

J. P. TUTTLE.

Damper.

No. 100,692.

Patented March 8, 1870.

Fig. 1

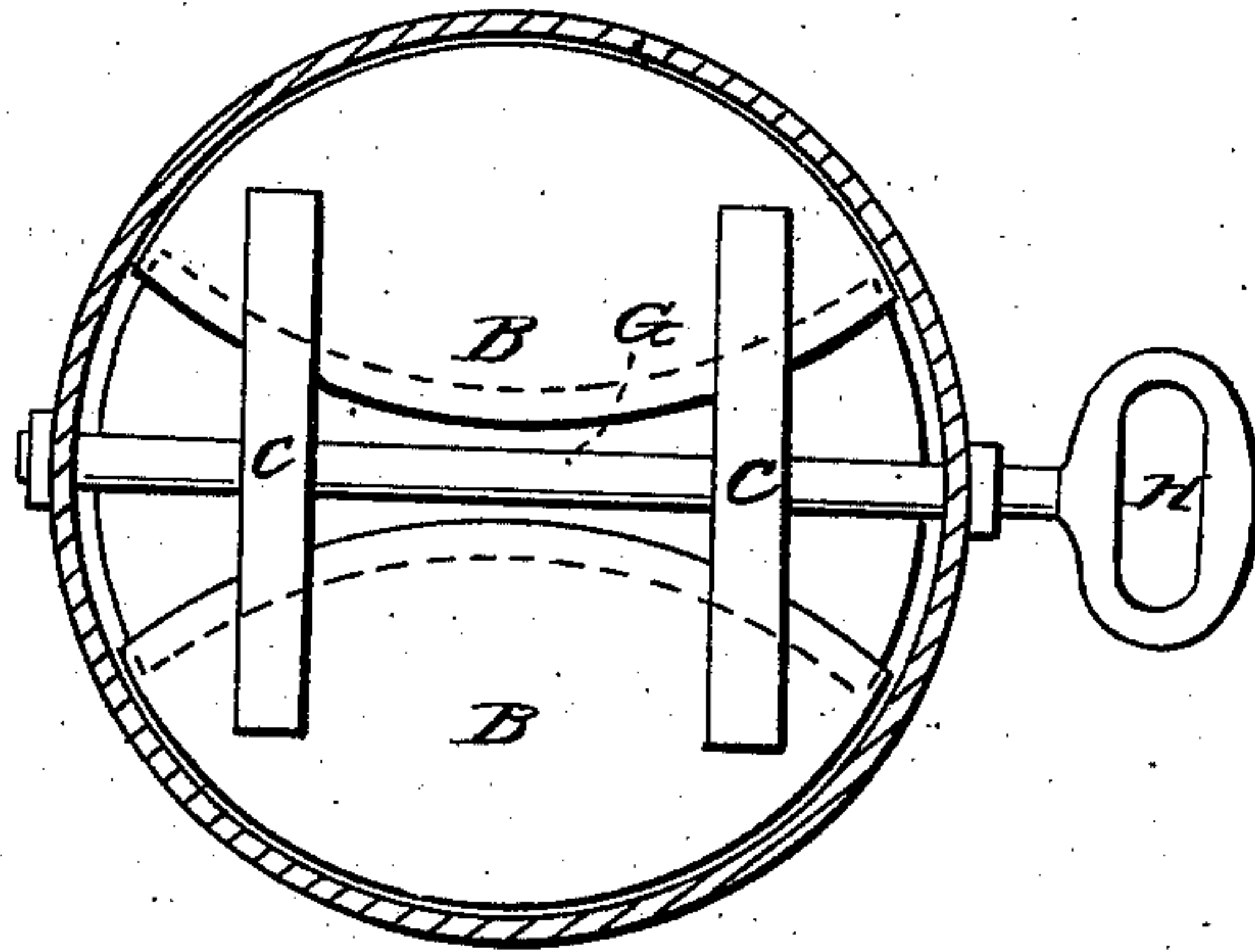
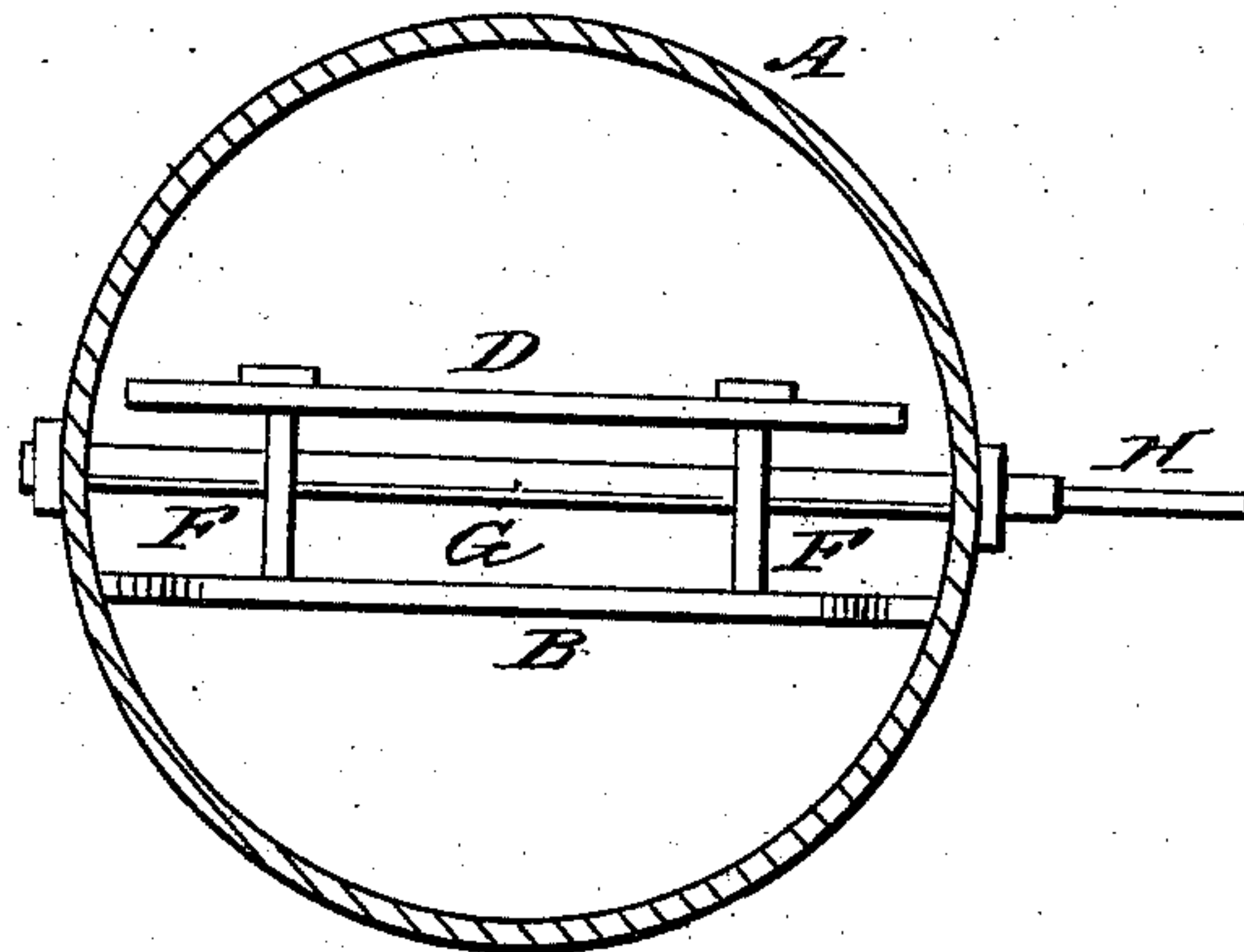


Fig. 2



Witnesses

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JOSEPH P. TUTTLE, OF WARREN, OHIO.

IMPROVEMENT IN DAMPERS.

Specification forming part of Letters Patent No. **100,692**, dated March 8, 1870.

To all whom it may concern:

Be it known that I, JOSEPH P. TUTTLE, of Warren, in the county of Trumbull and State of Ohio, have invented a new and useful Improvement in Heat-Retaining Valves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in a reversible and adjustable valve for heat and smoke conveying flues; and it consists in forming and combining three curved plates together in such a manner that the central space between the plates is contracted, and the heat thereby forced outward toward the wall of the flue, where it mingles with the unconsumed products of combustion, as will be hereinafter more fully described.

In the accompanying plate of drawings, Figure 1 represents a top or plan view of the valve placed in the flue as when in use. Fig. 2 shows an edge view of the same.

Similar letters of reference indicate corresponding parts.

A represents the flue. This valve is formed of three plates, two of which, B B, being connected together by the straps C C. The outer edges of these plates conform in shape to the inside of the flue. The inner edges curve inward toward the center, so as to contract the central space, as seen in the drawings, Fig. 1.

D represents the other plate, which in form corresponds with the space between B B, its edges being curved inward, and its ends made circular, to correspond with the form of the flue. The plate D and the plates B B are connected together by the vertical plates F F, through which the spindle G passes, and separate the plates, as seen. The valve is hung on this spindle, which passes through the flue,

and is revolved by the thumb-piece H. The position of the plates is shown in Fig. 2. In the ascending current of heated gases the highest temperature will be found at the center, where the combustion will be the most complete, while the smoke and a large portion of the combustible gases will rise in a circle surrounding the central heated core of the current. When this current impinges against the valve, it will necessarily be compelled to spread laterally, in consequence of the contraction of the valve at the center, and the more highly heated portion of the current will mingle with smoke and cooler gases, and produce a more perfect combustion than would otherwise be obtained.

The position of the valve in the flue will depend upon the draft required. When starting a fire, it may be opened entirely; but ordinarily the space between the plates will allow of a sufficient discharge of the unconsumed smoke and gases. The plates of which the valve is composed present a broad surface, and would of course become heated to a high degree, which would aid materially in consuming the smoke and combustible gases. The retardation of the ascending current of the heated products of combustion must, as a matter of course, produce this result.

The advantages to be derived from the use of this valve are perfect control of the fire, utilization of an increased amount of heat, and a consequent saving of fuel.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The plates B B, straps C, spindle G, and plate F, all constructed and arranged to operate in the manner and for the purpose described.

JOSEPH P. TUTTLE.

Witnesses:

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