

(No Model.)

T. PATTERSON.

SPARK ARRESTER.

No. 271,910.

Patented Feb. 6, 1883.

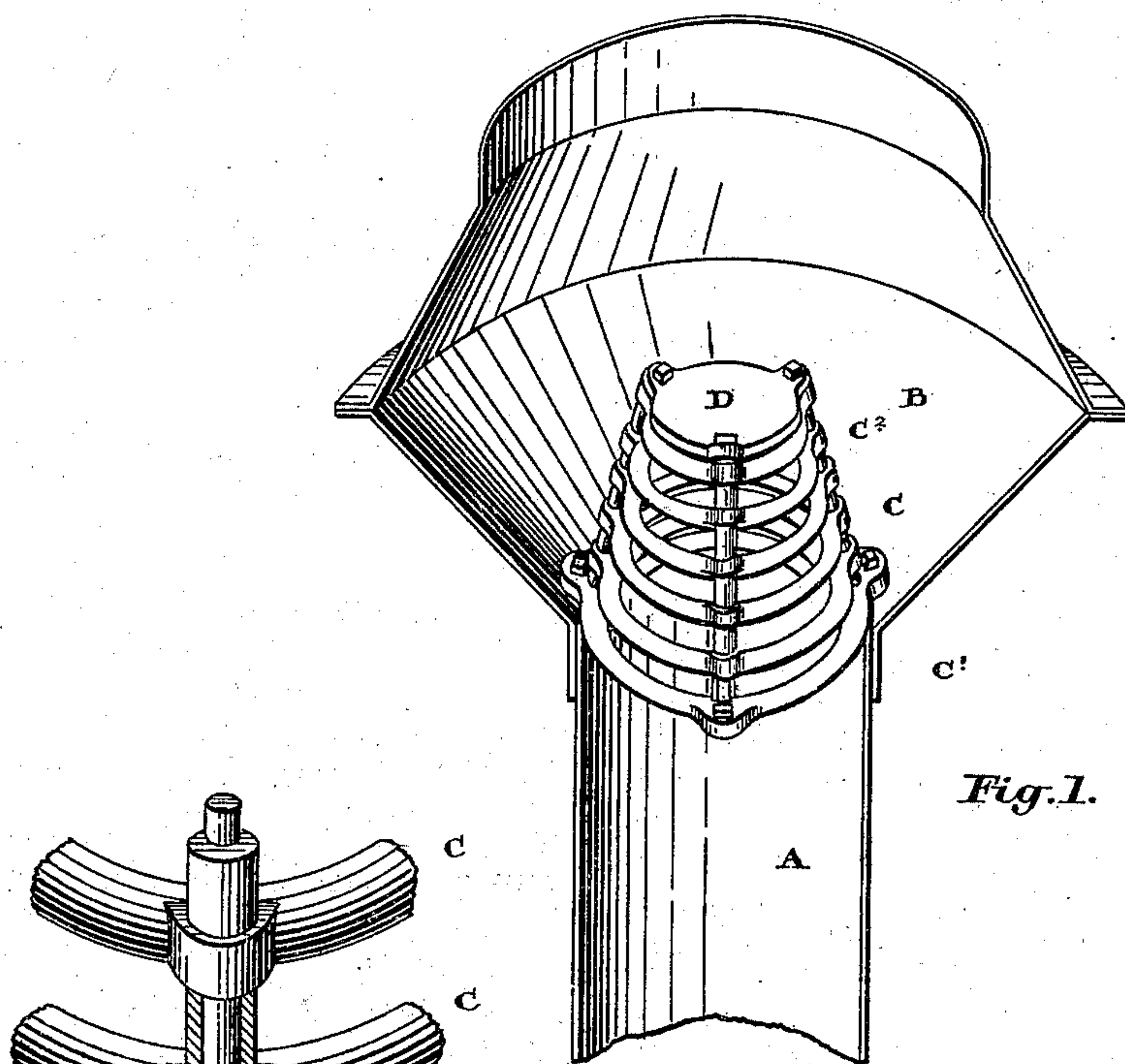


Fig. 1.

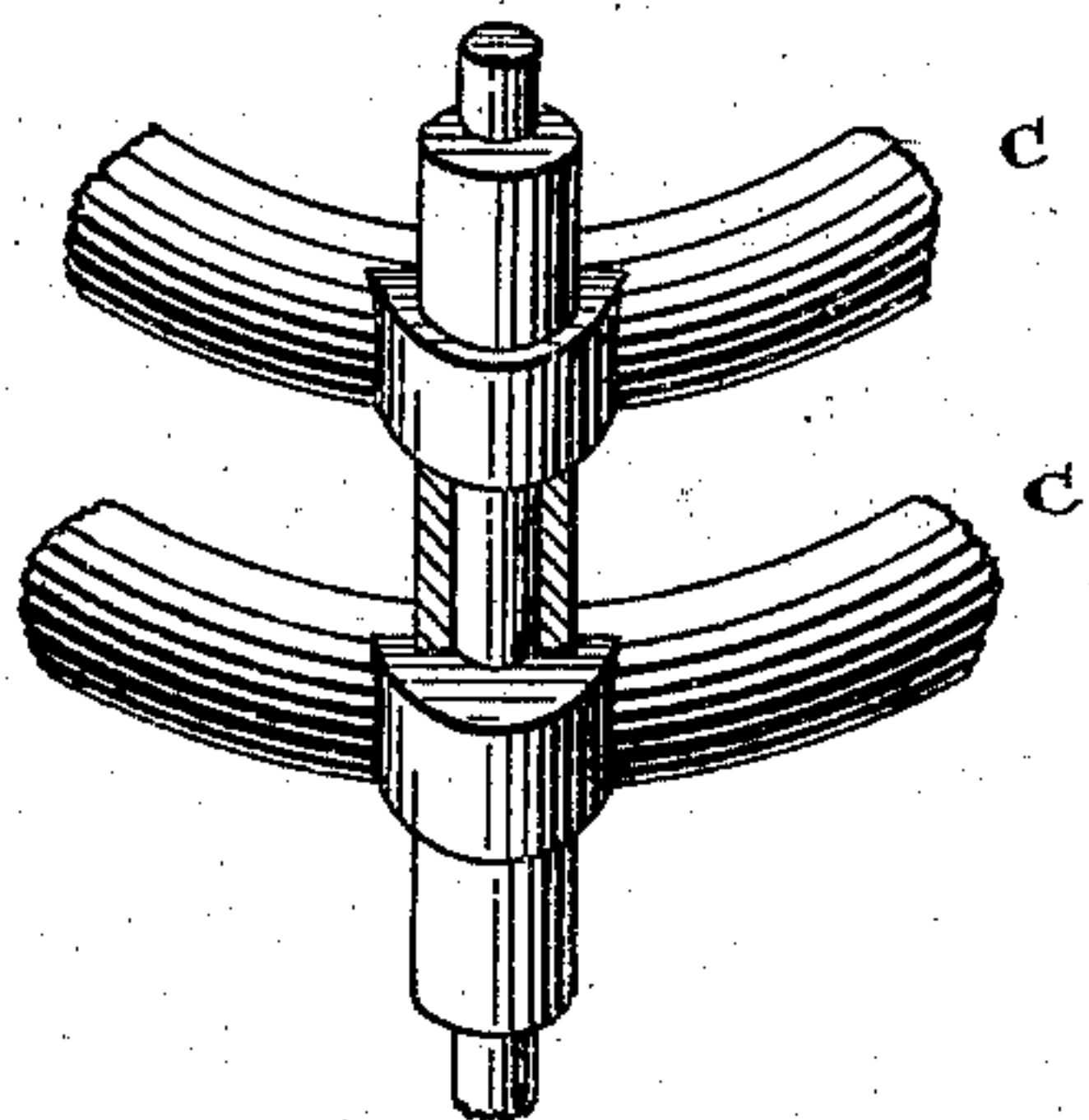


Fig. 3.

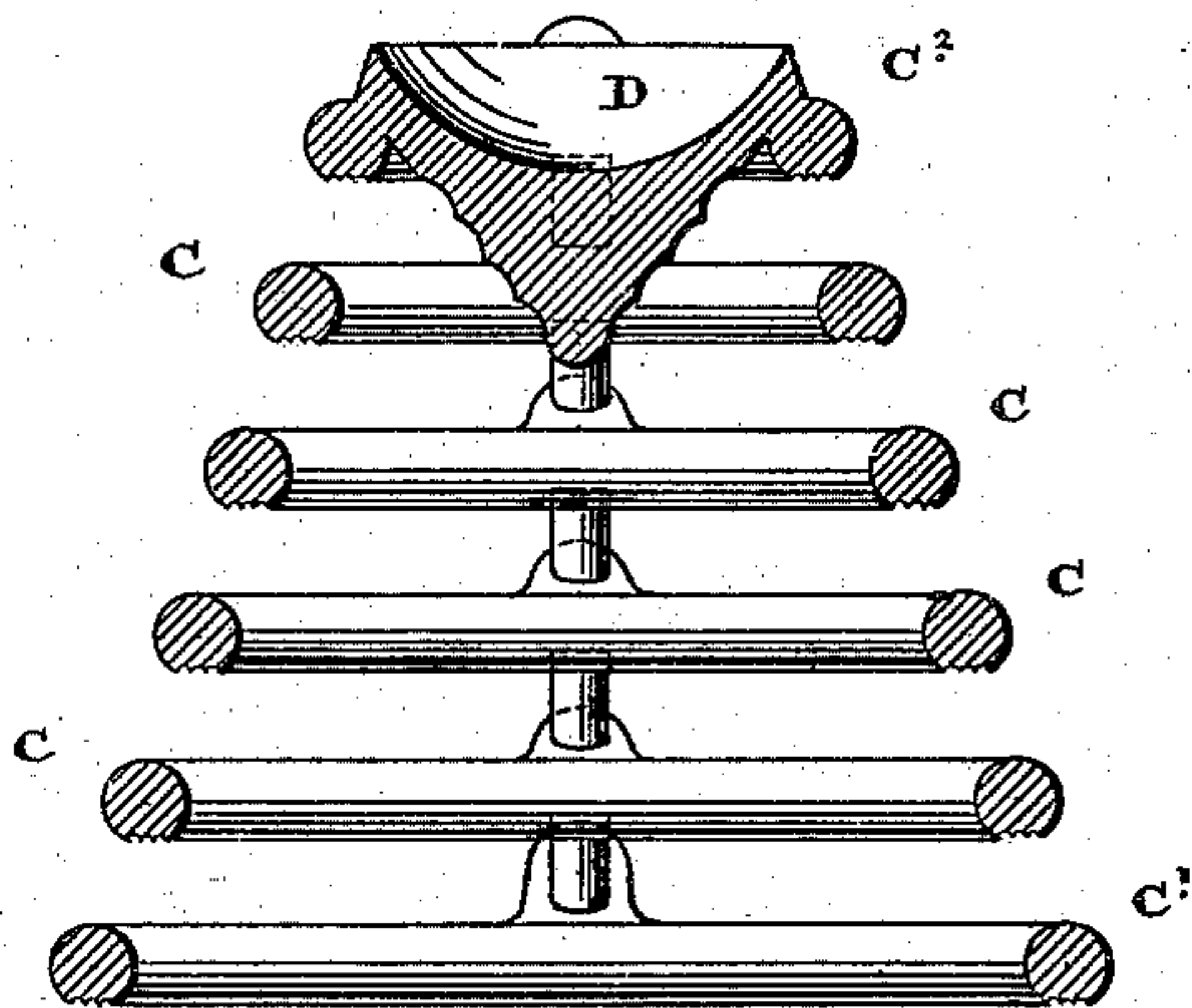


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS PATTERSON, OF STRATFORD, ONTARIO, CANADA.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 271,910, dated February 6, 1883.

Application filed October 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS PATTERSON, a subject of the Queen of Great Britain, residing at the town of Stratford, in the county of Perth, in the Province of Ontario, Canada, have invented a certain new and useful Spark-Arrester, of which the following is a specification.

The invention relates more particularly to that class of spark-arresters specially adapted for locomotive-engines, and the object of the invention is to produce a spark-arrester which will effectually prevent the escape of any sparks large enough to set material on fire, even of the most inflammable nature.

It consists essentially in placing at the junction between the smoke-pipe and bonnet a cone-frustum-shaped cage composed of a series of metal rings, reducing in diameter from the bottom ring to the top, where an inverted cone is placed to form a cover, the interior surfaces of the rings being fluted for the purpose of forming a grating to grind the sparks as they are driven into the cage by the action of the exhaust.

Figure 1 is a perspective sectional elevation of a smoke-stack provided with my spark-arrester. Fig. 2 is a cross-section of the cage. Fig. 3 is a detail showing connection between the rings.

In designing a spark-arrester applicable to locomotive-engines it is important that it should not present any impediment to the exhaust, while at the same time it must be so arranged that the sparks carried up by the exhaust shall not reach the outer netting till they have been so effectually ground to dust as to prevent the possibility of their setting on fire the most inflammable material against which they might come in contact.

In the drawings, A is the smoke-pipe, and B the bonnet. At or near the junction of the

two is a cone-frustum-shaped cage formed of a series of rings, C, tapering gradually in diameter from the lower or base ring, C', to the top ring, C². Instead of completing the cone, the top piece, D, is inverted, its cone end projecting into the cage and forming, as usual, the center, toward which the exhaust is directed. It will be noticed that the surface of the cone-center piece is fluted, and also that the lower bottom edge of each ring is likewise fluted. This portion of the rings I prefer to chill in order to form a lasting grating, against which the sparks in ascending are ground.

I do not confine myself to the exact position of the cage, as indicated, in the smoke-stack, as of course any variations in the form of the smoke stack might necessitate an alteration in the position of the spark-arrester.

The rings C are provided with suitable lugs, *a*, through which the bolts *b* pass, the rings being held apart by the ferrule or thimble *d*. When put together, the cage should be bolted within the bonnet, suitable lugs being provided therein, if necessary.

What I claim as my invention is—

1. In a smoke-stack, an open cage composed of a series of metal rings separated by suitable thimbles placed between them, and having their interior or under surfaces fluted, substantially as and for the purpose specified.

2. In a smoke-stack, an open cone-frustum-shaped cage composed of a series of metal rings separated by suitable thimbles placed between them, and having their interior or under surfaces fluted, in combination with an inverted cone-shaped top, forming a cover to the cage, as and for the purpose specified.

T. PATTERSON.

Witnesses:

WM. NIVIN,
W. LAWRENCE.