

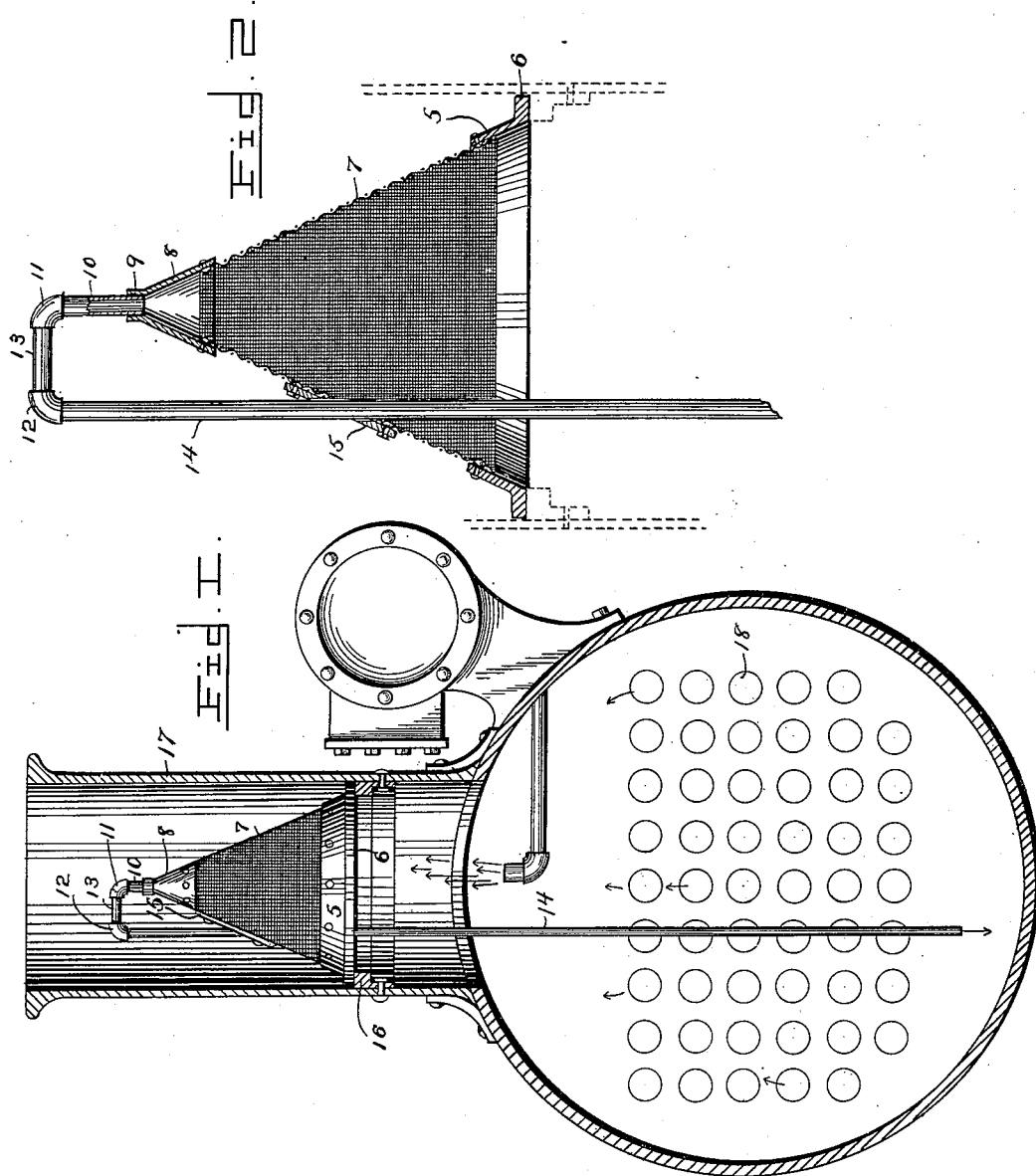
No. 645,469.

Patented Mar. 13, 1900.

J. R. GOODIER.
SPARK ARRESTER.

(Application filed Dec. 23, 1899.)

(No Model.)



Witnesses

Frank G. Campbell

Goost Chanalee

By His Attorneys,

J. R. Goodier, Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN R. GOODIER, OF GALVESTON, INDIANA.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 645,469, dated March 13, 1900.

Application filed December 23, 1899. Serial No. 741,450. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. GOODIER, a citizen of the United States, residing at Galveston, in the county of Cass and State of Indiana, have invented a new and useful Spark-Arrester, of which the following is a specification.

This invention relates to spark-arresters, and more particularly to that class employed upon locomotives, traction-engines, &c., the object of the invention being to provide a construction which may be applied directly to an ordinary smoke-stack and which will act to divert the sparks to the usual spark-box below the smoke-stack. As devices of this nature have heretofore been constructed the sparks have been conveyed upwardly and out at the top of the stack and then to a suitable receptacle; but in the present construction the sparks are arrested in the stack and then carried downwardly thereof.

In the drawings forming a portion of this specification, and in which similar numerals of reference designate like and corresponding parts in both views, Figure 1 is a transverse section of the end of a boiler and taken longitudinally of the smoke-stack and showing in elevation the arrangement of the spark-arrester. Fig. 2 is a view partially in section and partially in elevation and showing the spark-arrester and the connected conveyer-pipe.

Referring now to the drawings, the spark-arrester comprises a frusto-conical ring 5, having a radial flange 6 at its major end, and secured to the inner face of this ring 5 is a hollow foraminous truncated cone 7, formed of metallic gauze or netting, this conical portion 7 having a metallic cap 8, which receives the upper end thereof and to which it is fixed.

In the upper end of the cap 8 is formed an opening 9, with which is connected a nipple 10, disposed axially of the conical portion and the ring 5 and connected by means of L's 11 and 12 and a nipple 13 with a conveyer-pipe 14, this pipe 14 being passed downwardly through concentric elliptical openings in the wall of the conical portion and a plate 15, secured thereto and extending through the ring 5 to a suitable point therebelow.

In practice a flange 16 is formed upon or secured to the inner surface of a smoke-stack 17, and the spark-arrester is disposed within the stack and with the flange 6 resting upon the flange 16 and with the delivery-pipe 14 passing downwardly and beyond the discharge ends of the boiler-flues 18 and terminating at a point to discharge to the usual ash-box. It will thus be seen that with the present construction there is no special formation of smoke-stack required, the only requisite being the flange 16, which may be riveted in place, as illustrated in Fig. 1, while the structure of the arrester is such that the sparks instead of passing outwardly of the stack are all collected and forced downwardly and into the ash-box or cinder-box under the influence of the draft in the smoke-stack.

It will of course be understood that in practice the device may be made of any size and that any suitable materials and proportions may be used without departing from the spirit of the invention.

What is claimed is—

1. A spark-arrester comprising a base-ring, a foraminous frusto-conical portion connected with the ring, a cap connected with the foraminous portion and having a discharge-opening, and a conveyer-pipe connected with the cap and leading from the discharge-opening, said pipe being passed inwardly through a wall of the foraminous portion and outwardly through the base-ring.

2. The combination with a smoke-stack having an interior flange, of a spark-arrester removably disposed upon this flange, said arrester comprising a body portion having a lower inlet-opening and an upper outlet-opening, and a conveyer-pipe connected with the discharge-opening exteriorly of the foraminous portion, said pipe being passed inwardly of the foraminous portion through a wall thereof and outwardly through the inlet-opening, said pipe terminating below the stack.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN R. GOODIER.

Witnesses:

B. B. RICHARDS,
J. F. EISENBREY.