

E. LANNAY.
Spark-Arresters.

No. 139,399.

Patented May 27, 1873.

Fig. 1.

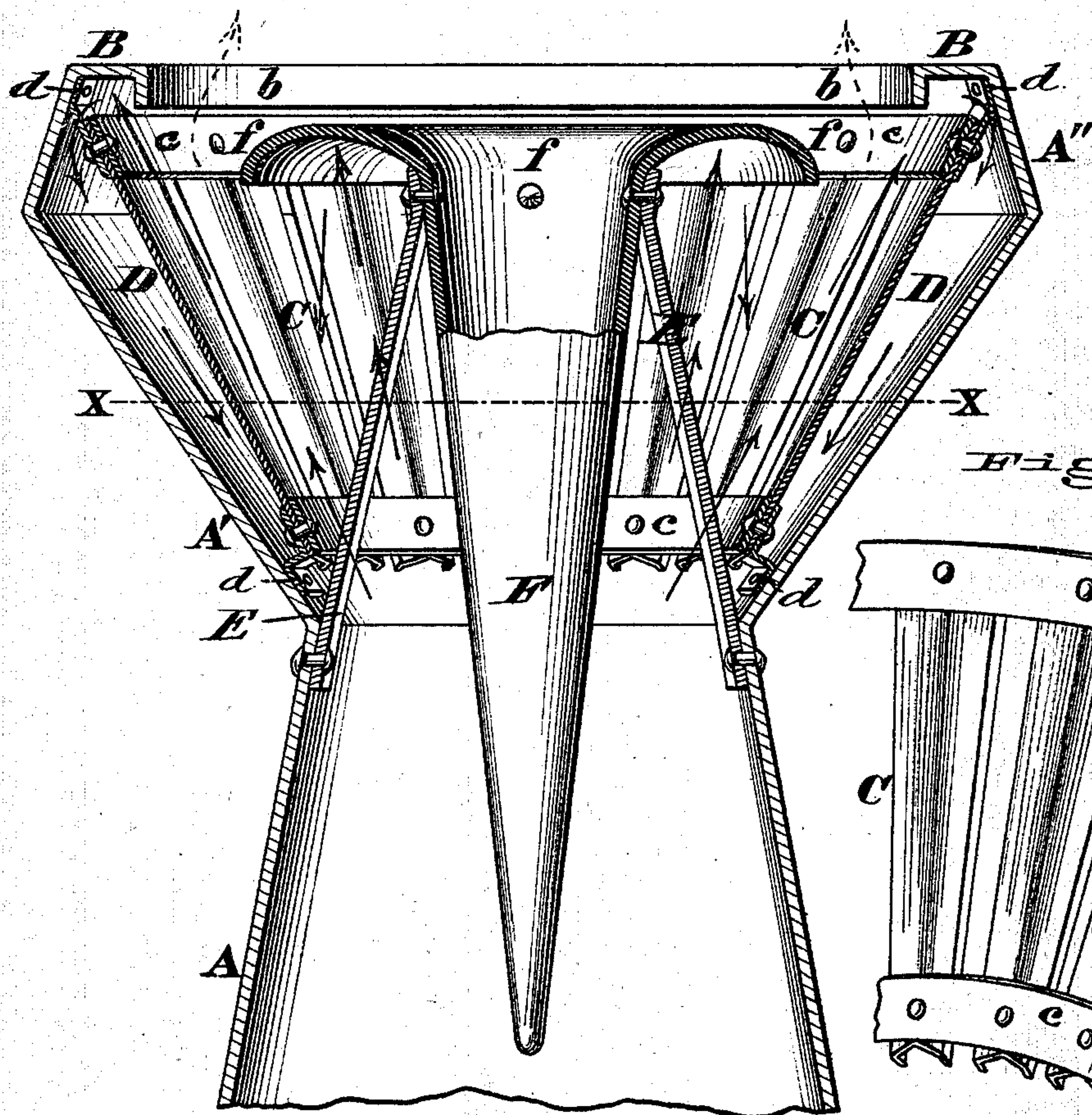


Fig. 3.

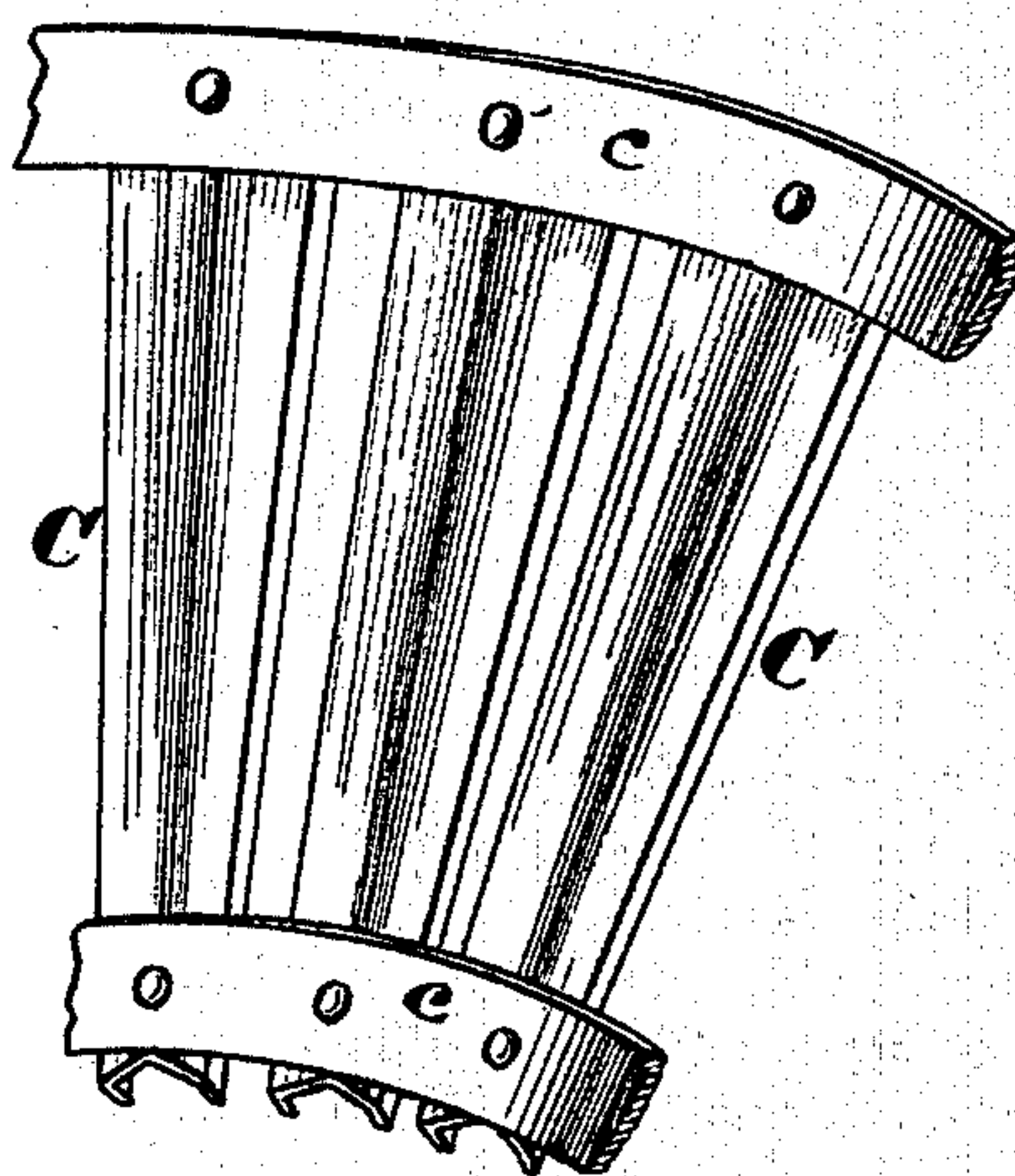


Fig. 2.

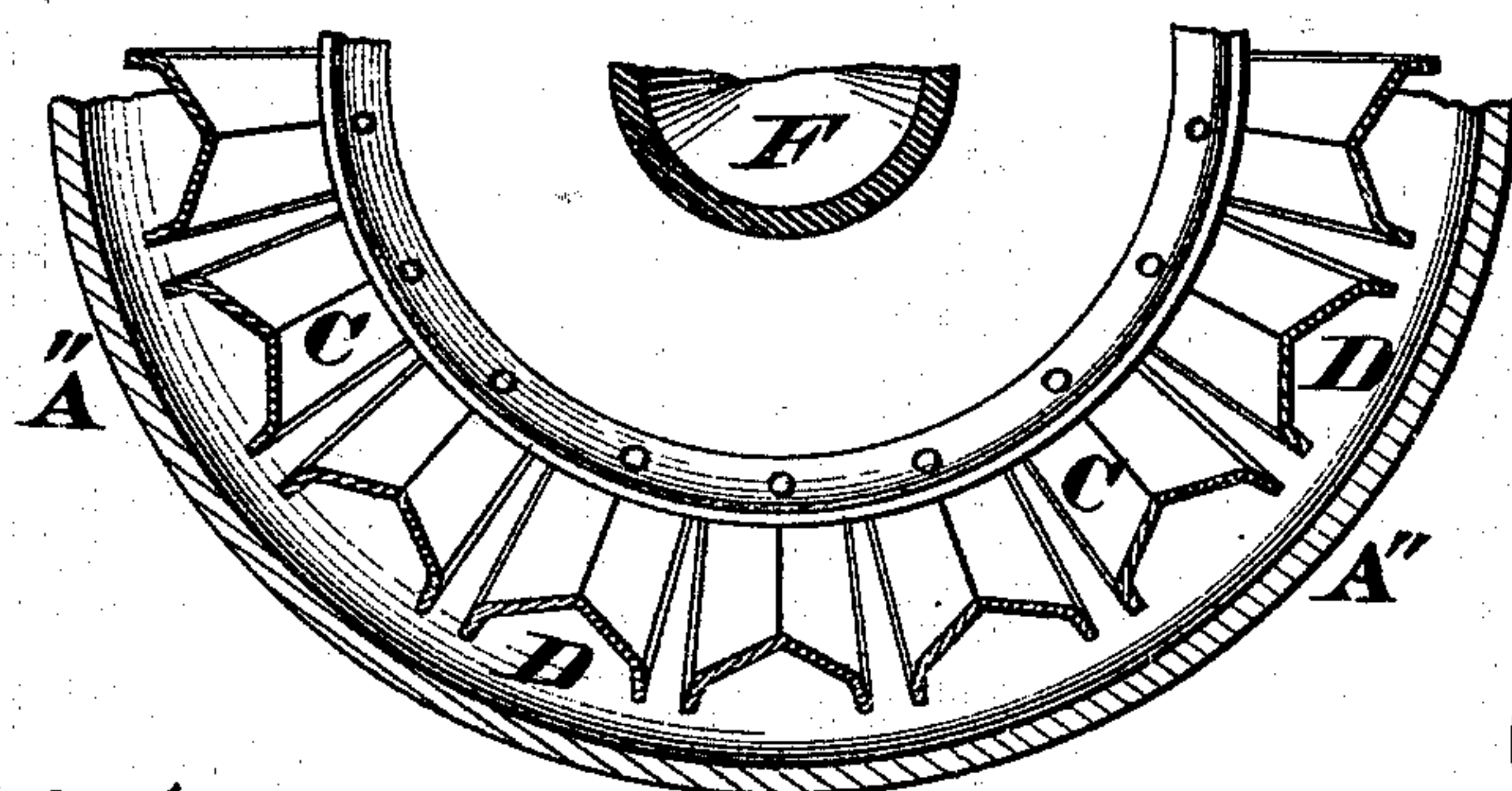
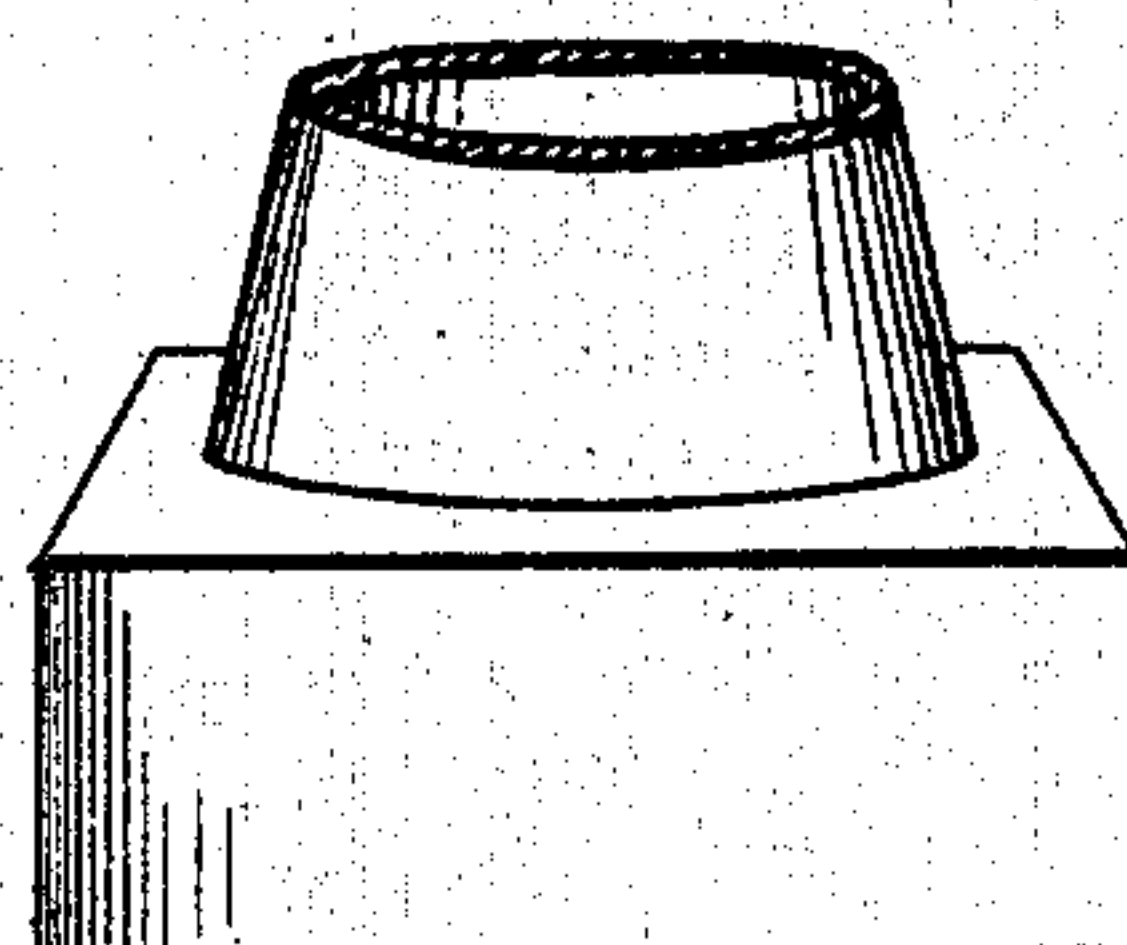


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD LANNAY, OF LIMA, OHIO.

IMPROVEMENT IN SPARK-ARRESTERS.

Specification forming part of Letters Patent No. **139,399**, dated May 27, 1873; application filed April 1, 1873.

To all whom it may concern:

Be it known that I, EDWARD LANNAY, of Lima, Allen county, Ohio, have invented a new and useful Spark-Arrester, of which the following is a specification:

My invention is designed as an improvement on chimneys in general, and especially on those of locomotives, and is so contrived as to permit the free exit of gaseous matters, and at the same time to deflect and retain any cinders, sparks, or ashes which the force of the draft may carry up along with the smoke.

To effect these objects I give the upper part of my chimney the form of two conic frustums applied base to base, and secure within the same, and concentric with the lower frustum, a series of slats having the peculiar roof-like form hereinafter described. The extreme top of the chimney has an inwardly and downwardly projecting flange. Occupying an axial position within the chimney is a trumpet-shaped deflector, whose upper recurved portion coacts with the said upper marginal flange to deflect the sparks and cinders, and cause them to pass through the interstices of the slats into the annular space between the said slats, and the chimney-wall while permitting the gaseous emanations of combustion to escape freely out of the chimney. The sparks which escape into said annular passage become burned up or extinguished therein, and mainly converted into gaseous matter.

Figure 1 is an axial section of a chimney-top embodying my invention. Fig. 2 is a horizontal section of half the chimney at the line *x x*. Fig. 3 is a perspective view of a portion of the slatted screen. Fig. 4 shows a modification which renders my improvement applicable to an ordinary chimney.

The outer shell of my chimney-top is composed of sheet iron, and consists of a succes-

sion of cones, *A A' A''*, of which the upper one, *A''*, has the represented inturned flange *B* with downturned lip or margin *b*. Firmly secured to the interior surface of the conical portion *A''* are a number of roof-shaped slats forming my slatted screen *C*. The slats forming said screen are riveted at their ends to hoops *c* attached by lugs *d* to the shell. The annular space or chamber *D*, between the screen *C* and the portion *A' A''* of shell, is open above and below. Supported centrally within the shell by standards *E* is a trumpet-shaped deflector, *F*, in the form of an inverted cone, with a flaring and recurved mouth or summit, *f*.

The sparks, cinders, and other solid particles of the smoke, strike either the under side of the lipped flange *B b* or of the recurved summit *f* of the deflector *F*, and, rebounding therefrom, are precipitated upon the slatted screen *C*, and either pass directly through its interstices, or such of them as strike the slats are conducted by the roof-formed tops of the slats into the annular space *D*, in which they become burned up or extinguished, as shown by the strong arrows. The gaseous portions of the smoke, in the meantime, being capable of a more tortuous course, see dotted arrows, escape easily and without detention.

I claim as new and of my invention—

The described arrangement of flanged conical shell *A A' A'' B b*, slatted screen *C*, chamber *D*, and axial deflector *F f*, for the purpose set forth.

In testimony of which invention I hereunto set my hand.

EDWARD LANNAY.

Attest:

GEO. H. KNIGHT,
JAMES H. LAYMAN.