

(No Model.)

E. J. DASCHBACH.
STOVE.

No. 507,219.

Patented Oct. 24, 1893.

Fig. 1.

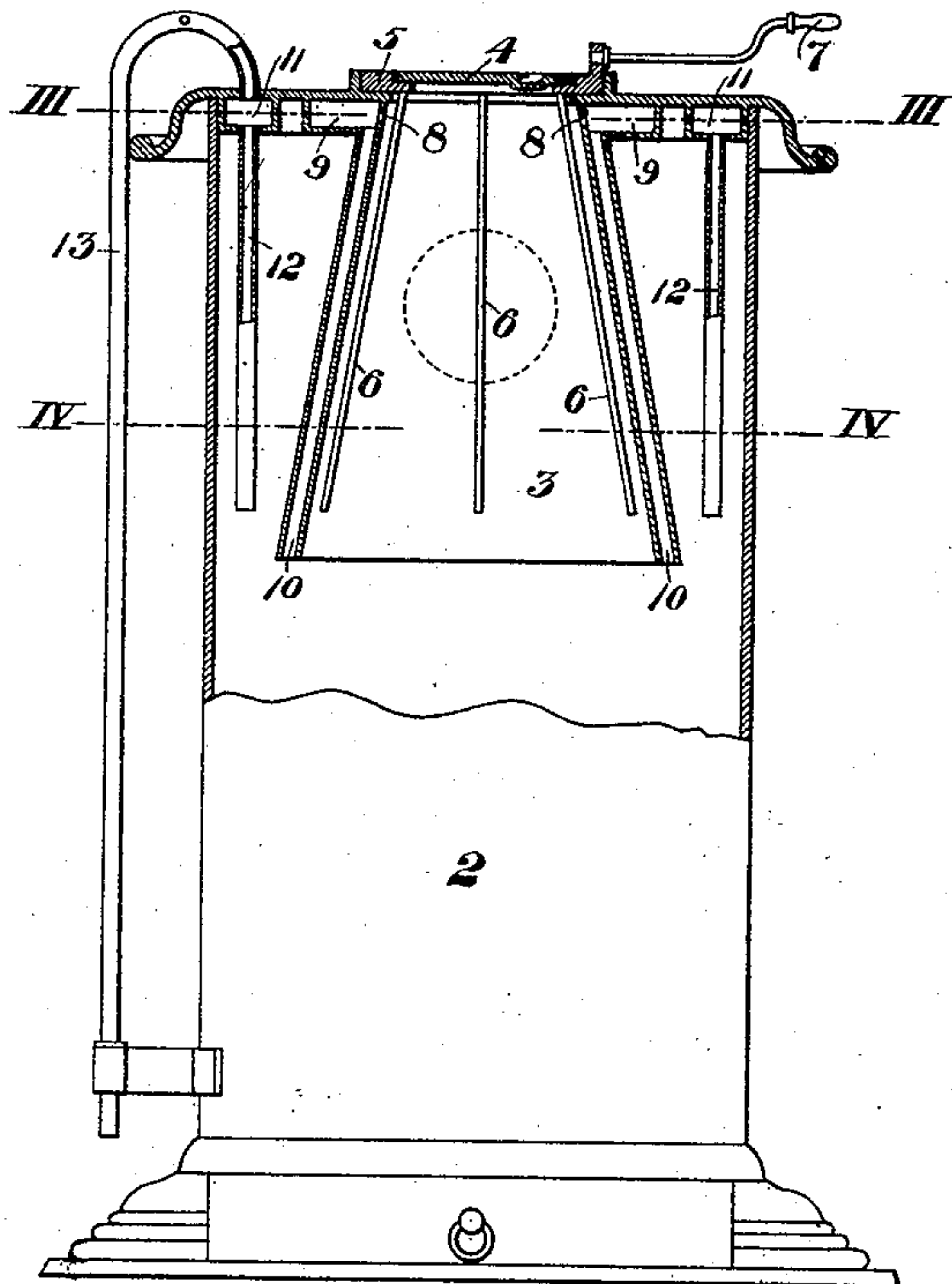


Fig. 2.

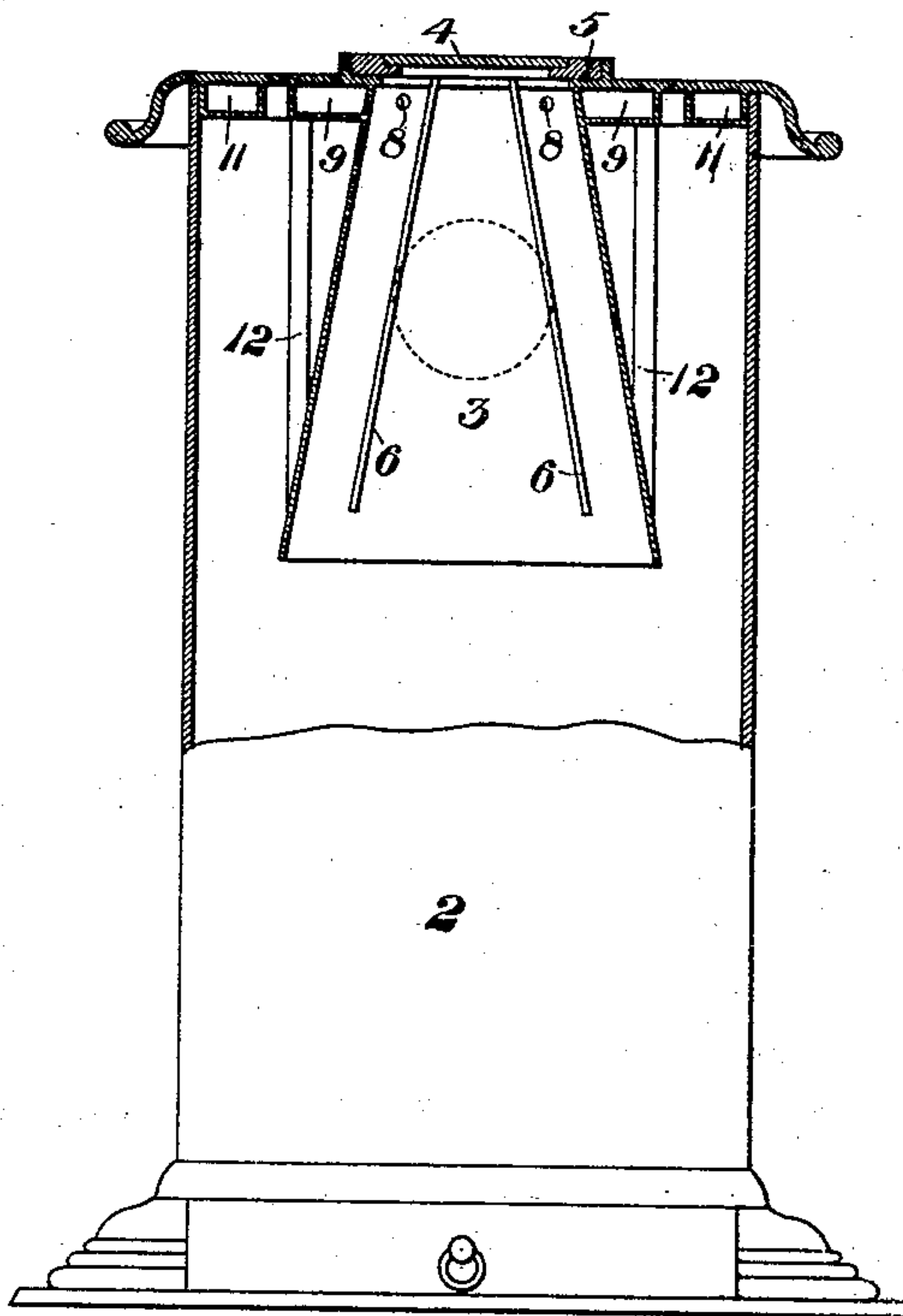
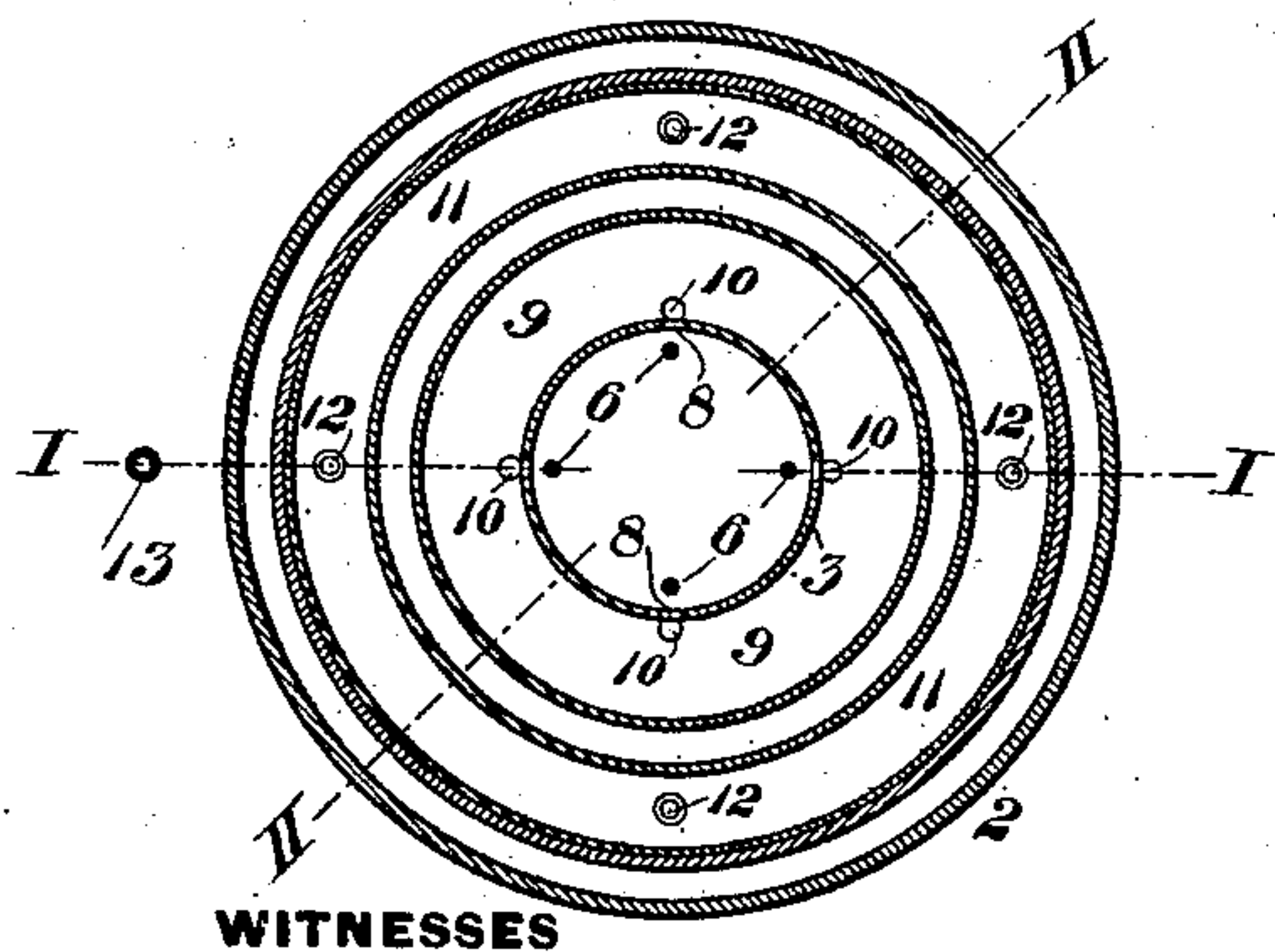


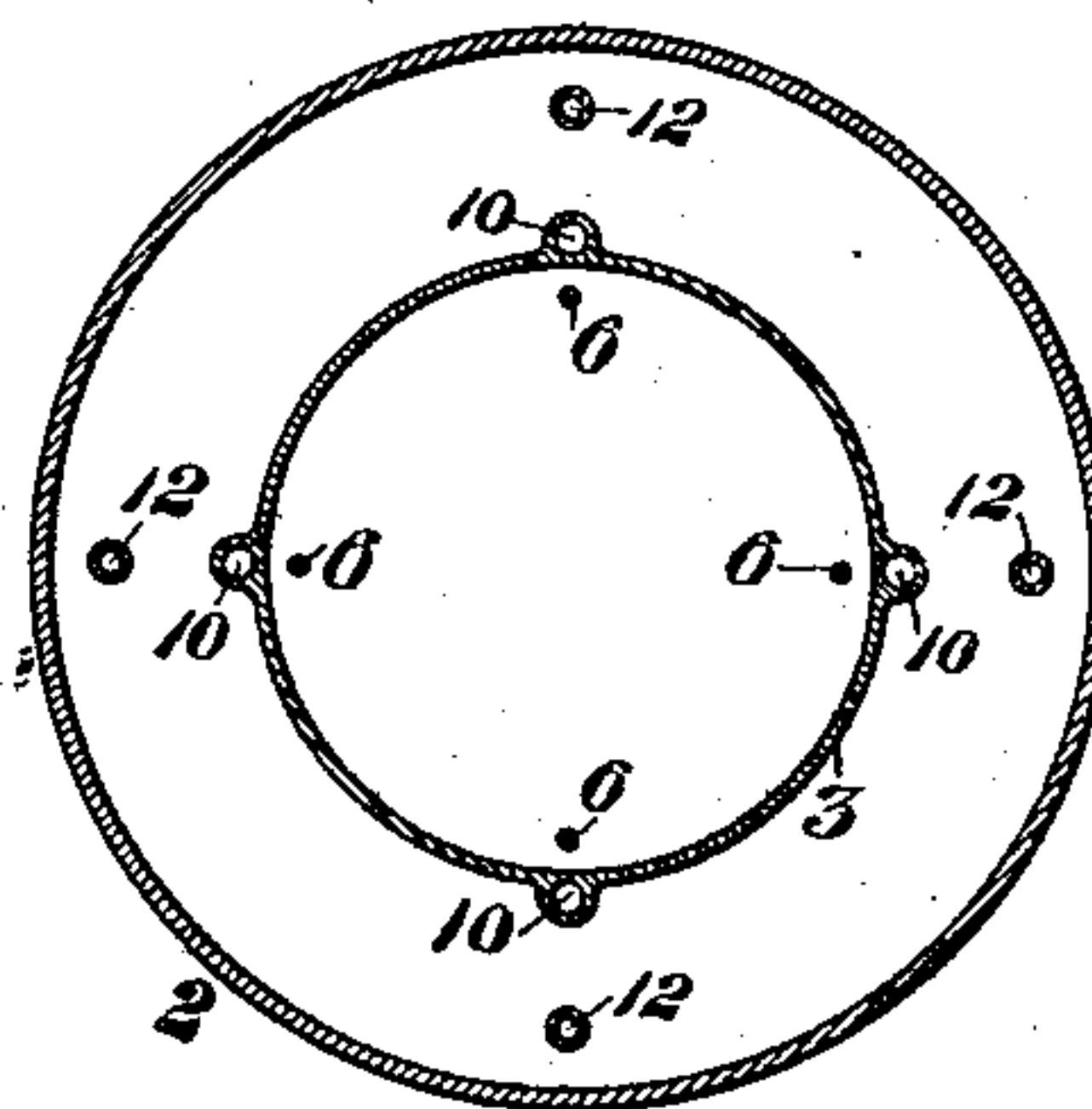
Fig. 3.



WITNESSES

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Fig. 4.



INVENTOR

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UNITED STATES PATENT OFFICE.

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STOVE.

SPECIFICATION forming part of Letters Patent No. 507,219, dated October 24, 1893.

Application filed February 1, 1893. Serial No. 460,582. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. DASCHBACH, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation, partly in section, on the line I—I of Fig. 3 of my improved stove. Fig. 2 is a like view, partly in section, on the line II—II of Fig. 3. Fig. 3 is a horizontal sectional view on the line III—III of Fig. 1; and Fig. 4 is a like view on the line IV—IV of Fig. 1.

Like symbols of reference indicate like parts in each.

Heretofore it has been difficult if not impossible to successfully use soft or bituminous coal in what are known as magazine stoves, that is, stoves having a magazine for containing fuel and arranged so that the fuel shall be fed from the magazine to the combustion-chamber of the stove. The difficulty arises from the fact that when soft or bituminous coal is subjected to the action of heat the gases are driven off and the coal cokes, owing to which facts the smoke and gases from the coal in the magazine are apt to pass into the room or else pass unconsumed to the chimney, and the coal coking in the magazine adheres to the sides of the same, preventing the proper supply of fuel to the fire.

The object of my invention is to overcome these difficulties; that is, to prevent the clogging of the magazine and also to insure the combustion of the gases in the stove.

I will now describe my invention so that others skilled in the art to which it appertains may manufacture and use the same.

In the drawings, 2 represents the body of the stove, in the lower portion of which are arranged the usual grate-bars, not shown in the drawings.

In the upper part of the stove there is formed or secured the hopper or magazine 3, which is in the form of a truncated cone, the lower portion or base of which opens into the stove, while the upper portion is covered by the stove-lid 4.

Situate between the stove-lid and the top

of the stove and fitting in a recess or annular flange on the top of the stove, is the annular ring 5, from which the stirring rods 6 extend down into the magazine parallel with the sides thereof. The purpose of these rods is to stir the fuel contained in the magazine, and this is done by turning or rotating the ring 5 by means of the handle 7. At the top of the magazine 3 are openings or ports 8, which open into a chamber 9 situate at the top of the stove. The purpose of this chamber is to collect the gases at a point where they are subjected to the heat in the combustion-chamber. Leading from this chamber 9 down around the magazine 3, are the pipes or conduits 10, the purpose of which is to conduct the smoke and gases which pass from the magazine 3 into the chamber 9 down to the base of the magazine above the fire in the stove.

In order to supply air for supporting the combustion of the smoke and gases passing from the magazine 3, I provide an annular air-chamber 11 at the top of the stove where the air is also heated, leading from which down to a point above and adjacent to the mouth of the gas conduits 10, are air-pipes 12. Leading from a point at or near the base of the stove and outside of the same into the air-chamber 11, are the air-supply pipes 13.

The operation is as follows:—The fire being started in the stove, the soft or bituminous coal is fed into the stove through the magazine 3 until the magazine is filled. As the coal in the magazine is subjected to the action of the heat in the stove, the gas and smoke arising from the coal pass into the chamber 9 and thence through the conduits 10 down into the body of the stove at the base of the magazine. Here they mingle with the air from the pipes 12 and combustion takes place. As the fuel in the magazine is thus deprived of its volatile carbonaceous matter it cokes and in this form is fed to the body of the fire in the stove by force of gravity, and in case this coke should adhere to the sides of the magazine it is easily loosened by the rods 6 which are moved by the handle 7. It should be noticed that the conduits or pipes 10 are arranged on the outer face of the magazine 3 and that the air pipes 12 are situate away from the sides of the stove and lead to a point

adjacent to the mouths of the conduits 10, and the gas and air are thereby thoroughly heated and then brought into contact with each other at a point where combustion takes place.

The advantages of my improvement will be evident. Owing to the shakers or stirring-rods 6, all danger of the fuel clogging in the magazine is prevented, and owing to the arrangement of the air and gas pipes, complete combustion of the gases passing from the magazine is insured. Owing to the fact that the air-conduits 13 lead from a point at or near the base of the stove, no interruption of the draft is occasioned by opening the door of the stove, as would occur if the air-inlet were situate above the level of the door.

Although I have described my stove as especially adapted for use with soft or bituminous coal, I do not desire to limit its use to any particular kind of fuel.

What I claim is—

1. In a stove, the combination with a fuel magazine, of a rotatory ring over the same, rods secured to said ring and projecting downwardly into the magazine, and means for rotating the ring; substantially as described.

2. In a stove, the combination of a fuel-magazine, a gas-chamber surrounding the upper portion of the same, and gas-conduits arranged on the outer face of the hopper and leading to a point at or near its base; substantially as described.

3. In a stove, the combination of a fuel-magazine, a gas-chamber surrounding the upper portion of the same, gas conduits arranged on the outer face of the hopper and leading to its base, and air conduits leading from the top of the stove to a point adjacent to the mouth of the gas conduits; substantially as described.

4. In a stove, the combination of a fuel-hopper, having gas-conduits arranged on its outer face and leading to the base thereof, and an air-conduit or conduits leading from the base of the stove to the top thereof and thence to a point adjacent to the mouth of the gas-conduits; substantially as described.

In testimony whereof I have hereunto set my hand.

EDWARD J. DASCHBACH.

Witnesses:

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H. M. CORWIN.