

T. P. Peck,

Spark Arrester,

No. 70,254.

Patented Oct. 29, 1867.

Fig. 1.

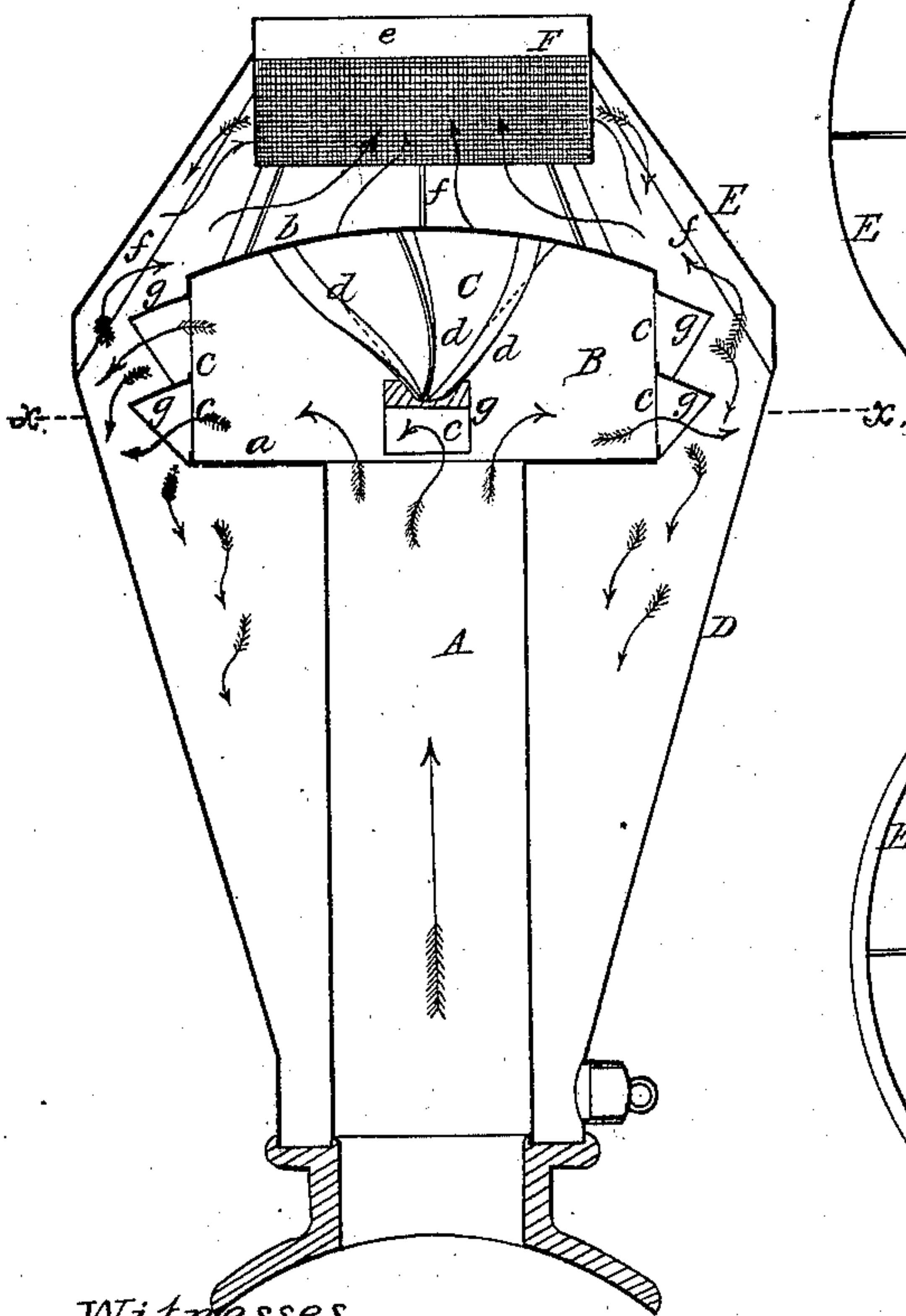


Fig. 2.

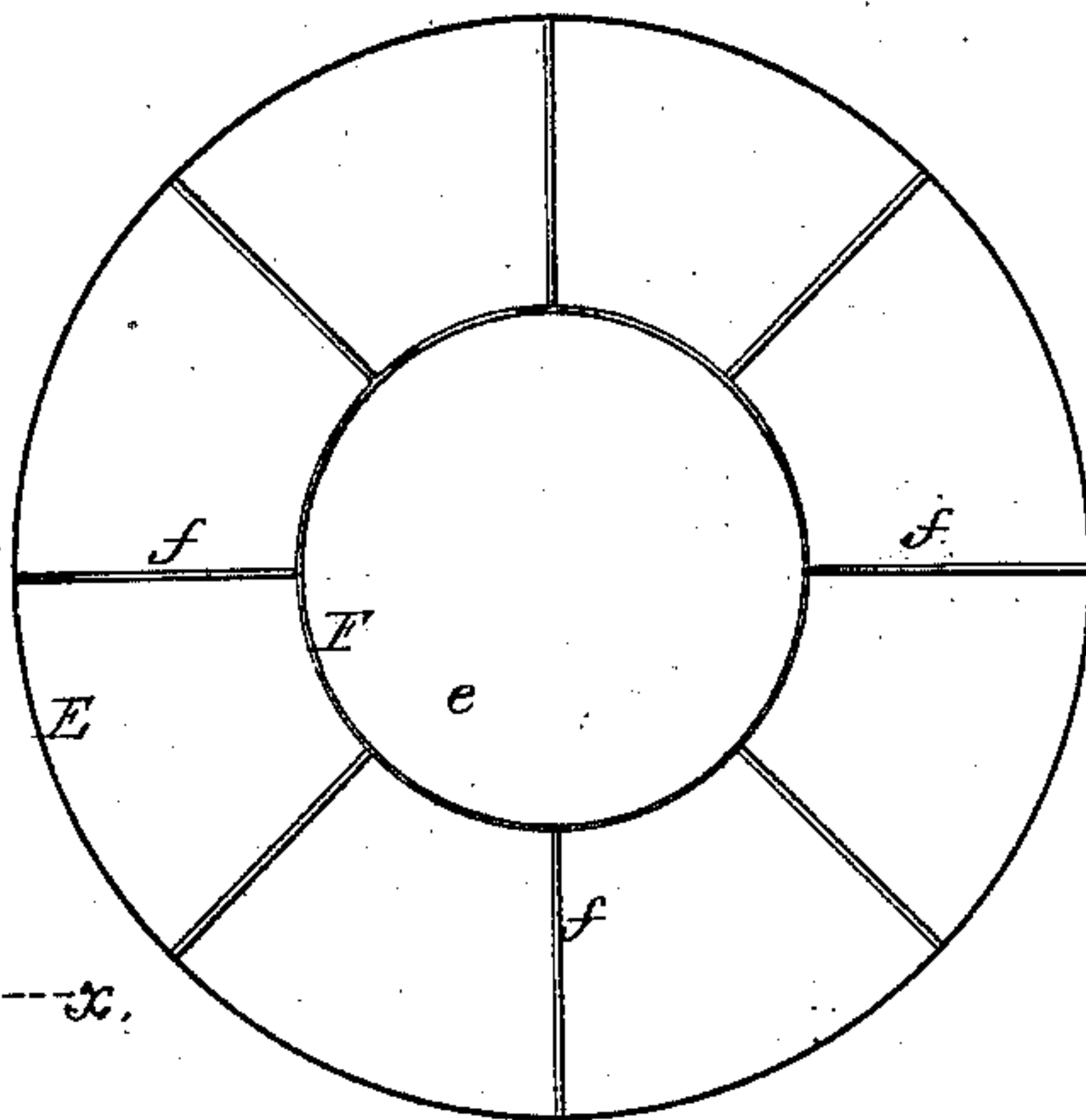
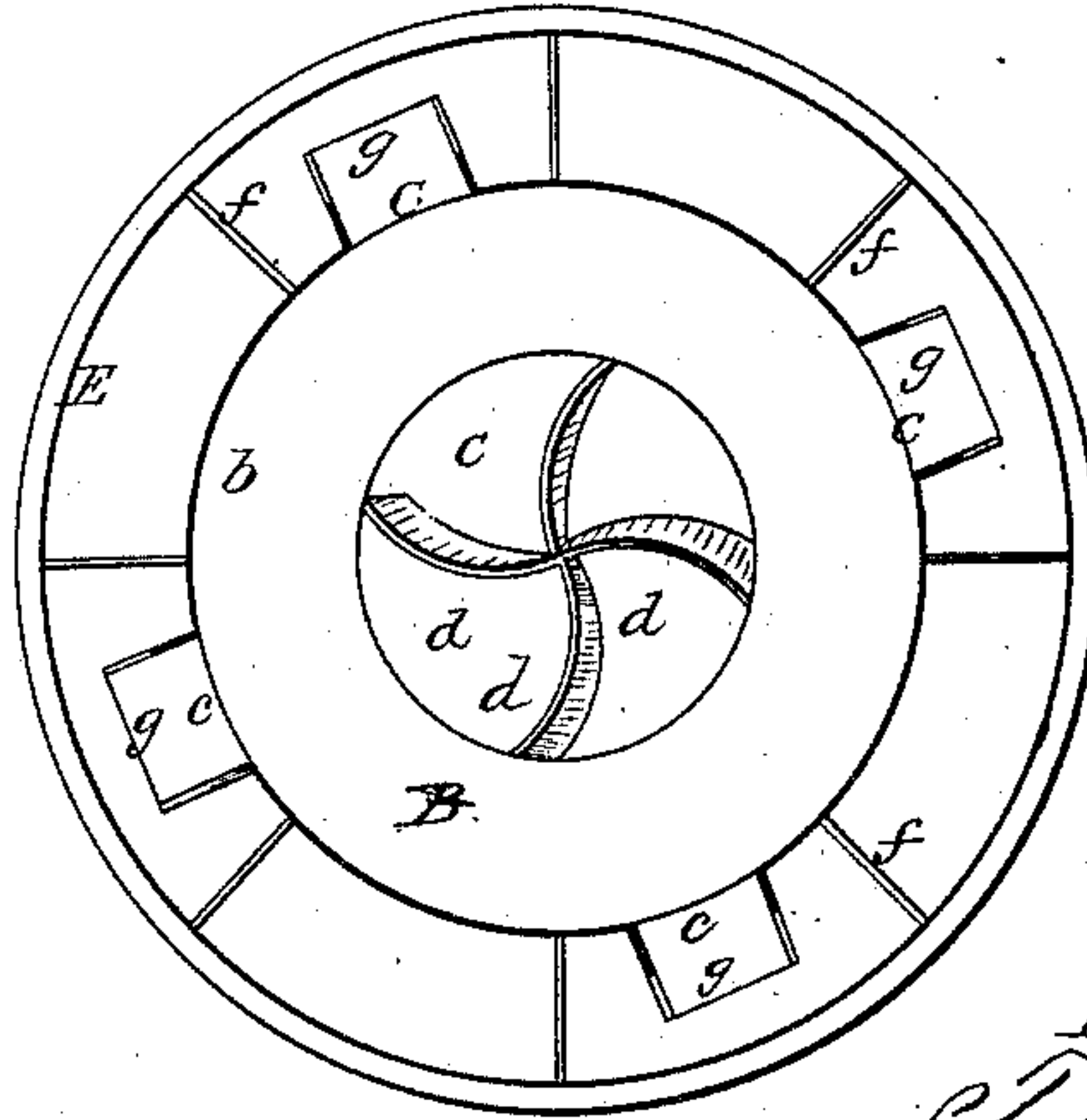


Fig. 3.



Witnesses.

*McCombs
A. Heller*

Inventor.

T. P. Peck

*Per Brown, Combs & Co
Attys*

United States Patent Office.

THEODORE P. PECK, OF SAVANNAH, GEORGIA.

Letters Patent No. 70,254, dated October 29, 1867.

IMPROVEMENT IN SMOKE-STACKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THEODORE P. PECK, of Savannah, in the county of Chatham, and State of Georgia, have invented a new and useful Improvements on Smoke-Stacks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a sectional elevation of a smoke-stack constructed according to my improvement.

Figure 2 an inverted plan of the upper portion of the outer shell or stack-top, and

Figure 3 a horizontal section viewed from below, taken as denoted by the line *x x* in fig. 1.

Similar letters of reference indicate corresponding parts.

This my improvement in smoke-stacks is applicable not only to locomotives, but also to stationary and marine engines, and my invention consists, firstly, in providing the top or cover of the smoke-stack, on its interior, with wings or their equivalents, radiating from the spark-sieve or catcher that is constructed to allow of the free escape of the smoke through it, said wings serving to prevent whirling of the sparks within the top, and to conduct them against the sieve from which they are thrown back into the spark-holder, said smoke-stack in its general arrangement, furthermore, presenting an entirety of a novel character, combining efficiency with simplicity.

Referring to the accompanying drawing, A is the interior smoke pipe, opening into the cone-box B at its bottom. This cone-box, which is or may be cylindrical, with a flat bottom, *a*, and arched or convex roof *b*, has its sides, that may be perpendicular, provided with suitable port-holes or outlets *c*. These ports may either be single or double, one above the other, and arranged in any suitable number around the cone-box. Secured to the inside of the top of the box B is the cone C, provided with wings, plates, or flanges *d*, running from the base *c* in the cone-box, and be arranged so that the spaces between said wings lie opposite the ports or outlets *c*, or thereabouts. Such wings or their equivalents may either be straight or curved, and serve to aid the cone C in turning the motion of the sparks, and throwing them out of the box B through the ports *c*, and prevent their whirling and clogging the draught. Flutes may be arranged down the cone, to form the equivalents of these wings *d*. The outer shell or spark-holder D, which may be of any suitable shape, is surmounted by a stack-cover or top, E, preferably of the ordinary tapering form, and having a direct upper outlet, *e*, for the smoke, through a cylindrical sieve or catcher, F, surrounding the smoke outlet, or forming a free downward extension of it. From this sieve, down the interior of the top E, radiate any number of wings or flanges, *f*. These flanges should increase in depth towards the lower edge of the top, and may either be curved or straight. They serve the purpose of preventing the whirling of the sparks when the engine exhausts into stack, and to conduct them directly against the sieve F, from whence they are thrown back down into the spark-holder. The port-holes *c* of the cone-box I prefer to cover on their outside with bevelled or sloping hoods *g*, converting the ports into what may be called "port-bevels," inclining downwards, for the purpose of shedding the dropping sparks thrown back from the sieve, and to give a downward tendency to the sparks striking said hoods on the inside when passing out from the cone-box. In speaking of sparks, of course is included any solid or burning matter other than smoke, carried up by the draught, the course or courses of the sparks being indicated by arrows in red, (fig. 1,) and that of the smoke by blue arrows.

By this my improvement it will be seen that while much of the usual complication is avoided, a perfect spark-arrester is produced without choking or clogging of the draught, but rather improving the suction, and giving free egress for the smoke.

What I here claim, and desire to secure by Letters Patent, is—

1. The combination with the stack-top or cover E, and sieve or spark-catcher F, of the wings or plates *f*, arranged for action substantially as described.

2. A smoke-stack embracing an interior pipe, A, outer shell D, with its top or cover E, having interior ribs or wings *f*, sieve F, and cone-box B, constructed as described, and provided with a ribbed or winged cone and outlets or port-bevels, or the equivalents of these devices, for operation together as herein set forth.

Witnesses:

E. L. HOLCOMB,
WM. D. HARDEN.

THEODORE P. PECK.