

No. 694,228.

Patented Feb. 25, 1902.

W. P. ALLEN & J. E. H. BROWNE.

SPARK ARRESTER.

(Application filed Nov. 2, 1901.)

(No Model.)

Fig. 1.

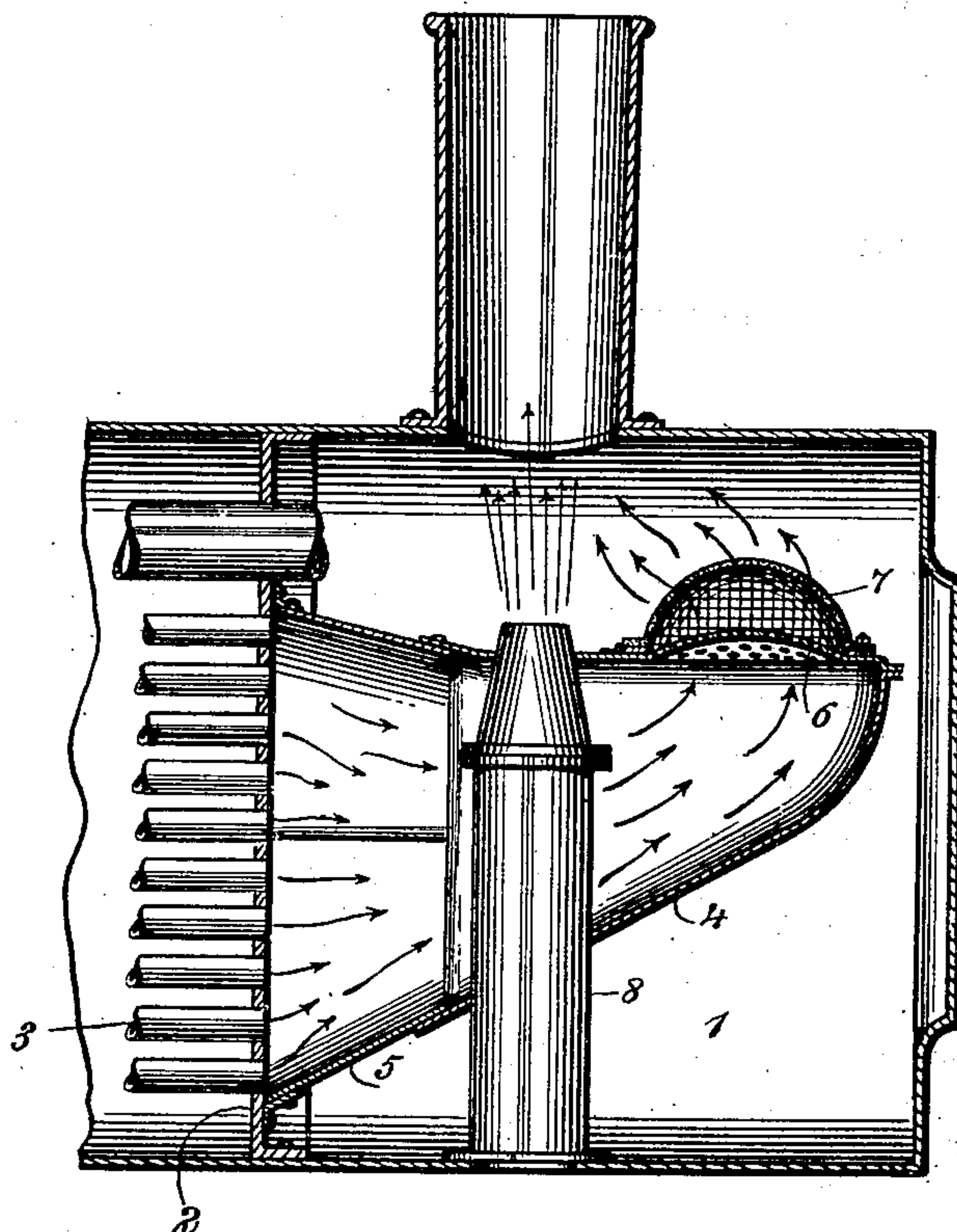
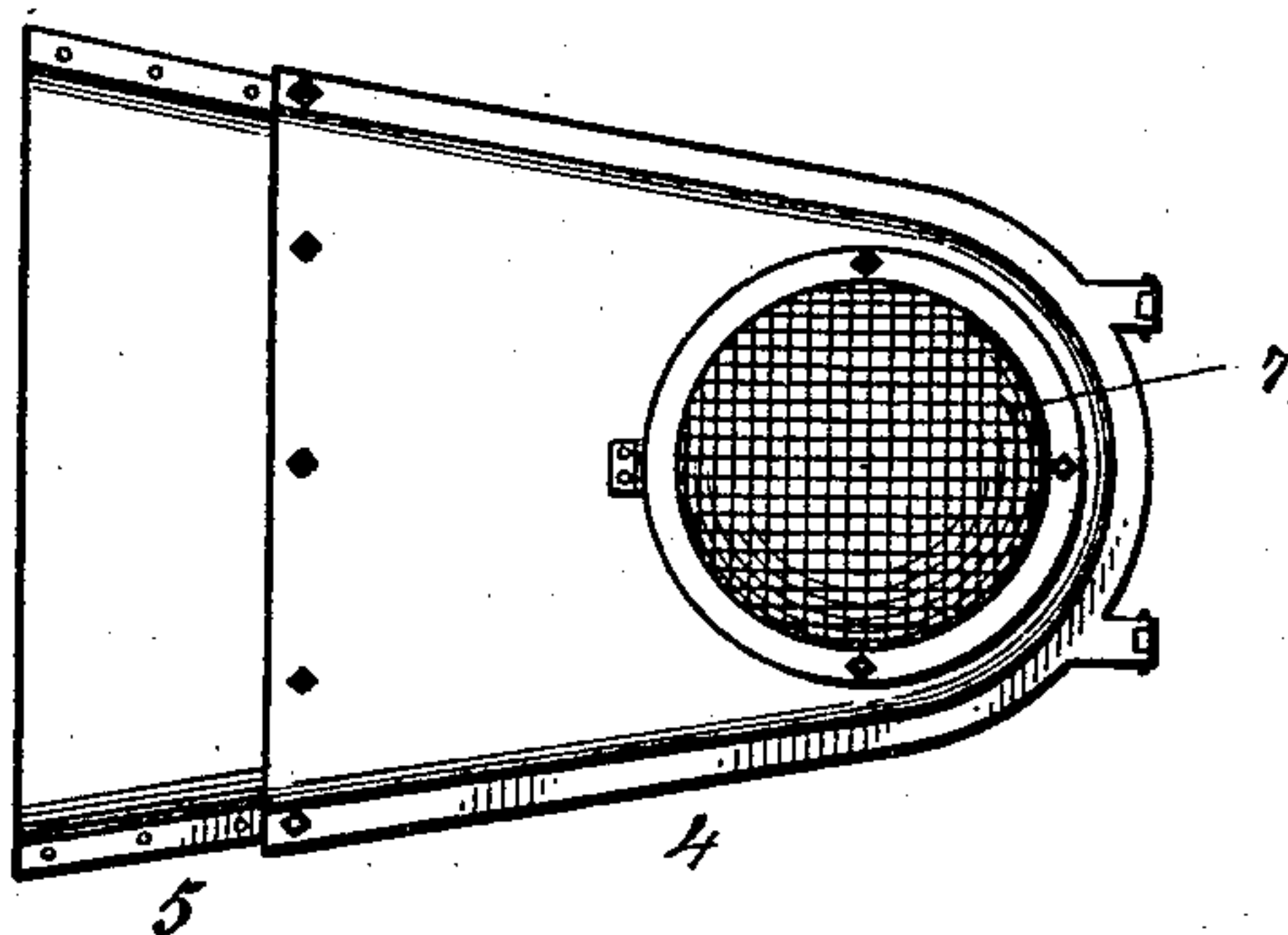


Fig. 2.



WITNESSES:

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WESLEY P. ALLEN AND JOHN E. H. BROWNE, OF ALBUQUERQUE, TERRITORY OF NEW MEXICO, ASSIGNORS OF ONE-THIRD TO MAX E. BECKER, OF ALBUQUERQUE, TERRITORY OF NEW MEXICO.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 694,228, dated February 25, 1902.

Application filed November 2, 1901. Serial No. 80,890. (No model.)

To all whom it may concern:

Be it known that we, WESLEY P. ALLEN and JOHN E. H. BROWNE, citizens of the United States, and residents of Albuquerque, in the county of Bernalillo and Territory of New Mexico, have invented a new and Improved Spark-Arrester, being a complete front end of a railroad-locomotive, of which the following is a full, clear, and exact description.

This invention relates to improvements in spark-arresters for locomotive-engines; and the object is to provide a spark-arrester of simple construction that may be placed in a locomotive at a comparatively small cost and in which the forcing of the product of combustion through the boiler-flues will force the cinders through the wire-netting, extinguishing the sparks, the fine cinders being then forced out of the smoke-stack by the exhaust from the engine.

We will describe a spark-arrester embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a sectional elevation of a spark-arrester embodying our invention, showing the arrangement of the same in a smoke-box; and Fig. 2 is a plan view of the arrester.

Referring to the drawings, 1 designates the smoke-box of a locomotive, and 2 the front flue-sheet, through which the flues 3 pass.

The spark-arrester consists of a casing comprising a front portion 4 and a rear portion 5. These parts are secured together by bolts or any other suitable means, and the rear portion 5 is bolted to the flue-sheet and surrounds the central flues, as clearly shown in the drawings. The top portion of the casing from the flue-sheet slants horizontally to the nozzle, and the sides and bottom are transversely curved and tapered upward and forward, thus providing an inclined lower wall which serves as a deflector to force the sparks and cinders toward the outlet sieve material 6, arranged

in the top of the part 4. The top of the part 4 is hinged to the body, so that said top may be readily swung open when it is found necessary to clean out the arrester or for cleaning or arranging the flues.

Extended over the sieve material 6, which is shown as convexed, is a hood 7, of sieve material, which is also convexed and extended to a considerable distance above the top of the exhaust-pipe 8. This hood 7 is also hinged to the top of the part 4 and is also closed by means of a bolt or otherwise. By this means the hood may be swung down to clear the lower sieve. The exhaust-flue 8 extends entirely through the arrester—that is, it extends through an opening in the bottom wall of the arrester—and the nozzle portion extends through the top wall.

In operation the live sparks or cinders forced through the flues 3 will pass upward to the netting, where the cinders will be finely broken and the parts extinguished. These fine cinders will then be drawn outward through the sieve material, and the exhaust-steam will carry the same through the smoke-stack. As the exhaust discharges above the arrester, it is obvious that the cinders will not be mixed with water, which would cause them to clog in the netting.

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

1. A spark-arrester, comprising a casing having an inclined lower wall, the said casing being extended from the flue-sheet of a boiler and into the smoke-box, a netting arranged in the top of the casing, a hood of netting hinged over the first-named netting and an exhaust leading through the casing and terminating at a point below the top plane of said hood, substantially as specified.

2. A spark-arrester, comprising a casing having a slanting or inclined top, and an upwardly and forwardly inclined bottom, the said arrester being attached to the flue-sheet of a boiler and surrounding the boiler-flues, a netting arranged over an opening at the for-

ward portion of the top of the casing, a convex hood of netting material hinged over the first-named netting, and an exhaust-nozzle extended up through the bottom wall of the casing and through the top wall thereof and terminating below the top plane of said hood.
In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

WESLEY P. ALLEN.
JOHN E. H. BROWNE.

Witnesses:

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