

(No Model.)

J. R. TERCY.

APPLIANCE FOR UTILIZING WASTE HEAT.

No. 549,547.

Patented Nov. 12, 1895.

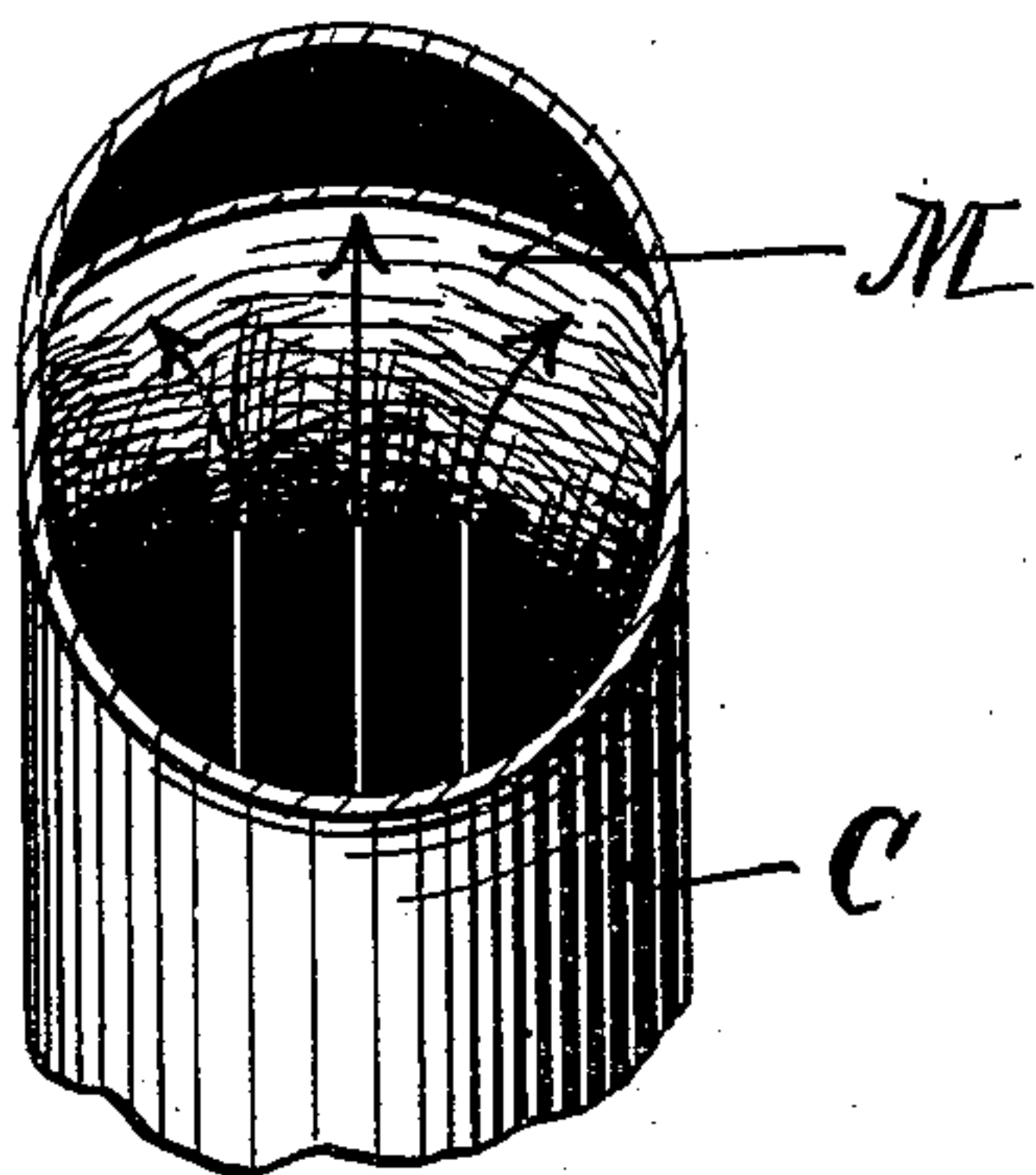
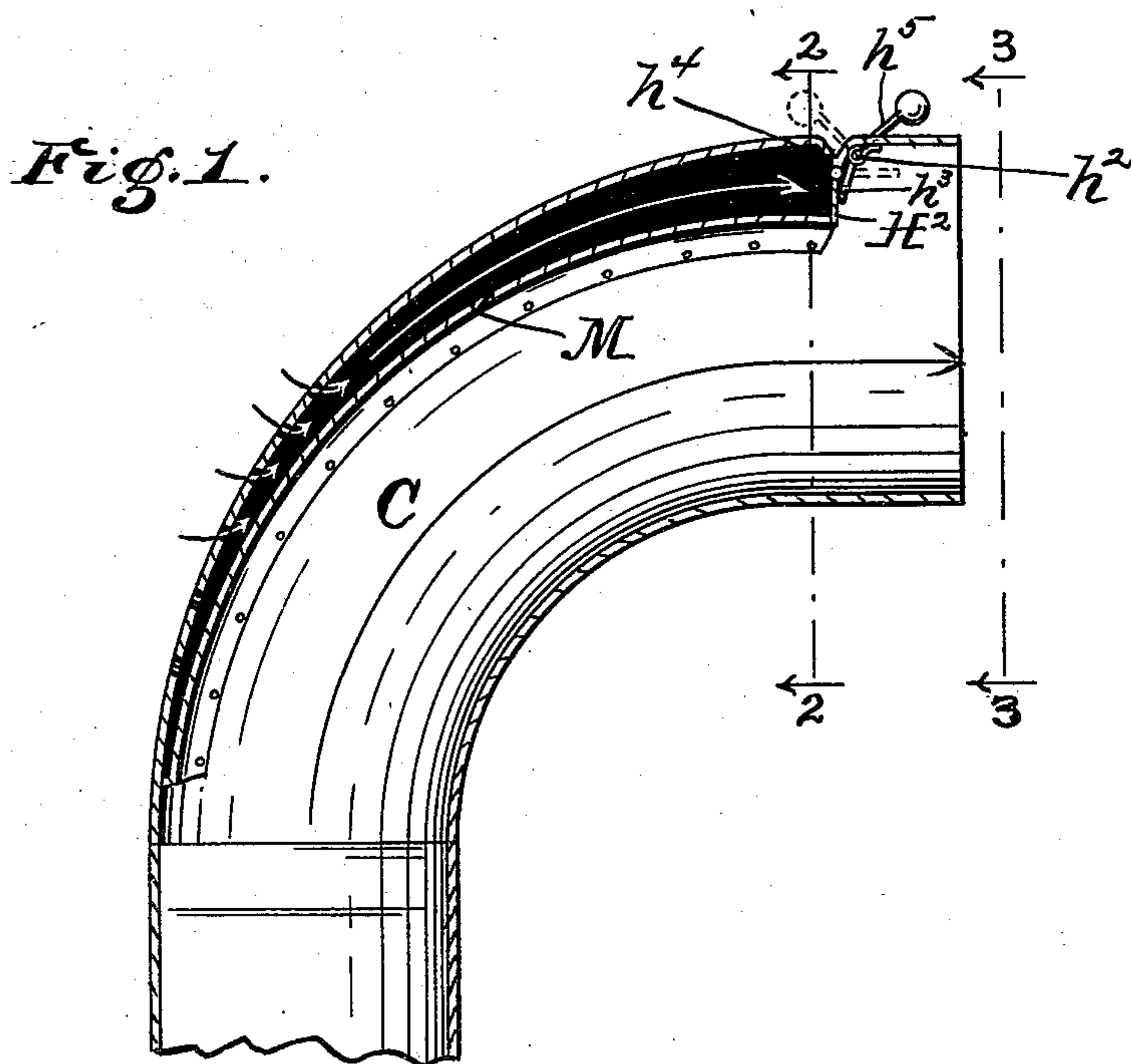


Fig. 2.

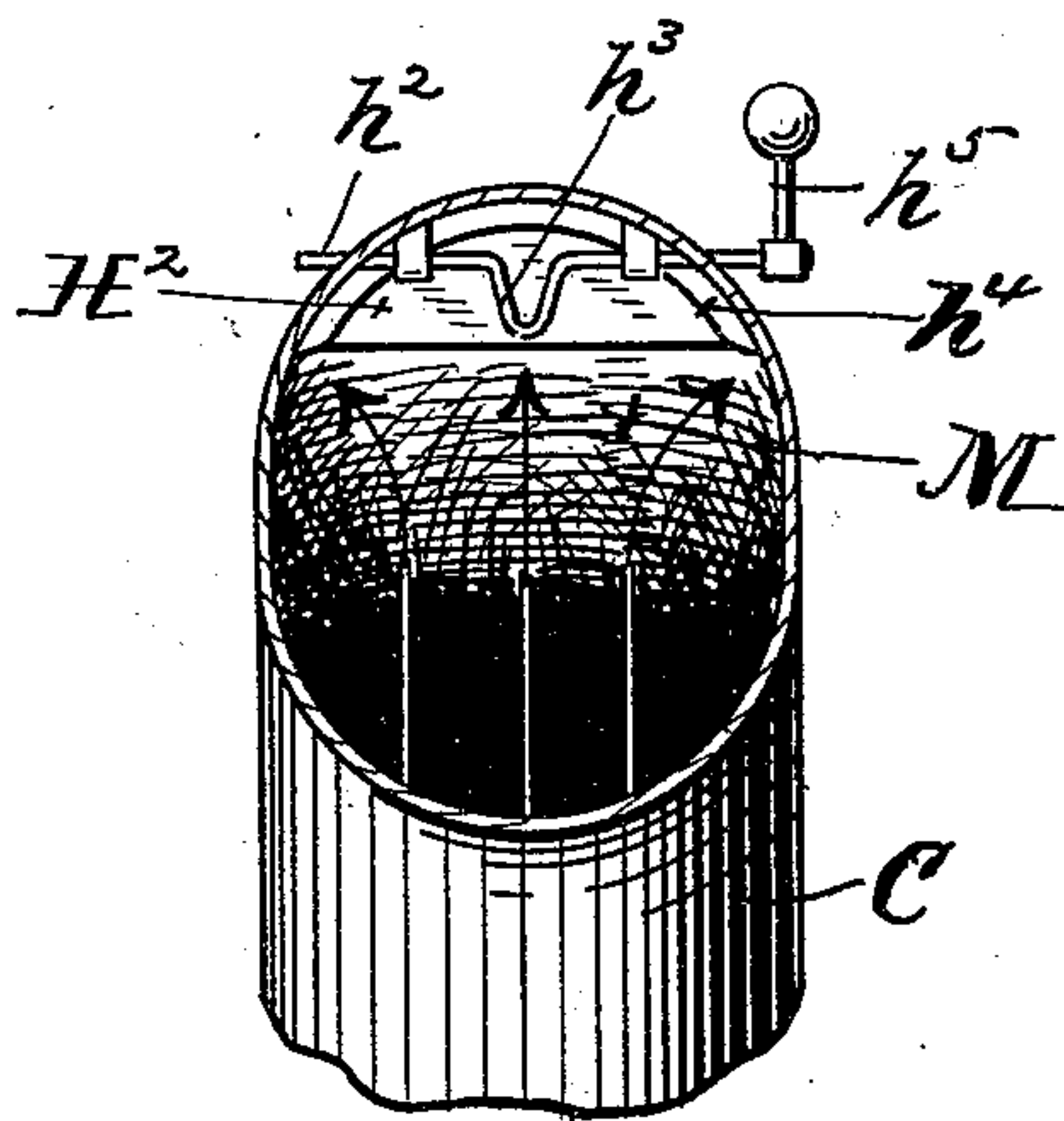


Fig. 3.

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APPLIANCE FOR UTILIZING WASTE HEAT.

SPECIFICATION forming part of Letters Patent No. 549,547, dated November 12, 1895.

Application filed April 17, 1895. Serial No. 546,000. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. TERCY, a citizen of the United States, residing at Carlisle, in the county of Sullivan and State of Indiana, have invented certain new and useful Improvements in Ventilators and Regulators for Stovepipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in stovepipes, and more particularly to that part of the pipe where a right-angled bend is formed and commonly known as the "elbow," the object being to provide means for removing the accumulation of soot from the member of the pipe running horizontally from the elbow; also, to afford ventilation for the room, and also to regulate the draft through the pipe, whereby the rate of consumption of the fuel in the stove or furnace can be regulated and the waste of heat through the pipe prevented.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a detail in vertical section of a cylindrical stovepipe-elbow constructed in accordance with my invention. Fig. 2 is a transverse section of the pipe on the line 2 2 of Fig. 1, looking in the direction of the arrow; and Fig. 3 is a like view on the line 3 3 of Fig. 1.

Similar letters of reference refer to like parts throughout the several views of the drawings.

C, Fig. 1, represents a curved stovepipe-elbow having a downwardly-tapering chamber formed in its upper side by means of the metal partition M. A series of perforations are formed through the outside wall of the chamber, whereby the air from the room in which the pipe passes will be admitted to the chamber. The upper expanded end of the chamber will open into the interior of the stovepipe and will be so situated as to cause the impulse of the current of air thus admitted from the room to dislodge any particles of soot that might be deposited on the horizontal section of the stovepipe and keep it constantly swept clean. The opening will be

provided with a cover or damper H^2 , which normally will hang down over the opening, so as to allow the incoming air to raise it and pass through, but will prevent the passage of air or smoke from the pipe into the room, as might occur during windy weather. A horizontal rod h^2 is hinged to the stovepipe and is provided with the downwardly-depending arm h^3 , which bears against the damper H^2 . The rod h^2 is provided with the arm h^5 , which is weighted at its outer end, so that when the arm is shifted past the vertical either way it will retain its position until sufficient power is applied to lift the weight. The weighted arm will press the arm h^3 of said rod h^2 against the damper when in one position and in another position of the weighted arm will raise the arm h^3 out of contact with the damper. An inside bead or flange h^4 , integral with or secured to the wall of the stovepipe, will be provided, and to this bead the damper H^2 will be hinged. The purpose of this construction is to drop the damper down a distance sufficient to allow it to open without conflict of its ends with the walls of the pipe and consequent locking of the damper before the opening into the chamber was of sufficient area to allow the proper passage of the air therethrough.

The arrows show the passage of the air from the room into the flue.

As the result of practical demonstration, I have found that the ventilators or openings from the room into the stovepipe-elbow will save at least one-third of the fuel consumed by a stove using the ordinary closed elbow; also that a more uniform heat will be given forth, and by closing all of the dampers, save the one in the elbow, a fire may be kept in a stove or furnace over night with a mere handful of coal. This makes an ordinary stove equal to a base-burner. These results are obtained by introducing a draft or current of air far enough above the fire-box to prevent the waste of fuel and heat consequent upon the draft entering at a point below or above but too near the fire-box.

As a ventilator, the perforations and damper operating as described will prove a boon for sick-rooms, sleeping-rooms, sitting-rooms, smoking-rooms, kitchens, and any rooms where it can be applied.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

5 The combination with a stove pipe elbow having a chamber with lower openings affording communication with the air of the room, and an upper opening through which air admitted into the chamber will be discharged into the horizontal member of the
10 pipe so as to remove the soot substantially as described, of a damper hinged so as to drop down and cover the opening between the chamber and the interior of the pipe, a
15 horizontal rod hinged to the pipe and having an arm to bear against the damper and close

it but said rod being secured independently of the damper whereby, in certain adjustments of the rod, the damper will be free to open and close, and said rod having an arm situated outside of the pipe and weighted in the manner as described whereby the rod can be controlled substantially as described and specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN R. TERCY.

Witnesses:

GEORGE D. FERREE,
J. MARION MATHIS.