

No. 704,895.

Patented July 15, 1902.

H. C. MARTIN.
HYDROCARBON BURNER.
(Application filed Aug. 8, 1901.)

(No Model.)

Fig. 1.

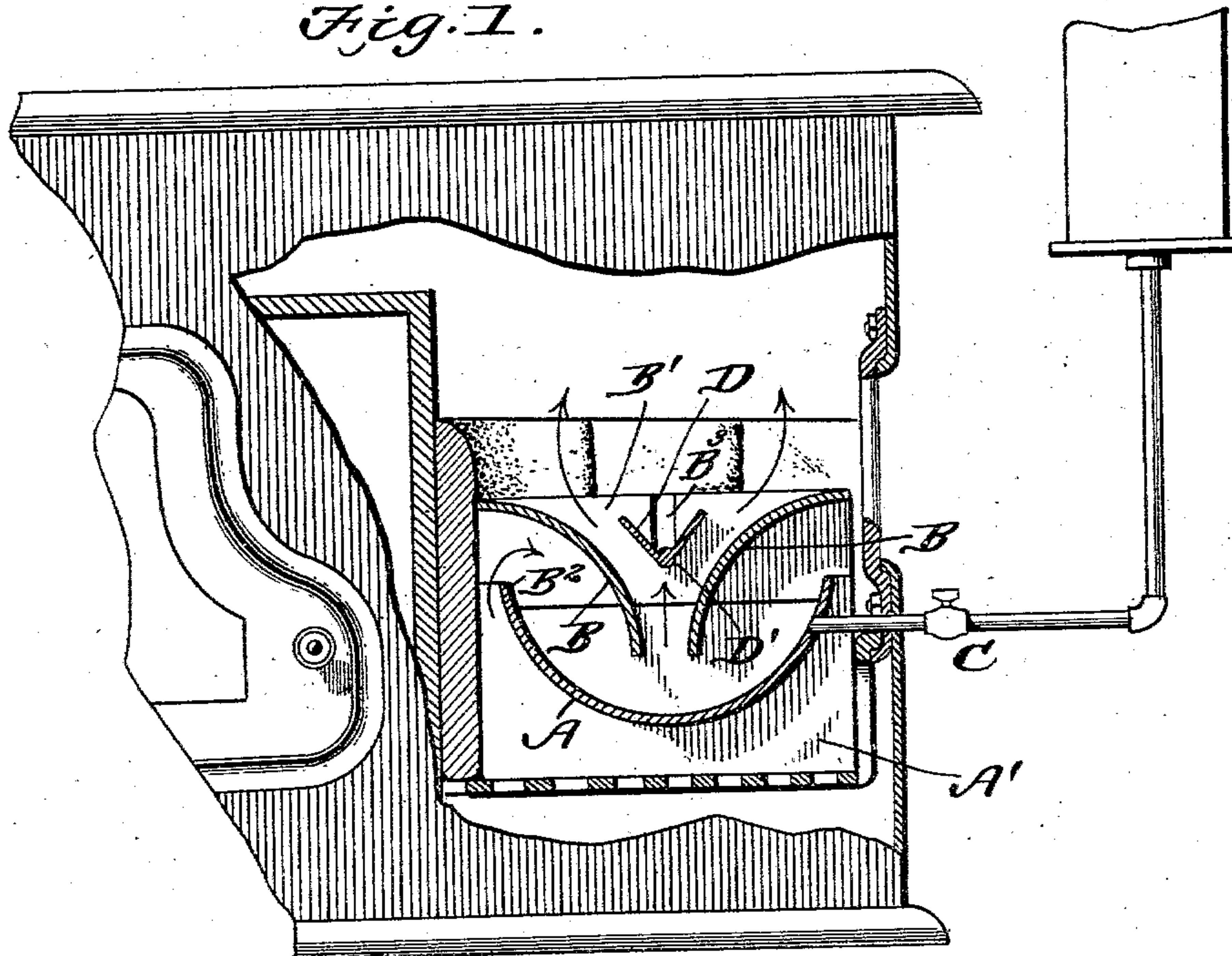


Fig. 2.

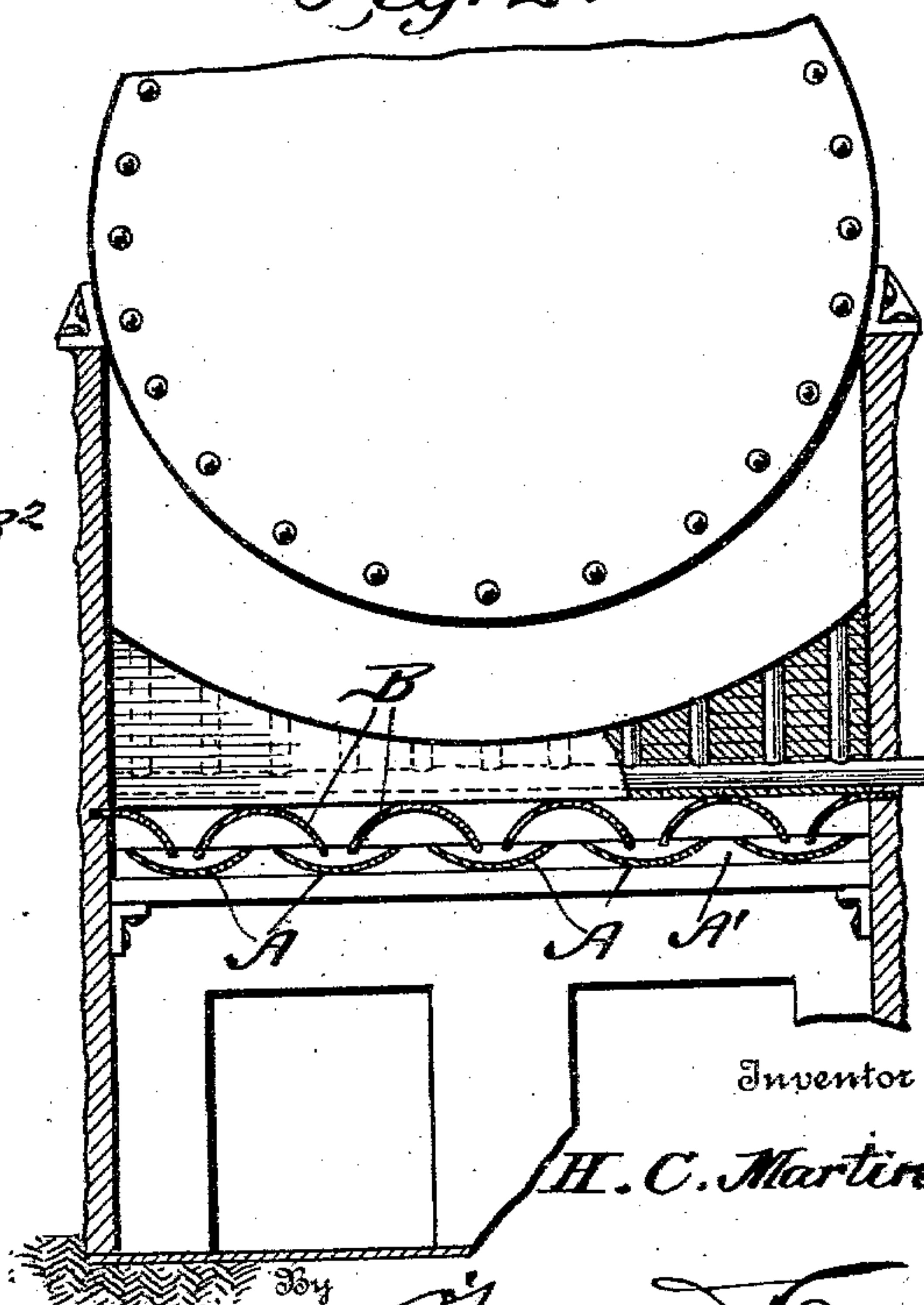


Fig. 3.

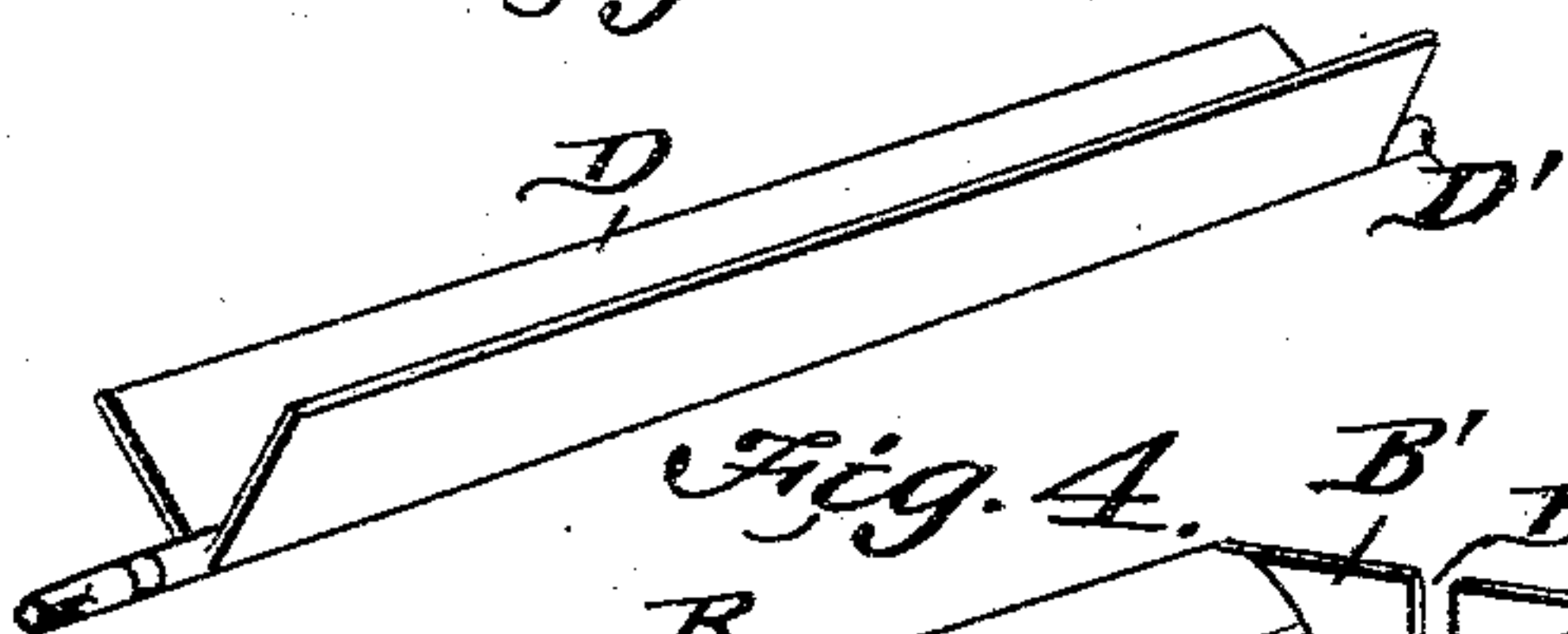


Fig. 4.

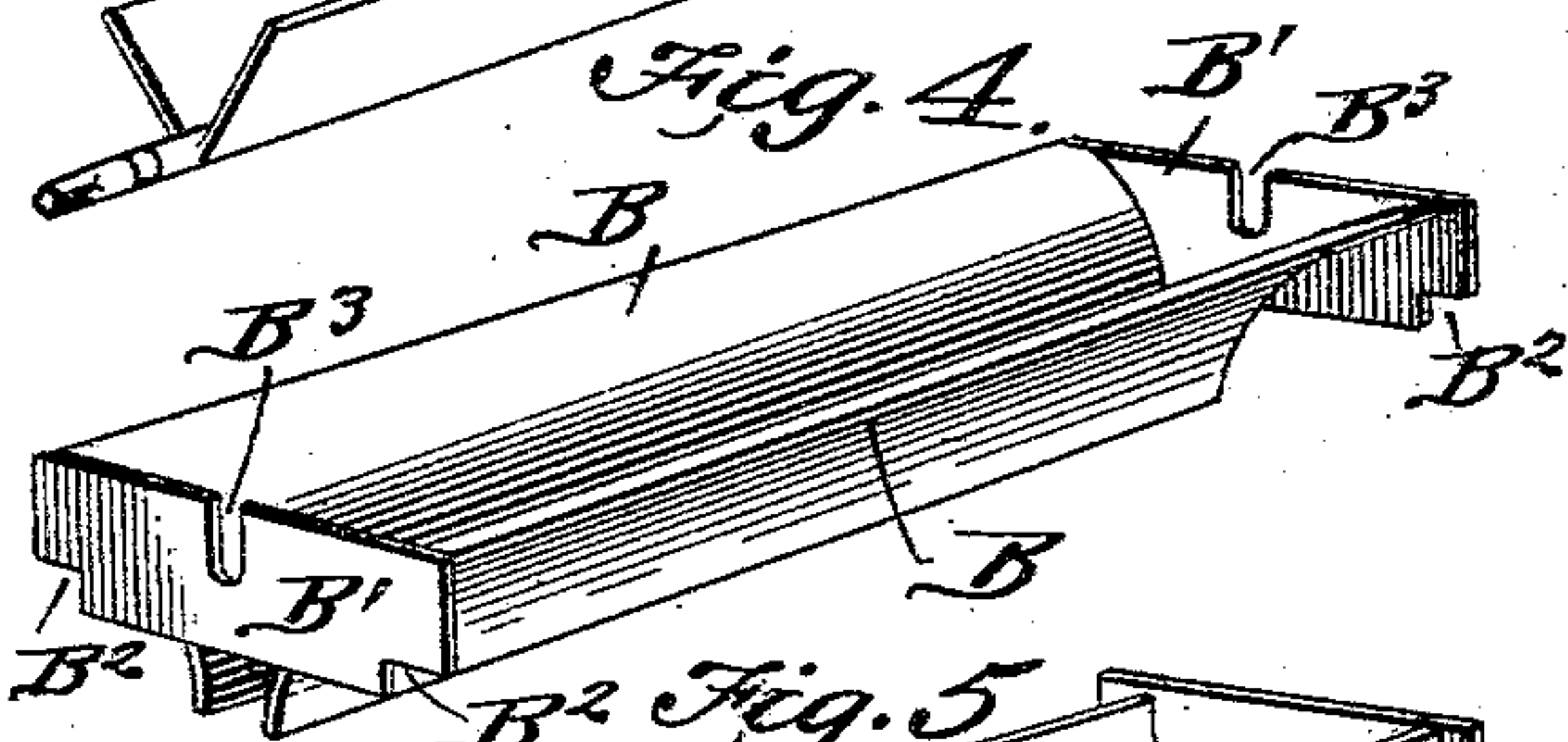
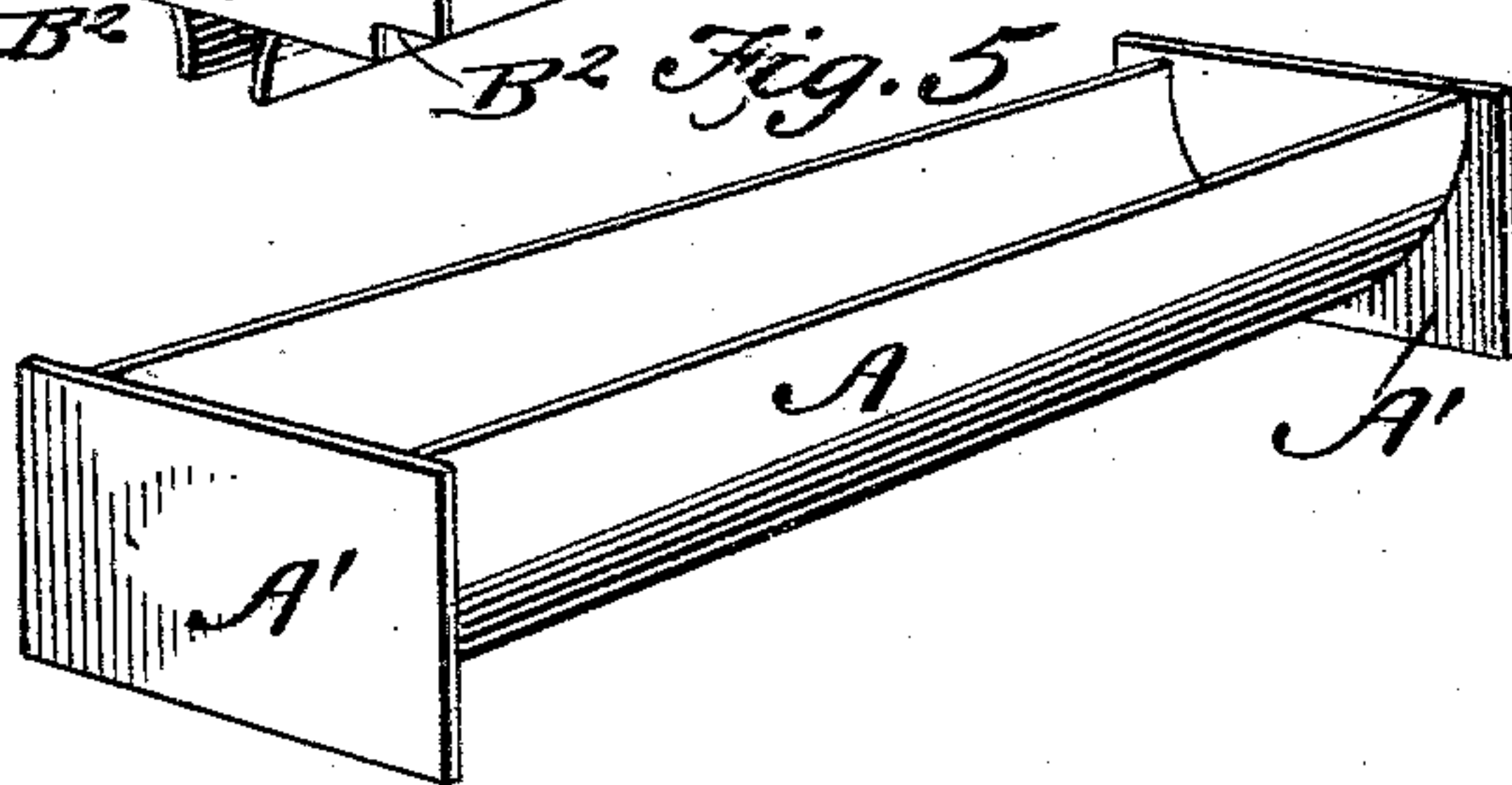


Fig. 5.



Witnesses

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HYDROCARBON-BURNER.

SPECIFICATION forming part of Letters Patent No. 704,895, dated July 15, 1902.

Application filed August 3, 1901. Serial No. 70,811. (No model.)

To all whom it may concern:

Be it known that I, HARRY CHAPMAN MARTIN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Hydrocarbon-Burner, of which the following is a specification.

This invention is an improved hydrocarbon-burner, the object being to provide an exceedingly cheap and simple construction of burner by means of which an exceedingly hot flame can be produced, and another object is to provide a burner in which perfect control of the flame can be had, thereby directing the said flame in any desired direction.

Another object of the invention is to provide a burner which shall be of such construction that it will be impossible for it to become clogged or get out of order; and a still further object is to provide a burner which can be used in connection with cooking-stoves and also steam-boiler furnaces.

With these objects in view the invention consists in the peculiar construction of the various parts and in their novel combination or arrangement, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a sectional view illustrating the application of my invention to an ordinary cooking-stove. Fig. 2 is a similar view illustrating the application of my invention to a steam-boiler furnace. Fig. 3 is a perspective view of the damper. Fig. 4 is a perspective view illustrating the deflector-plates, and Fig. 5 is a perspective view of the pan or trough.

In carrying out my invention I employ a trough or pan A, the ends A' being extended to provide feet, upon which the trough rests. The feet of the trough rest directly upon the grate or grate-bars, as most clearly shown in Figs. 1 and 2. The deflector-plates B are connected at their ends by means of strips B', said strips B' resting upon the upper edges of the trough and supporting the plates longitudinally of the said trough, said strips B' being cut out, as shown at B², to fit within the trough, and thereby prevent dislocation of the deflector-plates. The deflector-plates B are

curved, as shown, the lower ends of said plates resting adjacent to the center of the trough A, their outer ends extending upwardly, as shown, and longitudinal openings are produced at each side between the said plates and the edges of the trough, thereby permitting air to commingle with the oil which is fed into the trough or pan by means of a supply-pipe C. An essentially V-shaped chamber is produced between the deflector-plates, and located centrally in this chamber is a V-shaped damper D, the ends of the damper-shaft D' being journaled in the slots B³, produced in the end strips B', and one end of the damper-shaft extends through one side of the stove or furnace for the purpose of operating said damper.

In operation oil is permitted to flow into the trough or pan A and is then ignited, and the air passing around the sides of the pan or trough will be deflected by the plates B down into the trough or pan A and will there commingle with the oil. The flame passes up between the plates, and when the damper is in a central position, as shown in Fig. 1, the flame will be divided and will spread to all parts of the fire-chamber. In case, however, it is desired to deflect the flame to one side or the other the damper can be turned, so as to contact at one side with the face of the deflector-plate, and thereby direct the flame in the direction of the opposite deflector-plate.

In Fig. 2 I have shown the application of my invention to a steam-boiler furnace, and in this construction the damper is dispensed with and the burner comprises a series of troughs, each provided with a pair of deflector-plates. Furthermore, in arranging my burner in connection with a steam-boiler furnace I employ a common feed-pipe having a series of branch pipes, each burner trough or pan having a branch pipe leading thereto. The general construction, however, of the burner and the general operation are identically the same. The supply-pipe is not liable to become clogged, inasmuch as it is not subjected to the action of heat from the burner.

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

1. A hydrocarbon - burner comprising a trough or pan having supporting-feet at each end, the curved deflector-plates connected at their ends by means of strips adapted to rest
5 upon the trough, and the pivoted damper supported upon the end strips, substantially as shown and described.

2. A hydrocarbon - burner comprising a trough or pan having end supports, the curved
10 deflector-plates arranged centrally and longitudinally of the said trough or pan, the end strips to which the deflector-plates are connected, said end strips being cut away at their lower corners and slotted centrally at
15 their upper edges, and a V-shaped damper having the ends of its shaft journaled in the

said vertical slots, substantially as and for the purpose described.

3. In a hydrocarbon-burner comprising a trough or pan, of curved deflector-plates ar- 20 ranged longitudinally of the said trough, the inner edges of said plates being arranged adjacent to each other and to the center of the trough, said plates being curved upwardly and outwardly away from each other and the
25 strips connecting the ends of the plates and adapted to rest upon the sides of the trough, substantially as described.

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Witnesses:

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