

V.P. & B. Kimball,

Spark Arrester,

Nº 9,299.

Patented Oct. 5, 1852.

Fig. 1

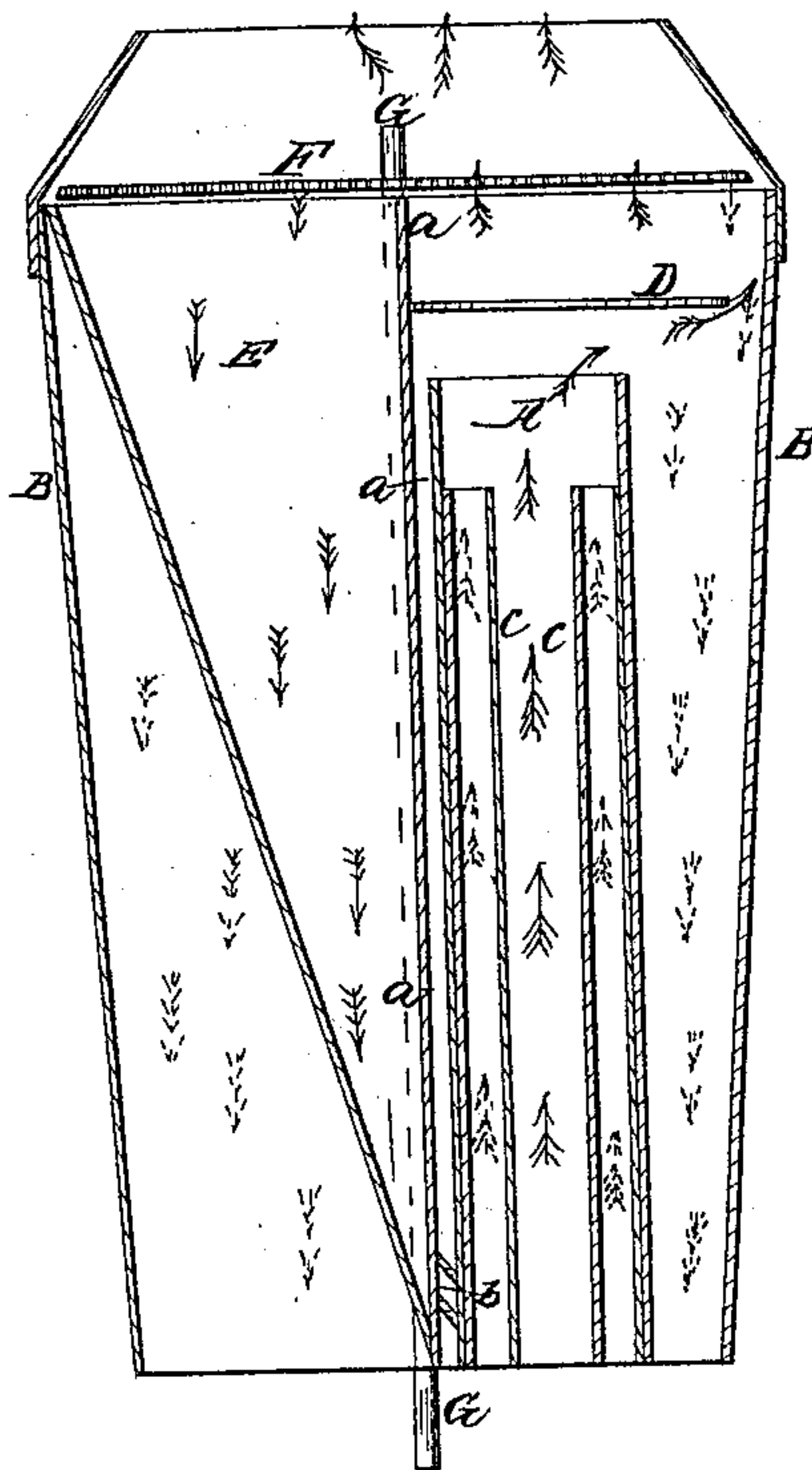
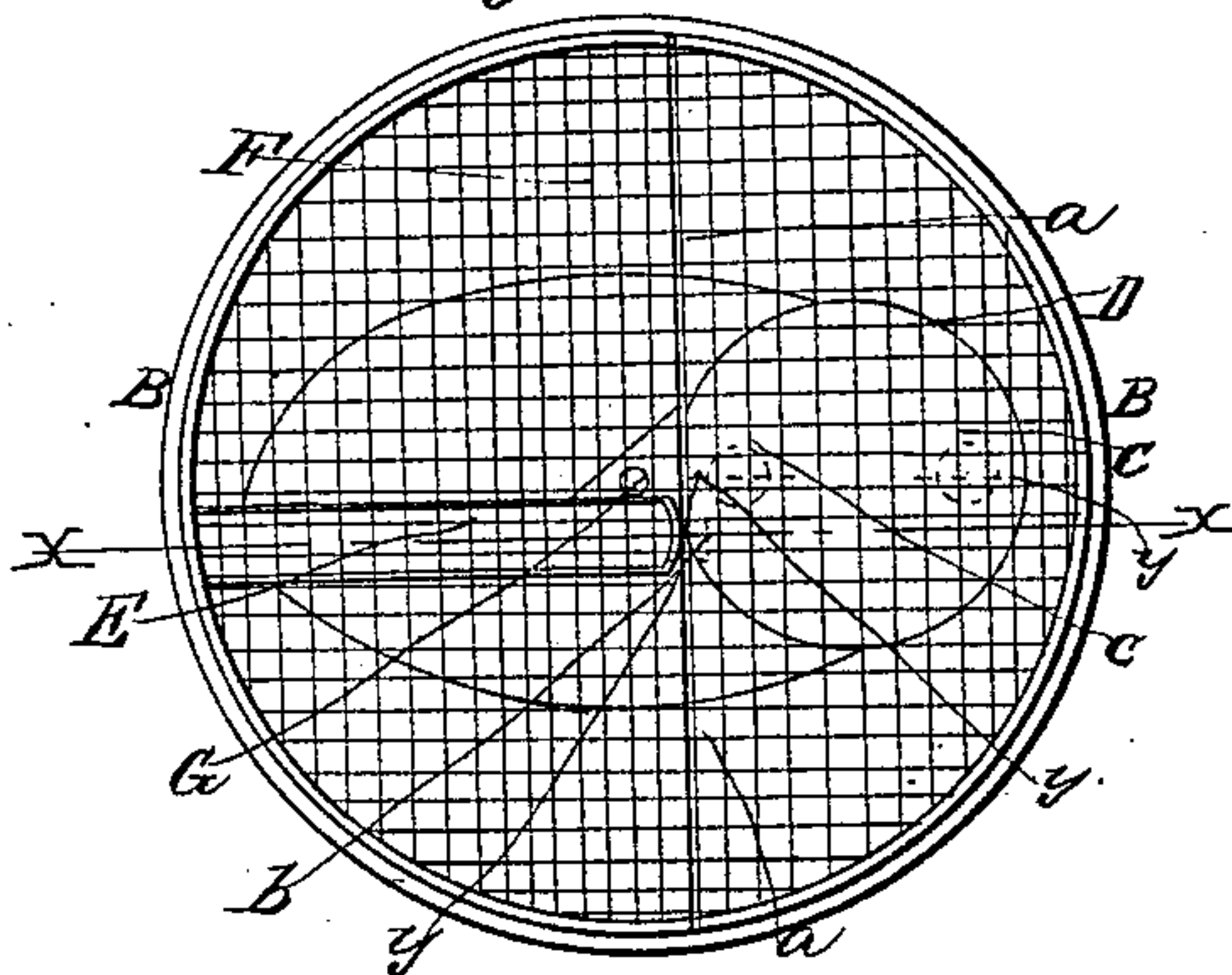


Fig. 2



UNITED STATES PATENT OFFICE.

V. P. KIMBALL AND B. KIMBALL, OF WATERTOWN, NEW YORK.

SPARK-ARRESTER.

Specification of Letters Patent No. 9,299, dated October 5, 1852.

To all whom it may concern:

Be it known that we, V. P. KIMBALL and B. KIMBALL, of Watertown, in the county of Jefferson and State of New York, have invented a certain new and useful Improvement in Spark-Arresters; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of our improved spark arrester, taken through the center, X, X, Fig. 2 is the line of section the exhaust tubes are also bisected vertically through their centers (y) (y) being the line of section. Fig. 2, is a plan or top view of ditto, the top or upper part of the spark arrester being removed.

Similar letters of reference indicate corresponding parts in each of the two figures.

The nature of our invention consists in the employment or use of a revolving screen in combination with a chamber for creating a downward draft, said chamber being connected at its lower end with the smoke pipe at a point below the upper ends of the exhaust tubes. The screen allows the smoke to pass through it but prevents the cinders the most of which fall below upon touching the screen, some however will adhere to the screen, and these are taken from it as the screen revolves and as the cinders pass over the chamber above mentioned having the downward draft.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

A, represents the upper part of the smoke pipe which passes into the trunk or body B, of the spark arrester.

C, C, are exhaust tubes which pass upward in the smoke pipe and terminate a short distance from its top see Fig. 1.

D, is a shield placed over the smoke pipe a short distance above it, this shield is attached to a partition (a) which is placed vertically through the center of the trunk or body B.

E, is a chamber the top of which extends from the partition (a) to the side of the trunk or body B, this chamber gradually narrows down to a tube (b) said tube communicating with the smoke pipe A, below the tops or upper ends of the exhaust tubes C, C.

F, is a screen of circular shape and made of the usual material, wire cloth; this screen is placed in the upper part of a vertical shaft

G, which passes through the center of the trunk or body B, the screen is placed over the top of the chamber E, better seen in Fig. 1, the red lines in Fig. 2, represent the screen.

The several parts of the spark arrester being now described the manner in which it operates will be readily understood.

Motion is communicated to the shaft G, in any proper manner, and the screen F, being attached to the shaft G, consequently revolves with it, the smoke and cinders from the fire chamber pass up the smoke pipe A, see black arrows Fig. 1, the smoke passes through the revolving screens, but the cinders strike against the screen and fall to the bottom of the trunk or body B, see red dotted arrows, the shield D, preventing the cinders from returning into the smoke pipe A. Some of the cinders however may and generally do adhere to the screen, and in time the screen may be so clogged with them as to prevent the smoke passing through it. To obviate this difficulty the chamber E, is employed and as the lower end of the chamber connects with the smoke pipe A, at a point below the top of the exhaust tubes, a downward draft is created within the chamber, see solid red arrows Fig. 1, now all cinders adhering to the screen will be drawn off from it as the screen revolves, because the screen passes over the top of the chamber E. Thus the screen is effectually prevented from being clogged with cinders and a free exit for the smoke through the screen always maintained.

Having thus described the nature of our invention and the manner in which it is operated what we claim as new and desire to secure by Letters Patent is,

The revolving screen F, in combination with the chamber E, the lower part of said chamber communicating with the smoke pipe A, at a point below the tops of the exhaust tubes C, C, by which arrangement a downward draft is created within the chamber E, and the cinders drawn from the screen F, as it revolves, thus preventing the clogging of the screen as set forth.

VOLNY P. KIMBALL.

BRUCE KIMBALL.

Witnesses as to V. P. Kimball:

CYRENIUS H. MIGHT,

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Witnesses as to Bruce Kimball:

R. H. TYLER,

W. W. JEROME,

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