O. PADDOCK.

Damper,

No. 34,446. Patented Feb. 18, 1862.

Fig. 2.

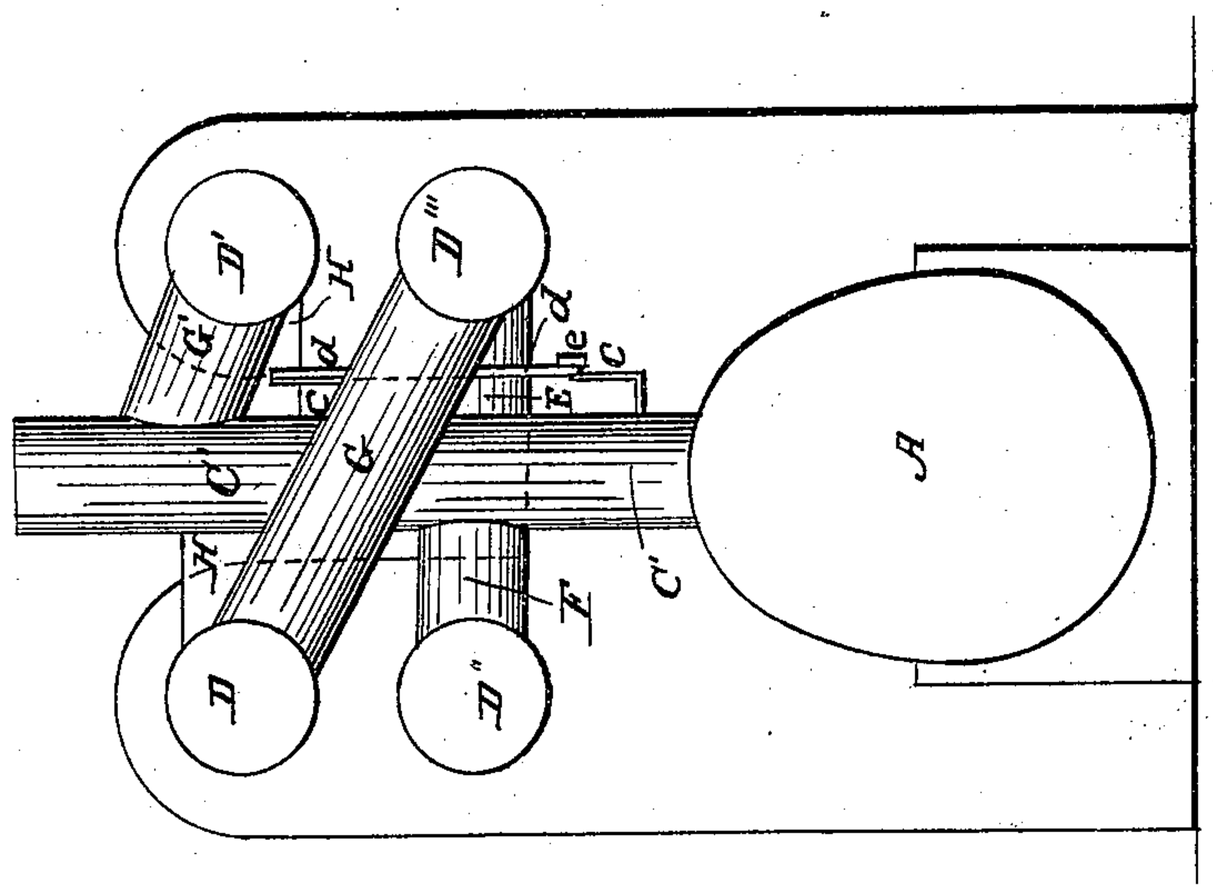
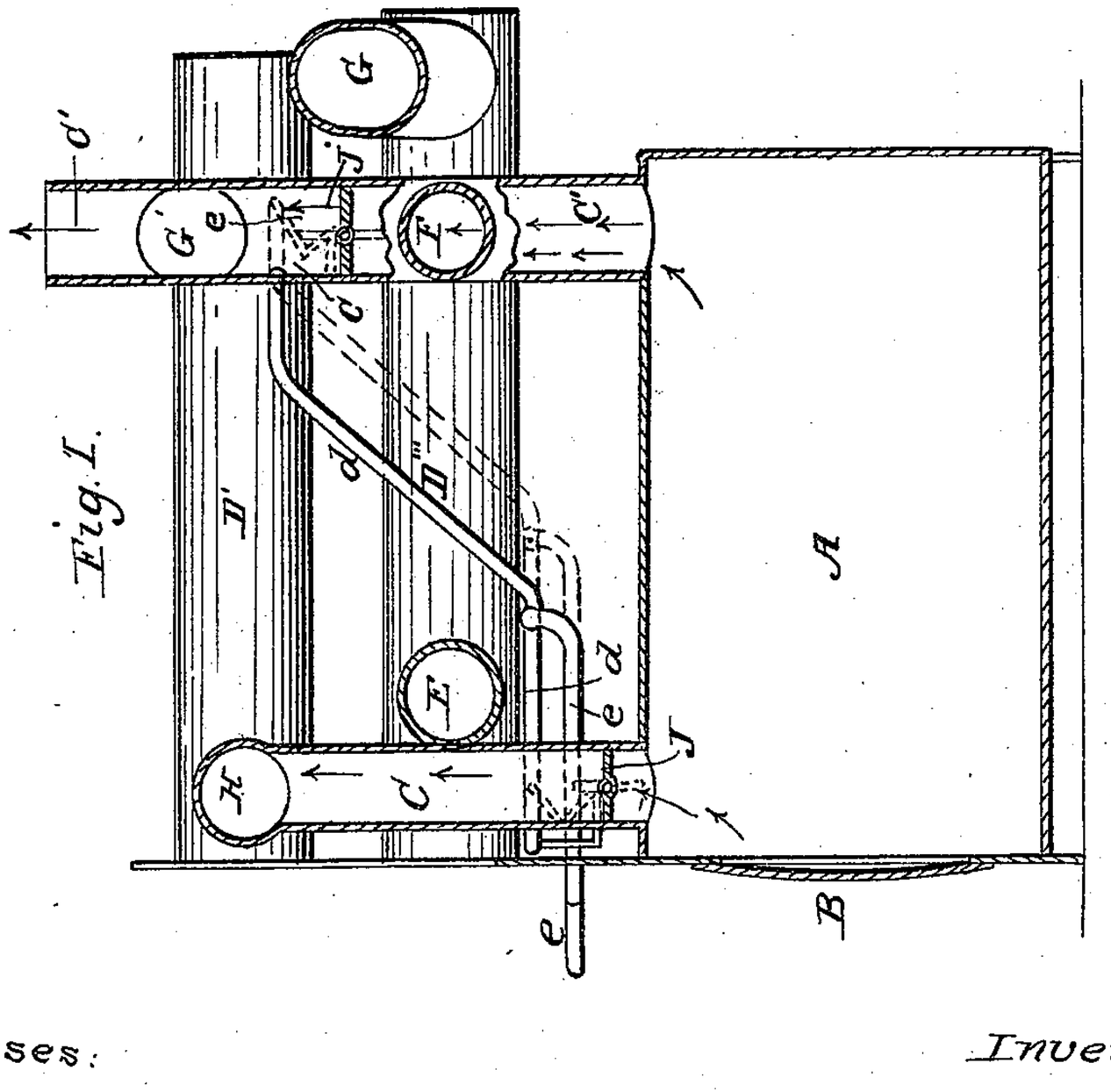


Fig. 1.



Witnesses:

G. L. Paddock
G. L. Woodruff.

Inventor:

Oscar Paddock

UNITED STATES PATENT OFFICE.

OSCAR PADDOCK, OF WATERTOWN, NEW YORK.

IMPROVEMENT IN OPERATING DAMPERS IN STOVES.

Specification forming part of Letters Patent No. **34,446**, dated February 18, 1862.

To all whom it may concern:

Be it known that I, OSCAR PADDOCK, of Watertown, in the county of Jefferson and State of New York, have invented a new and useful Improvement in Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section taken centrally through the stove or furnace and flues, exhibiting my improved arrangement of valves and connecting-rods, showing the same in two positions. Fig. 2 is a view looking in the rear of the stove, showing the inclined and horizontal flues, also the main chimney-flue.

Similar letters refer to like parts in both figures.

This invention is an improvement on the patent granted me September 27, 1859, entitled "A new and improved stove," the object of which invention was to prevent the escape of smoke from the stove into the room when the door of the same was opened for replenishing the fire, or for any purpose.

My present invention is an improvement upon the arrangement described in the aforesaid patent for accomplishing the same object in a better and more efficient manner, at the same time placing the control of the valves under the entire management of the attendant without respect to the movement of the furnace-door, enabling the attendant to open the valves in starting the fire, so as to obtain a greater draft when the furnace-door is shut, or the valves can also be closed when the door is open, so as to diminish the draft, which is sometimes necessary in the event of strong winds to prevent the rapid consumption of the fuel and the stove from getting too hot.

To enable those skilled in the art to understand my invention, I will proceed to describe its construction and operation.

A represents the shell of the furnace, which is shaped and constructed as described in my patent above mentioned, which has a furnace-door B in front. From the front and rear ends of this shell A proceed up two pipes C C, which communicate with and sustain horizontal flues D, D′, D″, D‴, and E. The former flues extend back the entire length of the shell A and are parallel with it, while the latter is a transverse flue forming a communication between the two lower flues D″ D″ near the front of the stove and just behind the vertical pipe C.

F is a short pipe communicating from the vertical pipe C to the flue D″, and G is an inclined pipe forming a communication between the upper flue D on the side of the stove to the lower flue D‴ on the opposite side.

C is a short pipe communicating with the vertical pipe C′ and horizontal flue D′, and H is a pipe communicating from the top of the vertical pipe C to the two upper flues D D′. The four longitudinal flues D D′ D″ D‴ are furnished with caps (not shown) on their front ends, which may be removed for cleaning the flues. This gives a description of the general arrangement of flues through which the smoke and hot air is made to pass before they can escape up the chimney, and these may be multiplied to any desirable number, as may be found necessary in order to obtain greater radiating-surface and utilize the heat escaping from the furnace. This system of flues or drums is arranged in such a manner with respect to the vertical pipes C C′ that by furnishing these two pipes with a valve each, which is operated by connecting-rods, as hereinafter described, I can obtain full control over the stove. These valves or dampers are therefore disposed and operated as follows:

J J′ are the valves pivoted in the vertical pipes C C′ and operated so as to open and close by jointed arms and rods leading to the front of the stove. The valve J is placed near the bottom of the vertical pipe C, while the valve J′ is placed in the vertical pipe C′ and intermediate between the branch pipes F and G. These two valves when closed have the effect to shut off a direct communication between the vertical pipes and the chimney, and when opened to create a very strong draft. When these valves are closed, the smoke is prevented from passing up the pipe C; but it is drawn to the rear of the shell A and up the vertical pipe C′ to the branch pipe F. Then it is carried through drum D″ to the front of the stove and through pipe E to drum D‴, thence to the rear of the stove again and up through the inclined pipe G to the drum D, and again back to the front of the stove,

where it passes across through pipe H to drum D′, when it passes to the rear of this drum, and finally escapes through pipe G′ up the vertical pipe C′ above the valve J′. When these two valves are opened, as indicated by red lines in Fig. 1, the smoke passes directly to the chimney through both pipes C C′.

The valves J J′ are connected to bent arms *c c*, which arms are each jointed to a curved rod *d*, and this rod is operated so as to open and close the valves simultaneously by a sliding rod *e*, which passes through the front of the stove, so as to be handy for the operator. This rod I intend to be operated by hand and irrespective of the movement of the furnace-door, for the purposes hereinabove mentioned.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with a stove when the same is provided with two upright pipes C C′, communicating with and sustaining horizontal flues arranged in relation to each other, substantially as herein described, the arrangement of the valves J J″ operating within the said pipes so as to open and close simultaneously by means of connecting-rods or their equivalents, for the purposes herein set forth.

OSCAR PADDOCK.

Witnesses:
G. F. PADDOCK,
G. L. WOODRUFF.