STEAM & HOT WATER BOILERS 1840-1930

THE IDEAL FITTER

BOILERS FROM CATALOGUE OF AMERICAN RADIATOR COMPANY, LONDON 1904
### IDEAL NO. 3 “C” SERIES WATER BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length</th>
<th>Size of Grate</th>
<th>Capacity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>24½ × 12½</td>
<td></td>
<td>650</td>
<td>£ 6 0</td>
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<tr>
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<td></td>
<td>1100</td>
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<tr>
<td>636</td>
<td>6</td>
<td>31 × 12½</td>
<td></td>
<td>1150</td>
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<td></td>
<td>1600</td>
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</table>

**Extra for Fire Tools, per set**: £ 6 0

Fire Tools will be forwarded with Boiler and charged as above, unless otherwise specified.

*Add 7 inches to allow for Smoke Hood.
Total width 30½ inches.
Total height 5½ inches.
Diameter of Smoke Outlet 9 inches.

For additional data see page 102.
See General Conditions, page 80.

### IDEAL NO. 3 “C” SERIES STEAM BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length</th>
<th>Size of Grate</th>
<th>Capacity Direct Radiation</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>6320</td>
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<td>29½</td>
<td>24½ × 12½</td>
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<td>6350</td>
<td>6</td>
<td>35½</td>
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<tr>
<td>7370</td>
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<td>41½</td>
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<td>£ 58 0</td>
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<tr>
<td>8380</td>
<td>8</td>
<td>49½</td>
<td>43½ × 12½</td>
<td>960</td>
<td>£ 65 0</td>
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**Extra for Fire Tools, per set**: £ 6 6

Extra for Trimmings**: £ 6 11 6

Fire Tools and Trimmings will be forwarded with Boiler and charged as above, unless otherwise specified.

A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scraper, Hoe, and Shovel.

A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Draw-off Cock.

*Add 7 inches to allow for Smoke Hood.
Total width, excluding Trimmings, 30½ inches.
Total height 5½ inches.
Diameter of Smoke Outlet 9 inches.
Height of Water Line 48½ inches.

For additional data see page 102.
See General Conditions, page 80.
IDEAL NO. 5 "C" SERIES WATER BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length, Inches</th>
<th>Site of Grate, 32½ × 22</th>
<th>No. and Site Outlets on Top, 2 4</th>
<th>Capacity, Linear Feet, 4×4-inch Pipe</th>
<th>Capacity, Direct Radiation, Sq. Feet</th>
<th>Price, £ s. d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>5</td>
<td>37½</td>
<td>32½ × 22</td>
<td>2 4</td>
<td>2850</td>
<td>3400</td>
<td>96 0 0</td>
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<tr>
<td>650</td>
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<td>40½ × 22</td>
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<td>4000</td>
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<tr>
<td>750</td>
<td>7</td>
<td>53½</td>
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<tr>
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<td>5130</td>
<td>6000</td>
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Extra for Fire Tools, per set  £2 0 0

Fire Tools will be forwarded with Boiler and charged as above, unless otherwise specified.


Add 8½ inches to allow for Smoke Hood.

Total width 48¼ inches.

Total height 69¼ inches.

Diameter of Smoke Outlet 12 inches.

For additional data see page 102.

See General Conditions, page 80.

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IDEAL NO. 5 "C" SERIES STEAM BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length, Inches</th>
<th>Size of Grate, 32½ × 22</th>
<th>No. and Size Outlets on Top, 2 4</th>
<th>Capacity, Direct Radiation, Sq. Feet</th>
<th>Price, £ s. d.</th>
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</thead>
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<tr>
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<td>62</td>
<td>57½ × 22</td>
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<td>70½</td>
<td>65½ × 22</td>
<td>4 4</td>
<td>3060</td>
<td>178 0 0</td>
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</table>

Extra for Fire Tools, per set  £2 0 0

Extra for Trimmings  £6 11 6

Fire Tools and Trimmings will be forwarded with Boiler and charged as above, unless otherwise specified.


A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Draw-off Cock.

Add 8½ inches to allow for Smoke Hood.

Total width, excluding Trimmings, 48¼ inches.

Total height 72¼ inches.

Diameter of Smoke Outlet 12 inches.

Height of Water Line 63½ inches.

For additional data see page 102.

See General Conditions, page 80.

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IDEAL SECTIONAL 18-INCH WATER BOILERS

<table>
<thead>
<tr>
<th>No. of Sections</th>
<th>Length Inches</th>
<th>Size of Grate Inches</th>
<th>No. and Size Outlets on Top. In.</th>
<th>Capacity Linear Feet 4-inch Pipe</th>
<th>Capacity Direct Radiation Sq. Feet</th>
<th>Price £ s. d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>184 4</td>
<td>28</td>
<td>18 x 18</td>
<td>2 3</td>
<td>700</td>
<td>800</td>
<td>31 0 0</td>
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<tr>
<td>185 5</td>
<td>34</td>
<td>24 x 18</td>
<td>2 3</td>
<td>840</td>
<td>1000</td>
<td>37 0 0</td>
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<tr>
<td>186 6</td>
<td>40</td>
<td>30 x 18</td>
<td>2 3</td>
<td>1010</td>
<td>1200</td>
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<tr>
<td>187 7</td>
<td>46</td>
<td>36 x 18</td>
<td>2 3</td>
<td>1180</td>
<td>1400</td>
<td>49 0 0</td>
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</table>

Extra for Fire Tools, per set £ 6 0

IDEAL SECTIONAL 18-INCH STEAM BOILERS

<table>
<thead>
<tr>
<th>No. of Sections</th>
<th>Length Inches</th>
<th>Size of Grate Inches</th>
<th>No. and Size Outlets on Top. In.</th>
<th>Capacity Direct Radiation Sq. Feet</th>
<th>Price £ s. d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>084 4</td>
<td>28</td>
<td>18 x 18</td>
<td>2 3</td>
<td>420</td>
<td>33 0 0</td>
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<tr>
<td>085 5</td>
<td>34</td>
<td>24 x 18</td>
<td>2 3</td>
<td>525</td>
<td>40 0 0</td>
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<tr>
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<td>40</td>
<td>30 x 18</td>
<td>2 3</td>
<td>630</td>
<td>47 0 0</td>
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<td>46</td>
<td>36 x 18</td>
<td>2 3</td>
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</table>

Extra for Fire Tools, per set £ 6 0
Extra for Trimmings £ 6 11 6

Fire Tools and Trimmings are forwarded with Boiler and charged as above, unless otherwise specified.
A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scraper, Hoe, and Shovel.
A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Draw-off Cock.
* Add 11½ inches to allow for Smoke Hood.
Total width, excluding Trimmings, 28 inches.
Total height, 55 inches.
Height of Water Line, 44 inches.
Diameter of Smoke Outlet, 8 inches.

For additional data see page 102.
See General Conditions, page 80.
### Ideal Sectional 24-Inch Water Boilers

<table>
<thead>
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<th></th>
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<td>43½ x 24</td>
<td>2 4</td>
<td>2100</td>
<td>2500</td>
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<td>2750</td>
<td>3350</td>
<td>90 10</td>
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</table>

Extra for Fire Tools, per set: £1 6 0

Fire Tools are forwarded with Boiler and charged as above, unless otherwise specified.

A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scraper, Hoe, and Shovel.

* Add 14½ inches to allow for Smoke Hood.

Total width 40½ inches.
Total height 58½ inches.
Diameter of Smoke Outlet 12 inches.

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### Ideal Sectional 24-Inch Steam Boilers

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>045</td>
<td>5</td>
<td>39</td>
<td>29 x 24</td>
<td>2 4</td>
<td>700</td>
<td>900</td>
<td>60 0</td>
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<tr>
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<td>46½</td>
<td>36½ x 24</td>
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<td>1100</td>
<td>1100</td>
<td>70 0</td>
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<tr>
<td>047</td>
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<td>43½ x 24</td>
<td>2 4</td>
<td>1300</td>
<td>1300</td>
<td>80 0</td>
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<tr>
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<td>50½ x 24</td>
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<td>1500</td>
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<td>68</td>
<td>58 x 24</td>
<td>3 4</td>
<td>1700</td>
<td>1700</td>
<td>100 0</td>
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</tbody>
</table>

Extra for Fire Tools, per set: £1 6 0
Extra for Trimmings: £6 11 6

Fire Tools and Trimmings are forwarded with Boiler and charged as above, unless otherwise specified.

A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scraper, Hoe, and Shovel.

A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Drain-off Cock.

* Add 14½ inches to allow for Smoke Hood.

Total width, excluding Trimmings, 40½ inches.
Total height 62 inches.
Height of Water Line 50 inches.
Diameter of Smoke Outlet 12 inches.

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For additional data see page 102.
See General Conditions, page 80.
IDEAL SECTIONAL 36-INCH WATER BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length, Inches</th>
<th>Size of Grate, Inches</th>
<th>No. and Size Outlets on Top &amp; No.</th>
<th>Capacity, Linear Feet</th>
<th>Capacity, Direct Radiation, Sq. Feet</th>
<th>Price, £ s. d.</th>
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<tbody>
<tr>
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<td>3550</td>
<td>4200</td>
<td>138 0 0</td>
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<tr>
<td>367</td>
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<td>63½</td>
<td>48 x 36</td>
<td>3 x 4</td>
<td>4100</td>
<td>4950</td>
<td>158 0 0</td>
</tr>
<tr>
<td>368</td>
<td>8</td>
<td>71½</td>
<td>56 x 36</td>
<td>3 x 4</td>
<td>4800</td>
<td>5700</td>
<td>178 0 0</td>
</tr>
<tr>
<td>369</td>
<td>9</td>
<td>79½</td>
<td>64 x 36</td>
<td>3 x 4</td>
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<td>6450</td>
<td>198 0 0</td>
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</table>

Extra for Fire Tools, per set: £ 2 0 0

Extra for Trimmings: £ 1 1 0

Fire Tools and Trimmings are forwarded with Boiler and charged as above, unless otherwise specified.

A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scrapper, Hoe, and Shovel.

A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Draw-off Cock.

Ideal Sectional 36-Inch Steam Boilers

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length, Inches</th>
<th>Size of Grate, Inches</th>
<th>No. and Size Outlets on Top &amp; No.</th>
<th>Capacity, Direct Radiation, Sq. Feet</th>
<th>Price, £ s. d.</th>
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<tbody>
<tr>
<td>005</td>
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<td>4800</td>
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<td>006</td>
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<td>2 x 4</td>
<td>5500</td>
<td>150 7 6</td>
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<tr>
<td>007</td>
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<td>48 x 36</td>
<td>3 x 4</td>
<td>6200</td>
<td>171 17 6</td>
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<td>008</td>
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<td>71½</td>
<td>56 x 36</td>
<td>3 x 4</td>
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<td>64 x 36</td>
<td>4 x 4</td>
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<td>212 17 6</td>
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</table>

Extra for Fire Tools, per set: £ 2 0 0

Extra for Trimmings: £ 1 1 0

Fire Tools and Trimmings are forwarded with Boiler and charged as above, unless otherwise specified.

A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scrapper, Hoe, and Shovel.

A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Draw-off Cock.

*Add 10½ inches to allow for Smoke Hood.

Total width 37½ inches.

Total height 72 inches.

Diameter of Smoke Outlet 14½ inches.

For additional data see page 102.

See General Conditions, page 80.
IDEAL SECTIONAL 48-INCH WATER BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length</th>
<th>Size of Grate</th>
<th>No. and Size of Outlets on Top</th>
<th>Capacity Lineal Feet</th>
<th>Capacity Direct Radiation</th>
<th>Price</th>
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<td>5920</td>
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<td>2 6</td>
<td>7050</td>
<td>8400</td>
<td>240</td>
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<tr>
<td>488</td>
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<td>83½</td>
<td>75½ x 48</td>
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<td>3 6</td>
<td>10450</td>
<td>12450</td>
<td>333</td>
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</table>

Extra for Fire Tools, per set . . . £2 0 0
Extra for Trimmings . . . . 6 11 6

Fire Tools are forwarded with Boiler and charged as above, unless otherwise specified.
A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scraper, Hoe, and Shovel.
*Add 27½ inches to allow for Smoke Hood.
Total width 68 inches.
Total height 81¾ inches.
Diameter of Smoke Outlet 21 inches.

For additional data see page 102.
See General Conditions, page 80.

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IDEAL SECTIONAL 48-INCH STEAM BOILERS

<table>
<thead>
<tr>
<th>No.</th>
<th>No. of Sections</th>
<th>Length</th>
<th>Size of Grate</th>
<th>No. and Size of Outlets on Top</th>
<th>Capacity Lineal Feet</th>
<th>Capacity Direct Radiation</th>
<th>Price</th>
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<td>64</td>
<td>54 x 48</td>
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<td>5920</td>
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<td>407</td>
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<td>408</td>
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<td>83½</td>
<td>75½ x 48</td>
<td>3 6</td>
<td>8190</td>
<td>9750</td>
<td>271</td>
</tr>
<tr>
<td>409</td>
<td>9</td>
<td>96½</td>
<td>86½ x 48</td>
<td>3 6</td>
<td>9320</td>
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<td>4010</td>
<td>10</td>
<td>107</td>
<td>97 x 48</td>
<td>3 6</td>
<td>10450</td>
<td>12450</td>
<td>333</td>
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</table>

Extra for Fire Tools, per set . . . £2 0 0
Extra for Trimmings . . . . 6 11 6

Fire Tools and Trimmings are forwarded with Boiler and charged as above, unless otherwise specified.
A set of Fire Tools consists of Poker, Slice Bar, Flue Brush, Scraper, Hoe, and Shovel.
A set of Trimmings consists of Steam Gauge, Water Column complete, Safety Valve, Automatic Damper Regulator, and Draw-off Cock.
*Add 27½ inches to allow for Smoke Hood.
Total width, excluding Trimmings, 69 inches.
Total height 81¾ inches.
Height of Water Line 70 inches.
Diameter of Smoke Outlet 21 inches.

For additional data see page 102.
See General Conditions, page 80.

97B
Ideal Water Tube Boilers
Designed to serve the heating needs of larger residences, apartment houses, hotels, churches, banks, clubs, stores, theatres, and public buildings.
29" IDEAL WATER TUBE BOILER

IDEAL WATER TUBE BOILERS are scientifically designed and constructed to render efficient, durable service with the minimum of attention. Note the sturdy, clean-cut appearance, absence of old-fashioned, bothersome chains. The unusually heavy doors, plate work and hinge pins and freedom from manifolds and outside piping.
THE IDEAL WATER TUBE BOILER IS A PERMANENT INVESTMENT

Of the entire equipment that goes into any house, there is no single item which means so much to the owner from the investment point of view as the heating boiler.

Here is an item, the service of which necessarily involves a certain initial expenditure, and to operate which means yearly maintenance costs in the form of fuel and labor. In return, the boiler is expected to generate the heat to keep the building comfortably warm. The selection of a specific boiler then, becomes a question of balancing service against expenditure.

Carefully selected, a boiler means money well invested; but a poorly selected plant becomes a source of endless regret.

The Ideal Water Tube Boiler is a sound, permanent investment. Very reasonable in its initial cost, it operates with unusual economy of coal consumption, and without requiring skilled attendance. It will serve efficiently throughout the lifetime of the building it occupies, and it may be relied upon always to produce quick heating responses to every need.

Designed to Meet the Heating Requirements of all Types of Buildings

The Ideal Water Tube Boiler is the perfected product of many years of experience. To the solution of actual heating problems as they have presented themselves in buildings of all types and sizes, in all sections of the country, has been brought the service of our staff of heating engineers and the experimental equipment of the largest heating laboratory in the world—the Institute of Thermal Research. Today, the Ideal Water Tube Boiler embodies every desirable feature adapting it especially to the actual working conditions obtaining in its field of service.

The boiler is made in a complete range of sizes. No building is too large to secure its heating advantages.
36" IDEAL WATER TUBE BOILER

The contact faces on all doors and plate work in ideal water tube boilers are ground smooth, making a gas-tight construction. The high standard of operating economy and cleanliness is permanently maintained.
FRONT-TO-REAR CROSS-SECTION VIEW OF THE
36" IDEAL WATER TUBE BOILER

THE REFINED BALANCE IN THE DESIGN OF THE
GRATE AREA, FIRE CONTACT HEATING SURFACE,
FLUE AREA, AND GAS TRAVEL; THE MULTIPURPOSE
OF TUBULAR WATERWAYS WHICH DIVIDE THE
WATER INTO MANY THIN STREAMS, AND THE
UNUSUALLY LARGE HEAT-ABSORBING SURFACE,
ACCOMPLISH QUIET, DEPENDABLE, AND EFFICIENT
HEATING FOR ALL IDEAL WATER TUBE BOILERS
48" IDEAL WATER TUBE BOILER

THE 48" SIZE IDEAL WATER TUBE BOILER IS ONE OF THE OLDEST AND BEST KNOWN IN THE SERIES. ITS SPECIAL GAS TRAVEL IS DESCRIBED ON PAGE THIRTEEN. IN POINT OF OPERATING EFFICIENCY AND STURDY CONSTRUCTION, THE 48" BOILER IS THE SAME AS THE OTHER UNITS IN THE SERIES.
79" IDEAL WATER TUBE BOILER

"Many of the largest buildings throughout the country are heated by the 79" Ideal Water Tube Boiler in battery. No building is too large for its use. These boilers are water-backed to the floor and have a very low water line. They are compact, clean-cut, easily attended, and operate with a marked economy of fuel consumption."
The Ideal Water Tube Boiler has derived its name from the basic characteristic of its design—the extensive series of water-backed vertical tubes which divide the body of water into many thin streams, and engage an unusually large amount of heat-evaporating surface to the fire and the hot gases of combustion. This design, united with the other features of the boiler—the scientifically balanced proportions of its grate area, direct heating surface, flue area, and gas travel; its gastight flue construction; its unusually heavy grates, doors, plate work, and hinge-pins; its large, substantial smokehood and automatic regulation—all unite in accomplishing quick, economical, and durable heating service with the very minimum amount of attention.
New
AMERICAN RADIATOR
PRODUCTS
January 1928

New
AMERICAN RADIATOR
PRODUCTS

The Greatest Line of Heating Equipment in the World at New Low Prices

JANUARY 1928

AMERICAN RADIATOR COMPANY
IDEAL RED JACKET BOILER
First Completely Equipped, Metal-Covered, Porcelain Enamel Finished Boiler
AT NEW LOW PRICES
For hard or soft coal, coke, oil or gas

HERE is the greatest line of heating boilers in the world. That statement may be made without hesitancy or qualification. The Ideal Red Jacket Boiler brings something new and highly desirable to home owners, and a new opportunity for heating merchants to render more and better service. It is unquestionably the most important development of a generation in the heating industry and one of the most noteworthy contributions which the American Radiator Company has had the privilege of offering to the heating profession.

1. Perfected Design—Long Double Flue, Highly Efficient
2. Completely Equipped with Mechanical Regulation and All Accessories
3. Jacketed and Thoroughly Insulated
4. Of Enduring Beauty—All Doors Porcelain Enameled

Yet it costs no more than ordinary equipment

THE new Ideal Red Jacket Boiler has been developed to meet the new demands of our day. It has been entirely appropriate that the various improvements made heretofore in boilers have been fundamentally along the lines of operating economy and utter reliability. It was so with the automobile. The primary purpose of a boiler is heating, just as the primary purpose of the automobile is transportation. But the time has come when the people expect and demand, not only a high degree of mechanical perfection in the products that they buy—but products which are beautiful as well.

Beauty and High Efficiency—Combined

The American Radiator Company has frankly faced these facts. With forty years of designing and manufacturing experience as a background, and having developed the several types of Ideal boilers to the highest degree of practical operating efficiency, we sought to incorporate in one boiler every desirable feature and to add, if possible, new features of utility and beauty. The new Ideal Red Jacket Boiler represents the culmination of our efforts. It is the finest combination of efficiency and beauty that has ever been developed and brought within the reach of the average home owner.
THE Ideal Red Jacket Boiler is made in sectional design with long double flue gallery through which the gases of combustion must travel before escaping—a distance twice the boiler's length—which is not possible in the usual type of boiler. As a result of its long flue travel and carefully balanced design, the Ideal Red Jacket Boiler attains a very high efficiency. It has an unusually quick pick-up heating capacity, insuring quick heating and abundant warmth on cold winter mornings. Its design is carefully calculated so that the boiler functions with exceptionally high efficiency while performing at the rates at which it is called upon to operate during the major part of the heating season. Interposed between the beautiful and indestructible cabinet exterior and the boiler is a one-inch, corrugated, air-cell asbestos lining, to prevent radiation heat-loss. The boiler is completely equipped with mechanical regulation and all accessories.

Note, also, the two-way smokehood, allowing vertical or horizontal chimney connection, thus permitting close connections and a considerable saving in floor space. The smokehood is equipped with both choke and check dampers. And the well designed grates, with reinforced trussed construction and well-proportioned teeth and openings permit the use of small-sized coal, such as buckwheat and pea; the openings being carefully calculated to provide a large percentage of free area so that an adequate supply of air may pass through and allow rapid, uniform and complete combustion. The top surfaces of the grates are angular in form, effecting an easy grinding of clinkers when the grates are shaken—thus greatly facilitating care-taking. Every feature in this new boiler has been studiously developed in the minutest detail to insure quick heating response, high operating efficiency, and easy care-taking.

Transforms the Cellar into a Really Useful Place

It is stated by the Architectural Forum that over three billion dollars is invested in cellar space in America's homes; and that about three hundred million dollars is spent annually on cellar construction. Most of this space is at present wasted—due largely to the unsightliness of the old-fashioned heating plant.

Through its cleanliness and great beauty, the Ideal Red Jacket Boiler solves this entire problem and allows the house-owner to convert his cellar into a really useful, livable place. In accomplishing this, it opens to heating merchants a new, almost unlimited opportunity for replacement business. The metal jacket of the boiler is finished in a beautiful, lustrous red baked enamel; all doors are finished in black porcelain enamel. The beauty of the boiler is permanent.
SPECIAL SMOKELESS BOILER
Burns Soft Coal Smokelessly

THE Ideal Red Jacket Boiler (sizes 2, 3, 4 and 5) is available also with the famous Ideal Smoke Oxidizer for the burning of any grade of soft coal. The operation of this simple, perfected device is explained below. It is water-backed throughout, and cannot burn out.

The Ideal Red Jacket Boiler for soft coal does not require any special degree of skilled attendance. It is easily fired and cared for, assuring satisfactory service with ordinary attention.

How the Ideal Smoke Oxidizer Operates

A Black volatile matter from the soft coal, driven off by the heat of combustion, in which are suspended the countless smoke-making particles of carbon.

B Ideal Smoke Oxidizer—supplies the required amount of oxygen to the volatile matter in such a way as to effect a thorough, compressed, and combustible mixture.

C Mixing channel—here the volatile matter and secondary air supply are thoroughly mixed and ignited.

D Secondary gas chamber into which the ignited mixture burns with an intensely hot flame. In the heat of this flame the carbon particles are completely burned to the colorless gas, carbon dioxide CO₂. Thus smokeless performance is accomplished, and the latent heat of the smoke, instead of passing up the chimney, is utilized for practical service.

SECTIONAL VIEW OF IDEAL RED JACKET SMOKELESS BOILER

SPECIFICATIONS

1. Sensitive retort steam gauge.
2. Blow-off conveniently located in front for cleaning.
3. Long, double gallery flue for hot gas travel secures high operating economy.
4. All contact-surfaced on doors and plate work ground to smooth finish for dustproof construction.
5. Large, scientifically proportioned fuel chamber of abundant coal-carrying capacity for long firing periods and easy care-taking.
7. Special grates allow use of small size coal, such as Buckwheat and Pea. Triangular top construction grinds clinkers when grates are shaken, facilitating care-taking. Reinforced trussed construction.
8. Porcelain enamel finished doors of enduring service and beauty.
9. Adept of ample proportions for easy care-taking with cast iron base of strong, trussed construction.

10. Shaking mechanism, flexible, durable.
11. Safety valve.
13. Water gauge glass with brass fittings, easily read.
14. Latest improved type air cell asbestos insulation permanently prevents radiation heat loss.
15. Floor of water, cut down baffles forming an inclosed portion with each section.
16. Side metal jacket, indestructible and finished with beautiful red baked enamel.
17. New, sealed, engagewise proof construction between all sections.
18. Sturdy fire door with special baffle lining containing secondary air distributor.
19. Primary Draft Inlet.