

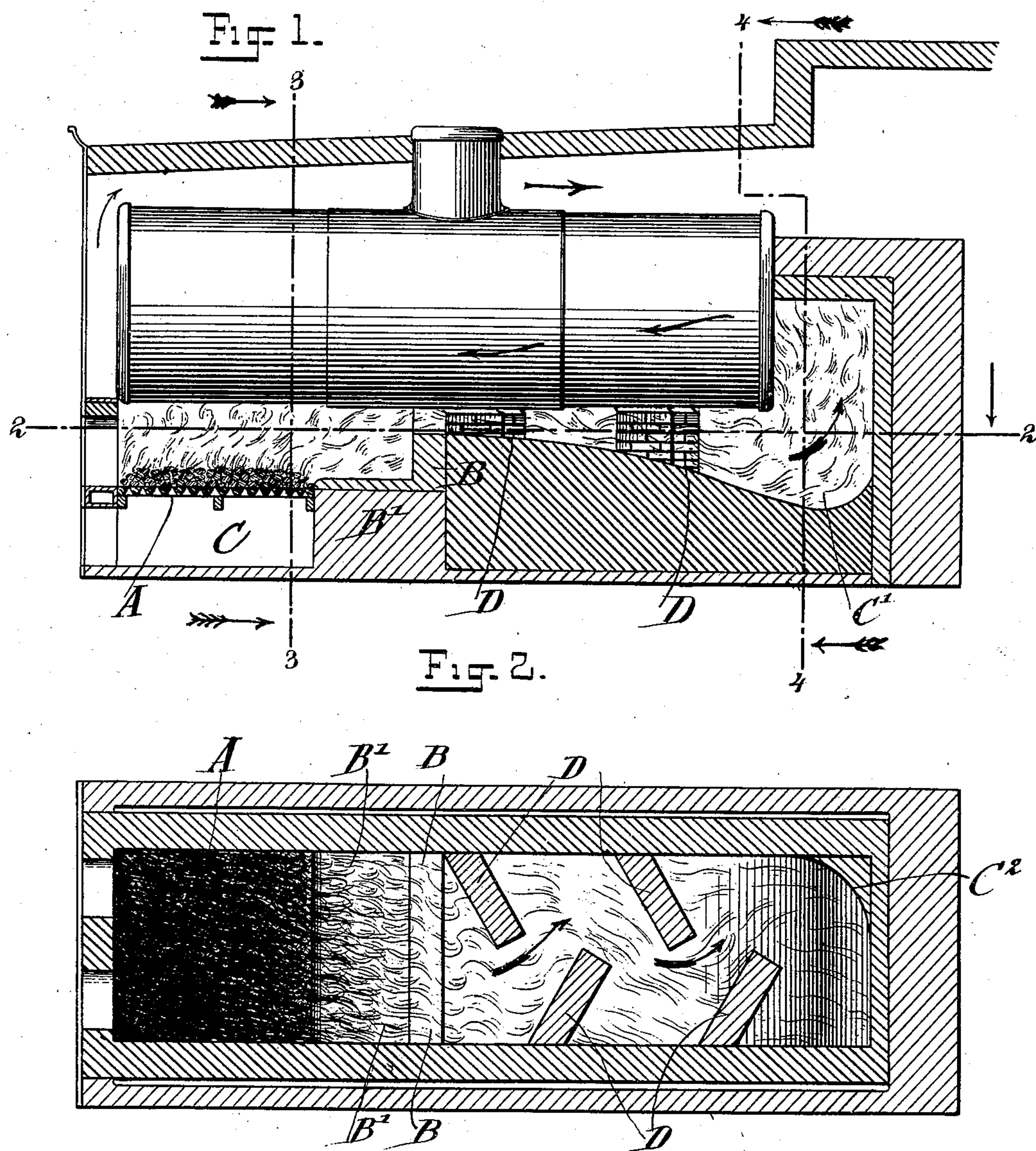
(No Model.)

2 Sheets—Sheet 1.

H. E. PARSON.
STEAM BOILER FURNACE.

No. 592,205.

Patented Oct. 19, 1897.



WITNESSES:

Fr. J. Rochoyich
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INVENTOR

Henry E. Parson

BY

Samuel H. Regner
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(No Model.)

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Fig. 3.

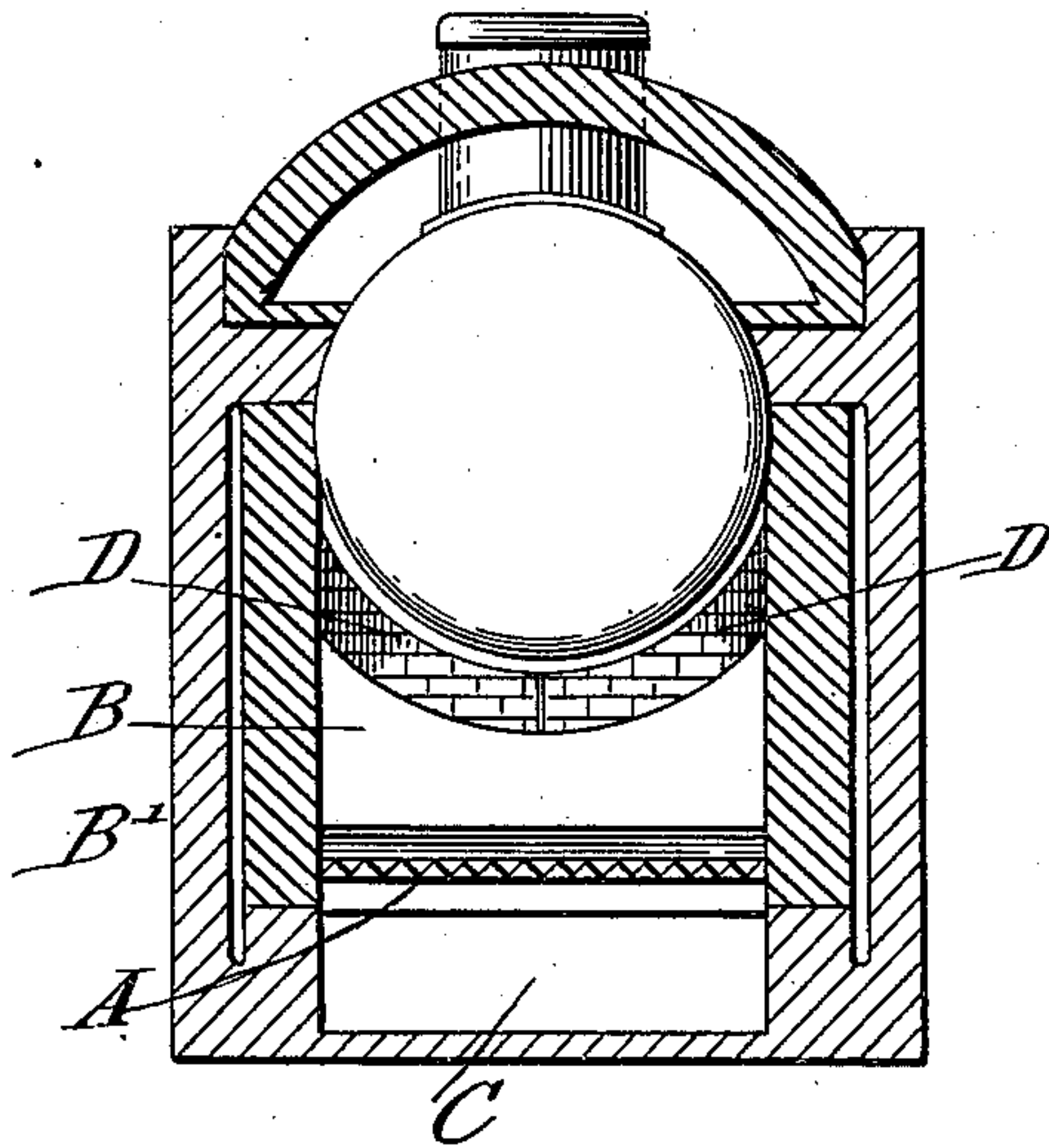
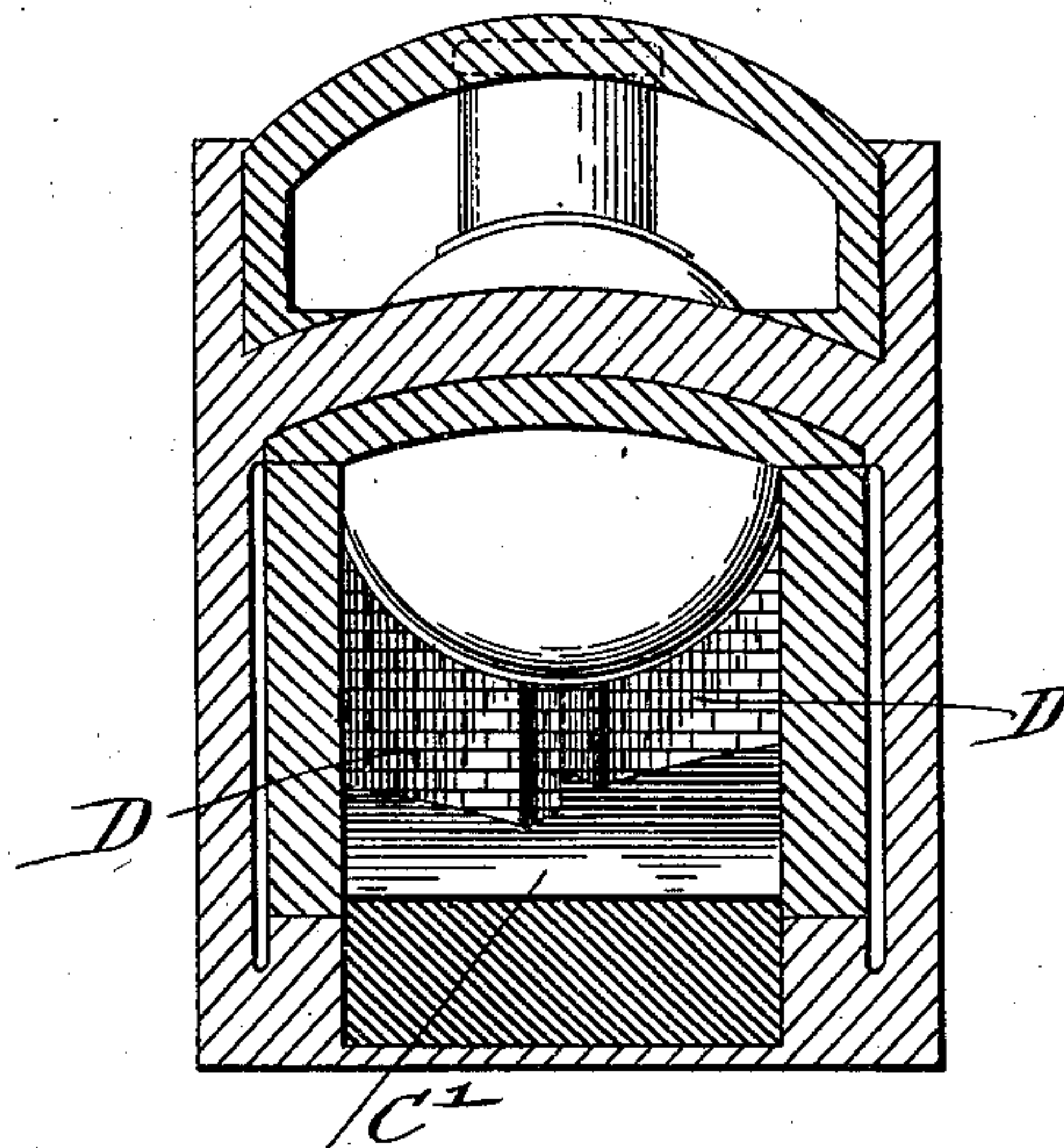


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY E. PARSON, OF BROOKLYN, NEW YORK.

STEAM-BOILER FURNACE.

SPECIFICATION forming part of Letters Patent No. 592,205, dated October 19, 1897.

Application filed March 24, 1897. Serial No. 628,949. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. PARSON, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have
5 invented certain new and useful Improvements in Steam-Boiler Furnaces, of which the following is a specification.

This invention relates to certain improvements in steam-boiler furnaces by which not
10 only a better combustion of the fuel but also a great facility in removing the ashes, especially when coal dust or small waste coal are burned, is obtained; and the invention consists of a steam-boiler furnace in which is
15 arranged, immediately in front of the fire-bridge, a receiving-platform onto which the fuel can be transferred from the grate, so that the ashes can be removed from time to time from the top of the grate.

20 The invention consists, secondly, of alternating inwardly-projecting fire-walls arranged in the combustion-chamber, back of the fire-bridge, and a rounded-off rear corner, all so arranged that a mixture of air and the
25 products of combustion is made to impinge on the hot fire-walls and all the carbon particles in the same burned in an almost complete manner, so that a more perfect combustion is obtained.

30 In the accompanying drawings, Figure 1 represents a vertical longitudinal section of my improved steam-boiler furnace, showing the arrangement of the fuel-receiving platform in the front of the fire-bridge and of the alternating fire-walls arranged in the combustion-chamber back of the fire-bridge. Fig.
35 2 is a horizontal section on line 2 2, Fig. 1; and Figs. 3 and 4 are vertical transverse sections, respectively, on lines 3 3 and 4 4, Fig. 1, looking in the directions of the arrows.

40 Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the grate, B the fire-bridge, and C the ash-
45 pit, of my improved steam-boiler or other furnace. In front of the fire-bridge B, and between the same and the grate, is arranged a horizontal receiving-platform B', which is

formed of fire-brick and is but little higher than the grate, so that the fuel can be readily
50 placed on the said platform while the ashes are removed from the grate-bars through the charging-doors. The receiving-platform B' is provided with a rounded-off or sloping front edge and is used for piling up the fuel
55 on the same until all the coal has been removed, so that the ashes can be removed by drawing them by means of hoes over the grate-bars to the front doors. In the case of coal waste, which, instead of coal or wood, is some-
60 times burned, grate-bars having conical openings are used, to which an artificial draft is supplied by means of an apparatus of any approved construction. (Not shown in the drawings.) 65

In the combustion-chamber C', back of the fire-bridge B, are arranged a number of vertical inwardly-projecting baffling fire-walls D, that extend, at a considerable angle or inclination, from the side walls of the furnace
70 toward the middle of the same, and which are arranged alternately on opposite sides, the first wall projecting inwardly near the fire-bridge, the next one at some distance back of the first on the other side wall, the
75 third at still a farther certain distance back of the second and from the opposite side wall, and so on, while one of the rear corners C² of the combustion-chamber is preferably rounded off. The products of combustion, 80
mixed with air, are made to impinge successively on the inwardly-projecting fire-walls and form eddies between the same, back of each wall, until they pass along the rounded-off rear corner, and then in upward direction to
85 and through the flues of the boiler to the front of the same, and then over the boiler to the chimney, as indicated by darts in Figs. 1 and 2. The inwardly-projecting baffling fire-walls are preferably made of fire-brick, and being
90 heated up by the products of combustion they practically form small combustion-chambers between every two adjacent fire-walls at each side of the furnace, so that the more perfect combustion of the products of
95 combustion and of the coal particles carried

along by the same is attained, while hardly any smoke is produced.

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

In a furnace, provided with a rounded end wall, the combination with the combustion-chamber, of a fire-bridge, and a series of alternately-disposed baffling fire-walls, pro-

jecting inwardly from the side walls and inclined thereto, substantially as set forth. 10

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

H. E. PARSON.

Witnesses:

GEO. W. JAEKEL,
CARL KABLE.