

(No Model.)

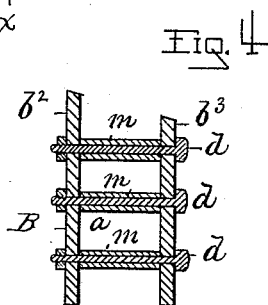
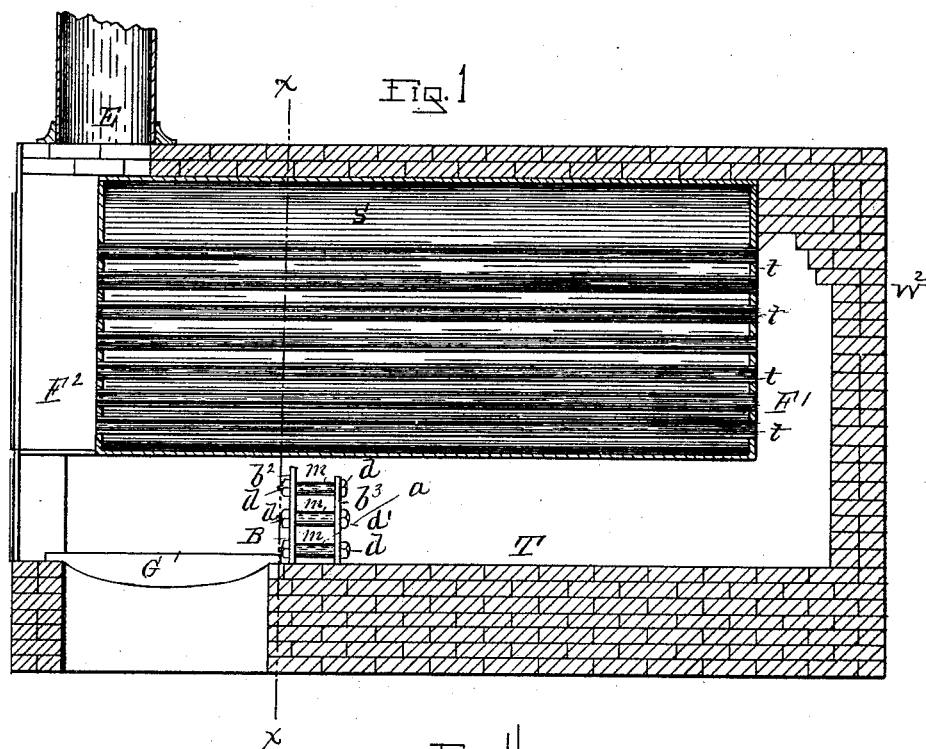
2 Sheets—Sheet 1.

H. SCHNEIDER.

BRIDGE WALL FOR THE FIRE BEDS OF STEAM BOILERS.

No. 345,809.

Patented July 20, 1886.



WITNESSES :

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Charles S. Brintnall

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INVENTOR

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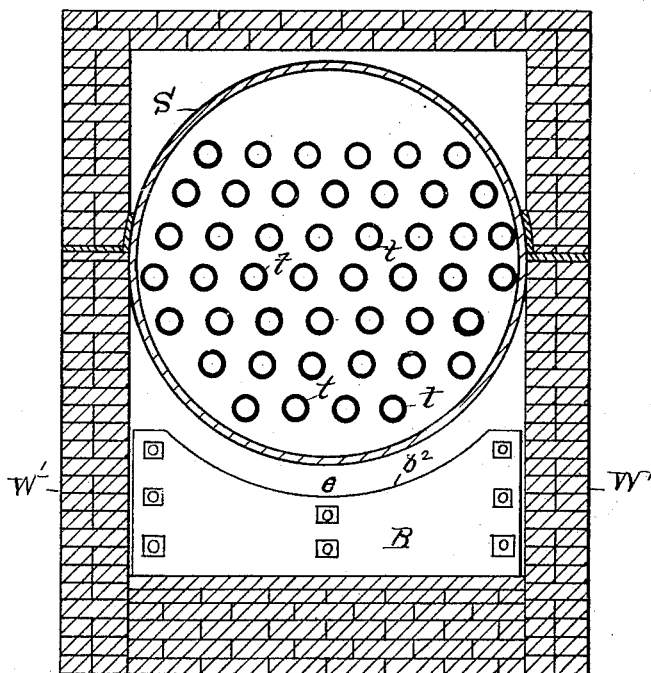


Fig. 2

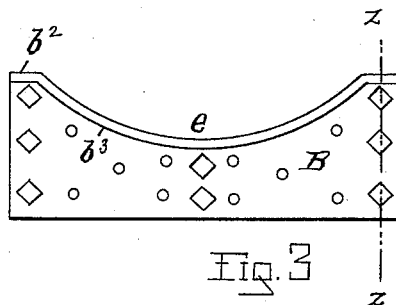


Fig. 3

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UNITED STATES PATENT OFFICE.

HENRY SCHNEIDER, OF TROY, NEW YORK.

BRIDGE-WALL FOR THE FIRE-BEDS OF STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 345,809, dated July 20, 1886.

Application filed April 24, 1886. Serial No. 199,998. (No model.)

To all whom it may concern:

Be it known that I, HENRY SCHNEIDER, of No. 102 River street, city of Troy, county of Rensselaer, State of New York, have invented
5 new and useful Improvements in Bridge-Walls for the Fire-Beds of Steam-Boilers, of which the following is a specification.

My invention relates to improvements in the construction and arrangement of bridge-walls, to better adapt them for application to the fire-beds of steam-boilers, by making them of cast-iron, and in such a manner that they will stand the heat better, and so that they can be
15 more easily put in place or removed from the fire-bed than when brick walls are used.

Accompanying this specification to form a part of it there are two plates of drawings containing four figures illustrating my invention, with the same designation of parts by
20 letter-reference used in all of them.

Of these illustrations, Figure 1 shows a combined elevation and section of the apparatus, the boiler being shown in section and the bridge-wall in end elevation. Fig. 2 is a cross-section taken on the line *x x* of Fig. 1. Fig.
25 3 is a rear view of the bridge-wall removed from the bed. Fig. 4 is an enlarged cross-section of the bridge-wall taken on the line *z z* of Fig. 3.

The several parts of the apparatus thus illustrated are designated by letter-reference, and the function of the parts is described as follows:

The letter S designates the steam-boiler, which is set in the side walls, *W'*, and end walls, *W*.
35

The letters G designate the grate-surface; B, the bridge-wall, and T the bed at the rear of the bridge-wall.

F' designates the rear flue; *t*, the hot-air tubes; *F*, the front flue, and *E* the exit-flue or chimney.
40

The bridge-wall B is constructed of two plates of cast-iron, indicated at *b*² *b*³. These plates are set on edge, and with a space or area, *a*, between them. The upper edges of
45

these plates are rounded out, as indicated at *e*, and they are connected together by bolts *d*, having the exterior sleeves, *m*. These bolts pass through both of the plates *b*² *b*³. They
50 are each headed at one end, and provided with a nut at the other end, and the sleeves *m* are arranged loosely on the bolts between the plates *b*² *b*³, the function of the sleeves *m* being to keep the plates *b*² and *b*³ apart. If desired, the sleeves may be omitted, and the bolts
55 at each of their ends be connected with one of the plates. The front plate, *b*², as shown, is made to have the same curve in its top edge as the plate *b*³, but is made to have a little
60 more vertical height. The bridge-wall thus constructed is set upon the fire-bed at the rear of the grate-area, and performs the usual function of a bridge-wall, so applied in producing a reverberatory action of the heated products
55 passing over it.

The metal plates *b*² *b*³, as constructed, are free to expand and contract, and as constructed will stand the heat without melting. They are very easily applied to the bed, and it costs
70 but little to replace them should they become injured by a long and continued use.

While I have shown the plate *b*³ as having less vertical height than the plate *b*², if desired they may both have the same height.
75

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

The bridge-wall B, made of the vertically-arranged cast-iron plates *b*² and *b*³, connected
80 together with bolts, so as to leave the space or area *a* between them, and arranged with reference to the fire-bed of a steam-boiler, substantially as and for the purposes set forth.

Signed at Troy, New York, this 24th day of March, 1886, and in the presence of the two witnesses whose names are hereto written.

HENRY SCHNEIDER.

Witnesses:

CHARLES S. BRINTNALL,
W. E. HAGAN.