

(No Model.)

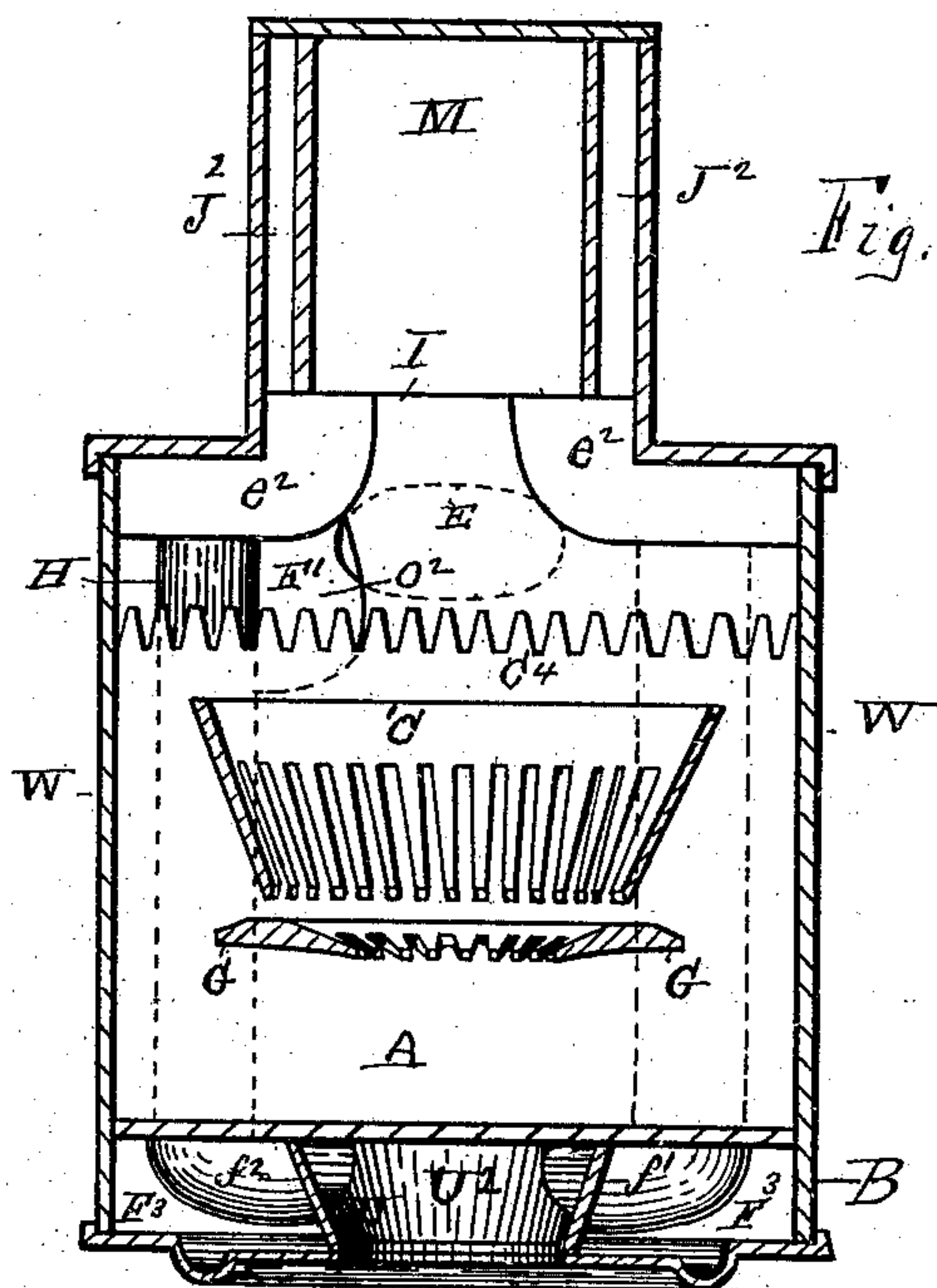
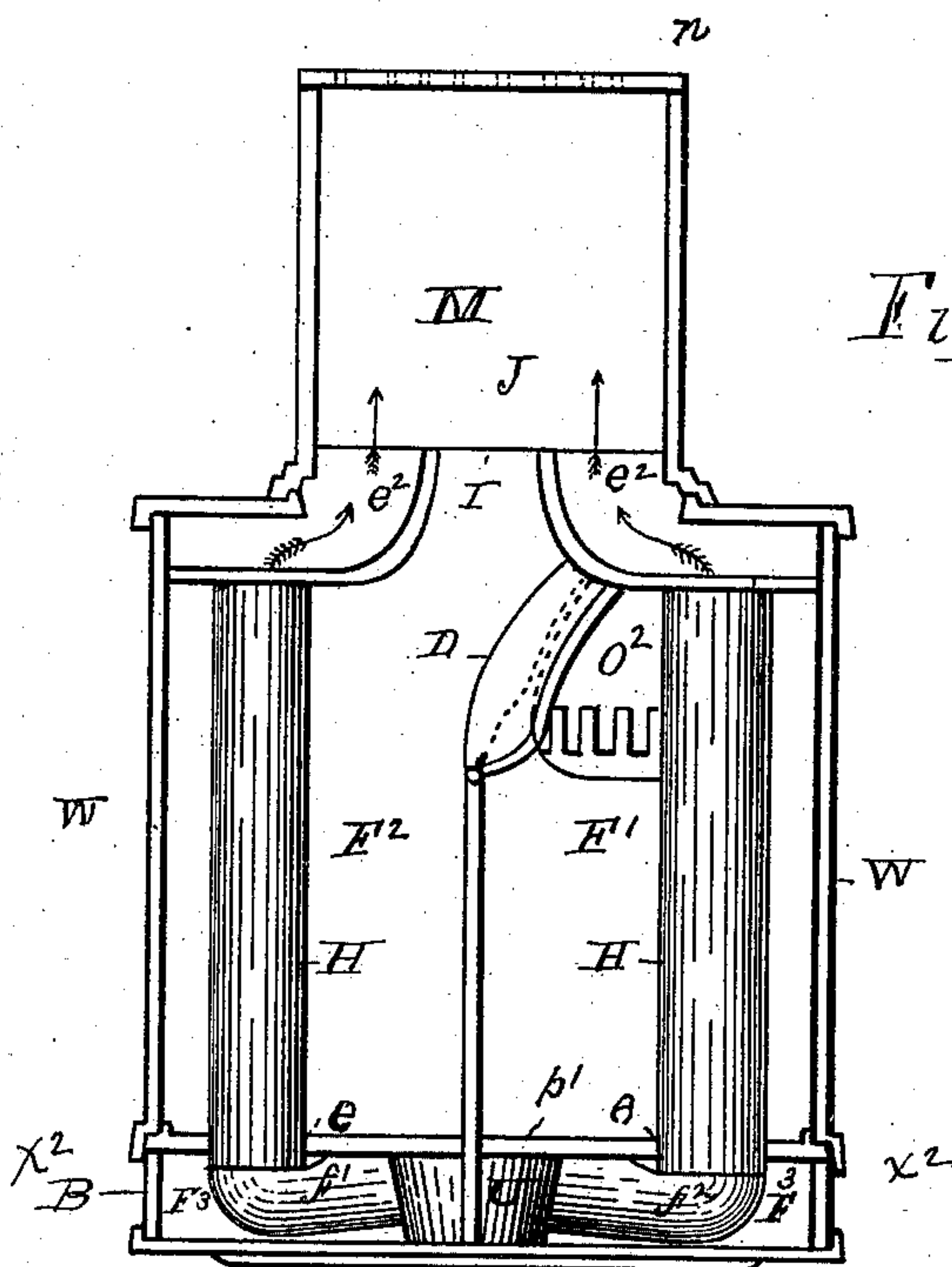
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E. BUSSEY.

PARLOR STOVE.

No. 373,127.

Patented Nov. 15, 1887.



WITNESSES
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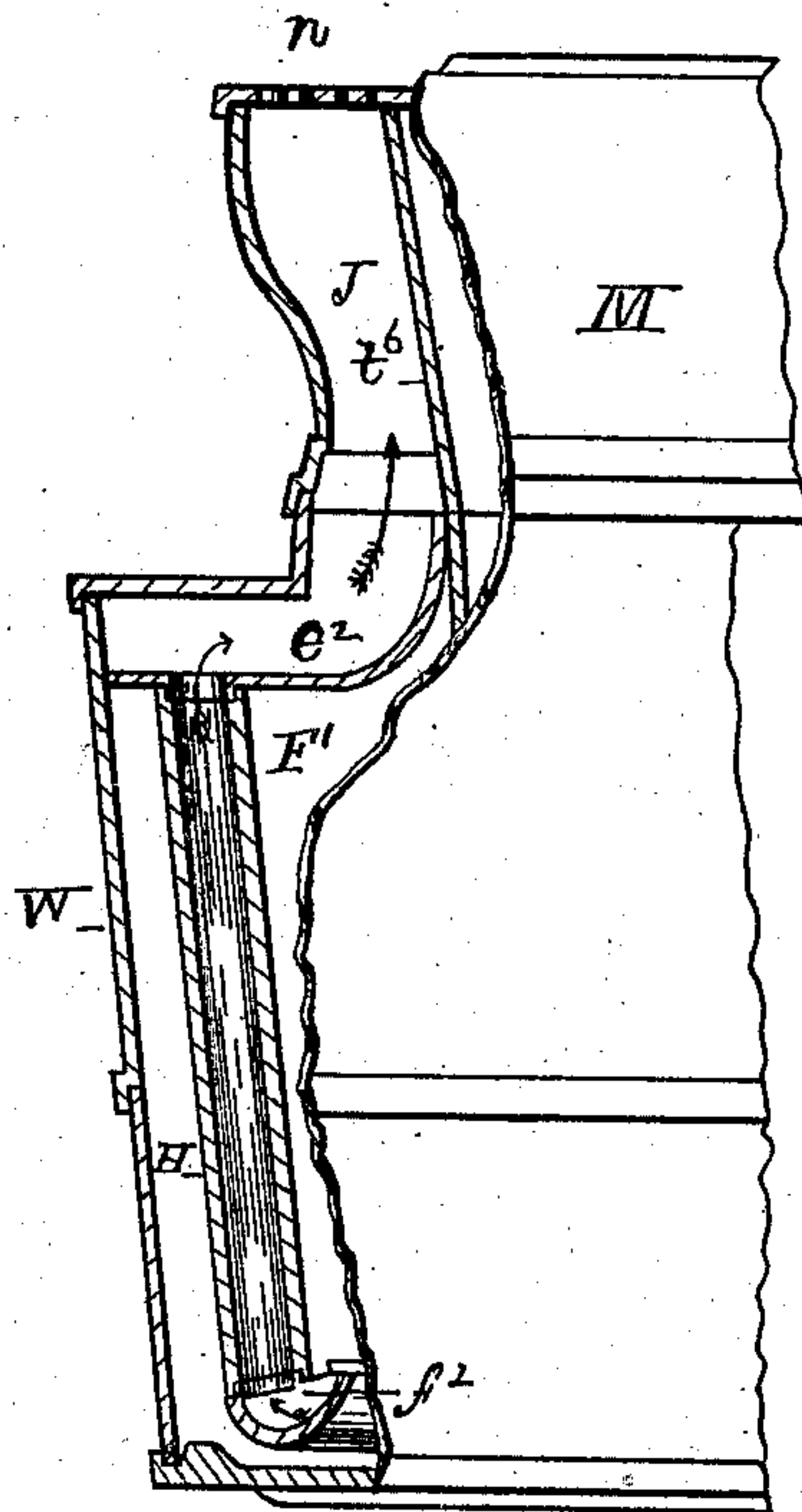
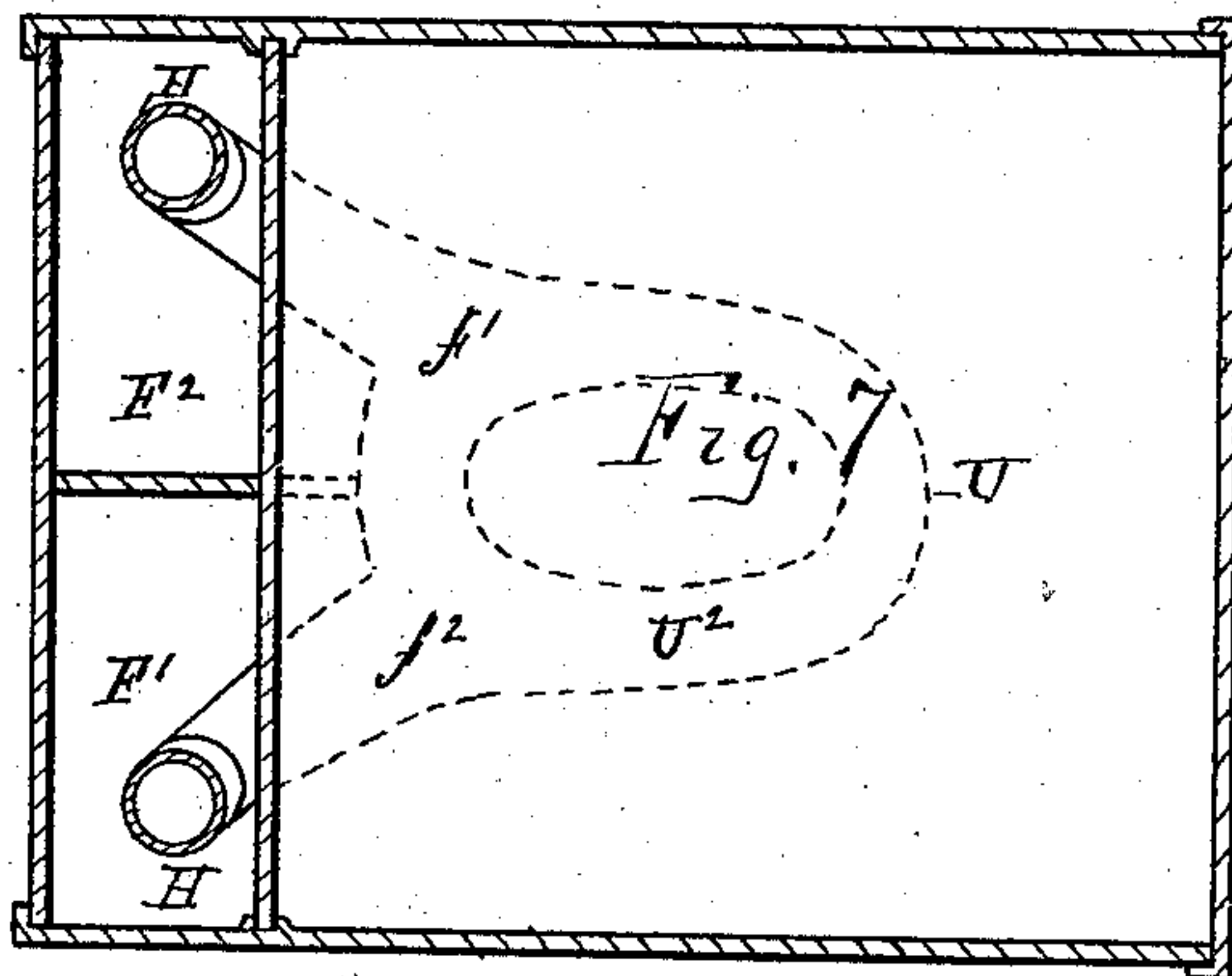


Fig. 3



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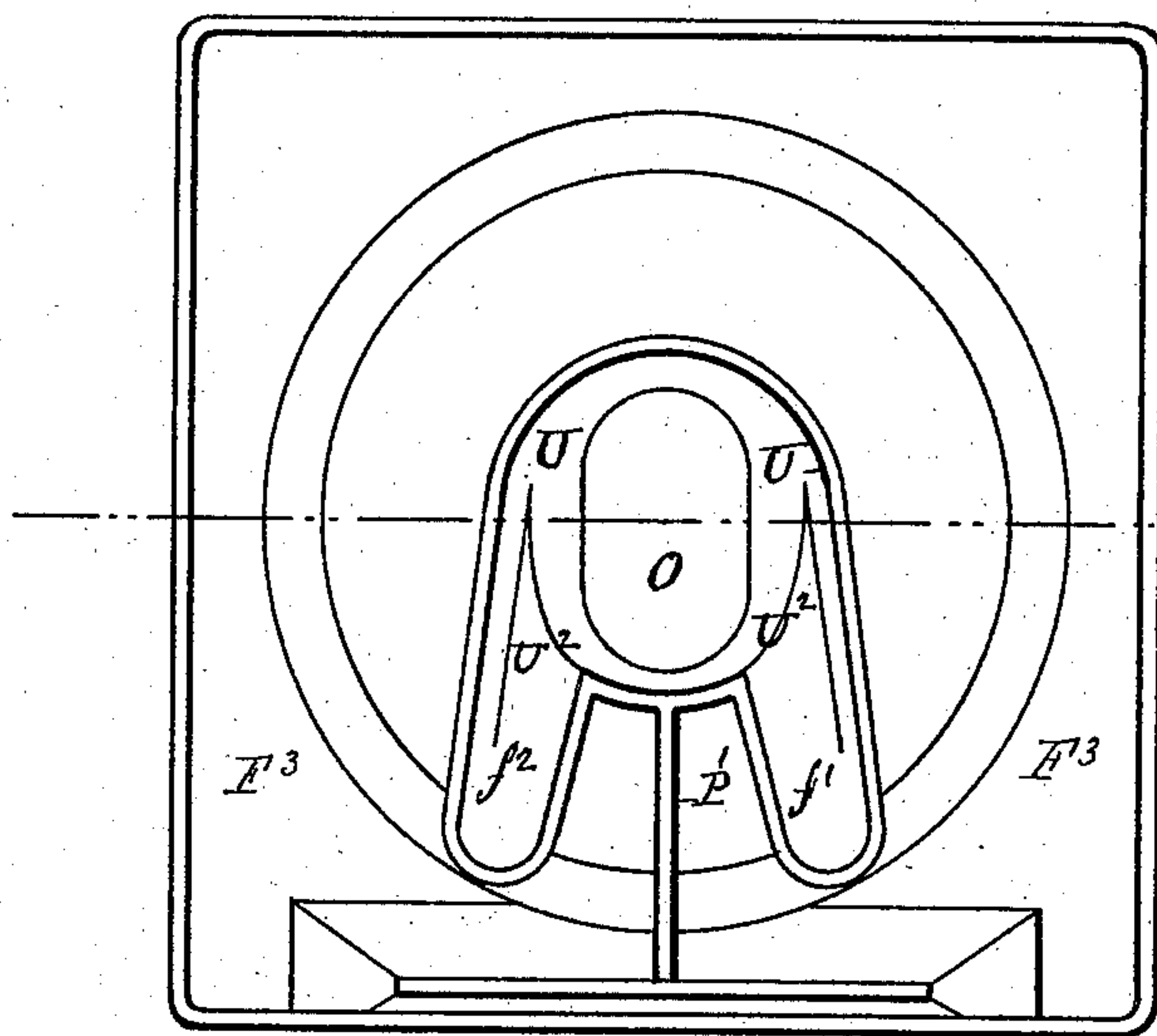


Fig. 4

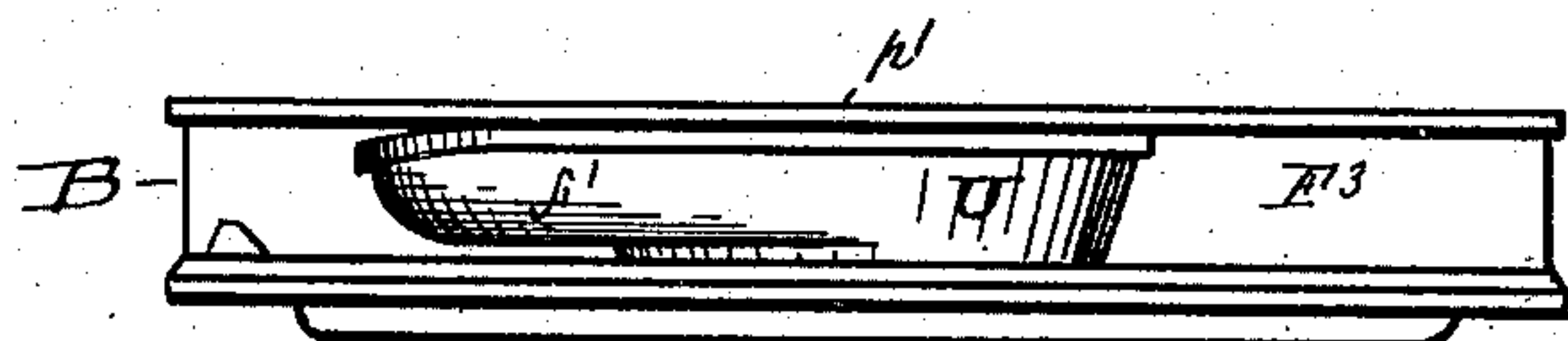


Fig. 6

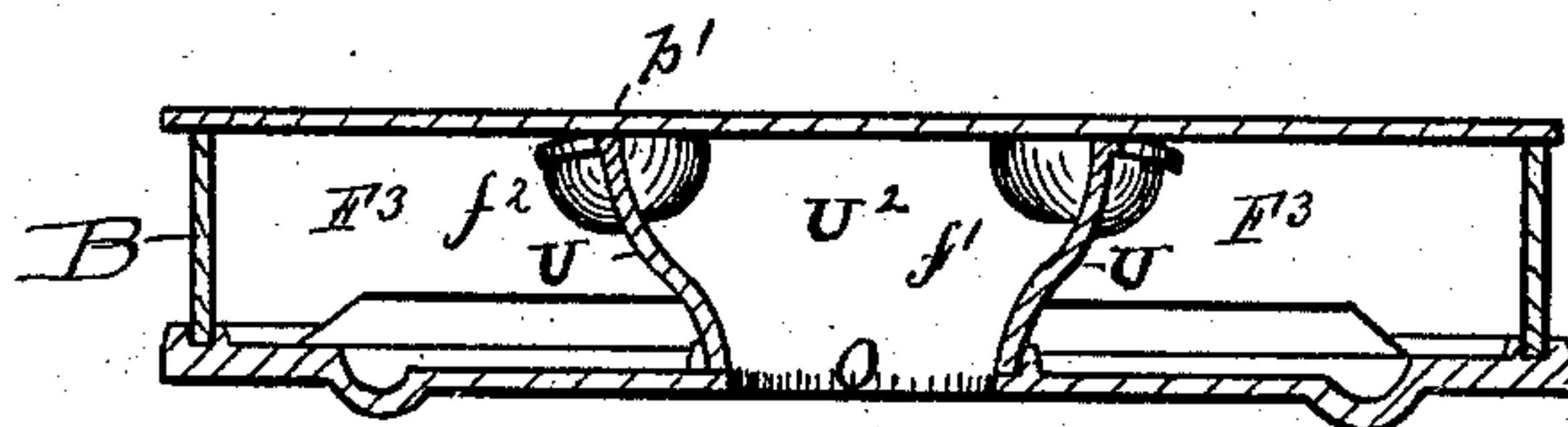


Fig. 5

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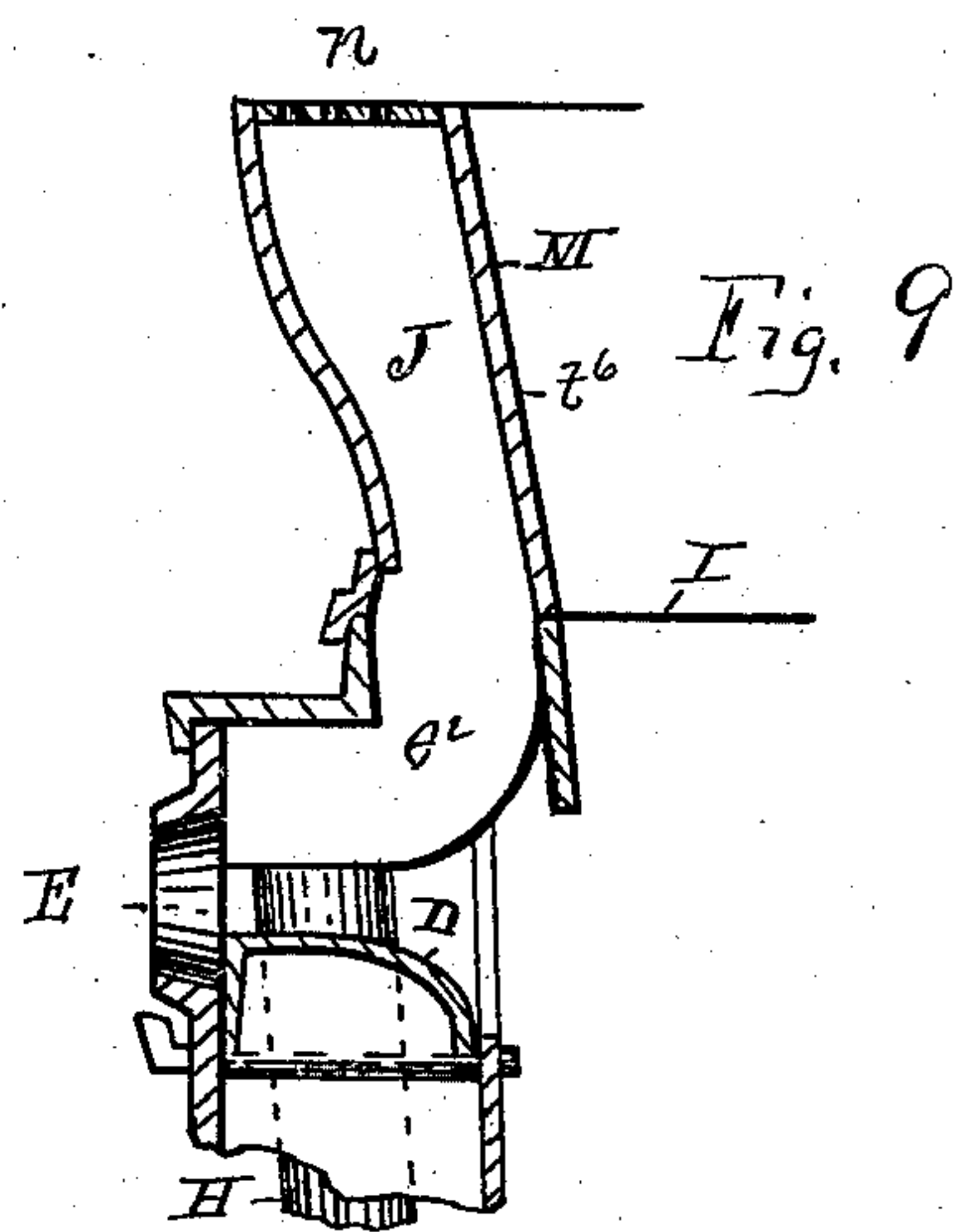
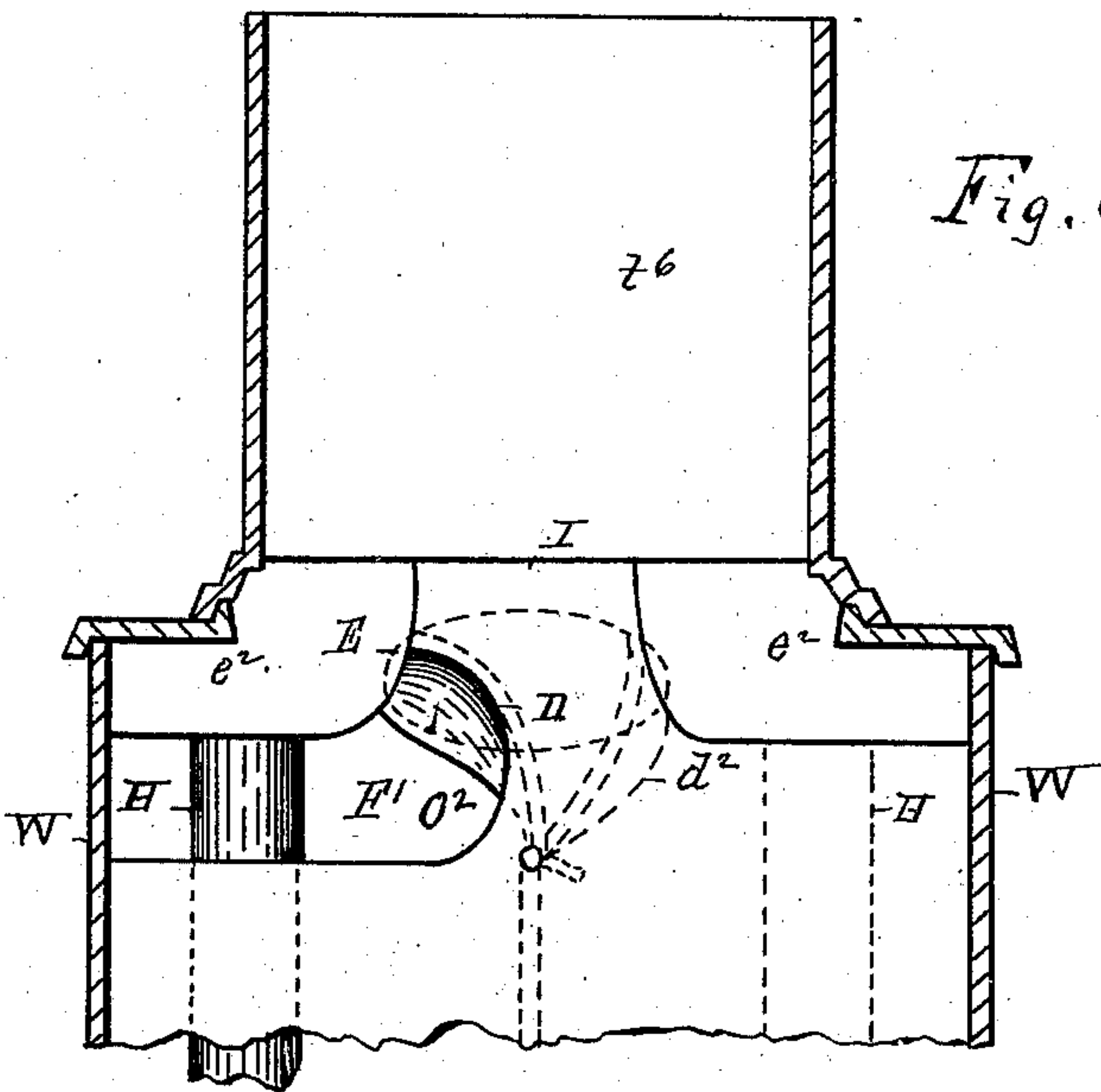
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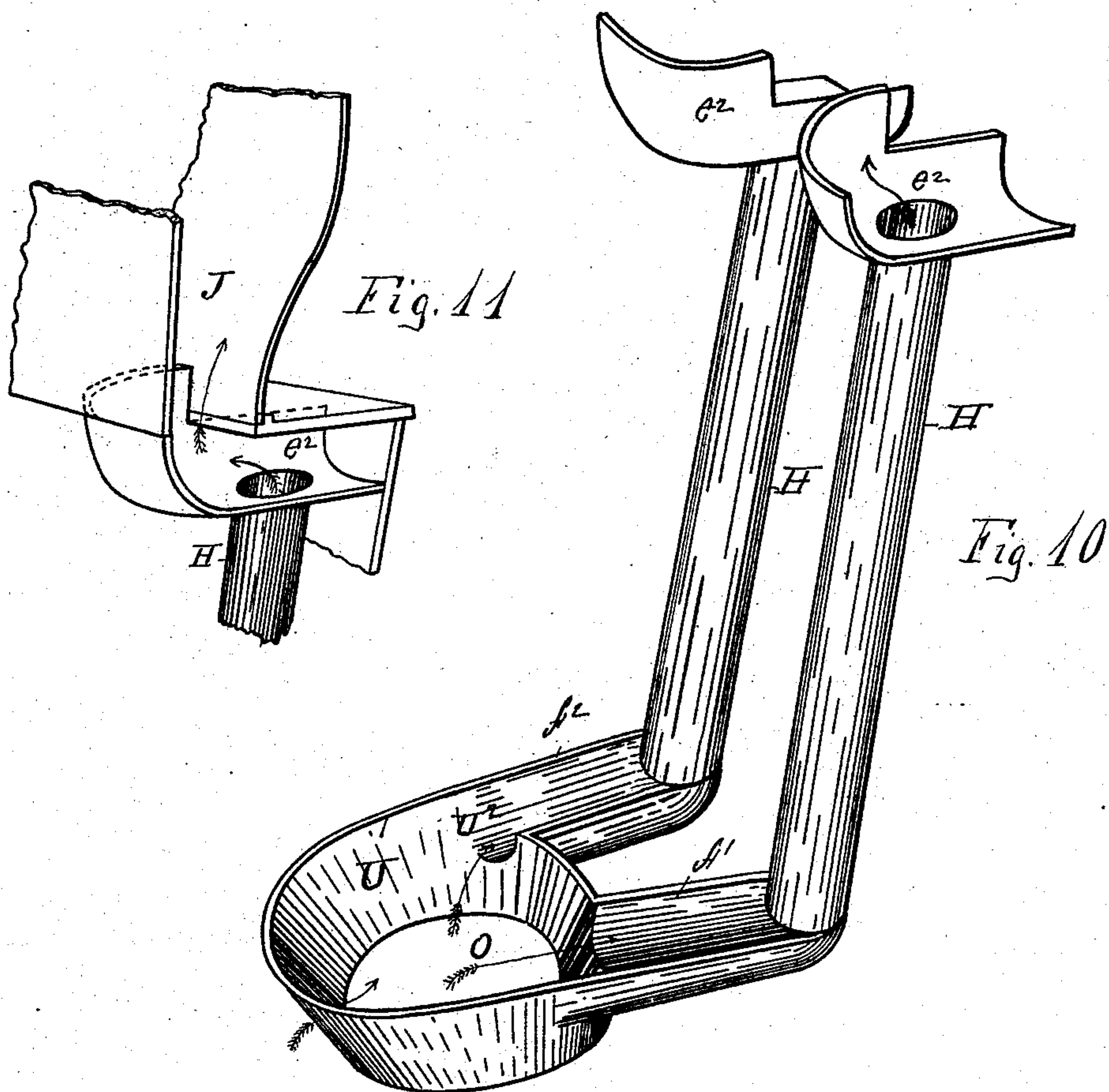
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UNITED STATES PATENT OFFICE.

ESEK BUSSEY, OF TROY, NEW YORK, ASSIGNOR TO THE BUSSEY & McLEOD STOVE COMPANY, OF SAME PLACE.

PARLOR-STOVE.

SPECIFICATION forming part of Letters Patent No. 373,127, dated November 15, 1887.

Application filed November 15, 1886. Serial No. 218,907. (No model.)

To all whom it may concern:

Be it known that I, ESEK BUSSEY, of the city of Troy, county of Rensselaer, State of New York, have invented new and useful Improvements in Parlor-Stoves, of which the following is a specification.

My invention relates to improvements in parlor stoves; and it has for its object the utilization of hot-air flues arranged within the stove, by which currents of air are taken from the room at the bottom of the stove, are carried up through the latter in flues, to be discharged from the top of the stove in a highly-heated condition, to thus more rapidly heat the air of the room than when radiation from the exterior walls of the stove is alone used for that purpose.

Where the radiating capacity of the exterior surfaces of the stove alone are used for heating the air of the room in which the stove is placed the circulation of the air and heat is limited in the area of its operation. Where a current of air is taken from the room to be passed through hot-air flues within the stove, and when heated discharged into the room, the rapidity of the heat-circulating capacity and its distributing area is increased.

My improvement upon the older method of utilizing an interior part of the stove for hot-air flues consists (as will be more fully described hereinafter in connection with its illustration, and detailed in the claim) in the combination with the interior vertical flues of the stove of hot-air flues arranged therein adapted to connect with the air of the room at the bottom of the stove and to discharge the heated air from the top of the stove, and thus to dispense with using the capacity of the exterior radiating-surfaces of the stove to heat these hot-air currents.

Accompanying this specification and forming a part thereof are five sheets of drawings containing eleven figures illustrating my invention, with the same designation of parts by letters of reference used in all of them. Of these illustrations, Figure 1 shows a view of the rear of the stove, with the back plate of the stove removed to show the position of the rear vertical flues of the stove, and the hot-air pipes arranged therein to show the connection made at the top and bottom of said hot-air

pipes. Fig. 2 is a central vertical section of the stove, taken from side to side, with what is the front of the section turned toward the sight. Fig. 3 is a vertical section taken centrally through one of the rear vertical flues from front to rear, and also through one of the hot-air pipes placed therein, and showing the elbow by which the hot-air pipes connect with a chamber at the rear of the magazine. This figure further illustrates the connection made between the vertically-arranged part of the hot-air pipe and the air-supplying flue in the stove-base. Fig. 4 is a plan view of the stove-base with the top plate removed. Fig. 5 is a cross-section of the base taken on the line $x' x'$ of Fig. 4. Fig. 6 is a side view of the stove-base with the side wall removed. Fig. 7 is a transverse section taken on the line $x^2 x^2$ of Fig. 1. Fig. 8 is a vertical section of a part of the stove, taken from side to side, illustrating the position of the usual rear vertical hot-air flues and a part of the hot-air flues and the relative position of the damper and the exit-pipe. Fig. 9 is a section taken from front to rear of the damper of the exit-pipe, and showing the connection between the combustion-chamber and the exit-flue. Fig. 10 is a perspective of the hot-air flues shown as removed from the stove, and also showing a part of the elbows of each pipe, by which they connect at their upper ends with a chamber at the back of the magazine. Fig. 11 is a perspective of the upper end of one of the hot-air flues and its connection with the chamber or flue at the back of the magazine.

The several parts of the stove thus illustrated, as well as those containing my invention, are designated by letter-reference, and the function and operation of the parts are described as follows:

The letter C designates the fire-pot in which the fuel is burned; G, the grate at the bottom of the fire-pot; W, the outer walls of the stove; A, the ash-pit; M, the magazine, and $F' F^2$ the rear vertical flues.

F^3 designates the base-flue, with which the bottom ends of each of the vertical flues $F' F^2$ connect.

The letter P' designates the dividing vertical plate of the base-flue.

The rear vertical flues, $F' F^2$, are arranged

in the body part of the stove that rearwardly and laterally projects beyond the magazine-section of the stove.

The letter D designates a damper that is 5 hinged on a line that is at right angles to the stove-front, and this damper, when turned up, as indicated by the dotted line d^2 , allows the heat to pass directly to the exit-pipe E, and when this damper is closed, as shown at Fig. 1c 1, it causes the heat coming from the fire-cylinder to pass down into and through the descending vertical flue F^1 , to enter the base-flue, F^3 , moving therein around the vertical plate P^1 and U-form plate U, to enter the ascending vertical flue F^2 , from whence it passes 15 back of the damper D to the exit E.

The U-form flue-plate U is arranged within the base B, and has an opening, O, which extends downwardly through the bottom of the 20 base for the admission of air. Where extended rearwardly the concave plate U is divided into two horizontal flue parts, $f^1 f^2$, the lower surface of both of which in each part is downwardly concave, with the rear ends of 25 each of these two flue parts rounded up, to each connect with one of the hot-air flues H, through openings e , made in the base top plate, p^1 , which latter plate roofs in the concavity of the U-form plate to form the air-flue U^2 and that 30 of its divided parts $f^1 f^2$, so as to produce flue-inclosures therein. Each of these hot-air pipes H H is extended upward and through one of the vertical flues $F^1 F^2$, so as to pass through and out of them as separate inclosures 35 from the latter, each of said hot-air pipes, by means of an elbow, e^2 , connecting with the chamber J at the back of the reservoir or magazine, from the top of which chamber J the heat escapes by apertures n into the room 40 wherein the stove is placed, or into a conduit-pipe, whereby the heat may be carried to a room above.

The letter J^2 indicates a chamber at the front and sides of the magazine, which chamber is 45 separated from the chamber J by means of a vertical partition, t^6 .

The operation of the fire-pot, combustion-chamber, rear vertical flues, and direct and base draft is the same as in the ordinary stoves 50 of this class, and to a stove thus constructed I apply the means which I illustrate and de-

scribe to heat a current of air by passing the same up within the rear vertical flues of such a stove inclosed and in pipes separate from 55 said flues, but arranged within them.

The operation of the hot-air pipes thus arranged within the rear vertical flues is as follows: Air entering the flue U^2 through the bottom of the latter and the bottom of the stove-base divides in two currents, one of them 50 passing upwardly through that one of the hot-air pipes H which is arranged within the vertical flue F^1 , and the other current moving upwardly through the other hot-air pipe that is within the vertical flue F^2 . The two cur- 65 rents of hot air both enter the chamber J, from which chamber they pass, as before described, and while moving through the hot-air pipes H, arranged within the flues $F^1 F^2$, the air is heated by the hot air and gases coming from the fire and passing through the latter without taking heat from the usual radiating capacity of the stove exterior, and by 70 which adaptation of means a great improvement is made upon older devices for the same 75 purpose.

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

The combination, with the stove casing provided with rear vertical flues, $F^1 F^2$, and a covered base, B, of the hot-air-flue plate U, formed with an air-opening, O, and convex converging flue parts $f^1 f^2$, arranged within the base, 80 with the upper edges against the under surface of the cover of the base, and the vertical hot-air pipes H H, arranged within the vertical flues of the stove, with their respective lower ends projecting through the cover of the base and connected with the ends of the flue- 90 parts $f^1 f^2$ and their upper ends opening through the tops of the vertical flues of the stove, substantially as described, and for the purpose stated.

Signed at Troy, New York, this 4th day of 95 August, 1886, and in the presence of the two witnesses whose names are hereto written.

ESEK BUSSEY.

Witnesses:

CHARLES S. BRINTNALL,
GEO. A. DARBY.