

# Spencer Super Standard Heater

## GRADES AND SIZES OF COAL

As the super-economy of the Spencer's operation depends on the low-priced grades of coal which it can burn successfully, we give herewith a classification of the various coals on the market. It is presented for your convenience in taking up the question of comparative prices with your coal dealer.

Coal comes out of the mines in various sizes ranging from large lumps to very small pieces, and even in powdery form. It is graded by being passed over screens with different sized meshes. For instance, hard coal which will pass through a 4-inch mesh and over a 2½-inch mesh, is generally known as "broken" or "grate."

While the names and sizes are not fully standardized over the whole country, in some cases being known by different names, the following table will be found a good working classification for practical purposes:

### "Hard" Coal (Anthracite)

| Ordinary Names and Sizes   | Passes Through | Passes Over |
|----------------------------|----------------|-------------|
| Rice .....                 | ¼ in. mesh     | ¾ in. mesh  |
| No. 1 Buckwheat .....      | ⅜ in. mesh     | ¼ in. mesh  |
| Pea .....                  | ¾ in. mesh     | ⅜ in. mesh  |
| Chestnut or Nut .....      | 1¼ in. mesh    | ¾ in. mesh  |
| Stove or Range .....       | 1¾ in. mesh    | 1¼ in. mesh |
| Egg (in Eastern States)... | 2½ in. mesh    | 1¾ in. mesh |
| Large Egg (Chicago region) | 4 in. mesh     | 2¾ in. mesh |
| Small Egg (Chicago region) | 2¾ in. mesh    | 2 in. mesh  |
| Broken or Grate .....      | 4 in. mesh     | 2½ in. mesh |

### Lignites and Semi-Anthracites

These coals, peculiar to the Rocky Mountains, are not standardized as to size. But their smallest and cheapest sizes in lignite or sub-bituminous slack, bituminous pea, and nut, and the small Colorado and New Mexico anthracite, are all perfect coals for the Spencer. They cost from one-third to two-thirds less than the larger sizes required for the ordinary boilers.

# Spencer Super Standard Heater

## Soft Coal (Bituminous)

| Ordinary Names and Sizes  | Passes Through Usually  | Passes Over Smallest sizes |
|---------------------------|-------------------------|----------------------------|
| Duff .....                | 1/8 in. mesh            | .....                      |
| No. 3 Nut.....            | 1 1/4 in. mesh          | 3/4 in. mesh               |
| No. 2 Nut.....            | 2 in. mesh              | 1 1/4 in. mesh             |
| No. 1 Domestic Nut.....   | 3 in. mesh              | 1 1/2-2 in. mesh           |
| No. 4 Washed.....         | 3/4 in. mesh            | 1/4 in. mesh               |
| No. 3 Washed Chestnut..   | 1 1/4 in. mesh          | 3/4 in. mesh               |
| No. 2 Washed Stove.....   | 2 in. mesh              | 1 1/4 in. mesh             |
| No. 1 Washed Egg.....     | 3 in. mesh              | 2 in. mesh                 |
| No. 3 Roller-Screened Nut | 1 1/2 in. mesh          | 1 in. mesh                 |
| No. 2 Roller-Screened Nut | 2 in. mesh              | 1 1/2 in. mesh             |
| No. 1 Roller-Screened Nut | 3 1/2 in. mesh          | 2 in. mesh                 |
| Egg .....                 | 6 in. mesh              | 3 in. mesh                 |
| Lump or Block.....        | 6 in. or over           |                            |
| Run of Mine.....          | In fine and large lumps |                            |

## Coke

|                   |                      |
|-------------------|----------------------|
| Egg .....         | 3 in. to 2 1/2 in.   |
| Large Stove ..... | 2 1/2 in. to 2 in.   |
| Small Stove ..... | 2 in. to 1 1/2 in.   |
| Nut .....         | 1 1/2 in. to 3/4 in. |
| Pea .....         | 3/4 in. to 1/2 in.   |

## Pocahontas Smokeless

Sizes usually known as nut, egg, lump and mine-run.

### How to Determine the Relative Values of Fuels for House Heating Boilers

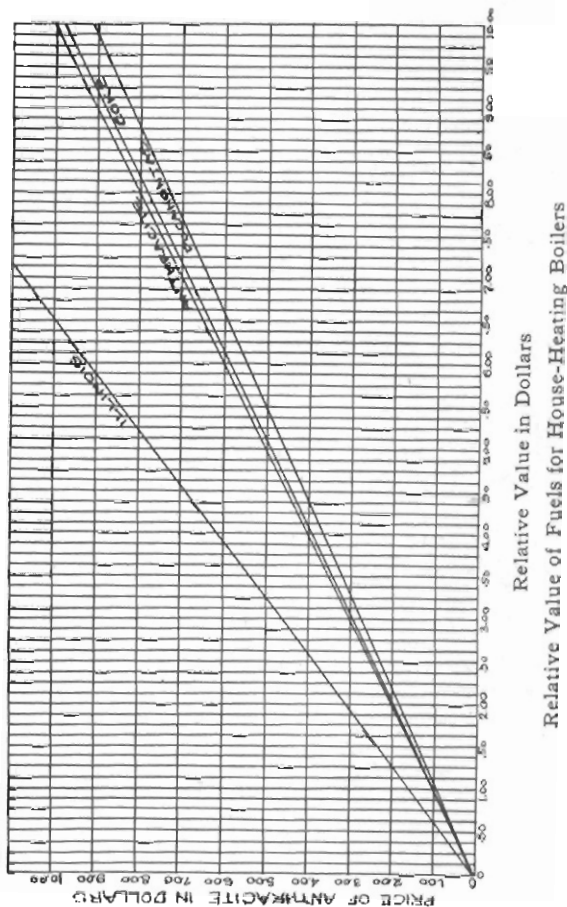
(Extract from Bulletin No. 27, Bureau of Mines.)

A convenient way of determining the comparative cheapness of different fuels is by means of a diagram like that forming Pl. 3, in which the cost of anthracite coal is taken as a standard and the values of three other fuels based on the results of tests are referred to it. Suppose a man wishes to know the relative values of Illinois and Pocahontas coals in a locality where anthracite can be had for \$5 per ton. Placing a straight-edge on the \$5 horizontal line, he notes the point of intersection with the line showing the value of Illinois coal and the point at which a perpendicular from this point of intersection strikes the base and finds that with anthracite at \$5 a good Illinois coal is worth \$3.25. In the same way he finds that Pocahontas coal is worth \$5.47. At another locality, where anthracite can be had for \$6, Illinois coal, as shown by the diagram, is worth \$3.90, Pocahontas coal \$6.58, and coke \$6.12.

# Spencer Super Standard Heater

## Test of Coal and Briquets as Fuel for House-Heating Boilers

United States Geological Survey. Bulletin 366, page 40



Relative Value in Dollars  
Relative Value of Fuels for House-Heating Boilers