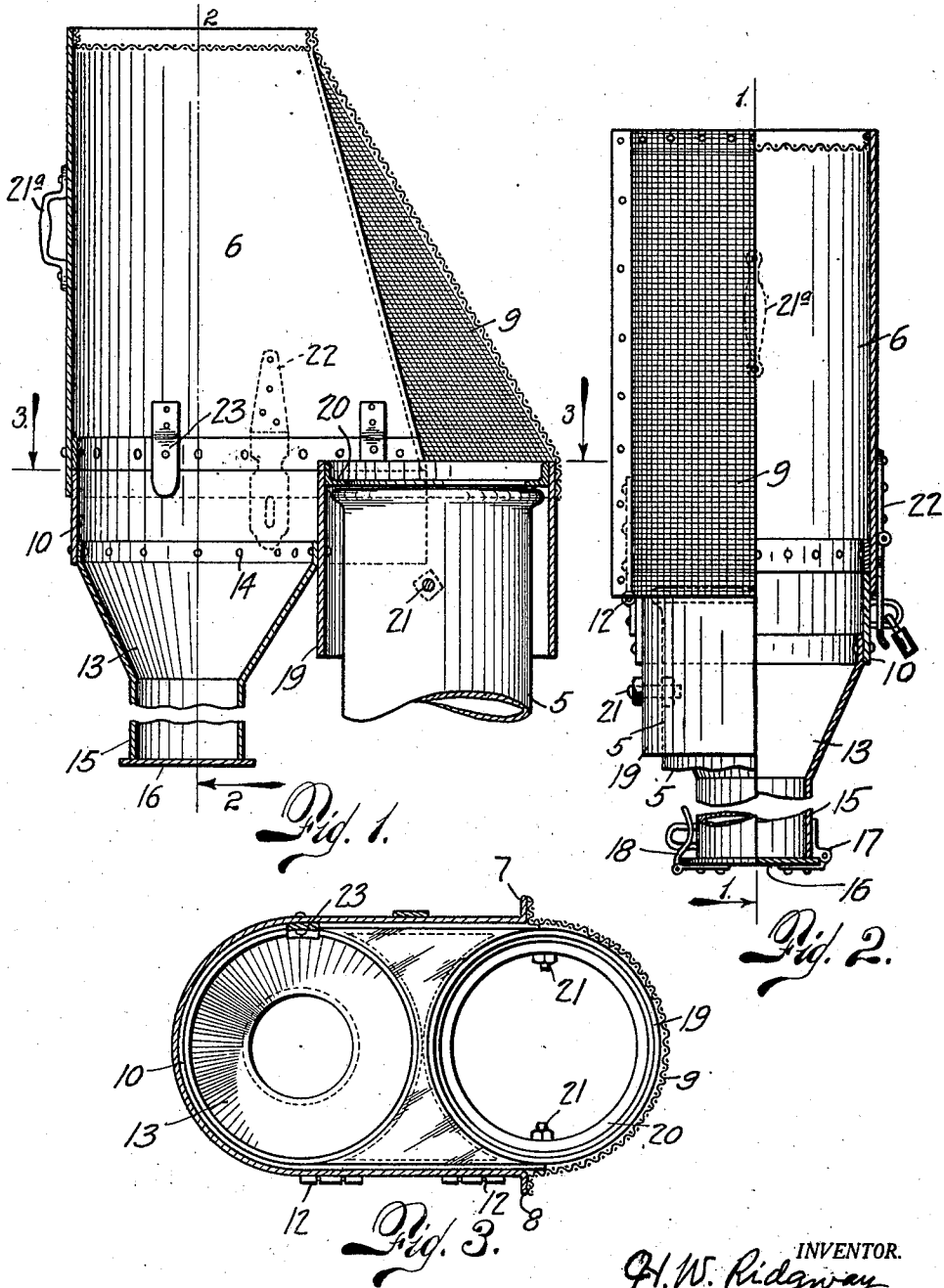


Dec. 19, 1922.

1,439,262

H. W. RIDGWAY.
SPARK ARRESTER,
FILED AUG. 16, 1921.



INVENTOR.
H. W. Ridgway
BY *John S. Powell*
-and-
John D. Warfield
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HARRY W. RIDGWAY, OF DENVER, COLORADO.

SPARK ARRESTER.

Application filed August 16, 1921. Serial No. 492,699.

To all whom it may concern:

Be it known that I, HARRY W. RIDGWAY, a citizen of the United States, and a resident of the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Spark Arresters, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates to improvements in spark arresters particularly for use on smokestacks.

The object of the invention is to provide a spark arrester which may be used advantageously for preventing the sparks from being scattered or blown away from the smokestacks, and at the same time does not interfere with the draft through the smokestack.

In the drawing forming a part of this specification, Figure 1 is a vertical sectional view taken on the line 1—1 of Figure 2; Figure 2 is an elevation view partially in section; and Figure 3 is a cross sectional view taken on the line 3—3 of Figure 1.

Corresponding and like parts are referred to in the following description and indicated in all of the views of the accompanying drawings by the same reference characters.

The numeral 5 represents the smokestack of a locomotive upon which the improved spark arrester is adapted to be seated and held in such position that the smoke, as well as live sparks, will be emitted from the smokestack into the spark arrester. The spark arrester proper consists in part of a housing 6, preferably constructed of sheet metal. This sheet metal housing 6 is provided with tapering edges 7 and 8, the sheet metal being bent outwardly at right angles to form flanges. A screen 9 is secured to these flanges and occupies a position directly over the top of the smokestack 5. The screen 9 occupies an inclined position whereby the upper portion thereof is in a plane parallel with the rear side of the smokestack 5. (See Figure 1.) In other words, the screen 9 completely covers the discharge extremity of the smokestack, whereby smoke in being emitted from the stack 5 will pass through the screen 9. The sheet metal housing 6 is hinged to a lower housing 10, as shown by 12. A conical housing 13 is disposed immediately below the housing 10, and is fastened

to the housing 10 by means of rivets 14. The conical shaped housing 13 leads directly into a conduit 15, which may be extended to any suitable location on the locomotive, or into proximity with the ground, whereby live sparks may be carried through said conduit and collected therein until such time as they die. The lower end of the conduit 15 is adapted to be closed by a closure 16, which is hinged to the conduit as shown by 17, and a fastening device 18 is secured to the said closure 16 opposite the hinge 17. A housing 19 is fixedly secured to the housing 10, and is adapted to receive the upper extremity of the smokestack 5. An annular flange 20 is secured on the interior of the housing 19 near the upper extremity of the latter and projects inwardly at right angles. This flange 20 abuts against the upper edge of the smokestack 5 and serves to support the entire spark arrester on said smokestack. The spark arrester is held in such position by means of bolts 21 passed through the housing 19 and the wall of the smokestack 5.

The housing 6 is provided with a handle member 21^a, by means of which the said housing may be manually tilted to one side upon the hinges 12. In this way, access may be had to the interior of the spark arrester for the purpose of cleaning or making repairs. A hasp 22 is secured to the housing 6 opposite the hinges 12, and by means of which hasp the housing 6 may be locked in position. Guide fingers 23 are also secured to the sheet metal housing 6 on the interior of the latter, and are adapted to engage against the housing 10, whereby the housing 6 is held firmly against vibration.

The conduit 15 is shown broken out, although it is understood that this conduit may be of any desired or suitable length so that the discharge extremity thereof may be positioned at any suitable or convenient place on the locomotive.

In operation, smoke passing through the smokestack 5 goes through the screen 9 and the latter of course serves to deflect the live sparks rearwardly into housing 6 from which they are deposited into the conical housing 13 and thence carried through the conduit 15. Such live sparks are held in the conduit 15 until such time as they have died, and are then discharged therefrom by opening the closure 16. If the locomotive is traveling forward, the draft

passing through the screen 9 will of course blow the live sparks rearwardly in the housing 6.

5 While I have described and illustrated herein a specific form of my invention, it is understood that I am not limited thereto, and that the same may be modified and varied without departing from the scope of my invention, as defined by the appended
10 claims.

Having thus described the invention, what I desire to secure by Letters Patent is:—

15 1. A spark arrester comprising a housing supported by a smoke stack, a second housing hingedly connected to the first mentioned housing and having an inclined screen normally extending over the upper
20 end of the smoke stack to direct sparks from the smoke stack to the first mentioned housing, the second mentioned housing with the inclined screen adapted to be swung from its position over the smoke stack to allow access to the housings.

25 2. A spark arrester comprising a housing supported on and surrounding the upper end of a smoke stack, a conduit secured to said housing and offset from the smoke stack, a second housing hingedly connected
30 to the conduit and provided with an inclined screen normally overlying the upper end of the smoke stack to direct sparks therefrom to the conduit, the second mentioned housing with the associated screen
35 adapted to be swung from its position over

the smoke stack to allow access to the housings and conduit.

3. A spark arrester comprising a housing having an inwardly extending flange adapted to rest upon the upper end of a smoke
40 stack to support the housing, a conduit secured to said housing and offset from the smoke stack, a second housing hingedly connected to the conduit and provided with an inclined screen normally overlying the upper
45 end of the smoke stack to direct sparks therefrom into the conduit, the second mentioned housing with its associated screen adapted to be swung from its position over the smoke stack to allow access to the hous-
50 ings and conduit.

4. A spark arrester comprising a housing supported upon and surrounding the upper
55 end of a smoke stack, a conduit secured to said housing and offset from the smoke stack, a second housing hingedly connected to the conduit and provided with an inclined screen normally overlying the upper
60 end of the smoke stack to direct sparks therefrom into the conduit, the second mentioned housing having an open top in alignment with the conduit, and a screen secured to said open top, the second mentioned housing with its associated screens adapted to be
65 swung from its position over the smoke stack to allow access to the housings and conduit.

In testimony whereof, I affix my signature.

HARRY W. RIDGWAY.