H. KIPE.

Stovepipe Damper.

No. 47,111. Patented April 4, 1865.

Fig. 1

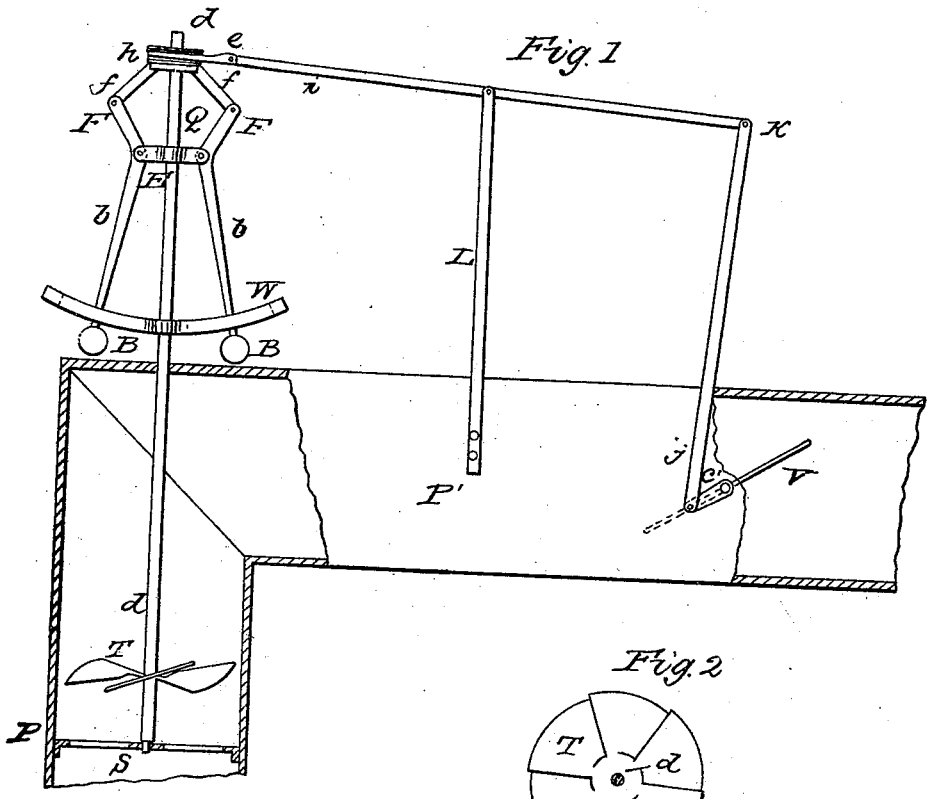
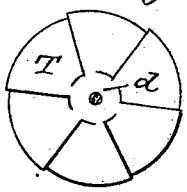


Fig. 2



WITNESSES
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UNITED STATES PATENT OFFICE.

HIRAM KIPE, OF THORNBURY, PENNSYLVANIA.

IMPROVEMENT IN STOVE-PIPE DAMPERS.

Specification forming part of Letters Patent No. 47,111, dated April 4, 1865.

To all whom it may concern:

Be it known that I, HIRAM KIPE, of Thornbury, in the county of Delaware and State of Pennsylvania, have invented a new and useful Improvement in Stove-Pipe-Valve Governors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents portions of an elbow of a stove-pipe, partly in section, to which my improvement has been applied. Fig. 2 is a plan of the wheel which drives the spindle of the governor.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an automatic valve arrangement for use in stove-pipes, for domestic use more especially; and it consists in the application, within the pipe, of a wind-wheel, which operates the throttle-valve through an ordinary ball-governor.

The stove-pipe here shown is intended to represent that joint or elbow which is next or near to the discharge-opening of a stove, P being a vertical pipe, and P′ a horizontal branch leading therefrom.

Q is a ball-governor mounted upon a spindle, *d*, which passes through the top of the elbow and is stepped in an inner brace, S, extending across the lower part of the vertical pipe P. The spindle extends far enough above the pipe to permit the ball-governor to operate thereon.

B B represent the balls, which are guided in the arc W, and are suspended from elbow-shaped arms *b b*, which are pivoted at their angles to a cross-piece, E, fixed to the spindle *d*. The arms *b b* are pivoted at F to the pendent arms *f f*, which hang upon loose joints from opposite sides of the sliding collar *h*.

L is a standard rising from the horizontal pipe P′ nearly to the height of the spindle *d*, and sustaining a vibrating rod, *i*, which has a collar, *e*, at one end, by means of which it embraces the sliding collar *h* of the governor. The other end of the rod *i* is jointed at K to a connecting-rod, *j*, which is secured by means of a crank to the axis *c* of a throttle-valve, V, placed across the extension-pipe P′.

T is a wind-wheel fixed on the spindle *d*, just above its foot, and so made that the gases from the fire can escape through the pipe P only by passing through it between its vanes.

The operation of the apparatus is as follows: The products of combustion and hot air from the fire in any stove or furnace with which the pipes P P′ communicate will ascend the pipe P with great velocity when the valve V is open, and since the vanes of the wind-wheel extend radially from the spindle in every direction nearly to the sides of the pipe, the said products of combustion and hot air will be forced against the angular faces of the vanes of the wheel and give rotary motion thereto, and will then escape between the vanes and proceed to the pipe P′ past the valve V. Since the rotation of the wind-wheel gives rotary motion to the spindle *d*, it follows that the governor will be operated in the usual manner and its collar *h* be raised more or less, according to the elevation of the balls B. The connecting-rod *j* is so attached to the valve V as to bring said valve toward a vertical position when said connecting-rod is pushed downward, which occurs when the sliding collar *h* of the governor carries the adjacent end of the rod *i* upward. The passage of the said products of combustion is obstructed by the turning of the valve V, and the draft of the stove or furnace is lessened. The wind-wheel will now rotate with diminished velocity and allow the balls of the governor to fall, thereby opening the valve V. The action of the parts is automatic, and it is only necessary to adjust the valve V to the governor or to construct it so that it can never be completely closed, in order to obtain a constant regulator for the stove.

I claim as new and desire to secure by Letters Patent—

Combining with an ordinary stove-pipe a wind-wheel, T, a spindle, *d*, and ball-governor Q, for operating a throttle-valve, V, substantially as above described.

HIRAM KIPE.

Witnesses:

GEORGE BRINTON, JR.,

LEVI PYLE.