

(No Model.)

F. BRUHN & J. RAUM.
SPARK ARRESTER.

No. 378,188.

Patented Feb. 21, 1888.

Fig. 1.

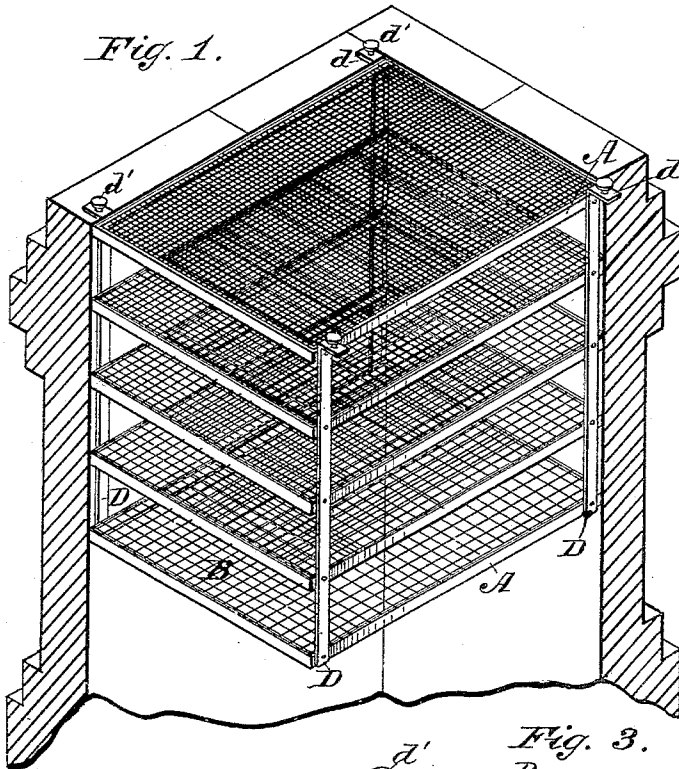


Fig. 2.

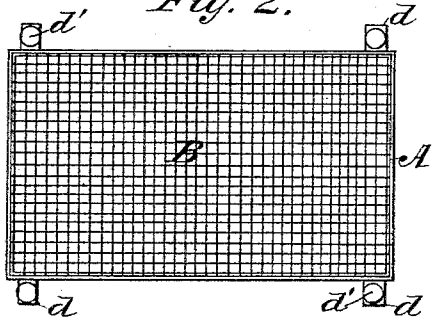


Fig. 3.

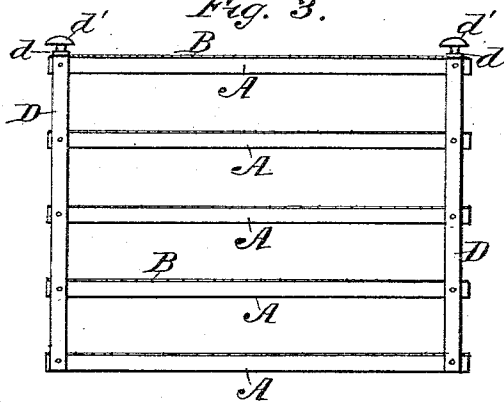
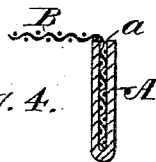


Fig. 4.



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FREDERICK BRUHN AND JEROME RAUM, OF FORT SHAW, MONTANA TERRITORY.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 378,183, dated February 21, 1888.

Application filed September 22, 1887. Serial No. 250,905. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK BRUHN, a subject of the Emperor of Germany, and JEROME RAUM, a citizen of the United States, both of Fort Shaw, in the county of Lewis and Clarke, Montana Territory, have invented a new and Improved Spark-Arrester, of which the following is a full, clear, and exact description.

Our invention relates to an improved spark-arrester adapted for application to chimneys, stove-pipes, and smoke-stacks of any description, and has for its object to provide a means whereby sparks, cinders, or other heated products of combustion will be effectually prevented from passing from the chimney stack or pipe to which the device is attached, and wherein the device will be prevented from choking and the aforesaid cinders or weighty products of combustion be deflected and thrown downward to the base of said chimney or pipe.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the device positioned in a chimney, the said chimney being partially in section. Fig. 2 is a plan view of the device. Fig. 3 is a side elevation thereof, and Fig. 4 is a detail view illustrating the mode of securing the screens in their frames.

In carrying out the invention, two or more, preferably five, frames, A, are provided, constructed of double strap or U-shaped iron, and of a size and contour equal to the inner dimensions and contour of the chimney stack or pipe in which they are adapted for attachment.

Across the top of each frame a strip of wire-netting, B, is stretched, the ends of said netting being carried down in the space *a* intervening the opposing members of the frame, as shown in Fig. 4, and the said members are thereupon pressed toward each other against the said ends, or otherwise clinched in any well

known manner, whereby the said screens are securely fastened in their respective frames.

The screens B are made of very thin wire, the meshes of one screen being very fine and the meshes of the others increasing in size at about the rate of one-sixteenth of an inch—for instance, the finest screen being about one-fourth of an inch between the wires and the coarsest about one-half an inch.

The screens are retained in a horizontal position, one above the other, about four inches apart, by their attachment at each corner to vertical rods D, the finest screen being at the top and the coarsest at the bottom, as shown in Fig. 1. The rods D are bent at the top at right angles outward to form the projections *d*, which projections are provided with small knobs *d'*. In placing the series of screens in a chimney they are manipulated by means of the knobs *d'*, and are supported by the projections *d* resting upon the top of said chimney.

It will be observed that by reason of the above-described series of graduated screens any sparks or cinders passing through the bottom screen are checked at the upper one and deflected downward to the base of the chimney.

In cold climates, where heavy snows are prevalent, a semicircular cap may be made to partially cover the flue, and thereby prevent the screens from becoming clogged up and inoperative.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A spark-arrester consisting of a series of spaced and graduated parallel screens and standards adapted to retain said screens in a horizontal position, provided with outwardly-projecting upper ends at right angles to the body, and knobs secured upon said projections, substantially as herein shown and described, and for the purpose herein set forth.

2. The combination, with the U-shaped frames A and a series of graduated screens, B, secured in said frames, of the vertical standards D, attached to each frame and adapted to retain the screens in a parallel and spaced horizontal position, substantially as shown and described.

3. The combination, with the U-shaped frames A and a series of graduated screens, B, secured in said frames, of the vertical standards D, attached to each frame and adapted
5 to retain the screens in a parallel and spaced horizontal position, projections *d*, formed at the top of said standards at right angles to the body, and knobs *d'*, secured to said pro-

jections, substantially as shown and described, and for the purpose herein set forth.

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