

(No Model.)

J. F. KENNEDY.

SODA ASH FURNACE.

No. 388,284.

Patented Aug. 21, 1888.

Fig. 1.

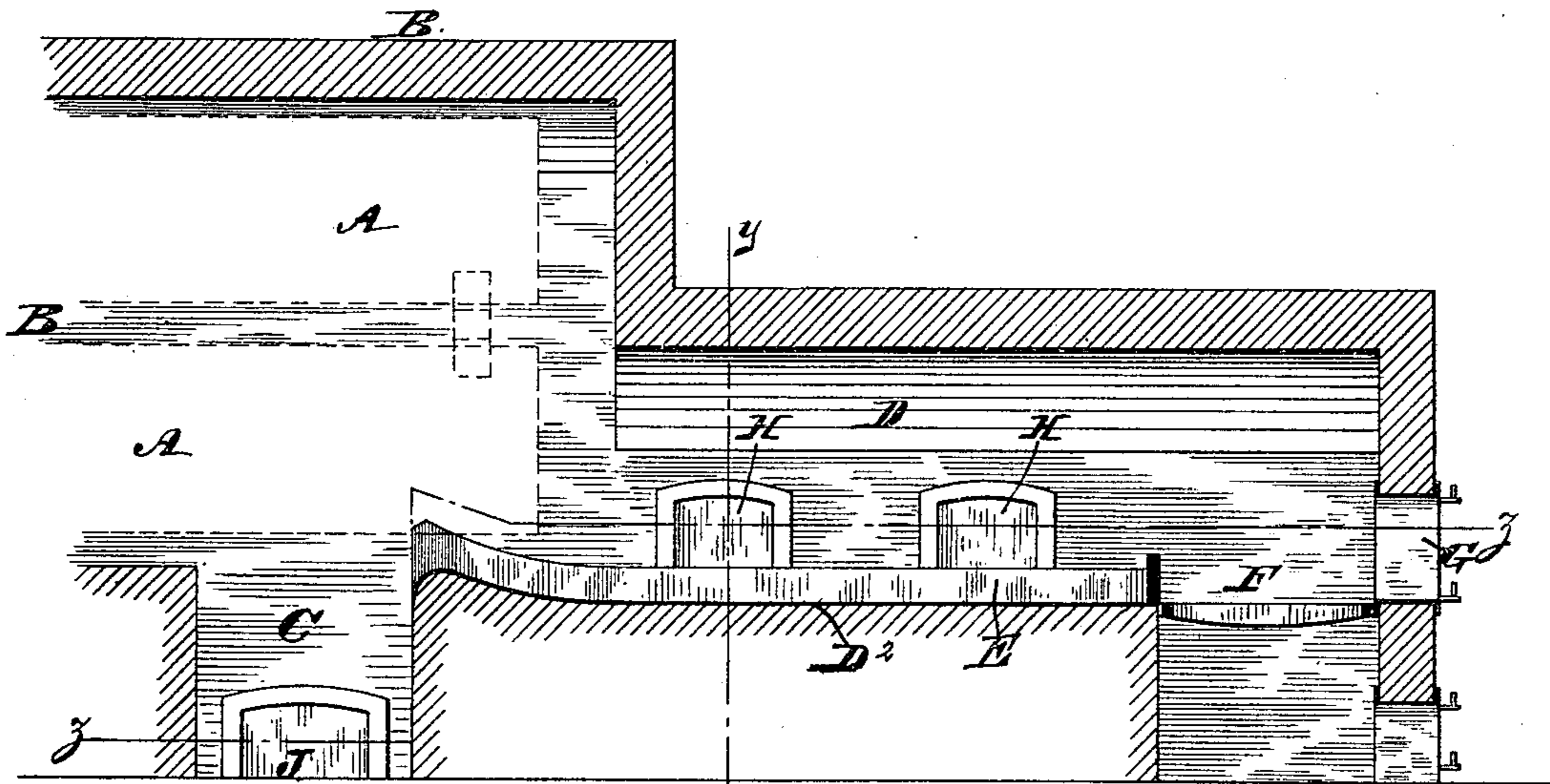


Fig. 2.

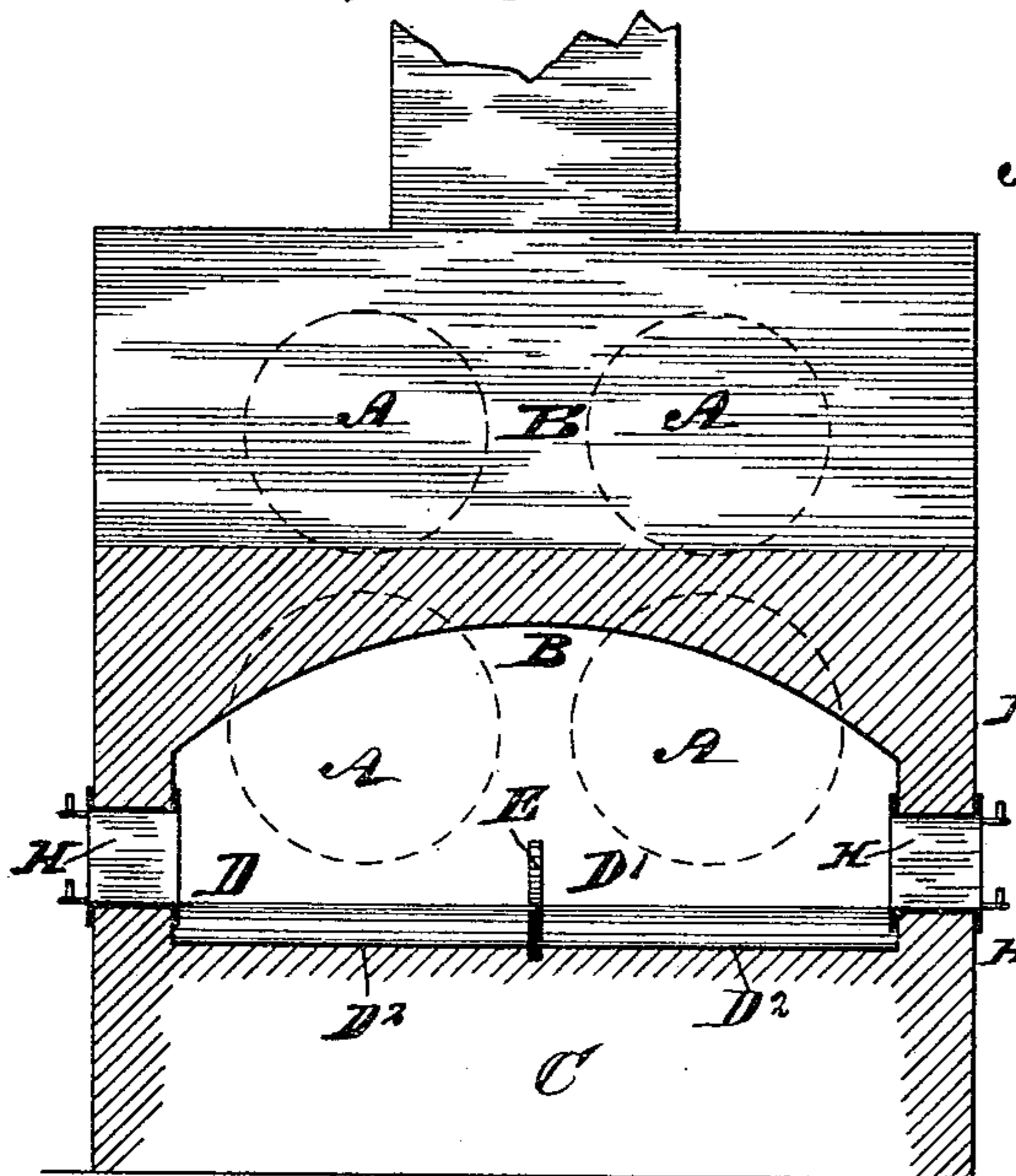
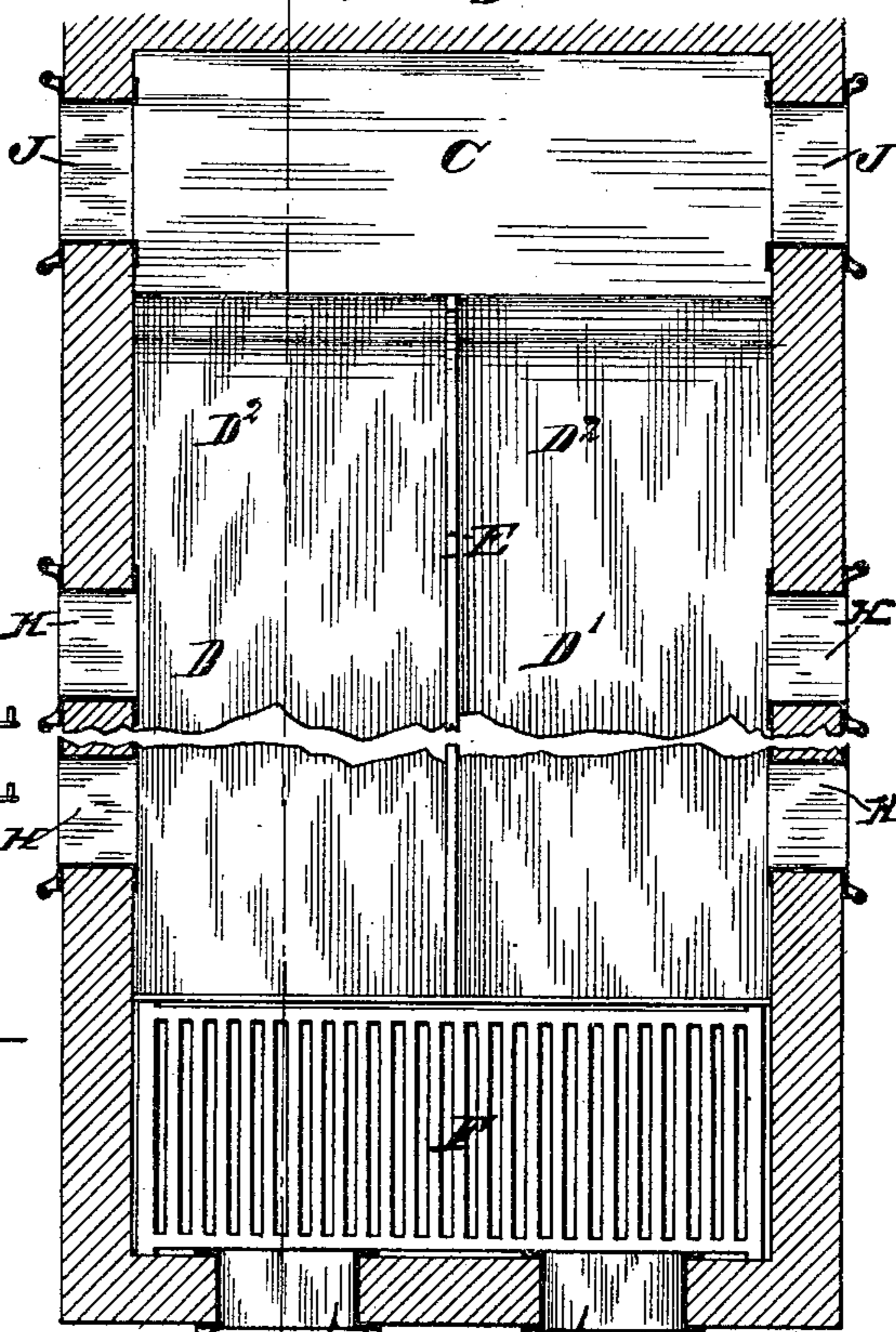


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN F. KENNEDY, OF ELKTON, MARYLAND, ASSIGNOR OF TWO-THIRDS TO
THOMAS GOWAN AND ANDREW ENNIS, BOTH OF SAME PLACE.

SODA-ASH FURNACE.

SPECIFICATION forming part of Letters Patent No. 388,284, dated August 21, 1888.

Application filed August 29, 1887. Serial No. 248,156. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. KENNEDY, a citizen of the United States, residing at Elkton, county of Cecil, State of Maryland, have
5 invented a new and useful Improvement in a Furnace for Burning Soda-Ash, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a furnace for burning soda-ash provided with means for utilizing
10 consumed ash for heating purposes until a fresh charge of material is in hot condition.

Figure 1 represents a longitudinal vertical section in line *xx*, Fig. 3, of a soda-ash furnace embodying my invention. Fig. 2 represents a transverse vertical section thereof in line *yy*, Fig. 1. Fig. 3 represents a horizontal
15 section thereof in line *zz*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents a steam-boiler of any desired form, shown in dotted lines, and located in the inclosure or heating-space B, formed of masonry or other
25 material. Below the inclosure B is a pit, C, and in front of said inclosure are two chambers, D D', which are separated by the partition or walls E.

F represents the furnace proper, which communicates with the chambers D D', it being
30 noticed that the said chambers D D' and the pit C are in communication with the inclosure B. The furnace F is provided with doors G, the chambers D D' with doors H, and the pit C with doors J, whereby access may be had to
35 the several parts stated.

The operation is as follows: The chamber D is charged with soda-ash supplied through the doors H and placed on the sole D² of said chamber, where it is burned by the flames from the
40 furnace F, the resultant heat entering the inclosure B, and so reaching the boilers. When said ash is about consumed, it is raked into

the pit C, and the other chamber, D', is charged with fresh soda-ash, which is likewise burned
45 by the flames from the furnace. The ash in the pit passes off a considerable quantity of heat, and this is utilized for heating the boilers until the second charge of ash in the chamber D' is in hot condition. The ash in the pit is
50 then removed through the doors J, and the partially-consumed ash in the chamber D' is raked into said pit, where its heat continues to reach the boiler. Meanwhile the chamber D is again charged with fresh soda-ash and the
55 other operations stated are repeated. By these means the boiler is subjected to the heating action of both fresh soda-ash and spent ash, which latter otherwise is lost, and thus a continuous heat is maintained.

The soda-ash employed results from the process of making wood pulp, the same being washed from the pulp and the water then evaporated, leaving the ash and vegetable
60 matter, which forms a surplus fuel.

The method of treating soda-ash as herein set forth will be the subject of another application for patent filed July 11, 1888, Serial No. 279,660, and is not included in the case.

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

The inclosure B, having within the same the furnace F, the adjacent charging-chambers D D', with partition E between them and the
75 boiler A, the pit C below said boiler, the said inclosure B having the openings H H in the sides of the charging-chambers, and the pit having side openings, J J, said parts being combined substantially as and for the purpose
80 set forth.

JOHN F. KENNEDY.

Witnesses:

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A. P. JENNINGS.