

(No Model.)

B. HIGGINS.
AUTOMATIC DAMPER.

No. 286,817.

Patented Oct. 16, 1883.

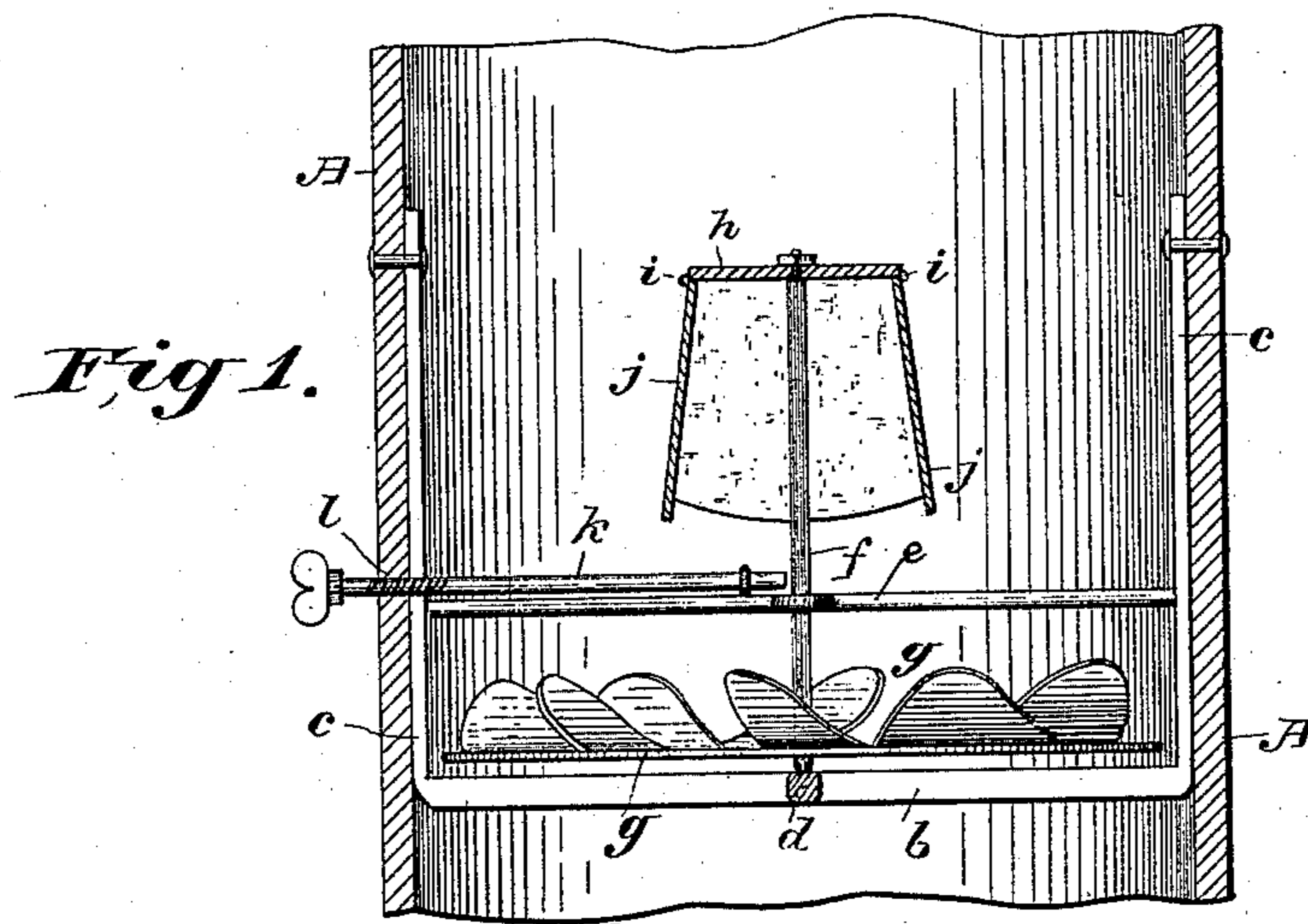


Fig 2.

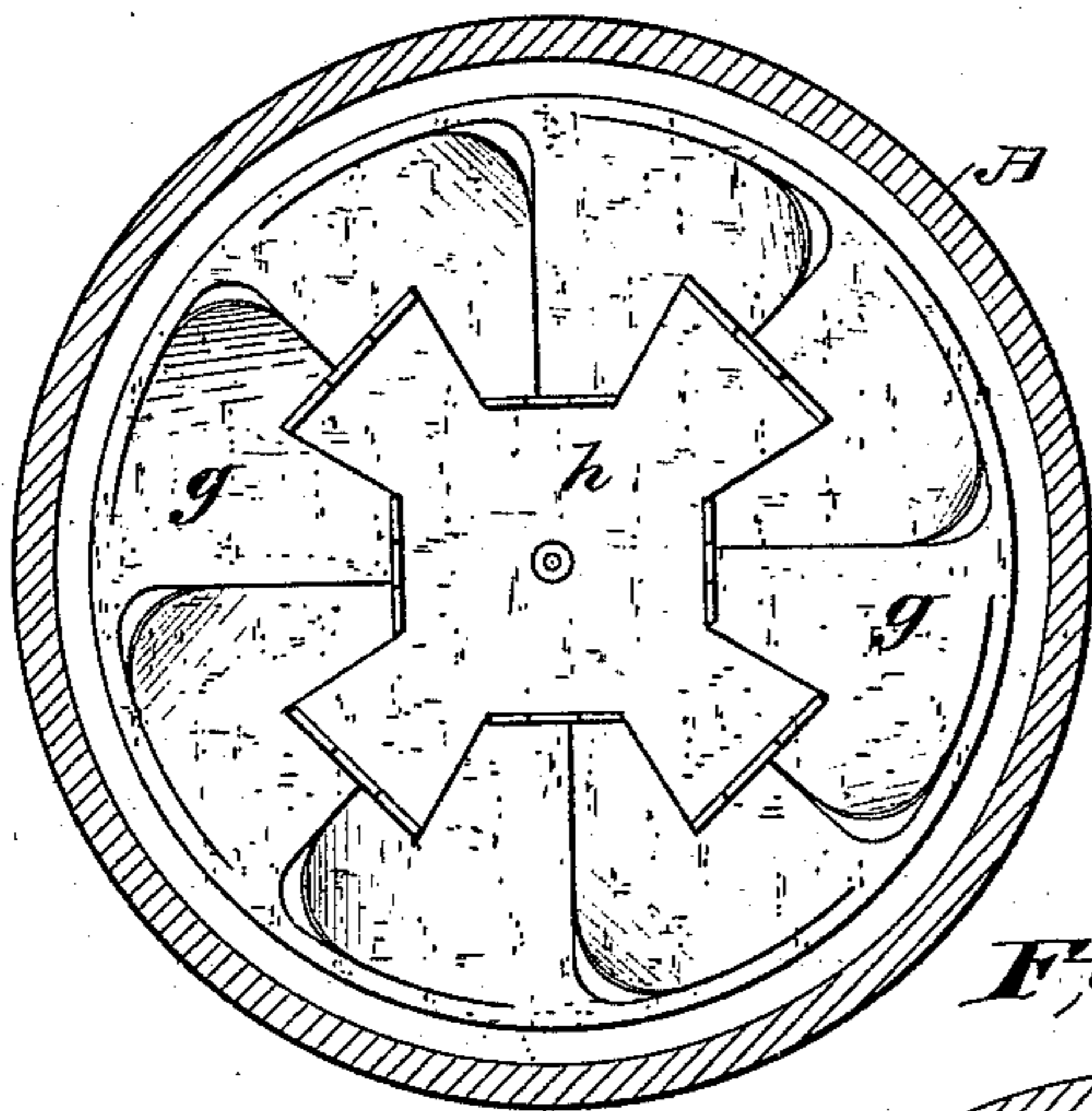


Fig 3.

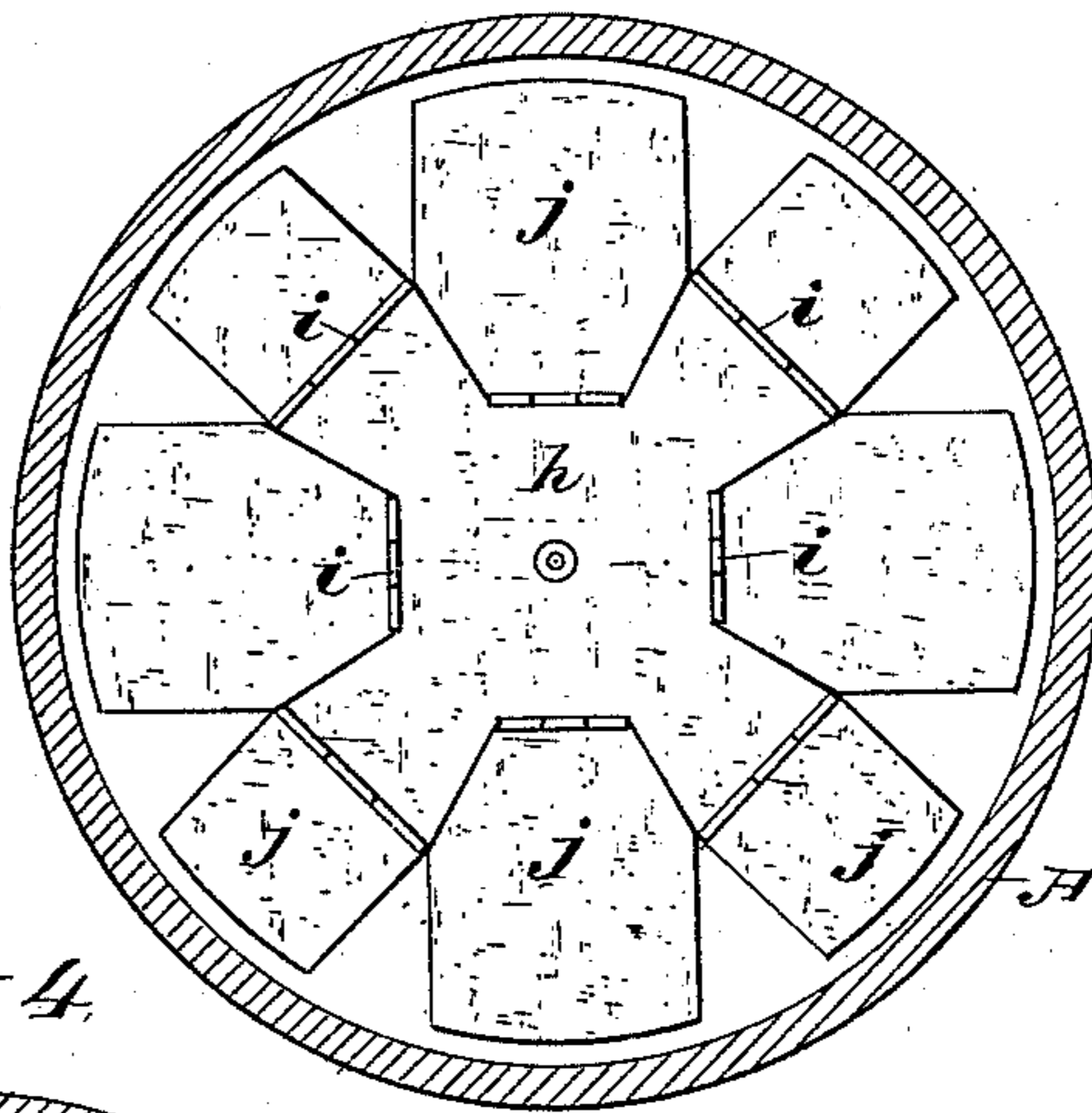
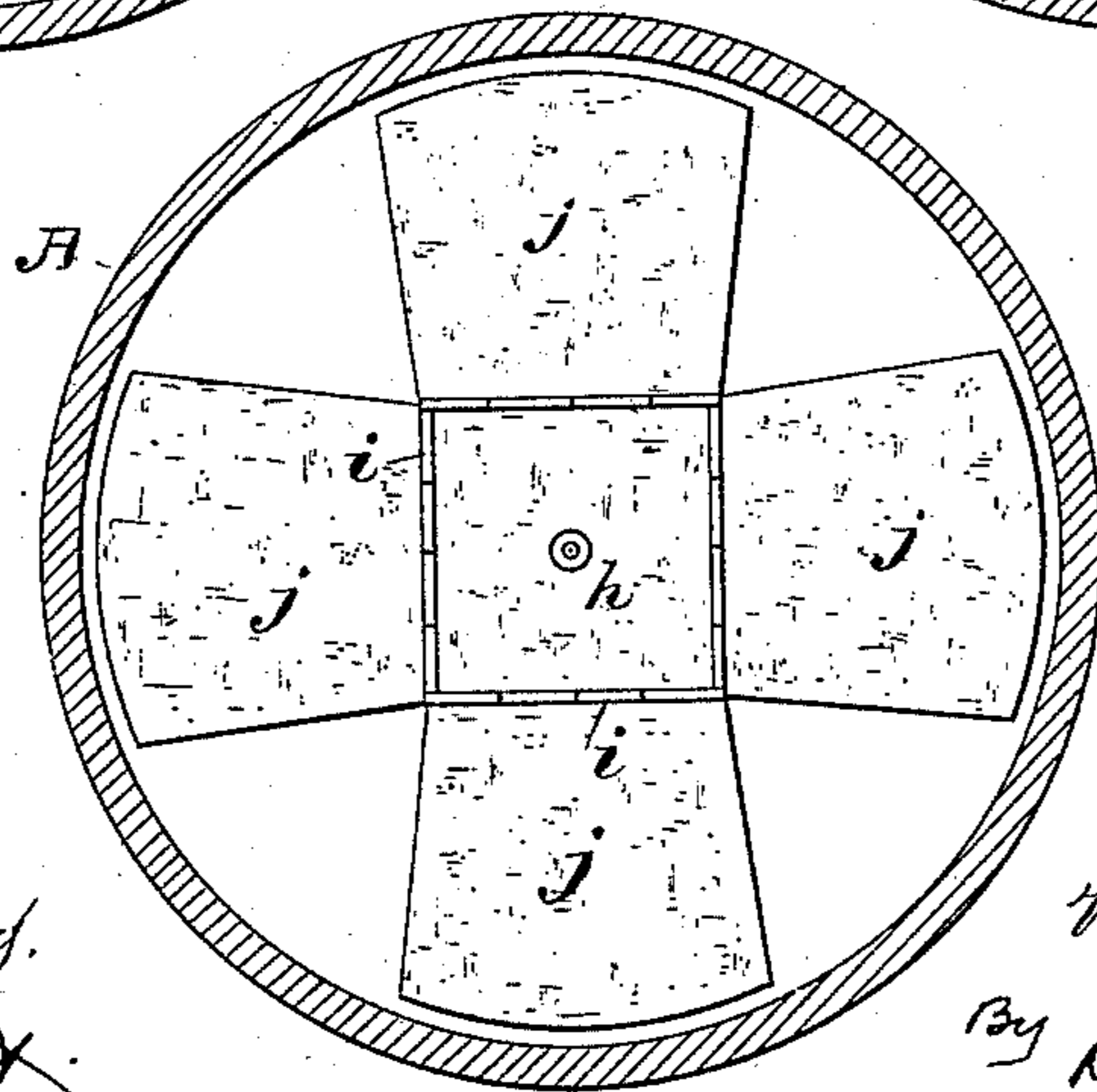


Fig 4.



Attest:

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UNITED STATES PATENT OFFICE.

BARLOW HIGGINS, OF ELLIOTTSTOWN, ILLINOIS.

AUTOMATIC DAMPER.

SPECIFICATION forming part of Letters Patent No. 286,817, dated October 16, 1883.

Application filed June 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, BARLOW HIGGINS, a citizen of the United States, residing at Elliottstown, in the county of Effingham and State of Illinois, have invented certain new and useful Improvements in Automatic Dampers, of which the following is a specification.

My invention relates to a device which is adapted to be placed within the escape-flue or stack from a stove or furnace, and by closing or opening to a greater or less extent the passage, according to the force of the heat, to regulate exactly the amount of air passing through the stove or furnace. To this end I mount transversely within the chimney or flue a wheel, moved by the heated gases, having its axis prolonged to bear on its end a number of pivoted plates or wings, which, when the wheel revolves, are adapted to be thrown out across the flue to a greater or less extent, according to the rapidity of the revolution, and thus to more or less close the passage and arrest too swift combustion resulting from a heavy draft.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a vertical section of a chimney which is provided with one of my automatic dampers. Fig. 2 is a horizontal section of said chimney, immediately above the damper. Fig. 3 is a similar view, showing the wings of the damper extended. Fig. 4 is a similar view of a modification of my invention.

A represents a vertical portion of a flue, stack, or chimney of a stove or furnace. Placed transversely across such flue is a supporting-bar, *b*, which may be supported by hangers *c*, or fixed directly in the walls of the flue.

d is a cross-brace for retaining the support *b* in central position. Parallel to and above the support *b*, I place another cross-bar, *e*, which may be either fixed to hangers *c* or made fast to the walls of the flue.

Journaled centrally in the bars *b* and *e*, and supported by the bar *b*, is a vertical shaft, *f*, bearing near its lower end a heat-wheel, *g*, which is adapted to be rotated by the passage of heated air and gases of combustion through the flue.

Fixed to the top of the shaft *f* is a hub or plate, *h*, to which are hinged at *i* any desired number of wings, *j*, which, when the wheel *g* revolves, are adapted to be thrown outward by the centrifugal force, and to more or less obstruct the passage of air and gases of combustion through the flue. In Figs. 2 and 3 I have shown eight wings, alternately long and short, and so arranged as, when thrown backward, to completely occupy the space. In Fig. 4 I have shown the use of but four wings of equal lengths. It is apparent that any number of wings may be employed.

At *k* is shown a rod having a screw-thread adapted to engage in the side of the flue or pipe at *l*, and, by being turned in or out by the hand-nut *M*, to be forced against or away from the central shaft, and thus to be used as a brake to arrest the revolution of the shaft.

It will be seen that by this means a damper is provided which may be so regulated as to maintain a perfectly-uniform draft in the furnace, thus effecting a great saving of fuel, and rendering possible the maintenance of a perfectly even temperature.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent—

1. The automatic damper consisting of a wheel, adapted to be rotated by the heated gases, placed transversely in the escape flue or pipe, and the hinged wings or valves adapted to be thrown up by the revolution of the wheel to govern the amount of air passing through the flue.

2. In combination with the horizontal driving-wheel, the central shaft, and hinged wings on said shafts adapted to be thrown up and across the escape-flue of the stove or furnace by the revolution of the wheel.

3. In a damper, the combination of hanger *c*, cross-bars *b* and *e*, supported at their ends from the said hanger, cross-bar *d* at right angles to bar *b* and supported therefrom, and spindle *f*, carrying the damper, as set forth.

4. In combination with a rotary damper or draft-regulator, the adjustable rod adapted to engage with and brake the regulator-shaft at will.

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Witnesses:

JOHN DYE,
C. L. HIGGINS.