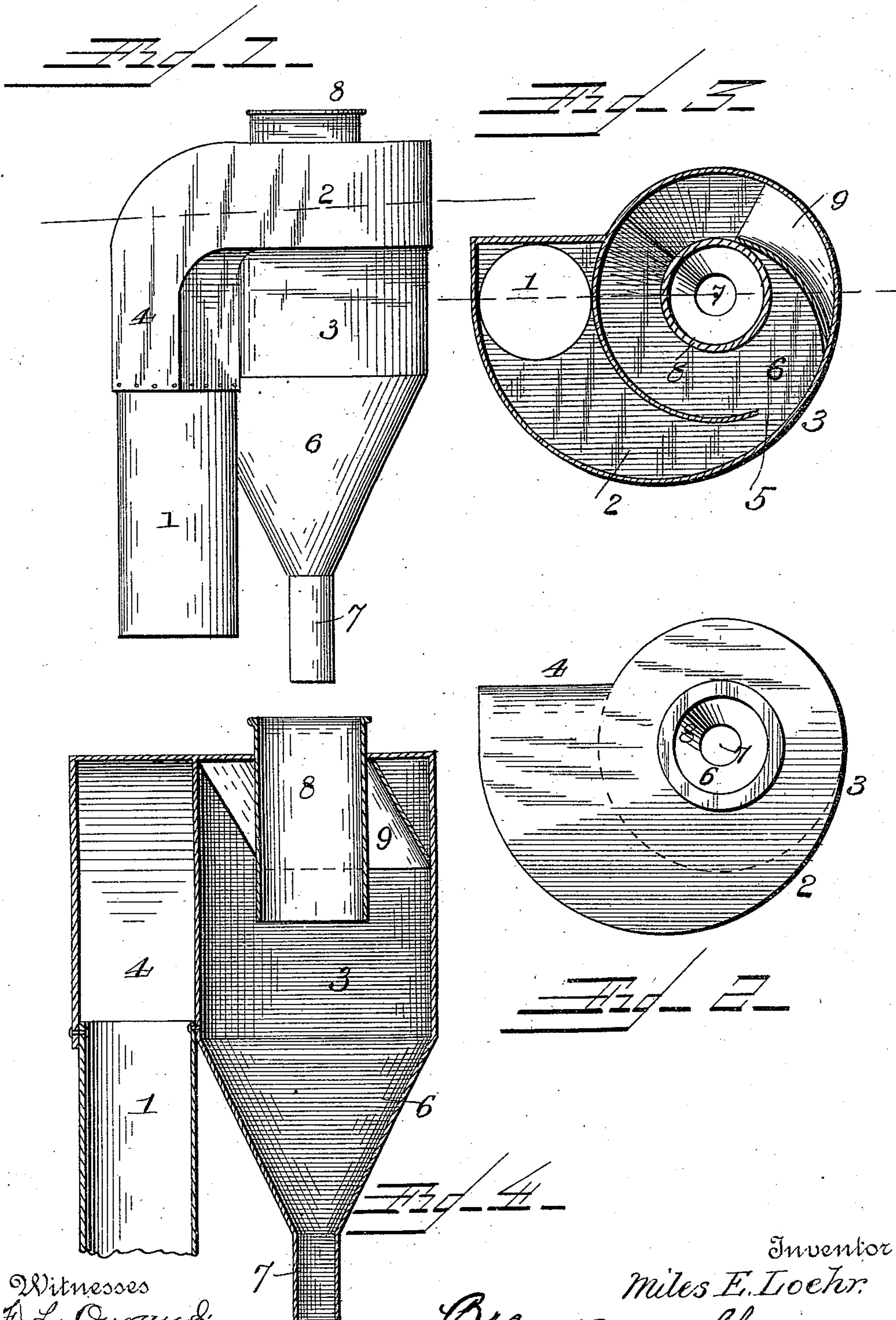


(No Model.)

M. E. LOEHR.
SPARK ARRESTER.

No. 560,361.

Patented May 19, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

MILES E. LOEHR, OF CLAYPOOL, INDIANA.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 560,361, dated May 19, 1896.

Application filed July 22, 1896. Serial No. 556,759. (No model.)

To all whom it may concern:

Be it known that I, MILES E. LOEHR, a citizen of the United States, residing at Claypool, in the county of Kosciusko and State of Indiana, have invented certain new and useful Improvements in Spark-Arresters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to spark-arresters.

The object of the invention is to provide a spark-arrester which will separate the sparks and cinders from the smoke, allowing the latter to escape through the top of the arrester and directing the former downward to discharge through the bottom of the arrester.

With this object in view the invention consists of certain features of construction and combination of parts, which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved arrester, showing it attached to a smoke-stack. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse sectional view. Fig. 4 is a vertical sectional view.

In the drawings, 1 denotes a smoke-stack, and 2 the spark-arrester. The spark-arrester consists of a separating-chamber 3 and a conducting-tube communicating therewith and connected at its lower end to the smoke-stack 1, as shown in Fig. 1 of the drawings. The tube extends upward, as shown at 4, and then coils partially around the upper end of the separating-chamber, gradually diminishing in breadth and finally communicating with the chamber through the opening 5. The chamber is constructed, preferably, with a conical bottom 6, from which leads a discharge-pipe 7. A smoke-pipe 8 is secured in the top of the chamber and projects with its upper end above the same and with its lower end downward about two-thirds the height of the chamber 3.

9 denotes a shield or deflector, which is secured in the separating-chamber and at one side of the opening 5 and which is curved and has its upper edge bent inward and its lower edge bent outward.

In operation, when the smoke and products of combustion escape from the stack 1 into

the conducting-tube 2 they will pass upward, and in following the spiral curved form of the tube they will be given a whirling action and will pass through the opening 5 in the side of the separating-chamber. The motion imparted to the smoke and products of combustion will cause them to be thrown out centrifugally against the shield or deflector, and the cinders and sparks being much heavier than the smoke will curve around the chamber after leaving the deflector and will finally fall out through the discharge-pipe at the bottom of the chamber, while the gases and smoke will pass out through the tube or pipe 8 at the top of the chamber. By projecting this pipe downward, say, about two-thirds the height of the chamber the smoke and products of combustion will be prevented escaping through it, as they enter the chamber through the opening 5, but, on the other hand, will be directed against the shield or deflector by reason of the centrifugal action given them by the laterally-extending upper end of the conducting-tube.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The herein-described spark-arrester consisting in the combination of the conducting-tube, the separating-chamber 3 communicating therewith, said conducting-tube extending upward and coiling partially around the upper end of the separating-chamber, the breadth of said tube gradually diminishing in width and its terminal forming an opening 5 between it and the wall of the chamber, a conical bottom to the chamber, a pipe 7 depending from said bottom, a smoke-pipe 8 secured in the top of the chamber and having its upper end projecting above the chamber and its lower end extending downward within the chamber 3, as described, and the curved deflector 9 secured in chamber 3 at one side of opening 5 and having its upper edge bent inward and its lower end bent outward, all as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MILES E. LOEHR.

Witnesses:

CHAS. FORD,
J. K. MILLER.