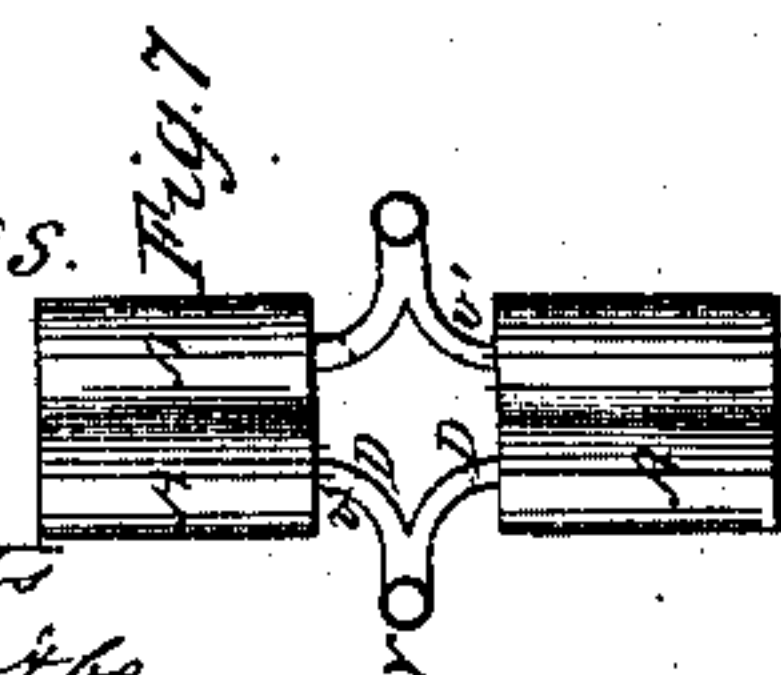
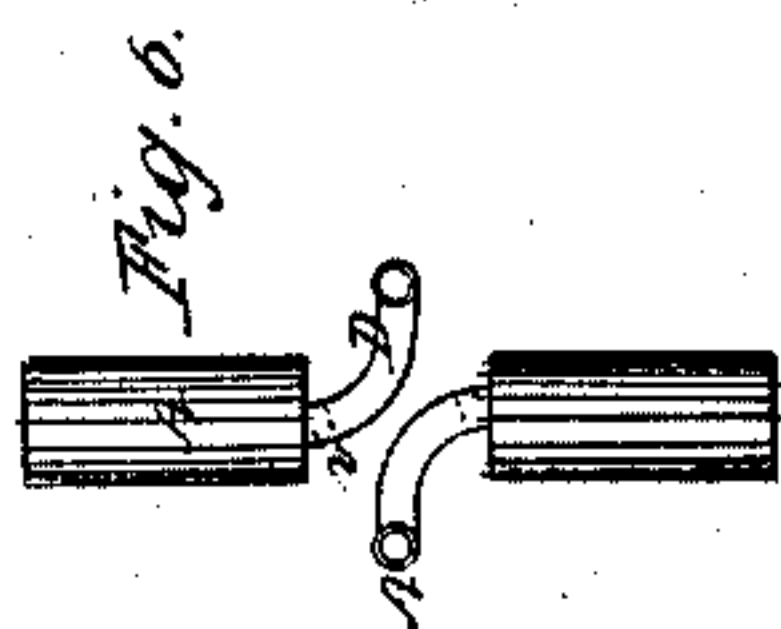
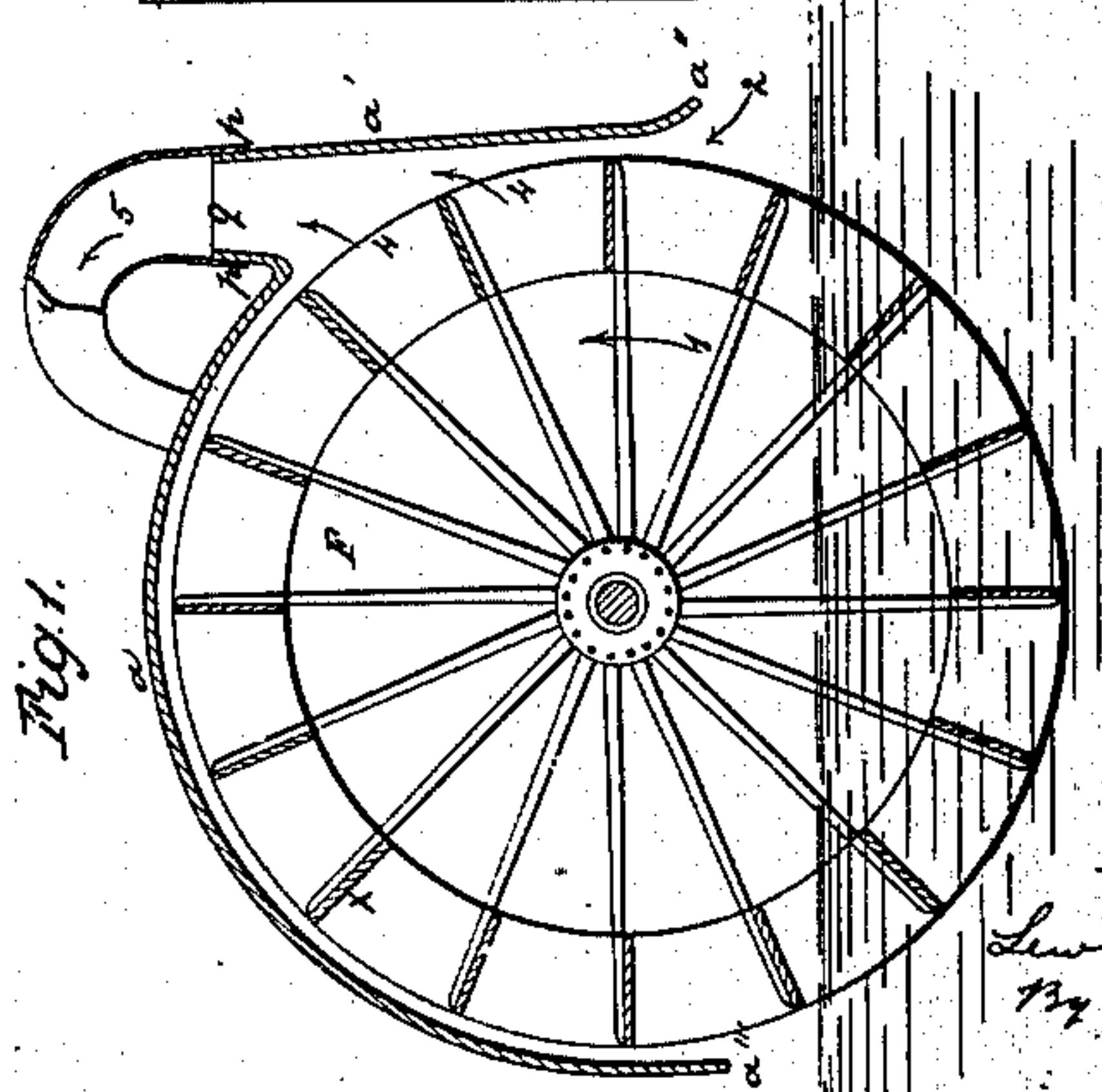
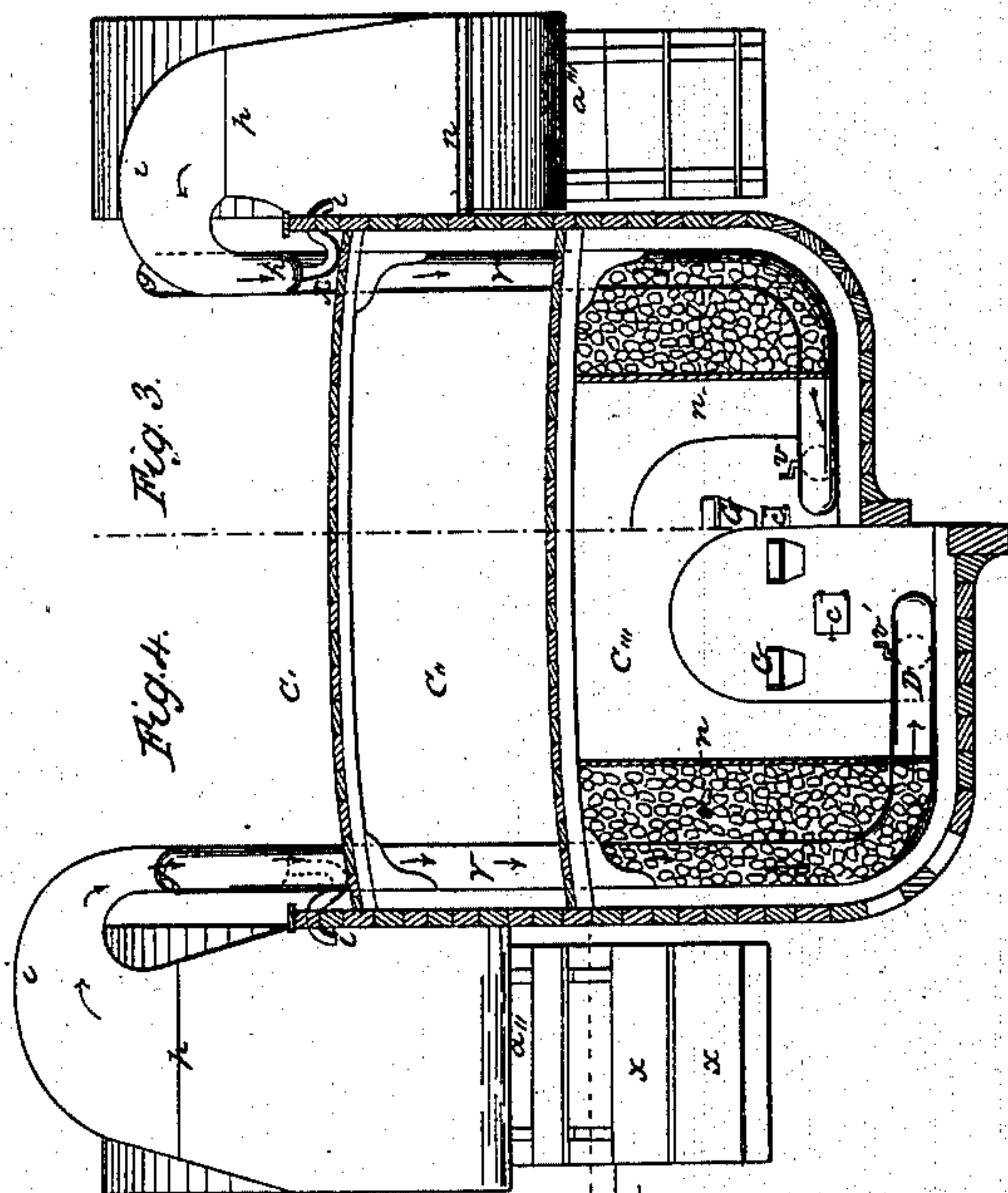
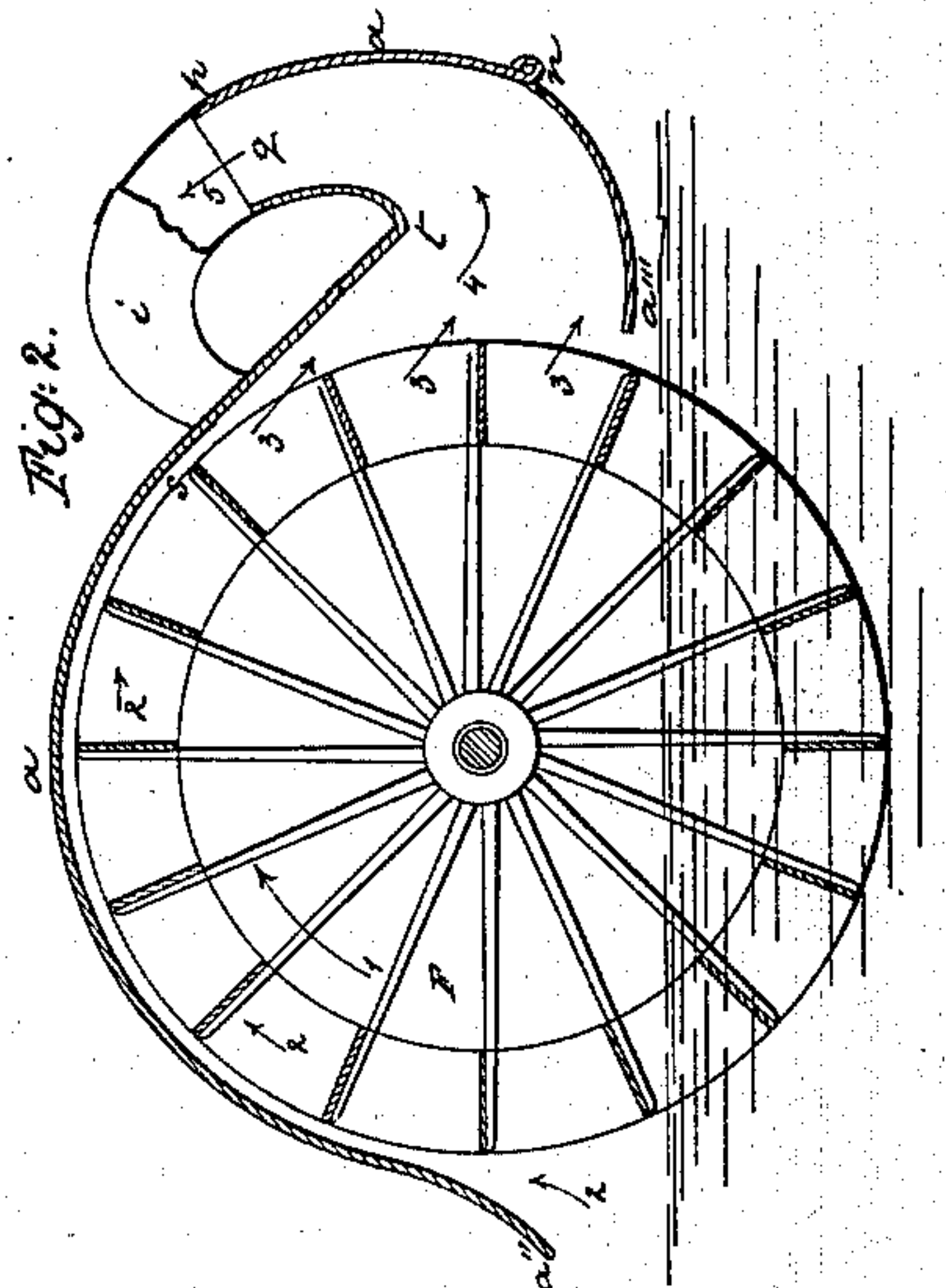
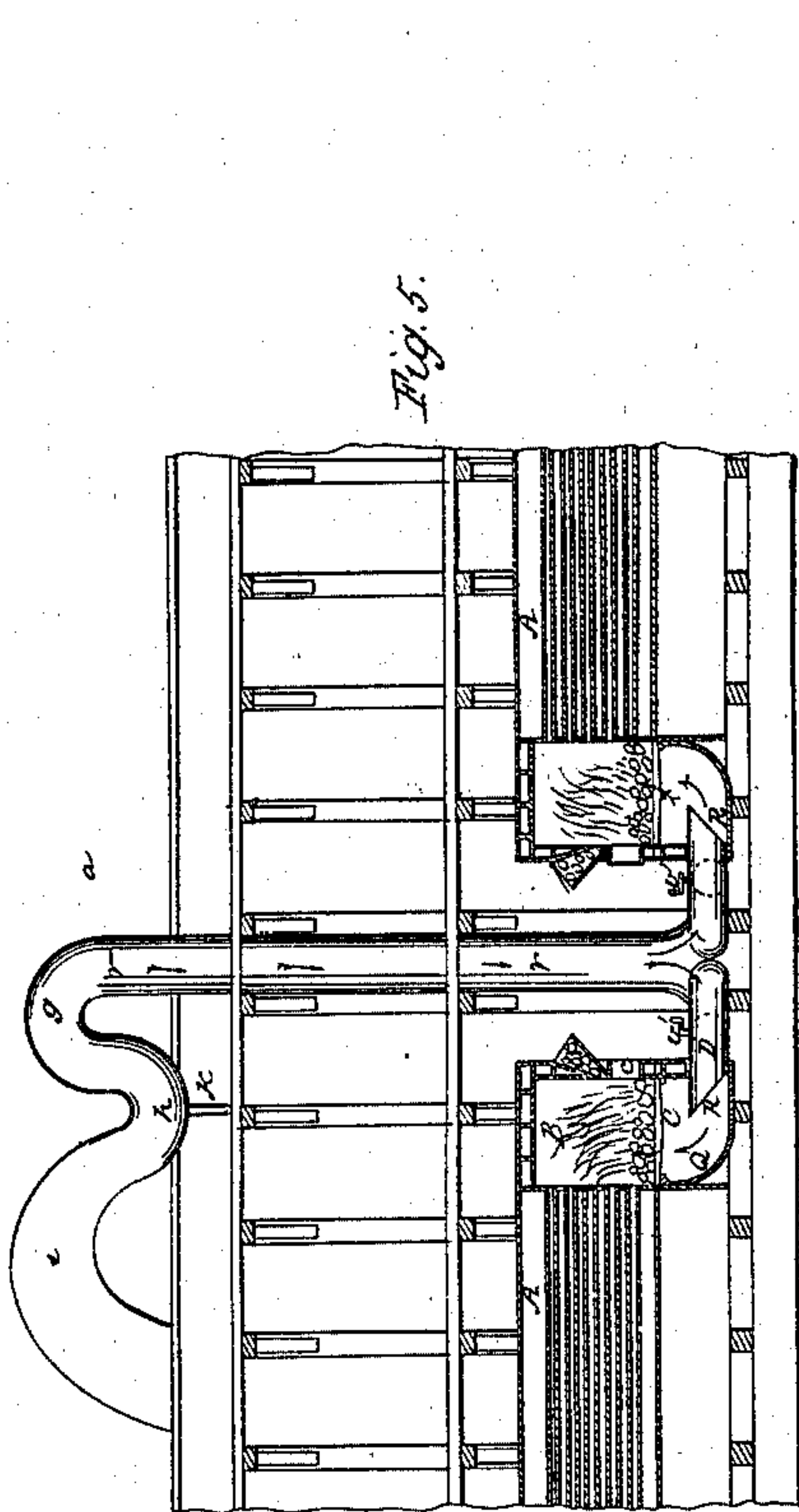


L. BRANDT.
SUPPLYING COMPRESSED AIR TO FURNACES ON STEAMERS.
 No. 26,470. Patented Dec. 20, 1859.



Witnesses:
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UNITED STATES PATENT OFFICE.

LOUIS BRANDT, OF INDIANOLA, TEXAS.

ARRANGEMENT FOR SUPPLYING AIR TO THE FURNACES OF STEAM-BOILERS FROM THE WHEEL-HOUSES OF STEAMERS.

Specification of Letters Patent No. 26,470, dated December 20, 1859.

To all whom it may concern:

Be it known that I, LOUIS BRANDT, of Indianola, in the county of Calhoun and State of Texas, have invented a new and useful Improvement in Supplying Air to Furnaces on Steamers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section of a paddle wheel with my improvement applied to it. Fig. 2 represents a similar section of a paddle wheel of a steamer, showing a slight modification of the plan represented in Fig. 1. Fig. 3 is a vertical cross section of a steamer, having my improvement applied to it. Fig. 4 is a similar view of a larger steamer. Fig. 5 shows a vertical longitudinal section of the steamer shown in Fig. 3. Figs. 6 and 7 are plan views showing the arrangement of the air ducts as adapted for large and small steamers.

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

The nature of my invention consists in supplying air under pressure, to the furnace or furnaces of steamers, by means of the paddle wheel and a peculiar curved pipe with water escape passage, leading down from the casing or housing of the same to the fire or under the grates of the furnaces, substantially in the manner hereinafter described. By this arrangement, the paddle wheel itself is made to act as the fan or blower for supplying the air under pressure to the furnaces, and thus all auxiliary devices for accomplishing this object dispensed with.

To enable others, skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

A, A, represent the steam boilers of a ship; B, B, the furnaces of the same; C, C, the grates; Q, Q, the ash-pits with curved backs; F, F, paddle wheels with blades X, X, and arranged on the sides of the steamer, as usual.

a, is a casing or housing arranged so as to cover the paddle wheels in the usual manner. The lower part of each housing is made of trumpet shape, or somewhat flaring, so as to allow free ingress of air as the

wheels revolve. In the top of this casing, an opening *q*, is formed, into or over which the curved end of a hollow pipe V, fits, as represented in the drawing. The pipe V, which is provided on each of the housings, leads down through the decks of the boat and communicates by means of branches D, D, with two or more furnaces, said branches extending into the ash pit, as represented in Fig. 3, and are provided with valves *v' v'*, so as to regulate the discharge of air to the fire. At a point between the opening *q*, in the wheel house and the point *r*, an S shaped bend is formed in the pipe V, as designated by the letters *g, h*; this bend has at *h*, a discharge passage *k, l*, as represented in Figs. 3, 4, and 5.

From the foregoing description of parts it will be seen that if the wheels F, revolve in the direction of the arrows the air within the housings *a, a*, will be displaced and forced around in the casing to the passage *q*, and that owing to this displacement, a suction will be caused behind the wheel, and a fresh supply of air drawn in at the flaring parts *a²*, of the housing, and the air which was first displaced caused to pass through the pipes V, V, and the branches D, D, as illustrated by the arrows, to the furnaces B, B, and thus supply the same with a sufficient quantity of oxygen to keep up perfect combustion. In case the wheels, in their rapid revolutions, lift water and force the same along with the air into the pipes V, V, said water, owing to the S shaped bend *g, h*, will escape through the pipes *k, l*, before it arrives in the vertical portions of the pipes leading to the furnace and thus any disadvantage from passage of the water into the furnaces, avoided.

What I claim as my invention and desire to secure by Letters Patent, is—

Supplying air under pressure to the furnace or furnaces of steamers by means of the paddle wheel and the peculiar curved pipe with water escape passage leading down from the casing or housing of the same, to the fire or under the grates of the furnaces, substantially as and for the purposes set forth.

LOUIS BRANDT.

Witnesses:

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