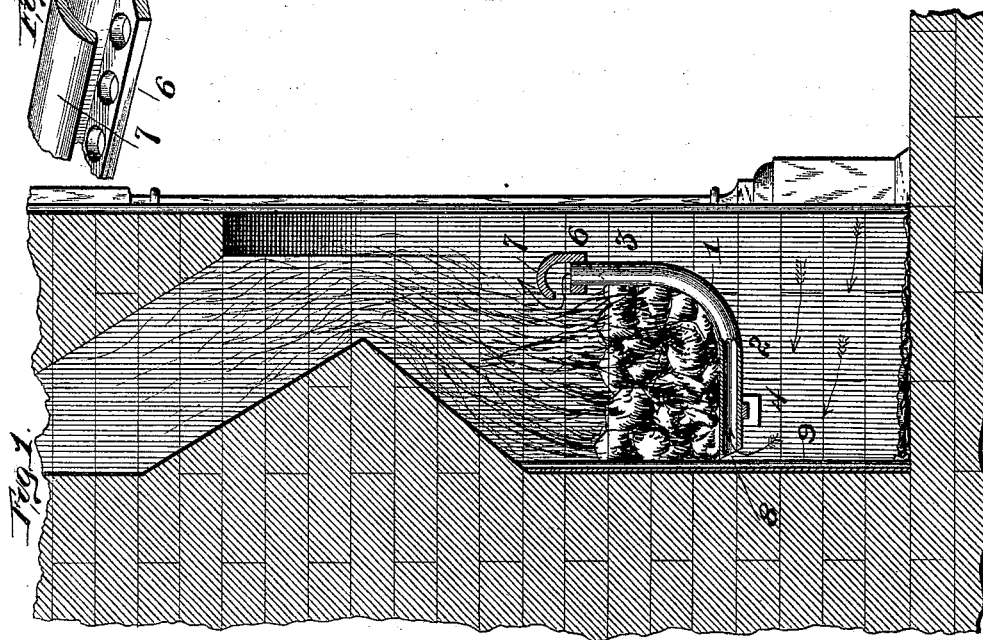
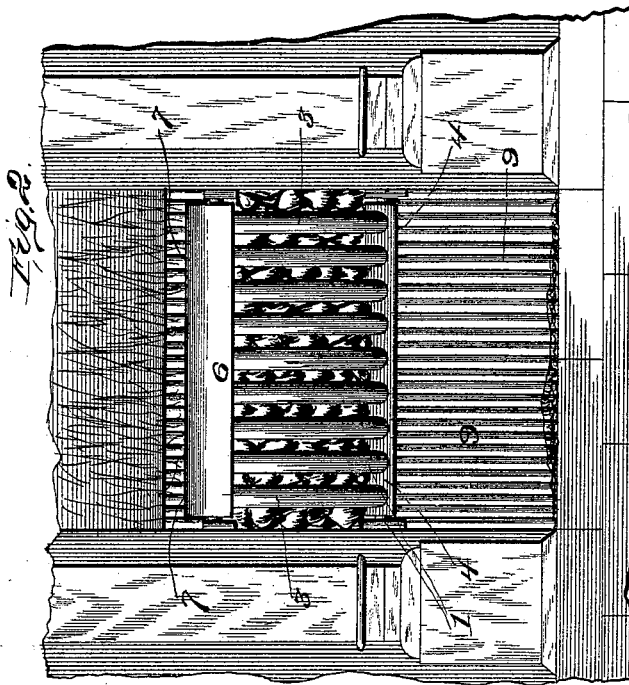
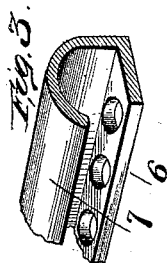
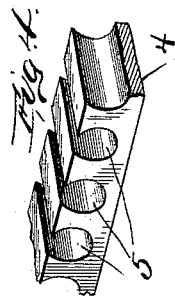


(No Model.)

C. W. BEEHLER.
FIRE GRATE.

No. 493,056.

Patented Mar. 7, 1893.



Witness:
Geo. H. Arthur

Inventor:
C. W. Beehler.
By *Robert Burns* *Atty*

UNITED STATES PATENT OFFICE.

CHARLES W. BEEHLER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO ALBERT KUEHNE AND FRANK HAUSPERGER, OF SAME PLACE.

FIRE-GRATE.

SPECIFICATION forming part of Letters Patent No. 493,056, dated March 7, 1893.

Application filed May 31, 1892. Serial No. 435,113. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BEEHLER, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Tubular Fire-Grates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

The present invention relates to tubular fire grates for household fire places and like uses, and has for its object to provide a simple, durable and effective construction and arrangement of parts whereby a supply of air is heated to the proper temperature and discharged over the fire, to insure the combustion of the smoke and gaseous products of combustion that would otherwise escape up the chimney unconsumed. I attain such objects by the construction of parts illustrated in the accompanying drawings, in which:

Figure 1, is a vertical section illustrating my invention applied to an ordinary fire place or mantel grate; Fig. 2, a front elevation of the same; Fig. 3, a detail perspective view of the cap or deflector for the top of the tubular grate; Fig. 4, a similar view of the bottom support of the grate.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1, represents the series of grate bars, having the usual horizontal or bottom portions 2, and vertical or front portions 3, that in the present invention are made tubular, preferably of sections of pipe bent to the desired form, and which are held in proper relative position at the bottom of the grate by transverse bearing bar 4, formed with a series of recesses 5, of the size and shape of the grate bars, and adapted to receive and hold the same in proper relative position.

At their upper ends the grate bars are held in proper position by the cap piece or bar 6, having a series of recesses to receive the ends

of the grate bars, and which in the present invention is provided with an overhanging backwardly extending flange or deflecting plate 7, that directs the heated air passing through the hollow grates, over the top of the fuel to aid in the perfect combustion of the same.

The rear ends of the horizontal portions 2 of the grate bars are beveled, as shown, at 8, so as to form an inlet opening to the tubular passages in the grate bars, and in connection therewith I prefer to form the back wall 9 of the fire place of a corrugated formation, so as to better aid in the inlet of the air to the hollow grates.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a tubular fire grate, the combination of the hollow grate bars 1, composed of horizontal portion 2, and vertical portion 3, with the cap piece 6, having an overhanging air deflecting flange 7, substantially as set forth.

2. In a tubular fire grate, the combination of the hollow grate bars 1, with the cap piece 6, having an overhanging air deflecting flange 7, and the bottom supporting bar 4, having a series of recesses 5, to receive the grate bars, substantially as set forth.

3. In a tubular fire grate, the combination of the hollow grate bars 1, with the cap piece 6, having an overhanging air deflecting flange 7, the bottom supporting bar 4, and the corrugated back wall 9, substantially as set forth.

4. In a tubular fire grate, the combination of the hollow grate bars 1, having their rear ends beveled, with the cap piece 6, having an overhanging air deflecting flange 7, and the bottom supporting bar 4, substantially as set forth.

In testimony whereof witness my hand this 23d day of May, A. D. 1892.

CHARLES W. BEEHLER.

In presence of—

WM. H. SCOTT,

CHARLES K. PICKLES.