

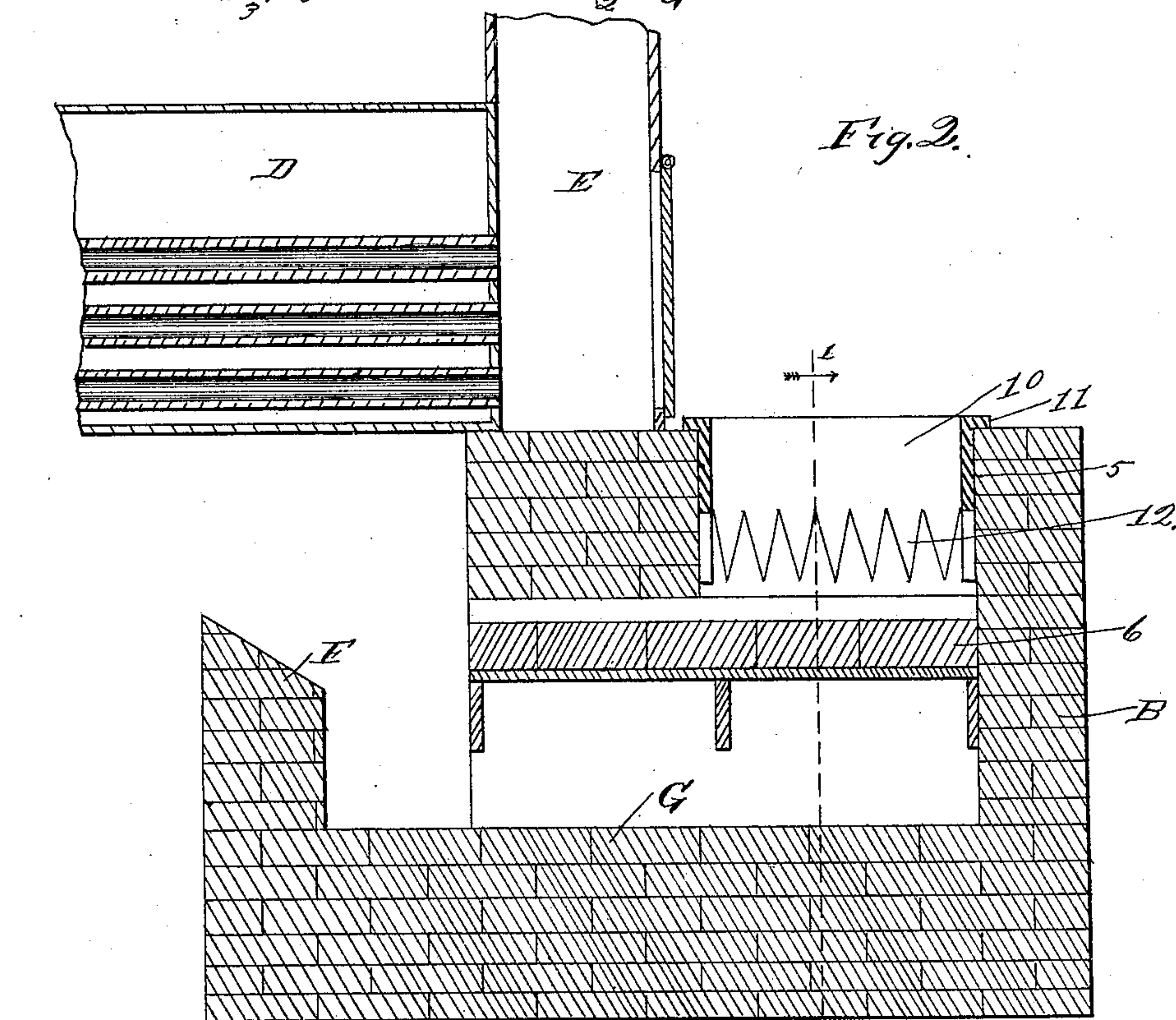
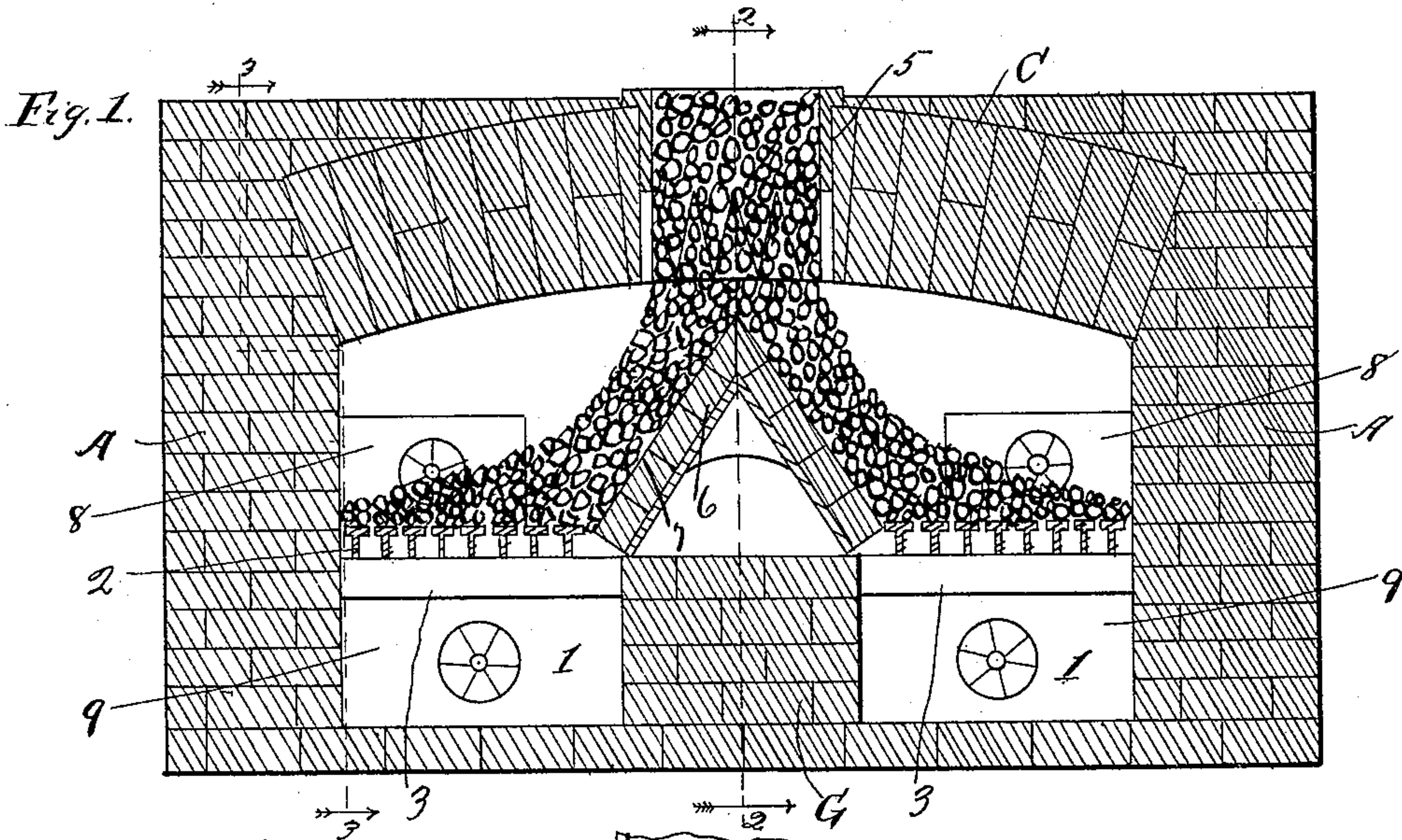
(No Model.)

2 Sheets—Sheet 1.

C. SCHROLL.
BOILER FURNACE.

No. 486,505.

Patented Nov. 22, 1892.



Witnesses:
Otto Luckhart
Owen V. Stoney

Inventor:
Carl Schroll
By John P. Kennedy
Attorneys.

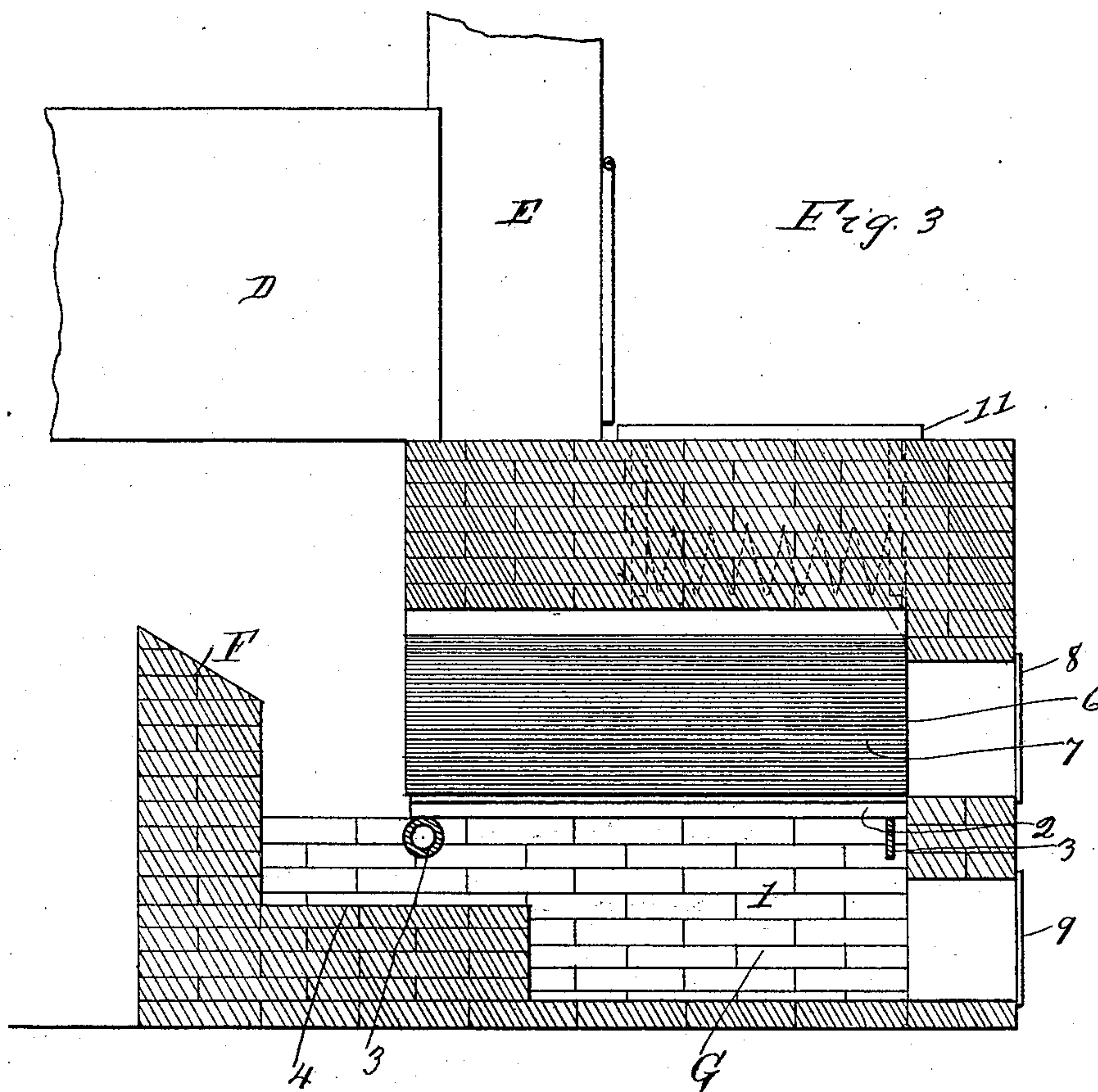
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UNITED STATES PATENT OFFICE.

CARL SCHROLL, OF CHICAGO, ILLINOIS.

BOILER-FURNACE.

SPECIFICATION forming part of Letters Patent No. 486,505, dated November 22, 1892

Application filed October 29, 1891. Serial No. 410,260. (No model.)

To all whom it may concern:

Be it known that I, CARL SCHROLL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Boiler-Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in boiler-furnaces, the object being to provide a furnace of this description that will utilize the maximum of the caloric energy in the fuel consumed therein.

The invention consists in the features of construction and combinations of parts hereinafter fully described and specifically claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a vertical sectional view on the line 1 1 of Fig. 2. Fig. 2 is a vertical longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a view partly in vertical longitudinal section on the line 3 3 of Fig. 1 and partly in elevation.

Referring to said drawings, A indicates the side walls of the furnace; B, the front wall; C, the top or arch; D, the boiler; E, the breeching, and F the bridge-wall. All of said parts are of ordinary construction.

G is a wall running longitudinally through the center of the furnace from the front wall B to the bridge-wall F, thereby dividing the lower part of the furnace into two ash-pits 1. Two grates 2 are located on either side of said wall G and are supported upon cross-supports 3, extending between said wall G and the side walls of the furnace. The said grates extend rearwardly near the bridge-wall F and extend forwardly from the bridge-wall F, and below the grates are shelves 4, which terminate below the rear end portion of the grates. Over the front end portion of the division-wall G an opening or fuel-hopper 5 is made in the arch C of the furnace.

It will be noted from the foregoing description that the furnace has two separate grates

located on both sides of a central dividing-wall. Parallel with said dividing-wall G and resting upon the same is the dividing-ridge 6, having the two inclined planes 7, rising from the inner edges of the grates and meeting midway between said grates and centrally below the fuel-hopper. The said distributing-ridge extends the entire length of the grates, as shown in Figs. 2 and 3. Fire-doors 8 and ash-pit doors 9 are provided in the usual manner.

As a further and separate improvement the opening 5 for the fuel-hopper is provided with a metallic casing or lining 10, that fits therein and is provided at its upper edge with an outwardly-projecting flange 11, by means of which it is supported. The lower edge of lining 10 is notched or cut away, as shown at 12, to allow for the expansion and to prevent the cracking or breaking thereof, it being noted that by reason of its proximity to the furnace it is subjected to an intense heat.

The operation is as follows: The fuel is fed through the fuel-hopper and is divided by the distributing-ridge 6 and falls in about equal quantities on the two grates. The hopper is filled, as shown in Fig. 1, so that the mass of fuel extends from the grates up the inclined planes 7 of the distributing-ridge to the hopper. It will thus be seen that as the fuel is consumed on the grates there will be a gradual and even feed from the hopper, and, further, that the coal will be coked before it reaches the grates, thereby rendering its consumption thereon more perfect, so that the unconsumed products of combustion escaping from the furnace will be reduced to a minimum. The ashes will fall through the grate-bars into the ash-pits, while the clinkers can be pushed back over the rear ends of the grates and will fall on the shelves 4 and from there moved into the ash-pits.

It will be plainly obvious that a furnace could be provided with three or more grates with distributing-ridges between each without departing from the spirit of my invention.

I claim as my invention—

1. A furnace having a plurality of grates, a

distributing-ridge located between said grates and having two solid continuous inclined-plane faces that rise from the adjacent sides of said grates and meet about midway between said sides of the grate, and a fuel-hopper located above said distributing-ridge.

5 2. A furnace having an opening therein for the admission of fuel and a metallic lining for

said opening, having its end adjacent the fire-grate notched, for the purpose set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

CARL SCHROLL.

Witnesses:

WM. H. LOTZ,

HARRY COBB KENNEDY.