

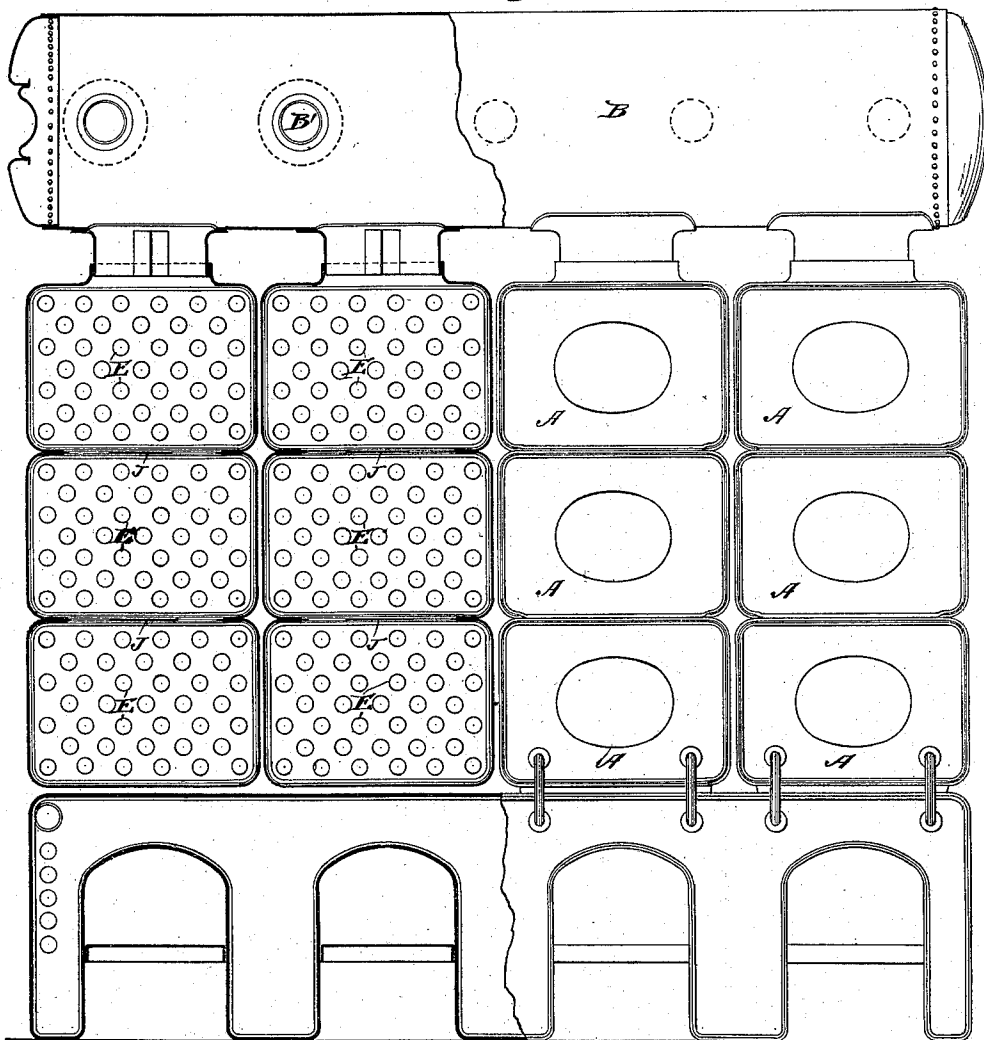
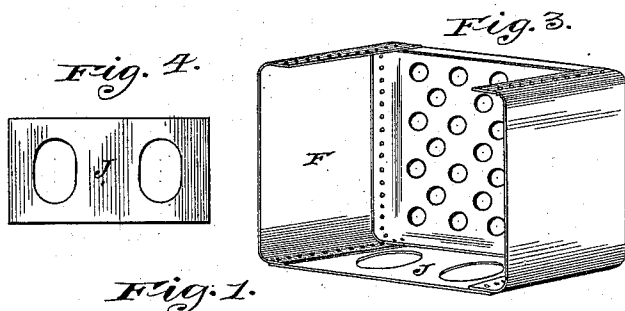
(No Model.)

2 Sheets—Sheet 1.

L. BAKER.
SECTIONAL BOILER.

No. 535,187.

Patented Mar. 5, 1895.



Witnesses,

J. D. Mann.
F. B. Goodwin

Inventor,

Ludwig Baker
By Alfred Fowler Lutham
Att'y.

(No Model.)

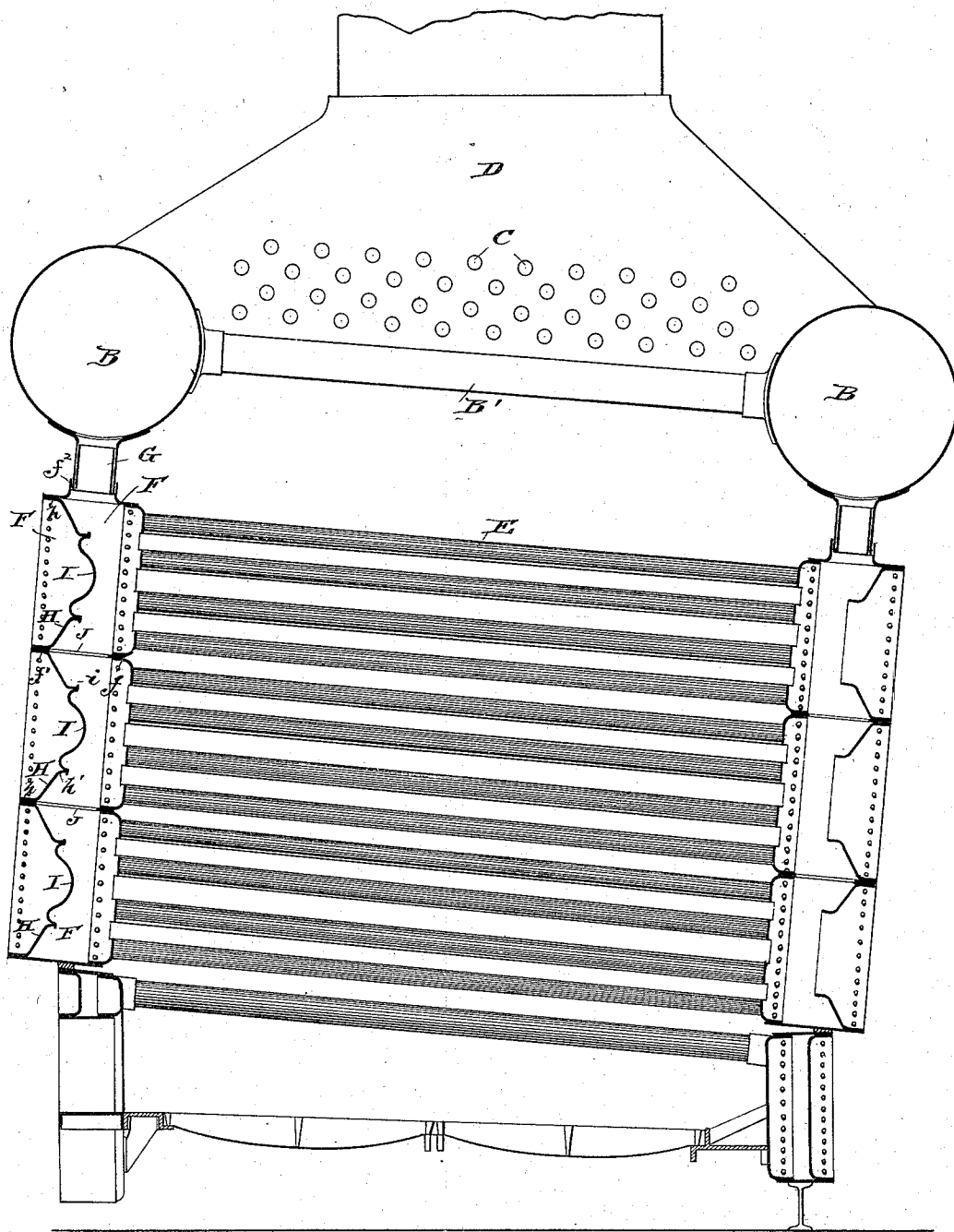
2 Sheets—Sheet 2.

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SECTIONAL BOILER.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

LUDWIG BAKER, OF EAST SAGINAW, MICHIGAN, ASSIGNOR TO THE
WICKES BROTHERS, OF SAME PLACE.

SECTIONAL BOILER.

SPECIFICATION forming part of Letters Patent No. 535,187, dated March 5, 1895.

Application filed February 1, 1894. Serial No. 498,765. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG BAKER, of East Saginaw, Michigan, have invented certain new and useful Improvements in Sectional Boilers, of which the following is a specification.

The invention relates to a sectional water tube boiler composed of a number of sections, each consisting of a header with its connected tubes, the headers being of such form that they may be readily grouped or assembled to furnish a boiler of any required capacity, and the several sections being mounted in vertical tiers which are interconnected, and the upper sections communicating with a drum or drums which are connected by tubes transversely of the tiers of sections, whereby the latter are tied together. Each tier of sections constitutes a water leg, and there is a circulation of water through the tubes of each section, through the legs composed of the front and rear headers, and through the drums and their connecting tubes.

The invention consists in certain features of construction of the header and in the combination and arrangement of parts as will be hereinafter described and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a front elevation, partly in section. Fig. 2 is a side elevation, also in section. Fig. 3 is a perspective view of one of the headers; and Fig. 4 is a plan view of the connecting plates which are used for connecting the superposed headers.

In the drawings, A represents the sections; B, the drums, and C the super-heating coils beneath the dome D. Each section is composed of two headers connected by a series of tubes E, and each header is composed of an open metallic box F, the back plate of which is perforated to receive the tubes E. These headers in the several vertical tiers are of slightly different construction, depending upon their location. The intermediate sections are or may be all of the same construction, which is represented in Fig. 3 of the drawings. This intermediate section has two of its sides perforated, leaving sufficient of the material however to furnish rivet flanges f, f' . The lower section of the series or tier has its lower wall imperforate, as shown in

Fig. 2, while the upper series has a flange f'' , which adapts it for communication through the tube G with the drum B. The front of this box or header is closed by the man-hole plate H, and said plate has the horizontal rivet flanges h and the central inturned flange h' which forms a seat for the man-hole cover I. The latter has the peripheral flange i , which is adapted to seat itself upon the flange h' , and the body of the man-hole cover is formed with reverse curves in cross section for the purpose of adding strength to it.

In placing the sections the lower or base section will first be put into position, and then the connecting plate J, shown in Fig. 4 in plan view and in edge view in Fig. 1, will be laid upon the flanges f, f' of the lower section, and then another section will be placed thereon, and the two sections will be secured by rivets through the flanges of their respective headers, and through the margins of the connecting plate and the man-hole plate H will be secured in the same manner. The sections are thus built up one upon another, and upon the upper section will be mounted the drums B, which are interconnected by the tubes B'. The drums serve to connect the several tiers of sections together transversely, as shown in Fig. 1. The parts F, H, I and J are preferably all constructed from sheet metal. The open box-like structure F may be formed by drawing or swedging the flanged back plate and riveting the flanged end pieces thereto or such end pieces may be formed integral with the back plate; and the man-hole plate and man-hole cover may be formed by stamping or pressing.

The form of the headers is substantially rectangular except that the corners are rounded, and they may be conveniently and compactly grouped, and a boiler of any desired capacity built up thereby, while the sections may be shipped separately. The construction is exceedingly strong. The connecting plates J materially strengthen the construction and furnish a means of connecting the headers while permitting them to be superposed without any intervening connecting nipples. The steel headers, while occupying less space, possess strength far in excess of that of the usual cast iron header, and my construction of steel

header is stronger than those forms wherein steel-box-like headers have been connected directly together without any interposed connecting plate.

- 5 The precise form of construction while not essential is believed to be the best, due regard being had to economy of construction and strength.

I claim—

- 10 A sectional boiler, comprising in combination sections each composed of rectangular headers and tubes connecting said headers, said headers having front and back plates

provided with lateral flanges and separate connecting plates interposed with their margins between the flanges of adjacent headers and secured therewith, by fastenings passing through said margins and flanges said connecting plates being apertured whereby communication is afforded between the headers of the superposed sections, substantially as described. 15 20

LUDWIG BAKER.

Witnesses:

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