

(No Model.)

2 Sheets—Sheet 1.

N. W. PRATT
SECTIONAL STEAM BOILER.

No. 537,935.

Patented Apr. 23, 1895.

Fig. 1.

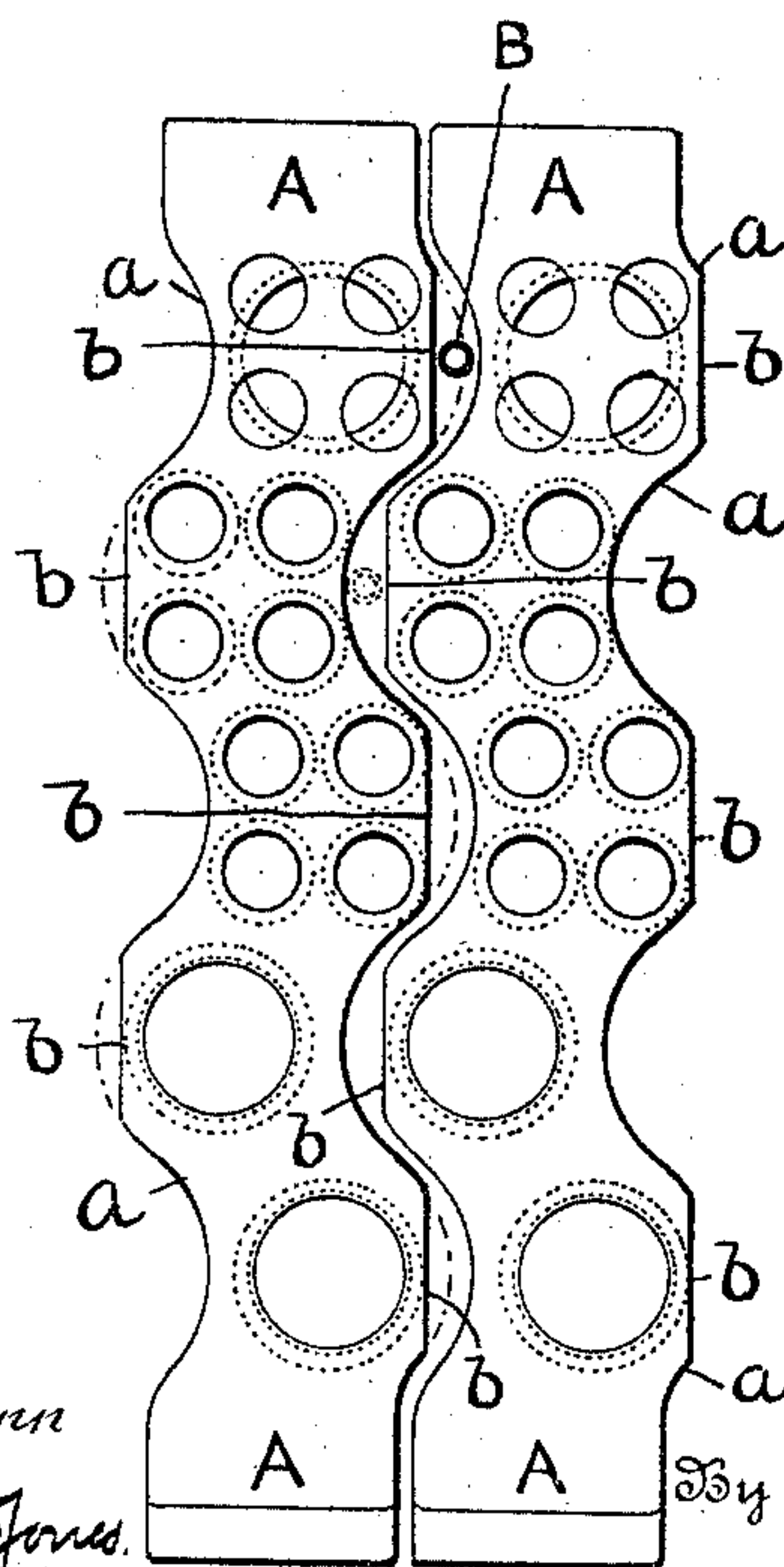
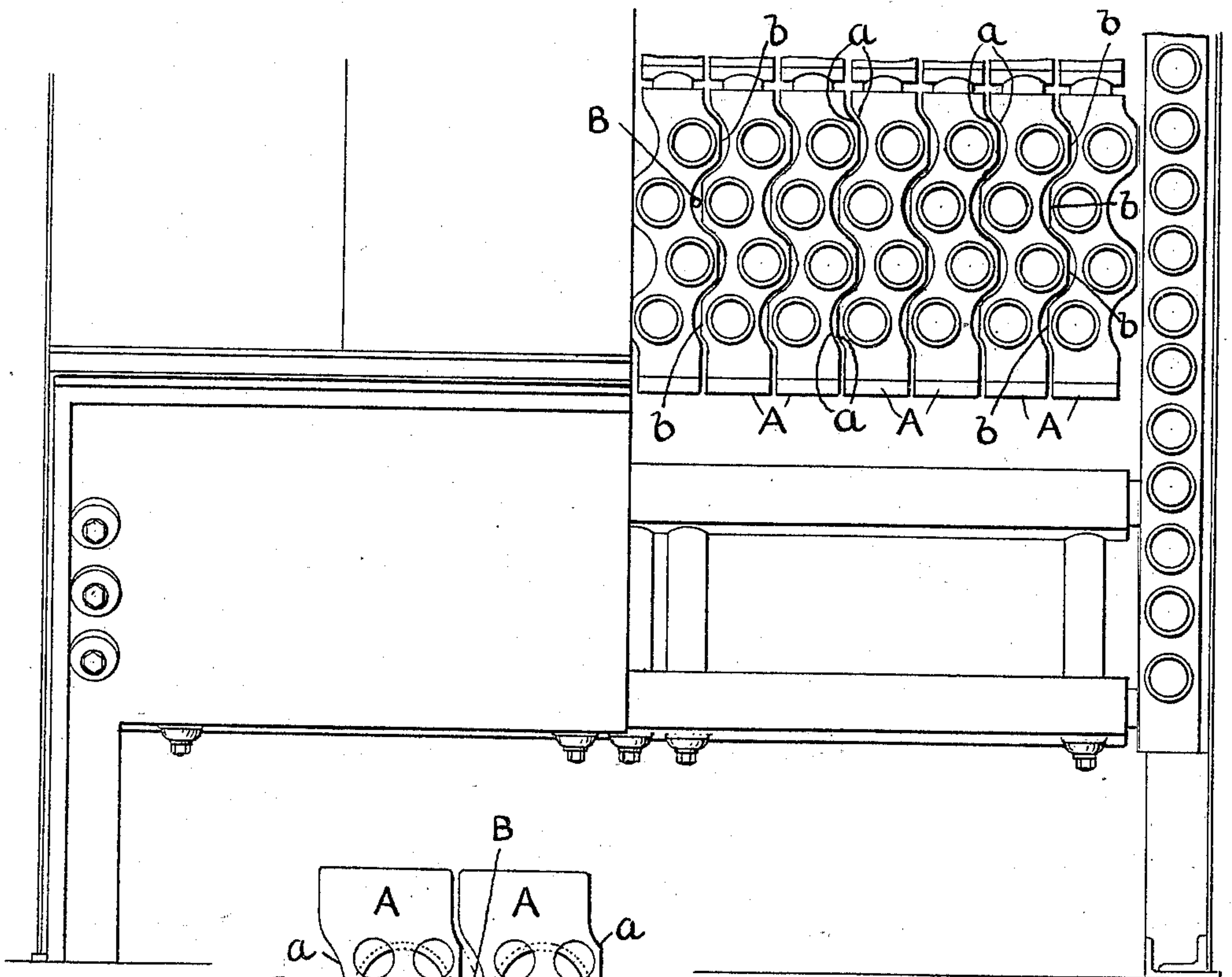


Fig. 2.

Witnesses
Chas Hanemann
Edson Salisbury Jones.

Nat. W. Pratt
Inventor

By his Attorney
Chas M. Corbin

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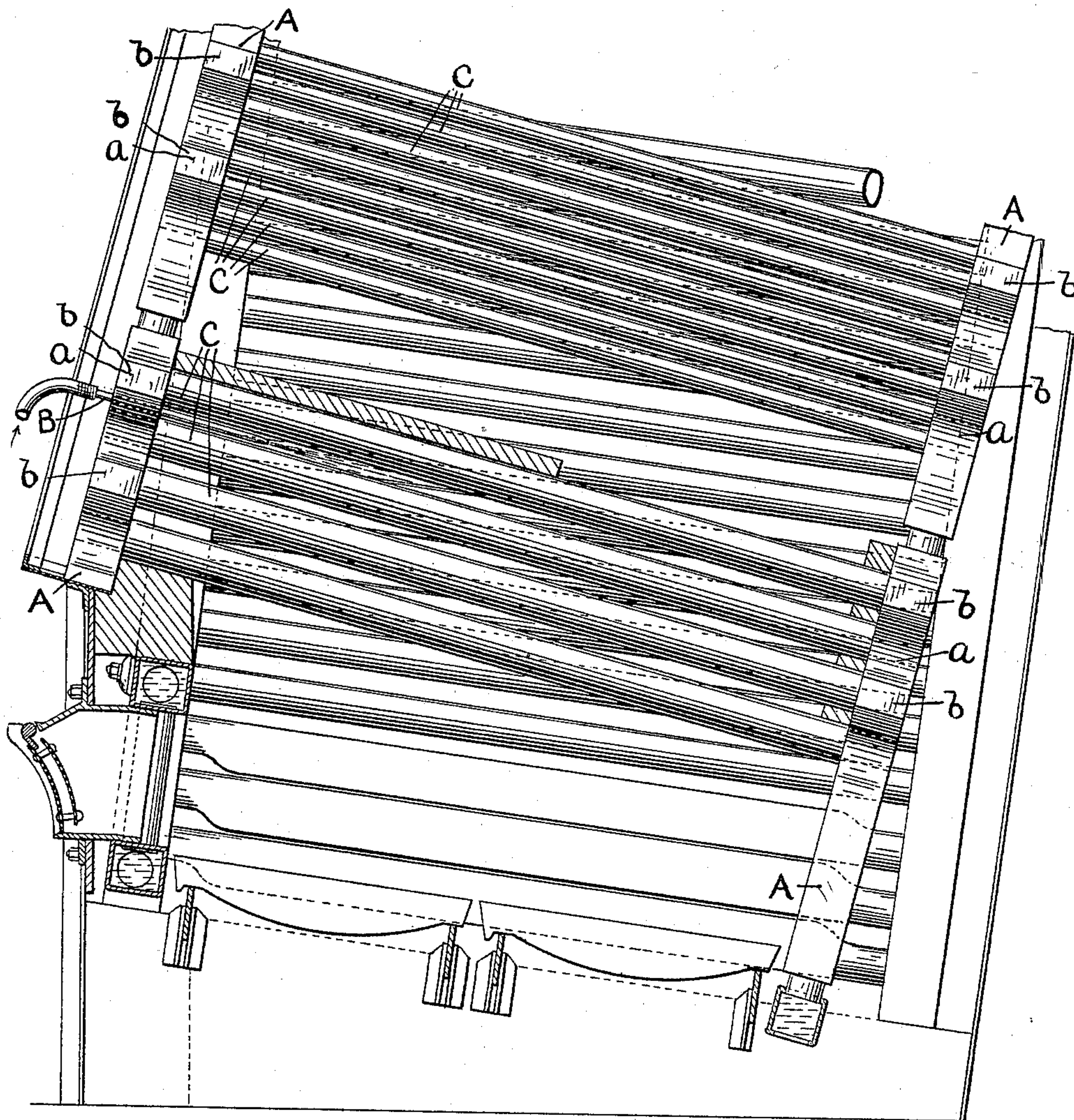


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

NAT. W. PRATT, OF BROOKLYN, NEW YORK.

SECTIONAL STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 537,935, dated April 23, 1895.

Application filed August 3, 1894. Serial No. 519,337. (No model.)

To all whom it may concern:

Be it known that I, NAT. W. PRATT, a citizen of the United States, residing in the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Sectional Steam-Boilers, of which the following is a specification.

This invention relates to that type of sectional steam-boilers in which the water-tubes are connected to headers at each end, and to that class of said type in which the headers are made sinuous or serpentine in form, in order that the boiler-tubes shall occupy a staggered position when connected to the headers. In order that as many tubes as possible may be arranged within a given space—or in other words, that a boiler of a certain horsepower capacity may occupy as small a space as possible—these headers have been, and must be arranged with their sinuous sides in close proximity.

In the use of a boiler of the type under consideration, the exterior surfaces of the tubes become covered with carboniferous and other deposits, which it is necessary to remove from time to time, in order that the proper efficiency of the boiler may be maintained. Where the sinuous headers have been employed, the removal of such deposits has had to be performed by means of scrapers, as there was not room between the adjacent sides of the headers for the introduction of a steam-pipe or hose-nozzle for such cleaning purpose.

The object of this invention is so to construct the headers as to allow of the introduction between the sides of the same of such a pipe or nozzle, and still enable the headers to be placed in as close proximity to each other as they have heretofore been arranged. This object I accomplish by flattening the convex or salient portions of the sinuous outline of the header-sides, thereby providing room between such flattened portions and the contiguous concave portions of the adjacent headers for the introduction of such pipe or nozzle, and without materially reducing the steam-space in the headers, or partitioning them in any way.

In the accompanying drawings, Figure 1

represents a front elevation of a portion of a sectional boiler, with a part of the frame removed so as to show a number of front headers constructed in accordance with my invention. Fig. 2 shows, on a larger scale, a front view of two of the headers in juxtaposition. Fig. 3 represents a side view of a portion of a sectional boiler having my improved headers, the setting and other parts being partially shown in section.

A denotes the headers, which have sinuous sides, *a*. Heretofore the outline of each side of such a header has been a continuous, compound curve, the convex portions of the side alternating with the concave portions thereof throughout the length of the header, and being of substantially the same radius, as indicated by full and dotted curved lines in the left-hand header shown in Fig. 2. In this figure is also shown the lateral position which two headers have heretofore occupied relatively to each other, the distance between the contiguous sides being slight, and insufficient to allow the introduction between them of a steam-pipe or hose-nozzle, for the purpose of cleaning the exterior surface of the boiler-tubes. In order to obtain sufficient room for inserting such a pipe or nozzle, without increasing the distance between the headers, I flatten the salient or convex portions of the header-sides, at *b*, that is, decrease the distance of such portions from the longitudinal center of the header, as shown in Figs. 1 and 2, and thereby gain space to introduce between such flattened portions and the indented portions of the contiguous headers, a pipe or nozzle, B, as shown in all the figures, the jet from which can operate upon the boiler-tubes, C.

It will be seen that the flattening of the header-sides at *b*, does not partition the header, and it does not materially reduce the steam-space therein. Such flattening may also enable the headers to be placed even closer together than heretofore, and thus reduce the space occupied by the boiler.

What I claim, and desire to secure by Letters Patent, is—

1. A header for sectional steam-boilers, hav-

ing sinuous sides the salient portions of which are flattened, substantially as and for the purposes specified. being located opposite to the indented side-
portions of the contiguous headers, substan-
tially as set forth.

2. In a sectional steam-boiler, the headers
5 arranged in close juxtaposition, laterally, and
having sinuous sides the salient portions of
which are flattened, such flattened portions
NAT. W. PRATT.
Witnesses:
E. L. TODD,
F. L. WARD.