

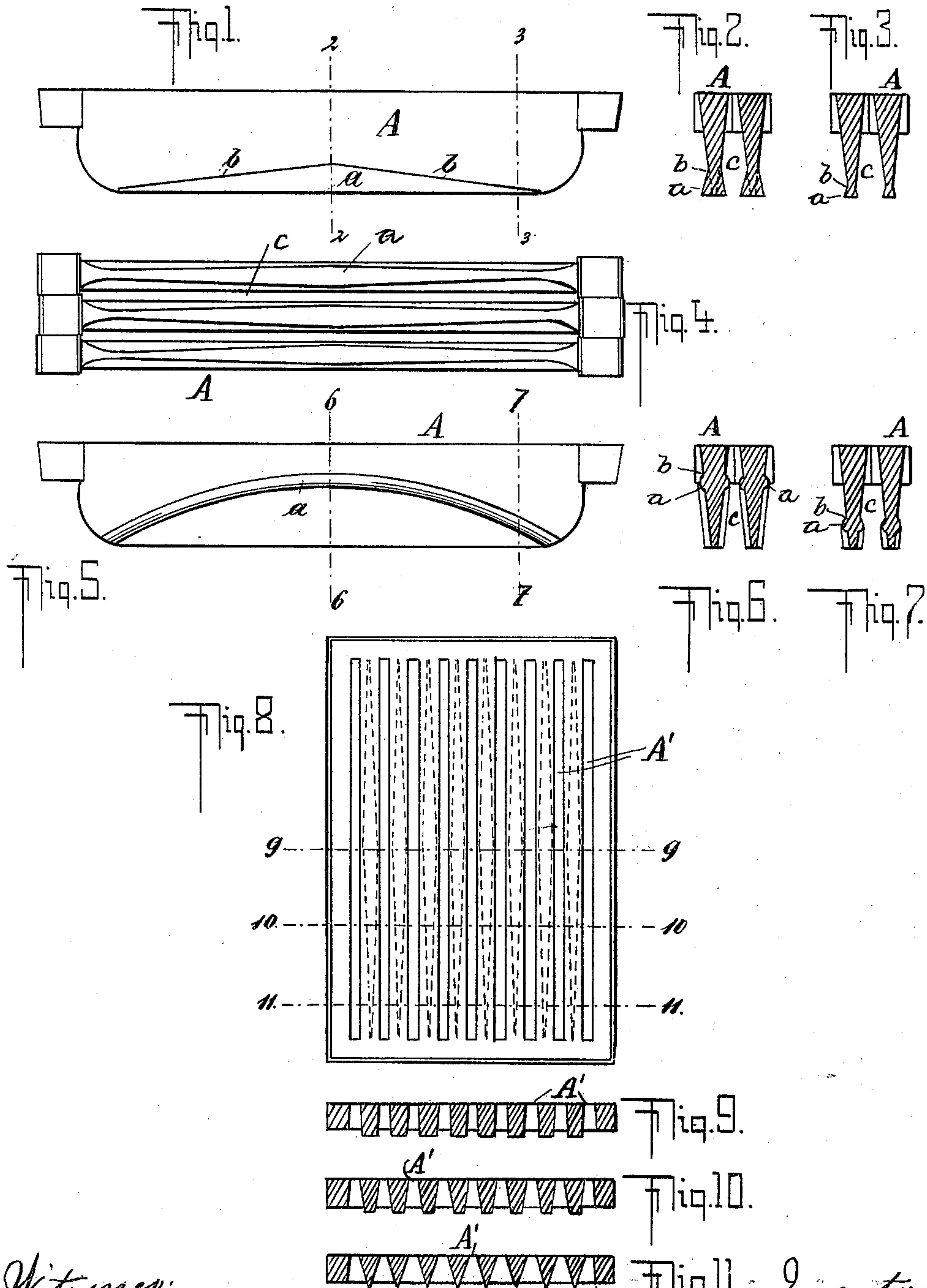
No. 634,886.

Patented Oct. 17, 1899.

R. GOLL.
GRATE.

(Application filed Dec. 28, 1897.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

RICHARD GOLL, OF FRANKFORT-ON-THE-MAIN, GERMANY.

GRATE.

SPECIFICATION forming part of Letters Patent No. 634,886, dated October 17, 1899.

Application filed December 28, 1897. Serial No. 663,915. (No model.)

To all whom it may concern:

Be it known that I, RICHARD GOLL, manufacturer, residing at Frankfort-on-the-Main, in the Kingdom of Prussia, German Empire, have invented new and useful Improvements in Grates, (patented in Germany, No. 72,369, August 24, 1892; in Great Britain, No. 16,329, September 12, 1892; in Spain, No. 13,793, November 10, 1892; in Belgium, No. 101,505, September 26, 1892; in Italy, No. 34,937, September 29, 1893; in Switzerland, No. 5,946, September 3, 1892; in Norway, No. 3,933, November 21, 1893; in Sweden, No. 5,737, September 13, 1892; in Luxemburg, No. 1,687, September 14, 1892; in Austria, No. 432,017, September 5, 1892, and in France, No. 214,802, July 11, 1891, and No. 214,802, December 16, 1892,) of which the following is a specification.

This invention has reference to the construction of grates in a manner that the draft of the air entering at the bottom of the grate is regulated and equalized along the grate-bars. I obtain this object by varying the width of the interstices at the under side or the flanks of the bars, whereas the distance of the edges of the grate-bars at the upper surface remains the same throughout their total length. For this purpose I enlarge the section of every bar under the grate-surface, so as to obtain a tapering interstice.

In the accompanying drawings I have shown different ways in which I carry out my invention.

In all examples the spaces between adjacent bars, from the bottoms of the bars toward but not to the tops of said bars, are widest toward the end of the bars, growing narrower toward the middle of the bars, whereby the draft or current of air is reduced toward the middle of the bar, because it is this point where it is usually strongest; but it is understood that for the other conditions of draft another regulation may be fitted.

Figure 1 is an elevation of a grate-bar. Figs. 2 and 3 are sectional views on lines 2 2 and 3 3 of Fig. 1. Figs. 4 and 5 are bottom plan and elevation of another modification of my invention; Figs. 6 and 7, sections on lines 6 6 and 7 7 of Fig. 5. Fig. 8 is a plan of a grate embodying a third modification of my invention. Figs. 9, 10, and 11 are sections on lines 9 9, 10 10, and 11 11 of Fig. 8.

Figs. 1, 2, and 3 show a grate-bar A, having a triangular or flaring fillet or enlargement *a* added to the bottom of each side of the bar and of course cast integral with it and decreasing in size toward the ends of the bar. As the upper edge *b b* of the fillet is inclined from the middle toward the under edge of the bar the fillets taper toward the ends of the bar, and the interstice *c* between two fillets of two adjacent grate-bars, when several bars are secured together to form a grate, increases accordingly toward the ends.

Figs. 4, 5, 6, and 7 show fillets *a* of semi-circular section and curved to approach the middle of the upper edge of the bar, thereby contracting the space between adjacent bars toward their middle portions.

Figs. 8, 9, 10, and 11 show a grate with several grate-bars A'.

Instead of a fillet sharply set off from the flank of the grate-bar the under part of the bar is thickened itself in a different measure at different points. The grate-bars, according to Figs. 8, 9, 10, and 11, show almost parallel flanks in the middle of the bar, which converge toward the ends to form a triangular section of the bar, thereby contracting the spaces between adjacent bars at those parts where in old forms of grates the draft of air is the greatest.

Now what I claim, and desire to secure by Letters Patent, is the following:

1. A grate-bar adapted with other bars to form a slotted grate, said grate-bar having a uniform thickness at its upper surface throughout the slot-forming part, and a gradually-varying thickness in the direction of its length below said upper surface, for the purpose set forth.

2. A grate having bars forming slots between them, said bars forming slots of uniform width in the direction of their length at the upper surface of the bars, the bars varying in width in the direction of their length below the upper surface, whereby more space is left between the bars, below the upper surface thereof, at certain parts of the bars in the direction of their length than at other parts of their length, as set forth.

3. A grate having bars forming slots between them, each slot being of uniform width throughout its length at the upper surface of

the grate, said bars decreasing in width toward their ends and below the upper surface, whereby the space between the bars is narrow at the middle of the bars and wider toward
5 the ends, as set forth.

4. A grate-bar, adapted with other bars to form a slotted grate, said bar being of uniform thickness at its upper surface throughout the slot-forming part and having a fillet or enlargement of gradually-varying thickness in
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the direction of the length of the bar below the upper surface of the bar, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD GOLL.

Witnesses:

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