

G. J. CLINE.  
Stove-Pipe Damper.

No. 222,667.

Patented Dec. 16, 1879.

Fig. 1.

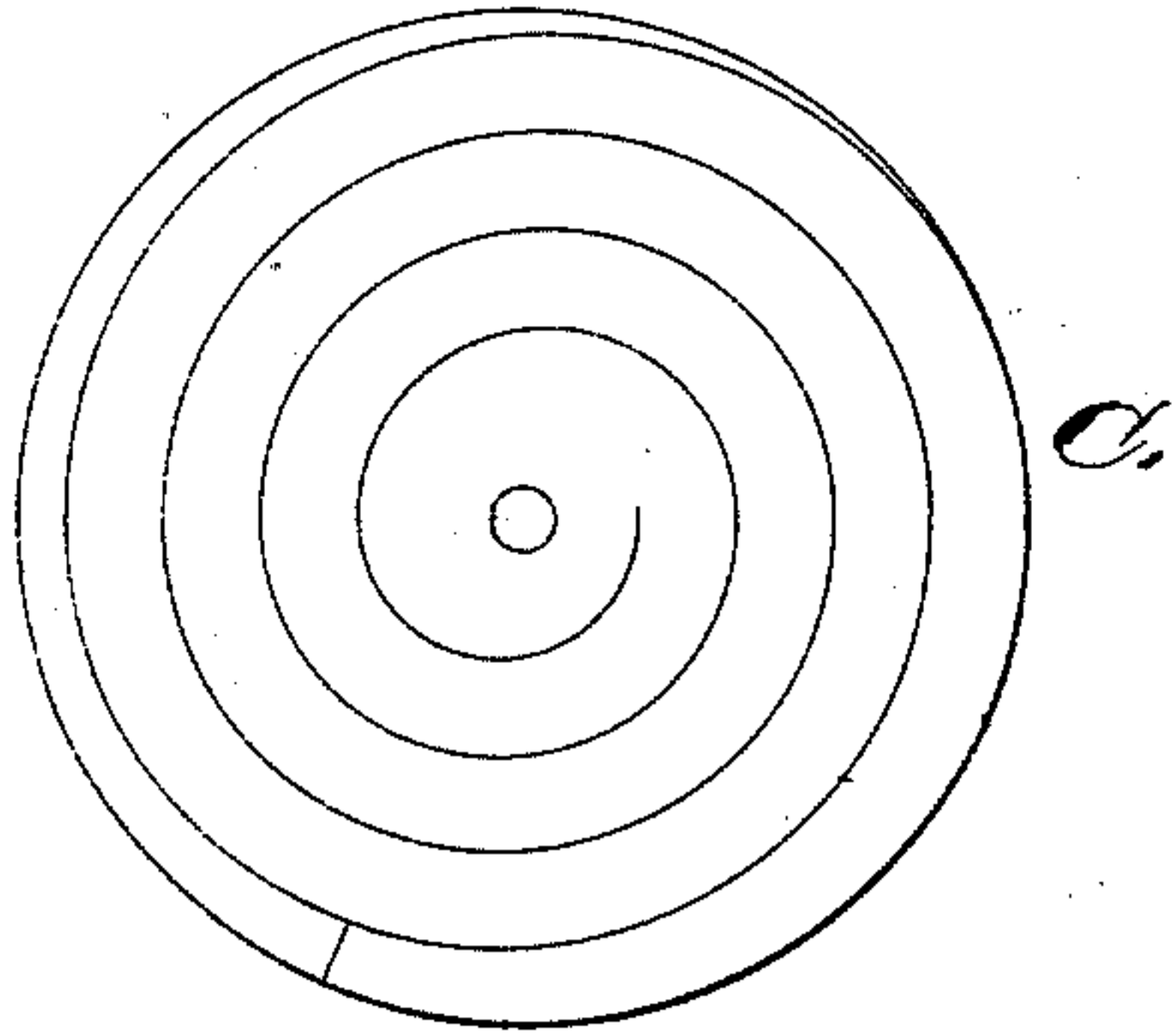
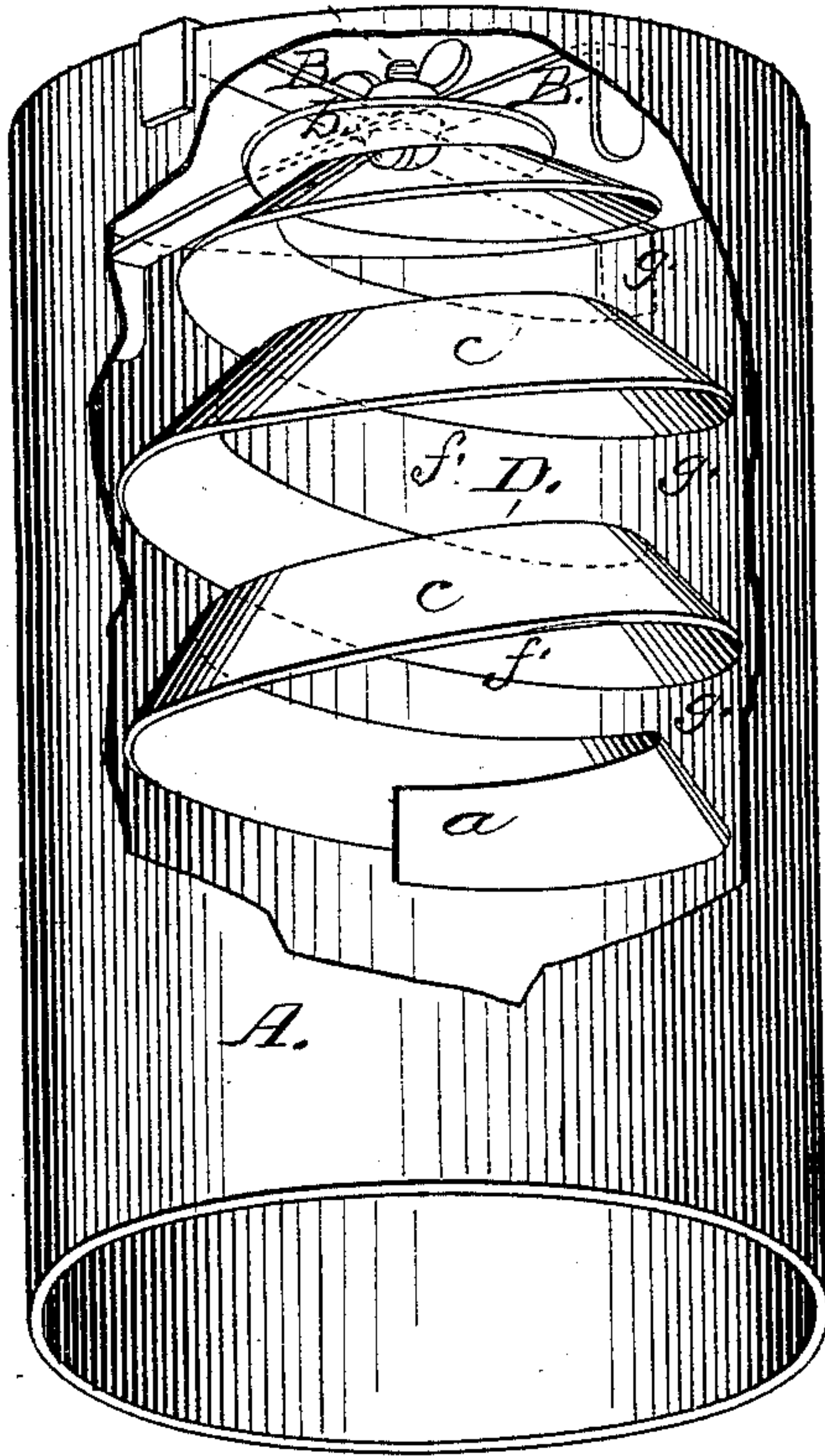


Fig. 2.



Witnesses:  
F. J. Masi.  
John A. Cline.

Inventor:  
George J. Cline  
by E. W. Anderson  
his attorney.

# UNITED STATES PATENT OFFICE.

GEORGE J. CLINE, OF GOSHEN, INDIANA.

## IMPROVEMENT IN STOVE-PIPE DAMPERS.

Specification forming part of Letters Patent No. **222,667**, dated December 16, 1879; application filed October 18, 1879.

*To all whom it may concern:*

Be it known that I, GEORGE J. CLINE, of Goshen, in the county of Elkhart and State of Indiana, have invented a new and valuable Improvement in Stove-Pipe Dampers and Spark and Soot Arresters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of the damper-blank, and Fig. 2 is a representation of a stove-pipe with the damper applied.

This invention has for its object to provide a spark and soot arrester for stove-pipes and flues which shall be simple and economical in its construction, and which will effectively throw down sparks and soot in the pipe, while acting at the same time as an automatic or self-regulating damper.

The invention consists in the construction and novel arrangement of the spiral strip cut from a single piece of sheet metal, and drawn out or extended, so that its whirls are inclined inward or toward the open central portion, while the spaces between the whirls, and bounded thereby, are directed downward and outward toward the wall of the pipe, said strip being suspended on a pivot through its central upper portion, all as hereinafter shown and described.

In the accompanying drawings, the letter A designates the stove-pipe, and B transverse bars or bearings therein, to which the damper D is pivoted. This damper is made by cutting a circular disk of sheet metal in spiral shape, forming a blank, C. (Indicated in Fig. 1 of the drawings.) This blank is extended by drawing the end *a* downward from the central portion, *b*, and at the same time pressing the lower whirls, *c*, inward, so that they will have about the same diameter as the

upper whirls, which are of nearly the diameter of the pipe, the strip or damper being designed to turn freely therein, when suspended to the bearings B, by a pivot, *d*, passing through a perforation in the central portion, *b*, of the strip. This central portion, *b*, is in the form of a small disk, and serves as the central stop or deflector over the open central space, *f*, within the whirls below. These whirls are, by the downward extension and inward compression, made to assume an inclination inward or toward the central space, *f*, of the damper, while walls bounding the spaces *g* between the whirls are directed downward and outward toward the pipe-wall. This spiral damper, being suspended by a pivot to bearings in the pipe, as stated, will revolve with the draft, its speed of revolution being automatically regulated thereby, and, on account of its formation, it will deflect or throw downward the sparks and soot, instead of allowing these products to pass up the pipe.

When the draft is shut off the damper remains quiet.

It is an excellent automatic damper and spark and soot arrester, of simple construction, and easily applied.

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

The automatic damper and spark and soot arrester consisting of the extended disk, spiral D, having the central portion, *b*, pivoted to suitable bearings, and the inwardly-inclined whirls *c* below the same, the walls bounding spaces *g* between the whirls being inclined downward and outward from the open central space, *f*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE J. CLINE.

Witnesses:

HENRY V. CURTIS,  
UTLEY B. CURTIS.