 1/2	57	53 1/2	13 3/4	13 3/4
1022	56 1/4	16 1/4	35 1/2	57	53 1/2	13 3/4	13 3/4
1023	56 1/4	16 1/4	35 1/2	57	53 1/2	13 3/4	13 3/4
1024	56 1/4	16 1/4	35 1/2	57	53 1/2	13 3/4	13 3/4
1025	56 1/4	16 1/4	35 1/2	57	53 1/2	13 3/4	13 3/4
1130	57	18 3/4	48 1/2	72	57	13 1/4	16 1/4
1131	57	18 3/4	48 1/2	72	57	13 1/4	16 1/4
1132	57	18 3/4	48 1/2	72	57	13 1/4	16 1/4
1133	57	18 3/4	48 1/2	72	57	13 1/4	16 1/4
1250	60 1/2	19 1/4	55	86	58	19 1/4	16 3/8
1251	60 1/2	19 1/4	55	86	58	19 1/4	16 3/8
1252	60 1/2	19 1/4	55	86	58	19 1/4	16 3/8
1253	60 1/2	19 1/4	55	86	58	19 1/4	16 3/8
1254	60 1/2	19 1/4	55	86	58	19 1/4	16 3/8
1255	60 1/2	19 1/4	55	86	58	19 1/4	16 3/8

Above dimensions are in inches.

BRIGHT IDEA SECTIONAL BOILERS

Measurements



SIDE ELEVATION

No. of Boiler	H	J	K	L	M	N	P	R	S
1021	14	16	..	..	13 1/4	12 1/2	12	25 1/4	38
1022	16	16	..	..	17 1/4	12 1/2	12	25 1/4	44
1023	26	16	13	13	16 1/4	12 1/2	12	25 1/4	50
1024	28	16	14	14	17 1/4	12 1/2	12	25 1/4	56
1025	32	16	16	16	19 1/4	12 1/2	12	25 1/4	62
1130	21	18	..	..	17 1/4	13 1/4	16	27 7/8	52 1/2
1131	27 1/4	18	..	..	17	13 1/4	16	27 7/8	58 1/2
1132	33 1/4	18	..	..	17	13 1/4	16	27 7/8	64 1/2
1133	33 1/4	18	..	..	23	13 1/2	16	27 7/8	70 1/2
1250	25 1/2	18	..	..	33 1/4	7	20	28 3/8	71
1251	25 1/2	18	..	..	40	7	20	28 3/8	78
1252	27	18	..	..	47	7	20	28 3/8	85
1253	54	18	27	27	33 1/2	7	20	28 3/8	99
1254	54	18	27	27	48	7	20	28 3/8	106
1255	54	18	27	27	56 3/4	7	20	28 3/8	120

Above dimensions are in inches.

For Smoke Pipe Connections at back add 18 in. for the 1,000 and 1,100 Series, and 24 in. for 1,200 Series.

Gurney

Hot Water Supply Boilers

For Storage Tanks

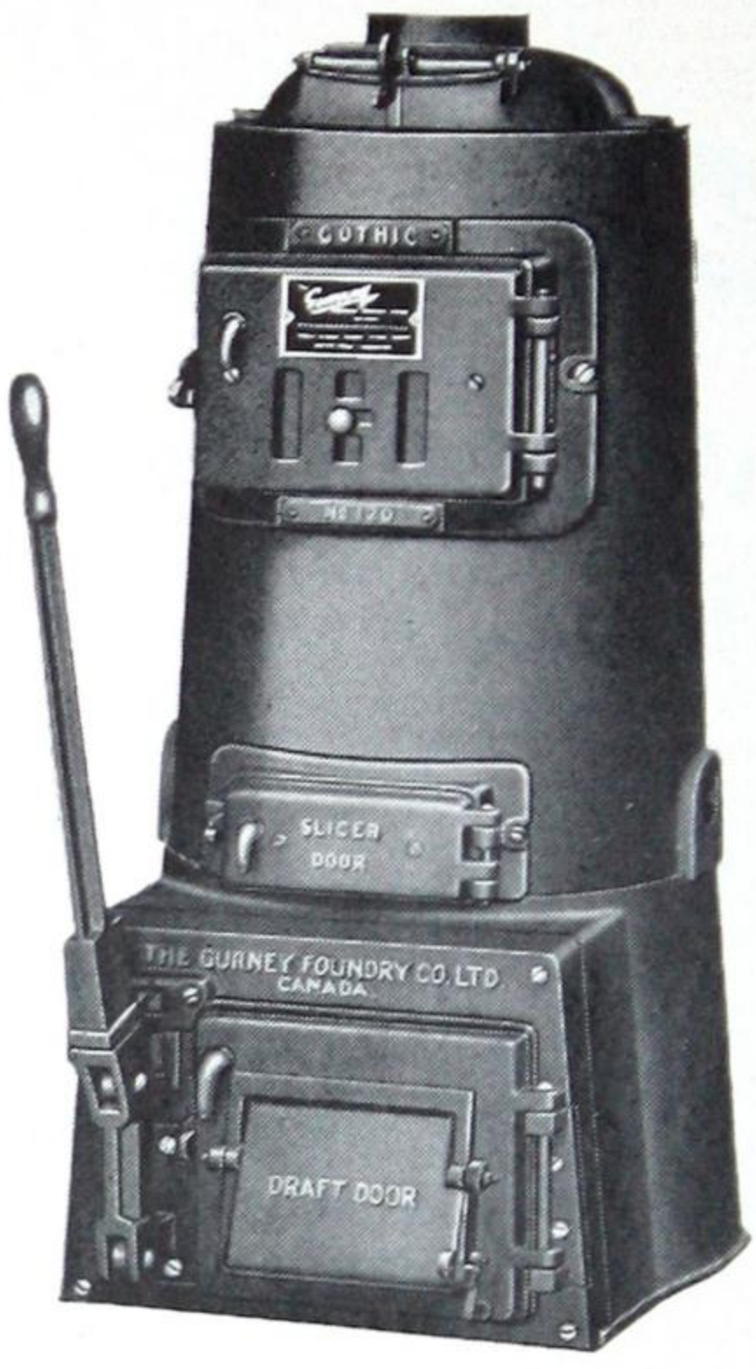
Gurney

Hot Water Supply BOILERS

DOMESTIC Water Heating for Hotels, Restaurants, Apartment Houses and other institutions requiring a quantity of heated water in storage at all times, demands water heating equipment which is economical in operation and of durable construction. Gurney Water Heating Equipment has reached its present degree of popularity on this foundation.

In this catalogue we are showing a complete line of water heating boilers and auxiliary heaters suitable for all installations.

THE NEW GOTHIC WATER HEATER



This new Gurney Heater is made in six sizes with capacities ranging from 190 to 660 gallons.

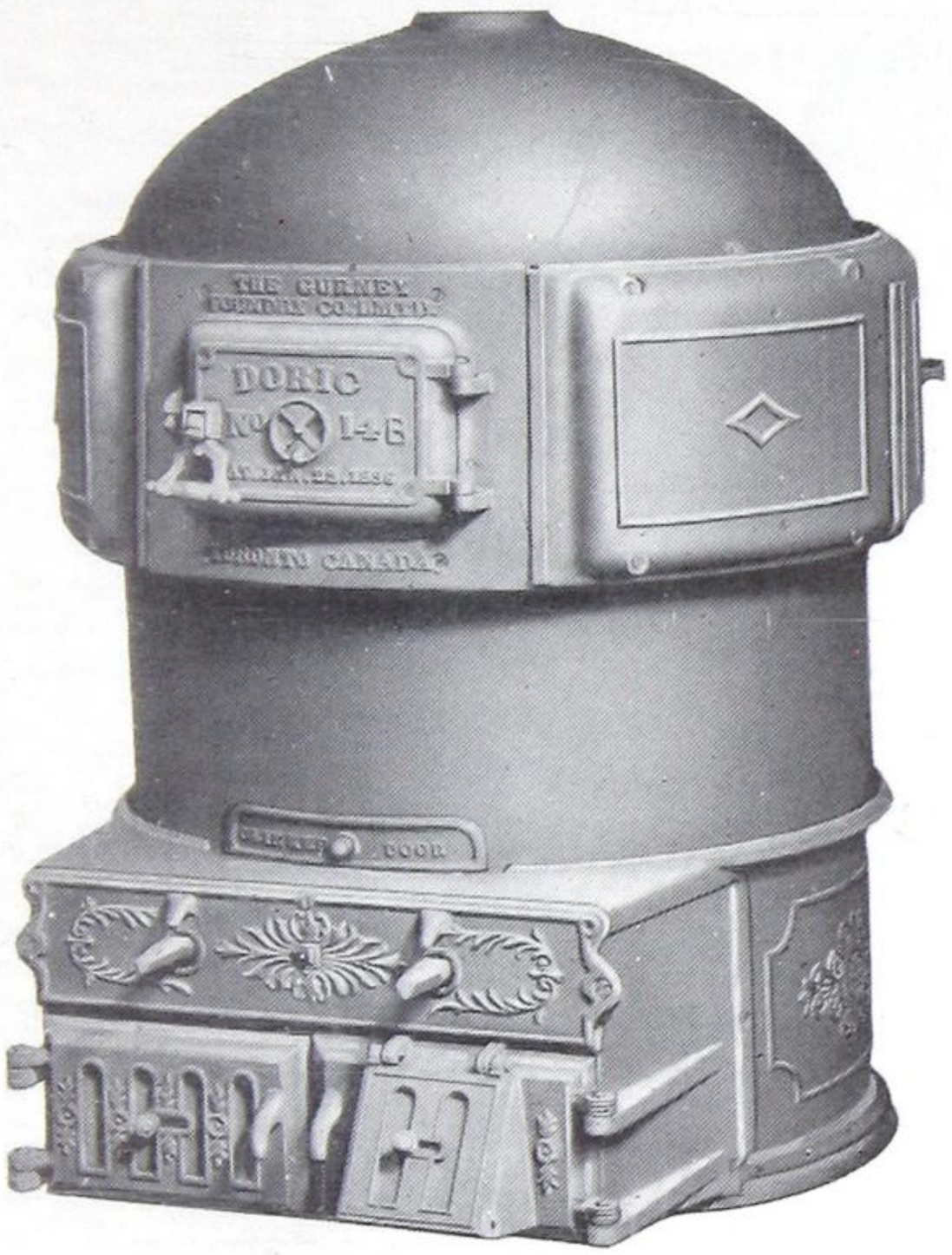
All modern features in heater construction have been incorporated in the Gothic. It has an exceptionally deep firepot, large firedoor, locking and dumping shaking arrangement and grates that are designed for use with any fuel.

Dimensions

Number	Tank Capacity Gallons	Height Overall, Inches	Diameter of Grate, Inches	Diameter of Smoke Outlet, Inches	Flow and Return Tappings	Approximate Shipping Weight
120	190	41	12	6	3–1½″	435
121	210	46	12	6	3–1½″	510
150	380	46	15	6	3–2″	580
151	425	52	15	6	3–2″	660
180	600	47	18	7	3–2″	660
181	660	54	18	7	3–2″	765

For Hourly Capacities, see page 11

THE DORIC HEATER



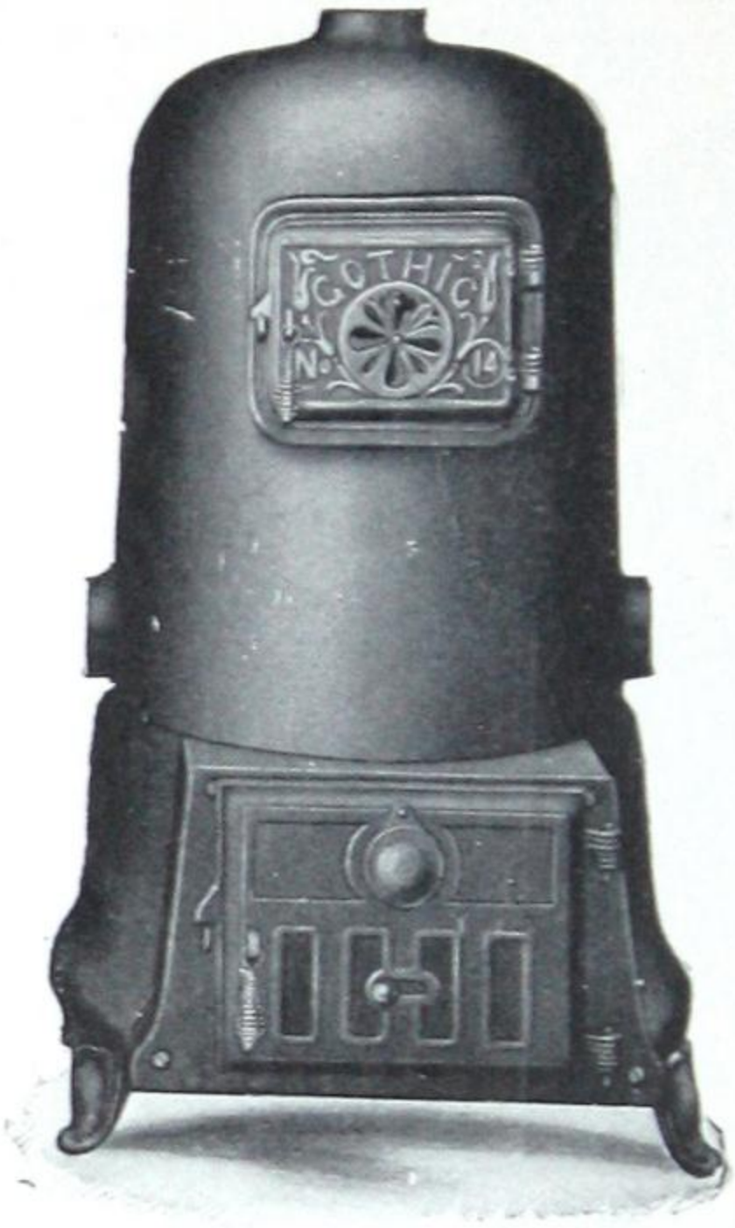
A most powerful tank heater well known to the Canadian trade. It gives splendid service for heating water, as the section is one single casting without joints. Its low height makes it very desirable where there is small cellar head room.

Headers supplied as an extra.

No.	Height in Inches Low Base	Adaptable Tank size Gallons	Diameter of Base in Inches	Diameter of Grate in Inches	Diameter of Smoke Outlet Inches	Approx. Shipping Weight Low Base
13B	49½	900	30	24	8	1,400
14B	49½	1,100	33	27	9	1,900

For Hourly Capacities, see page 11.

THE GOTHIC HEATER



A very efficient heater, will be found especially suitable when large quantities of water are required for barber shops, restaurants, small greenhouses, baths, etc. It is very strongly constructed. Has a deep firepot, which ensures economy of fuel. No water joints.

No.	Height, Inches	Diameter of Firepot, Inches	Tank Capacity Gallons	Diameter of Smoke Outlet, Inches	Sizes of Flow and Return Outlet, Inches	Approximate Shipping Weights Lbs.
12	35	12	175	6	1-2 Flow 2-2 Return	450
14	37	14	250	7	1-2½ Flow 2-2 Return	550
16	39	16	350	7	1-2½ Flow 2-2 Return	650

For Hourly Capacities, see page 11.

GURNEY JACKET HEATER

"B" Series

The "B" Series Jacket Heater is an ideal heater for barber shops and other places requiring a moderate amount of hot water available for use at all times.

Illustrating No. 2-B

This heater is constructed with a one-piece, no water joint, cast iron water cylinder.

The grates are of the triangular, roller type operated by one shaker. The fire is controlled by a ratchet damper in the ashpit and the Gurney "Economizer" at the smoke outlet.

This heater is built in two sizes, No. 1-B being 4¼" shorter than No. 2-B. This smaller size is of great convenience when a heater is wanted to fit a limited space.

Dimensions

Number	Adaptable Tank Size, Gallons	Flow Tapping	Return Tapping	Diameter of Grate, Inches	Height to Top of Water Cylinder, Inches	Height, Total (With Economizer) Inches	Diameter of Smoke Outlet, Inches	Approximate Shipping Weight, Pounds
1-B	60	2–1″	1–1¼″	10	22¼	30¼	6	185
2-B	100	2–1″	1–1¼″	10	26½	34½	6	220

RANCHER WATER HEATER

Water Heating Laundry Stove

A CERTAIN WASH DAY FAVORITE

An Up-to-Date Laundry Stove that will also Heat a 30 Gallon Water Tank

Outlets may face either right or left, changeable on the job.

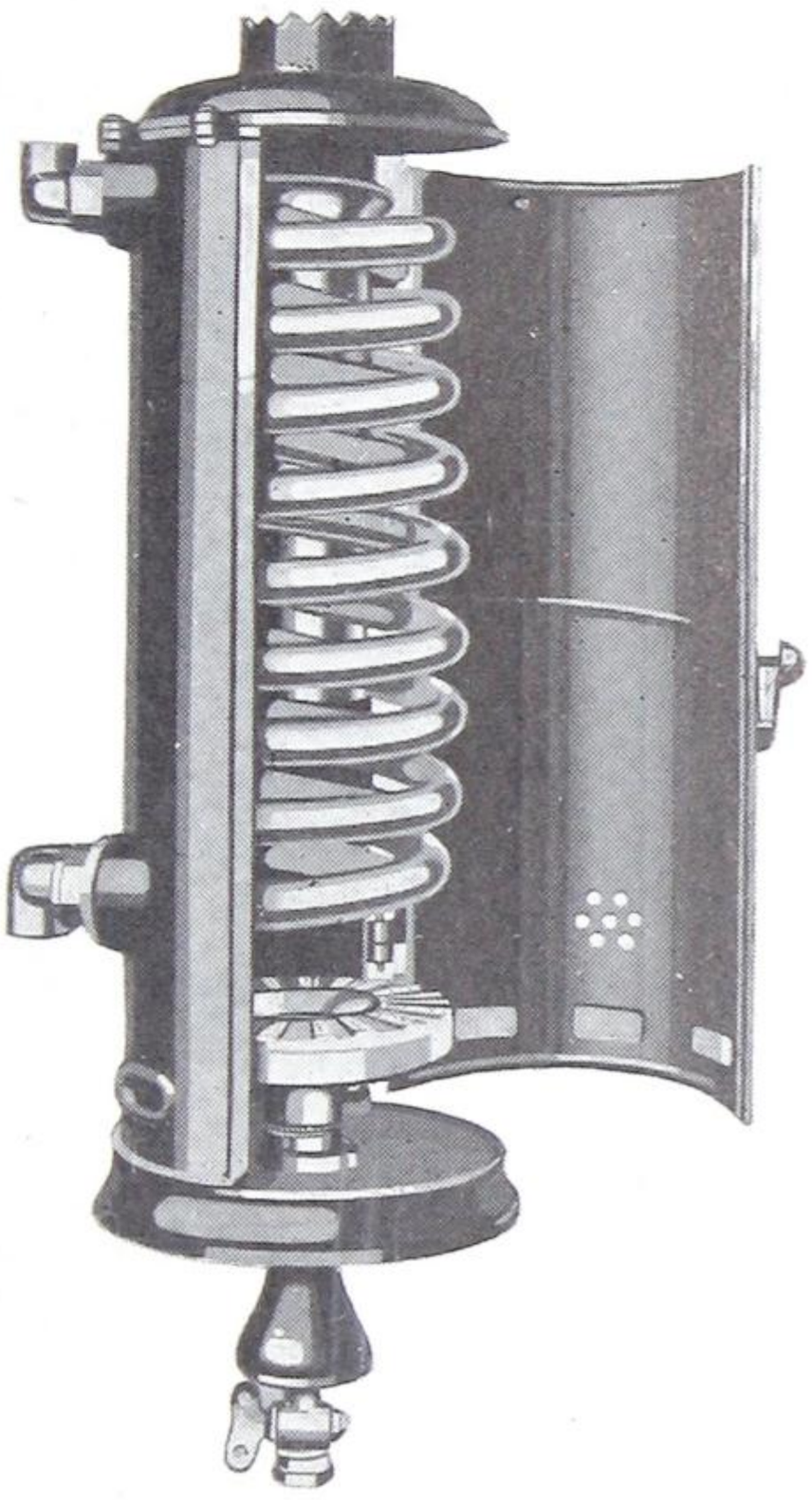
Details:

Size of top, No. 138.....14 x 20 inches
Size of top, No. 139.....15 x 21½ inches
Flow and Return.....1 inch
Height from floor.....21 inches
Shipping Weight .....125 lbs.
No. 139 takes 9-inch pit bottom wash boiler.
No. 138 takes 8-inch pit bottom wash boiler.
Capacity using hard coal, 30 gals.

GURNEY GAS WATER HEATERS

Gurney No. 26

A double copper coil heater of standard construction.



Dimensions, Etc.

	Gurney No. 26
Length of Heater	22½"
Width of Heater	8¼"
Gas Connection	½"
Fumes Connection	3"
Water Connection	¾"
Approximate Shipping Weight	45 lbs.

HOW TO CONNECT GAS WATER HEATERS

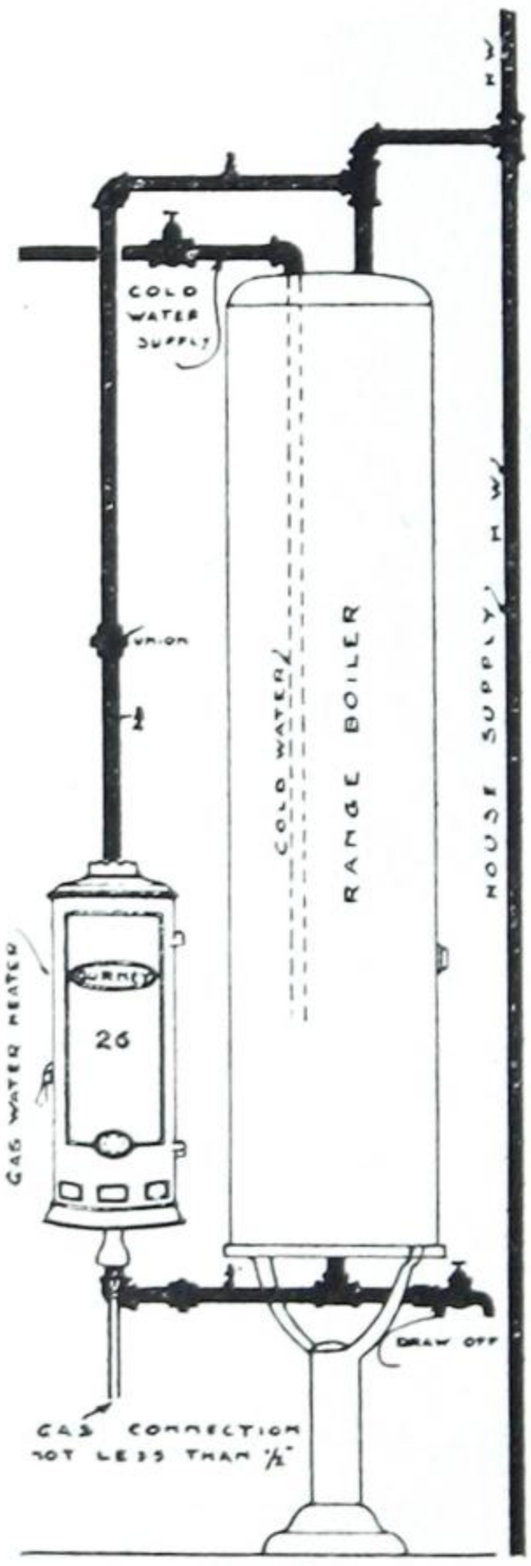


FIG 1

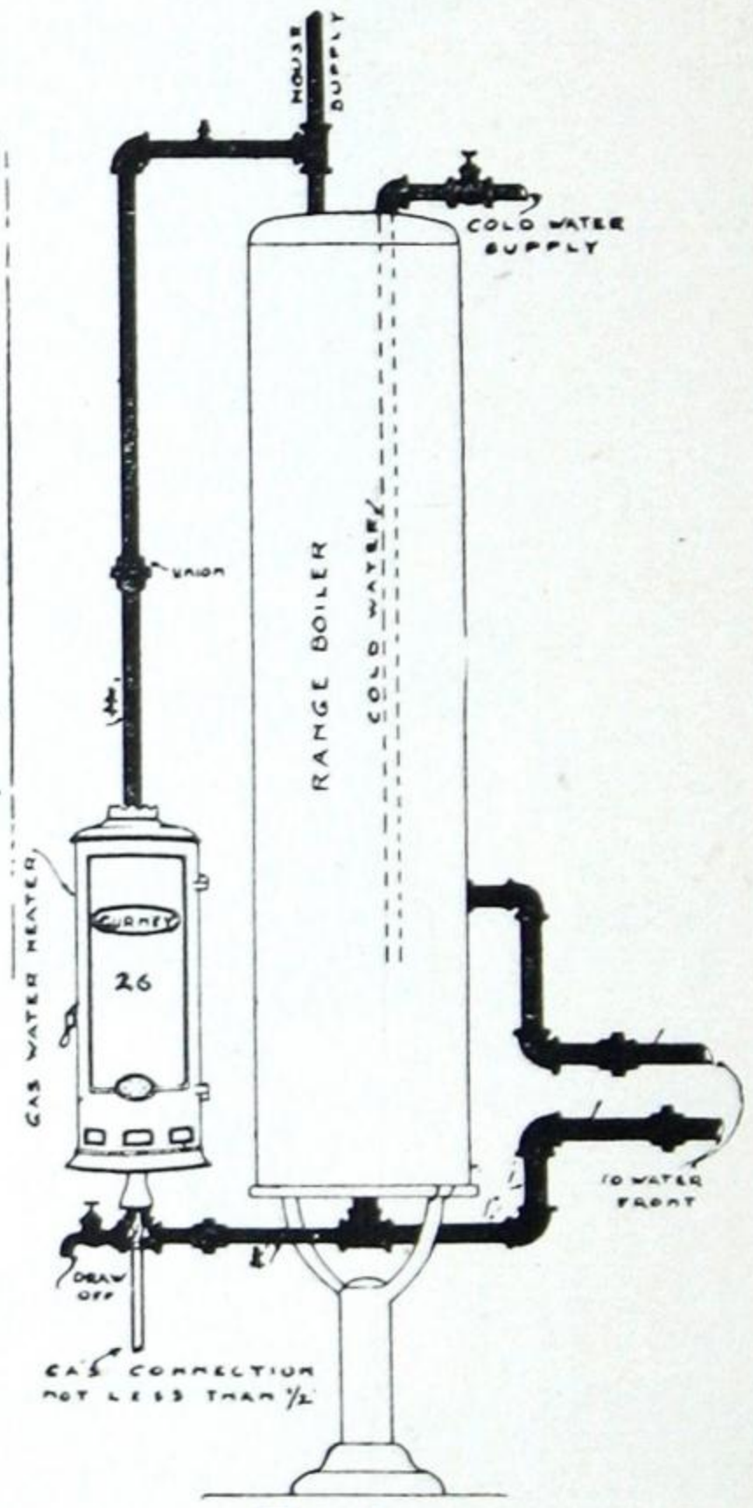
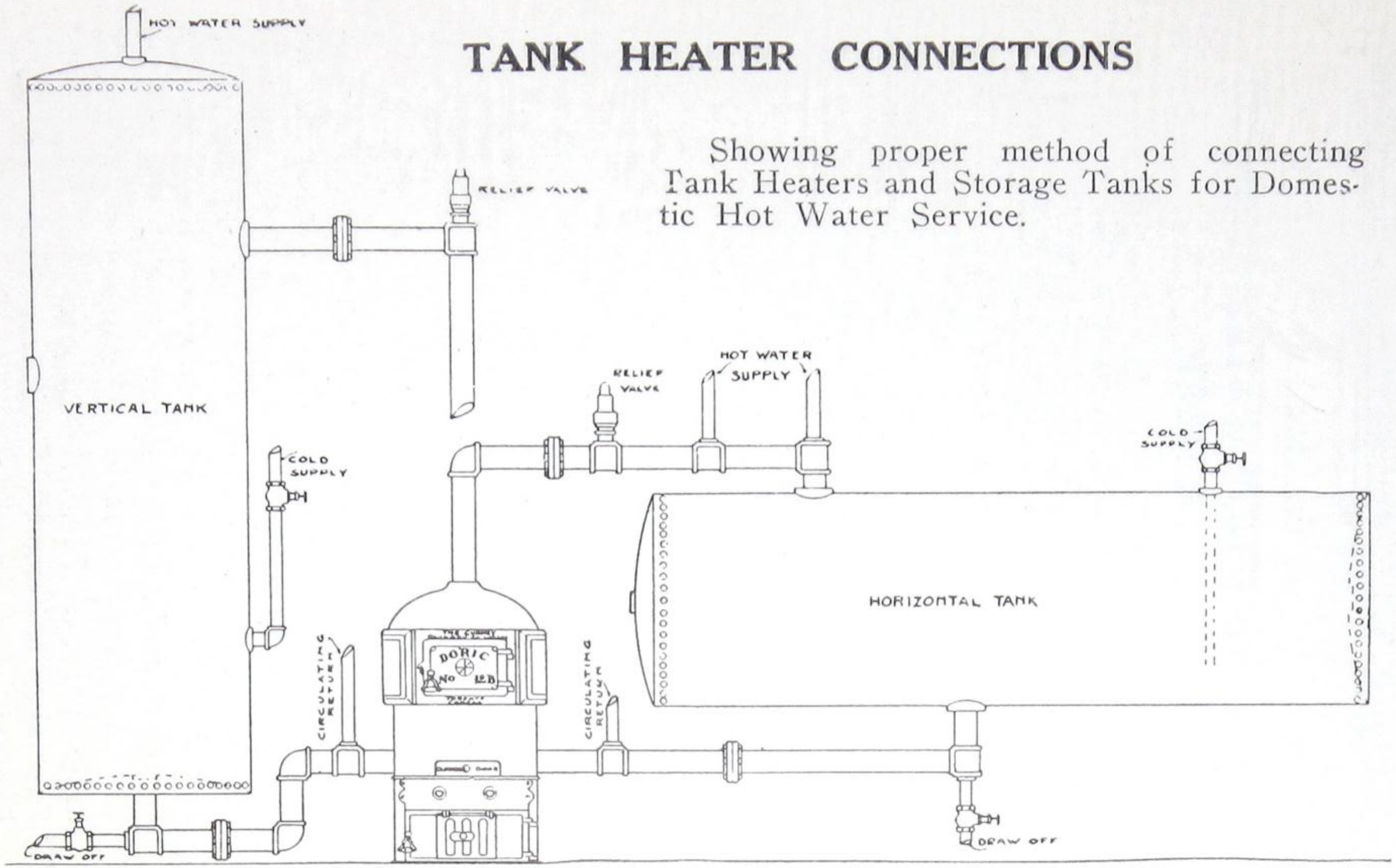


FIG. 2

TANK HEATER CONNECTIONS

Showing proper method of connecting Tank Heaters and Storage Tanks for Domestic Hot Water Service.



ADAPTABLE SIZE HOT WATER STORAGE TANK

for

GURNEY HOT WATER SUPPLY BOILER

Where it is desired to have a fair supply of hot water at command, the following sized heaters will be found suitable where reasonable attention is given and there is a proper draft in the chimney, viz.:

Size Heater	U.S. Gallons
Rancher 138-9	30
No. 1 "B" Jacket	60
No. 2 "B" Jacket	100
New Gothic No. 120	190
New Gothic No. 121	210
New Gothic No. 150	380
New Gothic No. 151	425
New Gothic No. 180	600
New Gothic No. 181	660
Gothic No. 12	175
Gothic No. 14	250
Gothic No. 16	350
Doric No. 13B	900
Doric No. 14B	1100

Deduct 25% if soft coal is used.

The quantity of hot water heated and the temperature depends on the total coal consumed, and the extent to which the heater need be run will depend on the time allowed for heating the water and the demand for hot water, and this can only be determined after consideration of all the factors. A tank capacity of 10 to 12 gallons for each person in an apartment house should give good results, but this takes no account of shower baths or leaky fixtures.

HOURLY CAPACITIES OF HOT WATER SUPPLY BOILER

Raise in temperature 100 degrees Fahrenheit, or from 40 to 140, with varying rates of coal consumption:

Name and Size of Tank Heater	Lbs. of Coal per sq. ft. of Grate per Hour			
	3 (Fair)	6 (Mod.)	8 (Brisk)	10 (Str.)
	U.S. Gals.	U.S. Gals.	U.S. Gals.	U.S. Gals.
New Gothic No. 120	23	46	62	77
New Gothic No. 121	25	50	68	85
New Gothic No. 150	35	70	93	116
New Gothic No. 151	38	77	102	128
New Gothic No. 180	51	102	136	170
New Gothic No. 181	56	112	149	186
Gothic No. 12.....	23	46	62	77
Gothic No. 14.....	31	62	83	104
Gothic No. 16.....	42	84	112	140
Doric No. 13B.....	90	180	240	300
Doric No. 14B.....	115	230	306	382

To determine the capacity of any heater under any given condition for a lower or higher temperature raise than above, multiply any one of the above quantities by 100 and divide by the desired raise in temperature, and the result will be the capacity of the heater given in the first column under such conditions. Example: How many gallons of water can be heated with a No. 16 Gothic in one hour from 50 degrees to 120 degrees Fahr. with fire burning 6 lbs. of coal per sq. ft. of grate surface per hour? Answer: 84 x 100 equals 8,400, and 120 minus 50 equals 70. Then 8,400 divided by 70 equals 120, or 120 gallons of water heated per hour from 50 degrees to 120 degrees Fahr. per hour.

c130—5M—7—27

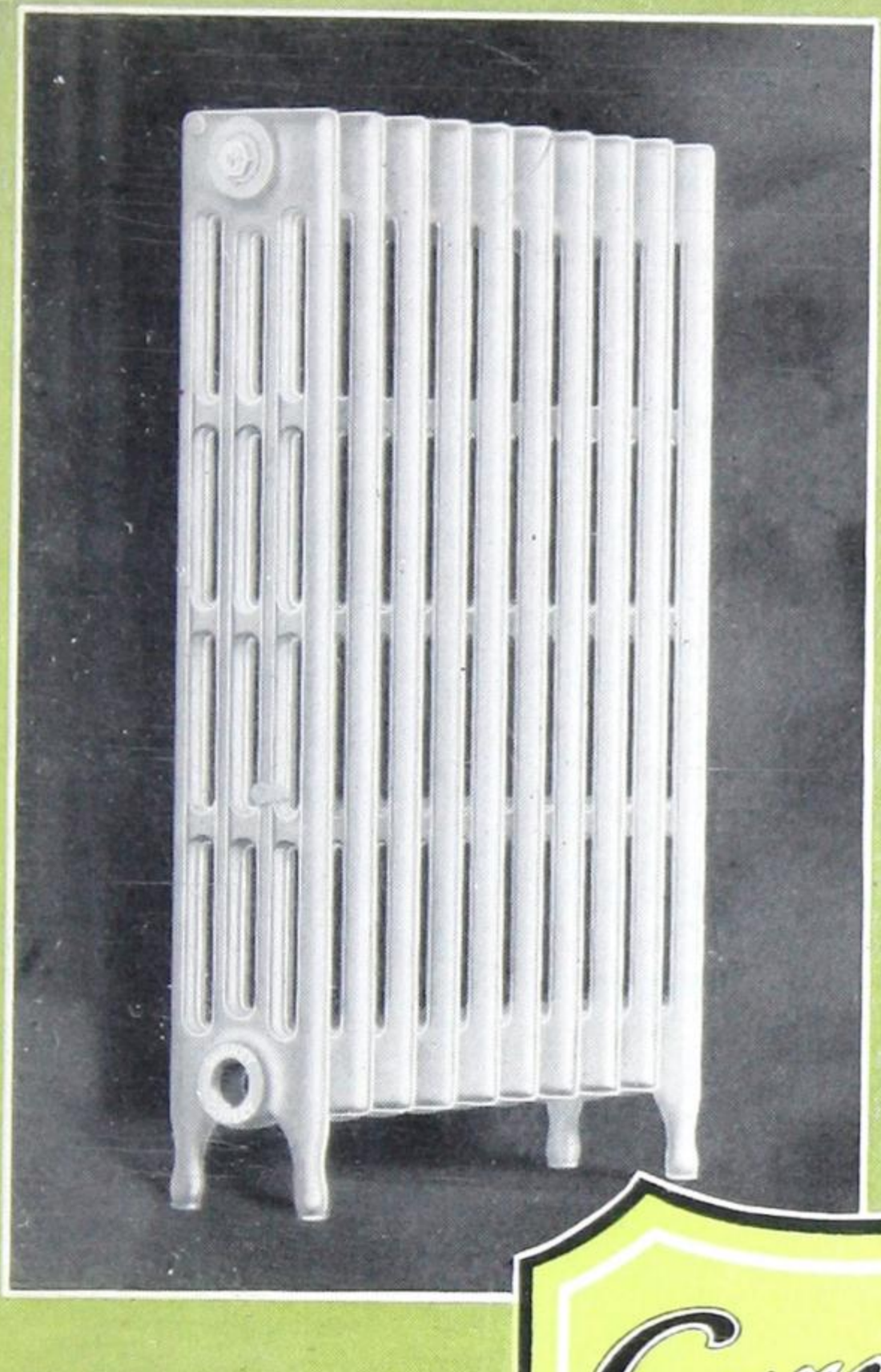
NUMBER OF GALLONS IN ROUND TANKS

Length (or Height), Diameter and Capacity in U. S. Gallons

Depth or Length	18-inch	24-inch	30-inch	36-inch	42-inch	48-inch	54-inch	60-inch	66-inch	72-inch
1 Inch	1.10	1.96	3.06	4.41	5.99	7.83	9.91	12.24	14.81	17.62
1 ft.	13.	23.	37.	53.	72.	94.	119.	147.	178.	211.
1½ ft.	20.	35.	55.	79.	108.	141.	179.	220.	267.	317.
2 ft.	26.	47.	73.	106.	144.	188.	238.	294.	355.	423.
2½ ft.	33.	59.	92.	132.	180.	235.	298.	367.	444.	529.
3 ft.	40.	71.	110.	159.	216.	282.	357.	441.	553.	634.
3½ ft.	46.	82.	129.	185.	252.	329.	417.	514.	622.	740.
4 ft.	53.	94.	147.	211.	288.	376.	476.	580.	711.	846.
4½ ft.	59.	106.	165.	238.	324.	423.	536.	661.	800.	952.
5 ft.	66.	118.	183.	264.	360.	470.	597.	734.	889.	1157.
5½ ft.	73.	129.	202.	291.	396.	517.	657.	808.	977.	1263.
6 ft.	79.	141.	220.	317.	432.	564.	714.	881.	1066.	1369.
7 ft.	92.	164.	257.	370.	504.	658.	833.	1028.	1244.	1580.
8 ft.	106.	188.	294.	423.	576.	752.	952.	1175.	1422.	1792.
9 ft.	119.	212.	330.	476.	648.	846.	1071.	1322.	1599.	2003.
10 ft.	132.	235.	367.	529.	720.	940.	1190.	1469.	1777.	2115.
12 ft.	157.	282.	440.	634.	864.	1128.	1428.	1762.	2133.	2537.
14 ft.	185.	329.	514.	740.	1008.	1316.	1666.	2056.	2488.	2960.
16 ft.	211.	376.	587.	846.	1152.	1504.	1904.	2350.	2844.	3383.
18 ft.	238.	423.	661.	952.	1296.	1692.	2142.	2644.	3199.	3806.
20 ft.	264.	470.	734.	1057.	1440.	1880.	2380.	2937.	3554.	4229.

One-inch Depth is given to facilitate figuring intermediate depths.

For tanks having a diameter other than those given in the table, multiply the square of the diameter in inches by the length in feet and multiply this product by 0.0408 to obtain tank capacity in U.S. gallons. When both diameter and length are given in inches, the capacity in U.S. gallons equals $0.0034 \times D^2 \times L$.



Gurney

COPLEY

RADIATOR

THE GURNEY FOUNDRY COMPANY
LIMITED
TORONTO AND MONTREAL
WINNIPEG - VANCOUVER

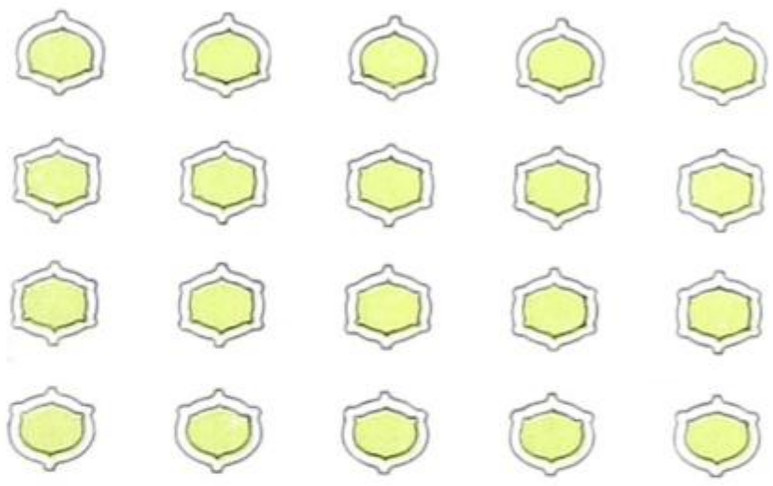
THE COPLEY

A Radiator — Beautiful as a Piece of Fine Furniture

THE New Copley Radiator takes its place appropriately as a tasteful decoration in any room. Its pleasing design and proportions, with its efficiency in heating, are the outstanding features of this New Gurney Radiator.

The graceful lines of the Copley expose to the air a greater heating surface. In heating ability a radiator of this type is unrivalled. The large amount of free air which can circulate around its tubes gives it a wonderful heating efficiency.

The New Gurney Copley Radiators in your home are at once the expression of your sense of beauty, and common sense in securing the utmost efficiency in heat radiation.



The illustration above is a cross section of a Gurney Copley Radiator. Note the large amount of air space around tubes, allowing rapid air circulation.

Copley Four Tube Radiators

For Steam and Water

SIZES AND RATINGS

Heating Surface—Feet

Number of Sections	Length 2½ In. Per Sec.	38 In. Height 4¼ Ft. Per Sec.	32 In. Height 3½ Ft. Per Sec.	26 In. Height 2¾ Ft. Per Sec.	23 In. Height 2½ Ft. Per Sec.	20 In. Height 2¼ Ft. Per Sec.
2	5	8½	7	5½	5	4½
3	7½	12¾	10½	8¼	7½	6¾
4	10	17	14	11	10	9
5	12½	21¼	17½	13¾	12½	11¼
6	15	25½	21	16½	15	13½
7	17½	29¾	24½	19¼	17½	15¾
8	20	34	28	22	20	18
9	22½	38¼	31½	24¾	22½	20¼
10	25	42½	35	27½	25	22½
11	27½	46¾	38½	30¼	27½	24¾
12	30	51	42	33	30	27
13	32½	55¼	45½	35¾	32½	29¼
14	35	59½	49	38½	35	31½
15	37½	63¾	52½	41¼	37½	33¾
16	40	68	56	44	40	36
17	42½	72¼	59½	46¾	42½	38¼
18	45	76½	63	49½	45	40½
19	47½	80¾	66½	52¼	47½	42¾
20	50	85	70	55	50	45

Width 6⅞". Floor to Centre Bottom Tapping 4½". Measurements for length are over tapping bosses.

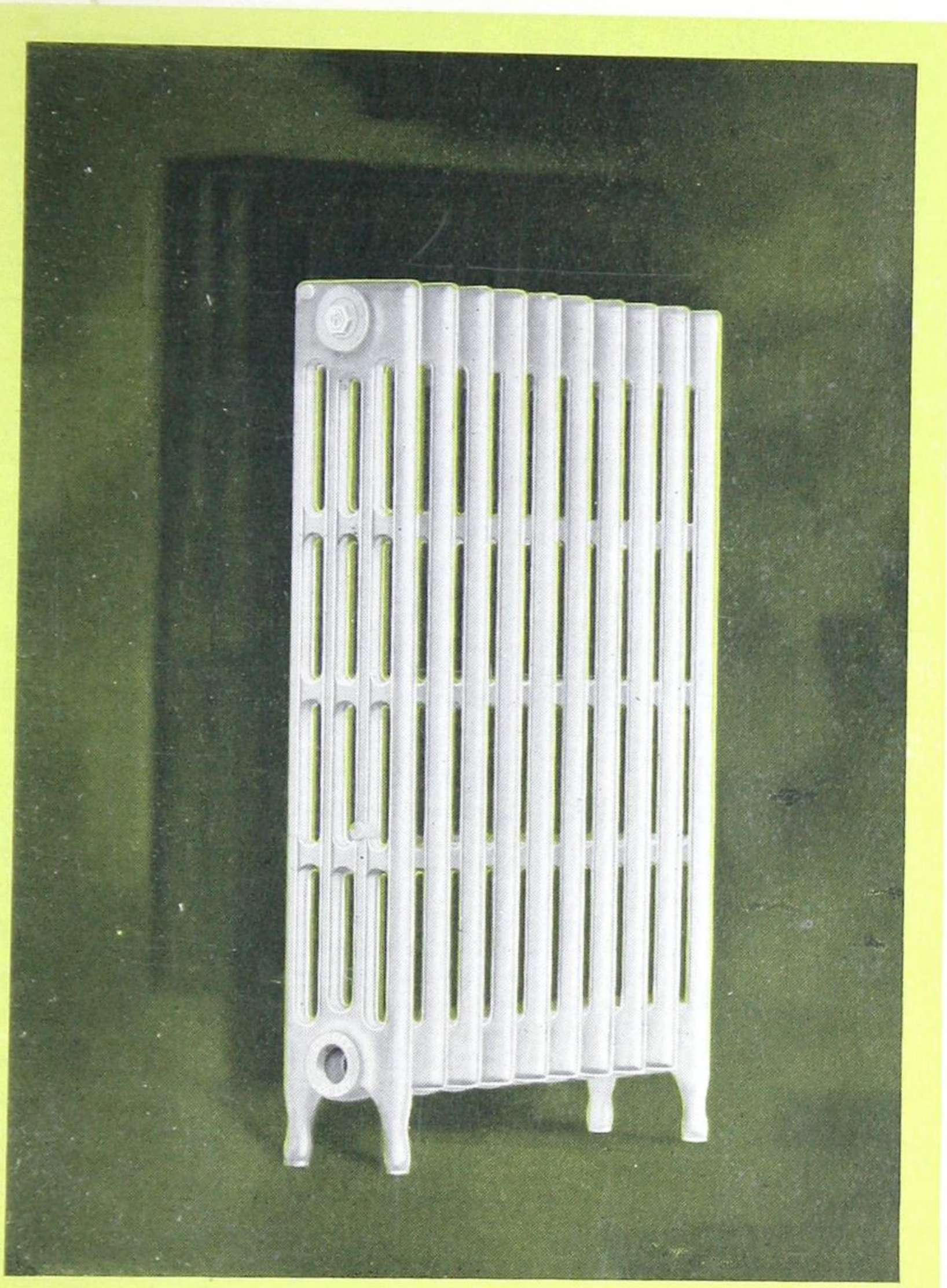
Copley Radiators are tapped 1½ inches top and bottom, both ends (except twin connection Hot Water) and bushed to size required. Add ½" to length for each bushing. Twin connection Hot Water Radiators are tapped solid for twin end 3¼" centre and 1½" right hand on vent end.

All Copley Radiators are connected both top and bottom by heavy malleable iron screw nipples.

They are furnished legless, or with 6" legs (6" from floor to centre of tapping) when ordered.

Distance between upper and lower tappings

20"	23"	26"	32"	38"
13¾"	16¾"	19¾"	25¾"	31½"



Illustrating 38" Height

GURNEY FOUR TUBE COPLEY RADIATOR

Its graceful lines will please those who appreciate home decoration. Appropriate but unobtrusive, in any room. The Copley adds to the harmony of decoration—no matter how fine.

Copley Five Tube Radiators
For Steam and Water

SIZES AND RATINGS
Heating Surface—Feet

Number of Sections	Length 2½ In. Per Sec.	38 In. Height 5 Ft. Per Sec.	32 In. Height 4 1/3 Ft. Per Sec.	3½ Ft. Height 26 In. Per Sec.	20 In. Height 2 2/3 Ft. Per Sec.
2	5	10	8⅔	7	5⅓
3	7½	15	13	10½	8
4	10	20	17⅓	14	10⅔
5	12½	25	21⅔	17½	13⅓
6	15	30	26	21	16
7	17½	35	30⅓	24½	18⅔
8	20	40	34⅔	28	21⅓
9	22½	45	39	31½	24
10	25	50	43⅓	35	26⅔
11	27½	55	47⅔	38½	29⅓
12	30	60	52	42	32
13	32½	65	56⅓	45½	34⅔
14	35	70	60⅔	49	37⅓
15	37½	75	65	52½	40
16	40	80	69⅓	56	42⅔
17	42½	85	73⅔	59½	45⅓
18	45	90	78	63	48
19	47½	95	82⅓	66½	50⅔
20	50	100	86⅔	70	53⅓

Width 8¾". Floor to Centre Bottom Tapping 4½". Measurements for length are over tapping bosses.

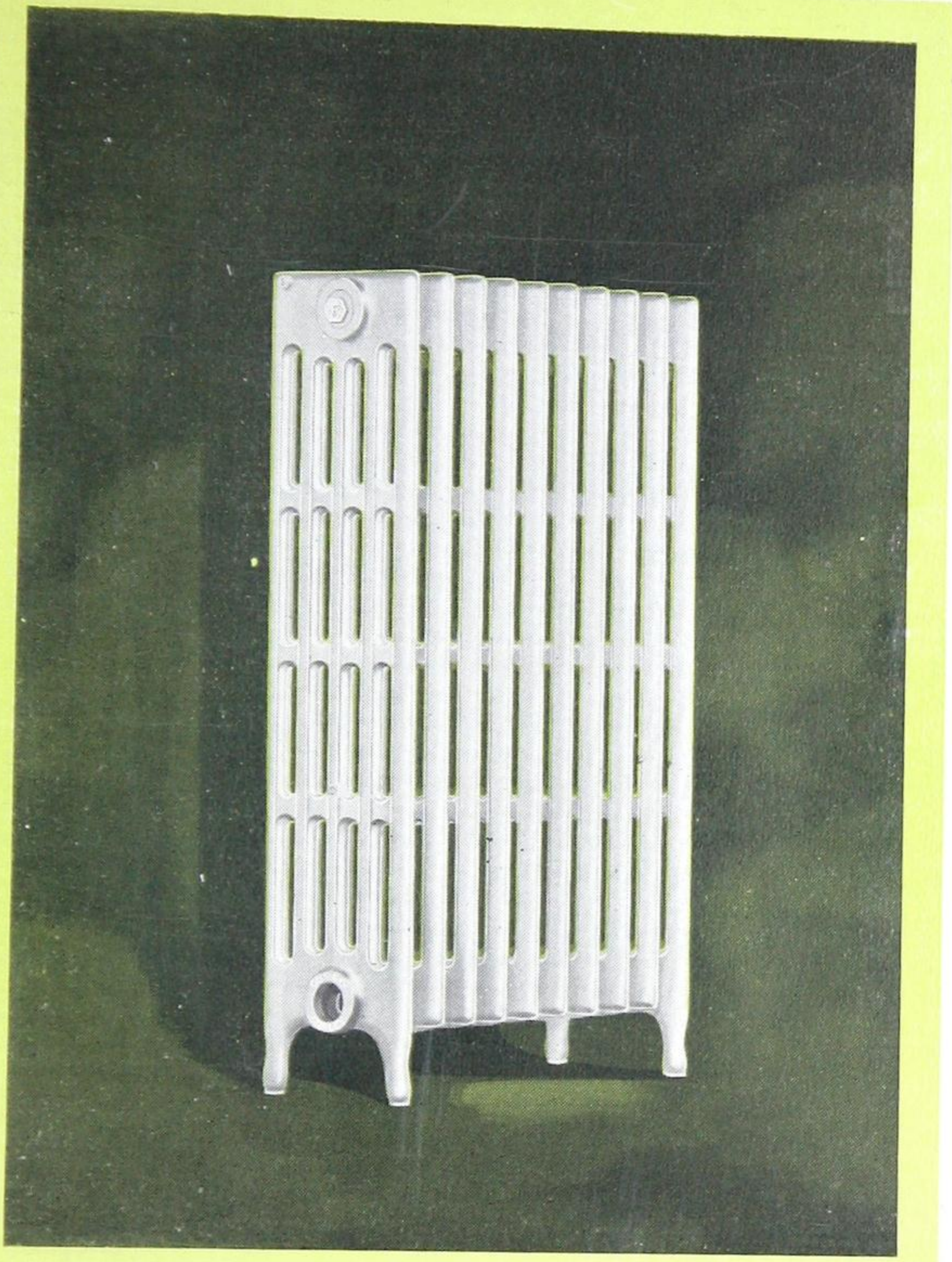
Copley Radiators are tapped 1½ inches top and bottom, both ends (except twin connection Hot Water) and bushed to size required. Add ½" to length for each bushing. Twin connection Hot Water Radiators are tapped solid for twin end 3¼" centre and 1½" right hand on vent end.

All Copley Radiators are connected both top and bottom by heavy malleable iron screw nipples.

They are furnished legless, or with 6" legs (6" from floor to centre of tapping) when ordered.

Distance between upper and lower tappings

20"	26"	32"	38"
13¾"	19¾"	25¾"	31½"



Illustrating 38" Height

GURNEY FIVE TUBE COPLEY RADIATOR

The slender tubes of the five tube Copley Radiator gives it an airiness which takes away any impression of clumsiness in a radiator of this size.

Its harmony with any scheme of decoration makes it a fit radiator for the finest home.

C-121, 2½M, 6-27

STERLING

MADE IN CANADA

36733

Guide to
BOILERS
AND
RADIATORS