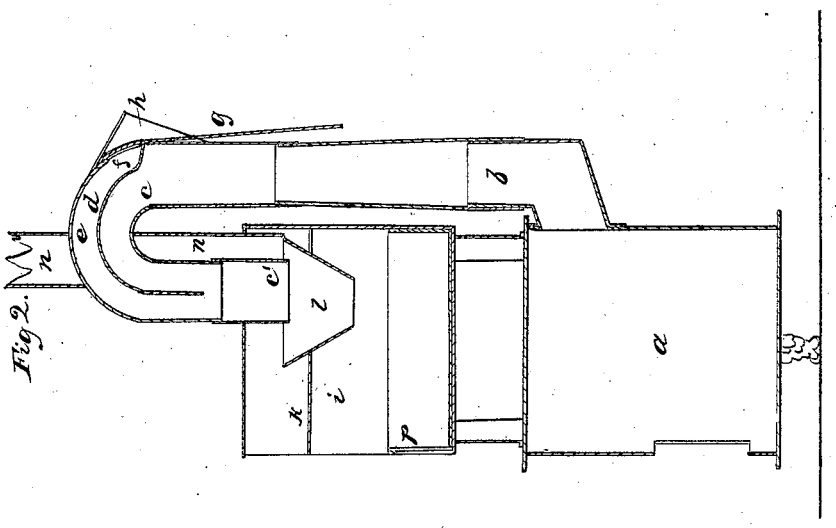
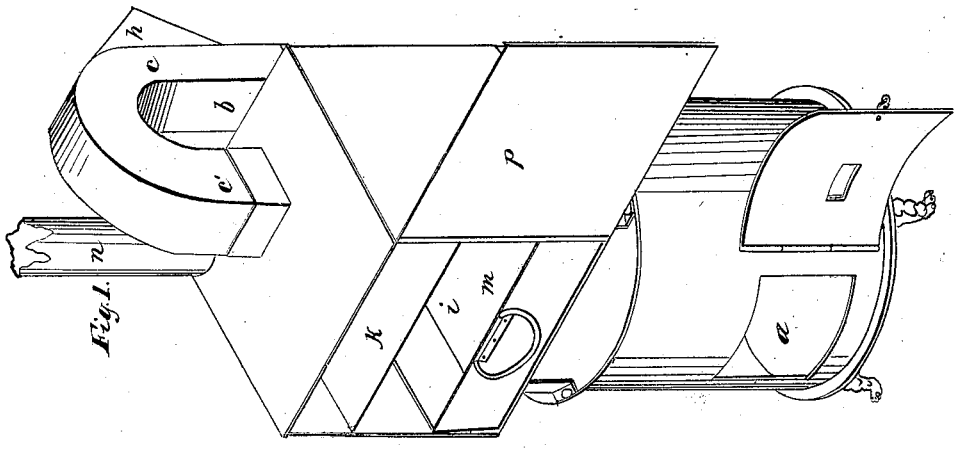
A. Hamann,

Spark Arrester,

No. 4,752. Patented Sep. 10, 1846.





UNITED STATES PATENT OFFICE.

AUGUSTUS HAMANN, OF WASHINGTON, DISTRICT OF COLUMBIA.

SPARK-ARRESTER.

Specification of Letters Patent No. 4,752, dated September 10, 1846.

To all whom it may concern:

Be it known that I, A. HAMANN, of Washington, in the District of Columbia, have invented a new and useful Improvement in Spark-Arresters, and that the following is a full, clear, and exact description of the principle or character thereof which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an isometrical view of the apparatus, and Fig. 2, a vertical section.

The same letters indicate like parts in all the figures.

Various devices have heretofore been constructed for arresting and extinguishing the sparks produced by a locomotive engine, or other fire, but none as yet with perfect success, the apparatus being in some instances so complicated as to preclude its use; others want the essential feature of perfectly arresting the sparks while at the same time a free draft is allowed; in fact in most of them the draft has been more or less obstructed. In constructing my improvement I have endeavored to obviate all these difficulties, and have succeeded in forming an apparatus which is at once simple and efficient.

The construction is as follows: (*a*) is a fire chamber of any desired form, and to be placed in any combination, from the back of which the smoke pipe (*b*) ascends; the top of this smoke pipe curves over at (*c*) till its end (*c'*) which is open points downward and is parallel with the upright part (*b*); in the section, (Fig. 2) it will be seen that the curved part (*c*) of the smoke pipe has a partition (*d*) in it which follows the curve from its commencement over nearly to the open end it extends from side to side and forms a passage (*e*) for air over that (*c*) for smoke the partition being closed in to the front or outside of the curved pipe below a hole (*f*) that opens into the external air which hole can be covered by a valve (*g*) at pleasure; a small funnel shaped hood (*h*) projects from the pipe, in the direction the pipe is moving at this point, the more readily to gather the air to the hole (*f*) when the funnel is moving through it. The end of the smoke pipe (*c'*) above named enters a square or other suitable shaped box or receiver (*i*) and terminates just above a horizontal partition (*k*) therein which is placed at about one third the height below the top; through said partition directly under the pipe there is a hole in which is fitted a conical funnel (*l*), the larger end of which extends up around the end of the pipe and the other below the partition, in the bottom of the box there is a drawer or bray (*m*) from the top of the box a funnel or pipe (*n*) extends up vertically to any required height suitable for a draft and its lower end projects into the box about as low as pipe (*c'*); (*p*) is a door which opens the whole side of the box if required or the side may be closed up permanently as it must be while in operation.

In practice when a fire is made in (*a*) the smoke rises in pipe (*b*) and passes through the curve (*c*) with a velocity due to the draft aided by the current of air received at (*e*) which drives the smoke and sparks into the box below the partition when the sparks are lodged in the tray (*m*) from this compartment the smoke rises around the descending current through the funnel (*l*) and thence out at the pipe (*n*).

Having thus fully described my improved apparatus what I claim therein as new and desire to secure by Letters Patent is—

The combination of the pipes (*c* and *e*) the box (*i*) and pipe (*n*), constructed substantially in the manner and for the purpose herein fully set forth, so as to cause a sufficient draft, and at the same time arrest the sparks.

AUGUSTUS HAMANN.

Witnesses:

A. P. BROWNE,

T. C. DONN.