

R. BENNETT.

RETORT.

APPLICATION FILED SEPT. 18, 1908.

912,644.

Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 2.

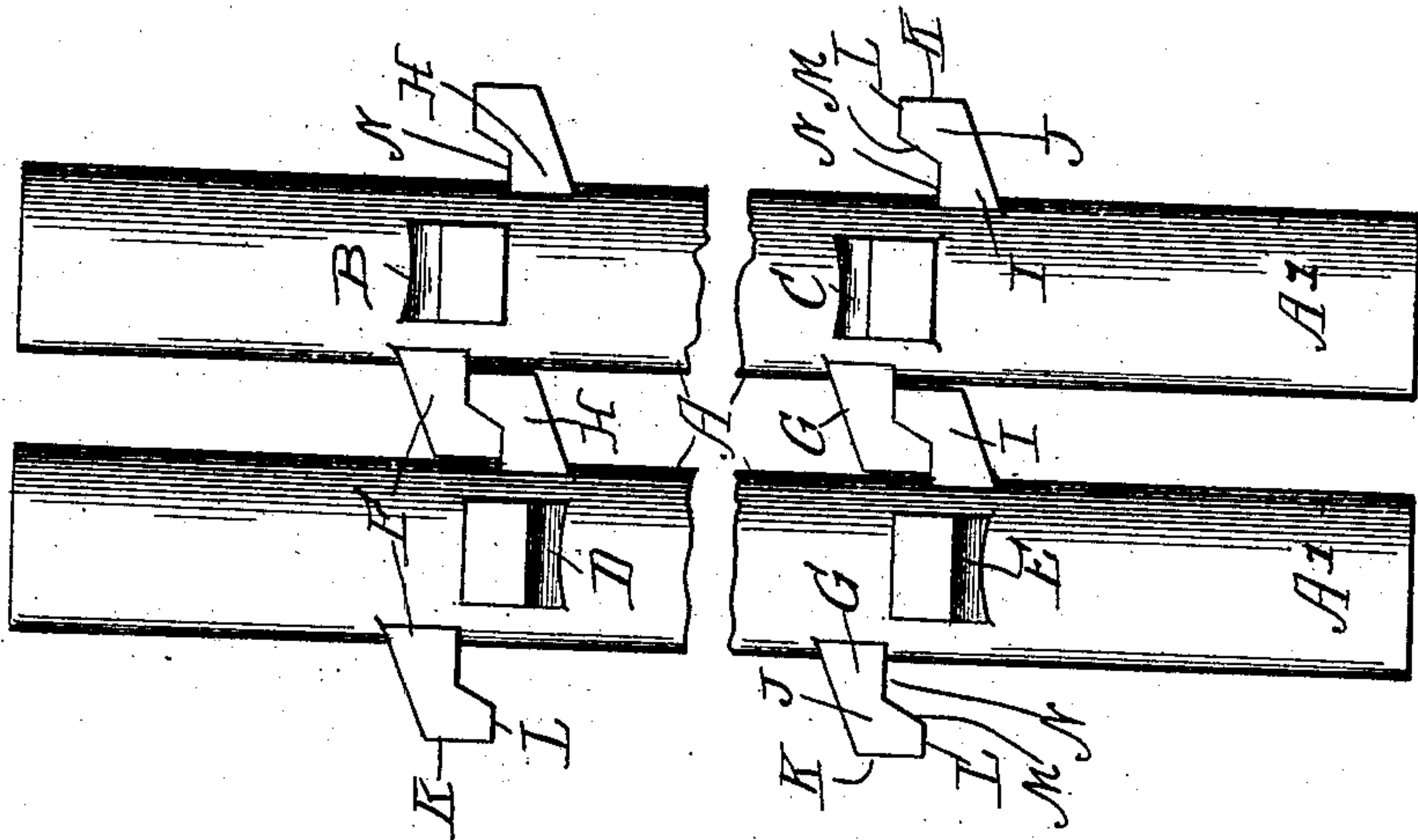
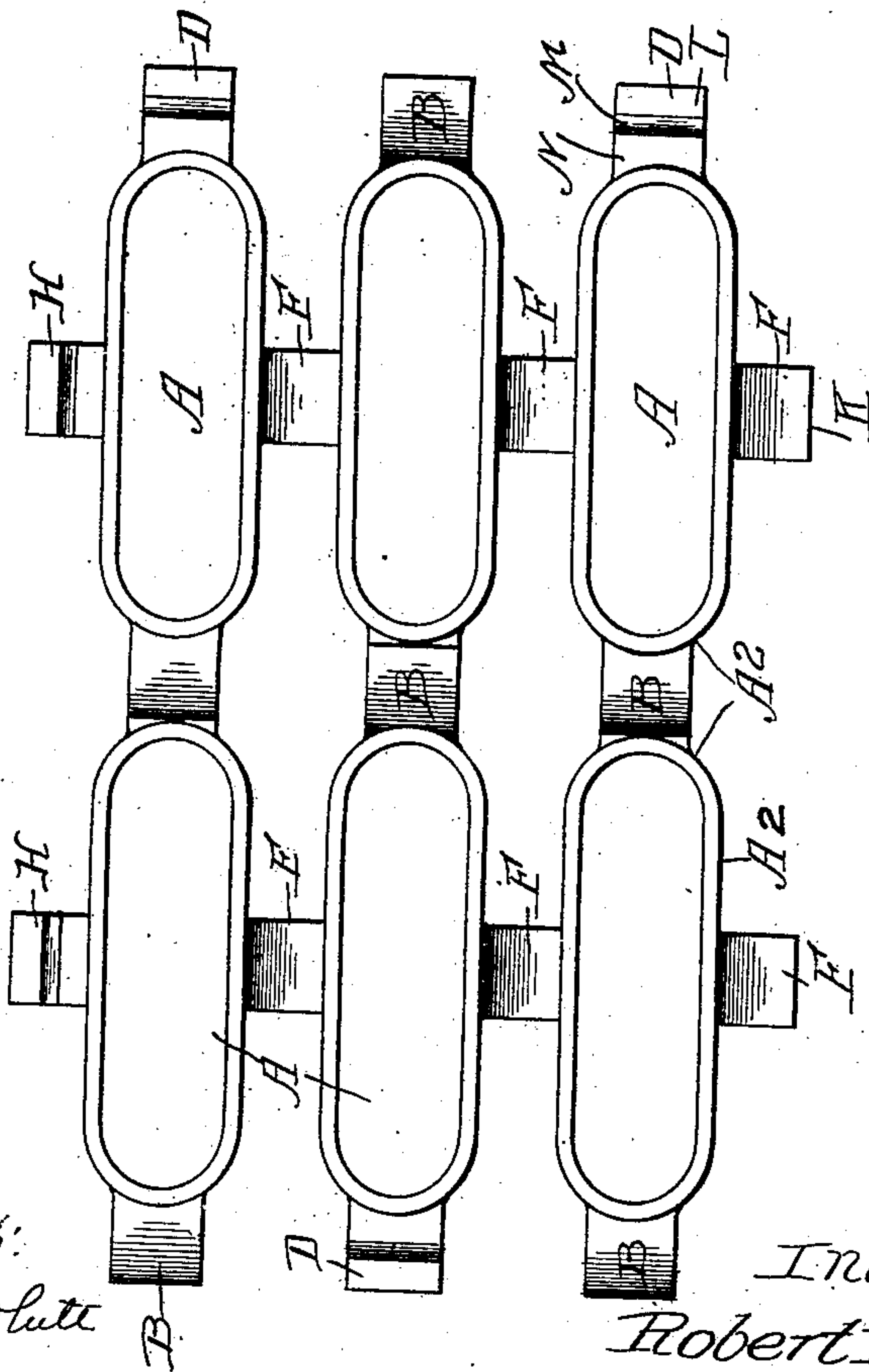


Fig. 1



Witnesses:
Harry R. L. White
R. A. White.

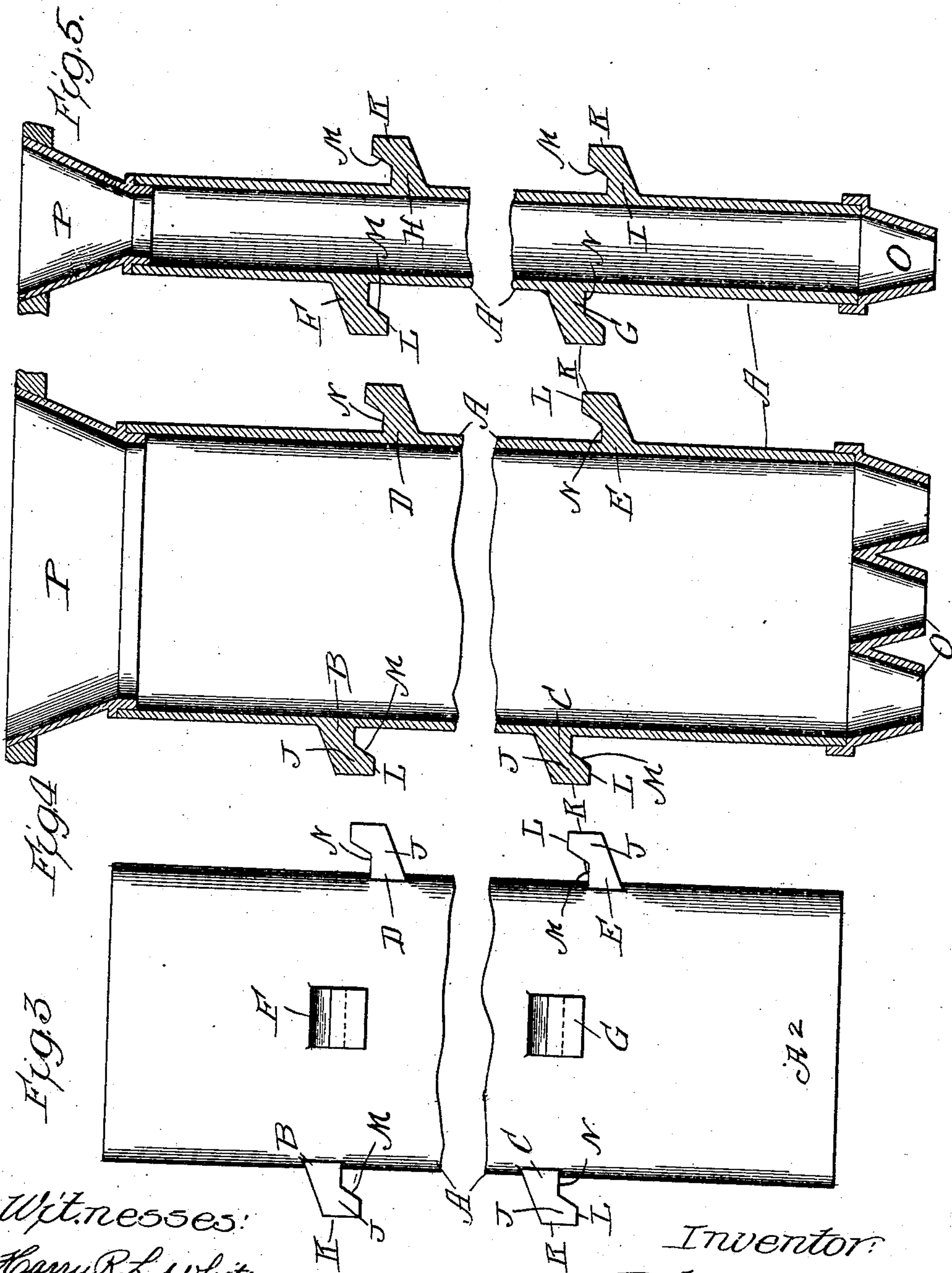
Inventor:
Robert Bennett.

By Morgan & Rubinstein Attys

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UNITED STATES PATENT OFFICE.

ROBERT BENNETT, OF CHICAGO, ILLINOIS.

RETORT.

No. 912,644.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed September 18, 1908. Serial No. 453,623.

To all whom it may concern:

Be it known that I, ROBERT BENNETT, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Retorts, of which the following is a specification.

My invention relates to that class of retorts used in sugar refineries, bone kilns, ore furnaces and the like, where the retorts are arranged in series; the materials operated upon being passed through the retort and the heat applied to the exterior of the retort.

The object of my invention is to simplify the production and thereby reduce the cost of the retort; to simplify and cheapen the cost of erection of the retorts in position for use; to prevent the bulging, collapsing, bending and warping of the retorts by the heat, and thereby increase their period of usefulness.

The manner in which I accomplish my object is described in the following specification and illustrated in the accompanying drawings, in which:

Figure 1 is a plan of a series of six retorts locked together ready for use. Fig. 2 is a vertical elevation of two retorts locked together, their flat faces being opposite each other. Fig. 3 is a vertical elevation showing the flat face of one of the retorts. Fig. 4 is a central vertical section through the large diameter of the retort. Fig. 5 is a vertical central section through the small diameter of the retort.

In the drawings, A indicates the tubular body of the retort, the cross section of which is an ellipse, the walls being parallel. Forming an integral part of the walls are a number of lugs located on the central portion of the body A in vertical pairs B, C, and D, E, which are on the vertical central line of the narrow curved faces A¹, and F, G and H, I, which are on the central vertical line of the broad flat faces A². These lugs are of the same shape and size and are so located and reversed in position relative to each other, as to interlock when the retorts are placed together in series as hereinafter described.

The pair B and C on the faces A¹ are located on horizontal lines partly above horizontal lines passing through the lugs D and E; and the lugs F, G, and H, I, on the flat faces A² are located on the same horizontal lines respectively as the lugs B and C, and D and E. These lugs I describe as having

a head J, a vertical face K, a nose L, a jaw M and neck N. The heads, however, of the lugs B, C and F, G project with the nose down, and the heads D, E and H, I, project with the nose up. When the lugs are formed and located as described, the retorts can be locked together in series as follows: Reference being had to Fig. 2. The end retort being first set in position as indicated by the lugs D and E on the face A¹, the second retort indicated by the lugs B and C is raised vertically above the level of the first retort till the nose L of the lugs F and G are passed over those of the lugs H and I and the faces K are in contact with the walls of the retort; the second retort is then lowered to the level of the first retort in which position the lugs F, H and G, I are locked together, the inclination of the jaws M forcing the faces K firmly against the wall face A². In this way the flat face A² of the two retorts are held parallel and the series of retorts may be extended on the same line in the same way as far as desired. Reference now being had to Figs. 3 and 4, and to the relative position of the lugs B and C on Fig. 4, and D and E on Fig. 3, it can be seen that the same movement of the retort places the lugs B, C into position in the lugs D and E and locks the retorts with their narrow faces A¹ parallel with each other, and that the series of retorts may be extended along that line also, and thus any number of parallel series as indicated in Fig. 1 may be interlocked together by the simple process of placing the retorts in place in the boots O. The space between the several faces A¹ and between the several faces A² being adapted to the size of the funnels P and fixed by the projection of the lugs from the walls of the retorts.

It is obvious that the size, number and exact location of the lugs on the retorts in respect to each other and to the length of the retorts, may be varied without departing from the principle of my invention. Therefore I do not limit myself in those particulars. It is also obvious that the lugs, when interlocked form a series of bridges connecting the retorts on all sides adapted to resist all strains in a lateral direction, and that I accomplish my object completely by the simple adaptation of the patterns from which the retorts are cast, and that any number of retorts may be set up in series without any labor in fitting, or adding any

other parts to complete the permanent unity of the several retorts with each other.

What I claim and desire to secure by Letters Patent is:

5 1. A plurality of retorts, each retort having a series of exterior lugs on opposite sides thereof, the individual lugs on one retort being adapted to be engaged with the individual lugs of the other retort, said lugs
10 interlocking and thereby holding said retorts parallel with each other as described.

2. The combination with a plurality of retorts, of a plurality of lugs on the walls of the retorts the heads of part of said lugs
15 converging downwardly and outwardly from the walls, the heads of the other part of the lugs converging upward and outwardly from the walls, whereby the lugs of opposite retorts are adapted to engage and
20 interlock, and thereby bind said retorts together and prevent any lateral movement of the walls in relation to each other, as described.

3. The tubular part of a retort of the kind
25 described provided with a series of lugs on the central portion of the exterior walls and being an integral part thereof, each of said lugs having a head, face parallel with said walls, an inwardly inclined jaw, and neck

intermediate of said jaw and wall, the jaws 30 of one part of said lugs projecting in an opposite direction to that of the other part of said lugs whereby the lugs of two or more of said tubular parts are adapted to engage and interlock and thereby unite said parts 35 of a retort laterally in groups or series as described.

4. The tubular part of a retort of the kind described having exterior lugs, the head of each lug being spaced from the body of the 40 retort, the vertical projection of the heads of said lugs being reversed on opposite sides of said body the heads of said lugs on opposite retorts being adapted to engage each other and interlock thereby holding said 45 retorts parallel with each other as described.

5. The tubular part of a retort having lugs forming an integral part thereof said lugs being adapted to engage like lugs on other retorts of the same kind, and without 50 any other element to interlock and thereby hold two or more of said retorts together as described.

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Witnesses:

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