

J. E. WOOTTEN.

Screens for Spark-Arresters.

No. 156,620.

Patented Nov. 3, 1874.

Fig. 2.

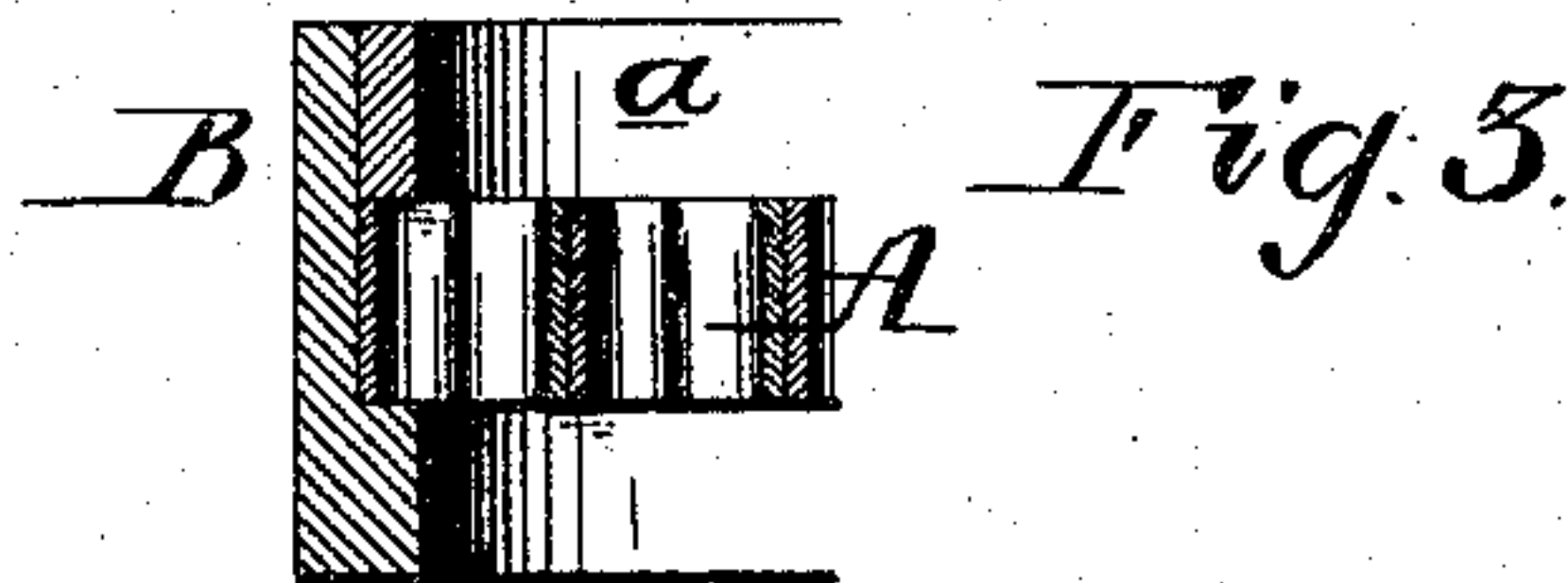
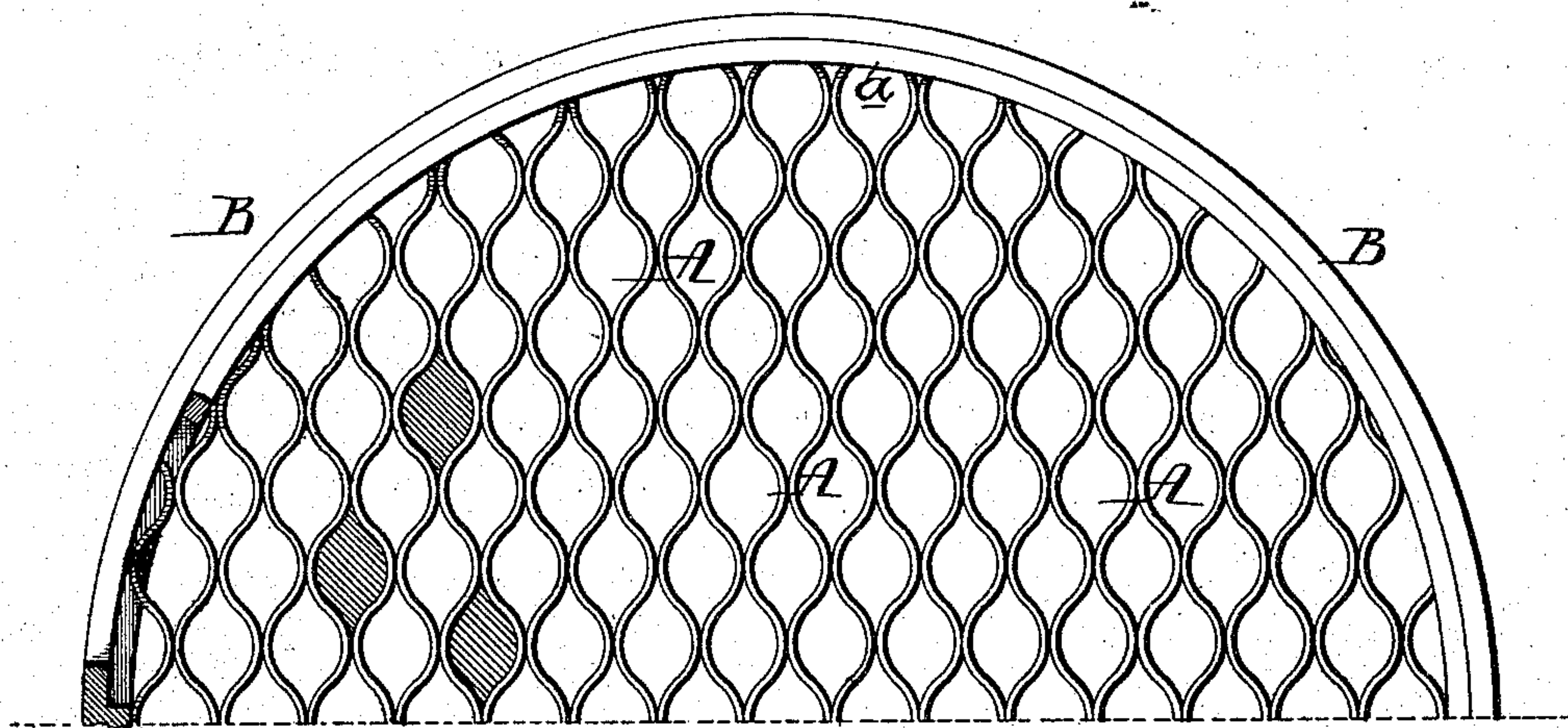


Fig. 1.

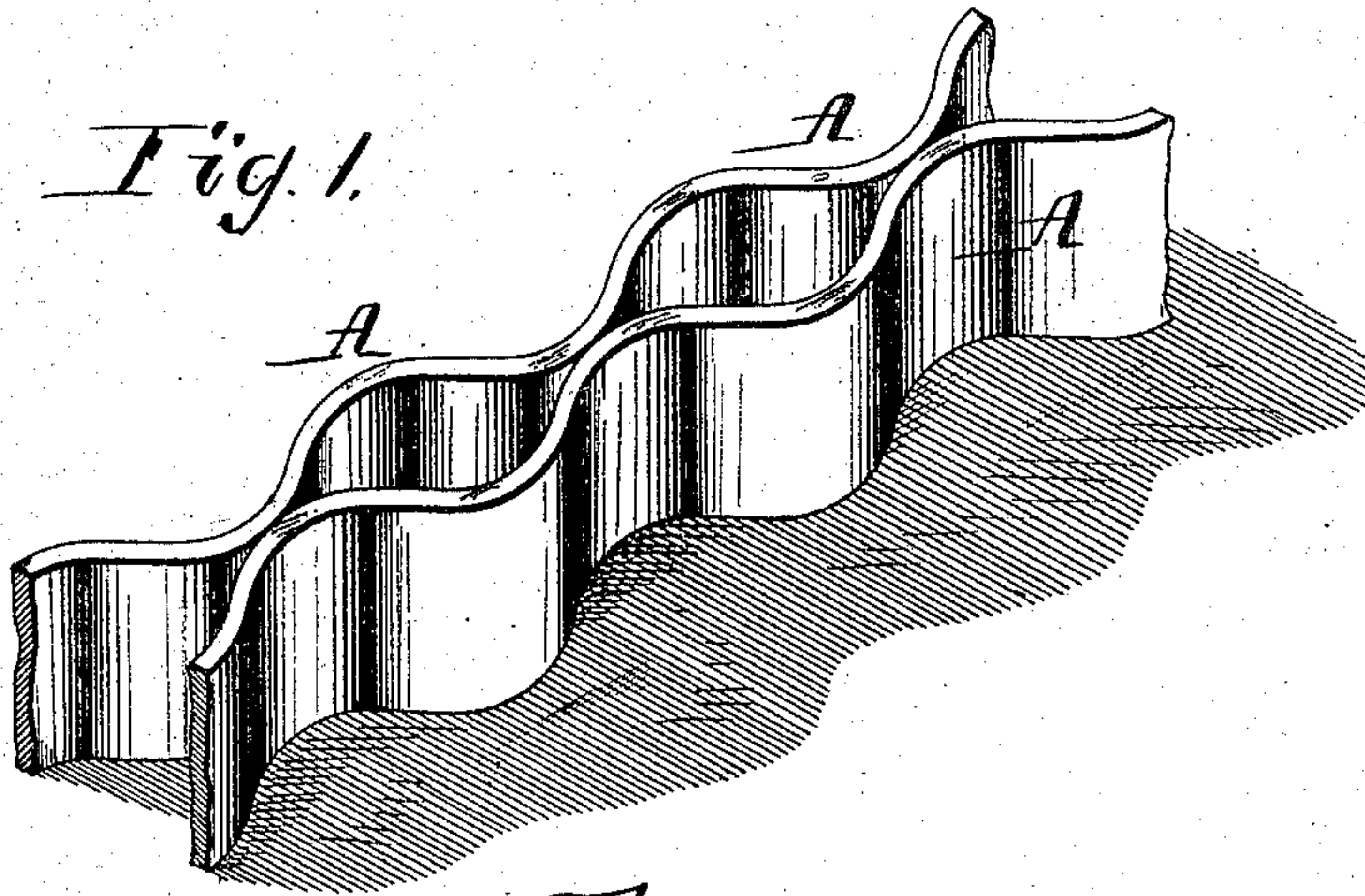
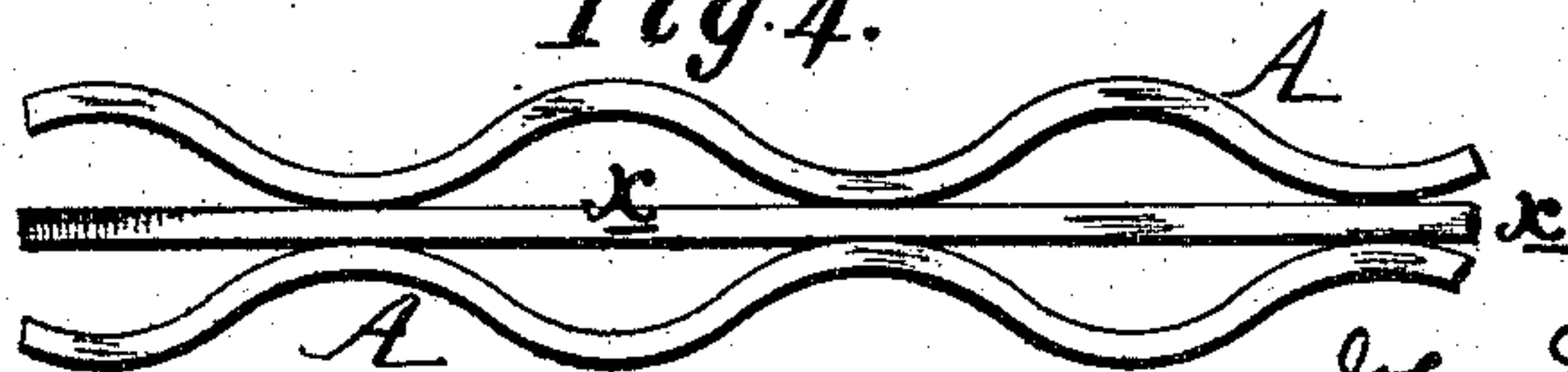


Fig. 4.



Witnesses, Harry Smith
Thomas McEwan

John E. Wootten
by his Atty.
Hiram Austin

UNITED STATES PATENT OFFICE.

JOHN E. WOOTTEN, OF READING, PENNSYLVANIA.

IMPROVEMENT IN SCREENS FOR SPARK-ARRESTERS.

Specification forming part of Letters Patent No. **156,620**, dated November 3, 1874; application filed September 30, 1874.

To all whom it may concern:

Be it known that I, JOHN E. WOOTTEN, of Reading, Berks county, Pennsylvania, have invented Screens for Spark-Arresters, of which the following is a specification:

The object of my invention is to make a screen which, when applied to a smoke-stack as a spark-arrester, will resist the violent and destructive action of the sparks for a greater length of time than ordinary screens; and this object I attain by the arrangement of corrugated strips of iron or steel best observed in the perspective view, Figure 1, of the accompanying drawing.

Screens for spark-arresters have usually been made of strong wire-gauze or perforated plates; but the abrasive action of the sparks is of such a violent character that they cut through the wire, and even through the plates, in a comparatively short time.

In carrying out my invention I prefer to use strips or bars A of steel, as that metal is capable of a greater amount of endurance against the wearing action of the sparks and cinders.

Figs. 2 and 3 are a plan view and vertical section of the top of a spark-arrester, B being a metallic ring or frame, within which are placed a number of corrugated strips, the latter being held to their places by a follower, a. The strips are so arranged that the convex projections of one strip shall be directly opposite to, and in contact with, the convex projections of the adjoining strip, a series of openings being consequently presented for the free escape of smoke and steam; or they may be so arranged, by placing a flat strip, x, Fig. 4, alternately between the corrugated strips, as to reduce the size of the openings when it may be desirable to do so, without varying the pitch of the corrugations.

In the latter case it will not be essential to so arrange the strips that the corrugations of one shall be directly opposite those of another.

The great advantage of a screen thus constructed is, that the edges of the strips are presented to the action of the sparks, and that the strips can be made of a sufficient depth to resist this action for a greater length of time than the ordinary screen, while at the same time the aggregate area of the openings is much greater for a screen of equal surface dimensions than that of the ordinary spark-arresting screen.

The screen may be applied to spark-arresters generally in different positions, Figs. 2 and 3 being given as one application only of my invention. In fact, the screen may be used for any purposes in which rigidity, durability, and a large proportionate area of openings are desiderata.

If the corrugated strips are not held in place at their ends they may be maintained in their proper relative positions by plugs passed into the openings at such points that the longitudinal displacement of any one or more of the strips independently of the others is rendered impossible.

The sectional spaces in Fig. 2 indicate such plugs placed in the openings in the screen to insure such results.

I claim as my invention—

1. A screen consisting of corrugated strips or bars of iron or steel, arranged in respect to each other as described.
2. The combination in a screen of alternate corrugated and flat strips or bars of iron or steel, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN E. WOOTTEN.

Witnesses:

JAS. M. LANDIS,
A. H. CLAY.