

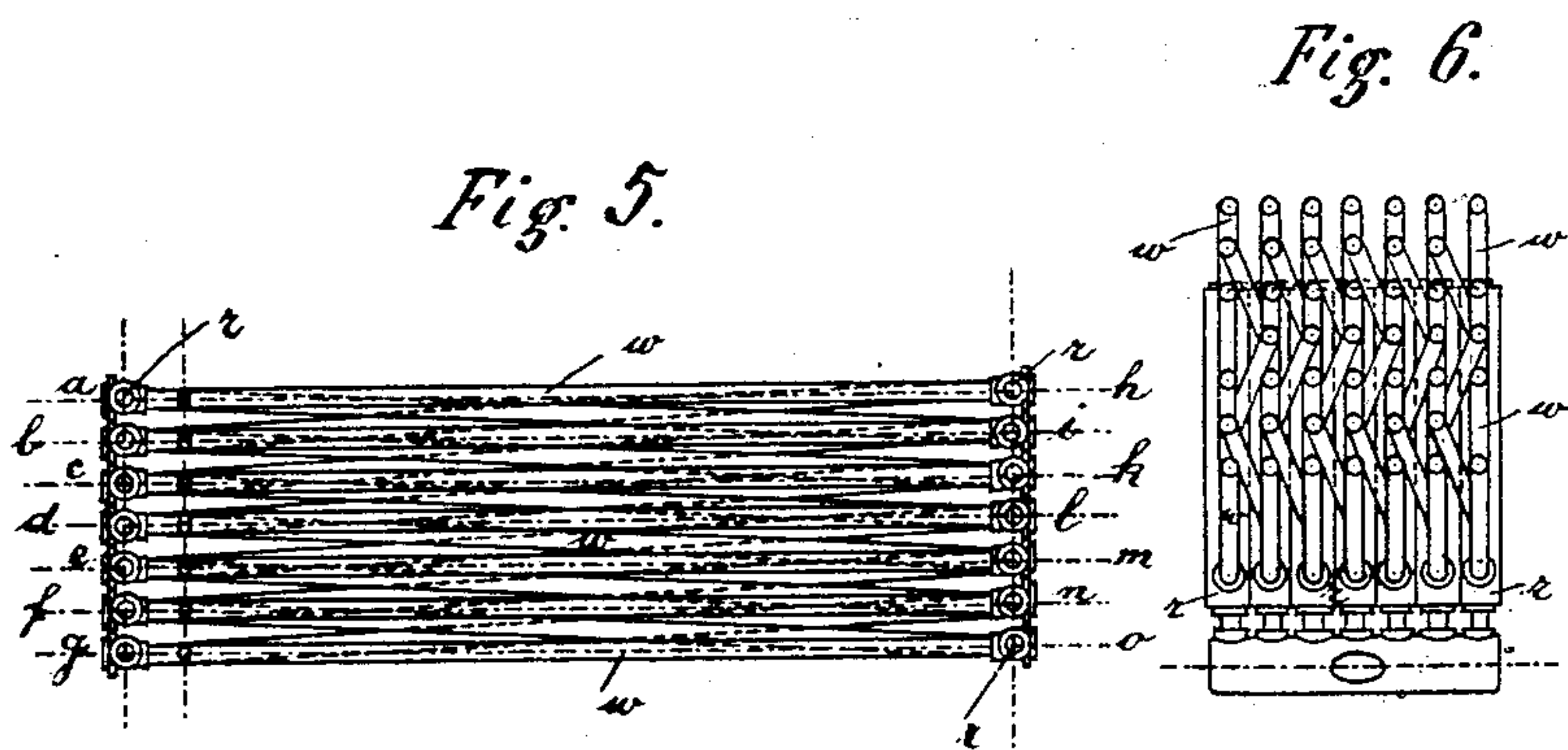
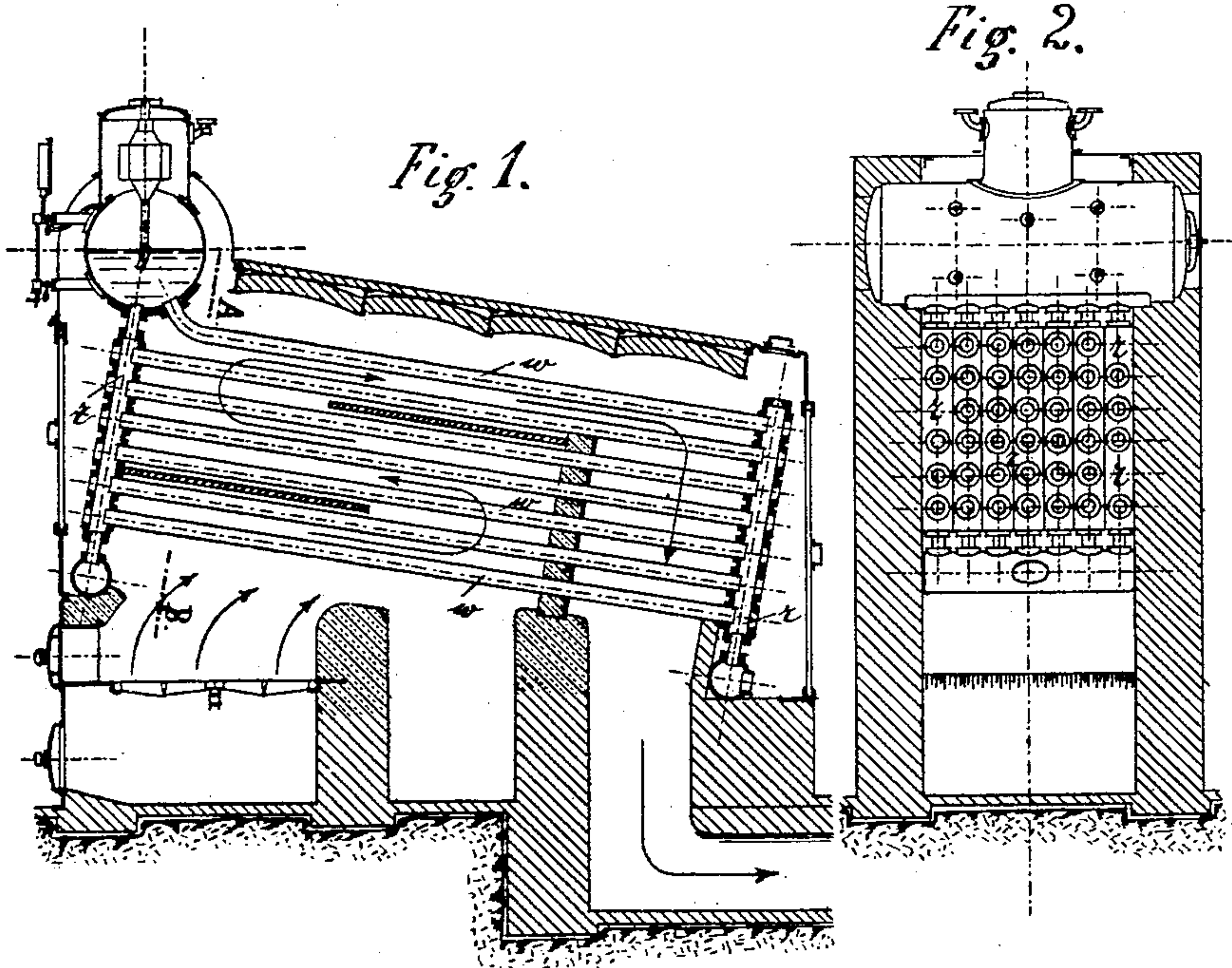
No. 702,954.

Patented June 24, 1902.

H. JANETSCHEK.  
WATER PIPE BOILER.  
(Application filed Nov. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
D. L. Koeckler  
J. H. H. H. H.

Inventor:  
Hermann Janetschek  
Marion Marion

by

Attorneys:

No. 702,954.

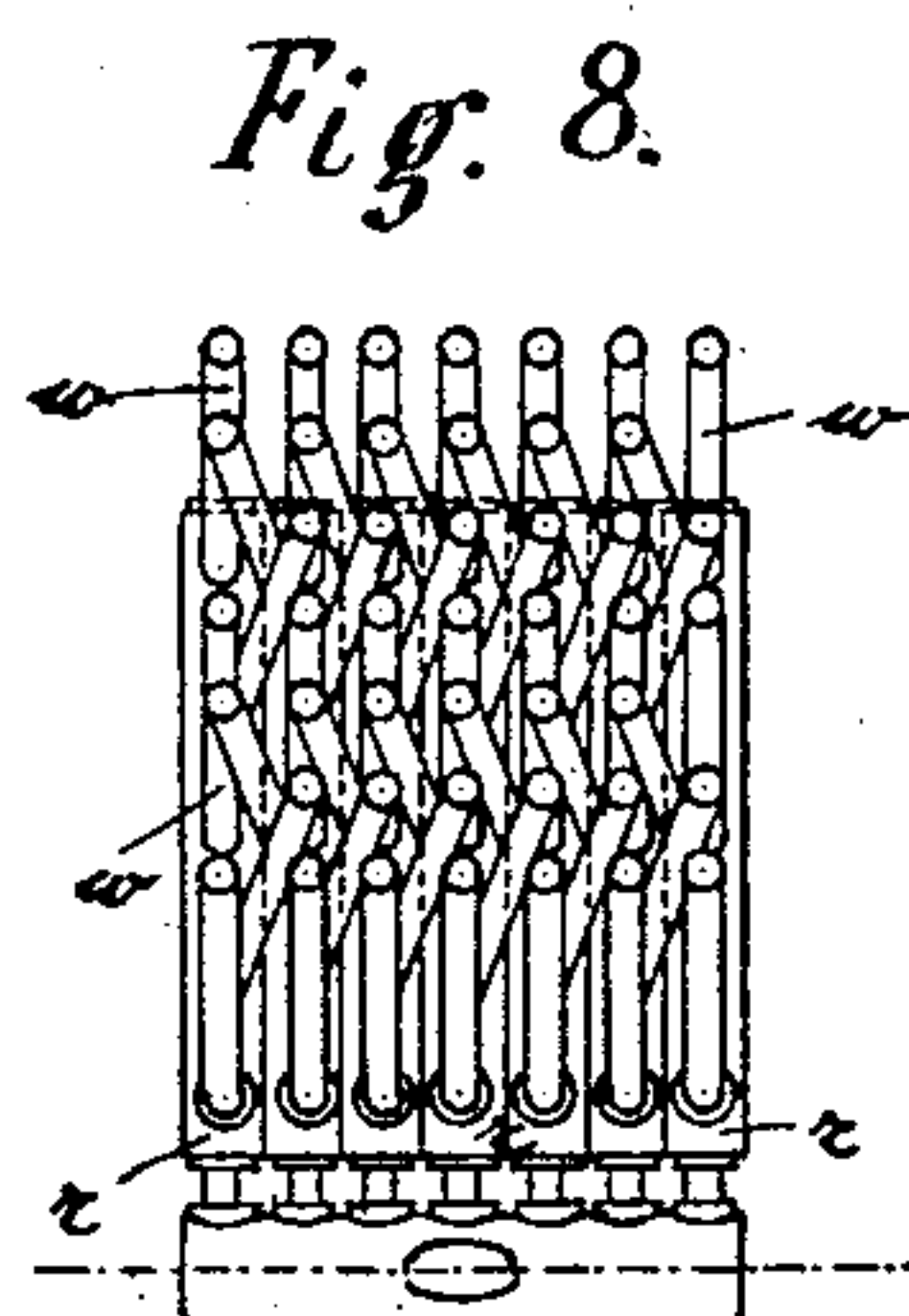
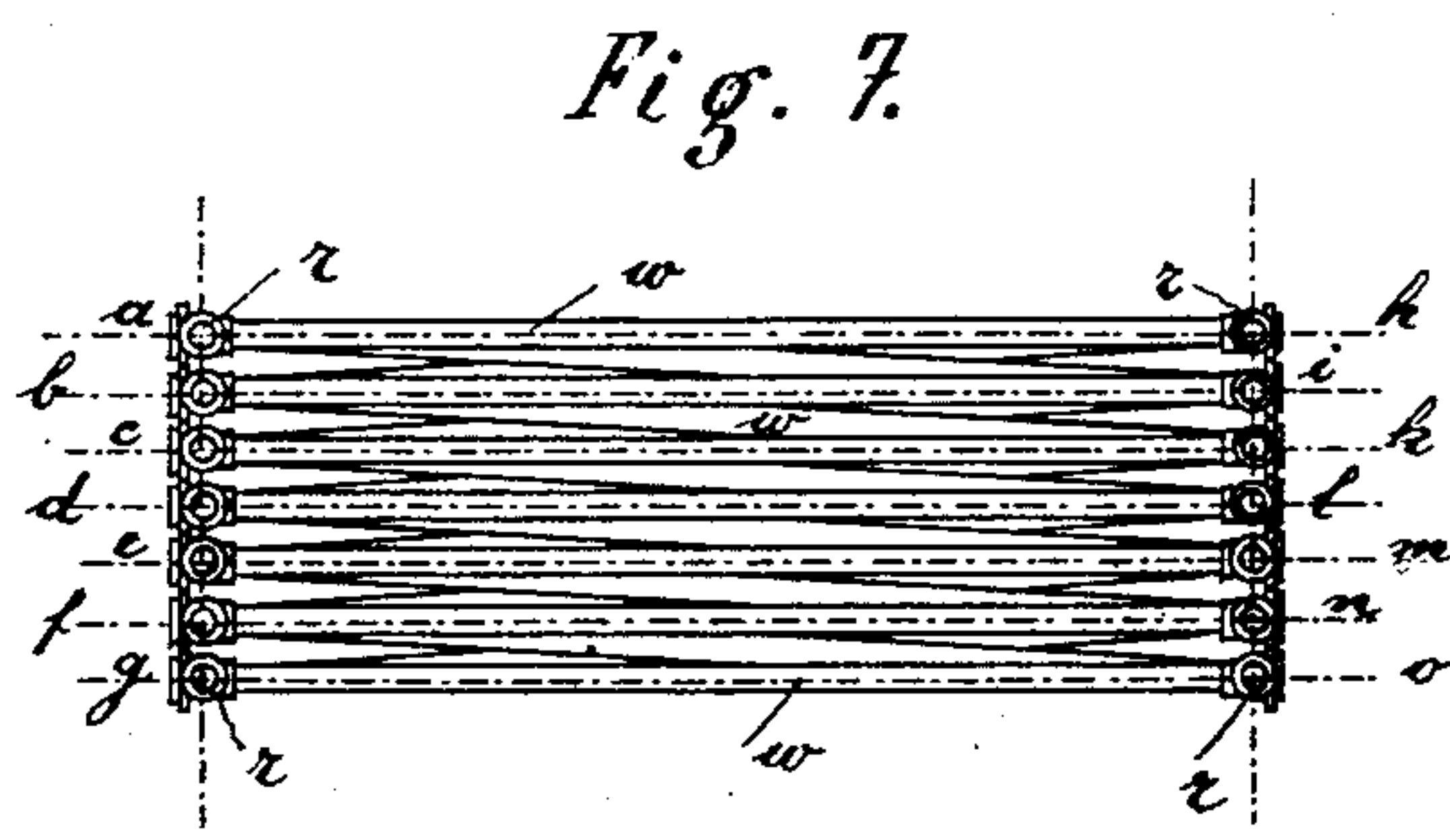
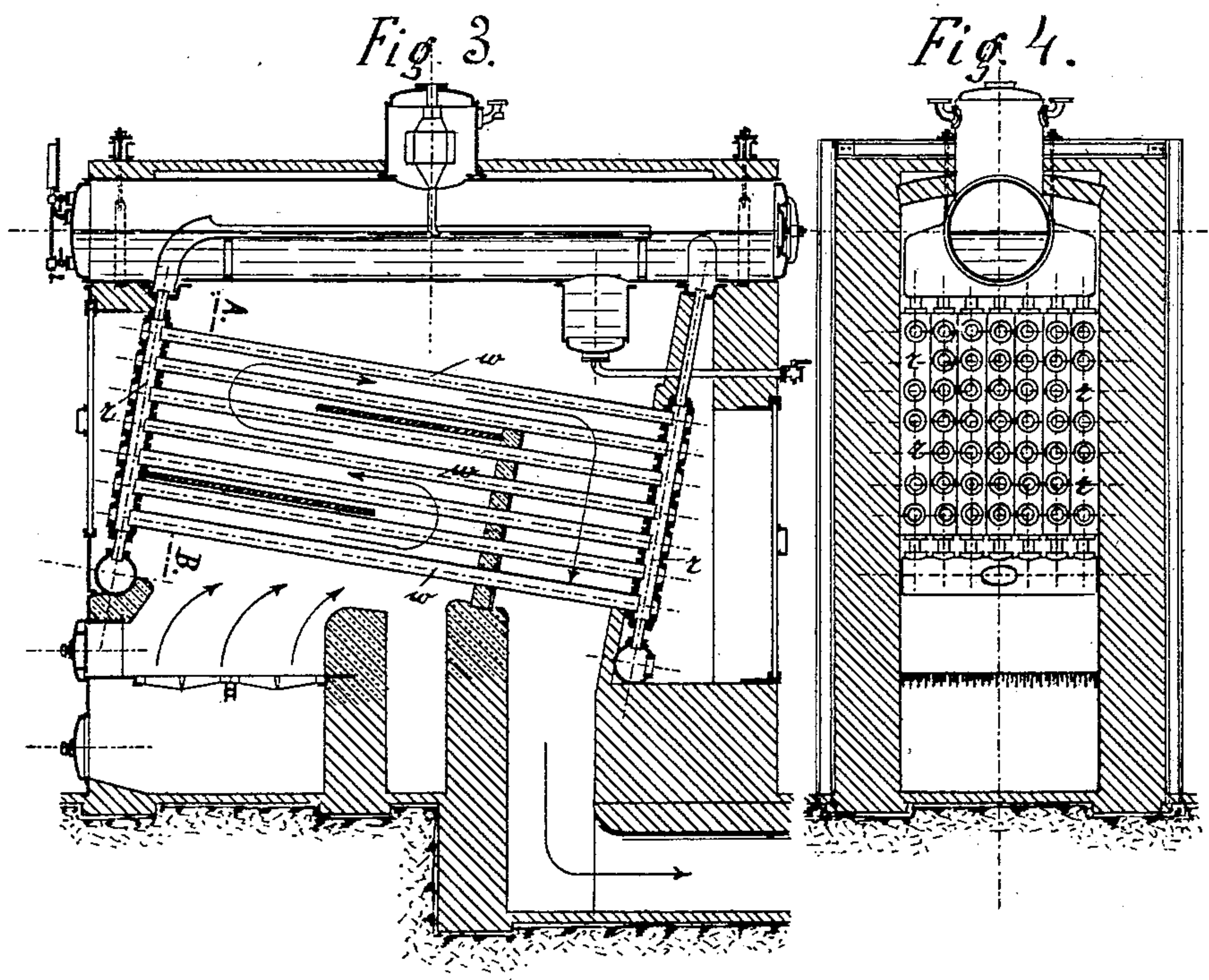
Patented June 24, 1902.

H. JANETSCHEK.  
WATER PIPE BOILER.

(Application filed Nov. 5, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:  
T. L. Mochamer  
H. M. Fugis

Inventor:  
Hermann Janetschek,  
by Marion Marion  
Attorneys:



# UNITED STATES PATENT OFFICE.

HERMANN JANETSCHEK, OF VIENNA, AUSTRIA-HUNGARY.

## WATER-PIPE BOILER.

SPECIFICATION forming part of Letters Patent No. 702,954, dated June 24, 1902.

Application filed November 5, 1900. Serial No. 35,486. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN JANETSCHEK, a citizen of the Empire of Austria-Hungary, residing in Vienna, Austria-Hungary, have  
5 invented Improvements in Water-Pipe Boilers, of which the following is a specification.

My invention has for its object a water-pipe boiler, and aims to obtain by a particular disposition of straight collecting-pipes an intensely efficacious derivation of the fire-gases. These objects I attain in the manner herein-  
10 after set forth, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are the above-mentioned  
15 boiler fitted with an upper boiler lying across in its front. Figs. 3 and 4 are the above-mentioned boiler fitted with an upper boiler lying along. Figs. 5 and 7 are the plan view of the pipe arrangements without walling.  
20 The arrangement consists of the water-pipes *w* and the standing collecting-pipes *r*. Figs. 6 and 8 are two cross-sections without walling, showing two different pipe arrangements.

The horizontal rows of the water-pipes *w*  
25 are connected with the standing collecting-pipes *r*, either as shown in Figs. 2, 5, and 6, the first lowest one following the lines *a h*, *b i*, *c k*, *d l*, *e m*, from *g o*, &c., the second following the lines *a i*, *b k*, *c l*, *d m*, *e n*, *f o*, &c.,  
30 the third as the first, the fourth following the lines *b h*, *c i*, *d k*, *e l*, from *g n*, &c., which arrangement is repeated regularly in the further rows of pipes. By this arrangement it will be seen that the pipes are arranged in  
35 series both vertical and horizontal, the horizontal series having its pipes in alinement, each series being spaced equidistant from the adjacent series. This allows of the formation

of spaces within which may, if desired, be secured suitable deflecting-plates, as shown in  
40 Figs. 1 and 3. The vertical series, however, are out of alinement, excepting at their ends, so that there is an increased efficiency derived from the fuel in that the passage of the products of combustion is partially retarded by  
45 the breaking up of the straight flues between the several pipes. Or as shown in Figs. 4, 7, and 8, the first lowest one following the lines *a h*, *b i*, *c k*, *d l*, *e m*, *f n*, *g o*, &c., the second following the lines *a i*, *b k*, *c l*, *d m*, *e n*, *f o*,  
50 &c., the third following the lines *b h*, *c i*, *d k*, *e l*, *f m*, *g n*, &c., which arrangement is repeated in every of the three following rows of pipes.

On the boiler fitted with an upper boiler lying across in the front the top row of water-pipes is connected with the latter, whereby these pipes serve as returning-pipes and make possible the water circulation.

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

In a water-pipe boiler, the combination with vertically-extending collecting-pipes; of pipes connecting said collecting-pipes, the connecting-pipes being arranged in horizontal and vertical series, the horizontal series being in alinement, successive series of pipes being spaced equidistant, and the vertical series being out of alinement intermediate their ends.  
70

In witness whereof I have hereunto set my hand in the presence of two witnesses.

HERMANN JANETSCHEK.

Witnesses:

HANS PAPPENHEIM,  
C. B. HURST.