

No. 698,478.

Patented Apr. 29, 1902.

J. B. EHRLICH.

COMBINED HOT BLAST AND SMOKE CONSUMER.

(Application filed Dec. 16, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

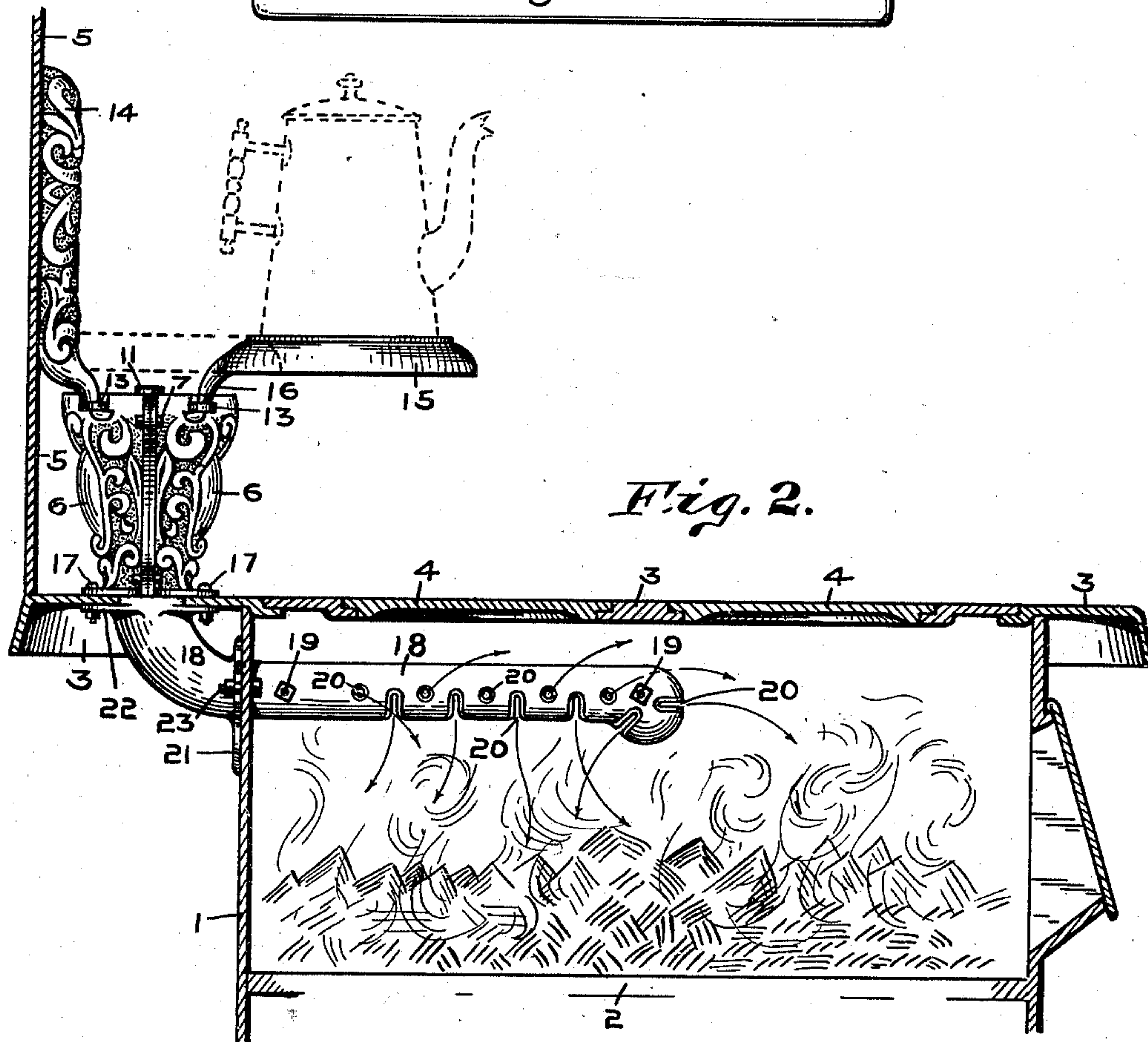
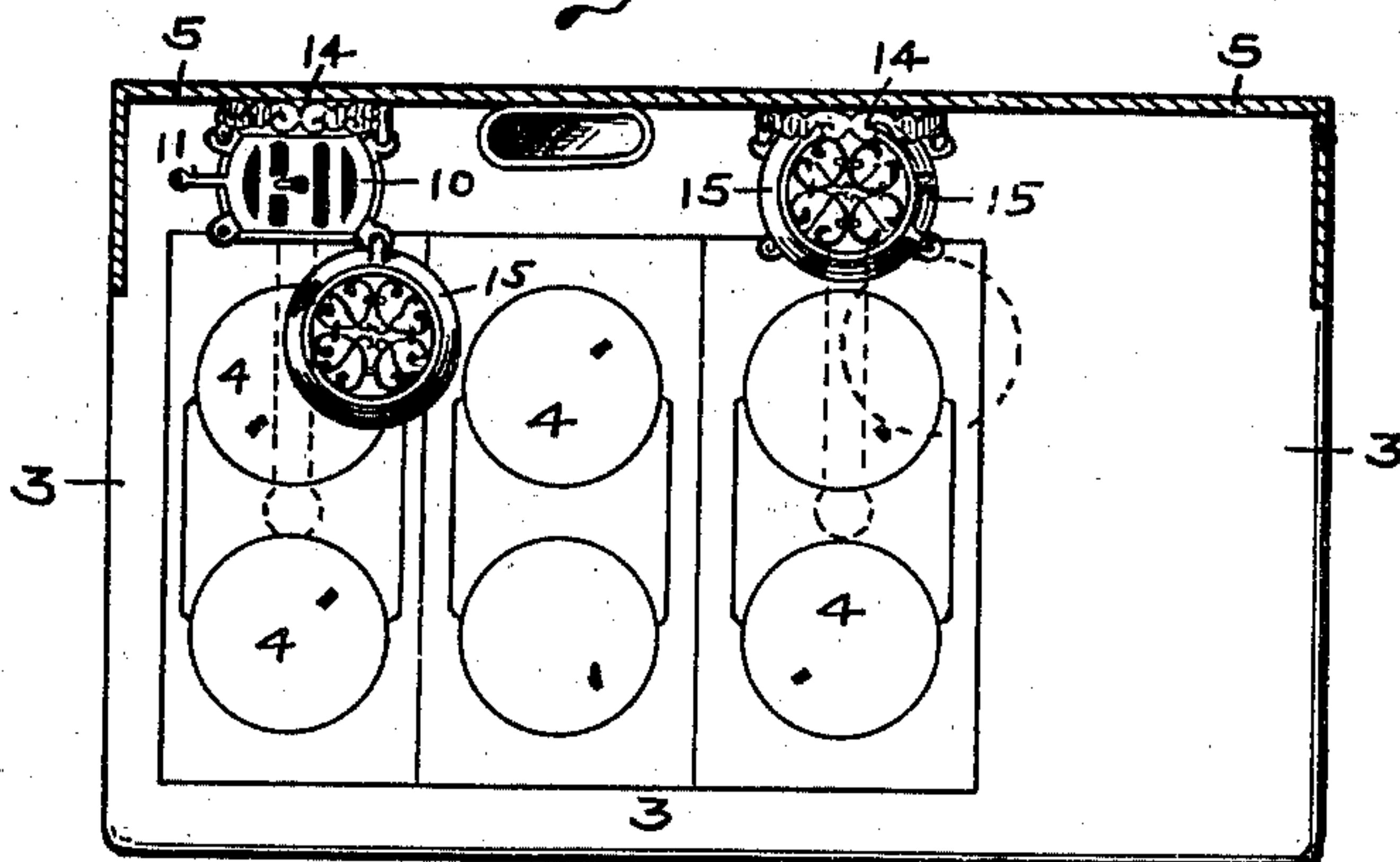


Fig. 2.

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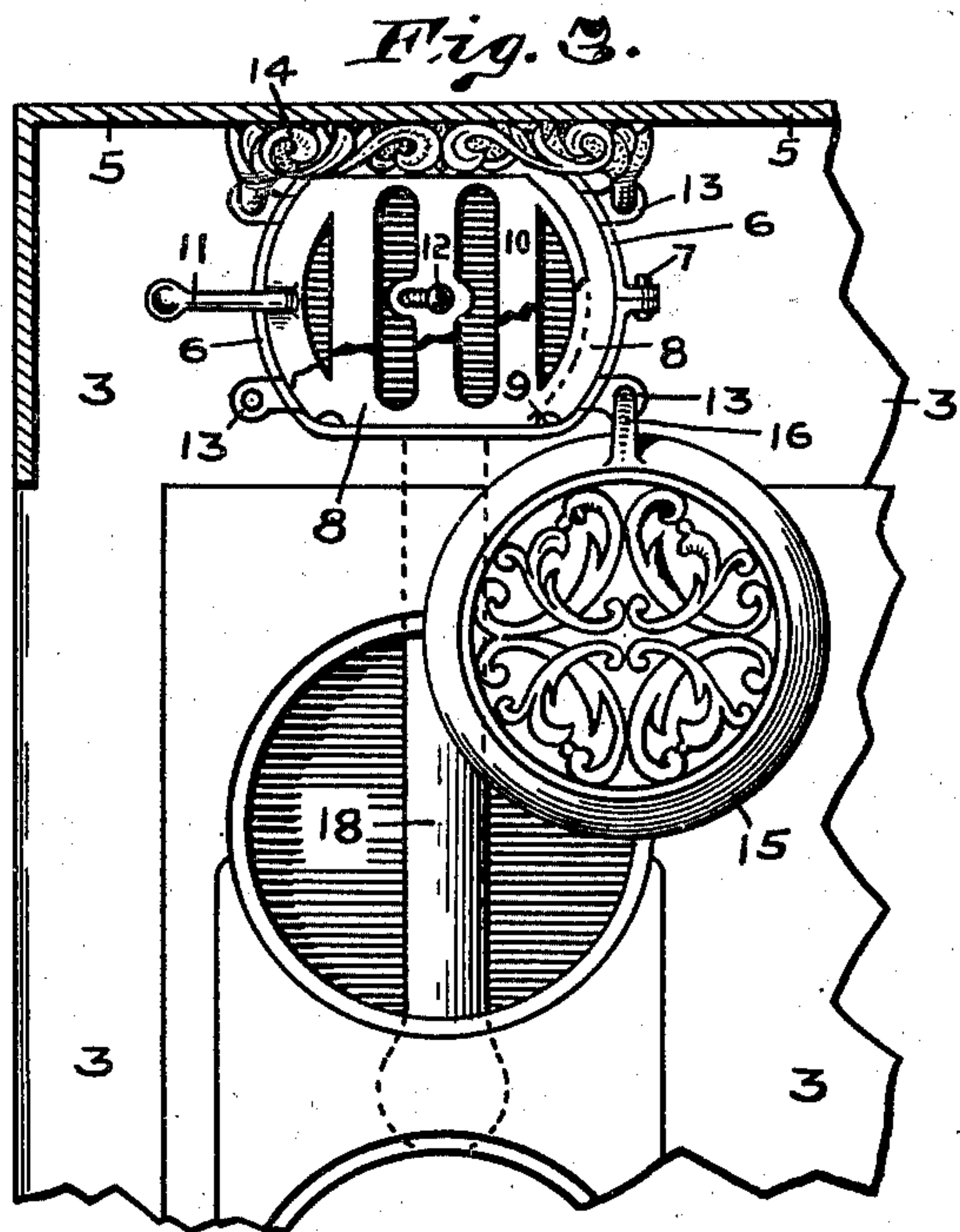


Fig. 6.

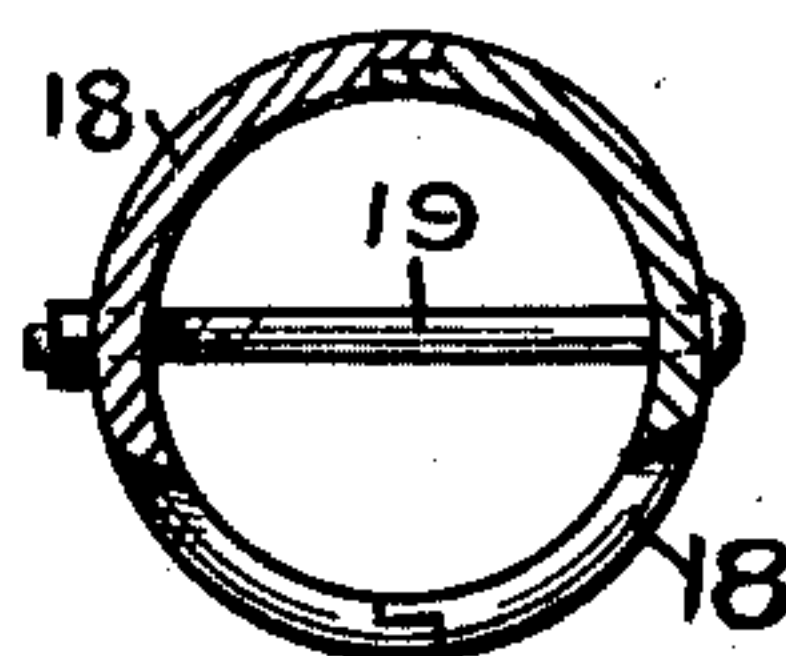
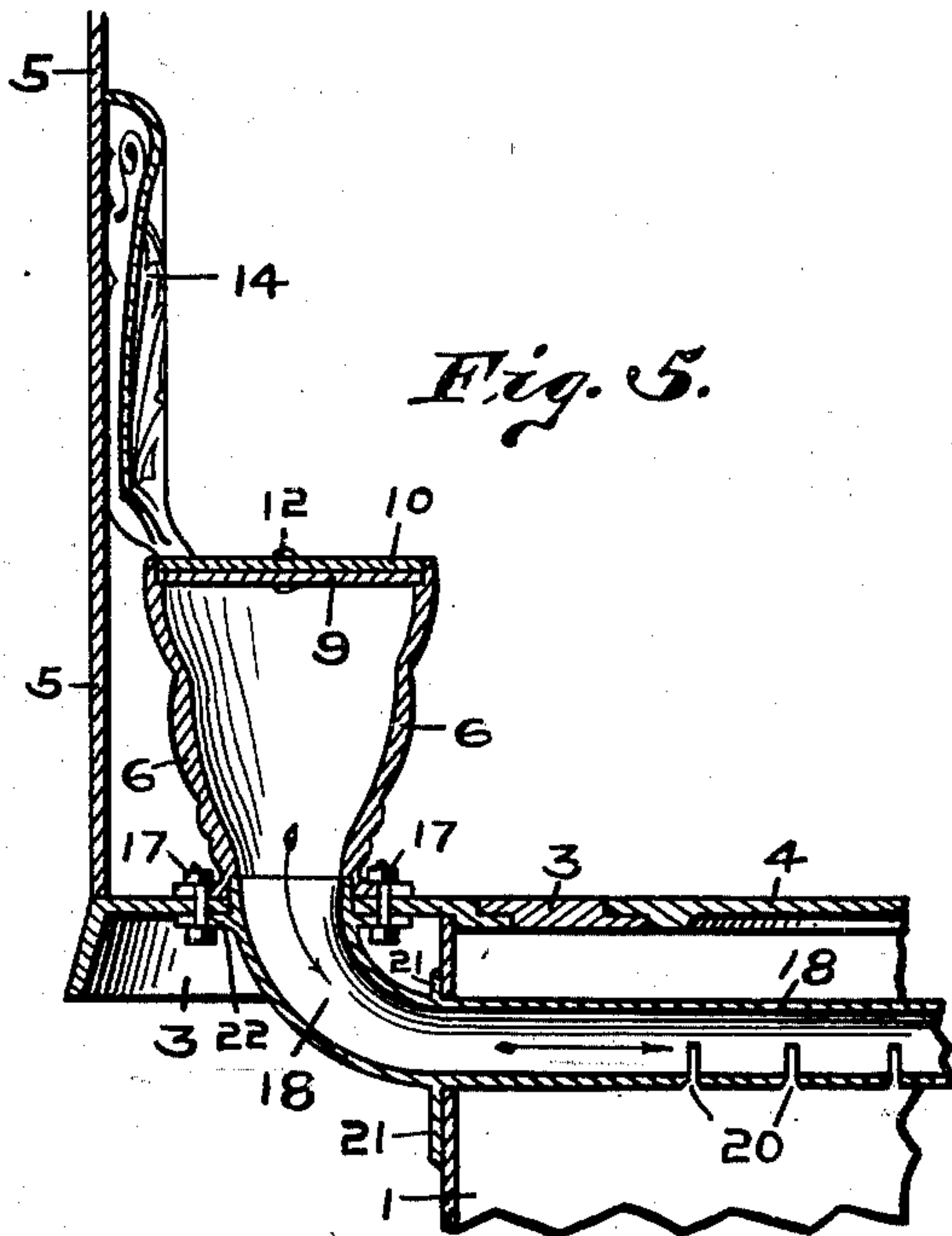
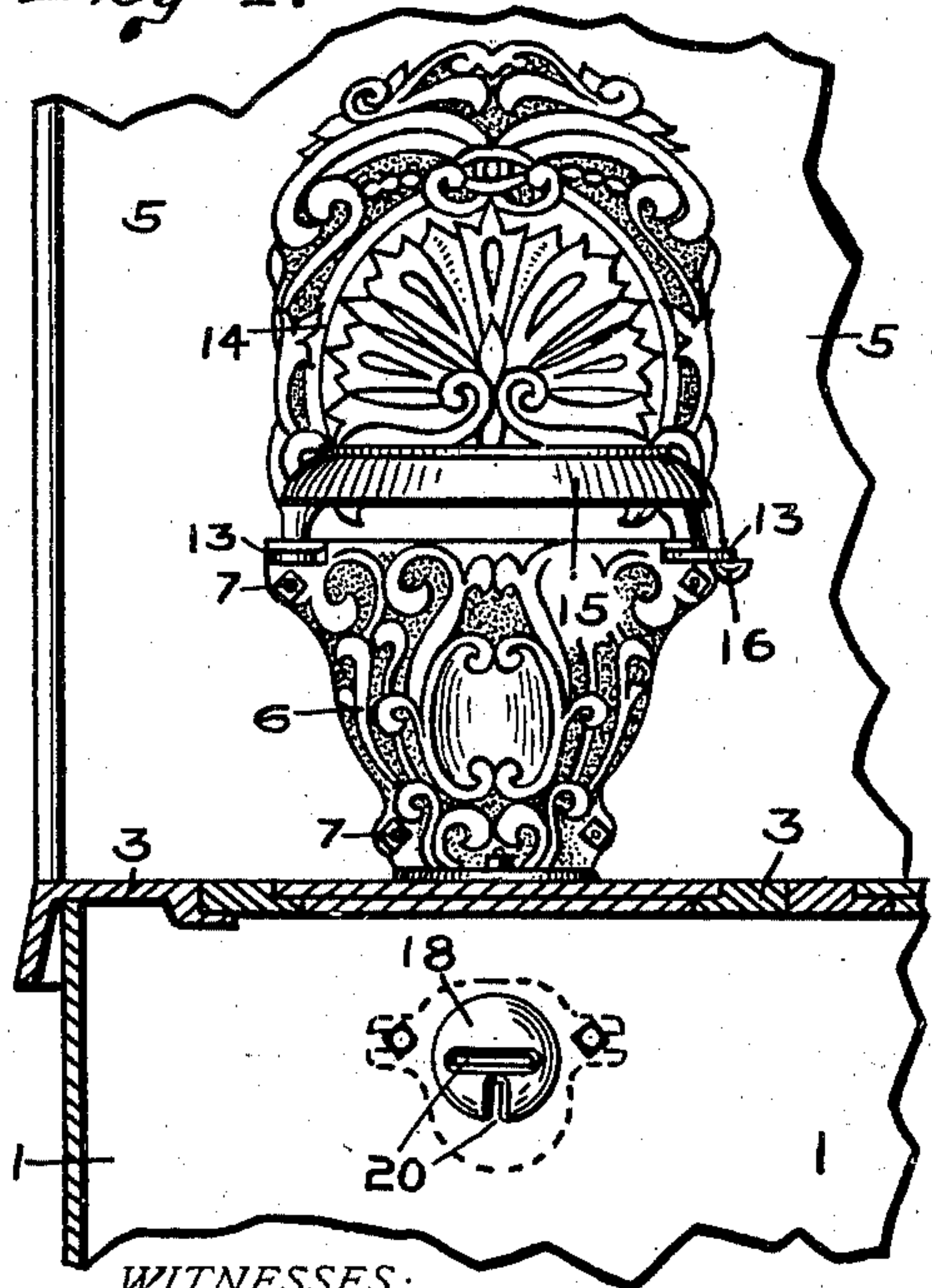


Fig. 4.



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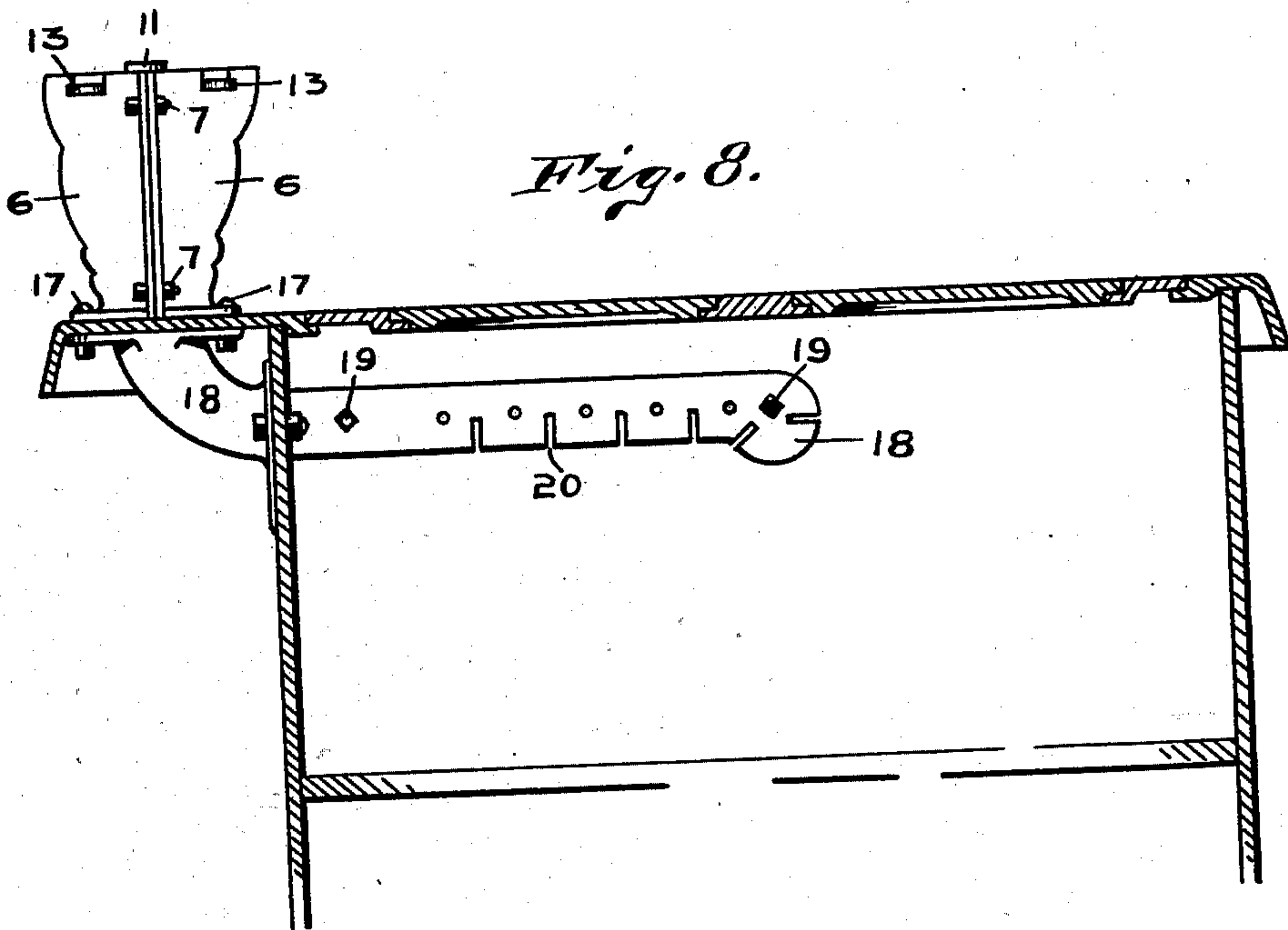
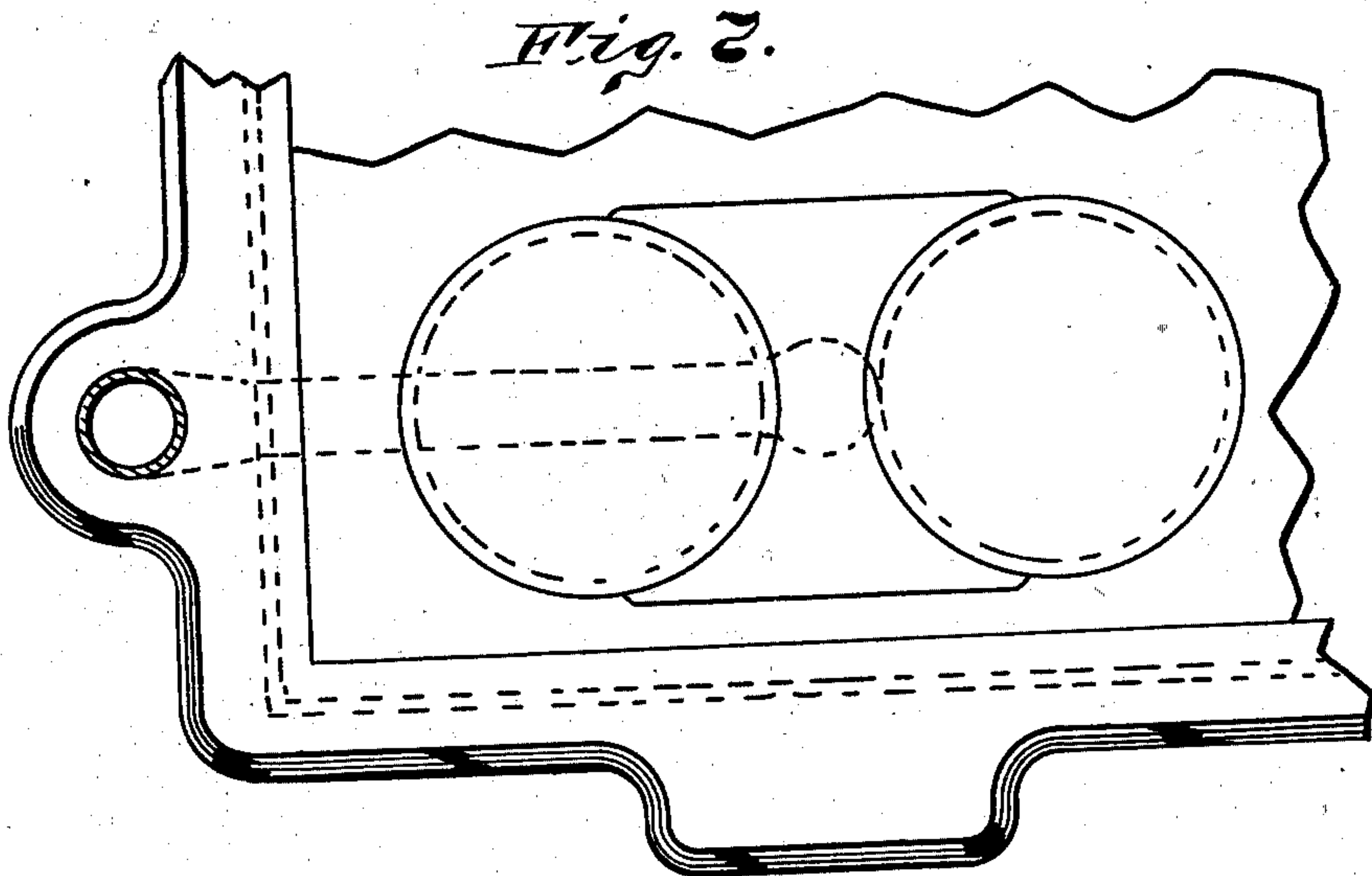
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UNITED STATES PATENT OFFICE.

JOHN B. EHRLICH, OF INDIANAPOLIS, INDIANA.

COMBINED HOT BLAST AND SMOKE-CONSUMER.

SPECIFICATION forming part of Letters Patent No. 698,478, dated April 29, 1902.

Application filed December 16, 1901. Serial No. 86,151. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. EHRLICH, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in a Combined Hot Blast and Smoke-Consumer, of which the following is a specification.

The object of my invention consists in a device so arranged as to provide a hot blast and smoke-consumer, and is particularly adapted to be used on ranges and cooking-stoves.

The object consists, further, in procuring the air immediately above the heated surface of the stove or range, conveying it through a special constructed pipe, and subsequently discharging it upon the surface of the fuel.

It will be seen that with the use of my invention a greater number of units of heat can be procured from the same amount of fuel employed under the present method, and while the relative ratio of radiation is correspondingly increased there is a considerable reduction in the cost of maintaining a fire, besides abating the smoke nuisance.

The arrangements and construction of the several parts, together with the other features, will be hereinafter more particularly described and then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar numerals of reference indicate similar parts, Figure 1 is a plan view of a range-top and shows the position occupied by my invention, the uppermost portion, which is familiar to all ranges, being removed. Fig. 2 is a fragmentary detail in vertical section, on an enlarged scale, of a range and shows my invention in side elevation. Fig. 3 is a fragmentary detail, in plan view, of the construction shown in Fig. 2. Fig. 4 is a front elevation of the construction shown in Fig. 3. Fig. 5 is a central vertical section of the construction shown in Fig. 4. Fig. 6 is a cross-section of the discharge-pipe. Fig. 7 is a fragmentary view in detail of a cooking-stove and shows the position occupied by my invention, and Fig. 8 is a cross-section of a stove and shows my invention in side elevation therein.

In the drawings, 1 is the back of the range or stove; 2, the grate-bars; 3, the top, and 4 the lids.

5 forms the back for the upper portion of the range.

The ingress to my hot-air blast has a bowl-like formation and is constructed in two parts interchangeable, which are bolted together by the bolts 7. The ingress-bowl is preferably made in two parts for the reason that it being exposed it is ornamented and highly polished, and as the ornamentation involves considerable labor the pattern for the one part suffices for the other. The ingress-bowl 6 is provided at the top with a damper, which regulates the draft. However, before the parts are bolted together I insert the plate 8, which forms a part of the damper. The plate 8 carries a series of slots which admit the air. The plate 8 is held in position by the lugs 9, integrally formed on the parts 6. (See Fig. 3.) Immediately overlying the plate 8 is a corresponding plate 10, carrying slots and which plate is shifted by the handle 11. The plate 10 has a central slot through which the pin 12 projects and which pin forms a guide for the damper-plate 10. The plate 8 has integrally-formed lugs 13, each of which carries an aperture. These lugs 13 form a bearing for an ornamental back 14 at the rear and a swinging bracket 15 at the front. My idea is to convert my ingress-bowl into a stand or base for the said back and bracket, thereby making it serve a double purpose. The back 14 is simply an ornamental design familiar to all ranges and is employed to ornament the same. The back is highly polished and obviously needs a frequent cleaning. The backs on the ordinary range are fixed, which hinders the process of cleaning them, while my construction allows an instant removal of the same. The bracket 15 carries the integral leg 16, which provides the pivotal bearing therefor and which leg engages with one of the apertures in the lugs 13 on the plate 8. This construction allows the bracket to swing outward into the position shown in Fig. 3, thus exposing such articles as may be placed thereon to the superheated portion of the range or stove. It will be seen that the bracket 15 may be placed on either side of the bowl, as circumstances may necessitate. The bracket 15, as shown in Fig. 2, stands when closed sufficiently above the ingress of the bowl 6 as not to interfere with the inflow of the air. The ingress-bowl

6 is bolted to the top of the range 3 by the bolts 17. The lower end of the bowl 6 has an internal recess which receives the curved end of a pipe 18. The pipe 18 is formed in two parts and extends through the rear wall of the range into the fire-box and in a horizontal manner parallel with and in close proximity to the top 3. The front end of the pipe 18 is closed and slightly enlarged to form a chamber for the air at the terminal of flow and which arrangement creates a suction through the pipe. The pipe 18 extends into the fire-box to the rear periphery of the front hole, which construction exposes the pipe to as much of the fuel-surface as possible and still leaves the front hole of the range unobstructed. As shown in Fig. 6, the pipe 18 is composed of two parts the edges of which overlap and are held together by the cross-bolts 19. The pipe 18 is provided with a series of holes and slots 20, which distribute the blast to the fuel-surface. The rear end of the pipe 18 turns upward, as shown, and engages with the bowl 6. The pipe 18 carries two sets of integral flanges 21 and 22. The flange 21 rests against and is bolted to the rear wall 1 by means of the bolts 23, while the bolts 17 pass through the flange 22, the top 3, and the foot of the bowl 6, thus clamping the several parts together.

In Figs. 7 and 8 I have shown my invention secured to a cooking-stove and wherein I dispense with the ornamental back 14 and use only the swinging bracket 15. The back 14 in this instance becomes unnecessary and would obviously be in the way.

As previously stated, by discharging a hot blast of air on a fuel-surface it consumes a greater portion of the gases and smoke, and my experiments have shown that I can maintain by my device a fire over a longer period of time than under the ordinary manner.

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

1. In a combined hot blast and smoke-consumer for ranges and cooking-stoves, a pipe having a curved end which engages with an ingress-bowl fixed on the surface of the range, the said bowl forming an ingress to the pipe which pipe is composed of segments having overlapping edges which are held together by the transverse bolts 19, integral flanges at the point of curvature which flanges form a bearing for the pipe and whereby the said pipe is secured to the range or stove by bolts, secondary flanges at the upper end of the curvature of the pipe which flanges rest against the under side of the range-top, bolts passing vertically through the said flanges, the range-top and foot of the bowl, whereby the parts are securely held together, substantially as shown and for the purposes set forth.

2. In a combined hot blast and smoke-consumer for ranges and cooking-stoves, a pipe fixed to the range which extends into the fire-box thereof, the rear end of the pipe being curved and engaging with a bowl which forms the ingress for the pipe, a plate carrying slots secured in the upper portion of the bowl, a secondary overlying shifting plate carrying slots which register with the slots in the under plate, the combined plates forming a damper for regulating the inflow of air, integral lugs on the under plate of the damper, each of which carries an aperture, the rear lugs forming a bearing for an ornamental back, while the front lugs provide a pivotal bearing for a swinging bracket, whereby a means for shifting said bracket over the superheated portion of the range is procured, substantially as shown and for the purposes set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 24th day of November, A. D. 1901.

JOHN B. EHRLICH. [L. S.]

Witnesses:

C. C. TOPP,
F. W. WOERNER.